

# Employing Crime Prevention through Environmental Design in the NJ Safe Routes to School Program

## A Review of Literature and Recommendations



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# Executive Summary

The New Jersey Safe Routes to School (NJ SRTS) program has empowered over 300 New Jersey communities to enhance the safety of walking and bicycling routes to elementary and middle schools. SRTS interventions and recommended actions in New Jersey have focused primarily on conflicts between pedestrians and vehicular traffic. A focus on traffic-related dangers is likely appropriate in most communities, as 37 pedestrians aged 0 to 14 years were killed in vehicle crashes on New Jersey roadways during the 5-year period between 2011-2015.<sup>1</sup>

However, the objective of SRTS is not only to improve traffic safety, but also safety from all potential dangers. Some New Jersey communities have identified crime, harassment, bullying, and other forms of disorder as dangers to children walking and biking to and from school. Furthermore, existing research, including a 2015 NJ SRTS Resource Center study on three New Jersey municipalities, suggests that victimization and abduction and fear of victimization and abduction, often discourage active transportation to school. Despite community concerns and research findings, few SRTS interventions are primarily intended or promoted as measures to prevent victimization and abduction.

This report explores evidence that SRTS programs should address crime-related issues and considers whether Crime Prevention Through Environmental Design (CPTED) is an appropriate planning framework for enhancing the personal safety benefits of SRTS programs. CPTED has been successfully employed in a variety of contexts since emerging in the 1970s, and has recently been the focus of numerous neighborhood and city-wide planning initiatives throughout New Jersey.

Though the theory and practice has evolved since emerging in the 1970s, CPTED may be generally defined as the design or modification of the built environment to deter criminal behavior by influencing offender decisions. In more recent years, CPTED practitioners have expanded the concept to include social arrangements that function in concert with physical design to prevent crime.

After providing background on the practice of CPTED, this report assesses the relationship between actual and perceived crime and walking and biking to and from school; analyzes New Jersey School Travel Plans for crime-related concerns and recommended solutions; reviews the negative impacts of victimization on children and their communities; and presents national examples of CPTED-related solutions applied to school routes. Finally, this report makes recommendations for research and demonstration projects that can serve as steps toward successfully incorporating CPTED assessment tools and strategies into SRTS plans and interventions.

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<sup>1</sup> New Jersey State Police, (2015). 2015 Fatal Motor Vehicle Crash Comparative Data Report for the State of New Jersey. p. 7. Retrieved from [http://www.njsp.org/info/fatalacc/2015\\_fatal\\_crash.pdf](http://www.njsp.org/info/fatalacc/2015_fatal_crash.pdf)

# Overview of CPTED

The roots of CPTED are generally traced to Jane Jacob's 1961 publication, *The Death and Life of Great American Cities*, which suggests that urban design influences crime and safety. In the early 1970's several publications further articulated this concept, including architect Oscar Newman's 1972 work *Defensible Space; Crime Prevention Through Environmental Design*, which considered how physical design in public housing facilities contributed to an environment of crime and disorder. The concepts and proposed interventions introduced in early CPTED works are based on the premise that offenders exhibit rational behavior (Saville and Cleveland). Offenders evaluate alternative courses of action, weigh risk and rewards, and assess targets. As these assessments are made, the offender decides whether to pursue or abandon the criminal act. CPTED presupposes that cues in the physical environment may affect this decision-making process.

The strategies proposed in early works are generally referred to as First Generation CPTED and focus on the assertion of ownership or control over a space by legitimate users. The categories of strategies that emerged during this period are described briefly below<sup>2</sup>:

- **Territoriality:** Turning a space, whether public, private, or semi-public, over to legitimate users so they adopt ownership. Signs of ownership signal that the space is not available for illegitimate use.
- **Access Control:** Controlling who goes into or out of a space, focusing on entry and exit points.
- **Image:** Properly maintaining and managing an area to indicate that the space is valued and cared for and illegal activities will not be tolerated.
- **Natural Surveillance:** Enhancing sight-lines and putting "eyes on the street". Distinct from organized surveillance, such as street patrols, or mechanical surveillance, such as security cameras.

First generation CPTED evolved in the 1980s to incorporate new but related strategies that often include larger urban planning considerations. These are referred to as "Advanced 1<sup>st</sup> Generation CPTED" and include:

- **Incompatible Land Uses:** Consideration of land use types, diversity, and adjacencies and influence on opportunities for crime. For example, the location of liquor stores near schools.
- **Movement Predictors:** Consideration of how pedestrian and cyclist routes allow offenders to easily predict a potential victim's path of travel.
- **Activity Support:** Filling a place with legitimate users to claim ownership and reduce the ability of criminals to commit crimes without being witnessed.
- **Displacement:** Consideration of the displacement of crime from one area to another area due to CPTED interventions, as well as positive displacement of activities that may clash with other activities that may clash with other activities and generate conflict. For example, a community might build a skate park as a solution to teenagers skateboarding in a grocery store parking lot

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<sup>2</sup> 1<sup>st</sup> and 2<sup>nd</sup> Generation CPTED strategy descriptions were synthesized from descriptions provided in *SafeGrowth, Creating Safety & Sustainability through Community Building* and *Urban Design and Crime Prevention Through Environmental Design Toolkit* (2015).

In the 1990s, a second generation of CPTED emerged that attempts to proactively prevent crime by fostering social arrangements. Second Generation CPTED focuses on the social motives and cultural dynamics that drive criminal activity (Saville and Mangat). Saville and Cleveland remind us that the significance of Jane Jacob's "eyes on the streets" is not so much the sightlines and the streets, but the eyes which represent a community of watchers. While First Generation CPTED strategies attempt to influence the decision of the rational offender, the interventions are only fully activated through resident participation and sense of responsibility for the space around them. Saville and Cleveland give the example of the cul-de-sac; the effectiveness of inward-facing houses in reducing burglaries depends not only on a physical layout that increases natural surveillance, but also on the social dynamics between residents. Second Generation CPTED employs four additional strategies:

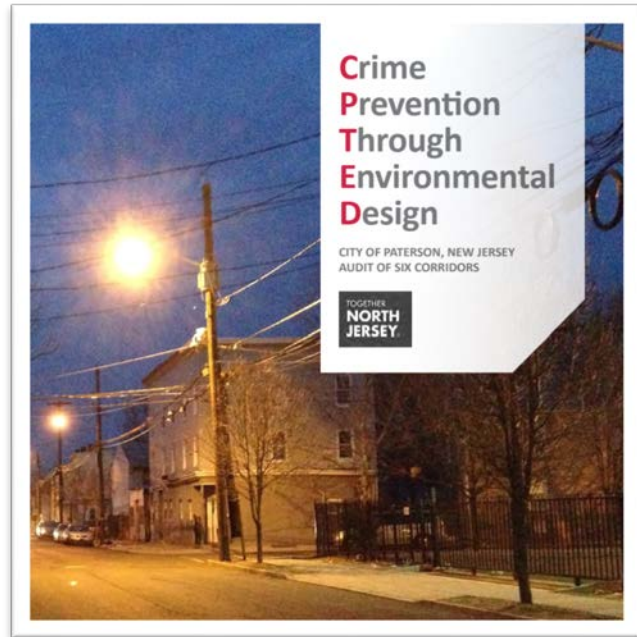
- **Cohesion:** Enhancing supportive relationships between residents, merchants and other key participants in a neighborhood by increasing community members' problem solving and conflict resolution capacity and empowering them to take communal action.
- **Connectivity:** Fostering formal and informal communication and relationships with outside parties, such as law enforcement officials, local elected officials and potential funders.
- **Culture:** Using place-based cultural expression, such as murals and music festivals, to instill a sense of pride and ownership in the local community.
- **Capacity:** Balancing activities or land uses so that a community does not reach a tipping point. For example, a single liquor store may be of no consequence, but a large number of bars and liquor stores in one neighborhood may lead to a rise in public disorder.

CPTED interventions begin with an assessment of assets and liabilities. Methods for gathering information include focus groups and round table discussions, safety audits with local residents and business owners, surveys of community members, crime mapping, and analysis of police calls for service and crime report summaries (Saville and Mangat). Safety audits involve community representatives assessing a site to identify factors that impact feelings of safety with a facilitator making note of observations. Safety audits are coupled with site assessments, in which CPTED professionals identify factors that impact actual and perceived safety of a site for potential users and explore data on broader social and economic issues (Coe, 2005).

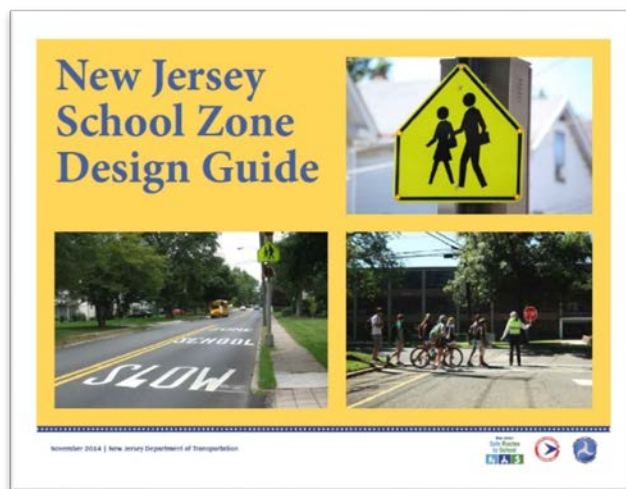


# Personal Safety Planning Efforts in New Jersey

The recommendations in this report build upon past efforts to enhance safety in New Jersey communities through local planning. In 2014, the HUD-funded Together North Jersey (TNJ) planning consortium hosted a series of TNJ and LISC-sponsored CPTED training workshops at the request of several community-based organizations (CBOs) serving disadvantaged communities. In addition, the City of Paterson conducted a TNJ-sponsored study that involved CPTED training, community outreach and engagement, and identification of potential changes to the physical environment in six high-crime areas. This process resulted in the *Crime Prevention Through Environmental Design Toolkit* (Together North Jersey, 2015), which serves as a guide for planning and designing safer streets. Internationally recognized SafeGrowth® instructor Greg Saville led the TNJ CPTED training workshops.



In 2008, NJDOT launched the New Jersey SRTS Urban Demonstration Program, which provided technical assistance to schools in three disadvantaged communities – Newark, Trenton, and Camden. As in many disadvantaged, urban communities, the majority of students walk or bike to and from the selected schools. The program resulted in six SRTS Action Plans which frequently identify risk of crime and disorder as primary concerns but provide few recommendations that specifically address those dangers.



The New Jersey Department of Transportation’s (NJDOT’s) 2014 *New Jersey School Zone Design Guide* devotes a chapter to applying CPTED strategies in school zones. The guide’s recommendations focus on the school grounds and the immediate surrounding area rather than the entire school zone. The recommendations are also restricted to 1<sup>st</sup> Generation CPTED interventions, defined in the guide as (1) the ability to survey surroundings, (2) the ability to control access, and (3) the creation of a sense of ownership and school community identity.

# Crime and Fear of Crime as Barriers

A review of research literature suggests that objective (actual) crime and perceived crime are barriers to walking and biking in general and for school-related walking and biking specifically. The research presents mixed evidence on the direction and extent of the correlation between crime and walking. This is likely due, in part, to personal confounding factors, such as gender, income, and car ownership, and to neighborhood confounding variables, such as walkability and location of desirable destinations that generate pedestrian trips but may also attract criminal activity (Foster et al., 2014). Mixed findings do not indicate a lack of empirical basis for treating crime as a barrier to active transportation to school. Rather, a synthesis of the literature reveals that identifying the presence of personal and neighborhood-level factors in a given community is critical to guiding appropriate interventions.

Several studies find a negative correlation between neighborhood objective violent crime rates and walking (Gomez et al. 2016; Lachapelle and Noland, 2015; McDonland, 2008b; McMillan, 2006). A study of minority adults in Oakland, California found a significant negative association between objective violent crime and minutes walked per day (McDonald, 2008a). A study of adults across New Jersey found that “violent crime is associated with concerns about walking at night, especially for women” (Lachapelle and Noland, 2015). There is also evidence that individuals who perceive their neighborhoods to be safe are more physically active (Gomez et al., 2004; Harrison et al., 2007). A survey of more than 1,600 individuals in Forsyth County, North Carolina and Jackson, Mississippi found that individuals “perceiving less crime in their neighborhood were more likely to be active than to be inactive for leisure physical activity” (McGinn, 2008).

The association between crime and outdoor physical activity varies by gender. Doyle et al. (2006) found that “the gender difference in the odds of walking was over twice as great in high-crime areas as in low-crime areas”. Gomez et al. (2004) found that “density of violent crime within 1/2 mi of home was inversely and significantly associated with girls' outdoor physical activity,” but did not find the same for boys. A study of parent concerns in the Los Angeles-Riverside-Orange County metropolitan statistical area found that parents of boys and older children were less likely to be concerned about crime and traffic speed than were parents of girls and younger children (Seraj et al., 2012). In a New Jersey SRTS Resource Center study on barriers to walking and biking to middle schools in three suburban New Jersey municipalities, parents of female children in particular commonly cited fear of abduction and sexual offenders as a primary concern (Sweeney and Von Hagen, 2015).

Some studies found a *positive* correlation between crime and walking. Foster et. al (2014) observes that the correlation between crime and walking seems to be “a function of living in a more walkable environment, as the presence of destinations has the capacity to both promote walking and attract crime.” In their study of adults across New Jersey, Lachapelle and Noland (2015) observed that crime and walking were positively associated for non-discretionary trips among low-income individuals and individuals that did not own a car. They further point out that these individuals were sometimes deterred by crime, limiting their mobility, and that when they did have to walk they exposed themselves to danger and stress due to the high crime in their neighborhood. A study of about 1,200 predominantly

minority adults living in urban low-income housing in Boston found that "residing in a neighborhood that is perceived to be unsafe at night is a barrier to regular physical activity" (Bennett et al., 2007).

Existing research on crime and walking and biking to school focuses mainly on parents' perceptions of danger. Parent's fear of abduction and kidnapping seem to be the greatest barrier to allowing children to walk or bike (Ahlport et al., 1998; Eichelberger et al., 1990; Stewart et al., 2012; Sweeney and Von Hagen, 2015). Perceptions among parents of the likelihood of abduction or kidnapping are greatly inflated. A survey of more than 400 parents across the US with children under 13 showed that "about 1/3 of parents thought risk of kidnapping was higher than death in a car crash" (Eichelberger et al., 1990). In their study of perceptions of parents of students in New Jersey, Sweeney and Von Hagen found that the primary concern in two suburban municipalities was abduction, though few parents mentioned this concern in a third community that exhibits a "grid system, walking community, and higher residential density". In contrast to parents, most interviewed students stated that traffic was their primary concern rather than abduction. Fear of stigmatization by other parents as an "irresponsible parent" also discourages parents from allowing children to walk or bike to school (O'Brien et al., 2000; Whitzman et al., 2010).

While most reviewed studies on school travel assess perceptions of crime, Zhu and Lee (2008) examined objective crime and walkability in the attendance area for 73 public elementary schools in Austin, Texas, finding that low-income areas have greater neighborhood level walkability but also greater danger from traffic and crime and poorer street-level walkability. This has important implications for SRTS programs, considering that children from low-income families are twice as likely to walk to school as children from higher-income families (McDonald, 2008b).

A review of 58 New Jersey community School Travel Plans suggests that crime has been identified as an issue or concern primarily in lower-income, urban school districts.<sup>3</sup> The vast majority of issues identified in the 58 plans concern walkability and pedestrian-vehicle conflicts. Some of these issues, though not directly crime-related, represent signs of disorder and are therefore relevant to CPTED. Such issues include broken sidewalks, litter, inadequate lighting, and others. Both urban and suburban communities reported such signs of disorder. Several, primarily urban, communities identified criminal



<sup>3</sup> New Jersey Safe Routes to School. Existing School Travel Plans. <http://www.saferoutesnj.org/resources/stp/school-travel-plans/>



activities and personal safety-related signs of disorder as major concerns. Table 1 shows the number of School Travel Plans that identify crime and disorder-related issues and concerns.

There were 12 School Travel Plans that listed crime as a concern: two schools in Camden, two in Montclair, five in Newark, and three in Trenton. The six NJ SRTS Urban Demonstration Projects in Camden, Newark, and Trenton all listed crime as a concern. The most commonly listed concerns were vandalism, theft, drugs, loitering, and men harassing girls. Other concerns that were listed by at least one community were lack of police presence, squatters, gangs, prostitution, shootings, and a high number of registered sex offenders in the neighborhood. The crime-related concerns identified by the Urban Demonstration Project schools did not differ from those of the other schools that had crime concerns.

**Table 1: Number of School Travel Plans identifying crime-related issues and concerns**

Issues/Concerns	Number of Plans (out of 58)
<b>Signs of Disorder</b>	
Uneven/broken sidewalks	21
Need a crossing guard	19
Vegetation overgrowth	19
Sidewalk obstruction	16
Missing/broken signals and signage	16
Inadequate lighting	14
Vacant buildings	10
Litter/trash	10
Negative land uses	2
<b>Personal Safety Concerns</b>	
General Crime	6
Personal safety	7
Stranger danger/abduction/sexual offenders	6
Bullying	3
Loitering	6
Vandalism	5
Theft/bike theft	5

Two generalized categories of challenges emerge from the reviews of research literature and School Travel Plans. New Jersey’s diverse communities may exhibit any combination of built environment and socio-economic characteristics, crime rates, and student pedestrianism rates; however, for conceptual purposes, SRTS-related personal safety challenges may be categorized as suburban community challenges or urban community challenges.

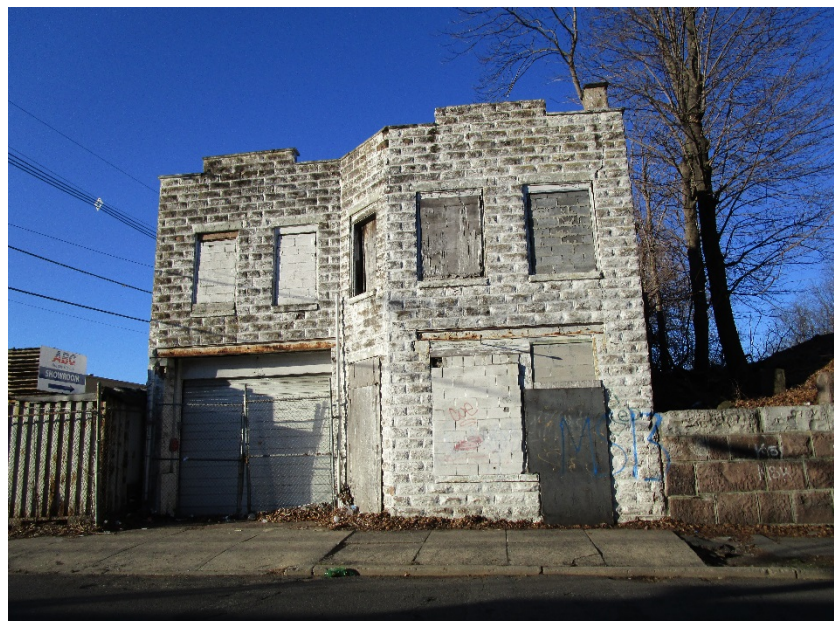
In the typical lower-density, suburban community, parents fear crime, particularly abduction and sexual predation, despite relatively low crime rates, and walking and biking rates are low. In these higher-income areas, walking or biking is likely to be discretionary. In the typical higher-density, lower-income urban community, many or even most students walk or bike to and from school despite fear of crime, high objective crime rates, and other forms of disorder in the area. Walking and biking may be more common due to a lack of vehicle ownership, lesser flexibility in parents’ schedules, and greater neighborhood-level walkability. Street-level walkability, however, may be deficient.



In communities that exhibit characteristics of the relatively low-crime, suburban area, encouraging active school transportation may require correcting parents' perceptions of danger and emphasizing the personal safety benefits of standard SRTS interventions. For example, an ongoing walking school bus program originally proposed as a means of reducing danger from vehicle traffic could be re-promoted as a personal safety measure. In relatively high-crime, urban areas, practitioners may prefer to target CPTED interventions toward reducing actual incidents of crime and eliminating signs of

disorder. Doing so will reduce dangers, as well as the psychological toll, of walking in high-crime and disorder areas. In the urban context, physical modifications of the built environment, such as maintenance of abandoned properties, are more likely to be appropriate CPTED interventions.

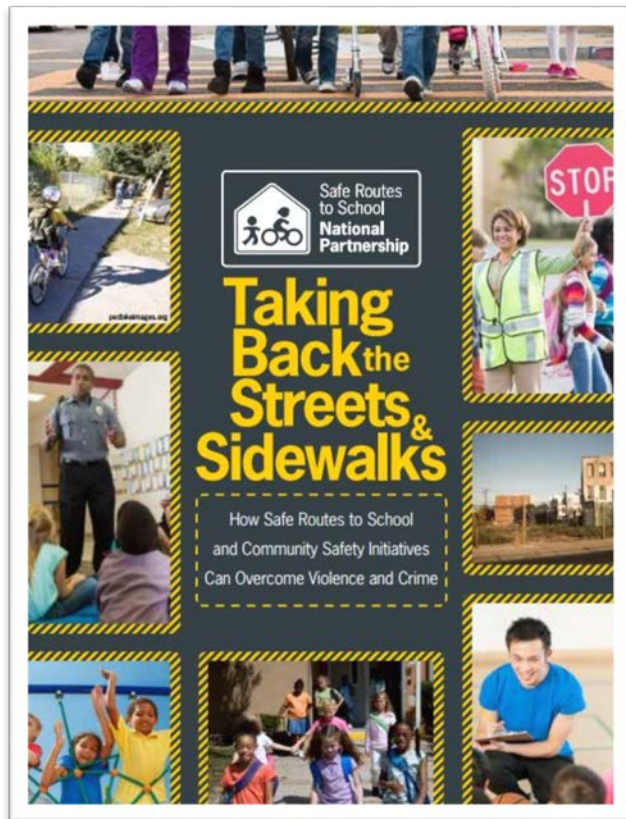
Existing research literature on crime and walking and biking in low-income, urban communities reveals a connection between personal safety and general neighborhood conditions. Personal safety is often affected by compatibility of land uses and the level of maintenance of pedestrian infrastructure, other public facilities, and private property. Incorporating CPTED into SRTS could serve to further general urban redevelopment efforts in disadvantaged communities by making the case for addressing signs of disorder (e.g. vacant properties or sidewalks in a state of disrepair).



# Impacts of Violence on Children

In addition to inhibiting physical activity, crime, especially violent crime, can have broader, long-term consequences for a community, especially when children are the victims. The Safe Routes to School National Partnership's *Taking Back the Streets & Sidewalks* provides an overview of research literature on the health, educational, and social consequences of violence suffered by children. Exposure to violence can have serious mental health effects that persist into adulthood. Children may suffer from elevated stress levels, post-traumatic stress disorder, and other long-term health problems. Exposure to violence is also associated with increased, long-term, physical health risks (Lieberman and Zimmerman, 2015, pp. 7-10).

In addition to reduced physical activity, violence and fear of violence can lead to other detrimental health-related behaviors such as substance abuse, risky sexual behavior, and suicide. When violence and crime discourage outdoor physical activity, public spaces become underutilized, leading to greater opportunities for criminal and violent behavior. Exposure to violence damages the overall fabric of a community, as people withdraw from the public sphere and children exposed to violence withdraw from friends and families. Victimization also impacts academic performance. Children exposed to violence may exhibit reduced ability to participate in class and may be more likely to miss school (Lieberman and Zimmerman, 2015, pp. 7-10).



# Scan of Case Studies and Best Practices

A review of literature provides no evidence that the CPTED framework has been explicitly employed to enhance the safety of school routes, although many programs, including SRTS, employ measures that fall under the CPTED umbrella. Safety on school grounds has been the subject of much research and guidance materials. A limited number of publications provide guidance on applying CPTED solutions to enhance school safety (Fennelly and Perry, 2014; Kuenstle et al., 2003; Schneider et al., 2000). CPTED recommendations in the *New Jersey School Zone Design Guide* focus primarily on interventions on school grounds and the immediate surrounding area.

Several publications provide guidance on the application of CPTED-related strategies to enhance the safety of school walking and biking routes, several of which focus on incorporating these strategies into SRTS programs. The Safe Routes to School National Partnership has published two guides on reducing crime and fear of crime through SRTS interventions, such as walking school buses, parent watches or corner captains, establishing safe houses along school routes, partnering with local agencies and organizations, and cleaning up graffiti and abandoned properties (Lieberman and Zimmerman, 2015; Safe Routes to School National Partnership). A guidebook for implementing SRTS in Minneapolis makes recommendations for addressing exaggerated perceptions of crime (City of Minneapolis). A publication prepared by the National Center for Safe Routes to School (2010) provides guidance on the planning process for enhancing personal safety in SRTS, in addition to recommending strategies. The guide recommends convening diverse stakeholders, gathering information on local crime data, and making use of any existing anti-violence programs in the community.

There are numerous examples of successful programs that deal specifically with preventing crime along school routes. One such program is Safe Passage, which uses professionals or volunteers to staff designated school routes during arrival and dismissal times. Safe Passage programs are active in



Chicago, Los Angeles, and Belmont, California. The program in Chicago, which makes use of paid staff, seems to be the most developed and widely applied (Chicago Public Schools). The program in Los Angeles uses parent volunteers and law enforcement officers, and the program in Belmont uses parent volunteers and professional gang interventionists on designated routes (Urban Peace Institute). Though not called Safe Passage, the WalkSafePHL program in Philadelphia operates similarly, using parent volunteers (City of Philadelphia). A handbook from the Urban Peace Institute discusses integrating the Safe Passage program into SRTS programs (Espinoza, et al. 2015).

Some communities have incorporated personal safety-specific measures into SRTS

programs. A publication by the Safe Routes to School National Partnership on implementing SRTS in low-income communities profiles initiatives undertaken to reduce fear and improve personal safety of students walking and biking to school. Several of these initiatives were introduced as part of SRTS programs, including an effort in Flagstaff, AZ to enhance safety in a community park by introducing a police presence and a walking school bus (Gavin and Pedroso, 2010). In Detroit, AmeriCorps partners with SRTS programs to clean and board up vacant properties in identified crime hot-spots around schools (Michigan SRTS Program). However, personal safety does not seem to be the focus of most SRTS programs nationwide, and the SRTS personal safety initiatives that do exist typically do not identify CPTED as the guiding conceptual framework.

The recommended actions of most School Travel Plans developed by New Jersey communities focus primarily and often exclusively on traffic concerns and issues. This is true to a large extent even in School Travel Plans that identify the danger of crime and violence as major community concerns. Of the 12 New Jersey community School Travel Plans that identify crime as a concern, five, all located in Montclair and Newark, failed to make recommendations to address those concerns. The other seven schools offered at least one suggestion related to crime. Six of the plans (the six Urban Demonstration Projects in Camden, Newark, and Trenton) recommended prioritizing police presence in areas that had loitering and other undesirable behavior along school routes. One plan, for a school in Trenton, suggested involving the community in a discussion about how to improve community members' sense of safety throughout the neighborhood and encouraging the community to take action against crime, gang, and drug activity.



# Recommendations

This paper has found that School Travel Plans in New Jersey focus primarily, and typically exclusively, on traffic safety. This paper presented evidence that crime is a barrier to walking and biking to and from school, and that challenges faced by typical urban areas may differ from the challenges of the typical suburban area. Furthermore, research suggests enhanced safety and reduced fear of victimization yields broad benefits for students and their communities. Documented cases of personal safety-focused interventions in nationwide SRTS are limited, and the interventions are usually not identified as CPTED; however, this paper did identify several examples of successfully deployed CPTED-related solutions to enhance school route safety.

NJDOT and the NJ SRTS Resource Center should work to incorporate CPTED into SRTS programs with the aims of reducing fear as a barrier to walking and biking and enhancing the safety of students who already walk and bike, particularly in disadvantaged urban communities. As New Jersey SRTS administrators consider CPTED solutions, they may wish to consider why SRTS programs nationwide do not make explicit reference to CPTED, even as they implement CPTED measures.

The following section presents recommendations for successfully implementing CPTED planning processes and solutions in New Jersey SRTS programs.

## Research Recommendations

- *Conduct research to understand the extent and nature of actual victimization of students walking and biking to school in New Jersey, including harassment and bullying by other students.*

Better understanding the extent and nature of actual victimization of students on route to school would assist in designing and justifying CPTED interventions. A literature review identified no existing research on this issue. However, New Jersey school districts are required to report incidents of harassment, intimidation, and bullying (HIB) both on and off school grounds in the New Jersey Department of Education (NJDOE) Electronic Violence and Vandalism Reporting System (EVVRS). Schools are also required to report on other forms of violence, vandalism, and substance abuse in the EVVRS, though these incidents may not be reported if they occur off school grounds. An NJDOE annual legislative report (Harrington, K., 2017) presents key finding from analysis of EVVRS data. According to the report, three percent of all reported incidents and 11 percent of HIB incidents in New Jersey occurred off school grounds from July 2015 to June 2016 (Harrington, 2017). NJDOE recently replaced EVVRS with the Student Safety Data System (SSDS).<sup>4</sup> The SSDS may serve as a starting point for research on victimization of students walking and biking to and from school. Access to the SSDS, is restricted to schools and school districts.

- *Conduct case studies of successful efforts to incorporate CPTED measures into SRTS.*

A scan of online resources identified only several existing cases examples of CPTED-related strategies employed to ensure safe school routes. Conducting case studies of national best practices would help inform efforts to integrate CPTED into SRTS plans and projects.

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<sup>4</sup> New Jersey Department of Education. <https://homerom.state.nj.us/ssds/SSDSGlance2017.pdf>

## Implementation Recommendations

- *Determine how to incorporate CPTED education and processes into SRTS engagement and planning efforts.*

SRTS and CPTED are mutually reinforcing. Both planning frameworks rely upon, and are geared to enhancing, community cohesion. Effective CPTED interventions encourage outdoor community life, such as walking and biking to and from school. CPTED seeks to reduce crime by demarcating both private and community ownership (Territoriality) and filling spaces with legitimate users (Activity Support). 2nd Generation CPTED seeks to enhance the ability of communities to solve problems collectively (Cohesion), build relationships with outside parties (Connectivity), and foster place-based cultural expression (Culture). These principals are equally essential to the success of SRTS programs.

CPTED, like SRTS, is a community planning framework. Many CTPED planning processes and strategies function similarly to those of SRTS and can be incorporated into local SRTS planning efforts. For example, stakeholders and facilitators could perform safety audits while carrying out the walkability audits that are part of every School Travel Plan process. Many existing SRTS measures are also CPTED measures. For example, the walking school bus and corner captains enhance both personal and traffic safety. Addressing certain signs of disorder, such as fixing broken sidewalks, also has CPTED benefits.



The NJ SRTS Resource Center should develop a toolkit of SRTS-appropriate CPTED interventions for each of the 12 1<sup>st</sup> and 2<sup>nd</sup> Generation CPTED strategies. Guidance on CPTED principles and strategies should be added to SRTS training materials. Every School Travel Plan should contain a section devoted to consideration of CPTED analysis and interventions.

In the context of SRTS, 1<sup>st</sup> Generation CPTED strategies, as outlined in the

*New Jersey School Zone Design Guide*, are an important starting point for reducing crime and fear of crime. However, the NJ SRTS Resource Center considers a school walking zone to cover the area within at least one half mile of the school. A school zone may contain multiple communities and various land use and ownership types. Like traffic safety-focused SRTS interventions, SRTS CPTED efforts would require buy-in and active, continuous participation from a diverse set of actors. Typical SRTS engagement efforts already include many of the stakeholders that would be recommended by a CPTED planning process; however, the stakeholder group could be expanded to include neighborhood watch groups, code enforcement officials, CBOs concerned with neighborhood safety, and others. An

assessment of leading practices in 2<sup>nd</sup> Generation CPTED in non-school travel contexts may prove informative.

- *Implement a pilot SRTS CPTED project in one or more community.*

The NJ SRTS Resource Center should design and implement an SRTS CPTED pilot project in one or more communities in order to test effective approaches. The Resource Center may wish to consider implementing one pilot project in a lower-income urban area and another in a more affluent suburban area and tailoring the process and measures to each setting. A pilot project might entail incorporating CPTED measures into an existing School Travel Plan. A school district or school zone in the City of Paterson may be an ideal location for piloting an SRTS CPTED project in an urban setting. Though no school or district in the City has issued a School Travel Plan, many areas of the City are disadvantaged and exhibit high crime rates, and the pilot could build on the City's street-focused *Crime Prevention Through Environmental Design Toolkit*.

- *Identify the eligibility of potential CPTED solutions for SRTS funding streams and potential sources of alternative funding.*

Existing SRTS measures that serve a CPTED purpose may be eligible for SRTS funding. Other possible CPTED measures, such as installing signage demarcating a street as a safer route to school (to enhance territoriality), may also qualify for SRTS funding. Other CPTED activities may require alternative sources of funding. For example, it may be difficult to secure SRTS funding to replace a solid fence with a chain or iron fence to enhance natural surveillance. The NJ SRTS Resource Center should assess SRTS funding eligibility for potential CPTED measures and, for those measures that may not qualify, identify potential alternative sources of funding. Funding solutions will likely include building partnerships with private foundations.



- *Develop SRTS CPTED intervention performance measures.*

SRTS programs that incorporate CPTED strategies should be evaluated for outcomes and impacts. The NJ SRTS Resource Center should develop performance measures to assess CPTED interventions. Performance measures focused on perception of safety may be more appropriate than objective measures of safety, such as local crime rates. Even if highly effective in enhancing student safety, SRTS CPTED interventions may have no appreciable impact on overall crime rates in an area. Furthermore, reducing fear of crime, in addition to actual crime, is a key objective of employing CPTED in SRTS. Performance may be assessed through pre- and post-surveys on perception of danger from crime among parents of students.





# Resources

- Ahlport, K., Linnan, L., Vaughn, A., Evenson, K., and Ward, D. (2008). Barriers to and Facilitators of Walking and Bicycling to School: Formative Results from the Non-Motorized Travel Study. *Health Education and Behavior*, 35(2), 221-244.
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