

CHAPTER 4

TRAIL PLANNING

Trail planning involves several key tasks. Among these tasks are conducting an inventory, mapping, researching property ownership, determining project feasibility, deciding on trail uses, looking at trail route options, researching funding possibilities, and developing a trail management and maintenance plan.

Sometimes, trail committee members will have the necessary skills to carry out these tasks. However, some of the tasks are quite complex and may require professional assistance. If you're lucky, you may be able to find professionals willing to donate their time, or perhaps staff of a cooperating agency can take on some of the work.

Many excellent resources exist in the form of handbooks and organizations to help you with trail planning. (See Appendices A & B).

Maps and inventory

Basic working and presentation maps are essential. Useful maps to have on hand include zoning, tax, road, and topographic maps. Aerial photos and soil maps are also useful. Your county or town planning office is a good source for large, accurate maps. The New York State Department of Transportation sells maps of different sections of New York in a variety of scales. Environmental management councils and soil and water districts are other good sources for maps.

The first thing to research is land ownership. Your local tax assessor will have this information on tax maps. Especially note land held in public ownership, land owned by utilities, and land owned for preservation, conservation, or recreation purposes. Also note any large land holdings.

INVENTORY ITEMS

Land ownership:

- Tax parcel data
- Public lands
- Existing local or regional plans

Natural features:

- Soil
- Vegetation
- Wildlife
- Topography, especially steep slopes, cliffs, ravines, hilltops
- Special land forms: caves, rocks outcroppings
- Water features: wetlands, lakes and ponds, rivers and streams
- Scenic overlooks
- Farmlands and orchards

FROM THE FIELD

Consultants help community shape common vision

The City of Newburgh received a matching grant of \$18,000 from the Hudson River Valley Greenway to support its trail development and open space planning efforts along the Quassaick Creek. The City is part of a broad coalition of individuals, municipalities, agencies, and community groups formed around efforts to preserve and increase public access to the natural and cultural resources of the Quassaick Creek, an easterly flowing tributary of the Hudson River. \$7,000 of the grant was used to hire a consultant to facilitate charrettes (early public planning workshops) to garner residents' ideas and suggestions about the project and to start to shape a common vision.

The City of Newburgh, working in tandem with other key Quassaick Creek Coalition members, sent out a request for proposals (RFP) to half a dozen firms that had experience in facilitating charrettes. The RFP included the project scope and spelled out the criteria for selecting a consultant. These included professional qualifications, charrette and community outreach experience, trail planning experience, a work program utilizing a multi-disciplinary team of professionals, deliverables, and references. The RFP also laid out a two-envelope system for respondents to follow — one envelope was to include the consultant's qualifications, proposed approach, timetable, and deliverables and the other envelope was to include proposed fees for the services. The City received three proposals.

A Coalition subcommittee of five people carefully evaluated the proposals, using a point system it had developed. The committee's first choice was interpretive planner Donald Watson of EarthRise, whose team included two landscape architects, an organizational expert, and an artist and illustrator. Before he was hired, Watson was asked to come and talk with the Coalition to make sure he "clicked" with the group.

The charrette, held over two consecutive days, was extremely successful, with more than 50 agencies, community organizations, and businesses attending.



The City of Newburgh hired consultants to carry out two planning charrettes for its Quassaick Creek project.

Built features:

- Parks
- Commercial areas
- Villages, town centers, urban downtowns
- Residential areas
- Schools, libraries, museums
- Historic buildings, battlefields
- Canals
- Other points of interest

Trail corridor infrastructure

- Existing trail segments
- Condition of existing trails or trail segments
- Abandoned transportation corridors (railroads, canals, trolleys)
- Bridges
- Tunnels
- Culverts
- Historic railroad/canal structures

Important: The integrity of large trail structures such as bridges and tunnels should be evaluated by a qualified structural engineer.

Surrounding infrastructure:

- Public transportation
- Public bathrooms
- Roads and crossings
- Railroads and crossings
- Utility rights-of-way and crossings
- Parking areas
- Restaurants
- Lodging
- Boat launches
- Other trails

A base inventory of natural resources, built features, trail corridor infrastructure, and surrounding infrastructure will provide you with an important planning tool and bring credibility to your project. Significant natural resources such as wetlands are often the highlight of a trail, but they can also pose challenges to development. The condition of structural features such as bridges and tunnels can sometimes make or break your project.

Before beginning your on-the-ground inventory, review existing inventories and plans. Many government agencies are responsible for collecting, analyzing, and updating resource information which they make available to the public at little or no cost. These may include master plans, waterfront revitalization plans, recreation plans, natural and cultural resource inventories, and regional and state open space plans. Your county planning agency is a good place to start gathering this information.

Involve volunteers

An inventory is a great way to get volunteers involved. To conduct your inventory, get out on the potential trail corridor and systematically record what you find. You can either write down your findings or tape record them as you move along. Photographs and video are also excellent ways to document your findings. Note problem areas and areas that offer special opportunities, such as great views or access to water bodies. Also note potential trail access points. As information is collected, consider inputting it into a computer database.

If the corridor is privately owned or if you have to cross private property to access the corridor, make sure to get permission first.



Hiring consultants

Finding the right consultant is more art than science but following certain steps will help ensure a good match. First, decide exactly what outcome or product you want from the consultant. Next, develop a list of what kinds of expertise will be needed: engineering, architectural, planning, etc. Then develop a list of qualified and experienced firms or professionals by querying local government resources, professional associations, and other trail and planning organizations. In general, it's usually best to stick with people who have specific experience with trail projects, although a consultant new to trail work may put in a lower bid in order to get a foot in the door of a new market.

Put together a package that includes information about your project, a general scope of work, time schedule, and criteria for selecting consultants. Send this packet to five or six firms. Certain grant programs and state funds require you to publish a notice in the newspaper, the New York State Contract Reporter, or elsewhere. Evaluate the responses and choose two or three consultants to interview. When making your final decision, keep in mind that a higher fee does not necessarily indicate a higher quality of work. On the other hand, be wary of a quote that is significantly lower than the others. Also consider the size of the firm in relation to the size of your project. A large firm will surely have the necessary resources but will it give your project the attention it deserves?

Trail route and connections

If your proposed trail is not on an existing corridor such as an abandoned railbed, you'll have to create a route. Start by considering the resources found in your inventory. Analyze these resources as to positive and negative aspects. Identify several possible trail route options and connections, always striving to link special places, population areas, and transportation facilities. Find good trail beginnings and ends. Trails should connect locations that naturally attract people.

A Trail plan is critical

Even without the help of professionals, you can put together a basic trail plan which falls somewhere between a feasibility study and master plan and provides answers to fundamental questions such as who, what,

where, how, and when. A trail plan helps clarify and communicate the trail vision and the steps required to make the trail a reality. You will also find a basic trail plan useful when applying for grants because all your information will be in one place. The content and level of detail in the plan will vary according to the needs of your project and community.

Consider universal design

Consider a universal design or universal access approach to trail design. This approach, in an outdoor setting, seeks to provide an environment that is safe, appealing, and easy to use by people of all abilities and ages while maintaining the integrity of the natural resources. The inherent accessible nature of this design method eliminates the need to make later modifications for accessibility.

The basic trail plan

A trail plan doesn't have to be lengthy but it should contain certain key elements. These elements are as follows:

1. **Introduction.** How the trail project got started, the committee's purpose and goals, activities to date.
2. **Route.** A "big picture" discussion. Highlight features, special places the trail will connect, and opportunities for educating people about the community's resources.
3. **Land ownership.** Identify major public and private landowners along the proposed trail route. If you have the support of landowners, discuss proposed types of agreements for trail access and use.
4. **Inventory of resources.**
5. **Uses.** Identify possible trail uses. Remember to consider accessibility for people with disabilities.
6. **Trail design and development.** Identify agencies or organizations that could carry out trail design and development, estimate rough costs, and project sources of funds.

FROM THE FIELD

Trail links residential area and town park

The places a trail links are often the reason for its existence. The Town of Malta in Saratoga County opened its first community park in 1993 along a county road. When the park generated a great deal of bicycle traffic, especially from children, the Town started looking for ways to make it safer for bicyclists to get to the Park. In 1996, the Town invited the Capital District Transportation Committee, the area Metropolitan Planning Organization (MPO), to make recommendations to improve bicycle safety. As a result of this study, the Town requested that the County install 'share the road' signs and improve road shoulders. A petition with 350 names demonstrated the strong desire of local residents for safe bicycle access to the park. In August of 1999, the Town requested that its engineer study bicycle and pedestrian access between a local residential neighborhood, the town park, and the downtown area. The Town created a capital account for bikeway/pedestrian projects and started negotiating easements with Saratoga County and a homeowner's association to create a 10-foot-wide path along the county road between the neighborhood and park. When the pathway was completed, it was an immediate success, drawing walkers and joggers as well as bicyclists.



7. Trail management.

Identify possible agencies or organizations which could take over management and maintenance of the trail. Make sure to consider safety and emergency services in the plan. Include estimated costs and potential funding sources for these activities.

8. Pilot project. A common and proven approach to trail development is to identify and develop a small, eminently "do-able" trail segment that can stand out on its own and that engenders little controversy. Pilot projects demonstrate the benefits of a trail, build support in the community, and create confidence among the trail committee, partners, and volunteers.

9. Maps. Clearly identify trail route options, access points, and significant features and destinations along the route.

Maintaining traditional land uses

Trails can be designed to be compatible with traditional uses of the land such as agriculture, forestry, hunting, trapping, and fishing. They can also serve to educate others about the many productive uses of the land. Special information and instructions concerning these traditional uses are often incorporated into trail signs and guides.

Trail management

Trail management encompasses many elements: user safety and risk management, patrol and emergency procedures, administration, programming and events, stewardship, and maintenance. Trail management can be undertaken by a local, state, or federal agency, or a non-profit organization, or any combination. Non-profit organizations should understand that trail management requires significant resources. In most cases, a non-profit organization works in partnership with a governmental agency to manage a trail. Ideally, responsibility for the management

of a trail should be established in the late planning stages, well before construction begins.

When a trail passes through several jurisdictions, it is preferable to have one agency or organization, rather than several local agencies, manage it or at least take on the role as "lead coordinating organization." This way, the trail is likely to have more consistency in design, signs, and maintenance.

Trail maintenance

Regular trail maintenance is an ongoing and necessary activity that invites more people to use a trail and ensures continued safe use. It also sends the right message to local citizens and visitors, reflecting positively on the character of a local community.

Regular trail maintenance activities include mowing, pruning vegetation, picking up litter, and inspecting and repairing all trail structures. Any amenities added to a trail, such as trash cans, toilets, kiosks, and map dispensers, also require regular maintenance.

FROM THE FIELD

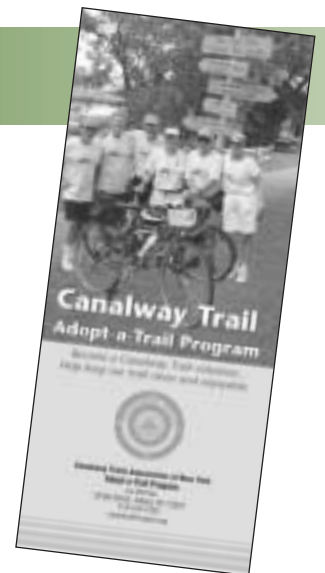
Canalway Trails Association of New York guides Adopt-A-Trail Program

The New York State Canalway Trail System is a network of approximately 230 miles of multi-use trail across upstate New York paralleling the NYS Canal System. When completed, the Canalway Trail will span over 500 miles.

The Canalway Trails Association of New York (CTANY) is a voluntary organization dedicated to making the Canalway Trail a world class multi-use recreational trail. CTANY assists state agencies, local municipalities, counties, and organizations in developing and maintaining the Canalway Trail System and acts as a coordination and communication group for Canalway Trail stakeholders. CTANY also organizes and guides participation in the Canalway Trail Adopt-a-Trail Program.

CTANY is organized under a three-tiered structure which includes a statewide board of directors, regional canalway trail groups, and local adopt-a-trail groups.

CTANY functions in partnership with the New York State Canal Corporation, the agency leading Canalway Trail development statewide, and operates under the non-profit status of Parks & Trails New York.



The length of the Canalway Trail, combined with multiple ownership and management arrangements, has led to the creation of the volunteer Canalway Trails Association of New York.

CHAPTER 5

INTEGRATING NATURAL VALUES AND RECREATIONAL USE

Seriously consider conservation goals as well as recreation goals in your trail planning. Open spaces, wild areas, and wetlands in New York are becoming increasingly fragmented. Trail corridors can play an important role in connecting these resources. They can become key components of a green infrastructure, an interconnected network of green space that conserves natural ecosystem values and functions and provides associated benefits to humans. The vegetation along trail corridors also helps purify storm water runoff and mitigate a variety of pollutants in built environments. Protecting a natural landscape while promoting use of it can be challenging, but it is a challenge worth undertaking.

Rivers and trails

River and stream corridors provide unique trail and greenway opportunities. They are linear in nature and tend to be relatively



Trails along rivers and streams bring people back into contact with these special resources and can lead to a heightened sense of awareness and appreciation.

flat. They may be undeveloped since their susceptibility to flooding has tended to limit their use to agriculture and other low-impact activities. As railroads were often built along rivers and stream corridors there may also be great potential for rail-trails along waterways.

Trails along rivers, streams, and wetlands offer expanded access for fishing, canoeing, and kayaking. In addition to providing recreation, trails along rivers and streams bring people back into contact with these precious resources and can cultivate a new sense of awareness and appreciation which often creates strong river advocates. A trail corridor can also be a key ingredient of a larger open space protection plan.

Developing a trail along a river or stream presents a unique challenge: how to protect and promote the natural value of the waterway while integrating those values with recreational use. Sometimes, a river or stream corridor has such extraordinary natural assets that the health of those assets takes precedence over recreation. But, in most cases, the environmental impact of trails and other low-key human uses, such as canoe and kayak put-ins, can be mitigated through proper design and management.

Locating trails along rivers and streams requires special planning, design, and maintenance. Improper trail location or construction within a floodplain may result in erosion or sedimentation that can seriously degrade water quality. Altering a floodway by adding fill may disrupt normal flooding patterns and cause damage both up and downstream. Also, building a trail in a floodplain or wetland location may require permits from the NYS Department of Environmental Conservation and the Army Corps of Engineers (if the project requires filling or placing of dredge material into navigable waters and adjacent wetlands).

THE VALUE OF HEALTHY RIVER AND STREAM CORRIDORS

- Provide favorable habitat for fish and other wildlife
- Provide movement corridors for wildlife
- Filter and trap excess nutrients and pollutants
- Carry nutrients that sustain wetlands and estuaries
- Recharge underground aquifers
- Deliver free top soil for agriculture
- Absorb flood energies in meanders, marshes and flood plains
- Filter and store sediment from erosion
- Make great outdoor classrooms, particularly in urban areas
- Instill a sense of outdoor stewardship through volunteer programs such as buffer plantings and clean-ups
- Link historic communities where earliest settlements developed along waterways
- Grace us with the breathtaking beauty of ravines, valleys, and waterfalls

Your local soil and water conservation district is a good resource for best practices on protecting soil and water resources, as is the Rivers and Trails Program of the National Park Service.

Bridges and boardwalks can minimize disturbance in sensitive wetlands. Here, a Boy Scout troop helps build a puncheon boardwalk through a wetland.



General design considerations for developing trails along waterways.

Whenever possible, stay out of the most sensitive natural areas such as wetlands. Locate trails well to the edge or adjacent to these areas.

If wetlands must be encroached upon, use a bridge or boardwalk to minimize disturbance.

Minimize human-wildlife conflicts by siting paths where there will be the least interference. Consult experts on which species need the most protection and try to accommodate them in the design of the trail. Keep in mind that some species are more sensitive to disturbance at various life stages and seasons.

Use lookouts and scenic overlooks to enjoy and learn about sensitive areas rather than having trails go right through them.

Do not add above-grade fill in a floodplain. If gravel, concrete, or asphalt is necessary for construction, remove an equal amount of floodplain material to maintain an unimpeded floodway.

Ideally, a bridge crossing a waterway should span the watercourse and the floodplain. If this is not possible, secure the bridge on foundations with break away mountings or attach moorings to minimize damage from flood debris.

Soil along rivers and streams is highly subject to frost upheaval and may require special base preparation, particularly for paved surfaces and shallow roots.

Plant stream-side buffers, including trees and filter strips of native grasses and shrubs, to check runoff sediments and pollutants from agricultural fields and other nonpoint

pollution sources and to moderate water temperature. The width of the buffer varies according to surrounding land use, soil, vegetation, slope, and other factors.

Use native vegetation that is sustainable without chemical treatment, excess watering, or frequent mowing. Excessive mowing of stream-side vegetation reduces the vegetation's filtering effectiveness, lessens wildlife value, and unnecessarily adds to maintenance expense.

Preserve existing vegetation, such as trees, and all ground cover within the drip lines of trees.

Protect both sides of a river or stream, if possible. Include in the protected area the floodplain, riparian forest, associated wetlands, intermittent tributaries, gullies, and upland areas.

Look beyond the protected corridor and advocate use of best management practices — terraces, strip cropping, vegetated buffer zones — by private landowners.

Build steps or a ramp between the top and bottom of a river or stream bank to provide easy access and discourage trail users from creating lots of little paths to the waterway that will increase erosion.

Incorporate river education into trail brochures, maps, and trailhead signs.

During trail construction, use erosion-control devices such as silt fences, hay bales, diversion ditches, and sediment basins.

Use porous surface materials when possible. Pavement prevents infiltration of rain and runoff.