Pathways for the Garden State:

A Local Government Guide to Planning Walkable, Bikeable Communities

Association of New Jersey Environmental Commissions (ANJEC)

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Foreword

"We must reclaim the streets, promote walking and cycling, strengthen public transport, oppose new road construction and pay the full social cost of car use. We must argue for land-use policies that reduce the need for car travel. We need "urban villages" clustered around public transport nodes, not sprawling car-dependent conurbations. We can all play our part and we must act now."

—Ian Roberts, professor of Public Health, London School of Hygiene and Tropical Medicine

Since the days when New Jersey was truly a Garden State, it has grown so fast that today it is the most densely populated state in the nation, identified more with multilane interstate highways, mazes of suburban streets and thickets of townhouses than with the still-glorious produce of its farmers' markets. Sad byproducts of this rapid growth and density are our lost sense of place, increasing stress and growing obesity. All add up to a deterioration of the quality of life and health for many New Jersey residents.

Suburban sprawl, the SUV and the superhighway form a juggernaut of "progress" that risks blighting our health and well being.

How can we counterattack? By helping people get out of their cars and onto their feet and bicycles.

Walking is the most basic form of transportation, and bicycling the most efficient. Both are excellent forms of exercise, burning calories and promoting cardiovascular fitness and mental health.

Though finding a safe and attractive place to walk or bike may be daunting, it can be done.

However, many find it safer and easier to hop in the car and drive to the gym to walk on the treadmill or "spin" on an exercise bike.

Instead, a brisk walk through the neighborhood brings the walker into contact with what is special about that place: historic buildings, new and familiar shops, the duck pond in the park, children, dogs, and other people. While sloughing off calories, the walker is loading up on neighborhood awareness and appreciation.

A bike ride brings similar benefits but will probably expand the boundaries of the biker's immediate neighborhood.

In either case, the exercise brings a richer sense of involvement and satisfaction than the equivalent half-hour at the gym. And if the bike ride or walk has included an errand, thereby qualifying as transportation as well as exercise, the satisfaction may border on smugness!

People on foot or on bicycles are also brought into more direct contact with their natural surroundings than are the car-borne. This has a two-way benefit: it is well known that exposure to nature, even if it's a view of a few colorful autumn leaves on a rain-drenched pavement, can gladden and encourage a sagging spirit. The natural world benefits, too, as the walker or biker is more apt to want to protect the birds, trees, parks or brooks that have happified the outings.

Walking and biking either as recreation or transportation are more conducive to mental health than either the gym or the automobile: less haste translates to lower stress. We need to slow down and become more active!

PLANNING FOR PATHWAYS

Pathways for the Garden State is a practical handbook about how to plan bikeways and walkways. It's intended not only for environmental commissions but also for other local groups, including park and recreation departments, planning boards and citizen associations.

The planning process often begins with drawing lines on a map, planning routes over existing streets and sidewalks to connect community focal points. Sometimes this means designing new walking paths or bicycle routes. Frequently it means retrofitting existing paths, sidewalks and roadways to make them safer and more attractive for walkers and bikers.

Greenways—linear corridors of preserved undeveloped land, and the trails they encompass—can be prime locations for recreational walking or biking in a community. In 1989, ANJEC published *Keeping Our Garden State Green: A Local Government Guide for Greenway and Open Space Planning.* As a reference and guide for making communities more "walkable" and "bikeable," *Pathways* is an adaptive reuse of techniques and resources found in that earlier publication.

Many New Jersey communities have been able to plan and begin implementing new greenways, often using funds from special local municipal open space tax levies. Municipalities have created some of these greenways to protect sensitive environmental areas, but in most cases, these linear parks can incorporate opportunities for active recreation.

To ease traffic congestion, combat air pollution and improve public health, New Jersey needs more people to walk and ride bicycles more regularly. People can walk and bike not only on recreational greenways but also on roads and streets that will take them to work, school, the library, the market, the post office, or town hall. To accomplish this, we need to find ways to make our communities friendlier to walkers and bikers and to improve safety. We can start by renovating or modifying the existing infrastructure, such as altering roadways to slow and even diminish the volume of traffic, and to accommodate bicycle lanes. We can begin with simple steps: providing bike racks, benches, better lighting and signage and pedestrian-oriented plazas.

As pioneers and veterans of the greenway movement, environmental commissions are well positioned to take the initiative to restore safe streets and create walk/bike opportunities in their communities.

Chapter 1: Evaluating Your Community

INTRODUCTION

"When I got my bicycle, I would jump on it to pedal across the street. Later, when I got a car, I would do the same thing. Forty years later, I learned to walk and to bicycle again."

—A New Jersey Resident

We love to walk and to bike. We also love to ride in our cars—if we were dogs, we'd hang our faces out the windows and grin at the passing world. But even though we may be addicted to "The Automobile"—so much that many families spend more on their cars than on food—we can learn again to love to walk and to bicycle, to be more in tune with our neighborhoods.

Helping New Jerseyans make this transition is a job that local environmental commissions are beginning to accept. Our franchise is the "environment" and how citizens relate to it. Although many suppose "environment" only means woodlands and meadows and streams, it also means urban and suburban streets and roads and paths.

At some point in a day every able-bodied person is a pedestrian. We walk the dog, walk from our car to the mall, the office or a restaurant. But we walk much less now than people ever have walked before. And that's taking a toll on our health for which there is no EZ-Pass.

The inevitable results of sedentary living and poor diet are alarming rates of overweight and obesity, and 300,000 deaths a year from heart disease, cancer and diabetes. Overweight causes more deaths than anything except the deadly combination of tobacco use, exhaust fumes and air pollution.

So, a new goal for environmental commissions is to find a way to help people do what's good for them—to walk more in the varied environments and neighborhoods of the community as well as along trails in preserved greenways.

That walking is beneficial should not have to be argued. To most of their patients, doctors prescribe walking at least 20 minutes a day.

"Get out and walk more!" they say.

At a later exam, they ask, "Are you walking more?" "No." Asking why not, doctors get a variety of responses, most of which avoid the fundamental issue, which is: It doesn't feel safe to walk in communities that have become more friendly to automobiles than to pedestrians.

Many residential communities don't have sidewalks. Without sidewalks, people must walk in the street or along an uneven shoulder, close to moving traffic. In these circumstances, sharing a roadway with hurtling, often distracted, commuters and landscapers' wide trucks is dangerous and intimidating.

"So?" the doctor may say, "Ride a bicycle. Bicycling is one of the best cardiovascular exercises and effectively reduces obesity."

But riding a bicycle in New Jersey traffic, on roads that lack secure shoulders, feels dangerous also.

Despite that, more than half of all Americans want to bicycle more. Furthermore, they are prepared to invest tax dollars in providing better, safer places to bike. They want bike lanes on thoroughfares and new paths devoted to walking and biking. Most of all, they want their roads to be friendly to walkers and bikers, even if that means less space for cars and trucks.

With these facts to build on—and your community may need to conduct similar polls in order to build local consensus—we may proceed to become activists.

It's a big If, but… If just half of today's schoolchildren could safely walk or bicycle to school and other activities, much neighborhood traffic-related pollution and other aggravations would also disappear. An added benefit would be that kids would become trimmer, stronger, more interested in their local environment and less inclined to sedentary pursuits.

Other benefits of pedestrian friendly towns are a measurable increase in quality of life, higher property values in neighborhoods with recreational trails and pathways, and business growth in pedestrian and bicycle-friendly commercial areas.

Nice vision, but unless we decide to make it so, it won't happen. The present course of our society is toward more fuel consumption by bigger and more numerous vehicles, many purchased to transport children in a cocoon of entertainment and comfort. And, currently, less than one percent of federal transportation funds is used to build either bicycling or walking facilities in New Jersey.

This book is a guide towards achieving that vision on a local level.

IDENTIFYING COMMUNITY NEEDS AND CONCERNS

Why Don't More of Us Walk and Bicycle More?

A "friendly" landscape or cityscape has a leisurely pace, in which citizens walk and bicycle comfortably.

To develop a plan for a greenway, an environmental commission would evaluate the community's natural resources and green spaces. In developing a pedestrian and bicycle plan, the environmental commission should begin—even before inviting other participants to join the process—by assessing the built infrastructure of roads and pathways and identify barriers to bike/walkability.

We have engineered physical activity out of daily life. Our suburbs have wide, empty streets without sidewalks, and new housing developments are far from schools, offices, shopping. The car has become the most convenient transportation choice in suburbia – in fact, at times it is the only choice available to get where we need to go.

The fault is not wholly with the planners, developers or architects. We fell prey to the lure of the automobile that promises speed, luxury and excitement. Nor does the fault lie completely with automobile designers who build cars that feel most comfortable at speeds too high for most roads except highways; nor with marketers who generate a hunger for vehicular travel by showing their car speeding along stretches of deserted highway without another vehicle in sight. We "consumers" allowed this to happen, slipping into a condition of very costly addiction. And as in overcoming any addiction, only strong measures will overcome our addiction to the automobile.

Faced with a polluted environment—as well as with the threat to what formerly seemed an endless supply of fuel—we must work to persuade planners, developers and designers to re-engineer our landscapes to make them more useful and friendly to primitive physical exercise.

We can begin planning new housing developments that incorporate new "Smart Growth" concepts, so that they include stores and office spaces mixed in with housing. With mixed use development, people may not have to get in their cars to go from home to the store or work.

Fortunately, New Jersey's Department of Transportation (DOT) engineers have adopted a new planning concept called "Context Sensitive Design". The movement is focused on reviving older downtowns by making roads safe for pedestrians as well as cars. DOT is talking with local officials to redesign state highways that go through the centers of towns.

We also can work with town managers and planners to renew downtowns that have been blighted by poor parking facilities and outmaneuvered by super malls outside city limits that provide free parking to lure shoppers.

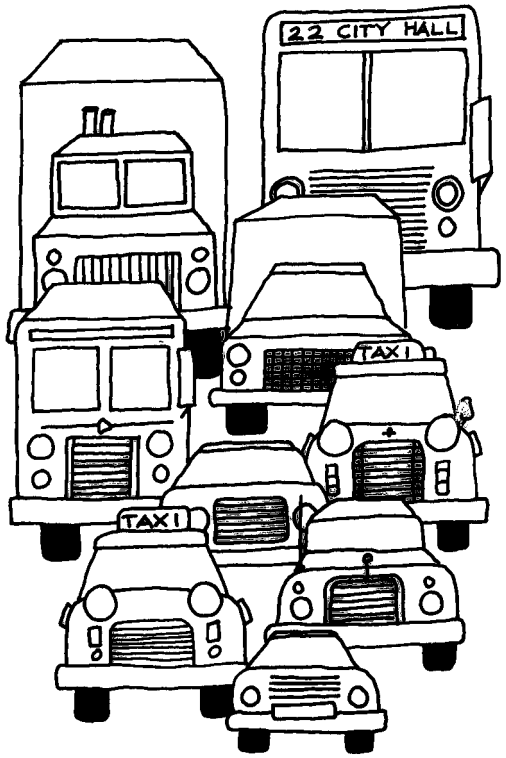
We can make our streets safer for walkers and bikers. We can calm and slow traffic. High-speed traffic discourages walkers and makes bikers uncomfortable, especially when room for pedestrians or bicycles is limited on streets made for vehicles. Too common is the sight of a car hurtling along a two-lane road, crossing the yellow center line in order to pass a walker or biker without slowing. Such behavior conveys this thought: You have no right to be here.

We have forgotten that pedestrians and bicycles have as much right to use roads as do automobiles. We can change our roadways to make them safer for bicycles and walkers. Roads may be widened to provide plenty of space—marked off as separate from car lanes—for pedestrians and bicycles. Too familiar is the country road that has no safe lanes on either side except weeds and a drainage ditch. On the other hand, it may be necessary to narrow some roadways to slow traffic that's speeding past residences or schools.

Part of the responsibility for this lies with driver's training. New drivers are not taught to respect the equal or greater civil rights of pedestrians and bikers. Nor do some police enforce that right.

Some drivers do not know how to ease off on the pedal. They speed because the road is wide and straight without obstructions or cautions. They ignore speed limits because people drive according to "traffic conditions" (meaning, how fast other vehicles are traveling) and by the speed at which their vehicle feels comfortable or natural.

Just as our society has reversed the once-common acceptability of smoking, so can we encourage drivers to go slow and share the road with



walkers and bikers. Speeders are not necessarily bad; some of them are neighbors. They speed because it's the "rush hour" (although there is no legal right to speed during that time). Or they speed because their vehicle's pace feels natural at a certain foot pressure on the accelerator. Some vehicles seem to not be able to go slower than 35 mph without shifting to a lower gear and only feel "right" at higher speeds.

The best procedure is to begin a neighborhood public education program to discourage speeding. Some actions that may be effective are:

- New signage, including special banners or yard signs ("Pedestrians and bikers, go slow"),
- School programs to encourage kids to talk to their parents about speeding,
- Increased penalties for speeding in specific areas, backed by consistent police enforcement (or post a neighborhood watcher with a cell phone to report speeders' license numbers to police),
- Speed bumps, rumble strips, striping and other physical solutions.

Some of these measures will be discussed in detail later in this book.

Chapter 2: Getting Started

An important aspect of planning a livable community is to encourage walking and bicycling, both as recreation and as transportation.

While some environmental commissions may view recreation, transportation and health as peripheral to their traditional concerns, they can be a natural expansion of the mission. Natural allies are park departments, recreation committees and public health departments. They also want to help residents get out of their cars to bike, walk and enjoy local neighborhoods and historic downtown areas as well as preserved open space and greenways. In some instances, this means sparking the community to envision a system of pathways, reconfigured roadways and street crossings. It may also mean embarking on a greenway plan or adapting an existing greenway for more active recreational use.

Too many New Jersey residents must climb into their cars and drive too many miles to spend a few hours fishing or canoeing, walking, biking or simply watching hawks soar. The goal of providing recreation closer to home means, for one thing, less automobile exhaust and thus cleaner air. But it also just makes sense.

Trails that link parks, preserves, shopping centers, schools and churches can provide everyone with satisfying recreational experiences while helping to preserve wetlands, floodplains, steep slopes, prime agricultural soils, forested wildlife habitat and pleasant scenery.

By encouraging more people to get outside and experience the joys of nature, the greenways we have already built will help build a broader consensus and support. Once people walk through a woodland, they become loathe to let the trees fall beneath the bulldozers. Once people clamber along a stream bank, they become adamant that the water of that stream be clean and the erosion of its banks be controlled. The same is true of enhanced involvement with any neighborhood—as evidenced by programs like Neighborhood Watch and Take Back the Night.

Many environmental commissions have successfully helped their communities lay out greenways. Building on this success promises that environmental commissions can now coordinate efforts to make communities more walkable and bikeable by using, connecting and rehabilitating existing infrastructure.

ENVIRONMENTAL COMMISSION AS FACILITATOR

The environmental commission might begin this new task by having a special meeting on the subject, devoted to studying maps of the community. Ask:

- Where can you comfortably walk and bicycle?
- What are some destinations and attractions of your community that could be potential links in a system of walking or biking pathways?
- How will our schemes fit with the town's master plan?

Next, meet with potential allies, the interested and involved people, including:

- Local planner or planning department,
- Senior citizen activities director,
- Police,
- School superintendent and PTA,
- Members of biking, running or hiking clubs,
- People who know roads and paths and the particular needs of various groups,
- Chamber of Commerce,
- Tourism bureau or visitor's center,
- Local historians.

Eventually, you may be able to turn over all or part of the project to a specific interest group. But an environmental commission, which has access to vital maps and is familiar with community resources, can be invaluable in helping start the process.

The following section spells out in more detail these early activities.

MEASURE COMMUNITY ATTITUDES

The environmental commission that begins a program to change community lifestyles must begin by paying attention to public needs and concerns. Involve a wide variety of the community to gain the widest possible support for the plan.

Before proposing any changes to the status quo, you need to understand community attitudes and gather information about problems, current travel habits, new ideas and suggestions.

- Talk to walkers, hikers, joggers and bikers. These committed minorities are often vocal and willing to contribute to a project. Find out:
  - How much and how often do they engage in these activities?
  - What are their destinations and purposes in hiking or biking, i.e., do they ride just for exercise, on the same or different routes, or do they walk or bike to go to work or run errands?
  - Importantly, when and where do they not ride or walk, and why?
  - Do they fit in the pattern of a broader demographic group, whose other members might be persuaded to participate if the situations and conditions could be altered?
- Assess public attitudes about biking, hiking, walking. Is there broad or little support for an expansion of these activities? As the firm Tracy-Williams Consulting put it in an online document (www.bikeplan.com): "Do citizens see bicycling as something that is good, bad, indifferent, irrelevant, or integral to the community's existing or potential quality of life? Could they see spending public money on bicycling improvements? What concerns do people have about biking? Do they consider it dangerous? Do they believe it is a way to have fun on weekends but a bad idea for work trips? Are they mad about 'those darn bicyclists'? Do they see biking as fun or dangerous for their kids?"
- Begin a trouble area locator map to identify sites that present specific problems to walkers and bikers, and a list of projects for your local transportation improvement program. Mark potholes to be repaired, drainage grates that are troublesome to bikers, and road crossings that are dangerous for pedestrians.
- Focus on positive suggestions for ways to change things for the better. Make notes about these ideas and analyze even the far-fetched.
- Use volunteers to conduct mail or phone surveys. Such surveys reach the entire community and with convincingly valid data, can add great credibility to a plan.

- Some other approaches:
  - Meet with biker or hiker advisory boards.
  - Attend town meetings—but avoid bringing along only hardcore supporters lest they provoke hardcore opposition.
  - Involve existing community groups. By attending their meetings you may reach active citizens who haven't previously considered themselves as hikers or bikers.
  - Send press releases to local newspapers or write articles for newsletters to publicize your plans, meetings, events—and your mission statement.

IDENTIFY SPECIFIC NEEDS OF RESIDENTS

Taking a broad look at your community, identify who needs to get where and how they do it now, and how they'd *prefer* to do it. From these needs come ideas for projects, for paths and alterations to existing streets. (Non-drivers, such as senior citizens and school children are often among the neediest.)

START GETTING PUBLICITY

It's important to generate initial favorable comments from your public meetings and press releases. Don't encourage firebrands to mouth off or they can build an antagonistic anti-bike, anti-sidewalk or NIMBY constituency quicker than you can curry favor.

Speak in general terms using principles that few can argue with. For example:

- "Everyone has a right to use streets and roads."
- "We need to cut back on auto traffic and air pollution."
- "Children should be able to walk or bike to/from school if they and their parents want."

SPONSOR EVENTS

The environmental commission or a special pedestrian-bike-hike subcommittee can sponsor lively events to raise community awareness of the needs and possibilities.

- Walking Day. Plan a parade route through the heart of the community, passing important centers. Enlist the public to participate, and get sponsors, if necessary to help raise money for a specific project, such as benches for streets.
- Biking Day. Same idea. For both projects be sure to have police monitor and protect the participants. Motorists will pay attention. Have participants carry signs that explain the purpose of the walk/ride.
- Trail Walk. A guided hike along existing sections of trail will heighten awareness of your goals to expand a trail network.

All these events are good opportunities to generate support and maybe even recruit new volunteers among the appreciative participants.

BUILD AN ALLIANCE

The development of a plan for a bike, pathway, hiking trail or greenway begins with commitment by a group of people. The project can be initiated by the environmental commission or by a pedestrian/bicycle safety committee—either a subcommittee of the commission or a separate committee established by the town.

If you start with the broad goal of making your community friendlier to pedestrians and bicycles, of encouraging people to walk and bike for recreation and for transportation, you will be amazed at how many groups will enlist. Invite everyone to the planning table—municipal officials as well as groups involved in recreational, health, commercial, cultural and educational activities in town.

As soon as practical, focus the group on crafting a mission statement for the project that describes the common vision. This can help keep you centered and enable you to pull back if runaway excitement about one aspect of the plan threatens to take over the whole agenda.

Energy is more important at this point than financial resources, and enthusiasm is more important than expertise. Both funding and expertise can be supplied from other sources, but energy and enthusiasm must be homegrown. Keep the emphasis positive: You cannot achieve an effective plan and workable strategy for bike, pathway or greenway implementation if the main objective is simply to stop a particular development. Rational planning does not occur in an atmosphere of confrontation.

SMALL STEPS TO A BIG VISION

Whether your vision is a broad scheme for community-wide enhancements of walking and biking opportunities, or more narrowly focused on a specific trail or bikeway project, a good way to move from vision to realization is by mapping the elements of the plan.

Gather your stakeholder representatives around a projection of a GIS map or a big paper map of your community and begin filling in the segments of your vision. Use color to differentiate the routes or facilities that would be dedicated to walking, bicycling, multiple-use pathways and routes that must be shared with automobiles. Identify specific destinations.

Think big. If a route does not yet exist, fill it in with dotted lines. If it becomes part of the big picture then someone, at some future time, will have the inspiration and ingenuity to carry forward that section of the plan, possibly as land ownership or land use changes.

Starting to work with this master map will bring out all sorts of allies and resources. This is a good opportunity to widen your circle of advocacy. As you move ahead, you will find that many people have been working on aspects of the biking, walking and health problems you have identified. They may have organized special walking or biking events and even mapped out specific routes for their participants. They may have mailing lists. They may have conducted surveys. With a bit of help from the environmental commission, they may take over a leg of the project. For the time being, you can send them back to consult with their members or clients to solicit more detailed information for the map.

It is important, during these early stages, to allow time for a public consensus to develop. Like your vision for the community, your comprehensive map should be descriptive and suggestive rather than prescriptive and authoritative.

Creating a defensible plan that wins broad community acceptance can take time. However, you may be able to take small steps along the way that will focus attention on the project and encourage community participation. Encouraging parents to form "Walking School Buses" to shepherd groups of neighborhood kids to school on foot, for instance, or a bicycling safety day, sponsored by the police department, will catch the attention of the community and build advocacy for your larger agenda. Community changes require public participation, evidence that more that one individual or small group wants the change.

All along, the environmental commission (or the pedestrian/bicycle committee) is building a coalition of supporters, and refining the goals and rationale that will form the basis of enhanced walking and biking planning for the community.

Citizen subcommittees might also be formed to help spread the work and involve more residents in the process. How long will this take? A year in which to gather data, make maps, educate local officials, set goals and design a final pathway or road improvement proposal is a reasonable schedule for most environmental commissions.

SETTING GOALS AND GENERATING SUPPORT

In order to adopt and carry out any design for a more walkable and bikeable community, you must form a citizens' coalition. The key to that is to involve multiple interest groups. You also need to enlist municipal officials to be sure they side with, rather than oppose, the plan. As early as practical, schedule meetings with municipal officials to share and discuss information; their participation will allow you to incorporate their suggestions and interests into the final plan—and to be more sure it will succeed.

The first discussions will focus on what the plan means for the community. Discussions should move cautiously from general to specific. It can take time to achieve consensus even on issues that seem obvious—for example, that streets need to be made friendlier to bikers and walkers. Data on accidents as well as anecdotes about "near misses" can be fruitful. Wait until you reach that point before proposing specifics—such as whether to put in speed bumps, mark crosswalks at unsignaled locations, or to provide new sidewalks or bike lanes that will cut into individual property lines.

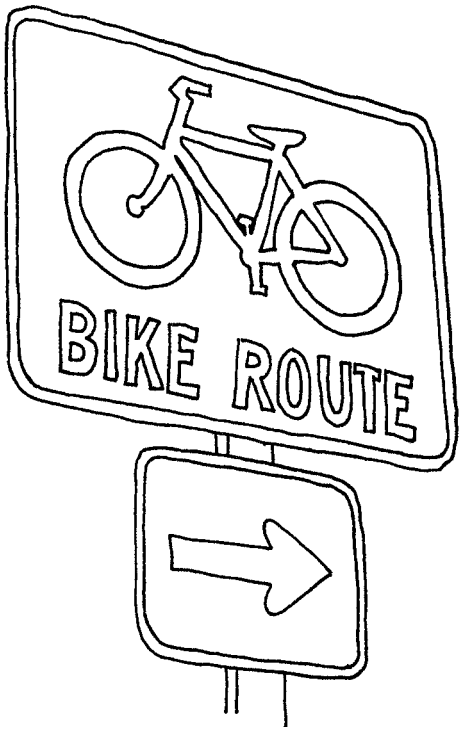
The goal-setting period is a time for vision. All goals must be soundly backed by documentation, such as reports, public opinion surveys and maps; explanations ought to focus as closely as possible on local benefits. But you also need to allow time to do a little brainstorming. Assure the governing body

that there are many different ways to implement the final design. Economics should not be allowed to dominate at the planning stage. In planning a pathway, for instance, don't first assume that you must buy the land; you may be able to acquire an easement for a lot less, or even as a donation.

At some point, when you have a good idea of your overall community vision, put it in the form of a survey and send it to everyone in town or, if appropriate, everyone in a particular group or neighborhood. Include all the pieces of your plan and try to find out not only how many people favor each ("Would you ride your bike to the train station if there were secure bicycle racks?... Frequently, occasionally, seldom, never"), but also how people would rank the various components of the plan ("On a scale of 1-10, how important is it that children be able to walk or bike to school?")

You will return to the information from this survey over and over. It will become an important planning document for the town.

Make friends with the press. Invite them in early and often, give them copies of your maps, photos or project descriptions, arrange interviews and photo opportunities and encourage them to keep repeating your mission statement.



Chapter 3: Developing a Plan

The plan that will make your community a more bicycle and pedestrian friendly place must be custom designed and tailored to fit local needs and conditions. That design will be based on an analysis of existing conditions and careful evaluation of the strategies and techniques—regulatory and engineered—that could bring positive change.

One size does not fit all, but there are tools to help you "take the measure" of your community's bicycle/pedestrian environment to make sure your investment in improvements will do the most good.

ASSESS YOUR COMMUNITY

Imagine that you are planning a walk from your home to the local post office. Take a minute to create a mental map of your trip, assessing your journey with the following checklist:

- Your route takes you on wide, well-maintained sidewalks.
- You cross the streets easily, and traffic speeds are not intimidating.
- Your route is easily navigated, and connections between areas are continuous and pedestrian-oriented.
- You find the streetscape to be visually interesting.
- You pass shops and services that are open and inviting and encourage you to window shop.
- You feel safe, knowing that traffic rules accommodate pedestrians and cyclists, and that these rules are enforced.
- Lighting and landscaping takes pedestrian comfort and safety into consideration.
- You can rest on a conveniently located bench.
- Pooling water, overgrown vegetation or heaps of snow do not block your path.
- Your trip takes no longer than 30 minutes.

Giving one point to each positive reply, grade your community thus:

9-10 = A

8-9 = B

7-8 = C

6-7 = D

< 6 = F

Checklists like this are particularly effective in assessing identified problem areas.

[From "Health-conscious Community Planning," by Heather Fenyk, Voorhees Transportation Policy Institute, *ANJEC Report*, Summer 2003]

REVIEW REGULATORY AND PLANNING CODES

In 1889, an automobile in the U.S killed the first pedestrian. In recent decades, pedestrians have been considered primarily as impediments to the smooth flow of automobile traffic. In fact, one recent publication described pedestrians as "unpredictable, obstinate, ignorant, inattentive, or defiant." Those who manage the roadway system have been unwilling to deal with pedestrians' need for safe passage. Potential conflicts between pedestrians and cars are commonly resolved by prohibiting pedestrian crossing.

The environmental commission or pedestrian/bicycle safety committee working to improve conditions in the community should review local regulatory, planning codes and design standards. These practices in many New Jersey towns prioritize motor vehicle travel and often overlook the needs of pedestrians and bicyclists. While regulatory and planning codes may contain some basic requirements for walkable and bikeable environments, they rarely encourage and support pedestrian and bicycle activity.

Begin your work with the municipality with a review and inventory of existing codes, ordinances, design standards and practices that affect non-motorized transportation. This will help you identify and address impediments to non-motorized transport, and begin to design templates for new development that actually encourage pedestrian and bicycle activity.

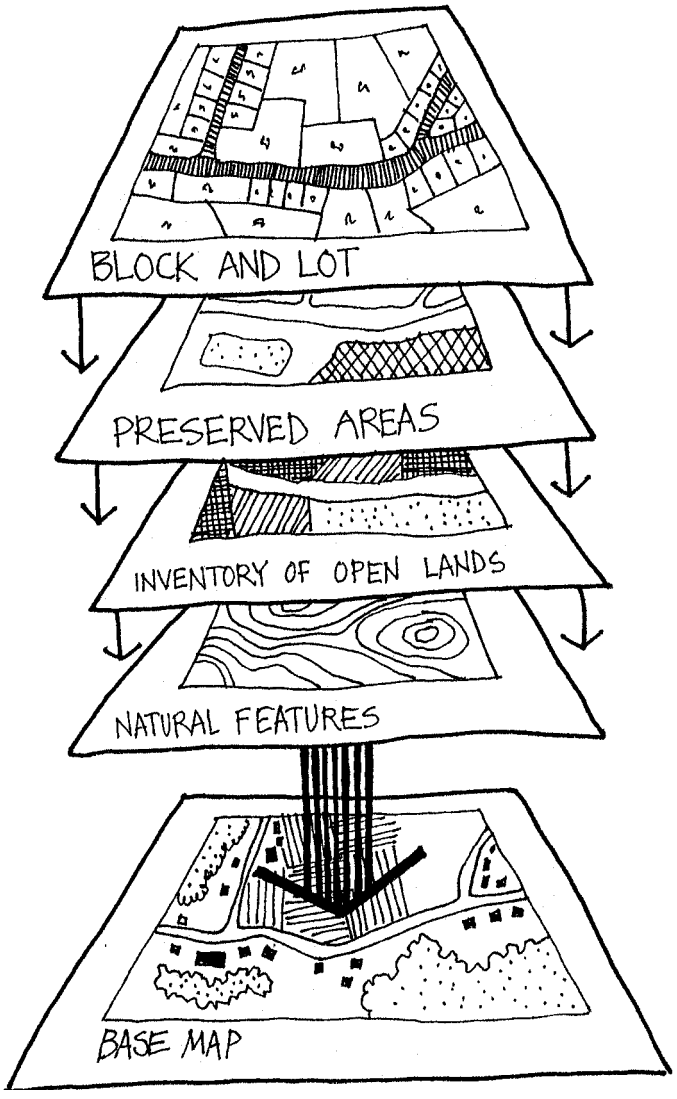
GATHER AND MAP THE DATA

As you are building your alliance, crafting a mission statement, moving toward agreement on general goals and beginning to build a map, you will also be gathering data to support your plans. This should be more detective work than original research. Most of the information you need about the land, land use and existing roadways already exists, though possibly in file cabinets and closets in various municipal offices.

Familiarity with the municipal master plan is fundamental. This is your town's vision and plan for use of land within its boundaries. The circulation, conservation and recreation master plan elements are particularly relevant to planning pedestrian and bicycle enhancements as well as to planning a greenway. In addition, your town may have an inventory of private and publicly owned open space. You may need to foster possible amendments to the master plan to lay the groundwork for making your community more bicycle and pedestrian friendly.

The environmental commission's data gathering should include environmental, recreational and cultural features (everything from wetlands to school complexes, historic sites, parks and golf courses, transit stations), conservation easements, utility rights of way, public and privately owned land, as well as opportunities for pathway linkages like abandoned railroad rights-of-way.

Traffic and accident information are available through municipal and county road and police departments.



You can begin mapping your plans to enhance the pedestrian and bicycle amenities of your community by drawing on a municipal map with magic markers, or using a tissue paper overlay to represent different layers of information. However, sooner or later, you will probably want this information in GIS format.

Geographic Information System (GIS) computerized mapping has become the standard way of depicting layers of geographic information: municipal block and lot information, roads, streams, wetlands, historic sites, watersheds, soils, wildlife habitat, topography, often displayed on a base map that is an aerial photograph of the terrain. It is probably the most effective planning tool for designing a community-wide system of non-vehicular transportation enhancements. Because it is possible to select the layers of information you wish to see on the computer screen (or projection screen, if you are working with a group), you can try out different plans. And you can add new layers of information as you develop it.

In most instances, GIS is replacing a previous system in which sheets of clear mylar containing the various layers of information could be overlaid to show the selected natural or manmade features of a community.

A number of planning agencies are available to assist communities in this aspect of transportation planning. Start by checking your county's planning department. Local watershed associations also have GIS capabilities.

PLANNING IN ALREADY DEVELOPED AREAS

Begin your planning by mapping existing sidewalks, crosswalks, traffic signals and bicycle lanes, if any. Then map safe walking or cycling routes to key destinations: train or bus stations, the library, post office, town hall, schools. Include tourist attractions, such as historic sites and areas with clusters of antique or gift shops, restaurants or art galleries.

Identify critical points where these routes need improvements for safety: new sidewalks or bike lanes, raised or zebra-striped crosswalks, pedestrian or cyclist-activated traffic signals, or better lighting. To verify your data, enlist committee members to walk the routes. Check police accident reports to identify potential danger spots. Work with the schools to plan safe routes to school both for walking and biking.

Much helpful information and guidance is available on line at the Pedestrian and Bicycle Information Center and at New Jersey's Statewide Bicycle and Pedestrian Master Plan, among other sites. (Web addresses are included in the Resource List at the end of this booklet.)

PLANNING IN AREAS FACING DEVELOPMENT

Begin by mapping existing trails and cut-throughs. Next, map potential links that will ensure that the trails get you somewhere. The plan can target these links for dedication as easements if the land is developed or the links can be acquired as part of your town's open space preservation plan. We can put bike racks in public places—at schools and libraries and in shopping malls. And at commuter connections at railroad and bus stations—even at airports.

Planning New Trails and Pathways

With the current emphasis on health and fitness for all ages, a varied system of trails and paths will be a popular community amenity. Trails provide opportunities for walking, jogging, running, biking, horseback riding, cross-country skiing and even motorized vehicles. Not all these activities are suitable on all trails, of course; a community must plan appropriately. It may be best, for example, to separate equestrian from pedestrian trails and to prohibit motorized vehicles from running on paths and bikeways and confine them to less

environmentally sensitive areas. The NJ Bicycle and Pedestrian Master Plan provides a good starting point (www.bikemap.com/RBA/).

When planning a new trail, look first to informal users. Well worn cut-throughs will indicate where people want to go. Campus planners, for example, often wait for students to blaze paths across grassy lawns before laying sidewalks. Also look for abandoned roadbeds, railways, and other rights-of-way, or for proposed trails and current trail links maintained by hiking clubs in your community.

Some common features that seem to make certain trails popular have been identified. Favored trails are often circular, continuous, uninterrupted, traverse varied landscape, are adjacent to water, feel comfortably "used" and have adequate parking at the trailhead.

Hikers and backpackers may prefer the experience of wilderness paths that test their "woodland sense," but the vast majority of a community's residents will probably feel most comfortable in a more "civilized" situation. Trail marking and regular trail maintenance stimulate public use.

Morris County's 50-mile-long Patriot's Path, for example, has visible, standardized trail head markers at most road crossings. These markers make users feel confident that they are on a designated path and are not trespassing or lost. They also alert area drivers and residents to the presence of the path and its users.

Trail beds and widths vary depending on terrain and intended use. Trails can be gravel, packed dirt, macadam, or wood chip, and vary from ten feet to less than two feet wide. Woodland trails may be as narrow as 18 inches, although brush and shrubbery should be cut back several feet on either side to allow hikers to stay dry on rainy days and to avoid exposure to indigenous ticks. Wider trails and woodland tracks permit passage by maintenance or police vehicles. Abandoned railroad beds, canal towpaths and some woodland roads provide an excellent base for a hard surface jogging or bicycle trail of six to ten feet wide. Such paved trails need greater width to permit passing. Although federal standards suggest that bicycle and foot traffic also be separated, this standard may be difficult to enforce. A long trail need not sustain a single design; like Patriot's Path it can provide a number of different experiences from quasi-wilderness, to a national historic park to paved pathways and sections of gravel/cinder railroad bed.

Specifications for trail building can be obtained from county park departments, the New York-New Jersey Trail Conference and the NJ Department of Transportation. (See Resource List starting on page 36.)

Make It Official

Whether your plan is for an expanded trail network for a semi-rural community in the Highlands, improved pedestrian/bicycle safety on the sidewalks and streets of an urban area, or for less automobile-dependent transportation options for a suburban community, it's important to get town backing for the plan. A circulation plan is an optional element of a municipal master plan, under the *Municipal Land Use Law* (NJSA 40:55D-28b.4). A plan for pedestrian, bicycle, hiking and even equestrian facilities can be incorporated into the circulation plan element. This will provide a strong, logical foundation for your efforts to put the plan into action. Potential funding sources will view it favorably, although possibly developers may complain about the pressure to add pedestrian or bicycle amenities.

Building Muscle for Your Plan

Once the community has added pedestrian/bicycling components to the circulation plan element in the master plan, you need to be sure the town has ordinances that back up the plan. For instance, developers can be required to provide easements for pathways and incorporate design elements that encourage a more healthy, active lifestyle.

NEW IDEAS FROM THE OLD WORLD

Communities in Germany and the Netherlands are ahead of us in helping their citizens walk and bicycle in safety.

According to a report in the *American Journal of Public Health*, by John Pucher, PhD, and Lewis Dijkstra, PhD (Vol. 93, No. 9, Sept. 2003):

"Whereas walking and cycling account for less than one-tenth of all urban trips in American cities, they account for one-third of all trips in Germany and as much as half of trips in the Netherlands. American pedestrians and cyclists are much more likely to get injured or killed than Dutch and German pedestrians and cyclists.

"The lack of proper pedestrian and bicycling makes walking and cycling not only unsafe but also inconvenient, slow, unpleasant and unfeasible in most places.

"[Germany and the Netherlands] have implemented a wide range of policies over the past two decades that have simultaneously encouraged walking and cycling while dramatically lowering pedestrian and bicyclist fatalities and injuries and keeping auto use at only half the American level."

The report describes six categories of policies that have made walking and cycling such safe and attractive alternatives to driving in the Netherlands and Germany.

How to Make Walking and Cycling Safer

- better facilities for walking and cycling
- traffic calming of residential neighborhoods
- urban design sensitive to the needs of non-motorists,
- restrictions on motor vehicle use in cities,
- rigorous traffic education of both motorists and non-motorists,
- strict enforcement of traffic regulations protecting pedestrians and bicyclists.

"For both the elderly as well as the non-elderly, walking and cycling are discouraged in the USA by longer trip distances, by the low cost and ease of auto ownership and use, and by a range of other public policies that make walking and cycling inconvenient, unpleasant, and above all, unsafe.

"41 percent of all urban trips in the USA are already shorter than two miles and 28 percent are shorter than one mile. The potential for more walking and cycling already exists. Thus, the extraordinarily low 6 percent of trips made by walking or cycling in American cities cannot be attributed mainly to long trip distances….

"With over 95 percent of all parking free of charge, and with gasoline taxes, roadway tolls, licensing fees, and vehicle taxes among the lowest in the developed world, the USA makes driving a car almost irresistible. That, in turn, discourages walking and cycling….

"Clearly, however, one of the biggest impediments to more walking and cycling is the appallingly unsafe, unpleasant and inconvenient conditions faced by pedestrians and bicyclists in most American cities….

"A great deal could be done to make walking and cycling safer in the USA."

The report states that in the Netherlands and Germany,

"There are an increasing number of so-called 'bicycle streets' where cars are permitted but cyclists have strict right of way over the entire breadth of the roadway….

"Importantly, Dutch and German bikeway systems serve practical destinations for everyday travel, not just recreational attractions, as most bike paths in the USA….

"Traffic calming limits the speeds of motor vehicle traffic, both by law—19 mph or less—and through physical barriers such as raised intersections and crosswalks, traffic circles, road narrowing, zigzag routes, curves, speed humps and artificial dead-ends created by mid-block street closures. Traffic calming gives pedestrians, bicyclists, and playing children as much right to use residential streets as motor vehicles; indeed, motor vehicles are required to yield to these other users."

Chapter 4: Implementing a Plan in Already Developed Areas

Experience in Europe shows that the necessary techniques and programs for safer walking and cycling already exist and that they work very well. From the European model, a wide range of coordinated policies can help make walking or bicycling in your community safer, more enjoyable and more popular. Some seem a bit radical, but towns and cities across the United States are implementing them to some degree. The idea of turning a downtown area into a car-free pedestrian mall becomes appealing when shoppers and diners have deserted that downtown for outlying strip malls and urban renewal and redevelopment are on the table.

BETTER FACILITIES FOR WALKING AND BIKING

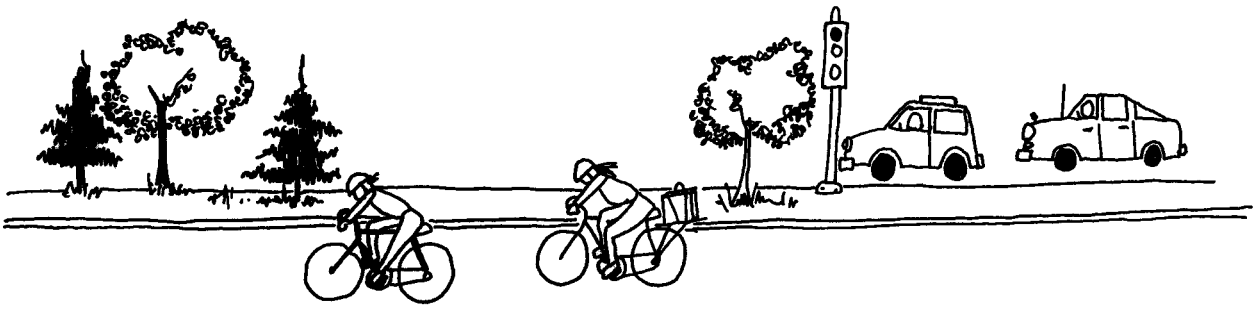
The obvious first step toward making your community more bike and pedestrian friendly is to improve the transportation infrastructure used by pedestrians and cyclists. In many European cities, pedestrians enjoy extensive auto-free zones that cover much of the city center. In any town, wide, well-lit sidewalks, pedestrian refuge islands for crossing wide streets, clearly-marked zebra-striped crosswalks (often raised and with special lighting for visibility), pedestrian-activated crossing signals at intersections and mid-block crosswalks will improve the safety and comfort for walkers and make drivers more mindful of those afoot.

Good Crosswalks

Statistically, every six minutes in the United States, an auto hits a pedestrian who is, most of the time, crossing the road. The point is not to ask "Why does the pedestrian cross the road?" but, "Why doesn't every pedestrian have the right to cross the road safely?"

In New Jersey, as in every other state, motorists must yield to pedestrians in a crosswalk. However, in recent times, few drivers know about or observe this obligation.

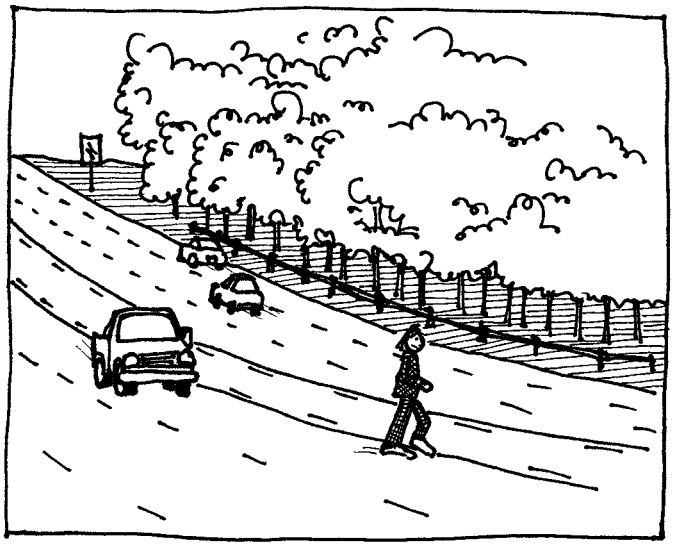
Because motorists don't comply with this law, pedestrians hesitate at the curb until a gap appears in traffic, then scurry across. Some drivers, seeing a pedestrian thus exposed, actually accelerate.



There are three basic strategies for making crosswalks safer:

- Slow the traffic,
- Reduce the number of lanes to cross or shorten the crossing distance in another way,
- Let the pedestrian see and be seen.

Pedestrian refuge islands and curb extensions help. Marking the crosswalk will help both motorists and pedestrians read the situation. Marked crosswalks, combined with enforcement operations that target motorists who fail to yield to pedestrians—and with good coverage by various media of aggressive motorists who are caught—can reduce incidents and create a more considerate street environment.



Better Biking in Town

For urban cyclists, the European model is particularly informative, especially since the bicycle is a widely used form of transportation, not just recreation. However, these strategies can be and are being adapted and adopted for use in New Jersey cities and towns:

- "Bicycle streets" permit cars but give cyclists strict right of way over the entire breadth of roadway. Bike paths, lanes and streets should form coordinated networks.
- Bicycle systems serve practical destinations for everyday travel, not just recreation.
- Special bike turn lanes lead directly to intersections.
- Separate bike traffic signals contain advance green lights for cyclists.
- Bicycle-activated traffic signals control traffic at key intersections.
- Modification of street networks to create deliberate dead ends and slow, circuitous routing for cars but direct, fast routing for bikes.

SMALL PROJECTS TO GET THOSE BIKES ROLLING

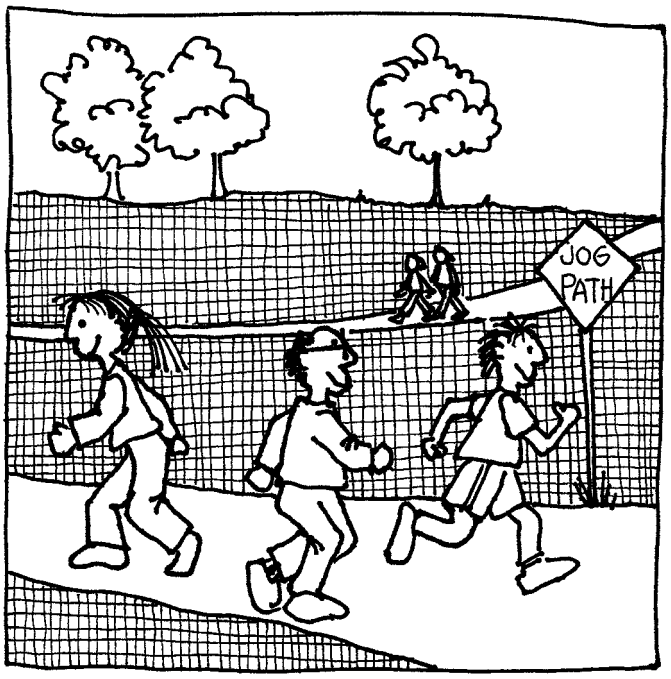
Think small. Even in the absence of a shared overall vision or plan, if you can get decent bike parking at the local university, do it. If you can get a key section of trail built, do it. These projects can generate interest in further efforts.

Here are some interesting small projects:

Physical improvements: Bike assembly areas (with bike stands and tools) at commuter sites, bus and railroad stations and airports; bike lockers near college dorms and at all schools above elementary level; bike rack brackets that attach to parking meter poles.

Programs and products: Training programs for inner-city youngsters; programs that distribute free loaner bikes; police on bikes; maps for bicycle commuters; bike days (or weeks) with special events and sufficient publicity; helmet promotions that reward helmet-wearers with movie tickets or ice cream; bike donation programs for low-income residents; bike-to-work programs with guaranteed taxi rides home in case of emergency.

Businesses: Pedal-powered taxis; bike commuter centers with showers and maintenance services; bike courier services that emphasize lawful riding; bike repair stands on recreational paths; bike and helmet rentals at bike path parking lots; bike repair shops employing developmentally-disabled adults; maps of recreational routes; bike locker rentals at downtown parking garages.



URBAN DESIGN

In the long term, planning for "smart growth," for more compact, mixed-use development in New Jersey's towns and cities will encourage people to walk and bicycle by reducing the distances they must travel to likely destinations—shops and restaurants, the post office, the college campus, the movie theater or concert hall, the train station.

Any new developments, urban or suburban, should be designed to provide safe and convenient pedestrian and biking access. Cultural centers, shopping and service establishments easily reached by foot or bike can be incorporated into residential development.

Parking lots can be situated behind or a little distance away from buildings so that walkers and cyclists can access the building comfortably and easily. If a river, railroad tracks, or highway blocks access to a destination area, plans should be designed to provide safe and attractive crossings by which pedestrians and bikers can gain access.

Strip malls on the outskirts of urban and suburban areas are usually difficult and dangerous to reach by foot or bike. Supermarket parking lots are like war zones. But all these can be upgraded to include pedestrian and bicycle access, secure bicycle parking, wider walkways connected to neighborhood paths or sidewalks, and benches.

Any new "smart growth" development will put residential areas close enough to commercial sites so that residents don't have to hop in the car to get a haircut or a new screwdriver. And planners should take care not to feed residential roads directly into high-speed traffic, allowing residents to venture out of the neighborhood on foot or by bicycle.

TRAFFIC CALMING

In *Livable Streets,* Don Appleyard calls streets the "most important part of our urban environment." and asks: "What could a residential street—a street on which our children are brought up, adults live, and old people spend their last days—what could such a street be like?" (*Livable Streets,* University of California Press, 1980.)

Author David Sucher writes: "Traffic calming is a set of techniques of street design. It involves a variety of small modifications to street geometry and dimensions to accommodate the automobile and to give the pedestrian psychological precedence…it is far easier to get people to act differently by redesigning their environment rather than by persuading them with exhortation and even penalties." (*City Comforts*, City Comforts Press, 1995)

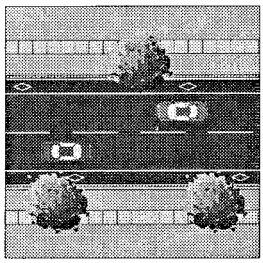
Traffic calming is slowing the speed of motor vehicle traffic both by law (e.g., speeds of 20 mph or less in residential zones) and through physical impediments such as raised intersections, speed bumps and road narrowing. This gives pedestrians, bicyclists and playing children equal rights to use residential streets.

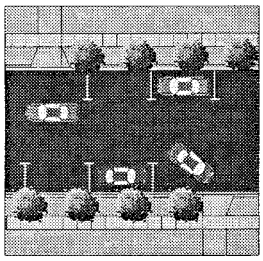
The immediate purpose of traffic calming is to reduce the speed and volume of traffic to acceptable levels. The term "traffic calming" embraces a number of technical engineering solutions that alleviate speeding and cut-through traffic on neighborhood streets.

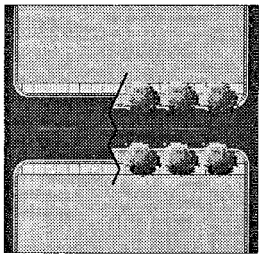
These are mostly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior and improve conditions for non-motorized street users. Traffic calming measures rely on the laws of physics rather than on manipulating human psychology to slow down traffic. Traffic calming

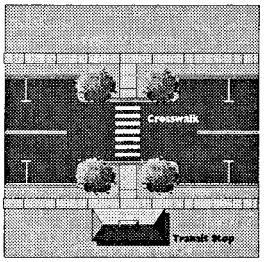
Typical Menu of Traffic Calming Devices

Narrowing the Street

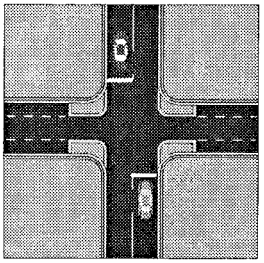

Stripe lanes


Parking

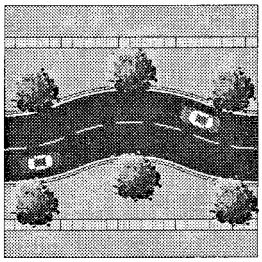

Rebuild Street

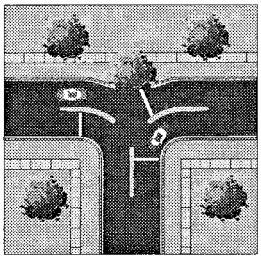


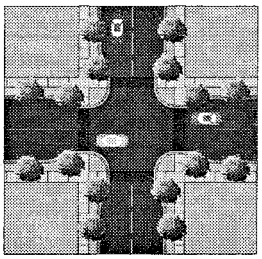
Bulbout Midblock

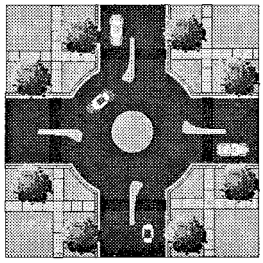

Bulbout Intersection

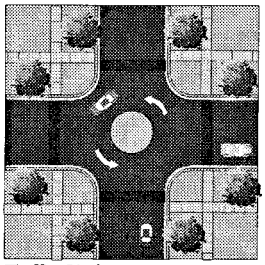
Deflecting the Vehicle Path


Chicane

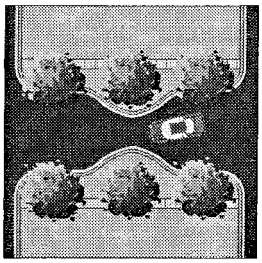

Modified Intersection

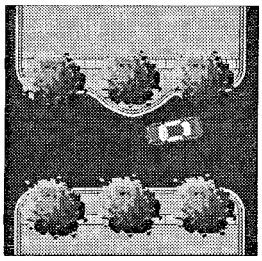

Knockdown

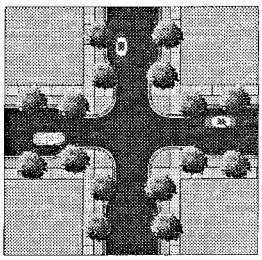

Roundabout

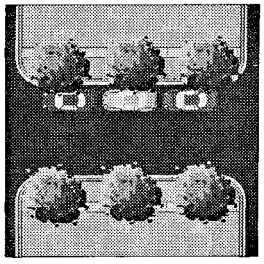

Traffic Circle

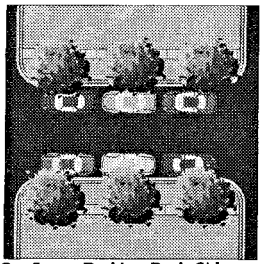
Sharing the Pavement


Centered Mid-block Yield Point


Offset Yield Point


Intersection Yield Point


On-Street Parking One Side


On-Street Parking Both Sides

From *Progress*, July 1996, newsletter of Surface Transportation Policy Project

measures should be *self-executing*. If they require extensive police enforcement, they probably won't work in the long run.

Traffic calming represents a distinctive change in the way professionals view transportation systems. With passage of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and of the more recent TEA-21, transportation planners became more sensitive to the social costs of automobile use.

For some transportation issues, the answer involves traffic calming. For others, it does not. In fact, traffic calming initiatives sometimes produce intense opposition, so proceed with caution!

Popular traffic calming devices include:

- Speed humps,
- Diverters/closures,
- Traffic circles,
- Other engineered measures (raised intersections and crosswalks, traffic circles, road narrowing, zigzag routes, curves, artificial dead-ends created by mid-block street closures).

RESTRICTIONS ON MOTOR VEHICLE USE

European cities restrict and discourage automobile use in a number of ways that would not be popular here in the land of Henry Ford. However, they're worth considering and possibly adapting and incorporating into an overall plan to make your downtown a happier and healthier place not only for pedestrians and cyclists but also for commerce. In addition to creating car-free zones, dedicated bicycle and pedestrian rights of way, and using traffic calming strategies, your town could:

- Raise parking fees and limit the amount of parking.
- Enforce lower speed limits for motor vehicles in cities.
- Prohibit truck traffic and through-traffic in residential neighborhoods.
- Eliminate right turns on red in areas where walkers and bikers are prevalent.

Education

To make life more secure for bikers and walkers, driver education and training should be more extensive and thorough. A part of that training should stress the need to pay special attention to avoiding collisions with pedestrians and cyclists and emphasize the necessity of driving in a way that minimizes injuries to walkers and cyclists even if they are jaywalking, ignoring traffic signals, or otherwise behaving unsafely or illegally.

Educating children in safe walking and cycling practices is particularly important. Our towns and cities should upgrade safety education for children, teaching them traffic regulations and how to walk and bike defensively, to anticipate dangerous situations and to react appropriately.

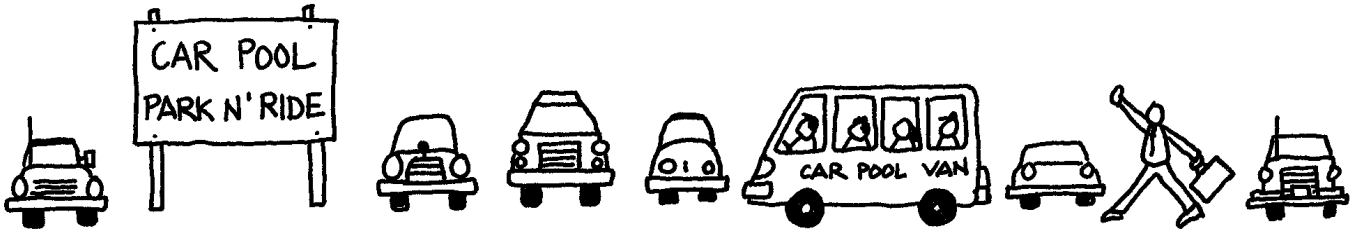
All our communities could benefit from safety-enhancement programs that dramatize benefits to everyone—public campaigns that raise awareness of safety issues and emphasize their direct impacts on individuals, families and friends.

Our educational outreach should speak to all the benefits of creating a more friendly bicycle and pedestrian climate in our communities, and, with so much attention focused on obesity, the public health benefits cannot be overemphasized. We need to convince our residents that they will directly benefit from better walking and cycling conditions, so that we receive support for the needed changes.

Enforcement

Not surprisingly, enforcement of traffic regulations is much stricter in Europe where even a minor violation can bring a high penalty. Our *New Jersey Driver Manua*l states that drivers should always yield to pedestrians and that they are required to yield to pedestrians who have the right of way within crosswalks and at intersections. Bicycles, skateboards and inline skates have all the rights and responsibilities of a motor vehicle driver.

In the last several years, police in many New Jersey communities have undertaken enforcement blitzes: placing automatic cameras at intersections to record cars running stop signs or red lights, installing movable "Yield to Pedestrian" signs in crosswalks, placing electronic speed-monitoring signs at the roadside, and quickly pouncing on drivers—or pedestrians or cyclists— who violate these safety measures.



Chapter 5: Implementing a Plan in Areas Facing Development

Ironically, the more rural areas of New Jersey, where roads are narrow and winding, can be some of the least friendly to walkers and bikers. However, these areas offer splendid opportunities to develop greenways, with associated bike/pedestrian pathways or hiking trails, and to extend and link existing trails both within and beyond the borders of the community.

SIDEWALKS

In some semi-rural or slowly suburbanizing communities, the very idea of sidewalks is anathema, symbolic of the disappearance of country ways and byways. However, as development moves into a community, New Jersey's Residential Site Improvement Standards require that sidewalks be included in any development where the density is greater than one home per acre. Sidewalks must also be provided in new developments that are within 2,500 feet of a train station or bus route, an existing business, recreational or retail district or where adjacent streets have sidewalks on both sides. As these types of developments occur, environmental commissions and bicycle/pedestrian safety groups should make connections with existing pathways leading to schools or to other neighborhoods. Otherwise each new cul-de-sac becomes an isolated "pod" from which the easiest exit is by car, and there is little chance for a sense of neighborhood to develop.

PROTECTING THE LAND

Of the powers granted to an environmental commission, one of the most important is that of advising the planning board on methods of development that protect community environmental values.

This is what greenway planning is all about. Implementation of greenway plans through land use regulation is common, because it fits smoothly into known ways of doing things. And because it is relatively inexpensive for the municipality, the planning board can use the flexibility of the zoning ordinance to encourage donations of conservation easements or public rights-of-way for access to property in a greenway.

Greenway development is often provided for in the open space or conservation elements of the master plan. Similarly, provisions for bike and pedestrian trails and walkways can be incorporated into the circulation and recreation elements of the master plan.

Specific Land Acquisition Tools for Greenways and Trails

Local effort and flexibility are the keys to moving a greenway from plan to reality. Different property owners respond to different mechanisms for protecting land as open space. Local people who know both the individuals and the properties involved can negotiate with the greatest sensitivity. What are the interests of this particular landowner?

How can both the interests of the community and the interests of this landowner be served? Only by keeping the answers to such questions firmly in mind can equitable and beneficial results be achieved.

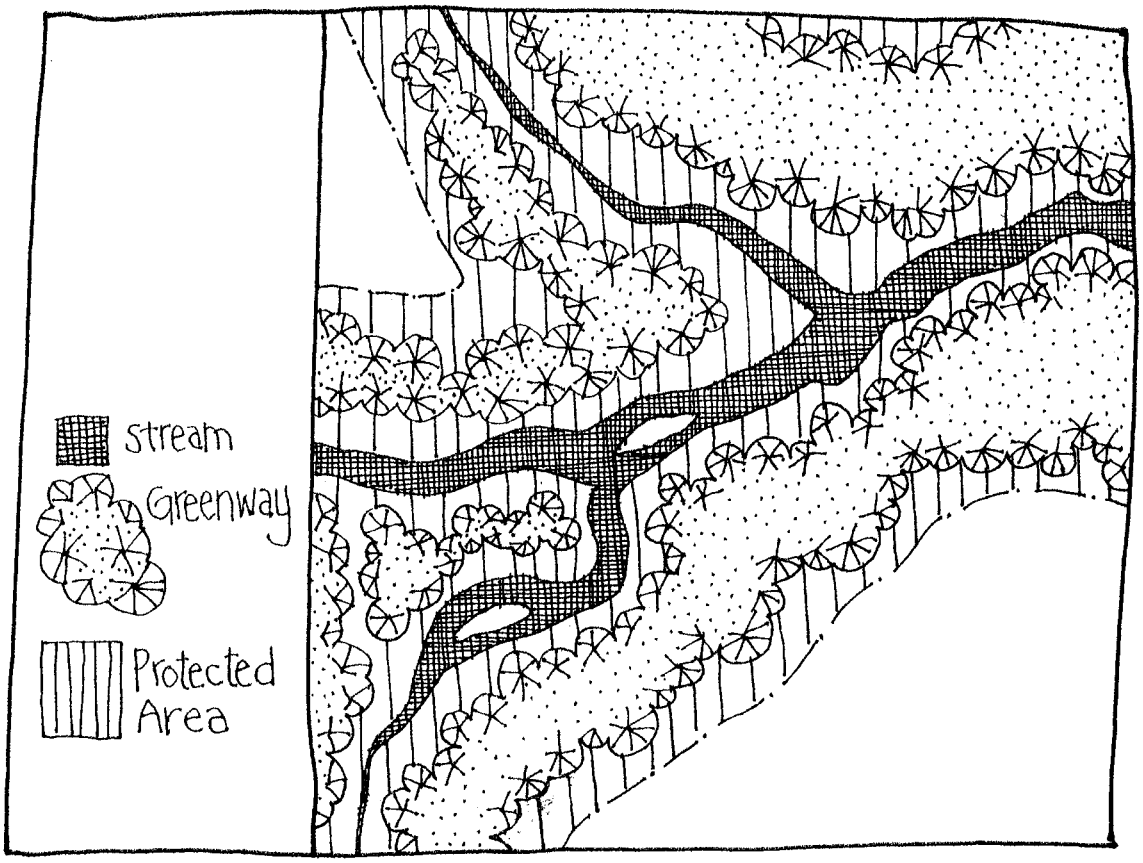
The first method for protecting land that comes to anyone's mind is probably outright purchase. Indeed, environmental commissions should begin by determining attitudes and funding availability within the local government and community. In all likelihood it will be quickly clear that neither state nor local funds will ever be adequate to buy everything that must be protected. Fortunately, other alternatives can help stretch the dwindling tax dollar, and most communities will devise plans that use a range of economic, zoning, and political strategies.

ANJEC's 1989 booklet *Keeping Our Garden State Green* describes these alternatives in some detail; this booklet contains a brief summary.

Greenway Strategies for Local Governments

Some strategies can best be achieved by local governments; these include zoning and land-use ordinance provisions, applications for state grants and low-interest loans under the New Jersey Green Acres Local Assistance and Nonprofit funding program, and the use of municipal bonding powers and a municipal open space tax. A great deal can be accomplished in this way, and an environmental commission should ensure that once its greenway plan is adopted into the local master plan, the governing body should adopt all necessary ordinances for smooth functioning during the site plan review process. These include requiring that site plans delineate greenway areas if any are designated on the property by the municipal greenway plan. One of the most common land use ordinances involves clustering development outside the greenway, with areas inside the greenway being protected by easements, which are often donated to the municipality.

Another possibility is the creation of a local Greenway Overlay District in which additional protections for all construction within the greenway



area (more stringent erosion and water runoff standards, buffering, limited height, grading restrictions) are added to the normal zoning requirements. Limitations on the type of development permitted within a greenway buffer district might also be considered, for example, a buffer area for exclusive agricultural use.

State Green Acres funds are available to help with the purchase of larger tracts on which no development is desired. Many municipalities also have established open space taxes to help finance the purchase of open space in their jurisdictions. A municipal government may also encourage participation in the State's Farmland Preservation Program and negotiate public access agreements as appropriate.

Greenway Strategies for Private Groups

Other types of activity are more appropriate for private groups. For example, a local land trust might be the most effective agent to talk with property owners about the tax benefits of easement donations or to arrange for bargain sales of land (that is, sales at below market value, with the difference being taken as a charitable contribution on the landowner's federal tax return). Since a number of criteria must be met to obtain full tax benefits on charitable contributions of land under the current law, formal adoption of a greenway plan by the local governing body can be a significant help to private groups working for the public good.

Private land trusts can also participate in so-called "limited development arrangements." In such cases, the profits from building on a small portion of a tract are used to protect the remainder. This technique is receiving wide attention and a number of successful ventures may be cited as examples, including the development of Schiff Scout Reservation in Mendham Township (Morris). Limited development is one of several sophisticated legal and real estate techniques that are being used by private land trusts today. Needless to say, whether a private trust simply encourages protection and manages land that a municipal government does not want to administer or whether it becomes involved in aggressive land protection depends on the community, the people, and the organization.

In all cases, the environmental commission acts as a catalyst for action—generating the vision, collecting the information, convincing key local officials and residents, getting the project going. Once the greenway concept has taken hold, the commission may want to step back, or may want to continue its involvement—overseeing implementation of planning strategies, coordinating public education and support, monitoring an easement program, and generally serving as a clearinghouse of information and advice as the greenway plan is turned to reality.

Negotiating Conservation Easements

A conservation easement is a legal tool that sets forth certain restrictions or that grants certain rights on the use and development of (usually) private property. Notice of the easement is recorded with the property deed, and may sometimes be referred to as a "deed restriction." Easements are flexible conservation tools because these restrictions and rights may be carefully tailored to meet various needs. Typical restrictions granted by easements for greenways include prohibiting all building or industrial or commercial activity, prohibiting removal or disturbance of vegetation and trees, and prohibiting dumping or excavation. An easement may also include a description of permitted public uses, for instance, pedestrian or bike paths.

Easements may be purchased from the property owner or donated by the owner to an agency willing to hold them. Local and other government agencies, some environmental commissions, charitable organizations, and private land trusts may hold easements. The holder of an easement agrees to perform periodic inspections and to take legal action, if necessary, to ensure that easement provisions are met.

The value of a donated easement may be deducted as a charitable contribution from federal gift, estate, and income taxes if it meets the test of "public benefit." Public benefit is easier (but not always easy) to prove if the property has been mapped before the donation and identified by the municipality as important for a greenway plan. For scenic easements, one must prove both public benefit and that many people see it.

HELPFUL STEPS FOR CREATING A HIKING OR BIKING TRAIL

Whatever your project—bike/pedestrian pathway, greenway or hiking trail—this adaptation of a National Parks and Recreation Association checklist can help track your progress.

- Use discussions, a community survey, or an incident that grabs community attention to develop the idea for a project.
- Write letters to local papers pointing out the advantages of trails for hiking and biking or the need for better pedestrian pathways.
- Contribute op-ed pieces to the paper, or put a show on local television. You want the community to think of this project as an important topic.
- Develop a group to discuss the project. Any active group (unlike a rolling stone) tends to gather more members who are drawn to purposeful activity.
- Set up a website about the project.
- Map the area, identifying public lands, elementary and high schools, shopping areas, and other important destinations. Identify properties that lie on a proposed pathway. For instance, one that could link a local housing development to nearby schools.

If it's a path...

- Approach landowners gently about the possibility of developing a path on or near their property. This is a delicate stage; creating antagonism can squash a project before it begins.
- Talk to local and then county and state agencies.
- Seek potential funding sources.
- Prepare a map that shows a preliminary route for the proposed path, only on properties whose owners have agreed. There will be obvious "holes" along the route.
- Publish the map in the newspaper and on a website. Write articles about the path and its desirability. Publicize the names of people serving on the committee.
- Sponsor a large public meeting to show and explain the map.
- Get your planning board and municipal governing body to officially adopt the plan and incorporate it into the circulation, recreation, open space or conservation element of the master plan.
- Raise funds locally, if it's a small project; statewide and nationally, if the size and scope warrant.
- Acquire the land. Land may be donated, given by a deed of easement, or purchased in fee simple. (If the property owner wants to wait until the project is definitely a "go," s/he can sign a letter of intent.)
- Prepare plans and specifications. For a hiking trail, plans can be rather general. For a bicycle or pedestrian path that uses transportation funding, you must adhere to design standards. Remember to apply for necessary permits.
- Begin construction.
- Maintain and enhance the path.

If it's altering an existing thoroughfare...

- As with a new pathway, the town planners and governing body must support the idea. It's up to the environmental commission or the bicycle/pedestrian pathway or trail group sponsoring the project to win the support of local politicians and bureaucrats by providing a vision that captures the public's imagination.
- If the plan calls for traffic calming measures, it must also include education of drivers and pedestrian/bikers. This process may take several years. Follow-through is vital to measure the plan's effectiveness.

The value of an easement is generally calculated as the difference between the value of the land with no easement and the value of the land with the easement. Since the landowner still owns the property with an easement, it is still subject to real estate taxes; however, the assessed value of the land may be lower because of the easement, so property taxes may be reduced. Deed-restricted land may be sold or bequeathed, although subsequent owners continue to be bound by the easement.

Holding easements, particularly when an easement is donated, is a less expensive land protection tool than fee-simple purchase. For this reason interest is growing in promoting conservation easement programs, particularly with regard to greenway development on environmentally sensitive land. West Windsor (Mercer), for example, obtains easements on land within its designated greenbelt with good results, particularly when easements cover property that is not readily developable—wetlands, steep slopes, floodplains. Morris County, however, has found that when public access is attached to the request for an easement for its Patriot's Path project, property owners are more likely to donate land outright in order to avoid perceived problems with trail maintenance and future sales.

Negotiating with Property Owners for Trail Access

Once a definite preferred route, and several alternate routes, have been decided on, it is time to negotiate for public access.

Donations and purchases of easements or property may be discussed. A good time to negotiate, of course, is when a property owner comes before the planning board with a site plan; however, negotiations may also take place with landowners who are not proposing immediate changes on their property. In addition, if someone gives an easement during the site plan review process, potential tax benefits may be lost; thus in some instances it may be better to negotiate before site plan review begins.

Few developers volunteer to incorporate trail easements without being asked, but the experience in Morris County with Patriot's Path suggests that when the local planning board indicates that trails are highly desirable, developers are willing to include easements in their plans.

To aid in this aspect of site plan review, it is useful to have both a trail map and walking and bicycle routes adopted into the recreation and/or circulation elements of the local master plan. Land use ordinances should require that site plans show both greenway areas and any public access areas. State planners—who are actively promoting regional and statewide greenways—encourage local governments to incorporate opportunities for trail development when any kind of greenway is established.

In general, approaches to landowners for pathway development must be very specific. It is good to provide local examples of the kind of trail being proposed. The exact area in question and the preferred route should be drawn on a map and the area walked with the landowner. Alternate routes might also be proposed and discussed to achieve the most satisfactory plan. Landowners are likely to want answers to the following questions:

- Who will use the trail?
  (pedestrians, equestrians, bikers, etc?)
- How will any limitations be enforced?
  (stiles, trailhead chains, logs)
- Who will manage the trail?
  (local government, park department, volunteer group)
- What kind of maintenance is planned?
  (annual/semi-annual inspections, cleanups, etc.)
- Who will respond to police problems on the trail?
  (local police, park department)
- Who is liable for injuries incurred while using the trail?
  (for landowners; protections available under Landowner's Liability Act. See following page for additional information.)

THE PUBLIC ACCESS ISSUE

Property owners have legitimate questions about opening their land or nearby land to the public for recreation. They worry about maintenance, risk, liability, crime, and real estate values.

- "Will a trail or path open the way for vandals and thieves?"
- "Who's going to pay me to pick up all that litter?"
- "What if I'm sued by a hiker who falls over a rock?"
- "How will a pathway near my property affect real estate values?"

New Jersey has innovative programs aimed at alleviating some of those concerns.

Although public access over private lands is a well-established tradition in western Europe, the concept has not been warmly embraced in the United States. However, as more communities implement greenway designs with public access components, this attitude may change.

A number of established and highly successful trail systems over public and private land do exist and have demonstrated that public access for hiking and related activities creates few problems.

Standard hesitations seem to arise when trails and path projects are proposed. Some objections are unanswerable, because they express preferences. Other objections can be met and specific compromises regarding path routes and buffering can be worked out.

Although property owners worry about increased vandalism, property damage, liability risk, and nuisance litter, actual experience lends little to support these fears, which tend to be based only on anecdotal experience, hearsay, and "common sense" views of what might happen.

Non-binding short-term agreements to test whether or not there will be public abuse of the trail can be a helpful compromise.

Existing documentation suggests that formally designated trails generate few problems. They attract joggers, families and serious walkers, and because of this traffic are not favored for teenage hangouts or as an escape route for thieves. Proven techniques for prohibiting use by motorized vehicles also exist, including stiles and other hindrances at the trailhead.

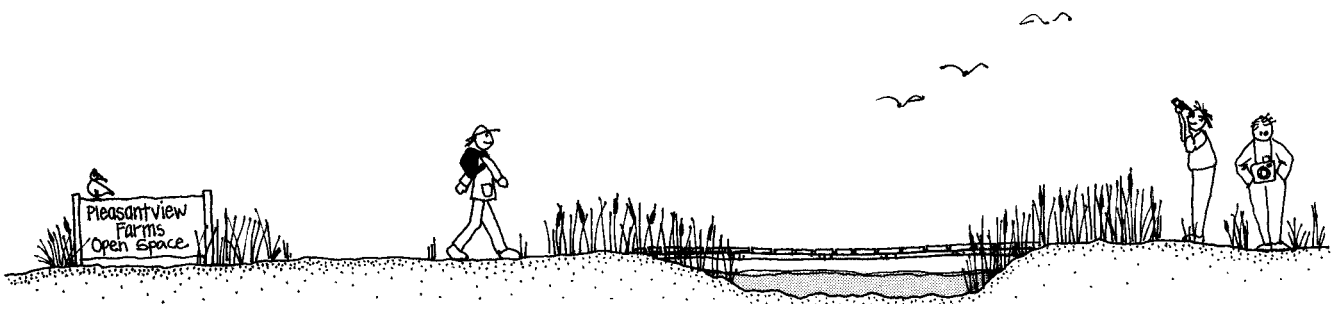
Pathways used by students to go to and from schools must be carefully planned to prevent vandalism and trashing. One method is to have the students help maintain the path during recreation time.

The Question of Liability

The willingness of trail users to sue landowners for injuries on the trail appears to be minimal. A 1985 study of the Appalachian Trail, for example, found no such suits had ever been made against private landowners; moreover, and perhaps more significantly, neither has the federal government ever been sued as a holder of the trail easements.

In 1968 the NJ Legislature enacted the Landowner's Liability Act (N.J.S.A.2A: 42A-1 et seq.), which is intended to protect property owners (including government agencies, nonprofit organizations and trusts) from liability associated with public recreation on their land.

The act specifically limits liability for injuries associated with horseback riding, hiking, skiing, and use of off-road motorized vehicles. It further states that a landowner is not expected to ensure that the premises are completely safe from all risk of injury, although willful or malicious failure to guard or warn against a dangerous condition will cancel the



protection of the act. In other words, the landowner is not required to ensure that a hiker will never trip over a rock or fall down an embankment, but is required to set a warning if the path crosses over an open mine shaft.

Unfortunately, the courts have decided that this act applies only to recreation on "rural or semi-rural tracts of land." Thus landowners who grant public access [for greenways] in developed suburban and urban areas may not be protected from liability by this act, although, as the National Park Service has argued, the easement holder is more likely to be sued than the private property owner.

The Vandalism Issue

Fears persist among landowners about vandalism and theft. So planners need to help eliminate the threat of privacy loss and crime.

Problems and hazards might include accumulation of trash; people wandering off the path into areas that intrude on landowner's privacy; occasional acts of vandalism; and the possibility of a liability suit being brought by a walker, although, generally, an owner's liability is limited in the case of public recreational use of private land.

Pathway design and management can also reduce landowner objections. Thousands of people might use a dual bikeway; hundreds would use a paved trail with limited facilities, and only scores use a woodland path. A "continuous" trail does not have to be paved continuously. As a trail passes through private land, it can dwindle to a simple footpath, which tends to be unattractive to people the landowners don't want around.

USING VOLUNTEERS FOR MAINTENANCE

Volunteers are a proven, practical way to maintain woodland trails. Local hiking clubs and scout groups maintain woodland trails in some communities. Woodland trail maintenance involves hiking the length of a trail once or twice a year to cut back brush, remove unwanted windfalls, repair washed out stream crossings or eroded slopes, remove litter, and redo worn trail markings. Paths for walking and biking should require less work.

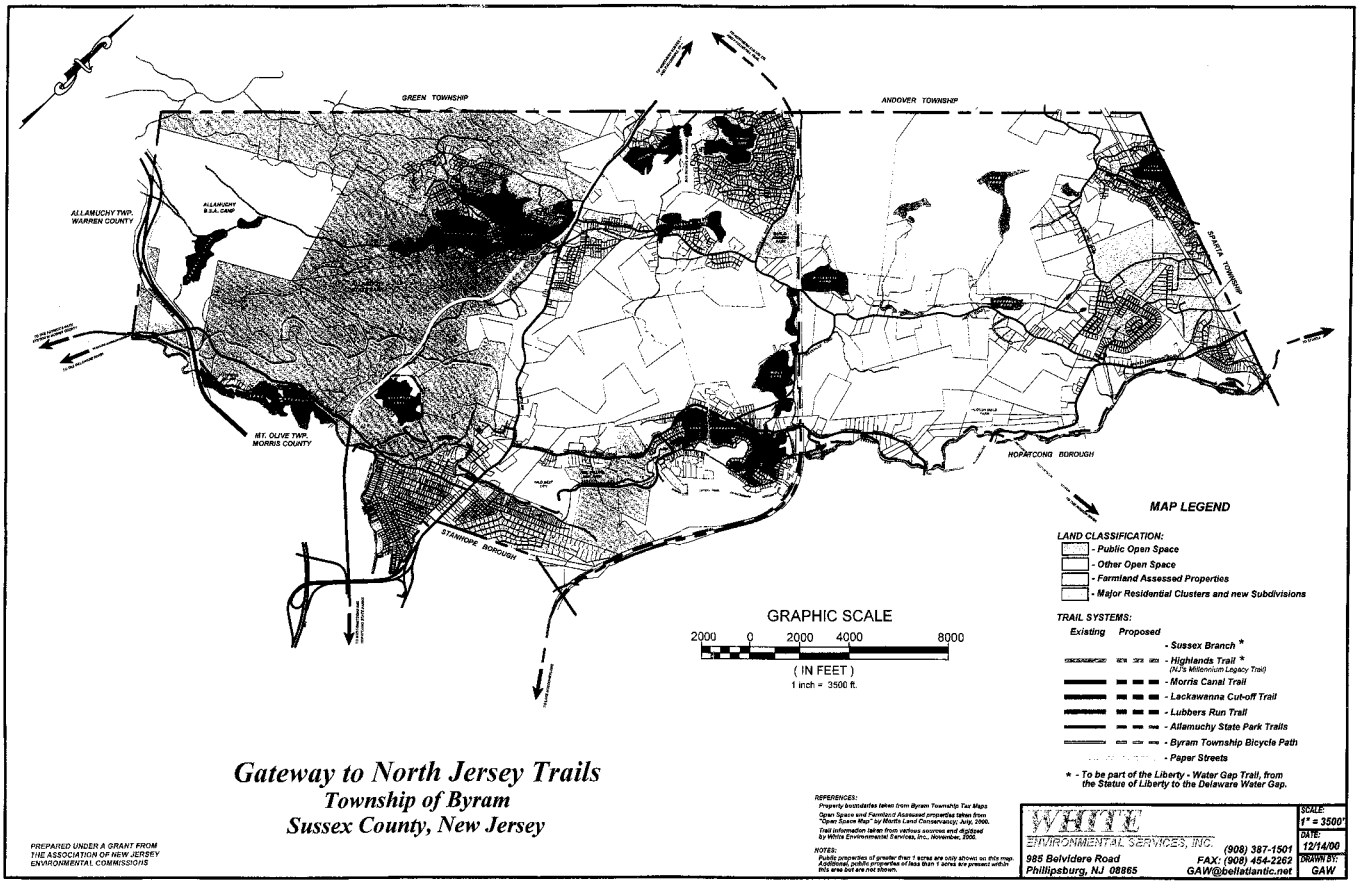
Maintenance by a paid crew may be necessary for intensively used urban trails or for paved or graveled bike trails. In the latter case, safety requires a smooth surface, shoulder and drainageway integrity and regular mowing of grass and removal of brush. If snow is not removed, cross-country skiers can use these wider trailways.

Chapter 6: Case Studies

Case Study 1

BYRAM TOWNSHIP – VILLAGE CENTER

Byram Township ("Township of Lakes"), a rural community in the Highlands on the southeastern edge of Sussex County, is being squeezed by development on three sides and faces being cut in two by a proposed widening of Route 206. To preserve its community and sense of place, Byram has been pushing back vigorously, with the energetic assistance of its Environmental Commission, Open Space Committee, and Smart Growth Task Force. A series of grants and studies outline ways in which the community can incorporate principles of "smart growth" to counter the effects of sprawl.



Much of Byram's residential development evolved from clusters of seasonal summer cottages that have become year-round lakeside neighborhoods. Most of the community's public open space is in Allamuchy Mountain State Park, which makes up the western 25 percent of the township.

Byram is actively pursuing a well-developed, town-wide system of trails, with several trails in place and more planned. An extensive network of trails in Allamuchy park includes important segments of the Highlands Trail, which is proposed to cross the entire Highlands region south-north from the Delaware to the Hudson River, and the Sussex Branch Trail, which will be part of the Liberty-Water Gap Trail, linking the Statue of Liberty to the Delaware Water Gap. The Lubbers Run Trail—some sections existing, some proposed—follows the Lubbers Run stream corridor from Tomahawk Lake in the east to the Musconetcong River in the west. The Township is also proposing a trail on the abandoned Lackawanna Cutoff railroad right-of-way, a historic elevated line running north-south though the center of the Township, but this project will depend upon future State and county plans to reinstate rail service there.

A principal objective of the Byram Township Environmental Commission is to "incorporate an expanded municipal trail system that would connect the existing municipal parks and trails and significant natural areas." (*Byram Township Open Space and Recreation Plan*, October 2002). The Commission began this work in the mid-1990s, when it commissioned *The Lubbers Run Greenway Project, A Stream Corridor Study*, funded by a grant from NJDEP's Environmental Services Program. The three-part study included:

- A visual analysis of existing gateways, trails and existing manmade features and documentation of the natural features along the stream corridor;
- A plan for a stream corridor greenway that could accommodate habitat preservation, trails and passive recreational opportunities; and
- Recommendations on how to preserve critical ecological areas.

The study identified great potential for linking cultural and historic sites by trails.

The newest tool in Byram's self-preservation efforts is the *Bicycle and Pedestrian Feasibility Study*, funded by a grant from the US Environmental Protection Agency. This study builds on continuing efforts to maintain, improve and extend the Township's extensive network of hiking trails, and incorporates pedestrian and bicycle friendly planning for more densely developed commercial areas.

The introduction to the study summarizes the situation. "Byram Township has a Village Center/Smart Growth Plan that incorporates a community green, recreational amenities and social interaction with shopping, residential, office and entertainment places. In order to maintain a pedestrian friendly atmosphere with rural charm on a village scale, a unique system of proposed trails will link the residential neighborhoods with the Village Center, school system, recreation areas, open spaces and neighboring towns.

"However, Byram Township's Smart Growth Task Force identified poor pedestrian and vehicular circulation through Byram as potential constraints to the overall success of the Village Center/Smart Growth Plan."

The Byram Township Village Center Bicycle and Pedestrian Plan identifies a number of goals, outlines potential funding sources and recommends a four-phase approach to implementing the plan.

Goals of the Byram Township Village Center Bicycle and Pedestrian Accessibility Plan

- Emphasize pedestrian friendly streetscapes and access trails to the proposed Village Center in order to create a pedestrian friendly village that is easily accessible by surrounding residential and commercial areas.
- The proposed widening of Route 206 has the potential to eliminate pedestrian/bicycle access to the proposed Village Center from communities on the west side of Route 206. Use of the proposed Pedestrian Tunnel underneath the roadway and along Lubbers Run will provide a safe and aesthetically appealing conduit to pedestrian traffic from the proposed Village Center across Route 206.

- Link together and improve existing pedestrian/bicycle paths including the Mansfield Drive and Route 206 bicycle paths.
- Connect Byram Township neighborhoods to each other as well as to the proposed Village Center, area businesses, amusement parks, Allamuchy State Park and other local parks and recreation areas via bicycle and walking paths.
- Provide access points to the proposed Village Center and surrounding Vita Course [exercise trail] via a linkage to the Brookwood East neighborhoods, Wild West City, Lackawanna Road and Route 206.
- Reunite Byram Township and establish a sense of community.
- Provide pedestrian access to the historical landmarks and natural resources in and around the Township.
- Provide a safe alternative to automobile transportation in the Byram Township area.
- Provide appealing alternatives to the already overly congested Route 206 for transportation in and around Byram Township.
- Increase the recreational opportunities in Byram Township.
- Provide safe alternatives to busing for the students as well as the staff of the Intermediate School and Lenape Valley Regional High School.
- Develop a pedestrian friendly transportation network throughout Byram that connects to neighboring towns.

The implementation of the plan is focused on the improvements and linkages that will be needed to achieve these overall goals. The details include proposed crosswalks, new sections of sidewalks, new mixed-use pathways along a sewer easement, specific signage and traffic calming measures, a pedestrian tunnel under Route 206, improved lighting, bicycle racks, pedestrian friendly sidewalks, park benches, attractive landscaping in the village center; connector trails between neighborhoods and recreation areas.

Case Study 2

TOWNSHIP OF BRICK – SHORE COMMUNITY

Brick Township is a densely populated suburban municipality located in northeastern Ocean County on the Atlantic Ocean. The headwaters of the Barnegat Bay lie within the Township as do many tributaries to the Manasquan and the Metedeconk Rivers. Since the early 1970s, Brick has experienced explosive development. During the 1980s, the municipality's population doubled. Now Brick Township is a "built-out" community struggling to retain the remnants of the rural character that attracted vacationers and settlers to its shores. The 2000 Census reported Brick's population at 76,911.

Open Space and Transportation Needs

As the residential and commercial development in and surrounding Brick continues to increase, so does the Township's population and vehicular traffic. Congestion on busy state, county and local roadways has made bicycling through town dangerous and unsafe. In 1988, the Transportation Element of the Township of Brick Master Plan identified the need for an interconnected network of bicycle trails throughout Township-owned property.

Faced with continuing development pressure, the municipality has worked to preserve some of the remaining open space. Since 1994, the Township has preserved more than 1,000 acres of open space. Two significant acquisitions, the 273-acre Airport Tract and the 175-acre Sawmill Tract have been the focus of NJDOT grants that enabled the Township to construct several bicycle trail projects.

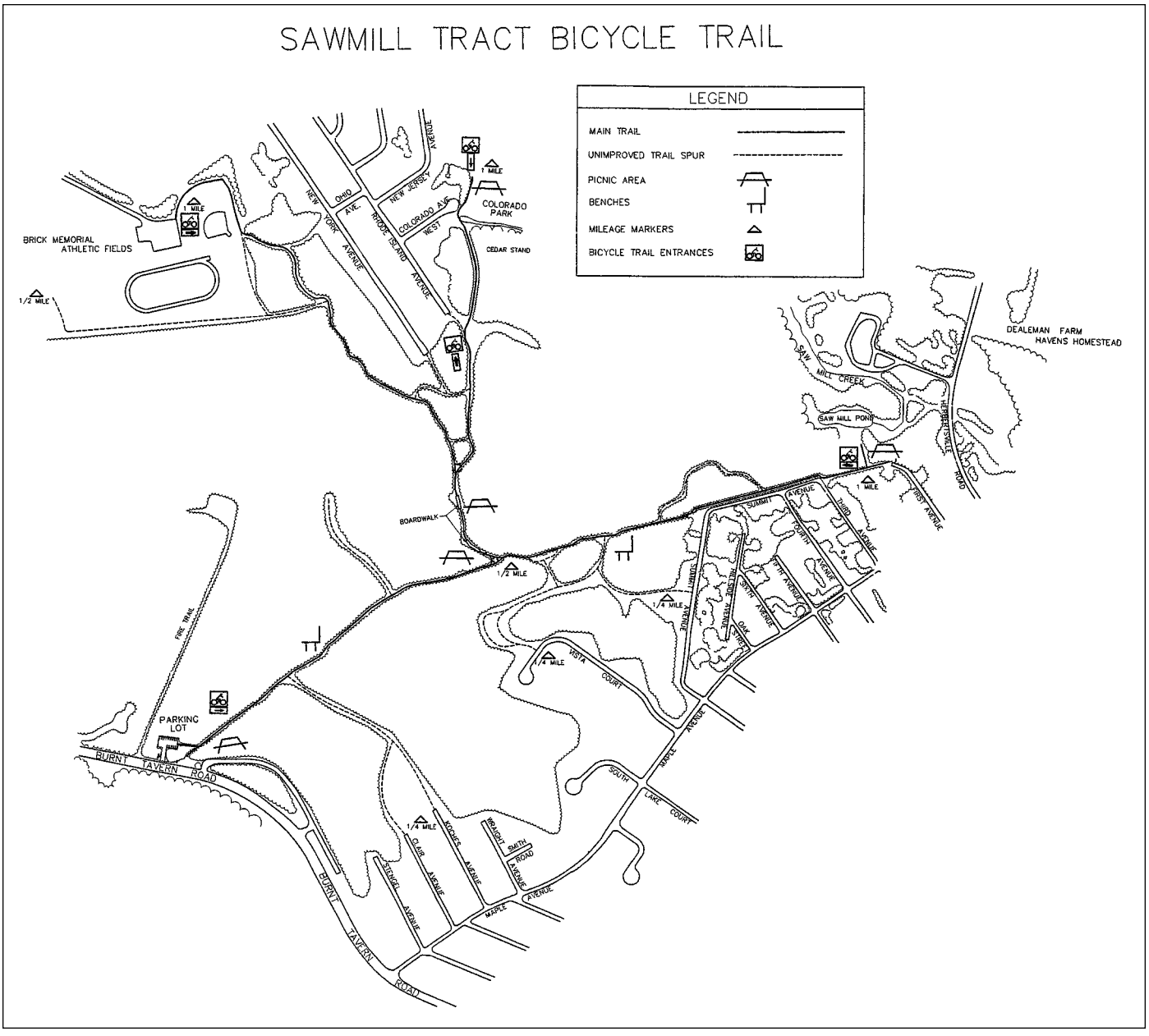
Planning a Bicycle Trail Network

According to a report by Assistant Planner, Tara Paxton, Brick has promoted and provided alternative means of transportation throughout the Township. A safe bicycle route allows residents an alternate mode of transportation, thus slightly decreasing vehicular traffic on the roadways. The dedicated trails separate cyclists from the busy streets while enabling them to reach their destination via a peaceful and scenic environment.

Brick has embarked on a plan to develop a network of bicycle trails throughout the Township that connect institutional, recreational, cultural,

residential and commercial areas. The Sawmill Tract and Airport Tract Bicycle Trails, Phase I, are the first of a series of projects proposed to attain this goal by meeting the following objectives:

- Offer public access to Open Space Preservation Areas.
- Encourage restoration and stewardship of Open Space Preservation Areas.
- Provide habitat protection and enhancement by creating environmental awareness.
- Offer an alternate method of transportation for residents and visitors.
- Offer a dedicated route for cyclists, separate from vehicular traffic.
- Provide a safe and scenic trail, while promoting physical exercise and developing an appreciation of nature.
- Minimize adverse impacts to environment and wetlands.
- Construct trails of a durable, low maintenance surface suitable for all type of bicycles.
- Provide access for emergency vehicles while restricting use by motorized ATV's and bikes.



- Provide educational and environmental placards along the trail.
- Be accessible for people with disabilities.

The construction of the Sawmill Tract and the Airport Tract Bicycle Paths are part of a larger Master Plan developed by the Township of Brick. This Master Plan proposes the construction of an interconnected network of bicycle trails throughout Township-owned property. Upon completion, trail users will be able to travel safely throughout the Township in a scenic environment, thus promoting public safety, recreational and physical activity and an appreciation of the beauty and importance of our natural environment.

The Sawmill Tract

The Township-owned, 175-acre Sawmill Tract has been designated a conservation/open space area. A network of approximately two miles of bicycle trails connects the Brick Memorial High School, Colorado Park, the Cultural Arts Center at Havens Farm, the Sawmill Pond and Sawmill Creek, two residential areas and Burnt Tavern Road.

The bike trails use existing fire trails created to provide access to the woods in the event of a fire. The remaining trails were constructed by selectively clearing woods and establishing a solid subbase. A durable wearing surface was engineered to enable cyclists, as well as walkers and joggers, to safely use the trails. The trail consists of compacted fill material overlain by two inches of gray quarry dust. Wooden boardwalks and drainage pipes were incorporated into the design to cross through wetland corridors. Boardwalks and approach ramps are barrier-free.

The Airport Tract

The 275-acre Airport Tract is jointly owned by Brick Township and Ocean County and has been designated a conservation/open space area. The network of approximately 1.7 miles of bicycle trails connects some major roads, the Edmund Hibbard Athletic Complex, a 17-acre tract of municipal open space and Waterside Gardens, a large apartment complex.

Most of the bicycle trails were existing sand trails created by pedestrian and motorized vehicles. The remaining trails were constructed by selectively clearing woods and establishing a solid subbase, similar to construction of trails in the Sawmill Tract. A fire trail between Sky Manor Boulevard and Tiller Lane was redesigned to support heavy vehicular traffic by emergency vehicles.

Ocean County owns the easterly portion of the Airport Tract through which the trails pass. Through assistance from Ducks Unlimited, a wetlands mitigation program was completed adjacent to the bicycle trail, providing a pristine wetland habitat. A significant amount of garbage and debris was removed from the Airport Tract in conjunction with the construction of the bicycle trail and the wetland mitigation project.

Funding the Projects

NJDOT allocated $832,000 to the Township of Brick for the construction of several bicycle trail projects, including $234,400 for the development of the Sawmill Bicycle Trails and $383,000 for the development of the Airport Bicycle Trails.

In addition, the Township received $12,250 from the Federal Highway Administration for trail amenities such as interpretive signs, picnic tables and benches and $7,500 for similar facilities at the Airport Tract.

The actual construction cost of the Sawmill project was approximately $215,000. The actual construction cost of the Airport project was approximately $248,000. The balance of the NJDOT allotment was transferred to fund other bicycle trail projects throughout the Township.

Unique Environmental Features

Brick Township's bicycle trails are invaluable in helping residents and visitors preserve a sense of the natural world and rural heritage that made the community so sought-after. In addition to providing safe, non-motorized access to important destinations, each natural area is itself a worthy destination.

The Sawmill Tract derives its name from Saw Mill Brook, previously known as Swampy Creek. A fire training center is located north of Sawmill Pond and the firemen pump water from the pond for practice. A significant Atlantic white cedar bog just to the east of the pond area displays a diversity of wildlife habitat and may be the most northern stand

of white cedar in Ocean County. This cedar bog does not show any significant impact from the surrounding suburban land uses. Other wooded areas on the tract include black cherry, red cedar, sweet gum, red maple and sassafras.

The shorelines are intact and pebbled shoals occur along many of the meanders in the water's path. Evidence of fox and deer abound in the vicinity of the bog and tracks and a fox hole are evident in the higher hill area near the receiving stream. The diversity of fish and other wildlife on the tract include muskrats, possums, raccoons, skunk and a pair of osprey that nests at the top of a television antenna located deep within the site. Standing in the heart of this treasured piece of open space, buried within suburbia, gives a sense of seclusion and wilderness that is rare in a developed community.

Bracketed by developments to the north, east, and west, the Airport Tract is the site of an overgrown former private airport that occupied the site until the late 1970's. The current habitat consists of low pitch pines, sea grasses and sedges, interrupted in places by bright patches of sand. The site serves as a fine example of natural succession on former farmland.

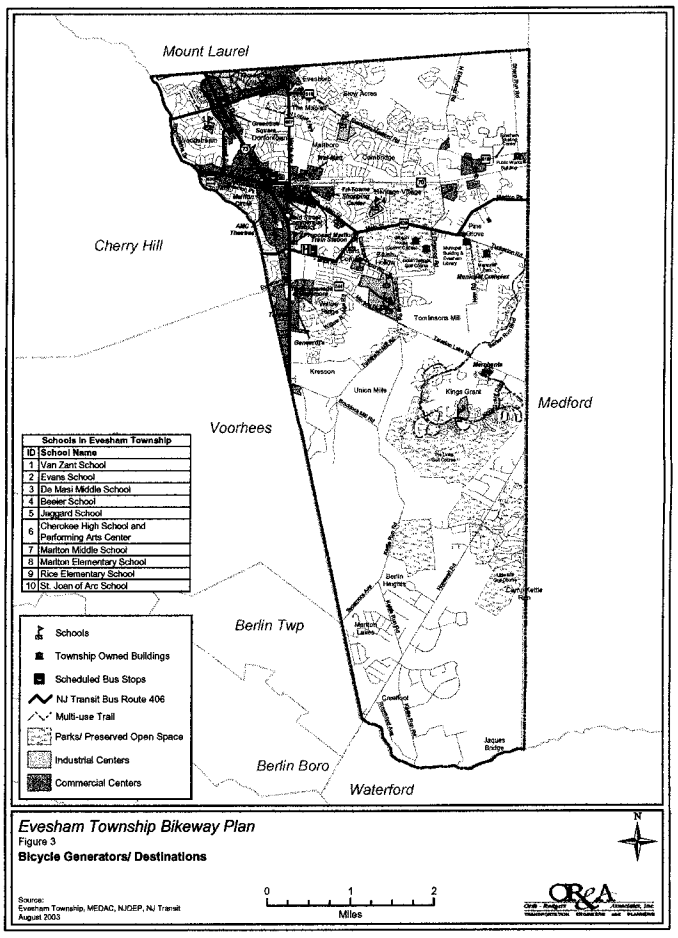
The lower portion of the tract was part of an extensive saltwater farm. Earlier this century, cattle grazed in the fields that led down to the water. Thick growth now occupies the site of the former farmstead, whose foundations can be found only with perseverance. Field invaders, such as black cherry and eastern red cedar, are making advances. Two large marsh pools significantly add to habitat diversity and are in active use by black ducks and mallards, and wading birds, including snowy and great egrets and great blue herons. Pink lady slipper thrives in the undergrowth of the scrub/shrub pine habitat of the upland areas. The almost imperceptible decline in elevation toward the shore ushers in high marsh vegetation, such as marsh-elder and groundsel tree, and then the lower marsh with Phragmites and Spartina. Shoreline views to east and west demonstrate the great development pressure on this waterfront land. Sprawling development threatens these appealing Barnegat Bay marshes, the spiraling pattern of salt meadow cord grass at the retreat of high tide and the islets and undulations of the shoreline. In the context of the remaining open space on the Bay, the site is unquestionably a natural gem.

Case Study 3

EVESHAM TOWNSHIP – PROVIDING TRANSPORTATION ALTERNATIVES

Evesham Township, in the southeastern part of Burlington County, comprises 29.14 square miles and a population of 42,000. Evesham is bounded by Medford Township to the east, Mount Laurel Township to the north, Cherry Hill and Voorhees Townships to the west and Berlin Township to the south.

The predominantly rural southern half of Evesham is in a Pinelands Preservation Area. As the population in the more densely inhabited northern end of the Township continues to grow, the community is facing increased needs for commercial, educational and recreational facilities — and is confronting problems of traffic congestion.



TOWNSHIP OF EVESHAM

RESOLUTION NO. _____

RESOLUTION IN SUPPORT OF A COMPREHENSIVE BIKEWAY IN EVESHAM TOWNSHIP

WHEREAS, the Township Council of the Township of Evesham is desirous of providing the Township residents with alternative means of transportation; and

WHEREAS, the Evesham Township Master Plan Circulation Element calls for the installation of public sidewalks and bikeways in conjunction with all new development undergoing subdivision or site plan approval; and

WHEREAS, the Township administration has undertaken a preliminary survey of existing developments and roadways to determine if the existing public ways can be retrofitted or enhanced to accommodate bikeways; and

WHEREAS, the Township administration recommends that in order to effectuate a comprehensive bikeway system throughout Evesham Township, existing developments and roadways will require a certain degree of retrofitting or enhancements in order to render the existing public ways safe for bicycling and pedestrian traffic; and

WHEREAS, the Township Manager reports that the State of New Jersey, Department of Transportation, awards grants for planning studies for projects that are intended to reduce automobile traffic congestion and encourage bicycle access to transit and centers of activity within a township and its neighboring communities; and

WHEREAS, the Township Manager recommends that the Mayor and Township Council apply for a grant to undertake a detailed planning study to determine the degree of improvement necessary and the costs associated with developing bikeways along existing public ways in Evesham Township.

NOW, THEREFORE, BE IT RESOLVED, by the Township Council of the Township of Evesham, County of Burlington, State of New Jersey, that the Mayor and Township Council do hereby support the creation of a comprehensive bikeway system throughout the Township of Evesham and interconnection with neighboring municipalities; and

BE IT FURTHER RESOLVED, that the Township Manager is hereby authorized to file an application with the State of New Jersey, Department of Transportation, for a grant to undertake a planning study, and to move forward with this study as expeditiously as possible.

I HEREBY CERTIFY that the foregoing Resolution was adopted by the Township Council of the Township of Evesham, County of Burlington, State of New Jersey at their meeting held in the Municipal Building, 984 Tuckerton Road, Marlton, New Jersey 08053 on October 23, 2001.

_____

Carmela Bonfrisco
Deputy Township Clerk

By the mid-1990s, Evesham town planners recognized the need to lessen the number of single-user vehicles on its roads and to encourage pedestrian and non-motorized means of transportation.

In 1996, Evesham Township, working with the Cross County Transportation Management Association (CCCTMA) and New Jersey Transit (NJT), established a public bus route connection to Philadelphia. By 1999, the number of stops was

increased to 50 to accommodate increasing numbers of bus riders.

In the mid to late 1990s, in conjunction with the goals and objectives of the 1991 Intermodal Surface Transportation Equity Act (ISTEA), the 1998 Transportation Equity Act for the 21st Century (TEA-21) and New Jersey's Transportation Enhancement Program, the Township of Evesham began to seek ways of making the community more bicycle and pedestrian friendly.

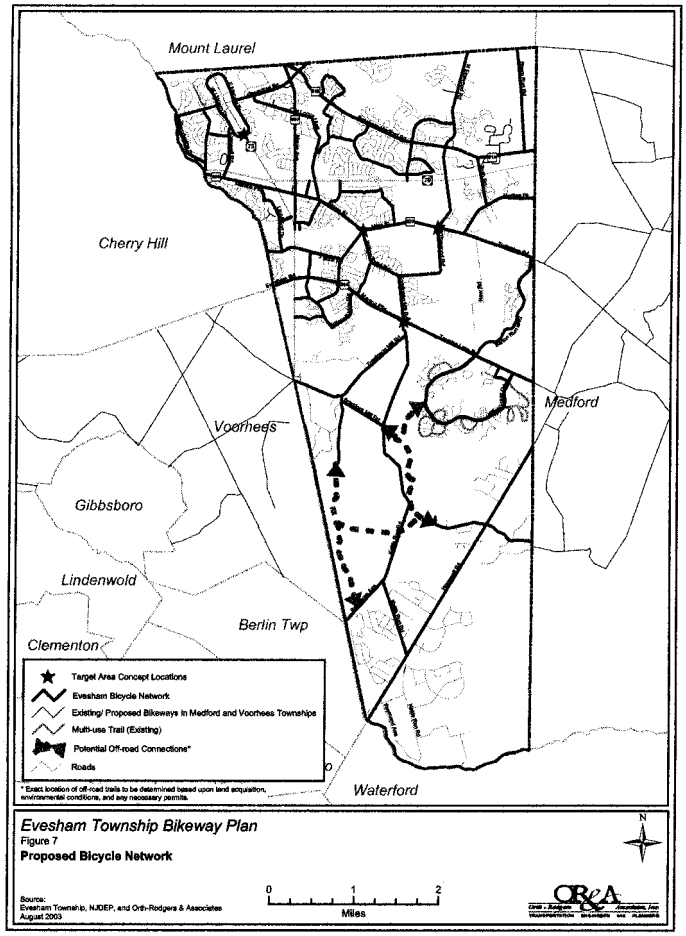
The Township established its Bikeway Project Steering Committee and encouraged it to seek funds from the various state granting entities. The Bikeway Project team was composed of the directors of recreation, public buildings and grounds, and public works departments, the Township planner, the community development coordinator, three volunteer bicycling enthusiasts and representatives from the police and fire departments.

The Township administration decided to install bike racks at various Township-owned facilities. To offset some of the costs, in 2001 the Township administration received a $2,000 Transportation Demand Management (TDM) Grant from CCCTMA to purchase eight bicycle racks. The bike racks have been installed at various public facilities.

The administration then performed a windshield survey of the Township and developed a map and preliminary plan depicting a potential bike route. Based on this survey, the Township applied for and received an $18,000 grant from CCCTMA to purchase signs, stripe roads and intersections, and install bicycle-compatible storm grates and remove other road hazards associated with bicycling.

The Evesham Township Master Plan and Land Use ordinances were modified to require installation of pedestrian walkways, bikeways and, wherever possible, nature trails in conjunction with new development. Although pedestrianways (public sidewalks) exist in older developments in the northern portion of the Township, the majority of these publicways lacked safe accessibility for bikers.

The steering committee prepared a preliminary map of about 40 miles of roadways they believed could be improved to accommodate safe biking. The proposed bikeway routes extend to adjacent communities and provide access to public



transportation, public facilities, schools, shopping centers and recreational facilities. Working with the Historic Preservation Commission, the committee proposed incorporating the to-be-reconstructed Marlton Historic Train Station as a focal point of bikeway planning. This historic site will act as a commuter hub connecting point with public transportation, a park-and-ride center and visitor and tourist information center.

Having laid down all this preliminary groundwork, in October 2001, Evesham Township resolved to seek a grant from NJDOT to undertake a detailed planning study to develop a comprehensive bikeway system for the town.

The *Evesham Township Bikeway Plan*, prepared by Orth-Rodgers and Associates, consultants to NJDOT, was completed in August 2003. It spells out Evesham's goals and objectives:

"It is Evesham's objective to provide bicycle access within neighborhoods throughout the Township and make it safer and more convenient to

use bikes to reach parks, schools and shopping areas. The purpose of this effort has been to advance a bikeway network that provides linkages to as many of the following generators as possible:

- Residential neighborhoods...;
- Schools...;
- Community facilities and services...;
- West Jersey Marlton Hospital; and
- Shopping centers.

In addition, the planning effort has recommended a recreational route through the southern [less developed] part of the Township."

Evesham Township's Bikeway Plan goals could serve as a template for many communities:

> "Goal 1: Create a bikeway system that makes bicycling a viable alternative to driving.
>
> Goal 2: Increase recreational bicycling opportunities.
>
> Goal 3: Improve bicyclist safety.
>
> Goal 4: Create policies that encourage bicycling and proactive implementation of bicycling facilities.
>
> Goal 5: Continuously improve and maintain bicycle facilities.
>
> Goal 6: Adopt the Evesham Township Bikeway Master Plan as an element in the Township Master Plan and implement the recommendations."

The plan also documents, sometimes with photos, existing conditions including data on crashes involving bicycles and those involving pedestrians, and proposes a comprehensive bikeway network. The plan incorporates bike lanes, roadways with bicycle-compatible shoulders, possible shared roadways and off-road connectors.

The plan includes a bicycle education program including a public awareness campaign as well as school and adult bicycle safety training programs. Detailed plans are provided for specific troublesome intersections, and Township-wide maps show existing and proposed routes.

Although the Evesham Township Environmental Commission was not directly involved in the development of this plan, it did lend its support during public hearings and, on an ongoing basis, will advise on implementation of bikeways and trails in areas requiring environmentally sensitive planning and design.

Case Study 4

MONTCLAIR – BECOMING A SUSTAINABLE COMMUNITY

Early in 2003, the Montclair Environmental Commission in Essex County, submitted an extensive *Sustainability Planning Guide* to the Township government. It began as follows:

> "The Montclair Environmental Commission offers this Sustainable Development planning document to the Town Council and Township officials as a policy guide for decision-making about the procurement and delivery of public goods and services now and into the future.
>
> In this context, "sustainable" means, according to one of the authors, "Being able to fulfill all the needs of society without depleting the choices of the next generation.
>
> " 'Sustainable Development' is a set of ideas about the present and the future in which economic growth, stewardship of our environmental resources, and social justice are all pursued in self-sustaining ways. …The Plan consists of a collection of voluntary, cost-effective, 'no regrets' strategies that the Township can start to implement now and over time."

Among the recommendations to reduce automobile emissions was:

> "One of Montclair's unique features is its 'walkability' and 'bicyclability.' There are several low-cost measures the Township can take to make walking and bicycling around town safer and easier for those residents who want to. With the startup of the Montclair Connection train service there is more traffic to the train stations. Walking and bicycling to the train stations should be encouraged by designating, striping, and

maintaining a north-south bicycle lane through town and the installation of covered bicycle storage racks at all train stations. With so much of the Township's resources within walking distance of many residents, pedestrian rights-of-way in Watchung Plaza, Upper Montclair, and other locations should also be installed and maintained to create a walker friendly environment."

The guide was the result of a two-year research study, and included a comprehensive look at every sort of municipal-level facility. It comprised, as Environmental Commission Chair James Sherman told the local newspaper in an interview, "…a menu of ideas that we're going to try to roll out one by one."

The complete package is an excellent example of how established and aging large urban communities can begin to make important changes that benefit the environment.

In April 2003, the Montclair Township Council accepted the entire package of recommendations by adopting the program through a resolution that gave the Environmental Commission the go-ahead to proceed to implement the program.

In a ceremony marking the achievement, U.S. Senator Frank Lautenberg, a former resident of Montclair, pointed out that Montclair is the first township in the state and the country to pass a resolution making environmental sustainability a township policy.

Following that step, Bike Montclair, a cycling advocacy group, applied through the Township Council to the New Jersey Department of Tranportation program for a bicycle transportation consultant. A bicycle consultant will help the town draw up a bicycling master plan that will recommend a variety of changes in the infrastructure to make Montclair more bike friendly, including lanes painted on roadways and bike paths designated by signs.

Mayor Robert Russo said, "The whole idea is to get people to use alternatives to cars. Bicycling is the way to go. We want to get people to use less gasoline, so this whole effort is a tremendous part of our sustainability program."

In October 2003, the First Annual Tour de Montclair, a bicycle sightseeing tour, had 350 biking enthusiasts participating. The routes varied in length, depending on age and experience, topped by a challenging 15-mile tour. Montclair police escorted the tours and cleared traffic.

One participant told reporters: "It was the very first time I was able to ride with my child on the back without feeling I was taking our lives in our hands."

Bike Montclair is proposing that the town mark potential bike lane routes as designated safe lanes that automobile drivers must yield to and honor.

Environmental Outreach Coordinator Gray Russell said, "…everyone used to ride to school…and now they're all in their own individual SUVs, making it too dangerous to ride." He pointed out that the schools have major traffic jams of idling SUVs twice daily, at 7:45 and 2:15.

Bike Montclair, the Environmental Commission and the Township are working with the 13 schools in Montclair to map both safe and dangerous routes to school. These routes will show kids where it's best to bike and show parents and other motorists which routes to avoid to keep the safer routes safer for the kids.

Copies of the Sustainability Guide may be obtained by contacting Environmental Outreach Coordinator Gray Russell at 973-509-5721, or grussell@montclairnjusa.org

Bicycle and Pedestrian Resource List

PHONE AND WEB ADDRESSES

GENERAL

Federal Highway Administration, Bicycle and Pedestrian Program Office(HSR - 20, 6300 Georgetown Pike, McLean, VA 22101) promotes bicycle and pedestrian transportation use and safety. www.fhwa.dot.gov/environment/bikeped/index.htm

National Center for Bicycling and Walking works to help people create neighborhoods and communities where people walk and bicycle. 202-463-6622 or www.bikewalk.org

National Recreation and Parks Association works to advance parks, recreation and environmental conservation efforts that enhance the quality of life for all people. www.nrpa.org

Pedestrian and Bicycle Information Center (PBIC) is a clearinghouse for information about health and safety, engineering, advocacy, education, enforcement and access and mobility. 919-962-2202 or www.pedbikeinfo.org

Safe Routes to Schools is an international movement, which involves the entire community, aiming to increase the number of children walking and biking to school, decrease traffic congestion, and benefit the health and well-being of the students and the community. To order a Toolkit contact: the Thunderhead Alliance
928-541-9841 or www.saferoutestoschools.org/

Transportation Alternatives is a NYC-area non-profit citizens group working for better bicycling, walking, public transit and fewer cars. 212-629-8080 or www.transalt.org/

NEW JERSEY RESOURCES

NJ Bicycle and Pedestrian Master Plan includes the vision for goals and an action plan. www.bikemap.com/RBA

NJ Bike Map offers online maps of the state roads and bike trails and also has other links to biking groups and resources. www.NJBikemap.com

NJ Department of Transportation, Walking and Biking, has online information on events, maps and safety. www.state.nj.us/njcommuter/html/bikewalk.htm

Tri-State Transportation Campaign has information on bicycle/pedestrian funding and current issues regarding transportation alternatives. 212-268-7474 or www.tstc.org

Voorhees Transportation Policy Institute at Rutgers University has interesting articles and presentations and a useful Photo Library. 732-932-6812 ext. 697, 699 or http://policy.rutgers.edu:16080/tpi/pedbike/

FUNDING OPPORTUNITIES

NJ Department of Transportation, Division of Local Aid and Economic Development administers state aid, including Bikeways and Safe Streets to Schools, and federal aid programs to municipal and county governments. www.state.nj.us/transportation/business/localaid/index.html or Contact your District Office

District 1: Hunterdon, Morris, Somerset, Sussex and Warren Counties, 973-770-5070

District 2: Bergen, Essex, Hudson, Passaic and Union, 973-877-1500

District 3: Mercer, Middlesex, Monmouth and Ocean, 732-308-4002

District 4: Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester and Salem, 856-486-6618

NJ Farmland Preservation Program is administered by the State Agriculture Development Committee, which provides grants to counties, municipalities and non-profits to fund the purchase of development easements on farmland. 609-984-2504 or www.state.nj.us/agriculture/sadc/sadc.htm

NJ Green Acres Program acquires land for state parks, forests, naturals areas and wildlife management areas and offers low interest loans and matching grants to county and municipal governments and non-profits for open space and recreation. 609-984-0570 or www.state.nj.us/dep/greenacres

NJ Recreational Trails Program provides grants for developing and maintaining trails and trail facilities. The application deadline is usually in December. The DEP's Office of Natural Lands Management administers the federally funded program. 609-984-1339 or www.state.nj.us/dep/parksandforests/natural/

BICYCLING ORGANIZATIONS

Bikes Belong Coalition, sponsored by the American Bicycle Industry, assists local organizations, agencies and citizens in developing bicycle facilities projects that will be funded by TEA-21. 617-426-0001 or www.bikesbelong.org

Bike Plan Source, a website maintained by Tracy-Williams Consulting, has an online bicycle planning and program guide, extensive reference library, and weekly update of news and views, and access to a variety of other sites. http://www.bikeplan.com

League of American Bicyclists (LAB), the oldest bicycling organization in the US, works to promote better education and better facilities for bicyclists. 202-822-1333 or www.bikeleague.org and www.bicyclefriendlycommunity.org

Probicycle focuses on vehicular-style riding, education and training, and bicycle advocacy. http://probicycle.com

Thunderhead Alliance is a national coalition of state and local bicycle advocacy organizations working to increase the capacity of organizations advocating for better, safer cycling conditions throughout the United States. 202-822-1333 or www.thunderheadalliance.org

BICYCLE MASTER PLAN WEB LINKS

Adirondack North Country Region Bicycle Master Plan — www.adirondackresearch.com/bicycle/htoc.html

Bikability Checklist — www.bicyclinginfo.org/pdf/bikabilitychecklist.pdf

City of Marina Bike Master Plan Overview — www.lgc.org/marina/

Honolulu Bicycle Master Plan — www.co.honolulu.hi.us/dts/bikeway/

NJ Bike Master Plan — www.bikemap.com/RBA/

NJDOT Bicycle Compatible Roadways and Bikeways: Planning & Design Guide — www.state.nj.us/transportation/publicat/bike_guidelines.htm

Portland, OR Bicycle Master Plan — www.trans.ci.portland.or.us/Plans/BicycleMasterPlan/tablecon.htm

WALKING ORGANIZATIONS

America WALKs is a national coalition of walking advocacy groups dedicated to promoting livable communities where people walk. 503-222-1077 or www.americawalks.org

Partnership for a Walkable America is a coalition working to improve the conditions for walking in America and to increase the number of Americans who walk regularly. 603-285-1121 or www.walkableamerica.org

Perils for Pedestrians is a monthly television series promoting awareness of issues affecting the safety of people who walk. The site also contains links to other sites of interest for pedestrian advocates. www.pedestrian.org

Walkable Communities, Inc. works to make whole communities, or neighborhoods, business districts, parks, school districts, subdivisions or specific roadway corridors, become more walkable and pedestrian friendly. 386-454-3304 or www.walkable.org

Walk-To-School Day sets and promotes a National Walk-to-School Day in October. www.walktoschool-usa.org

STREET DESIGN AND TRAFFIC CALMING

Active Living by Design, a national program of The Robert Wood Johnson Foundation and part of the UNC School of Public Health in Chapel Hill, NC, will establish and evaluate innovative approaches to increase physical activity through community design, public policies and communications strategies. 919-843-2523 or www.activelivingbydesign.org/index.cfm

Surface Transportation Policy Project (STPP) is working to promote good transportation policy through research on the policy effects on energy conservation, environmental protection, social equity, and livable communities. 202-466-2636 or www.transact.org

www.TrafficCalming.org, a practical guide to traffic calming and neighborhood traffic management, including: International and US history, a toolbox of calming devices, measured results from traffic calming, and current programs around the world. www.TrafficCalming.org

TRAILS

National Park Service - Rivers, Trails and Conservation Assistance Program works with community groups and local and State governments to conserve rivers, preserve open space, and develop trails and greenways. 202-354-6900 or www.nps.gov/ncrc/programs/rtca/

New York-New Jersey Trail Conference is a federation of more than 85 hiking clubs and environmental organizations dedicated to building and maintaining hiking trails and protecting open space in the two states. 201-512-9348 or www.nynjtc.org

Rails-to-Trails Conservancy works to create a nationwide network of public trails from former rail lines and connecting corridors. 202-331-9696 or www.railtrails.org

EDUCATION AND SAFETY

Federal Highway Administration, Turner Fairbank Research Center does safety research for highways, bicycling and pedestrians. 202-493-3260 or www.tfhrc.gov/safety/pedbike/pedbike.htm

National Highway Traffic Safety Administration has pedestrian and bicycle safety information. 202-366-1739 or www.nhtsa.dot.gov/people/injury

National Safe Kids Campaign aims to protect children from unintentional injury. It has information on biking and walking to school and other safety measures. 202-662-0600 or www.safekids.org

HEALTH

Centers for Disease Control and Prevention, Division of Nutrition and Physical Activity has information on the health benefits of physical activity and how to promote it. 770-488-5692 or www.cdc.gov/nccdphp/dnpa

ANJEC OPEN SPACE PUBLICATIONS

Keeping Our Garden State Green: A Local Government Guide For Greenway & Open Space Planning. 1989, 57 pages. By Linda Howe. Benefits of greenways and how to preserve them; farmland preservation, trails and bikeways, public access and working with private land trusts. Specific planning tools, case studies, checklists, glossary, information resources, and ordinances. Available on loan email info@anjec.org

Open Space Plan. 2003. 12 pages. Putting an open space plan together, with outline of subjects required for Green Acres Planning Incentive Program, suggestions for funding, sources of information, factors for ranking lands for preservation, and action plan elements. Available in print or at www.anjec.org/pdfs/OpenSpacePlan.pdf

Open Space Is A Good Investment - The Financial Argument For Open Space Preservation. 2002, 12 pages. Summaries of studies that demonstrate how open space preservation costs taxpayers less over the long term than residential and commercial development. Includes economic analysis worksheet to help determine long-term costs for specific proposals. Bibliography of major studies. Available in print or at www.anjec.org/pdfs/OpenSpaceGoodInvestment.pdf

A Handbook For Public Financing Of Open Space In NJ. Revised and updated from the Trust for Public Land's 1994 edition. 2001, 36 pages. Options for local open space funding and approaches to getting an open space financing referendum on the ballot with sample resolutions, ballot questions and flyers for voter education. Available in print or at www.anjec.org/pdfs/PublicFinancingOpenSpace.pdf

STATEWIDE AND REGIONAL LAND TRUSTS

D&R Greenway protects and preserves central New Jersey's treasured open space, with several goals including promoting and helping local governments and citizens' groups implement a regional greenway network. 609-924-4646 or www.delrargreenway.org

Hunterdon Land Trust Alliance is dedicated to the preservation of the rural character of Hunterdon County. 908-996-4421 or www.hlta.org

Morris Land Conservancy is dedicated to preserving open space in northern New Jersey. 973-541-1010 or www.morrislandconservancy.org

New Jersey Conservation Foundation works to preserve New Jersey's land and natural resources for the benefit of all through acquisition and stewardship, strong land use policies and strategic partnerships. NJCF is working with Green Acres to create Garden State Greenways, a map-based vision for a network of natural lands, parks, greenways and trails throughout New Jersey. 908-234-1225 or www.njconservation.org

The Nature Conservancy is dedicated to preserving plants, animals and natural communities that represent the diversity of life on Earth by protecting lands and waters they need to survive. NJ field office at 908-879-7262 or http://nature.org/wherewework/northamerica/states/newjersey (use no www.)

Trust for Public Land works to protect land for human enjoyment and well-being, helping to conserve land for recreation and spiritual nourishment and to improve the health and quality of life for communities. NJ field office at 973-292-1100 or www.tpl.org/tier2_rl.cfm?folder_id=629

This book has been printed on recycled paper.

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