

**07 APPENDIX C:
SAFETY AND
SECURITY**





Heritage Trails, Billings, MT

PHOTO: ELIZABETH BISEGNA

The Heritage Trail system in Billings, MT includes highly visible facilities with long sightlines and wide lateral clearance.

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED)

Crime Prevention Through Environmental Design (CPTED) is a proactive practice in which the design and effective use of the built environment can lead to a reduction in the fear of and incidents of crime and a social behavior, and an improvement in the quality of life. In contrast to the approach of addressing crime concerns by implementing visually affronting security or target-hardening measures such as locks, hard barriers, security gates, and security patrols, CPTED promotes high quality and visually pleasing solutions as first responses that aim to enhance the legitimate use of space. Crime Prevention Through Environmental Design (CPTED) can be applied without interfering with the normal use of the space. It is easy to apply and can be economical to implement, especially if it is done early at the planning and design stages

of a project. It is very important to realize CPTED principles only reduce the opportunity for crime; crime prevention and social programs should be implemented to tackle the underlying cause of crime in communities. These steps work in conjunction to create a safe environment to work, live, or play.

Natural Surveillance

Increasing visibility by occupants, neighbors and casual observers increases the detection of unwanted behavior. For instance, if a high opaque fence blocks the view of a trail, the lack of visibility may invite behavior that impacts trail users negatively. Conversely, the use of transparent fencing that allows an unobstructed view of the area by users or passers-by may discourage unwanted



Albion Park, Los Angeles, CA

PHOTO:ELIZABETH BISEGNA

At Albion Park in Los Angeles, fences and vegetation help to define the path and limit access to the adjacent rail without obstructing sight lines.

behavior. Positive natural surveillance along trails includes maintaining open sightlines both laterally and longitudinally, using transparent fencing where fencing is desired, keeping vegetation maintained, and working with adjacent businesses, residents, and other uses to provide unobstructed views to the trail (“eyes on the trail”). Trail lighting, used in combination with other Crime Prevention Through Environmental Design (CPTED) principles, can be a successful strategy for improving natural surveillance by other users and adjacent uses.

Natural Access Control

Natural access control employs both real and symbolic barriers—including fences, berms, and vegetation—to define and limit access to an adjacent building or other use along trails. For example, if there are adjacent apartments along a trail, a low berm or vegetated buffer could be planted that still allows natural surveillance from the buildings onto the trail but provides user access control between the apartments and the trail, delineating the two uses.



Hudson River Greenway, New York City

PHOTO: ELIZABETH BISEGNA

Manhattan's Hudson River Greenway uses distinctive surface treatment, inviting amenities, wayfinding, and public art to reinforce the sense of public space.

Territorial Reinforcement

This is the process of establishing a sense of ownership, responsibility, and accountability for the public trail, and to impress upon visitors that a space is cherished by its neighbors. Users pay more attention to and defend a particular space if they feel psychological ownership of it. Territorial reinforcement measures, which may be physical or symbolic, tell people they are in a defined public space. Territorial reinforcement along trails can use color, texture, and hardscape variations to signify that the trail is public. Branding techniques used by the City are also successful strategies, such as signage and wayfinding systems. Public art on trails is also a positive method of territorial reinforcement, as it provides a message of public or civic space to users.

Maintenance

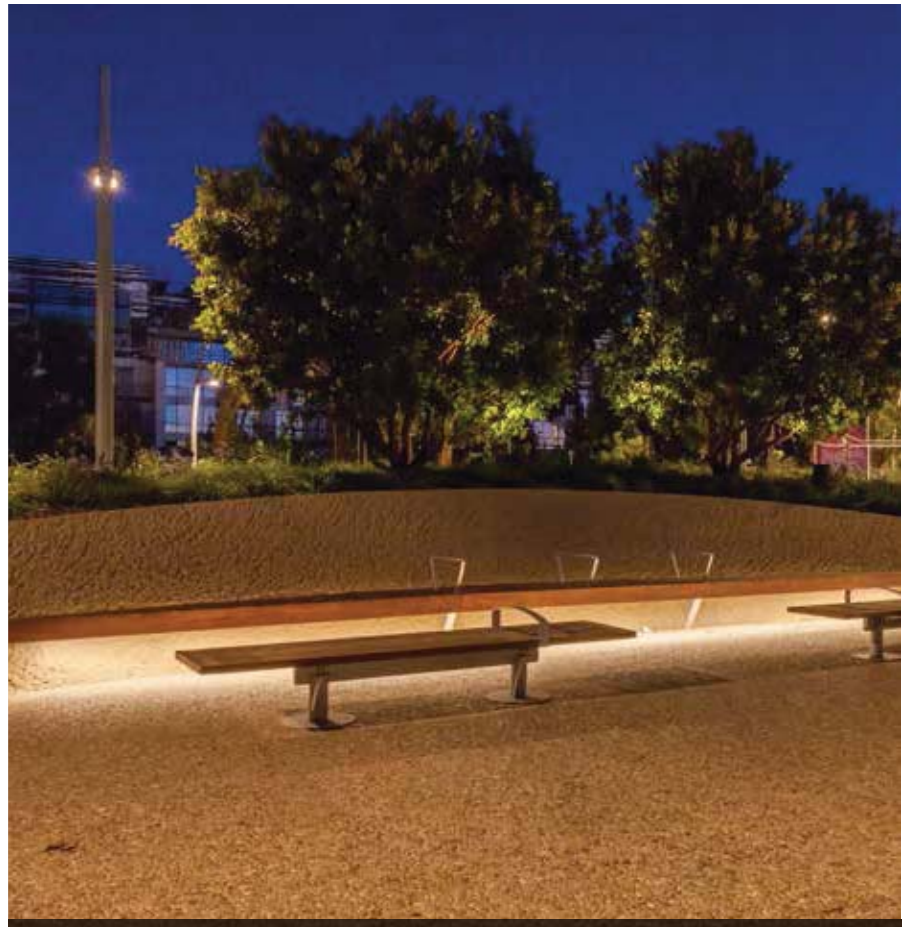
Neglected property can encourage mistreatment, while the well-maintained property will elicit proper treatment. This strategy directly impacts the fear of crime in a community due to residents' perceptions of responsibility and caring in the neighborhood. Examples of proper maintenance include the immediate removal of graffiti or repair of vandalism, keeping landscape regularly maintained to limit areas of concealment, weed abatement, tread repair and painting worn adjacent buildings.



Tongva Park, Santa Monica, CA

PHOTO:HLB LIGHTING [HTTPS://HLBLIGHTING.COM/PROJECT/TONGVA-PARK/](https://hlblighting.com/project/tongva-park/)

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PHOTO:[HTTPS://WWW.CALIFORNIABEACHES.COM/ATTRACTION/TONGVA-PARK/](https://www.californiabeaches.com/attraction/tongva-park/)

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Tongva Park in Santa Monica, CA is well-lit and inviting after dark.

Security Lighting on Trails

When used in combination with other CPTED principles, lighting can be an effective tactic for improving security and reducing the likelihood of unwanted behavior. Lighting provides a choice for how to use trails during non-daylight hours. The goal of lighting trails for security is to make a place unattractive or uncomfortable to offenders while also providing a sense of security and attracting the intended use of trails. Properly lit trails should be easy to observe, eliminate potential hazards at intersections or access points, attract use and enhance other environmental design techniques.

When considering lighting on trails, the appropriate quality and quantity of lighting must be used. Artistic or low-level landscape lighting, while attractive, is not security lighting. Security lighting must be able to aid in the identification or detection of potential unwanted behavior. Contrast, glare, illumination, lighting controls and color rendering will provide the best opportunity to reduce unwanted behavior and welcome the intended use of the trail.