

Chapter 7: Promoting Greenway Safety

People who are unfamiliar with greenways often fear they will attract crime and lower adjacent property values. Numerous studies have refuted this; in fact, greenways are generally safer than the communities surrounding them. There are many efforts communities can undertake to ensure greenways are safe.

Careful attention to the site planning and design of particular areas such as parking lots, trailheads, and restrooms is critical in reducing safety concerns, real or perceived. There is a balance between retaining or creating a natural setting that is safe while also preserving the naturalness of an area. Design strategies include allowing clear visual access, having appropriate lighting in key areas, providing multiple access and egress points, and organizing activities to increase the number of users and “eyes on the path”.

Encouraging ownership of the greenway by involving the public in the planning process and educating them on the benefits of greenways, as well as presenting data illustrating the lack of crime and other problems is essential in gaining public support. Such public processes can often lead to an effective neighborhood watch program to monitor the greenway.

Buncombe County is establishing a non-profit entity—Connect Buncombe, which is part of the Buncombe County Service Foundation—to perform volunteer services related to promoting safe use of greenways.

Greenway Safety Studies from Other Communities

A survey done in Cary, NC, in 1995 of residents living near three greenways gauged their satisfaction with the greenways and about any problems. There was a 75% response rate and most residents felt satisfied

with the greenways and stated that problems were minimal. Studies in Mecklenburg County, NC; Denver; Seattle; Tampa; and other cities reported similar results showing less crime on greenways than the communities as a whole.

Two studies of crime statistics in Mecklenburg County show greenways have lower crime rates than the surrounding community. They found that most greenways provide a safer alternative than roads and attract local residents using the trails frequently. The first study was done in 1997 along the Mallard Creek Greenway comparing the incidence of crime with the surrounding police district and the city as a whole. The incidence of crime along the Mallard Creek Greenway and adjacent properties was nearly half that of the surrounding police district and only 12.7% of the countywide crime rate. Later, an extended study explored recent crime rates along all 14 greenways within Mecklenburg County between 2001 and 2003. The data suggest that greenway-adjacent properties do not incur greater risk of crime than other properties within the same neighborhood statistical area. On the contrary greenway-adjacent properties had lower crime rates 75% of the time.

Crime Prevention Through Environmental Design

Crime Prevention Through Environmental Design (CPTED) was authored in 1971 by C. Ray Jeffery, a criminologist at Florida State University, as he studied the relationship between the physical environment and the incidence of crime. His work was based on previous research studying how the built environment influences the rate of crime, including Jane Jacobs seminal [The Death and Life of Great American Cities](#) in 1961 and Oscar Newman’s [Defensible](#)



For the safety of users, greenways that are constructed in constrained areas may necessitate the diversion of some users to connecting roadways or other trails, such as the connection to Carrier Park in West Asheville.

Photo Credit: Don Kostelec

Space in 1973.

Designing greenways using CPTED principles has the potential to reduce crime by focusing on three interrelated principles that comprise CPTED concepts and strategies: Natural Surveillance; Natural Access Control; and Territoriality (Exhibit 4-1).

People often express fear that potential greenways will attract people who will commit personal or property crimes. An effective strategy to gain resident support as well as to reduce crime is to get nearby residents involved in the planning, design, and upkeep of the greenway to help establish a sense of ownership.

A local example of residents taking ownership of a greenway is the Friends of Hominy Creek, which was created to help develop a master plan and oversee the future greenway. The group brainstormed about the design of the greenway as well as potential uses such as an outdoor stage for performances and a community garden.

Activity Support & Maintenance

Activity support encourages increased greenway use by programming activities for users of all ages and interests. This encourages legitimate uses of the park, and is especially effective when planned for time periods of lower usage. The more people there are on a trail, the safer it will be. Chapter 6: Programs provides more details on these options.

Consistent maintenance, just like with any park setting, will help keep the greenway safer by eliminating potential hiding places through the use of regular landscape clearing and pruning. Good maintenance of the trails and facilities demonstrates that the community cares about the space and will not easily tolerate criminal behavior. See Chapter 8 on Maintenance for further information.

Buncombe County Greenways & Trails Master Plan

Implementing CPTED

It is recommended that a systematic review of CPTED principles occur during the design and review of any greenway project. In Safety by Design: Creating a Safer Environment in Virginia, the Virginia Crime Prevention Association grouped questions in the following categories:

- ◆ **Designation:** What is the intended use of the area? What behavior is allowed?
- ◆ **Definition:** Are there physical limitations to the area or site? Are borders between the area and public spaces defined? Is it clear which activities are allowed where?
- ◆ **Design:** Does the physical environment safely and efficiently support the intended use?

The City of Tampa, Florida Greenways and Trails Master Plan recommends that each greenway and trail section, whether it is being newly built or enhanced, receive a CPTED review from Police Department staff trained in the principles of CPTED. The CPTED Review consists of the following five steps:

1. **Crime Analysis Review:** This information assists the police department in determining the type of crimes that are occurring on and around the trail.
2. **Demographics:** This information describes the nature of the population around the future trail.
3. **Land Use:** City planning departments, zoning boards, traffic engineers, and local neighborhood groups have information that describes and depicts the physical allocation and use of land in and around existing or proposed trail.
4. **Observations:** Officers conduct an actual review of the physical space that has been designated as a trail segment.
5. **Resident or User Interviews:** Officers conduct interviews with persons living near the proposed trail to determine their perspective on safety.



Planned greenway corridors are oftentimes overgrown with weeds, trees and other foliage and need to be cleared not only for trail establishment but to promote safety and visibility along a route.

Photo Credit: Friends of Hominy Creek Greenway

Exhibit 7-1: CPTED Concepts & Strategies

Natural Surveillance	Natural Access Control	Territoriality
<p>Placement of physical features, activities, and people in a way that maximizes visibility and minimizes hidden and isolated areas. This allows users of a space to have views of their surroundings and of potential threats to their safety, making it more difficult for someone to perform a criminal act.</p>	<p>Methods to decrease the opportunity for criminal activity by creating a perception of risk for potential offenders and controlling access into and throughout a space. People can be physically guided through a space by strategic placement of entrances and exits, signage, fencing and other barriers, landscaping and lighting.</p>	<p>Use of physical features that express ownership and neighborhood context. People who feel a sense of ownership tend to use the trails more and monitor them for inappropriate behavior and maintenance problems. Potential offenders are discouraged when they feel inappropriate actions would be viewed and reported.</p>
<p>Natural Surveillance design strategies include:</p> <ul style="list-style-type: none"> • Locate parking lots, picnic areas, trailheads, play areas, and restroom facilities near streets and other activity centers so they are easily observable; • When possible, locate trails near areas of park activity or at places where parks meet commercial or residential uses, or align them with active streets to make users more observable by others; • Cluster compatible activities to avoid conflict and to increase social observation; • Parking areas are more prone to crime. Incorporate lighting and do not erect solid fences which block visibility and hamper escape. Limit lighting only to parking areas and trailheads rather than along the entire trail unless greenway use at night is encouraged; • Provide an emergency telephone system at parking areas and along the trails such as those near UNC Asheville on the Reed Creek Greenway; • Position benches in areas where users have good views of surrounding areas; and • Maintain landscaping at least 5-feet from the edge of trail with a mowed strip or groundcover bordering the trail. Keep trees limbed up to 10-feet high and avoid using large and dense shrub masses. 	<p>Natural Access Control design strategies include:</p> <ul style="list-style-type: none"> • Restrict access to parking areas with gates when parks are closed; • Provide clearly visible and lighted entries to park buildings such as restrooms and locate them in areas close to other activity areas. Clearly define paths between parking lots and other facilities. • Maintain at least 10-feet between greenways and wooded areas to offer long sight lines and distance from potential attacks; • Establish a clear separation between regional public trails and adjacent private property with landscaping, fencing or other screening treatments; • Throughout a trail system, and especially in isolated areas, provide clearly marked paths or exits that gives users egress options; • Through clearly marked and placed signage and gates, note the hours that the greenway is open to the public. 	<p>Territoriality design strategies include:</p> <ul style="list-style-type: none"> • Incorporating certain facilities into a greenway provides cues about appropriate uses. For example, providing children’s play areas encourages family use. • Clearly delineate between public and private property along the trail with the use of fencing, landscaping, paving, and other design features. • Reflect environmental and cultural context with elements such as gateways, signage, seating, art, paving patterns, and other features. • Provide clear directional and informational signage to orient users to the greenway layout as well as facilities along the greenway. Signs should clearly identify trail names, especially at intersections, as well as trail length and distances to facilities, location of emergency phones, and the characteristics of trails, such as wide paved trails or smaller isolated walking trails. Mile markers should be installed as well as indications of the trails intended use. • Post park rules at all access or gathering points in the park. Rules should clearly convey the acceptable uses and discourage unacceptable uses of the park.



Bicycle patrols provide flexibility in monitoring greenway activities. They can also be conducted through volunteer groups as a method of passive enforcement whereby volunteers are instructed to contact local authorities when they observe or think there is potential for criminal activity.

Photo Credit: Minnesota Public Radio

Upon completion of the review, officers recommend CPTED and security procedures that will minimize potential criminal activity on the trail and in the surrounding neighborhoods. These recommendations cover issues such as lighting, location of benches and rest stops, access to trails from roadways, and landscaping. These recommendations are incorporated into the final design of each segment. Buncombe County staff could follow a similar process in the review of greenways.

Law Enforcement & Patrols

In addition to the above CPTED principles, it is essential that either law enforcement or designated enforcement volunteers patrol greenway parking lots and trails. Bicycle patrols are particularly effective because they have more flexibility to monitor the entire greenway systems and their presence is a good crime deterrent.

Community Watch Programs

Many cities with a greenways system have groups and individuals who volunteer to patrol the trail and do special projects such as litter cleanups and tree plantings. In Boulder, Colorado, there are Greenways Walkers who frequent the greenways and are encouraged to pick up trash and report maintenance problems to the Street and Bikeway Maintenance hotline. The Midtown Greenway Coalition in Minneapolis has an organized Trail Watch with riders scheduled for two-hour evening shifts to ride the greenways to provide a friendly presence and report any incidents. Incentives are offered by local bicycle shops and restaurants to encourage people to volunteer. They also have an “Adopt a Greenway” Program with over fifty groups volunteering to help with litter cleanups and landscape planting and maintenance. Buncombe County could advocate and provide support for the formation of community watch

Buncombe County Greenways & Trails Master Plan

groups that will monitor the greenways.

In some communities, social media is becoming an effective tool as a grassroots community relations vehicle for fighting crime. This was recently demonstrated in West Asheville where a string of home invasions inspired local residents to organize the West Asheville Watch using social media to communicate information on crimes that have occurred and how to stay safe. Having an online forum for greenway users to post safety information as well as to advertise events would be beneficial.

Safe Routes to Schools

Healthy Buncombe and the County’s Parks, Greenways and Recreation Services are managing programs to create safer ways for children to walk or ride to school to minimize risk, combat obesity, and decrease traffic congestion and pollution. The first Safe Routes to Schools program in the United States was adopted in the Bronx, NY in 1997 and has since spread throughout the country. A Safe Routes to School (SRTS) program is a school-based effort that involves young students, teachers, law enforcement officers and parents in the development of school safety and encouragement initiatives such as Walk to School Day, Walking Wednesdays, pedestrian safety assemblies, and bicycle rodeos.

While these programs can help engage children in safe walking behaviors and encourage more walking and healthier lifestyles, parents may have non-infrastructure concerns over the safety of their children particularly along greenway corridors where there may not be as many “eyes on the street”. Therefore, the principles of CPTED should be considered as SRTS programs are implemented and greenways constructed adjacent to school properties.

Black Mountain is one of six communities in North Carolina selected to complete a SRTS action plan. The action plan team is conducting analysis of existing conditions and prioritizing engineering solutions surrounding the study schools. The plan will guide the community and school system in the development of facilities and programs to encourage more children to walk or bike to school in a safer environment. This model should be expanded in Buncombe County so all schools can be studied and improved through the SRTS methodology and funding. Any schools near planned greenways should be prioritized for SRTS funding and coordinated with local SRTS action plans, with consideration of CPTED principles.

Sharing the Greenway

Physical safety of users is also a concern on greenways and trails due to a wide variety of user types, persons traveling at different rates of speed, and inexperienced users. Many users will perceive riding on designated bicycle paths as a safer alternative to riding on unmarked streets and roads; however, their skills in operating a bicycle and how other users respond to them can create safety concerns.

Offering instruction on how to safely bicycle on the greenway is important for people to learn proper riding techniques, greenway etiquette, safety awareness, and how to avoid collisions, especially at street or other trail intersections. Learning to navigate to the greenway along streets is important to help people feel confident and encouraged to use the greenways. Bicycle rodeos can be held to teach children how to safely ride a bicycle and learn the rules of the road. Campaigns advocating the use of helmets for all users should be a critical part of any bicycle safety program.

Buncombe County and its partners have been in-

involved in various bicycle training courses, particularly through the League of American Bicyclists. The focus on road-riding skills within the training modules leaves a gap in the community in teaching proper skills and etiquette of bicycle riders and other users along greenway trails. It is recommended that the county work with its partners to develop a greenway-specific training module for users to be deployed through schools, scheduled training sessions and public awareness campaigns.

The interface of greenways with the street and highway system can also generate safety concerns among users if not designed properly. Even at the most well-designed locations, high volumes of vehicular traffic can become a deterrent for young users. It is important to consider how signage and markings help encourage safe use of all users, particularly at locations where greenways intersect with other greenways, trails or streets.

Community groups can be encouraged to help as crossing guards at the greenways. In the Brightmoor neighborhood of Detroit, citizens have effectively organized to act as crossing guards at busy intersections. As greenways develop in Buncombe County, neighborhood volunteers could be recruited to volunteer as crossing guards. At intersections deemed to be “busy” or potential problematic for pedestrians or bicyclists, there is already a precedence for this as many schools place crossing guards at busy intersections.

Buncombe County and its partners should work to develop greenways-specific training modules to promote safe usage and consideration of other users.

Organize a Training Program

Buncombe County and its partners could develop a training program for new volunteers, design and



Safe Routes for Seniors recognizes that older adults have physical and cognitive challenges when trying to walk or ride a bike. Greenways provide opportunities for physical activity and a place to conduct training programs to make seniors comfortable in using trails.

Photo Credit: Streetfilms.org

Chapter References

- Lauren A. Tedder. *Effects of Three Cary Greenways on Adjacent Residents (1995)*., University of North Carolina at Chapel Hill. Spring 2000
- Walter Martin, Tom Ludden, Owen Furuseth, and Shane Nixon. *Preliminary Assessment of Crime Risk along Greenways in Charlotte, North Carolina*. Department of Geography and Earth Sciences University of North Carolina at Charlotte. 1994-2004
- Virginia Crime Prevention Association. *Safety by Design: Creating a Safer Environment in Virginia*. 2005
- Tampa Greenways and Trails Master Plan. *Crime Prevention Through Environmental Design Review*. 2001
- Midtown Greenway Coalition website. Minneapolis, MN

planning professionals, contractors, and other partners who wish to design and construct trail facilities, work on maintaining trails, and conduct programs along the greenways. This promotes consistent design and management skills; ensures volunteers, designers and contractors are up to date on the latest rules, regulations and design standards; and promotes discussion of new design, maintenance and program ideas. The training program would provide educational opportunities and resources to educate people about greenways and make sure trails are constructed and maintained to a high standard of safety and accessibility. Since there is an increased reliance on volunteers, such a training program would help keep the volunteers safe as well as improve safety for trail users.

A model for a comprehensive program is the National Trails Training Program (NTP) which is a forum of diverse trail organizations and federal agencies whose mission is to improve opportunities for training for the nationwide trails community. They provide an internet-based clearinghouse of information and resources and offer an array of courses ranging from trail construction to safety practices, and compliance with the Americans with Disabilities Act (ADA).

Within NTP's website, there are specific forums addressing safety and accessibility. The Safe Trails Forum helps promote safety for users by offering education on improving the user experience through improved trail design and maintenance, understanding legal concerns and reducing liability, decreasing shared-use path conflicts, and reporting crime and accidents.

The Buncombe County greenways training could incorporate elements of the NTP program and provide a link to their website on the Connect Buncombe and Buncombe County websites. Buncombe County could

develop a standardized greenway curriculum to present background information to new volunteers, homeowners adjacent to new or proposed greenways, schoolchildren, designers and contractors, and other interested partners. Such a curriculum would include the definition and benefits of greenways and the vision for the Buncombe County Greenways Master Plan. Specific workshops related to construction, maintenance, and safety could be offered periodically. Buncombe County could develop an information clearinghouse that relates specifically to local greenway management topics. An assessment checklist could be developed for volunteers and others for ongoing greenway evaluation and maintenance.

An example of a greenways training program is the Georgia Trails and Greenways Program which focuses on unpaved trails. The Georgia Trails and Greenways office coordinates trainings on trail construction, trail maintenance and trail education.

Safe Routes for Seniors

As Safe Routes for Schools has been very successful in creating a safer pedestrian environment for children, another group that is more susceptible to pedestrian-related conflicts with cars is senior citizens. They tend to have more mobility difficulties and sensory changes as they age. By constructing greenways and connecting them to neighborhoods, we can provide increased opportunities for senior citizens to safely and comfortably experience the health benefits of walking and bicycling. The idea for Safe Routes for Seniors originated in New York City where they found senior pedestrians were killed at a disproportionate rate to other age groups.

They developed a Safe Routes for Seniors program which has dramatically reduced the number of deaths and injuries among senior pedestrians.