



## Community Trail Development Guide

**HNTB**

**VDOT**

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## Chapter 1: Overview

### Purpose of the guidebook

VDOT developed this guide to aid the process of grassroots trail planning, based on the knowledge of experienced planners, research of best practices around the nation as well as the State, and the understanding gained from trail development process in the Town of Middleburg. This guide focuses on how to:

- Create support throughout the community
- Empower local communities earlier in the planning process
- Identify funding options including public-private partnerships
- Balance, state, local jurisdiction, and community perspectives
- Encourage a planning process involving stakeholders, advocates, and community representatives
- Identify various options for trails

VDOT hopes that this document will guide advocates and local governments through the community trail planning process.

### What are trails?

The term “trails” is often used to describe a variety of paved and unpaved pedestrian and bike facilities, ranging from informal recreational networks serving mountain bikers and hikers to formal AASHTO specified

facilities providing vital transportation connections within a community.

This guidebook focuses on shared-use paths, an important ingredient in the transportation system’s multi-modal network. Shared-use paths (referred to as “trails” throughout this document) provide pedestrians and bicyclists, access



to activity centers such as schools, libraries, town centers, parks, businesses, employment centers and recreational facilities. A well planned trail may offer opportunities for several markets: a safe route to school for children, bicycle commuters, neighborhood recreational activities, and competitive runners.

A shared-use path is one of the five facilities to accommodate bicycling; others include on-street bicycle lanes, designated roadway shoulders, a wide outside travel lane designed and signed for bicycle use, and a signed shared use residential street. There are many types of trail surfaces, each tailored to the users and providing a unique experience.

### Traditional trail planning versus community trail planning

Trail planning is becoming more prevalent in Virginia as communities recognize the social, economic, environmental, transportation, and health benefits of trails. Traditionally in Virginia, trail development has been a top down approach where regional or state agencies plan and implement trails with limited input from the public. Over the years, the Virginia Department of Transportation (VDOT) has realized that involving the local communities early in a trail planning process best serves the community and trail planners, as the combination of local knowledge and planning expertise creates a dynamic and interactive planning process.

VDOT has worked with the local jurisdictions to assess transportation needs based on a multi-modal approach and conveyed such coordination into state, regional, and local plans such as (1) the MPO Constrained Long Range Plan and Transportation Improvement Plan; (2) Virginia's Vtrans 2035, and local jurisdiction's comprehensive plan and capital improvement plans.

Trails are built as a result of varying efforts including:

- By private developers through proffer systems local governments have put into effect in their master plan. Fairfax County has been able to provide connections for trails through infill and redevelopment projects, where trails as small as one block or as big as a town center (Reston, VA)

are implemented using proffers. More information on public-private partnership is available in Chapter 3 under Funding Opportunities

- Through grass-root efforts of the community
- As a part of highway construction projects by the State

This document focuses on community trail development, outlining the process of coordination between three major players, state government, local government, and community representatives, as trails are normally funded with state/federal funds, connecting local jurisdiction activity centers and used by the local communities. Bringing these three perspectives together, consistent with the context sensitive solution philosophy, creates a process that balances all perspectives, as described in the next section.



### Why is community based initiative needed in trail planning?

To ensure that the trail (promoted at local and community level) will provide the highest level of functionality, safety, and utilization, community sourcing and participation should be the first step in

planning any trail network in a municipality. Steps taken by those unfamiliar with the area and local interest may result in trails that are under-utilized. Communities have their own preferences for trail uses given their firsthand knowledge of the area. This involvement will take advantage of local information and preferences about possible trail paths; ensure that the trail's type, connectivity, and alignment matches the needs of the community; and will bring in funding resource commitments at the initial stages.

Most of the roads are constructed in the 60s and 70s where automobiles were given preference over any other mode of transportation. The benefits of multi-modal transportation network are being realized in the recent years. As a result, communities need to take the initiative and bring their proposals for pedestrian and bike facilities to the local and state transportation agencies.

When community involvement is combined with experts in the field, communities will add assets to their non-motorized transportation network and recreational facilities.

### Basis of the guidebook

The guidebook is based on the lessons learned from involving the community in every stage of the planning process of the Middleburg Meander Trail, a case study for the Local Trail Management pilot project. The program focused on how community involvement improves the identification and elimination of infeasible

options from the beginning of the trail concept to the completion of the trail. The experience in Middleburg will demonstrate how a targeted and localized effort to create a streamlined and effective consensus process is implemented, serving as an example in future project development in small communities throughout Virginia.

This guide combines the experiences in Middleburg with best practices from Virginia and regions throughout the country. These examples are trail planning projects where the community was an integral part of the planning process where public involvement began before any route was drawn on a map. Experiences shown in these case studies exemplify the importance of community involvement before an area is considered as a possible trail route. Communities can better identify the needs and desires for specific alignment as well as physical surface treatments for trails that are otherwise unknown to state or local agencies.

In most cases the trail alignment meanders in and out of public right-of-way. Working with affected landowners at the initial stages of the project becomes pivotal to the success of the process. It also provides a clear understanding of the constraints and issues early on.

Hence, understanding how to gain community involvement in the trail development process will result in more successful trail development in Virginia communities.

### What is in this Guidebook?

- A literature review of best practices nationally and in the state of Virginia for involving communities in the trail planning process.
- A section that will cover the recommended process for trail planning, including a discussion of various factors including how to fund, build consensus, consider jurisdiction size, address land use, integrate trail planning with schools activity centers, and transit accessibility.
- The final chapter of the guide will examine the Middleburg Pilot Project, detailing the process and providing an overview of the lessons learned through the development of the trail route.

## Chapter 2: Summary of Best Practices

Involving local residents in trail planning is of critical importance to the success of a trail's recreational and transportation value. Trail planning and implementation requires a broad base of support, and no one individual or group can do the job alone. In most cases, the process of constructing a support group starts, logically, with an organizer, an individual or small group who emerge as champions for a specific trail project.

Trail champions come from a number of callings including parent groups, focus groups/ advocates, chamber executives, architects, planners, business owners, tourism officials, public servants, elected officials, health organizations, builders, developers, and neighborhood leaders. When these groups can be pulled together to support trail projects their shared enthusiasm, vision, persistence, and organizational skills are invaluable to the planning efforts of trails in small communities.

Different municipalities have garnered public support and involvement in trail projects in diverse ways to ensure a trail which will serve as an asset to the community and increase both non-motorized transportation use and leisure time outdoors. Small towns require broad support throughout the community to ensure that the trail planning process will be effective. Trail efforts across the country have had success in varying ways to source and involve members

of communities in the planning process. While the trail type, community diversity, location, and funding for trails varies greatly for each example, they all have integrated community concerns and involvement in the trail process to ensure the most vibrant, efficient, and safe trail route possible.

The following section is a review of state guides, case studies around the nation as well as in Virginia on community involvement in trail planning.

### State Guides

#### 1. Creating Connections: The Pennsylvania Greenways and Trails How-To Manual, Pennsylvania

[www.pagreenways.org/toolbox/creatingconnections.pdf](http://www.pagreenways.org/toolbox/creatingconnections.pdf)

Pennsylvania has developed a trail planning guide for their cities with ways to source and involve the community. They advocate public involvement for two reasons: "first, showing, and acting on a desire to respond to their concerns builds trust and engenders the goodwill of the public, and secondly residents always have useful information". This involvement will create local support, which will provide a more interactive trail designing process, and provide local knowledge of the area and trail needs. The guide suggests the following as ways of gaining public input in the trail design process:

- Interviews with property owners

- Community meetings at beginning of conception
- Questionnaires in newspapers
- Community surveys

## 2. A Network of Discovery: Planning Community Trails, Nebraska

<http://outdoornebraska.ne.gov/trails/programs/trailplan/pdf/OOTOC.pdf>

Nebraska has developed a trail planning guide for its communities' initial efforts, at sourcing support for new trail projects. The guide recognizes that trail planning and development requires a broad base of support, and that no individual or group can be successful on their own. When an organizer wishes to begin a trail project in a community the guidebook suggests that they source core groups within the community that are likely to help with the trail planning effort, like city council members, local planners, bicycle shop owners, tourism officials, public servants, neighborhood leaders, and parents. Involving many different groups in the trail process ensures that the trail is tailored to the groups that will most likely be using. Nebraska's trail guide suggests using the following tools to encourage community involvement in the planning process:

- Community surveys, which can be used to gain input on trail functions, destinations, and potential trail corridors.

- Focus groups, in which a cross section of potential user groups discuss the trail in general, possible trail roles, and possibilities in an informal setting.
- Community workshops, which focus on different aspects of trail planning including the route, placement, trail type, and outreach.
- Workshop dedicated to the youth, which gives students a unique opportunity to give their input to the planning process.

## National Case Studies

The following are examples throughout United States where a community was able to gather support and resources for building trails advocated by the community.

### 1. Kodiak, Alaska

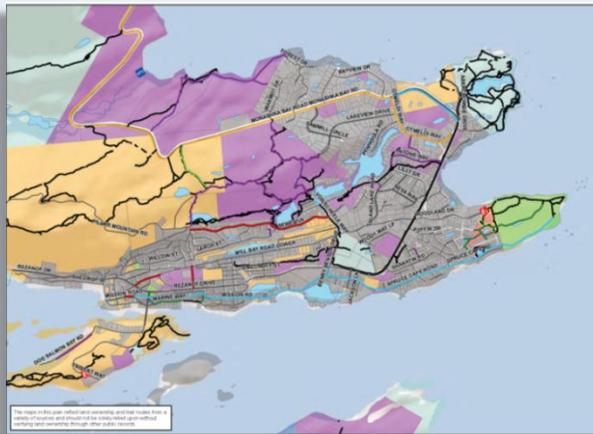
<http://www.kodiaktrailsplan.com/>

Population: 6,228; An isolated port town on Kodiak Island.

When designing their trail master plan the Borough sourced their Parks and Recreation Commission which helped establish a committee for the planning stages. The committee was composed of multiple public agencies, including trail advocacy groups, community leaders, and community members. The committee meetings were open to the public and well-advertised.

The following list describes how Kodiak encouraged community involvement in the trail planning process:

- 14 Group Interviews with interested parties.
- 3 community wide meetings, encouraging residents to give their input:
  - Attendees were given maps and asked to highlight trail routes with the most importance to them, ensuring that the routes with the greatest support were identified.
- The local newspaper and radio station were used to advertise trail meetings.
- An email list and website were created where all of the information about the trails could be found and commented on.



**Results:** The town of Kodiak was successful in seeing their Trail Master Plan adopted on January 19, 2012.

This adoption was the result of nearly three (3) years of work, beginning of September of 2009 when they teamed with a planning and design consultant for their inventory and planning work. The Master Plan has a detailed implementation plan, which includes possible funding opportunities for segments of the trails and priorities for specific segments.

## 2. Catawba, North Carolina

[www.catawbalands.org/download/CatawbaMasterPlan.pdf](http://www.catawbalands.org/download/CatawbaMasterPlan.pdf)

Population: 689; A small community in Western North Carolina.

When creating the Master Plan for the Carolina Thread trail, the planning group went to smaller communities, through which the trail would pass, to learn from their firsthand knowledge of the area and determine which routes would best serve the community. The two key components of their community outreach were:

- Multiple public meetings for community members, “Participants were asked to participate in an interactive mapping exercise. They were asked to draw on maps of the county to show where they felt the trail should go and what destinations it should connect. These maps were later digitized and incorporated into the project mapping. As the maps were digitally ‘stacked’, patterns and concentrations of routes emerged.

This mapping was crucial in the development of the overall draft routes”.

- Surveys (online and at public meetings) for individuals to prioritize destinations, voice concerns, questions, and opinions on the trail project as a whole, and provide feedback on draft routes.

**Results:** The Catawaba Trail Master Plan sets out nine (9) different trail segments with high priority for construction. This prioritization helps transition their efforts from a planning process to the implementation process. The Master Plan has detailed discussions of possible funding sources, design guidelines, and right of way acquisition requirements, which provides a beginning point for the design and construction stages of the trail development.

### 3. Forest Grove, Oregon

<http://www.forestgrove-or.gov/images/stories/services/parksandrec/pdf/forms/trailmasterplan.pdf>

Population: 20,775; Home to Pacific University, and a part of Portland’s metro area

When developing its trail master plan, Forest Grove community planned trail additions to their ‘Emerald Necklace Trail Network’. They assembled a Forest Grove Community Trails Advisory committee, which helped oversee the information gathered for the project. To

better involve the community in the planning process Forest Grove used the following means:

- Advertising on utility bills to spread the word
- Published a newsletter for the community about pertinent trail issues
- Conducted interviews with interested parties
- Held 3 public forums for community discussion in regards to trail planning

**Results:** The Forest Grove Trail Master Plan serves as an implementation guideline for future trail projects in the City. In 2007 the city added two (2) new segments to their trail network. One is a bike/pedestrian path that provides a safe link between two (2) trails, and the second takes advantage of a rail-to-trails opportunity and is over a mile in length. This addition to their ‘Emerald Necklace Trail Network’ began construction in January of 2010 and the grand opening was held in October of 2010. While there is no concrete timetable for the plan, they have already acquired sources of funding including local government funding for other segments.

### 4. Littleton, Colorado

<http://www.greenwayteam.com/docs/CommunityTrailReport.pdf>

Population: 40,340; A small community in the Denver Metropolitan area

When planning their community trail system and Community Trail Master Plan, Littleton created an ad hoc *Working Group* which brought together diverse opinions and insights from the community. By sourcing local community agencies, and giving them the power to plan and make suggestions, the appearance of outside influence over the project was diminished. The Ad hoc *Working Group* consisted of representatives of Littleton, the Parks and Recreation Department, the Water and Sewer Department, and the Parks Foundation.

Key Steps	Lead Entity(ies)	Time Frame
Identify organization structure/designate project manager	Littleton/SSPRD/SSPF	July 2010
Engage appropriate agreements among partners	Littleton/SSPRD/SSPF	July 2010
Initiate securing of rights-of-way and permits	SSPF/Littleton/SSPD	July 2010
Apply for GOCO Grant Funding	SSPF	Aug/Oct 2010
Initiate Phase I Preliminary Design	SSPRD/Littleton	July 2010
Complete Bid Documents for Phase I	SSPRD	Oct 2010
Apply for Arapahoe County Open Space Funds	SSPF/Littleton	Mar 2010
Initiate construction of Phase I Trail	SSPRD	Jan 2011
Complete construction of Phase I Trail/Cut Ribbon	Partners	June 2011
Complete Bid Documents for Phase II	SSPRD	Mar 2011
Complete construction of Phase II	SSPRD	Jan 2012
Complete construction of Phases III, IV & V	SSPRD	2012 - 13

**Results:** Littleton Community Trail Master Plan outlines a trail network throughout the community with 13,420 linear feet of trail. The plan has a detailed implementation strategy, including possibilities for funding, areas where right of way is available, and the identification of key members of the implementation committee. The Master plan has a time frame for the implementation of trails with segments lead by Littleton community, South Suburban Parks and Recreation

(SSPRD), South Suburban Parks Department (SSPD) and the South Suburban Park Foundation (SSPF).

## 5. Niwot, Colorado

<http://www.bouldercounty.org/find/library/environment/niwotlooptrailsmpplan.pdf>

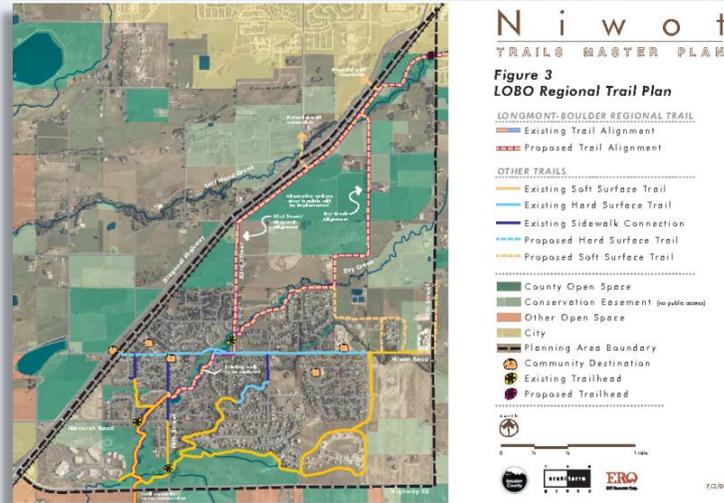
Population: 4,160; A suburban community of Denver

Public involvement was the basis of decisions made by the Boulder county staff when planning the new trail plan in Niwot. Strengths of the Niwot plan included:

- **Hosting 2 Open houses:** At the first, community members were given the opportunity to voice their desire for the trail, and learn more about the project as a whole. The second open house was held for the public to review and give feedback on the proposed trail alignments.
- **The public Site Tour:** By physically walking the possible trail route with staff, community members were better able to voice their personal knowledge and concern for the trail.

**Results:** The Niwot Trails Master Plan documents the trail planning process for the community, provides final trail alignments, implementation materials, costs, and the timing of trail construction. The planning process for the trail master Plan began in November of 2005 with a kick of meeting with the town's consultants, and ended in July of 2006 when the Board of County

Commissioners unanimously approved the plan. Majority of the trail segments are planned as 8 feet wide soft surface trails, as they are financially prudent and



prefer by the community. The construction cost of the trail was estimated to be 1,694,000 dollars in 2006. As of March 2012, 6.4 miles of the trail has been constructed.

## 6. Sisters, Oregon

<http://www.sisterstrails.com/TrailsPlanUpdate2010.pdf>

Population: 1,875; A small town in central Oregon with multiple outdoors activities located close by

The Sisters Community Trail Plan highlights how a collaborative trail plan can be implemented through the dedicated work of community volunteers. The strength

of their plan was the great detail of their survey questions:

- For Sister's trail plan, the planning group developed a detailed community survey and made it available via the internet and mail. Survey questions included the ones pertaining to trail use type, frequency of use for each of the proposed segments, purpose, surface material preferences, support for future projects, where they lived, their age group, and how to involve them in the planning process.

**Results:** The Sisters Community Trail Plan was completed in 2003 and was updated in 2011 to represent new priorities within the community. Since 2003, they have completed a new trail, linking a residential area with the Sisters High School. The next project will be connecting another neighborhood to the school. The trail group, advocate of the plan, leveraged \$91,000 through grants to help fund the trail plan and the initial construction of trails. Since the initial master plan, the community has designated/ built over 100 miles of community trails.



## 7. Skagway, Alaska

<http://www.skagway.org/vertical/Sites/%7B7820C4E3-63B9-4E67-95BA-7C70FBA51E8F%7D/uploads/%7BDB204F3C-DF34-4DF1-8262-60CA7024BC18%7D.PDF>

Population: 862; A small town on the Alaska panhandle, frequented by cruise ships

The data collection for the Skagway trail plan was done by volunteers, engaging the community members directly in the planning process. While community meetings are great means for gaining community knowledge, having community members directly

involved in drafting the plan creates an invested and interactive planning process. Skagway's strength was:

- Using volunteers as the basis of the trail plan, including: collecting information, map design, trail formatting, review of the possible route, and editing the plan

**Results:** The Skagway comprehensive trails group began their efforts in May of 2001 with an application to the National Park Service (NPS) for assistance with their trail plan. With the help of NPS the community planned the future trails of the area, surrounded by national parks. The city adopted the complete Comprehensive Trails Plan in February of 2005. The plan calls for 99 miles of trails within the town and surrounding natural area. The group has been successful in seeing over 40 miles of trails established in the area by coordinating with the National Park Service.

## 8. Casa Grande, Arizona

<http://www.casagrandeaz.gov/web/guest/trails>

Population: 48,571; A bedroom community of the Phoenix and Tucson

In 2005, the City of Casa Grande conducted an on-line survey of local citizens to determine issues, concerns, and preferences related to community development. The results of this survey indicated that walking and biking trails were the outdoor recreational facilities that

respondents most wanted to see constructed in the community. It also made clear the need for a comprehensive, long-range plan for trail development within the community. This interest prompted the creation of the Regional Trail System Master Plan, developed based on extensive public input from local citizens and stakeholders. The strengths of Casa Grande were:

- Public meetings for trail vision, where attendees were encouraged to draw desired trail routes, and the use of suggestions in the plan.

**Results:** The trails outlined in Casa Grande’s Regional Trail System Master Plan apply to all new development within the community, and are a required to be built when areas are developed. This is critical for the network, as new developments will be required to build the planned trails on their property.

## Virginia Case Studies

### 1. Alexandria, VA

[http://alexandriava.gov/uploadedFiles/localmotion/info/gettingaround/Section1\\_final\\_NOMAPS\\_060108.pdf](http://alexandriava.gov/uploadedFiles/localmotion/info/gettingaround/Section1_final_NOMAPS_060108.pdf)

Population: 139,966

In updating their pedestrian and bike plan the city held multiple public meetings to receive and review public recommendations for additions to the current trail system in the city. The city’s public bus system, DASH,

was utilized as a means of distributing questionnaires to bus riders; these questionnaires were supplemented with an online survey. They also posted information about the plan update in the city’s Transportation Alternatives eNewsletter and the Pedestrian and Bicycle Program website. The project also sourced multiple city departments to gain greater insight on the needs of the community’s bike trails. Key methods used to gain input include:

- Public meetings
- Surveys available on busses and online
- Existing e-newsletters and websites

### 2. Charlottesville, VA

<http://www.charlottesville.org/index.aspx?page=1309>

Population: 43,475; Home to the University of Virginia and Monticello making it a tourist destination

When planning a new master plan for their Bicycle and Pedestrian facilities the city of Charlottesville made community involvement a primary goal of their process. The Master Plan Working Committee was made up of stakeholder groups, special interest groups within the community, and city staff. The goal of the master plan was to “protect and complete the Rivanna Trails Foundation trails system”. The Rivanna Trails Foundation created a list of goals and actions based upon seven themes on which they focused their plan:

- Ensure the permanent protection of the trail corridor
- Develop partners and allies to help maintain and preserve the trails
- Maintain and improve the current trail system while keeping the rustic nature of the current unpaved trail
- Create a master plan for an integrated, regional trail system
- Promote the trails as a community resource
- Provide trail enjoyment opportunities for citizens of all abilities
- Seek and secure the funding necessary to maintain a high quality trail system

By reaching out to different groups with varying opinions the greatest variation of ideas and knowledge of the trail network and possible improvements was obtained. Integrating a diverse base of input Charlottesville ensured that their trail would be an asset to the entire community, and not just for a smaller group interested in trail planning. Key tools used by Charlottesville:

- Focus groups pertaining to accessibility, bicycles, economic development, educational programming, neighborhood review, trail groups, parks and recreation, regulatory agencies, and the University of Virginia.

**Results:** Charlottesville was successful in creating a bike and pedestrian master plan, which gives direction to their trail building efforts. The Master Plan also provides multiple funding opportunities for the building of trail.

Their number one recommendation for successfully building trails is *“Land Dedication: Land dedication as part of a development agreement between a private enterprise and a municipality is an effective method for obtaining land for roads with bicycle facilities, open space and recreation. The developer dedicates land in return for open space and/or park credits that are required by the municipality. In many circumstances, bicycle facilities such as trails and trail amenities are required to be paid for by the developer as part of the development agreement.”*

### 3. Culpeper, VA

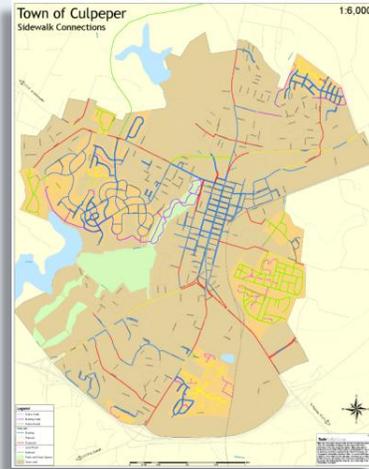
<http://www.rrregion.org/pdf/publications/transportation/Town%20of%20Culpeper%20SBT%20Master%20Plan%202007.pdf>

Population: 9,664; A small community with tourism based on sites of civil war battles.

When Culpeper designed their new sidewalk, bikeway, and trail master plan they held a community meeting in which a presentation on the multimodal possibilities of the routes were discussed. After the initial presentation,

*“Attendees were encouraged to gather around large maps to provide feedback and opinions and participate in discussions in a smaller group setting”.*

**Results:** The Town of Culpeper focuses their plan on enhancing the current pedestrian and bike connections with in their community. This approach will allow them to increase multimodal capacity without having to acquire expensive right of way for trails.



#### 4. Spotsylvania, VA

<http://www.spotsylvania.va.us/content/2614/147/2740/169/205/8539.aspx>

Population: 122,397; A growing county outside of the DC metro area, and a popular destination for Civil War enthusiasts

When Spotsylvania County decided to create a Trails Master Plan they turned to the Spotsylvania Greenways Initiative, an existing advocacy group for trails in the region. This group is a volunteer organization composed of citizens, with both private and public

sector organizations, which works with state and national bicycle and trail way groups. Tools used by Spotsylvania include:

- Forums for trail route discussions
- Having community members design the trail path

**Results:** The Trailways Master Plan details the proposed trail network. Their estimated length for the completed trail network is approximate 93 miles. They have a detailed implementation plan, beginning in 2013 when the Trailways Master Plan will be integrated into the County’s Master Plan. By the year 2018 they hope to have 40 percent of trails built with total completion achieved by 2036.

#### 5. Cape Charles, VA

<http://capecharles.org/trail.html>

Population: 1,134; A vacation community located on Virginia’s Eastern Shore

In the initial planning phases of their trail master plan Cape Charles trail planner’s met with key stakeholders to gain their feedback and input related to their specific interest and concerns for the trail network. With this information they held their first public workshop with a presentation of the project, process, and various trail opportunities and constraints. Tools implemented in the Cape Charles’ planning process included:

- Community meetings where feedback was obtained using surveys and interactive maps.



**Results:** Cape Charles has been successful in initiating the construction process for Phase 1 of their Central Park Trail. The project costs the city \$746,283 and is being funded by a VDOT TEA-21 grant. The trail will connect the surrounding community and the Town's Central Park.

## 6. Fairfax County, VA

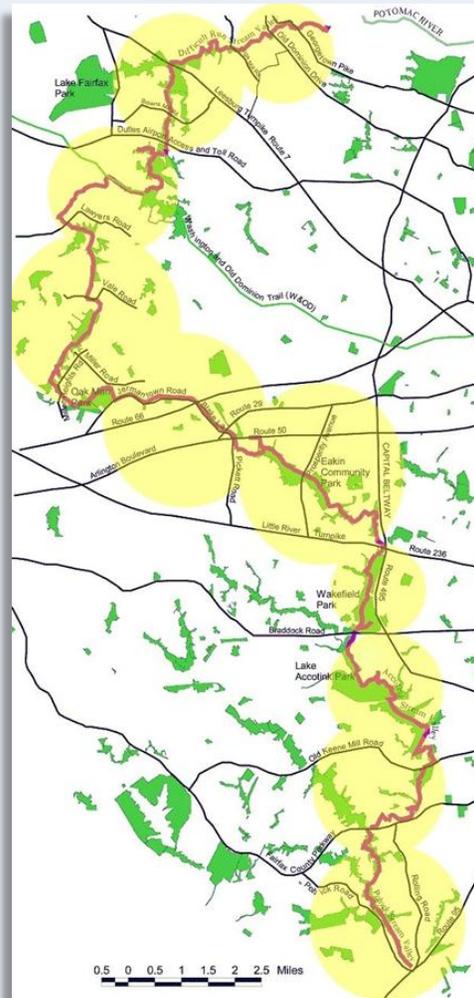
<http://www.fairfaxcounty.gov/parks/PlanDev/Downloads/Trail-Development-Strategy-Plan.pdf>

Population: 1,081,726: The largest jurisdiction in the Greater Washington Region.

The Cross County Trail's piecemeal construction over the past decade is the result of a partnership between grassroots citizens and volunteers, who had been pushing for a trail since the mid-1990s, and the county government. Fairfax County recognized its need for accessible community trails in 2004 through a needs assessment survey where 65% of the respondents used trails. They took an aggressive approach to trail planning, which met the community's need for new trail development which did not include extensive community outreach in their process. They prioritized trail projects by user value, development impact, and sustainability. This prioritization allowed them to develop trails which were the most feasible trails for the region. They also used a planning and implementation tool box including:

- Countywide Trails Plan
- GIS Database
- Volunteer Organizations
- Design Bid-Build Contracts
- Open Ended Contracts
- In-house Construction Crews

**Results:** Fairfax County has completed sections of the Cross Country Trail, which runs through stream basins and parks within the County. The trail opened May 2006, and has over 40 miles of usable trail shown in the figure in the previous page. The surface of the trail varies, but consists primarily of stone dust sections and asphalt. The trail was funded through various sources including \$950,000 from the Fairfax County Board of Supervisors. A Federal Transportation, Community, and System Preservation (TCSP) Grant of \$233,842 has been designated for the trail.



## 7. Potomac Heritage National Scenic Trail, VA

<http://www.nps.gov/pohe/parkmgmt/upload/A-Communications-Approach-for-the-Potomac-Heritage-National-Scenic-Trail-1997.pdf>

The Potomac Heritage Trail follows the Potomac River in Northern Virginia. The initial momentum for the trail planning process came from the United States Congress, as it recognized the importance of the river front. When enacting the legislation Congress created opportunities for a cooperative planning and administration of the trail, with the understanding that the trail corridor would take different roles in different areas. In order to pursue all avenues of cooperation, Potomac Heritage Trail partners have convened the Potomac Heritage Trail Coordinating Committee. This committee has formed strategies to connect the federally funded trail with the communities it will be serving using these tools:

- Collaboration on identifying projects for funding and assistance
- Formation of a public policy work group to pursue public policies that serve the trail and its community
- Invite participation from a wide range of interests
- Join the American Hiking Society and the Partnership for the National Trails System
- Form a Trail Programs Work Group

- Establish the Potomac Heritage Trail Business Council
- Host public events and an annual Caucus
- Create a website bulletin board and email network for interested parties.

**Results:** The trail currently has over 830 miles spanning multiple states. While the trail network has been well established there are still segments with needed improvements. On National Trails Day, June 4, 2011, more than fifty volunteers pitched in to construct 0.4 miles of trail to link two major segments of the Potomac Heritage National Scenic Trail in Woodbridge, VA. Participating groups were Prince William Trails and Streams, a popular sporting goods store, Potomac Appalachian Trail Club, and Potomac Heritage Trail Association.

## 8. East Coast Greenway

<http://www.greenway.org/index.shtml>

The East Coast Greenway is a contiguous planned trail running from Canada to Key West, linking the major metropolitan areas along the eastern seaboard. The vision for the trail originated at an East Coast Bicycle Conference in 1992, to see an alternative connection for the cities along the eastern seaboard. The greenway pulls support and funding from multiple municipalities and DOT's, which are contacted through state run committees. It serves as a great example of an initial

grass roots development that spearheaded a large trail initiative through the initiative of individual interest groups. The trail also established a clear vision for its future, guiding the trail through growth phases and decreasing the amount of uncertainty associated with the planning process.

**Results:** More than a fourth of the Greenway is now in place as an off-road route on traffic-free trail segments (766 miles or 26 percent). The completed trails in Virginia include:

- Mount Vernon Trail/Arlington Memorial Bridge, Washington DC to Mt. Vernon, VA; 17 miles
- Silverbrook Road Multi-use Trail, Fairfax County; 0.9 mile
- Ox Road Multi-use Trail, Fairfax County; 1.1 miles
- Richmond Highway Multi-use Trail, Fairfax County; 1 mile
- Telegraph Road Multi-use Trail, Fairfax County; 1.3 miles
- Fairfax County Parkway Multi-use Trail, Fairfax County; 1.4 miles
- Grist Mill Park Multi-use Trail, Fairfax County; 0.4 mile

## 9. Virginia Beach, VA

<http://www.vbgov.com/government/departments/parks-recreation/design-development-projects/Pages/bikeways-trails-plan.aspx>

Population: 437,994; The largest city in southern VA, and a popular tourist destination during summer.

When designing their bikeways and trails plan Virginia Beach saw community input as central to the development of the plan. The project believed that people and their needs should drive the types and locations of bike-pedestrian facilities, and that different types of users input should be considered equally important. The community outreach activities were taken before trail routes were even considered. This is a key means of gaining community support for a trail project. Tools used by Virginia Beach included:

- Community surveys which were the base of information for planning the trail network
- Town Meetings
- Public Open Houses
- Stakeholder Meetings with interested community members to determined public attitudes towards possible improvements
- Local stakeholders included local business group, City's running group, bicycle association, Kiwanis group, estates civic league, local national night out group, and public schools student cooperative association.
- An online survey publicized using the city's Facebook page

## Interviews

The following are interviews with two communities which were able to construct trails that were just ideas few years ago. The interviews focus on the challenges faced by the community at various stages of planning, especially obtaining funds.

### 1. Great Falls Trail Blazers

November 18, 2011

Great Falls is located in the Washington DC metro area abutting Tysons Corner, one of the busiest commercial regions in the country. The Great Falls Trail Blazers is a volunteer group who has been slowly expanding the trail network in Great Falls. They are focused on providing complete trail networks to the residents of their community. They strive to be ADA compliant in their trail choice and have developed a network consisting mostly of stone dust paths, which are both economically prudent and environmentally friendly.

The goal of the Great Falls Trail Blazers is to 'develop safe, scenic, multi-purpose paths throughout the Great Falls community where people can walk, ride horses or bikes'. They hope that the trail network will be utilized by diverse members of the community including families, runners, horseback riders, and nature enthusiasts. The trails developed under this effort are shown in the Table in the following page. More information about the Great Falls Trail Blazers can be found at <http://greatfallstrailblazers.org/index.html>.

Their goal for the trail network is to be both a recreational and outdoor outlet for the community, as well as a transportation option for short trips within the community.

Trails Built in Great Falls		
Trail	Length in Feet	Type
River Park Drive Trail	3,543	
Arnon Chapel Trail	1,611	Stonedust
Springvale Road Trail	1,406	Stonedust
Nike Trail	3,714	
Lucy Hanes Trail	3,325	Natrual Surface
Walker Road Trail	2,790	Asphalt
Seneca Shopping Center	1,219	Sidewalk
Upper Seneca Trail	7,497	Stonedust
<b>Total</b>	<b>4.75 Miles</b>	

Below is the interview with the Trail Blazers:

#### 1. How was the need for trails identified in Great Falls?

- The large equestrian community was critical in the planning of trails in Great Falls. When properties sold, fences were put up, and traditional trails were blocked. This was noticed by equestrians sooner than bikes/runners due to distance traveled. The decrease in a contiguous network for equestrians created momentum for the trail movement. This movement advocated

permanent trails to connect the community to the surrounding area and destinations.

- There is no easy way to walk to the stores and parks in the community, sidewalks are incomplete, and roads are not appropriate to walk on. Hence the community members have turned to trails as a possible means of connecting non-motorized transportation network.

#### 2. How did you identify your interest group?

- Great Falls has always had a strong equestrian and outdoors community. These individuals were the base for the Trail Blazers. As the trail network and profile of the group grew, more recreational and environmentally interested individuals joined the group.
- Volunteers are vital for trails, having a community with a strong interest and desire for trails is critical to the development and maintenance of a successful trail network.

#### 3. How did you gather the needs of the entire community?

- A survey went out to the population of Great Falls during this time (including Drainsville) and the number one thing people wanted was the ability to walk from their home to other locations (64%).

#### 4. How did you coordinate with both county and state agencies?

- Great Falls is not incorporated, so it makes planning trails harder. The interest group had to work with county and the state often as there is no city council.
- Since Virginia is Dillon Ruled, it was necessary at the beginning of the Great Falls Trails Movement to get support from the Virginia General Assembly.
- Fairfax County's public facility rules are different than VDOT's, which makes planning trails that cross both County and State land difficult, as it requires the support and approval of both jurisdictions.
- ADA compliance for trails is critical; however balancing the historic and environmental considerations and constraints of an area with the need to ensure ADA compliance makes trail planning challenging. Striking this balance requires the support of state and local agencies which have oversight of historic and environmentally sensitive areas.
- The Great Falls area had an advocate (from Loudon County) in 1979 when trails began gaining visibility. This was needed, especially for the intrastate connection plan to pass through the General Assembly.

#### 5. How did you establish your goals? Why were these important to your group?

- Trails that are environmentally and aesthetically appropriate are the goal of the Trail Blazers. This commitment to both aesthetics and environment makes the design and planning process much more difficult.
- Great Falls used to be rural and while it has developed in to a suburban area. The goal of the Trail committee is to maintain part of the Town's original rural character.

#### 6. What tools did you use to identify funding?

- We have used Federal Transportation Grants and Scenic Byway Grants. All the grants stemmed from Federal Highway grants and required the trails to be ADA compliant.

#### 7. How do you involve the community?

- Fairfax had set up a trails committee around 1982 which was dominated by bikers, with only one hiker and one equestrian. The trails committee was originally the point of contact for trail planning in the community. Later, parks and trails department realized that it was a larger endeavor. Great Falls Trails Blazers was created to champion the trail planning effort and ensure trails in the area received the appropriate amount of attention.

- We conduct outreach through hikes, nature walks, and partnering with parks.
- We have built networks with local communities pulling on their social capital to help maintain and build the trail sections.
- We have a 'clean Great Falls Park Day' the 1<sup>st</sup> Saturday of every month.

#### 8. What trail type and materials do you use?

- Trail Blazers favor stone dust paths as they are more environmentally friendly, cheaper to build, and more easily maintained. The county prefers pavement since it is easier and cheaper to maintain over time.
- Stone dust is appropriate for walkers, leisurely bikers, and horses. While stone dust paths are not favored by aggressive bikers, the trails are not designed for high speeds or to be connectors for long distance commuters.

#### Key Points Learned:

- The trail campaigns should advocate at the highest level possible as funding for trails is extremely competitive.
- Communities need to convey their desire for a trail network to the local authorities for its planning process to be successful.
- Conflicts over trail type and maintenance are issues community trails face with their regional jurisdictions.

- As community trail movements gain momentum, those associated with the trail efforts can be faced with liability issues.
- Coordinating with both county and state codes are critical for the success of community trails.
- All of their transportation grants have come through federal funds; they were referred to grants by those interested in the trail's success.
- Trail planning takes time: communities must be willing to invest time, effort, and funds into a trail network.

In an Interview with the Fairfax County Times the group had the opportunity to bring attention to trails in the Great Falls area and their goal for the region.

*"Our main goal is to have trails along all of the major roadways in Great Falls"*

- Fairfax County Times, April 20, 2012, Kali Schumitz





1. Does the trail network connect to the Washington & Old Dominion Trail (W&OD)?

- Phase one does not connect directly to the W&OD trail. However there is an existing facility that will connect the completed NoVi Trail, to the W&OD trail.

2. What is the website/online resource for the Vienna Trail Network?

- <http://www.fairfaxcounty.gov/huntermill/novitrail.html>

3. How was the need for trails 'defined'?

- I wanted to walk with my 6-year-old son to Meadowlark Botanical Gardens, however due to a lack of sidewalks; it was not possible to walk to where I wanted. There were two (2) existing strips of trail in the area that did not connect to the park, which made it necessary to walk on the road. This experience was the trigger for my interest and advocacy of trails in the area.
- A feasibility study was performed in 2006 to determine whether the community would benefit by making these places easier to reach by foot or on a bike. The proposed trail would potentially provide better access to Wolf Trap National Park, the Barns of Wolf Trap, the W&OD Trail, the Fairfax County Cross-County Trail, ten county parks, the town of Vienna, Tysons Corner, and many local neighborhoods.

4. Was there an interested group? How did you identify it?

- I created "the NoVi Trail Network" which was both a trail system and a group of interested people who acted as informal advisers. Then a community Feasibility Study Advisory Group was appointed by the Supervisor of the Hunter Mill District. After the Feasibility Report was completed, some members of the Advisory Group became part of the current, informal NoVi Trail Network Advisory Group.

5. How did you get in touch with your local planning agency and when?

- First contact with county government was with the District Supervisor who held an informal meet-the-constituents meeting. When I told her we needed sidewalks and trails, she told me to go and organize a team. I held a meeting at a local park; there I asked if anyone else was interested in having better trail connections and several people said yes. Even with community support, there was no money for new trails. I did not want to take 'no' for an answer, so I began a period of self-education which included going to the Governor's Conference on Greenways and Blueways. There, I learned about the federal Transportation Enhancements program. The Supervisor said she would give money for a match which would pay for a feasibility study.

## 6. What were the critical milestones in your planning process?

- I clarified my vision for the network, gathered support and worked with a local community member who is an architect. This architect was able to help prepare the TE grants application, which we submitted in 2002. This grant application was rejected, which led me to call the program and ask why, and how we could improve our application. We resubmitted the next year and were accepted.
- At that point, I began to work with the Transportation Department, which was administering the grant. They provided critical help with maps and possible alignments and supported us as we set up an advisory group.
- The feasibility study advisory group came up with goals, of which the most important was getting the community's opinion on whether to build a trail network. This was done via a community survey.
- Through the process, we realized the community did not want a very wide trail through the vicinity, which meant that federal guide lines for the trail would not be appropriate for the trail. Seeing this, I decided we should limit the Enhancements Grant to only one segment of our trail, where there was enough public right-of-way to put in a wide trail.

## 7. What was your vision?

- The vision was to connect all the wonderful parks and amenities in this corner of the county by walking/biking trails so everyone can enjoy them just by going out their front door - and bypassing their garages!

## 8. Did you have a source for funding the planning process?

- Transportation Enhancement Grants were used for the building of Segment D.
- Segments A, B, C are being planned and funded using a transportation bond funded through the County (Fairfax).

## 9. Did you use public planners or consultants?

- We used one volunteer consultant, an architect who was critical in making the initial maps for possible trail alignments, to facilitate the organizational meeting of the NoVi Trail Network Feasibility Study advisory group.

## 10. How often did the interest group meet with the planners?

- Meetings were held with the planners often in the early stages of the trail planning process. As the trail transitioned from idea to a physical alignment, the meetings became fewer, but continued in their importance to the planning process.

### 11. What tools did you use to obtain public feedback?

- We mailed a questionnaire to about 5,000 residents (1800 homes) within a prescribed area called the Study Area. Questions included:
  - Is a member of your household likely to use the proposed trail system?
  - Please check the ways your household might use the trails.
  - Which destinations would your household be interested in reaching?
  - Please rate how you think a trail system could affect the local community.
  - Please rate your level of support for the proposed trail/walkway system.

### 12. What tools were used to develop the trail alignment?

- Tax basemaps were used, scanned into digital form, and then edited to show trail alignments. A member of the community with mapping skills helped develop trail maps for the group.

### 13. What sources of funding did you use for construction?

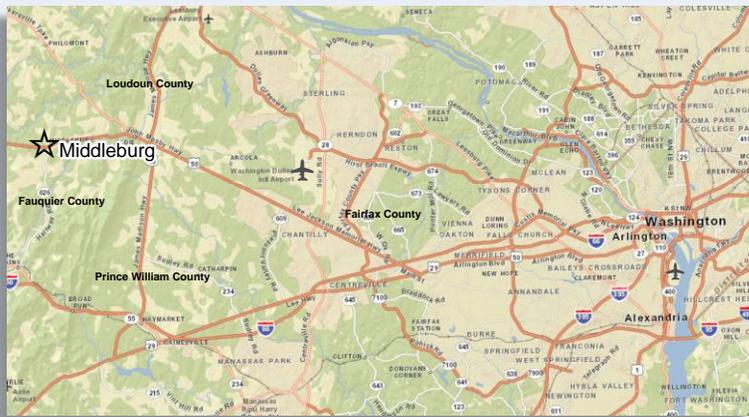
- There were different funds acquired for different parts of the trail network.
  - Feasibility study: Enhancement Grant #1 (match from county Supervisor)
    - Transportation Equity Act for the 21st Century (TEA-21).

- Segment D: Enhancement Grant #2 with mostly in-kind match from all the work on the feasibility report and my 1000 hours.
- Phase I, Segments A-C: A Fairfax County Transportation Bond.
- Trap Road bike/pedestrian bridge - Federal earmarks through Rep. James Moran.

## Chapter 3: Middleburg Case Study

Middleburg is a small town located about 45 miles west of Washington DC (shown in **Figure 1**); in the heart of the Virginia horse country. This historic town was an intermediate stopping point between Alexandria and Winchester during the Civil War and has many interesting historic sites around the town. Middleburg's popularity has increased during the 1900's due to its status as a destination for foxhunting and steeple chasing. In spite of the rapid growth in the Washington metropolitan area, a conscious effort has been taken to preserve the colonial character of the town, and maintain the historic small town ambiance. As of the 2010 census Middleburg's population was 976.

**Figure 1: Location of the Town of Middleburg**



The Town administration and citizens are well coordinated and dedicated to developing multi-purpose

trails in and around the Town. In early 2011, the Town of Middleburg obtained \$100,000 of State funds from VDOT to construct a bike/pedestrian trail upon the consent of the effected land owners. Traditionally, the planning and project development process for trails is managed by developers and/or local governments with an incremental approach to the development of facilities often occurring within or adjacent to the roadway right-of-way. Unlike previous efforts, this trail construction project heavily involved the local representatives at every stage of the planning process.

VDOT and HNTB's planning approach focused on the development of trails in the Town of Middleburg, and then used the lessons learned from this process along with further research to develop a Trail Guide for grassroots efforts in communities. This guide is located in the previous chapters. The project team provided planning expertise to the Town in developing the trail alignment (Phase 1/Demonstration) that can be constructed within a \$100,000 budget. The planning team also proposed probable locations for a Phase 2 trail system which will be part of Town of Middleburg Master Plan. This project scope was progressive as representatives from the Town were involved in every step of the project, working as close advisors to VDOT throughout the entire process.

In this case study, volunteers/representatives from the Town are referred to as the committee members.

## Trail Development in Middleburg

### Walk-about Tour -Month 1

The kick-off meeting of the project was a walk-about tour of the Town attended by the committee members; planners from the Town, County and State; and the planning consultants. Before any thought was put into the size, nature or length of the multi-purpose trail system, the consultant and VDOT Team walked with the committee members to understand their key points of interest and various DOs and DONTs of the Town.

A site tour of the Town, as opposed to a conventional indoor meeting, proved to be extremely beneficial as it provided the team insight into:

- Intersections/roadway segments that are not safe or attractive for pedestrians due to sight distance issues or traffic patterns
- Firsthand knowledge about existing trails and their condition
- Knowledge about willingness of various private owners to allow trails on their property
- Approved local development projects and their influence on trail alignment
- Popular attractions/destinations within the community
- Existing condition of the various facilities including sidewalks, crosswalks and pedestrian ramps

The walkabout tour also brought the consultants and regional planners up to speed with the vision and culture of the Town. The contribution of community involvement decreased the amount of independent research needed, allowing for the conservation of financial resources and time.

### Helicopter Tour - Month 1

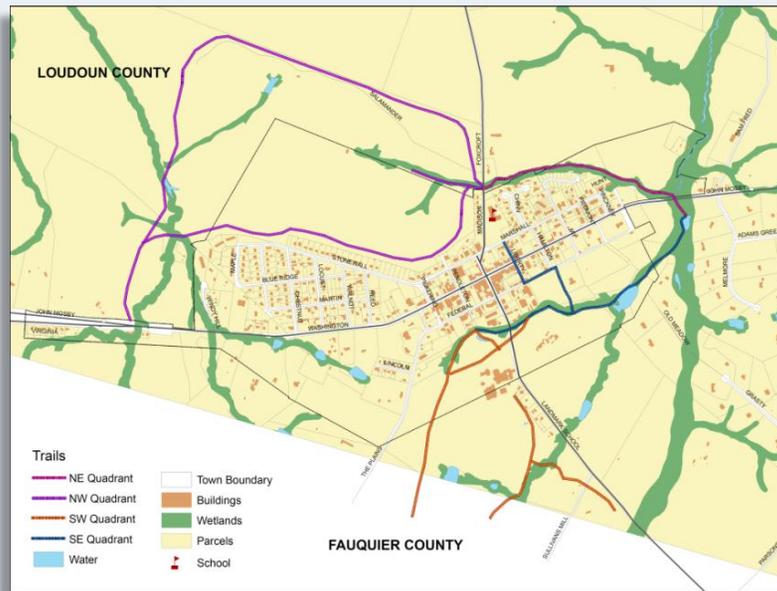
A helicopter tour was offered by a committee member to see the potential trail alignments from above. This provided a unique perspective for the committee members to view the challenges and opportunities in implementing the trail system. This step was valuable in understanding the layout and environment of the Town, as it provided a perspective not possible in most studies. It enabled the project team to accelerate the pace of the project dramatically. However, if such a tour is not possible in other settings, an up to date aerial photograph review would be similarly valuable to the planning.

### Survey - Month 2

After gaining considerable knowledge about the existing conditions of the Town, the consultant team surveyed various proposed trail alignments along with the committee members to understand the needs of the users. Pictures were taken along the pathways to further analyze the feasibility of a pathway and costs associated. Using this knowledge, conceptual drawings of potential alignments for trails were developed and

presented to the team at the following meeting, seen in **Figure 2**.

**Figure 2: Conceptual Drawings of Trail alignments**



### Town Meeting #1 - Month 3

Based on inputs from the committee members at previous meetings, the consultant developed conceptual drawings of potential alignments for trails.

While developing the alignments for trails the following aspects were considered:

- Improving access to schools
- Enhancing connections between residential areas and commercial and employment centers

- Improving connectivity and interaction with roadway crossings
- Providing techniques for improving non-motorized safety
- Eliminating or mitigating existing hazards
- Enhancing existing trail network(s) by connecting and leveraging existing assets like sidewalks, popular destinations and trails.
- Methods and techniques to partner with the private sector and advocacy groups

In the light of the available funds of \$100,000 for immediate construction, the team prioritized the trail alignments into phases.

A 0.8 mile path that connects key points of interest including the information center, elementary school, and downtown Middleburg was chosen as a priority trail by the committee members. The team intended this to showcase the benefits of trails to key stakeholders and to demonstrate the potential of connecting the attractions in and around the Town with future trail development. This trail was called the Demonstration Trail or the Phase 1 Trail and can be seen in **Figure 3**.

Figure 3: Alternatives for Phase 1

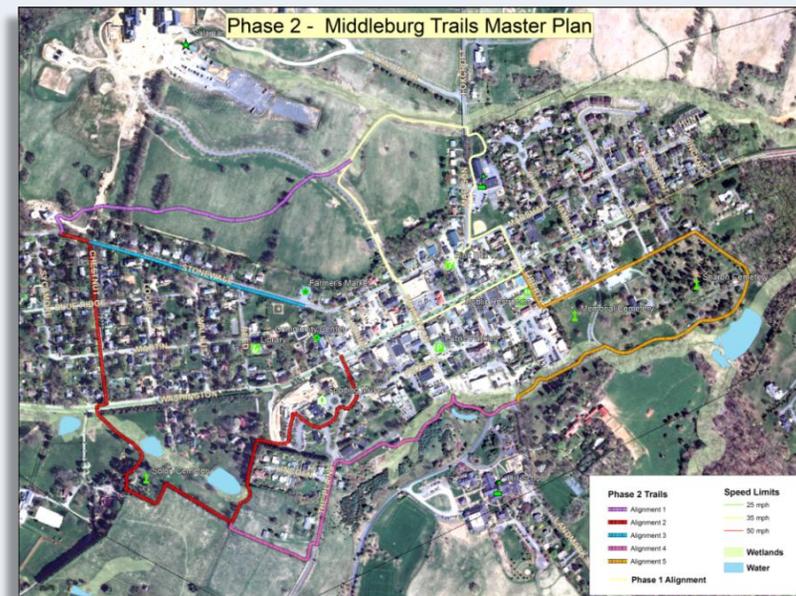


The consultant developed various trail alignments for the Demonstration (Demo) Trail that could be implemented within the available funds. For each section within the alignment, planning-level cost estimates, funding opportunities, and typical sections were provided to the committee members, as well as regional and local planners for their input and feedback. Existing conditions along the alignments were also described in detail, supported by photographs from the field visits.

The committee members suggested that the future trail alignment/Phase 2 resemble a figure “8” model as it enables the users to access key points of interests

within Middelburg, while also exploring the rural landscape around the Town. Maps have been developed to show the Demo Trail as well as Phase 2 trails, seen in **Figure 4**. Rough alignments and locations were shown for Phase 2 trails, demonstrating how they could connect all the destinations/attractions of the Town.

Figure 4: Suggested alignments for Phase 2



Committee members were provided large plots of the alignments and were requested to mark their suggestions.

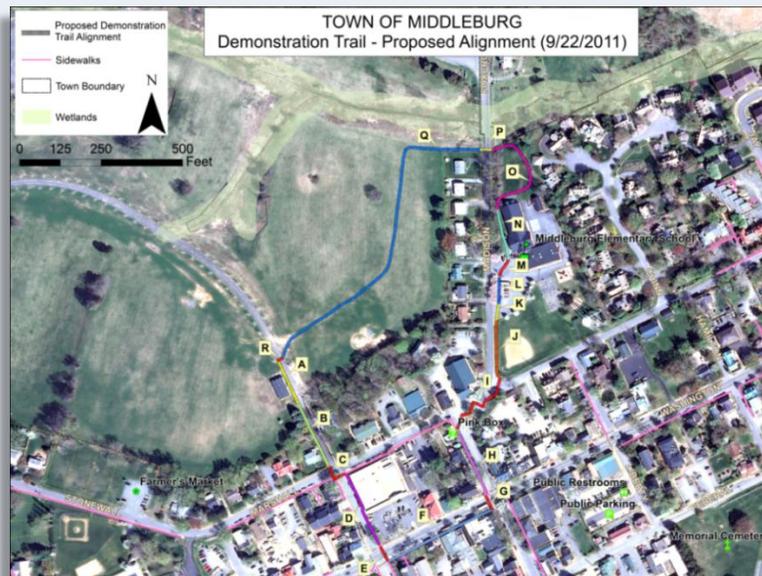
### Town Meeting #2 - Month 4

Alignment of the Demo Trail was refined based on the following inputs/factors:

- Suggestions from the plots marked by the committee members
- Preliminary cost estimates
- Right-of-Way availability
- Wetlands, grades and other physical constraints
- Safety evaluation

The modified Demo Alignment was sent to the team via an electronic drop box system set up by the committee members, the modified alignment can be seen in **Figure 5**. This enabled all the attendees to view the material ahead of the meeting.

**Figure 5: Revised Demo Trail Alignment**

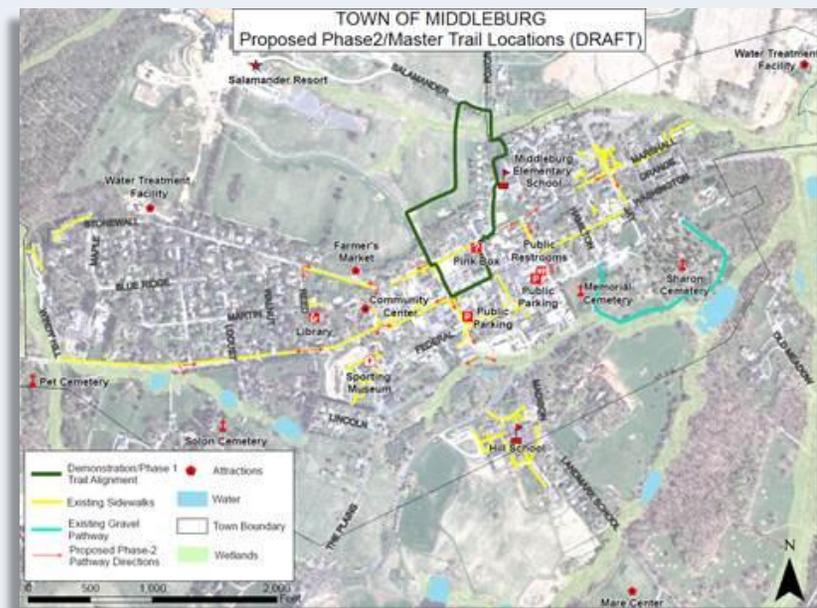


In this meeting, committee members modified the alignment slightly based on the input from a private land

owner whose property would be involved. VDOT's traffic engineering staff assessed the safety of a mid-block crossing proposed as a part of the trail alignment and suggested modifications.

The construction costs of the trail were estimated to be around \$200,000 which could be funded by various sources such as transportation enhancement funds, private funding via proffers, Safe Routes to School program, and the recreational trails program. A segment of the alignment that will be funded by VDOT was identified and more detailed cost estimates were requested. These sections can be seen in **Figure 6**.

**Figure 6: Revised Phase 2 locations**



### Town Meeting #3 - Month 5

It was initially decided to have a pre-public meeting in month #5 to have a final look at the Demo Trail and discuss the agenda for the public meeting. However, due to the delay of an intersection (Madison and Marshall) re-alignment project, the Town representatives wanted to pursue an alternative alignment for some portion of the Demo trail. The proposed new alignment also goes through Middleburg Elementary School property and is being designed by a consultant hired by the Town.

The planning consultant presented the alignment of Demo/Phase 1 trail that has been developed so far.

VDOT and the planning consultant examined the location where a mid-block crossing is being proposed on Foxcroft Road as a part of the Demo trail.

### Town Meeting #4- Month 10

The committee members of the Town clarified that the Demo trail developed earlier cannot be carried forward due to the following changes:

- Ownership change for a private property through which the trail was proposed
- Portion of the trail through the elementary school cannot be approved by the Loudoun County School Board at the time
- Delay of an intersection (Madison and Marshall) re-alignment project

As a result, the committee suggested using the funds towards improvements along identified paths (through public right-of-way only) within the Town. The improvements included installations of new crosswalks, ADA compliant ramps, and sidewalk repair. These paths have stub endings that are anticipated to join the complete trail network (Phase 2) connecting various attractions in the Town. Phase 2 will be a part public and part private trail and hence expected to take longer to develop.

The committee members marked their suggestions on large maps (with existing conditions, attractions and other relevant information) provided by the planning consultant.

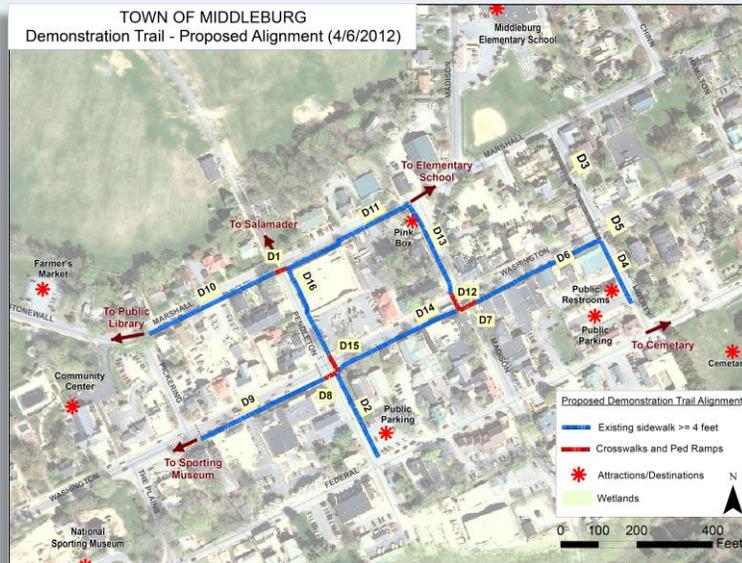
The team also reached a conclusion that the Town needs a master plan to get further trails built. As Middleburg Planning Commission is in the process of developing a master plan, it is the best opportunity to develop a trail master plan. When the master plan is initiated a public meeting will be conducted to obtain the input of the citizens.

### Field Visit- Month 11

The consultant conducted a site visit to examine the existing conditions along the paths proposed in the Town meeting. A trail alignment and the associated cost estimates were developed to compare with the available funds. Based on the feedback from the committee members, a portion of the paths was discarded due to

lack of right-of-way and high construction costs. The final paths identified are shown in **Figure 7**.

**Figure 7: Finalized Alignment for Demo Trail**



The locations identified for improvement are as following:

- On the west leg at Madison Street and Washington Street- Two ADA complaint ramps
- On the south leg at Marshall Street and Pendleton Street - One crosswalk
- Level the existing brick sidewalk along the paths identified

Part of the available funds (\$100,000) was decided to be used towards the improvements described above, the

remaining funds will be used towards developing a master plan of trails for the Town.

### Lessons Learned

The Middleburg Demo Trail offered unique insights into the community trail planning process. Key lessons learned from the planning process include:

- The necessity of a consensus among the community at key stages of planning.
- The need for attention to community values and qualities including environment, scenic, aesthetic, historic and natural resources, as well as safety and mobility.
- The need for a well-defined protocol for decision making at every stage of planning.
- The importance of a common understanding of the purpose and need of the transportation project.
- While community trail planning integrates the knowledge and needs of the community it is often more expensive in terms of time and resources involved.

## Chapter 4: Recommended Process for Trail Planning

As described in the earlier chapters, trail planning has traditionally been approached with a “top down” process, in which regional and state planners identify the need for a trail, design it in association with the local planners, and involve the public at key milestones of the project. This document proposes to apply a community trail planning process, involving the public in all phases of the planning and pre-planning process. Trail development for communities starts as a desire of a citizen or a group to have trails in his/her neighborhood and can result in trail alignments that are fit in the City, County or State’s master plan or constructed in the community right away.

The flowchart shown in **Figure 8** illustrates the general sequence of the multiple steps in the process of successfully developing community trails. These steps are the result of interviews with planning experts, community trail champions, research of national best practices, the involvement with the Middleburg Trail, and personal knowledge. Each step in the flowchart is discussed in detail later in this chapter.

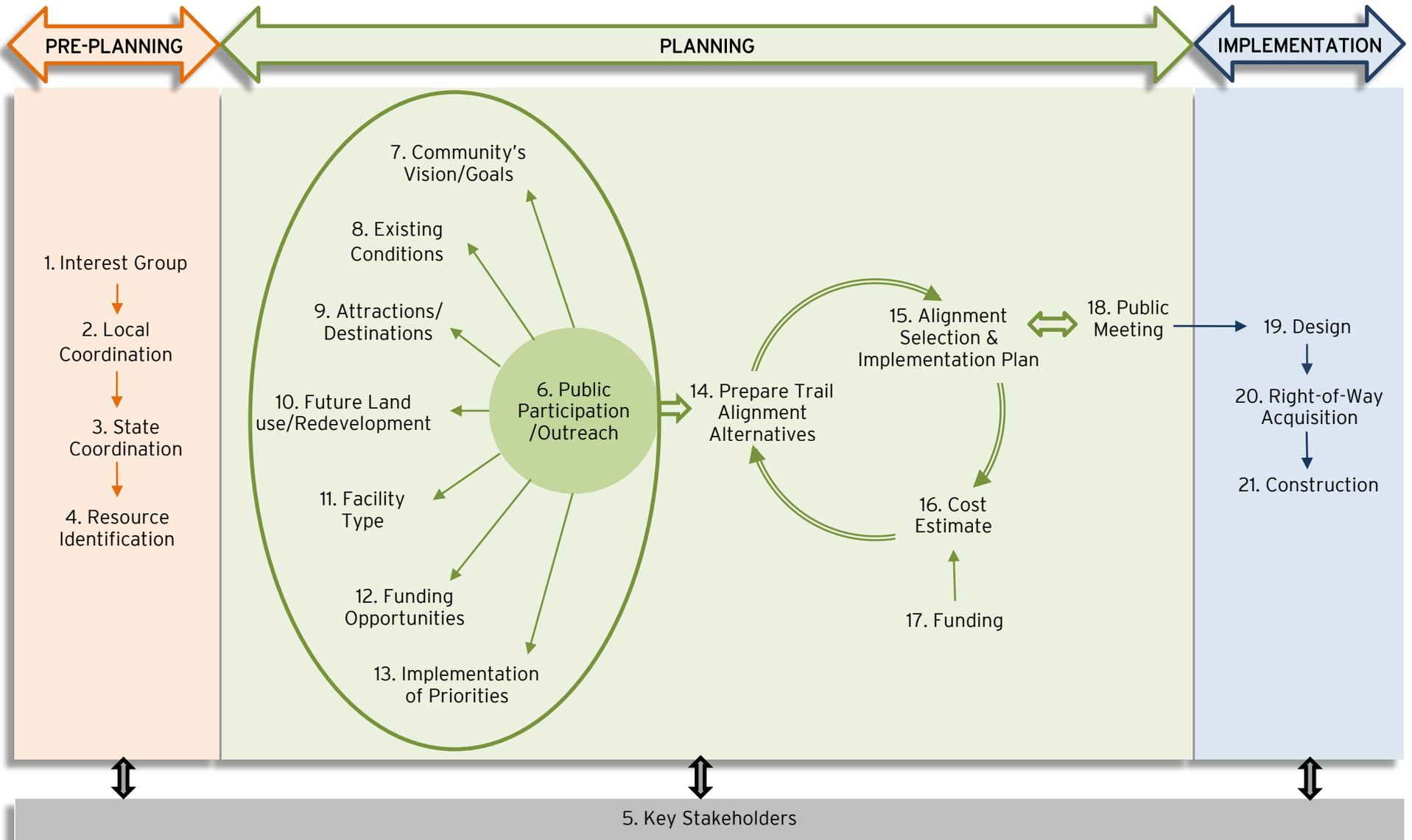
Key findings regarding the community trail planning process are discussed below:

- As every community is different in terms of its location, size, environment, and vision; the planning process and the tools used to

accomplish their goals also differ and are mostly unique for that community. Planners must bear this in mind instead of following a generic approach.

- The planning process works best when there is:
  - A well-defined protocol for decision making at every stage of planning
  - A common understanding of the purpose and need of the transportation project
  - Stakeholder involvement at critical points in the project
  - A consensus among the community at key stages of planning
  - Interdisciplinary team approach to planning and design
  - Attention to community values and qualities including environment, scenic, aesthetic, historic and natural resources, as well as safety and mobility
  - Objective evaluation of a full range of alternatives
- Community trail planning process is often more expensive in terms of time and resources involved. Unlike traditional trail planning process, community trail planning can be more complex due to involvement of various parties at every stage of planning. However, the outcome of the process is found to be more useful and effective.

Figure 8: Community Trail Planning Flowchart



Integrating stakeholder input and community values into the evaluation criteria and trail design will create a trail that enhances community assets and provides links between town assets and community members.

## 1. Interest Group Formation

Lead: Trail Champion/ Interest Group

Generally, ideas for new trails originate from an interest group such as interested citizen groups, neighborhoods, parents of school age children, recreational runners, cyclists, and environmentalists. Without involvement from such advocates within the community, trails will lack support and not gain the momentum necessary to overcome the initial phases of planning. It is encouraged that individuals advocating for a new trail connect with a support group such as the PTA, homeowners association, and other interest groups. Attending current social activities for these groups and seeking support for new trails can create the base momentum for a larger interest group and trail planning group.

The need for a trail might arise from a common goal of the community to have more trails or to address a particular problem or concern in the community. Concerns that lead to trail planning may include, but are not limited to, lack of safe paths for kids to walk or bike to school, lack of alternative modes of transportation to commute, and improve walkability within a community.

Some of the reasons for considering trails include:

- Improving access to schools
- Enhancing connections between residential areas and commercial/employment centers
- Better connectivity and interaction with roadways
- Improving non-motorized safety
- Eliminating/mitigating existing hazards
- Enhancing existing trail network by connecting missing links

## 2. Local Coordination

Lead: County/City/Town Transportation Agency

The interest group should approach the local jurisdiction's transportation staff about their proposal for new trails in their community. Depending on the jurisdiction, some localities have ownership of streets and right-of-way and thus would take the lead on reviewing the request. If this is not the case, local public officials then coordinate with the State authorities to move the initiative forward, or at least provide guidance on the best process.

Reader should note that local laws might differ between various jurisdictions. As this guide conveys the general approach, it is highly recommended that the interest group coordinates with the local government at this stage to understand their process.

### 3. State Coordination

Lead: VDOT Bike/Pedestrian Coordinator

The role of state officials, either staff, elected or appointed officials, varies with each situation. However, bringing these persons into the process early is valuable. The state normally has potentially greater sources of funds including administering all Federal funds such as the Transportation Enhancement funds. There is also likely to be a bicycle or trail coordinator or planner available at the State level to outline and guide the community on various elements or steps of planning. Often, owing to the exposure of staff to such projects, they can suggest various funding options and resources, and alternative approaches. Most environmental and traffic regulations are administered at the State level. All these point toward including some key stakeholders from the State government into the trail planning process.

### 4. Resource Identification

Lead: Interest Group and Public Transportation Agency

Once the need for a community trail is established, the group including local and/or State staff begins to identify resources for the study process. This may be public agency planners, volunteers with sufficient skills, or obtaining funds to hire planning consultants. This will guide the complexity and scope of the subsequent planning process.

Resources are often dependent on a community's jurisdiction size and type. Trails built in small rural communities will have different budgets and resources than trails planned in larger urban areas. Urban jurisdictions will have the highest amount of resources and skill sets at their disposal. Urban planning offices will likely have a division or person responsible for alternative modes of transportation, including bike and pedestrian means. This in house expertise will allow them to provide much of the labor involved in creating a trail plan themselves. Urban communities will also have larger budgets to apply to trail planning and development, as their tax base will be larger than suburban and rural communities. Rural communities mostly rely on the Federal and State funds and resources for planning and designing the trails and associated facilities. Consultants may be hired to assist the community in reaching their vision within the available funds.

At this stage, funding for planning the trail needs to be acquired to carry the process forward. Planning is followed by detailed design of the trail and construction. More detailed information on funding opportunities is discussed in step 12 of this chapter. Typically, trail planning projects obtain funding in two (2) levels/categories:

- Trail planning and detailed design
- Construction which includes right-of-way acquisition

The typical trail planning and design process needs a transportation planner with multi-modal planning expertise, roadway design engineer, roadway drainage engineer, and a project manager. The project manager needs to establish a well-defined protocol for decision making at various stages of the planning process. This will help develop consensus at crucial stages of planning like preparing alternatives and the finalizing trail path based on community input. Lack of consensus within the community might result in inefficient use of resources and prolonged delays in the implementation of the project.

## 5. Key Stakeholders

Stakeholders are agencies, organizations, or individuals who have some level of authority over, an interest in, or may be potentially impacted by a transportation project. Public officials and land owners are key stakeholders in the planning of any trail or trail network. In the planning process it is important to identify and engage them early in the planning process to any special interests or constraints in the process. Depending on the project they can be involved at any stage of the trail development process, for example, before step 4, Resource Identification.

Stakeholders in public sector generally include:

- Local jurisdiction elected and appointed officials
- Local transportation professionals
- State transportation professionals

- Transportation service providers

Situations of concern occur when a proposed trail crosses a private property, needs changed traffic patterns, new/modified traffic control devices and increased access to private properties. Groups or individuals that may be affected by possible trail alignments include:

- Property owners
- Property renters
- Facility users
- Environmental interest groups
- Business organizations
- Historic preservation and scenic conservation groups,
- Transportation interest groups
  - Bicycle and running groups
- Growth management groups
- Land developers

Input from these key members often feeds back to the public planning authorities which results in refining/modifying of the proposal. Key stakeholders are also involved at crucial stages of the trail development process for consensus as shown in the **Figure 8**. By reaching out to these groups and engaging them in the trail process both the planning process and implementation processes will have higher rates of success.

## 6. Public Participation/Outreach

Lead: Trail Champion/ Interest Group

One of the distinguishing factors between a traditional trail planning process and community trail planning is the involvement of the public at the earliest stage and continuously thereafter at every stage of the trail development process organized and initiated by the community itself. Including community opinions, knowledge, and resources in the planning process will result in a more effective trail planning process. As shown in **Figure 8**, public participation/outreach is the core of the trail development process, and public should be involved from start to finish.

Community groups with a stake or interest in new trails can serve as a vital resource in community sourcing as they have an



established network and standing in the community. There are multiple tools and means of involving the community in the planning process, depending upon the jurisdiction type and size. Methods that have proven to be effective means of involving the community are as follows:

- **Community Meetings:**
  - Use maps to demark possible trail routes, destinations of importance, and areas with possible hazards. This helps create trail alignments that have the greatest amount of community support and ensures that the trail will be utilized.
    - Having maps for each person in attendance is the best way to get individual input to routing, while a large map creates a means of consensus.
  - It is important to schedule meetings at times where the greatest number of interested individuals can attend. Evening weekday and weekend mornings allow people to fit trail meetings into their work and personal schedules.
  - Discussing top priorities for trail use and alignment is critical at meetings, including signage, possible uses, trail type, and desired destinations.
- **Community Workshops/Focus Groups:**
  - Conducted in a less formal environment, creating an atmosphere where ideas are heard and conversations held to develop better insights to community needs and desires.

- Serves as a planning and brainstorming process, focus more on involving key user groups including students, runners, bikers, and families.
- **Surveys/Questionnaires:**
  - Developed to gather ideas, opinions, and feedback on: function, destinations, corridors, frequency of routes, prioritizing destinations, and current routes
  - Serves as a means to voice concern about trail considerations in the comment/concern section of the survey.
  - Avenues to conduct surveys/questionnaires: Newspapers, Online, Facebook, provided on public busses, and distributed with utility bills.
- **Interviews:**
  - To obtain information from key members of the community on trail alignment, community attitudes, and possible alignment concerns.
    - Can be held with public officials, property owners, interested community groups, business owners, and bike groups.
- **Internet:**
  - Tools: Email lists, Social networking sites like Facebook, information sharing sites like drop box, public forums, etc.

- Allows a diverse group of people to stay informed, connected, and provide input into the planning process without the time commitment of attending meetings and focus groups.
- Community members have a direct link to the trail project and can see status changes, draft alignments, and communicate with trail planners at a time of their convenience.
- **Site Tours:**
  - Planners, community members, and government officials can have a walkabout tour while discussing trail amenities, alignment, and access. These walks allow planners to identify hazards, attractions, and opinions on the trails route providing a head start on the project requirements.
- **Trail Committees:**
  - Consist of volunteer business owners, parents, and interested individuals, and can serve as an advisory board to trail planners.
  - Can be given the responsibility of collecting information, designing possible alignments, review of the routes, keeping others informed and connecting the community to the project.

Depending upon the jurisdiction a relatively simple participation approach or a combination of complex participation tools may be necessary to apply. In large communities, where there are varying and diverse interests in trail planning, surveys, ads in newspapers and community workshops will allow for the representation of these views. Urban areas will be more likely to take advantage of internet based tools, as the populations will be more likely to use this media on a daily basis. In small rural towns, community meetings, site tours, advertisements in local papers, and interviews will be more likely to connect the project to local interests than other tools. When deciding which communication tools to use, consideration of the community and audience will be critical in maximizing the advantages of public involvement.

Public participation and input in steps 7 to 13 of the planning process (refer to **Figure 8**) is crucial to planners in developing alternatives for trail alignments. The public is also involved at other major steps of the planning process as shown in the **Figure 8**.

## 7. Community's Vision/Goals

Lead: Transportation Agency

Determining a community's vision for their trail plan is important in ensuring the trail will have community support and fulfill its role as an enhancing element of the community. Communities may have varying desires for their trails, but most will want a connected

multipurpose network that is accessible and pedestrian oriented. The improvement of connections between existing recreational trails and community centers is a common goal of trail development. Trails can also serve communities as recreational and activity centers that improve the lifestyle and health of citizens. Goals may include:

- Maximizing trail related recreational opportunities for citizens
- Accommodating multiple trail users, including pedestrians, runners, and bikers
- Creating improved public access to a trail system
- Connecting residential areas to community facilities
- Building facilities that support alternative modes of transportation for commuting
- Integrating new trails into a larger regional trail system
- Developing trails that enhance the visual character of a community's open space
- Encouraging tourist activity that contributes to a stronger local economy
- Minimizing environmental and neighborhood impacts
- Connecting activity centers and other popular destinations

A to-the-point example of vision is from the town of Kodiak, Alaska: "The purpose of Kodiak Road System Trails Plan is to ensure continued access and maximum

use of trails by all citizens". Their goals and objectives for their trail plan include:

- Preservation and expansion of the trail network: Provide a network of recreational trails suitable for all types of trail users including hikers, skiers, mountain bikers, equestrians, and runners.

The community of Oakridge-Westfir, Oregon's vision is, "a trail network that connects Oakridge-Westfir area communities, regional parks, and open space to trails and recreation opportunities in the Willamette National Forest". Their goals include:

- Improve connections within communities, such as between city parks, ball fields, schools, community centers, government buildings, etc.,
- Increase recreational opportunities for families of all physical abilities
- Promote economic development opportunities including tourism
- Improve health and fitness of our citizens
- Provide non-motorized transportation options for Oakridge-Westfir area residents.

## 8. Existing Conditions

Lead: Transportation Agency

In order to design trails, an understanding of opportunities and constraints of the study area is gained by assessing the existing infrastructure and resources. The process for establishing existing

conditions will vary depending on the location of the trails. For trails built in undeveloped areas natural features (elevation, water bodies, wetlands, flood plains, etc.) are taken into account while developing the alignment. Those trails built in urban or developed areas will require research into the existing man-made facilities in addition to natural features in the area. The existing facilities will be a primary consideration in the planning process as they may pose financial or structural hurdles to the creation of a trail, or may prove to be easily modified to meet trail requirements.

Jurisdiction size will play a role in the means of determining the existing conditions. Large municipalities will likely have existing data files on topography, hydrology, contours, right-of-way availability, property ownership, land use, and environmental sensitivity; while smaller communities might require site visits and interviews to determine local conditions which must then be transferred to the data base system being used for the study.

Current land use and road conditions will play the largest role in trail alignment considerations. If trail alignments are designed to go through or adjacent to large privately held properties, the cost and time of trail development can be greatly increased. If trails are designed to connect already existing facilities with minor or no modifications/additions they can be implemented in a shorter timeframe.

During the assessment of existing conditions it will be important to take an inventory of the area including:

- Physical assessment: land use, surface conditions, road network, existing trails or other pedestrian/bicycle facilities including ADA compliance.
- Natural resources: elevation, soil type, hydrology, and vegetation
- Hazard assessments: possible contamination from local industries and safety considerations, flood plains, wetlands
- Engineered structures: roads, signs, light poles, rail right-of-ways, power lines, and parking meters
- Available public amenities: drinking fountains, restrooms, bicycle parking, trash receptacles, and automobile parking

One of the most popular tools used to examine existing conditions is Geographic Information System (GIS). GIS enables users to store information about an entity and geographically map it, which makes it a powerful data analysis tool. Refer to step 15 for more detailed information on various GIS tools. If the planning group wishes to use ESRI's ARC program for developing a trail plan, shape files comprising existing conditions (discussed above) need to be obtained from the local/state coordinator.

With an understanding of the existing conditions the proper trail alignment can be designed to avoid property and financial impediments in the future, and to take advantage of existing amenities.

## 9. Attractions/Destinations

Lead: Transportation Agency

Knowing which locations have significant importance to the community is the first step of planning a community enhancing trail. Determination of these locations requires the involvement and input of the community.

While important destinations will be different from one jurisdiction to another, some key locations to consider in initial alignment designs include:

- Activity centers like shopping centers, business districts, and community centers.
- Planned housing developments.
- A town center or downtown district.
- Recreation facilities, including recreation centers, sports complexes, water fronts, and parks
- Schools.
- Historic sites, landmarks, and special neighborhoods.



- Museums and cultural facilities.
- Libraries.
- Scenic natural features and environments.
- Existing trail heads.
- Information Centers.

Whenever available, files (used in GIS) of key locations and activity centers should be obtained from the local or regional planning department.

Marking the destinations on a large map or aerial photograph of the locality serves as an efficient means of contextualizing possible trail routes. These maps can be marked prior to community meetings and supplemented with community input, or brought to meetings and marked with community preferences based on the interest and involvement of the public.

## 10. Future Land use/Redevelopment

Lead: Transportation Agency

When planning trails it is important to consider the future land use of the study area. One task is to identify areas that are currently undeveloped and that will likely be developed in future years. This consideration of future land use and redevelopment in the area is vital to planning a trail that will be functional and utilized in years to come. It is important to plan trails in advance of development:

- To avoid being left with an entirely car-dependent transportation system

- To obtain funding from future developers in the form of proffers. If a trail is already planned in an undeveloped area and included in the area's Transportation Master Plan, a developer may be required to fund or provide the trail in part or full. Designing more walkable and bikeable communities based upon future land use ensures a vibrant trail future.

In urban settings or areas which are fully developed, trails need to be retrofitted into the system. This option might be expensive due to lack of right-of-way and need to rebuild the existing facilities while adding trails. However, in the long-term it might prove to be cost effective as they provide a viable alternative to motorized transportation. Also, if the road is rebuilt in the future, having a provision for a multiuse trail in the plans may ensure its inclusion in a revised design. Future land developments or services to consider in the planning process include:

- New schools or library locations
- Shopping centers
- Residential developments
- Park and other recreational facilities
- Trail plans of adjacent jurisdiction's
- Future population trends
- Development density changes
- New or upgraded transit centers or services

Traffic Impact Analysis (TIA) conducted for new developments and other traffic studies prepared in the vicinity of the study area should be requested from the local authorities. In addition to these, shape files (used in GIS) of future land use and major developments should be obtained from the planning division if available.

## 11. Facility Type

Lead: Transportation Agency

Depending on the intended function and available funding, different facility types can be designed and used. Facility type and design will affect the core user group, the trail's durability and maintenance cost.

Deciding the appropriate use and facility type will determine the functionality of a trail for the community. For example, recreational runners and commuting bikers will desire different trail types, and uses. Different uses and target users will be critical in the final trail type and design type. Below is a summary of trail, facility, and use types:

### Trail Type

- **Bike Lanes:** Typically, bike lanes run along the existing roadway. Bike lanes provide a safe corridor for cyclists to travel on roads that are



frequented by cars. Bike lanes are usually paved and striped to show the area of the road reserved for their use.

- **Sidewalks:** Concrete sidewalks offer a durable surface for pedestrian traffic and a separation from cars. Landscaping and vegetation in the buffer zone between the sidewalk and roadway make for a more appealing and safe walking environment.
- **Bike Routes:** Bike routes are designated roadways that can comfortably and safely accommodate bicycles where vehicular traffic volume and speeds are low. Signs and sometimes pavement markings are used to identify bike routes.
- **Shared-Use Paths:** These pathways can accommodate different kinds of uses, such as walking and biking. These trails provide the highest level of safety for users as they are often separated from motorized traffic. The



pathway surface can be asphalt, concrete, compact gravel, or bark mulch, depending on the amount of traffic and types of uses. They can be within/parallel to existing roadways or on a separate alignment and right-of-way.

### Design Type

- Hard Surface Trails:** Hard surface trails are made of asphalt, concrete, or brick pavers. Hard surface trails accommodate the widest variety of users including walkers, bicyclists, roller-bladers, skateboarders, walkers using baby strollers, and wheelchairs. While hard surface trails are durable in the long run, they have high initial costs; which limits the length of trail being built for projects with lower budgets. Hard surface trails offer stable travel surface and are often used by individuals commuting longer distances from their homes to work on bike at faster speeds than recreational users.
- Soft Surface Trails:** Soft surface trails are typically constructed of natural earth, crushed rocks, or recycled concrete materials. They can also be made of gravel, dirt, limestone, and mulch. Soft surface



trails are considerably cheaper than hard surface trails. However, some of them are not Americans with Disabilities Act compliant and are less durable over extended periods.

Soft surface trails are generally used by recreational users who travel at low speeds and use trails during their free time.

## 12. Funding Opportunities

Lead: Interest Group and Local Transportation Agency

Funding is one of the most crucial steps as it affects trail size, type, and routing. At this stage of the planning process, funding opportunities for planning and eventually construction of the trail need to be identified.

When funded by state and federal dollars, trails are required to be ADA compliant, which might add extra costs to trail construction, but also increases the funding opportunity for the project. Private funding for trails can often come in the form of a development review requirement in a community's comprehensive plan. In such situations, a public-private partnership is established to develop a seamless community trail network. This ensures that trails are created as the community grows.

Funding opportunities exist at federal, state, and local levels although all federal programs related to trails are allocated by state agencies and may be administered by local government. Local agencies should apply for

grants or funds based on its priorities. However, community involvement might increase the priority of a project to the local agency.

### Federal Funds

The FHWA through the State DOT's is the largest single source of funding for shared use paths, trails, and related projects in the United States.

- Surface Transportation Program (STP): It is a primary federal highway program to fund major highway, bridge, and transit projects. In the current transportation legislation, about 10% of these funds are set aside for the States for Transportation Enhancement (TE) activities which will help expand transportation choices and enhance facilities related to surface transportation. It should be noted that TE funds can be used only for project design, construction and related activities, and not for regular maintenance. Some of the TE activities that specifically benefit pedestrians, bicyclists, and trails are:
  - Pedestrian and bicycle facilities (which may include sidewalks, bicycle parking, bicycles on buses, and pedestrian and bicycle transportation facilities like shared use paths),
  - Pedestrian and bicycle safety, and related education activities, and
  - Preservation of abandoned railway corridors (also known as rail-trails or rails-to-trails).

More information about this funding option can be found at

<http://www.fhwa.dot.gov/environment/te/index.htm>

The TE program is a Federal-aid reimbursement program, not an up-front grant program. Once a project is approved for this grant, the cost of the construction and other improvements have to be paid by the project sponsor until the work is completed. The sponsor can then apply to the State for reimbursement.

- Land and Water Conservation Fund (LWCF): Projects involving acquisition and development of outdoor recreational areas and facilities like trails are eligible for funding under the LWCF. This program provides up to 50% of the matching funds for States and local governments for eligible projects. The LWCF evaluation process ranks land acquisition over other development activities.

To apply for the grant the state must maintain and update a statewide recreation plan. The

Commonwealth of Virginia distributes the funds through the Department of conservation and Recreation. A document outlining the application process can be accessed from

<http://www.dcr.virginia.gov/forms/DCR199-110.pdf>.

More information about the state program can be found at

[http://www.dcr.virginia.gov/recreational\\_planning/lw](http://www.dcr.virginia.gov/recreational_planning/lw)

[cf.shtml](#) and information on the national program can be accessed from <http://www.nps.gov/lwcf/>

- Congestion Mitigation and Air Quality (CMAQ) Improvement Program: This program funds projects that support surface transportation projects and other related efforts that contribute to air quality improvements and provide congestion relief that that will help attain the national ambient air quality standards stated in the 1990 Clean Air Act amendments. Between 2000 and 2005, pedestrian and bicycle projects accounted for approximately 13% of CMAQ projects.

Each year the funding is available to local areas that do not meet the National Ambient Air Quality Standards (NAAQS) called non-attainment areas or former non-attainment areas that are now in compliance with the NAAQS also called maintenance areas. CMAQ-funded projects may include bicycle and pedestrian facility improvements, bicycle racks and lockers, and individualized marketing initiatives that promote bicycling and walking.

As of May 2009, five regions (both non-attainment and maintenance areas) in Virginia were eligible for CMAQ funds. These regions include, Northern Virginia, Richmond, Hampton Roads, Fredericksburg, and Shenandoah national park. . In northern Virginia CMAQ funds are administered and allocated by Northern Virginia Transportation Authority (NVTA).

For more information visit

[http://www.fhwa.dot.gov/environment/air\\_quality/cmaq/](http://www.fhwa.dot.gov/environment/air_quality/cmaq/)

- Safe Routes to School: This program provides funds and resources to the States to develop and improve pedestrian and bicycle infrastructure and safety programs near elementary and middle schools. The purpose of the program is to:
  - Enable and encourage children, including those with disabilities, to walk and bicycle to school
  - Make bicycling and walking to school a safer and more appealing transportation alternative, thereby encouraging a healthy and active lifestyle from an early age
  - Facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools

To apply for the Virginia Safe routes to Schools program the school or community must first prepare a School Travel Plan, which puts into writing a community's or school's desires to make the trip to school safer and more sustainable. Once a School Travel Plan has been established, it can be reviewed by VDOT. The timeline for review will vary, depending up on year.

For Virginia specific guidelines more information can be found at

[http://www.vdot.virginia.gov/programs/srsm\\_school\\_travel\\_plans\\_and\\_grants.asp](http://www.vdot.virginia.gov/programs/srsm_school_travel_plans_and_grants.asp) and for the national program information use <http://www.saferoutesinfo.org/funding-portal>

- Highway Safety Improvements Program (HSIP): This a new program structured to make significant progress in reducing highway fatalities and serious injuries. It involves identification of high crash locations and provide funding for improvement projects after thorough analysis. This program includes the Bicycle and Pedestrian Safety (BPS) Program which incorporates the previous Hazard Elimination Safety Program (HES).

The VDOT Traffic Engineering Division (TED) administers these federal funds within the Commonwealth of Virginia. Local governments and VDOT Districts need to submit their safety proposals for locations where improvements are recommended. The candidate projects are selected based on documented risk assessments for non-motorized improvements. Safety enhancement projects using these funds:

- Should be designed and constructed within three years.
- Should not require acquisition of significant rights of way.

- Should not require extensive environmental review and mitigation.

Details on HSIP application guidelines, deadlines and project selection can be found on the VDOT TED website at

<http://www.virginiadot.org/business/trafficeng-default.asp>

- Multimodal Grant Program: In years 2007 and 2008, the Intermodal Office of the Secretary of Transportation offered grant programs aimed at providing assistance and support for multimodal transportation planning. This program comprised of two grants discussed below:
  - Local and Regional Corridor Planning Grant Program: This program will provide grants to help local and regional governments perform multimodal planning and integrated studies of transportation and land use. For this grant program, local, regional, and state agencies will perform the work or use their own consultants.
  - Multimodal and Land Use Plan Development Assistance Program: This program will provide training and support for development of plans that can be implemented, as well as advancing multimodal planning and promoting better land use. Local, regional, and state agencies may apply to participate in the program and

the Intermodal Office will provide consultants to perform the work.

A 10% in-kind services match is required for both programs. For more information, visit: [http://www.vtrans.org/multimodal\\_grant\\_program.asp](http://www.vtrans.org/multimodal_grant_program.asp).

- Recreational Trails Program (RTP): States are funded to maintain and develop trails used for recreational facilities through this program. More detailed information is provided under State of Virginia funding programs.
- Miscellaneous funding sources:
  - For trails on Federal lands, some of the agencies that can be approached for funding are National Forest Service and National Park Service.
  - For local projects that improve local transportation options and/or help revitalize neighborhoods through sidewalk improvements, safe routes to school, and neighborhood-based bicycling and pedestrian facilities funds can be obtained from Community Development Block Grants through the Department of Housing and Urban Development.

## State of Virginia

- Virginia Recreational Trails Program: RTP is a matching reimbursement grant program that provides for the creation and maintenance of recreational trails. It is an assistance program of the Department of Transportation's Federal Highway administration, and is administered through the Virginia Department of Conservation and Recreation. RTP funds are available to fund trails for hiking, bicycling, in-line skating, equestrian use, cross-country skiing, snowmobiling, and four-wheel driving. RTP grants are for projects with primarily recreational value rather than those with more utilitarian transportation value. Some of the activities RTP funds can be used for include:
  - Maintenance and restoration of existing trails.
  - Development and rehabilitation of trailside and trailhead facilities and trail linkages.
  - Purchase and lease of trail construction and maintenance equipment.
  - Construction of new trails (with restrictions for new trails on Federal lands).
  - Acquisition of easements or property for trails.
  - Assessment of trail conditions for accessibility and maintenance.
  - Development and dissemination of trail related publications.

- Educational programs to promote trail safety and environmental protection.

The application process for this funding is two-stage. It requires a preliminary application in Word format, and only applications selected from the preliminary round will be required to complete the second proposal phase. The second phase requires the completion of the Proposal Description and Environmental Screening Application. . Grant awards are usually made for between \$25,000 and \$100,000.

For the detailed application process in Virginia visit [http://www.dcr.virginia.gov/recreational\\_planning/trailfund.shtml](http://www.dcr.virginia.gov/recreational_planning/trailfund.shtml) and for national information visit <http://www.fhwa.dot.gov/environment/rectrails/>

- Recreational Access Program (RAP): RAP is a funding program to provide adequate access to recreational areas or historic sites operated by the Commonwealth of Virginia, a local government, or an authority.

This program is administered by the Commonwealth Transportation Board (CTB) with the concurrence of the Director of the Department of Conservation and Recreation and/or Director of the Department of Historic Resources. Prior to the allocation of the funds, the local (county, city, or town) governing body must request the access funds.

- Recreational Access Program funding may not be used for the acquisition of rights of way or adjustments of utilities.
- The access project should end either at the entrance to the area or at an internal parking lot serving the park facility or historical area.
- Recreational bikeways are expected to be open to the public at all times.
- No fee may be charged for the use of these roads or bikeways.
- These funds are intended for eligible costs associated with design and construction of bikeways.

For a bikeway to a facility operated by a state agency, the maximum unmatched funds allocated are \$75,000. If the facility is operated by a locality or an authority, a maximum of \$60,000 unmatched funds may be allocated. Up to an additional \$15,000 may be requested if matched on a dollar-for-dollar basis by the locality or authority.

Additional information is available in the current guide for the Recreational Access Program and on the VDOT website at <http://www.virginiadot.org/business/local-assistance-access-programs.asp>

- Revenue Sharing Program: The purpose of this program is to provide additional funding for use by a county, city, or town to construct, reconstruct, or improve the highway systems. Locality funds are

matched with state funds with statutory limitations on the amount of state funds authorized per locality.

Towns not maintaining their own streets are not eligible to receive revenue sharing funds directly; their requests must be included in the application of the county in which they are located. Construction may be accomplished by VDOT or by the locality under agreement by VDOT.

The Revenue Sharing Program is intended to provide funding for relatively small, immediately needed improvements or to supplement existing projects. Funds are normally expected to be used in the same fiscal year they are received. Funds may be de-allocated if the project is not initiated within three years. Below is a list of work that could be considered eligible for Revenue Sharing financing:

- Deficits on completed VDOT administered construction or improvement projects
- Supplemental funding for projects listed in the adopted Six-Year Plan and ongoing construction or improvement projects
- Construction or improvements included in either the adopted Six-Year Plan or the locality's capital plan
- Improvements necessary for the acceptance of specific subdivision streets otherwise eligible for acceptance into the system for maintenance
- New hard surfacing (First Paving)

- New Roadway included in a locally adopted plan

Details on application deadlines and project selection can be found on the VDOT website at [http://www.virginiadot.org/business/local-assistance-access-programs.asp#Revenue\\_Sharing](http://www.virginiadot.org/business/local-assistance-access-programs.asp#Revenue_Sharing)

### Local and Public Sources

- City and County Governments: Cities and counties can finance trail development through their normal capital improvement processes.
- Natural Resources Districts: NRDs have been identified as major participants in the trails development process because of their interest in resource conservation and drainage way maintenance. NRDs levy property taxes and use these proceeds for capital development projects.
- Sanitary and Improvement Districts: SIDs are a financing tool for subdivisions, allowing developers to issue general obligation bonds to finance public improvements (including parks and trails) serving their developments.
- Tax Increment Financing (TIF): TIF uses added tax revenues created by a redevelopment project to finance project-related improvements, including public open spaces and trails.

### Public-Private Partnership

Based on the experiences of multi-modal planners in the State of Virginia, trails are often initiated and built using

agreements between private developers and public planning agencies. To foster this potential, one of the first steps in trail planning should be developing a master plan of recommended trails in the community. This plan, if adopted by the local jurisdiction governing body, can make partnering with private parties more likely in the future. Having a master plan of trails provides a guide for nearby developers, and serves as a basis for private funding as described below.

Trail champions and local jurisdictions should look for opportunities to partner with private sector elements to develop seamless trail networks that evolve with the community. Some of the avenues through which a public-private partnership can be established are as follows:

- Private builders and businesses are required to fund trails by providing easement and/or building a part or complete facility as a part of proffers agreement for new development where a trail has been planned as per the community's comprehensive plan.
- In some cases, private developers may be willing to fund trail projects lead by the public sector:
  - In exchange of open space and/or park credits, and traffic credits toward the impacts of new development.
  - If the business believes that the trail improves the quality of life for their employees or improves the value of their property.

- If it brings more business to the establishment and helps with the commercial development
- As a marketing effort for the business in exchange of plaques along the trail crediting the donating party.
- Selling the utility easements along trail sections to utility companies can provide funding necessary for the construction, maintenance and establishment of other trail sections.
- Sanitary and Improvement Districts are a financing tool for subdivisions, allowing developers to issue general obligation bonds to finance public improvements (including parks and trails) serving their developments.

Again, having the trails in the master plan is key to their incorporation into the overall transportation network.

#### Private Financing

- Local non-profit organizations have raised money in the past for planning and construction of trails.
- Local environmental land trusts have raised funds to purchase land for trail development.
- Private builders, businesses, and corporations have realized the importance of trails and recreational spaces in developing a strong community and positive work environment. Financial support for local trails helps the businesses develop a good rapport with the community while the community is

also benefited by the new facilities making it a win-win situation.

### 13. Implementation of Priorities

Lead: Interest Group and Local Transportation Agency

A trail network, or even one trail, can have a number of segments all with constructability challenges. Often funding or design resources are limited, and decisions must be made on where to focus these limited resources. Setting priorities is one way to establish both a sequence of implementation and allocate the scarce resources. By involving the community in the planning process, sometimes expensive/prohibitive alternatives can be eliminated in the early phases of planning before resources are spent on detailed planning and design.

In some cases it may be clear that overcoming some safety or connectivity issue is most important and is the highest priority. In other situations the priority can be established by identifying the “low hanging fruit”, implementing the easiest sections and dealing with the more complex ones over time. One consideration is, to the extent possible to create usable segments as early as possible, to motivate users and thereby create a constituency for obtaining more resources and further moving the total project toward completion.

A longer term implementation plan or a master plan may be a guide, allowing for coordination of different

funding sources and timing of different implementation techniques to complete an entire project over time.

### 14. Prepare Trail Alignment Alternatives

Lead: Interest Group and Local Transportation Agency

With inputs from various steps including community vision, existing conditions, future land use, and others as shown in **Figure 8**, a trail plan is developed by the planners (consultants or government staff). Often at this stage, alternatives for various trail alignments are developed for the review by stakeholders and the public. After a few work sessions and discussions, the alternatives are narrowed down and detailed cost estimates are developed for one or more alternatives.

While considering possible alignments, it is advisable to avoid alignments that need private right-of-way acquisitions and easements as:

- They can increase the funding requirements drastically.
- Proffer agreements with private developers or owners make the projects dependent on the schedule of private party, slowing down the entire project.

GIS based software can be very beneficial in developing trail alignments. It is most useful when trails are planned through developed areas where various factors have to be considered to generate a possible trail alignment. GIS programs can be challenging to use initially, but provide

access to a comprehensive set of information necessary to gain a holistic understanding of the trail surroundings, terrain, and the strengths and challenges of trail alignments. There are many GIS software packages available to planning professionals. Some of the popular ones are discussed below:

- The most popular and commonly used GIS software is ESRI's ArcView. It is a data analysis tool with the capability to produce maps as end products. As a result, trails can be developed as well as presented using this tool. It enables users to store information about an entity, such as sidewalks, and geographically map them making it a powerful data analysis tool. This software enables the user to overlay various features (from steps 8, 9 and 10) like wetlands, schools, existing trails, and land use on a single map; analyze data based on attributes and location; and identify the most desirable routes. However, planners need to make sure that the files used for various features like parcels or roadway network are up-to-date.

Through ArcView is a standard throughout the practice, it is an expensive software. If jurisdictions have data in this format, a free tool by ESRI, ArcReader that allows users to view, explore, and print maps can be used.

- For jurisdictions with lower budgets, and volunteer and grass roots groups GIS can still be

a powerful tool in an open source form. Open sourced mapping software allow jurisdictions to overlay basic layers of data, and draw conclusions on trail alignment based on these maps. There are many versions of open source mapping software available that can be found for minimal costs or for free on the internet. Some open source GIS software include GRASS (Geographic Resources Analysis Support System), Community Map Builder, Open Street Map, and MapGuide Open Source and Google Earth (a web based mapping software).

Trail alignments developed at this stage (before developing cost estimates, detailed design or implementation plan) can be included in the community's master plan or comprehensive plan. This will provide opportunities to these paths in the future as a part of:

- public roadway projects
- private land development/redevelopment projects

## 15. Alignment Selection and Implementation Plan

Lead: Local Transportation Agency

In this step, a trail planner would typically convey the pros and cons of various alignments to the community which will enable them to narrow down the alternatives. As trails grow from ideas to reality they will often meet obstacles and barriers to implement the alignments.

Some of the obstacles faced by the team at this stage can include:

- Right-of-way issues
- Utilities impeding trail alignment
- Physical constraints to preferred alignments including topography or hydrology
- Mid-block crossings required of major streets
- Safety and sight distance issues
- Other possible traffic issues

While these issues will be challenging to overcome there are ways which an ideal trail alignment can be achieved.

- Choose trail alignments on publically owned lands as they avoid the need to acquire ROW on private land.
- Get portions of trail built by a private developer (as a part of planned land development projects) in exchange for some incentive, like traffic credits toward their impacts.
- Designing trails so that they are a part of roadway improvement projects done by the local or state jurisdictions.
- Utilities are often a physical challenge that can be addressed by designs that incorporate the existing utility structures.

Any concerns from the stakeholders on the selected alternatives need to be resolved at this stage. Once a final alignment is identified, a detailed implementation plan must be developed which includes roles and

responsibilities of each person. Trail alignments could be developed by interest groups, consultants or state planners. However, the final alignment needs to be accepted by the local government.

Based on the outcome of this step, trail alignment alternatives developed in step 14 may have to be revised or revisited.

## 16. Cost Estimation

Lead: Local/State Transportation Agency

Planning cost estimates provide approximate construction costs associated with a trail alignment. Planners work in association with roadway design engineers to develop these estimates. If Federal or State funds are being used for construction, grade, width and surface material of the trail, and associated trail facilities must be ADA compliant. Cost estimates must be developed accordingly. Based on the funding opportunities identified in step 12, trail alignment has to be revised until an affordable alternative is developed.

Planners typically cycle between steps 14, 15 and 16 until they find alignment(s) that can be designed and constructed within the available funds.

## 17. Funding

Lead: Interest Group and Local Transportation Agency

The implementation plan and community support from the previous efforts will normally have identified

sources of funds that can be used for trail implementation. At this stage, funds for design and construction of the trail (developed in step 17) need to be obtained from the sources identified in step 12.

This may be a time consuming step, since it may involve submitting detailed project descriptions, preparing grant proposals or actual fund raising from individuals or groups. The key is to have built a constituency for the project, and an ability to show how the project will meet community needs and resolve concerns. There is always a competition for available funds that can be used for trail or other transportation improvements. Having a compelling case and advocating the trail campaign at the highest level is essential to “winning” in this competition.

The involvement of key stakeholders, including public officials, now becomes valuable. If they are convinced of the importance of the trail, they can play an essential role in obtaining the needed funds.

## 18. Public Meeting

Lead: Local/State Transportation Agency

Once one or more trail alignments (that can be implemented within the available funds) are identified, a public meeting is organized by the responsible transportation agency to obtain the opinion of the citizens and finalize an alternative.

Depending on the outcome of the public meeting, the finalized alternative is either revised (by going back to steps 14, 15, and 16) or carried forward to the design phase without any changes.

## 19. Design

Lead: Local/State Transportation Agency

The sketch/conceptual design of the trail will normally have been established during the previous planning steps, preparing alternatives and alignment selection, to help with decisions on funding, and implementation methods. The actual design will likely need some engineering design skills. Issues that must be addressed for a multi-use off road trail include:

- Drainage and storm water management
- Slopes (to meet ADA in some situations)
- Specifications of surface (to meet ADA in some situations)
- Trail width (to meet ADA in some situations)
- Signing and pavement marking for hard surface trails
- Crossings on streets
- Meeting any environmental requirements

There are likely permits or other approvals that are needed and the design must comply with all applicable requirements.

If the trail is related to an existing roadway the design becomes more complex and must be performed by a

registered professional engineer. Here, public safety considerations, and compliance with state or federal standards becomes more essential.

## 20. Right of Way Acquisition

Lead: County/City/Town Transportation Agency

Right of way needs may have been established sufficiently during the earlier planning steps where alternatives were developed and an alignment was selected. Sometimes detailed design of the trail (developed in the previous step) may be necessary to fully define the land needed. If right of way is needed, it must be acquired through deed or easement. If actual purchase or change of ownership is needed, this can be a lengthy process and should begin at the earliest possible time in the process.

Easements, allowing for access or use of the land without change of ownership, is much quicker to obtain normally, but may have drawbacks of being potentially withdrawn at a future time (although they can be permanent if sufficiently contracted as such and recorded with the land deed).

## 21. Construction

Lead: Local/State Transportation Agency

The final step is the actual construction of the project, often done in stages over time, as funding, right of way and other barriers are overcome. Construction may even be performed by several different agencies, as

different methods are used depending on the ownership of the land, the capability of the lead organization and other factors. Having a coherent plan and design for all sections makes it less critical as to who actually implements the project.

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*This Community Trail Development Guide can be found under <http://virginiadot.org/programs/bk-default.asp>*