

White Paper on Crime Prevention Through Environmental Design (CPTED) METHODOLOGY¹

for

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¹ The authors of this ICA White Paper wish to thank the many ICA members who have contributed to this paper on CPTED methodology. That includes the members of the ICA Board who began the initial discussions and also the 45 participants in the ICA Methodology Workshop at the 2019 ICA Conference in Cancun, Mexico.

EXECUTIVE SUMMARY

Twenty-five years of International CPTED Association (ICA) CPTED conferences and initiatives help reinforce the vital role of a basic rule in crime prevention – context matters! This was the focus of one of the presentations at the first ICA conference in Calgary in 1996. Crime and violence occur due to a wide range of causes and no single prevention strategy will address all problems. Therefore, effective CPTED demands that practitioners apply a coherent methodology in order to clearly research and understand the local context. But what methodology is best?

Different parts of the CPTED world use different methodologies to understand context. The topic of CPTED methodology began during discussions in the ICA community generally, and more specifically, with members of the Board of the ICA in late 2017 and early 2018. The question arose whether the ICA was the place to examine such a topic. The most straightforward answer was that, since the ICA is the only non-profit, professional association of CPTED practitioners globally, and it includes board members and committee members from every continent (except Antarctica), it represents the pre-eminent authority to assess the role of CPTED and its methodology. While the ICA obviously does not represent every CPTED practitioner, there is no doubt that the ICA's strength is that it has representation from all major regions of the world that practice the strategy. This includes chapters from a number of countries and all major CPTED-related professions: urban design professionals, researchers, academics, police and security experts, and a wide array of CPTED practitioners. From this perspective, it is obvious that the view inside the ICA is a direct reflection of CPTED practice more generally outside the ICA and it provides an authoritative voice of CPTED practice around the world.

It was clear from all our initial discussions that the term methodology means different things to different people. The focus of this “methodology approach” was not intended to define methodology from the point of view of an academic research project, but rather to *clarify the term from the perspective of CPTED practitioners who conduct CPTED projects on a regular basis.*

Because the ICA now delivers a professional certification program (ICCP) and a CPTED course accreditation program (CAP),² it is important to clearly outline the framework of a CPTED methodology so that practitioners have a working definition. To assess the scope of a CPTED methodology we incorporate some of the existing definitions available in the CPTED literature, many of which members of the ICA had a direct role in creating. These include the CPTED definition on the ICA website, which is the most up-to-date description of the approach (<https://cpted.net/Primer-in-CPTED>). We also include various international official standards created by ICA members, among others. These include CEN Env 14383-2 (in Europe since 2003) and the new ISO global standard, ISO 22341:2021 (internationally since 2021). Those standards are regularly updated.

The purpose of this ICA White Paper is not to explain the function and delivery of different research techniques such as visual CPTED inspections, safety audits or crime mapping. That knowledge is available through CAP-accredited ICA CPTED training courses, in research textbooks and university courses. This paper will describe the overarching approach to CPTED methodologies, determine how and why they are different, and discuss approaches that might

² A full description of the ICCP and CAP programs is available on the certification section of the ICA website at <https://cpted.net/ICCP> and <https://cpted.net/CAP>. These programs are the only existing professional, international CPTED certifications that are attested to, and independently verified, by a third-party, non-profit professional organization.

help CPTED practitioners. The key takeaway from this White Paper is the critical importance of a *well-conceived methodology for a robust CPTED process, without which no CPTED project can confidently claim to produce valid prevention results.*

CONTENTS

Scope of this Paper	6
Defining Methodology	8
Academic Definitions	9
Practical CPTED Definitions	14
Versions of Methodology	17
The European CPTED Manual for Police Officers	17
Design Out Crime UK	18
The CPTED Methodology in Latin America	20
21 st Century Security and CPTED	21
The ICA ICCP Program	23
Competency 3 – Undertake Research in Nominated Environment	24
Competency 7 – Analyze and Assess Local Conditions	24
Core Subject #2 – Applied Research Skills	25
Recommendations for the ICA	26
References	30
Bibliography	33
Appendix A – CPTED Methodology Workshop, ICA Conference	35

SCOPE OF THIS PAPER

The CPTED Methodology discussion started within the ICA Board in late 2017/early 2018. There were numerous email and webinar discussions among ICA members regarding the language, definition, and purpose of a CPTED methodology.

The ICA discussions focused around the language of CPTED in Latin America which refers to CPTED as the “CPTED Methodology”, and the use of the term methodology in other parts of the world where it is employed in a more generic fashion. Much debate centered on whether CPTED strategies are a methodology or simply a list of tactics. Those discussions resulted in a Board decision to pursue this topic at an upcoming ICA conference. The Board decided they needed a specific meaning and definition for CPTED.

At the 2019 ICA Conference in Cancun, Inaugural ICA President Gregory Saville and current ICA International President Dr. Macarena Rau, conducted a special workshop session on CPTED methodology. The session included 45 participants from around the world (the format is included in the Appendix). Following the plenary, participants were divided into three different subgroups from different regions of the world and workshopped the topic with facilitators. Those discussions were recorded onto flipcharts and used for subsequent research and analysis.

The White Paper discussions were suspended during 2020 due to the Covid crisis. In late 2021 a literature review was conducted on different CPTED methodologies.³ This included a review of

³ The literature review was completed by the authors.

studies appearing in peer-reviewed journals by ICA members and others, as well as some recent crime prevention and CPTED texts. It also included an examination of the ICA CPTED bibliography,⁴ the most extensive CPTED bibliographic reference assembled to date. That CPTED bibliography is currently being updated.

The overall goal of all this work is twofold:

- 1) to ensure that CPTED is applied in a way that acknowledges the unique context of each specific environment; and
- 2) to advance the methodological development of CPTED so that it remains appropriate to different regions.

⁴ See <https://cpted.net/CPTED-bibliography>

DEFINING METHODOLOGY

Methodology is formally described as *a science of studying how research is done scientifically. It is a way to systematically solve research problems by logically adopting various steps* (Patel and Patel, 2019, p. 48). In a practical sense, this means that methodology is a coherent system of applying, teaching, and studying a specific practice. The various steps within this system include the research tactics employed within a methodology and they might include both quantitative methods (statistical analyses, surveys) and qualitative methods (safety audits, interviews, site inspections). However, by themselves they are not methodology. The domain of methodology pertains to the larger system of application, teaching and researching regarding the way in which CPTED is undertaken.

For CPTED, the methodological questions a practitioner might ask include:

- Should a CPTED practitioner work alone or in a team?
- Should a practitioner collect primary data or secondary data? Qualitative or quantitative data? Demographic information, observation or safety audit data? Or all of those?
- Should a CPTED practitioner rely simply on a site survey with a checklist?
- Should a CPTED practitioner collect a wide range of both qualitative and quantitative data for pre/post comparisons?
- What steps should a practitioner take to select ethical, collaborative, and evidence-based recommendations?

A legitimate and well-developed methodology is the means by which a practitioner answers those questions. The purpose of this White Paper is to provide some answers to those questions.

Currently in some countries, CPTED experts are hired as expert witnesses in civil and criminal court cases to testify about the conditions of a crime scene regarding criminal decision making, target

selection, and opportunities for crime. This is a relatively new development in CPTED and it is now termed “Spatial Forensics”. The legal principle applied in these cases in the United States is called the Daubert Challenge⁵ and it demands that, in order to validate the admissibility of expert testimony, *“it basically requires the expert to provide his or her research methodology and proof that a particular opinion is scientifically valid”* (Saville, 2018b, p. 188).

This illustrates not only how CPTED is evolving, but also the critical importance of the role of methodology in CPTED. Methodology matters a great deal and, as a result, the ICA Board commissioned this White Paper to provide some insight.

ACADEMIC DEFINITIONS

Traditional social science textbooks describe methodology in the context of a scientific way of thinking. *“Science is a process of thinking and asking questions, not a body of knowledge... It offers a path of organized steps that researchers can use when approaching a question. It offers consumers of research the ability to critically assess how evidence has been developed and used in reaching a conclusion.”* (Hoover & Donovan, 2011, p. 3). From that perspective, methodology is a strategy that researchers use to answer a set of questions, particularly in assessing evidence.

Thus, the various prevention strategies within CPTED represent the body of knowledge and they are, not in themselves, a methodology. Each of those strategies offer the practitioner a host of

⁵ A Daubert challenge is a particular type of legal motion in the U.S. court system that is made to the judge either before or during litigation in an effort to exclude the introduction of unqualified expert witness testimony. The term is derived from a 1993 U.S. Supreme Court case.

prevention strategies to address crime, the fear of crime, and the quality of life. This applies to the strategies within both established, and newly emerging, versions of CPTED:

- 1st Generation CPTED (territorial definition, access control, natural surveillance, image/maintenance),
- 2nd Generation CPTED (cohesion, culture, capacity, connectivity), and
- 3rd Generation CPTED (sustainability in environmental, public health, economic, and social affairs).

The practitioner employs CPTED strategies to prevent crime, reduce violence and fear, and improve the quality of life. The strategies inform the prevention process only in the sense that through experience and research, knowledgeable practitioners know that some strategies work well for some crimes and other strategies work well for others. Prevention strategies emerge from within the broader body of knowledge that is CPTED theory. However, it is the process that the practitioner employs to determine *how* to apply those CPTED strategies that comprises the concept of methodology.

The academic field of study most familiar with methodology in crime research is the field of criminology. In criminology, there are different methodological standards taught in universities, but most begin by describing methodology as the means by which a practitioner/researcher plans a research project (also known as research design). It describes the kind of evidence that a researcher chooses to examine a problem and these include quantitative data (statistics) and qualitative data (interviews and field observations).

Some criminologists insist that *“the ideal design in scientific research is the true experiment, where subjects are randomly assigned to treatment conditions and the effects of the various treatments are then compared”* (Gottfredson & Hirschi, 1990, p. 217). Today this is known as “evidence-based

crime prevention” (Farrington et al., 2006). In evidenced-based crime prevention the golden standard for methodology is the randomized control trial (RCT), since it draws from the physical and medical sciences. It is worth noting that, even in academic research, this golden standard is rare. In CPTED, the Westinghouse evaluation studies from 1974 – 1978 were probably the most extensive research conducted on CPTED, but even they did not reach the status of the RCT.

There have been some academic attempts to codify evidence-based practices with CPTED concepts and methods for the purpose of easier evaluations (Armitage & Ekblom, 2019). However, that work is associated with a new branch of criminology called crime science that has been criticized due to “a lack of consistency and coherence across its empirical and theoretical research base”.⁶ However, while crime science is still embryonic, as it evolves it may eventually yield some helpful methodological guideposts. At present, evidence-based crime prevention from criminology provides some useful guidelines, particularly research on impact evaluations.

A recent example of such research is an impact evaluation from longitudinal research by Dr. Tim Pascoe and Dr. Macarena Rau. It describes a CPTED Impact Evaluation Methodology from 2016-2021 and it analyzed the results in a comparison format between two cases in Chile and one in Honduras, employing a research design with control treatment areas to contrast the information gathered with an Encuesta de Seguridad Urbana - ESU urban safety survey (Rau & Pascoe, 2022).⁷

⁶ See: <https://oxfordre.com/criminology/display/10.1093/acrefore/9780190264079.001.0001/acrefore-9780190264079-e-4;jsessionid=48F1BDD54198D8CF1E500DCA2565F9FE>

⁷ Rau, Macarena & Pascoe, Tim. 2022. CPTED Impact Evaluation: What works and What doesn't in a CPTED intervention? E-book. Santiago, Chile. <https://pbk.cl/producto/libro-evaluacion-de-impacto-cpted>

There is little doubt that CPTED practitioners must use evidence in their decision-making. But there are a few reasons why the RCT form of evidence-based crime prevention may not be ideal for CPTED practice.

First, RCTs are an extremely high standard of proof rarely attained in formal criminological studies, much less in CPTED projects. CPTED practitioners may find themselves spending more time and precious resources on conducting this kind of methodological approach than actually preventing crime. It is not always necessary or feasible (and it might be unethical), to use such rigorous methodologies since it sometimes takes too long for practitioners and researchers to perform RCTs when actual or potential harm is imminent. This is especially the case in establishing what RCT calls “control treatment areas” during a CPTED project. Most CPTED does not occur in randomly selected areas or on randomly selected persons; the typical CPTED environment occurs in physical places with a complex socio-cultural history. There are very few funders of CPTED programs who demand, or will fund, such rigorous standards.

Second, academic research has a much broader scope than CPTED. Academic research includes testing and evaluating criminological theories or programs, not so much how to apply specific CPTED strategies in a high crime environment. However, while a full RCT might be unrealistic, some elements of evidence-based research make sense, such as employing both quantitative and qualitative data in a CPTED project. That is a reasonable addition to CPTED practice and it highlights the role of the action research methodology that focuses on learning-by-doing (Mihinjac & Saville, 2020).⁸

⁸ The action research method originates back to the 1950s. Most recently, the action research method was applied within a SafeGrowth program to a high-crime New Orleans neighborhood in a multi-year study reported by Mihinjac & Saville (Mihinjac, Mateja & Saville, Gregory. 2020. Crime and Fear in Hollygrove –

We can see that methodology is a strategy that CPTED practitioners use to answer a set of questions. We also see that, while RCTs might be a very high methodological standard, they are unnecessary in most CPTED projects. However, there are legitimate reasons for CPTED practitioners to ensure that both quantitative and qualitative data are part of their CPTED projects. Examining the social and physical context of an area prior to adopting CPTED strategies definitely requires more information than what is provided in a simple CPTED checklist, but a full RCT is unnecessary.

Methodology descriptions within published studies are now found in the new field called crime prevention science. Some scholars in crime prevention science contend that RCTs are not the only standard for crime prevention approaches like CPTED. Consider the use of data: *“Just as there is not a silver bullet solution for preventing crime....there is no silver bullet of crime measurement to understand the dimensions of social problems or assess the effectiveness of any one crime prevention theory or strategy”* (Schwartz & Vega, 2017, p. 165). Since academics still debate the issue of the ideal methodology, it is unnecessary here to dig too deeply into methodological questions such as levels of analysis, RCTs, cross-sectional versus longitudinal studies, and other similar technical issues in this paper. As science advances, those debates will unfold and the results may eventually better inform the overarching theory and methodology in CPTED. In the meantime, for the everyday practice of CPTED, they are beyond the scope of this White Paper.

building neighborhood resilience. *International Journal of Comparative and Applied Criminal Justice*. Vol. 44 (4). pp. 335-353.)

PRACTICAL CPTED DEFINITIONS

Within the practice of CPTED, methodology takes on many forms. Few CPTED textbooks spend much time describing how to conduct research, or the issue of methodological techniques. Most describe the need for a CPTED survey and a site visit. While some of the technical issues within academic research may be beyond the scope of this paper, we do know from crime prevention science that those limited techniques are inadequate as a research program since they say nothing about the actual methodology.

At the 2019 ICA Conference methodology workshop, participants described a number of methodological issues and concerns. Their comments and questions were instructive:

- Different methodologies exist in criminology, urban planning and architecture. Which are the most appropriate for CPTED?
- It is important to distinguish between research strategies, data collection methods, and methodology. They are not the same.
- In some fields, like architecture, there is a lack of data collection to test building designs. Some architects employ post-occupancy evaluations, but that is rare. Often data from post-occupancy evaluations are unrelated to safety.
- Philadelphia participants indicated it was neighborhood residents themselves who were best able to define problems and suggest research topics. In Latin America this is now termed “native expert”.
- Philadelphia participants indicated that their non-profit organization conducts regular door-to-door interviews and collects statistically significant responses from residents in order to establish base-line perceptions prior to creating a neighborhood safety plan.
- There was a difference identified between the perception of crime (fear) and the reality of crime (crime incidents) also considering different types of crime. It is unwise to implement the same CPTED strategies in the same way to address different problems. In one instance, lighting may improve perceptions but increase risk. A proper research design and methodology is necessary.

- Some Australian participants indicated they developed CPTED guidelines in legislation. Others noted that those guidelines are focused on providing details on the actual CPTED strategies, but say nothing about the methodology needed to recommend particular strategies.
- The same issue arises in many other jurisdictions. For example, in Canada, the city of Saskatoon employs guidelines that do better than most at emphasizing the role of a research methodology prior to implementing CPTED. But even in that case the guidelines provide only a single page on “Assessing Risk” and another half page description of the “Importance of interdisciplinary teams in the review process”.
- Some guidelines recommend a regular auditing system of CPTED principles with the appropriate design. But they do not provide a methodology to figure out exactly how to do a “regular auditing system” or how to determine what is “appropriate design”.
- One New Zealand participant indicated they reach out to the local community and interest groups to better understand local issues. She indicated they repeatedly had to check with police to provide crime statistics, but that was insufficient since they need more data, especially to assess the effectiveness of CCTV.
- One participant from India indicated CPTED was very new in India but added that data and statistics were unreliable in her country. She indicated proposals were often based on “gut feelings”, or sometimes questionnaires, but due to the diverse population of India, there was a need to ensure everyone could read the questionnaire. Some data and statistics are better than others. Police data on most crimes (not all crimes) are often very unreliable and even result in discriminatory practices.
- One Canadian participant indicated CPTED was very police-oriented and that it needed far more evaluation, especially due to the recent focus on evidence-based results.
- Latin American participants also reinforced the concept of community feedback and participation of residents during CPTED research – the “native expert” concept. This included the Cloud of Dreams participatory sessions in which children make drawings about their subjective experiences in urban places and their responses are analyzed.
- While there is extensive growth of CPTED across Latin America, research is very new as it applies to CPTED methodology.
- An example of Latin American research was Macarena Rau’s 2006 CPTED Journal article, “Civic Safety and Residential Urban Space” in the Puente Alto district in Chile. It described the concept of community appropriation limits - spatial boundaries within neighborhoods

that were part of public spaces. Ultimately, the lessons learned in that study were that any methodological approach to examine appropriation limits require a profound understanding of community context at the local scale, especially views provided by the native expert.

VERSIONS OF METHODOLOGY

In addition to the academic version of methodology, studies of CPTED practice in the literature reveal a few interesting and useful approaches. They are listed below. This is by no means an exhaustive list; it only provides a flavor of the kinds of methodology descriptions regarding CPTED methodologies applied in practice.

THE EUROPEAN CPTED MANUAL FOR POLICE OFFICERS

In the **CPTED Manual for Police Officers** (Levald et al., 2015) there is a chapter on “How to study a built environment” and it provides a general description of a CPTED methodology. *“It is important to classify the area under consideration either as a new or existing area. The standard suggests that a crime analysis of newly planned areas should be called a “Crime Assessment”. This assessment can only rely on planning documents. The analysis of existing areas should be called “Crime Review”. This can be based both on documents and observation on site”* (p. 15).

The manual then offers a shopping list that takes into account various land uses, such as

- Open spaces
- Street frontage and entrances
- Public transport routes
- Traffic flows
- Parking areas
- Pedestrian and bicycle movements
- Ground floor activities

It also adds a framework by ICA board member, Paul van Soomeren, in his description of the Dutch Secure Label process. That framework includes the various scales of application, including:

- The size of a district and its density, scale and access
- Public areas including open air parking, private garages, play facilities, bus stops, etc
- Landscape layout
- Building configuration, such as orientation of living rooms, semi-detached and single family terraced houses

The guide then provides the practitioner a choice of working remotely at a desktop or on the site.

The on-site research methods include surveys, interviews, field observations, and focus groups.

The desktop methods include statistical analysis, geographic information systems, spatial analysis on maps, and simulations, and reviewing research reports (pp. 10-18).

DESIGN OUT CRIME UK

In their article “Seeing is believing: Notes toward a visual methodology and manifesto for crime prevention through environmental design” Gamman and Pascoe (2004a), offer two different methodologies, one based on visual analysis. They claim that *“In crime prevention discourses little importance is given to “looking”, and the visual dimension of what is surveyed is rarely adequately documented... Clearly, guidelines about visualization techniques and visual documentation are needed”* (p. 12).

Later in that same journal issue, Gamman and Pascoe (2004b) offer another methodology in their article “Design Out Crime? Using Practice-based Models of the Design Process” in which they offer the premise that CPTED is truly a design-based research methodology. They suggest that designers of spaces use a checklist of questions about their designs “in order to consider potential interventions” (p. 38). They then present a CPTED Risk Assessment Model originally presented at the inaugural ICA Conference in Calgary in 1996 (Saville, 1996). That model is a CPTED methodology that essentially provides a guideline based on the levels of analysis. The model

divides into six scales:

1. Small scale before the fact
2. Small scale after the fact
3. Medium scale before the fact
4. Medium scale after the fact
5. Large scale before the fact
6. Large scale after the fact

The scale identifies *before-the-fact* as building and planning projects in which construction, or redevelopment, is in the earliest phases. This is a situation in which the European working-from-a-desktop approach will make sense since there may be no actual physical development in place and there are no actual real life designs yet constructed. If possible, the practitioner should still physically examine the actual site for elements such as nearby land uses and topography, however a majority of the research in this method is desktop based.

On the other hand the scale identified as *after-the-fact* refers to projects in which physical developments and buildings already exist. The project may involve a retrofit of an existing building or fixing an existing park. This scale involves physical places that already exist prior to the analysis and adoption of CPTED. That requires on-site research since the practitioner must conduct a thorough analysis of the site.

The other spatial classification within the Risk Assessment Model is termed small, medium and large. Small refers to physical structures such as front lawns, doorways, a short pathway into a park, or an interior foyer. It is usually less than 50 meters in radius. By comparison, the medium scale ranges from 50 meters up to 500 and includes entire buildings, shopping malls, small parks, schools and even small neighborhoods. The large scale includes everything beyond 500 meter radius and that usually encompasses a downtown area, a new town redevelopment, or a large

industrial area. Other schemes also employ spatial classification methods: In the French ESSP, everything above 100.000 square metres, and having a public function, requires an ESSP (Etude de Surete et Securite Publique – Study of Safety and Public Security). The Dutch Police Label defines three spatial forms: a) house/dwelling/apartment, b) block/complex, c) neighbourhood.

The advantage of the CPTED Risk Assessment Model is that it allows the CPTED practitioner to categorize the project scope based on both the spatial size and the time period of development. The model then creates a matrix that lists a full range of quantitative and qualitative data collection activities, including, but not limited to, those described in the *European Police Officers' CPTED Manual*.

The full CPTED Risk Assessment matrix is found on page 45 of Lorraine Gamman and Tim Pascoe's *Design Out Crime* chapter.

THE CPTED METHODOLOGY IN LATIN AMERICA

The CPTED Methodology started in Latin America and the Caribbean Region in the year 2000 with a program supported by the Canadian Embassy, Fundacion Paz Ciudadana in Chile and Toronto, Canada. From the beginning of the program, a CPTED Project Cycle was defined in different case studies and that has been incorporated into different studies over the past few decades in Latin America. This methodology is based on what is called the *CPTED Project Cycle* and it has four phases:⁹

⁹ It is very similar to the SARA problem-oriented policing approach in the U.S. and the U.K. or the Dutch model. See: SAPE www.ProHIC.eu

- Phase 1: Diagnosis (Diagnos)
- Phase 2: Design
- Phase 3: Implementation
- Phase 4: Evaluation

There are a number of social science studies and books on the implementation of different CPTED projects in Hispanic countries, and some provide details on the Latin American methodology (Rau Vargas, 2019; Rau et al., 2019; Rau Vargas et al., 2003; Rau Vargas et al., 2018). Additional information on CPTED in Latin America can be found in the publication “*21 Years of Practice of CPTED in Latin America*”.¹⁰

The first CPTED manual for Latin America was written in Chile in the early 2000s, outlining strategies for the physical environment and also making a statement on the social strategies related to CPTED. The Cloud of Dreams strategy is also accompanied by an instructional manual.¹¹

21st CENTURY SECURITY AND CPTED

Another group of CPTED methodologies appear in Randall Atlas’ book “*21st Century Security and CPTED: Designing Critical Infrastructure Protection and Crime Prevention*” (2008; 2013). It summarizes many of the American methodologies including examples of visual analysis on different CPTED topics (lighting, parks, convenience stores, residential homes). It also includes research tools like urban planning transect zones to categorize sizes from urban to rural zones (pp. 422-433), how to use an Anti-Terrorism Risk Assessment Matrix (pp. 292-296), as well as a description of the above mentioned CPTED Risk Assessment Model presented by Gregory Saville

¹⁰ <https://pbk.cl/producto/libro-21-anos-de-practica-cpted/>

¹¹ <https://pbk.cl/2021/04/21/manual-instructivo-taller-de-los-suenos/>

at the inaugural ICA conference.

The latest version of the full CPTED Risk Assessment Matrix is presented in the Atlas text (pp. 844-845) and it outlines how to plan and implement a research plan. As well, it describes each research activity in the methodology (safety audits, crime forecasts, design charrettes). That matrix has been updated and is now an integral component of the SafeGrowth neighborhood planning model of community development (Saville, 2009; 2018a).

Each of the CPTED methodologies above offer a wide range of practices that CPTED practitioners and instructors can employ in their training and projects all over the world. They also put an end to the legitimacy of the obsolete practice where a CPTED practitioner shows up at a building and uses a CPTED checklist to walk around the property, without all the more comprehensive data, crime and statistical reviews, interviews, and other data collection methods described in this White Paper. A coherent and legitimate CPTED methodology means that a practitioner must be educated in the many ways CPTED research takes place. This discussion leads to the ICA certification system, described next.

THE ICA ICCP PROGRAM

The most comprehensive way for a CPTED practitioner to ensure that a robust methodology accompanies his or her work is to become certified within the ICA professional certification program. Professional certification is not the same as completing a private CPTED training course or finishing a university degree in criminology or crime prevention. Those activities may provide some exposure to CPTED methods and research techniques, but they are neither independent non-profit enterprises nor are they third-party attestations from professionals in the industry.¹² That is only provided within a professional certification program, in this case the ICA CPTED Certification Program for Practitioners (ICCP). The ICCP requires basic competencies in research and data collection. Within the ICCP program there are 11 core competencies and each of those include core subject matter topics – core subjects – that the applicant must master during CPTED projects with other partners in the field. A few of those directly refer to methodology and we describe them below.

The ICCP program mandates methodological proficiency in competencies #3 and #7. These competencies relate directly to methodology and they ensure that qualified ICCP practitioners are competent in CPTED methodology and apply it in their work. Those ICCP competencies read as follows:¹³

¹² See the ICA certification webpage FAQ information describing “What Is Legitimate CPTED Certification”. https://cpted.net/FAQ_ICCP

¹³ These have some similarities to the Dutch CPTED certification program called RCE (Registered CPTED Expert).

COMPETENCY 3 – UNDERTAKE RESEARCH IN A NOMINATED ENVIRONMENT

This competency unit covers applied research to provide a basis for the development of options.

This involves the ability to collect relevant information and data related to the problem at hand to address any research hypotheses developed as part of the project. It is about how, and why, a CPTED professional chooses their data sources. Depending on the size and scope of a project, that data collection should involve both quantitative and qualitative information. It also involves the systematic collection of enough research to allow an adequate analysis of the data and formulation of logical CPTED recommendations.

COMPETENCY 7 – ANALYZE AND ASSESS LOCAL CONDITIONS

This competency unit covers the interpretation of factors effecting crime opportunity. This competency involves skills and knowledge of CPTED problem analysis and assessing conditions where CPTED is applied. It includes the ability to analyze qualitative data (e.g.: interviews, safety audits) and quantitative data (e.g.: crime statistics, crime maps).¹⁴ The competency also includes the ability to compile the information following the application of Competency Unit #03 skills (undertaking and designing research, collecting data), and then using the data to assess the nature and dimensions of specific issues. These include identifying patterns, trends and projections, measuring potential crime displacement, and also preparing a preliminary summary of existing conditions and using that summary to identify appropriate CPTED responses.

¹⁴ The ICCP program requires not only knowledge on official crime data methods, but also emphasizes the critical importance of understanding the strengths and weaknesses of those data sources.

Within each of those two competencies, the ICCP program also specifies the core subject topics that underpin each competency (Core subjects are a list of substantive topics applying to each competency). Core subject #02 includes the applied research skills required for methodology-related competencies and it is relevant to this discussion:

CORE SUBJECT #2 – APPLIED RESEARCH SKILLS

“Research skills in quantitative and qualitative methods appropriate for CPTED analysis, knowledge of how to analyze and diagnose problems and apply CPTED, practical experience on CPTED projects, advanced research skills such as conducting safety audits, computerized GIS analysis, ortho-photography, surveying, analyzing crime statistics.”

Clearly, CPTED methodology is addressed comprehensively within the ICCP competencies. They provide a broad sweep of research skills needed to apply CPTED and they are specifically centered on Competencies #3 and #7.

Note that the ICCP program does not require specific types of research designs or methodological styles. That is because different parts of the world have differing standards for what comprises research. Instead, the core subjects outline the topics that the CPTED practitioner should master and leaves it to each region to determine how to deploy those topics.

RECOMMENDATIONS FOR THE ICA

1. The term “methodology” is used by different groups and regions in different ways. The colloquial use of “The CPTED Methodology” has been adopted by some regions in reference to the general body of knowledge known as crime prevention through environmental design. In those regions, local colloquialisms are a way to describe CPTED. But in the actual application of CPTED, when a practitioner approaches a problem and applies territorial reinforcement or natural surveillance to reduce crime opportunities, that is an application of CPTED strategies within the body of knowledge and the theories of CPTED. That might be termed the CPTED Methodology in colloquial jargon, but the actual technical definition of methodology is different as discussed in this paper.

The term methodology can be applied in both colloquial and technical ways, however during the application of CPTED, the CPTED practitioner should know the difference and should be able to select a research methodology that is appropriate to assess a particular environmental context.

2. From the perspective of this paper, the CPTED methodology refers to:

The systematic method and the logical steps employed by a CPTED practitioner to research and understand the context of problems in the physical and social environment for the purpose of deploying CPTED strategies. There are a number of steps outlined earlier in this White Paper including the CPTED Risk Assessment Matrix and also the CPTED Project Cycle.

3. As this White Paper reveals, there is no universal methodology applied in CPTED around the world. However, the newly adopted ISO CPTED Standard 22341 is a good step forward to align some global methodologies, as well as theoretical criteria regarding 1st and 2nd Generation

CPTED.¹⁵ Unfortunately, prior to this ISO standard, the practice of CPTED methodologies has been haphazard. Some practitioners conduct shallow research steps that include a site visit, a CPTED checklist, interviews, and a review of crime statistics. Other practitioners conduct much deeper research steps that include a pre-test/post-test baseline data collection phase, a full range of quantitative and qualitative data collection and analysis, sophisticated design charrettes and forecasting, and other methods. In reality, the choice of shallow or deep approaches often comes down to the available resources, practitioner skills, and the need for program evaluation. But one consistent theme in this research was that ***all CPTED projects, including shallow research programs, require more than a simple site visit with a checklist.***

While there is no formal gold standard for the CPTED methodology, the newly adopted ISO 22341 is the beginning of a global guideline. This paper makes it clear that to properly assess the context of an environment a CPTED practitioner should use, at a minimum, three or four research strategies such as a crime and incident review (Diagnosis), site visits with a thorough visual inspection, interviews, and a review of potential 1st, 2nd and 3rd Generation strategies. Ideally, CPTED practitioners will employ a more sophisticated methodology as outlined in this White Paper in the Diagnosis Phase.

4. This paper presents a number of fairly sophisticated methodologies that take into account the spatial size of projects, the timing of projects, the kind of land uses and activities, and the extent to which crime displacement may occur. The competent CPTED practitioner will

¹⁵ ISO 22341:2021 also has serious weaknesses such as too much focus on a private business type of risk management approach and no focus on public sector and democratic control. The new European CEN standard issued in 2022 (CEN TS 14383-2:2022) solves this weakness by stressing the importance of a democratic partnership approach in CPTED. The CEN standard presents a partnership process - involving an array of stakeholders like police, planners, residents, business, city managers and in the end a locally representative responsible body like a city or neighborhood council – in which the stakeholders together scan, prioritize and analyze a local crime situation and decide and act together to tackle or prevent that crime problem in their specific context (e.g. a neighborhood).

A new European standard – CEN EN 14383-1 – will be issued in 2023/24 containing about 80 short definitions of crucial CPTED terms. European CEN countries as well as the ICA (Standardization Committee) contributed by choosing the most crucial terms and making the short definition of each term. This implies a consensus on the central CPTED terminology used today.

consider all those factors. Indeed, that is the intention of ICCP competency #3, which is the ability to scope out a particular project environment and determine the best research approach, the level of quantitative and qualitative information, how to involve the community and client in the process, and how to collect and analyze information. Consequently, this White Paper concludes that the CPTED practitioner ***should remain in compliance with Competency #3 and #7 during all CPTED work.*** For this reason:

The ICA should regularly notify the membership that it strongly encourages CPTED practitioners to become ICCP Certified, and remain in compliance with ICCP Certification procedures. That will help ensure conformance with the methodology-related competencies #3 and #7.

5. The ICA should establish an on-going *Theory/Research Team* for the purpose of analyzing various methodologies and theories related to CPTED and to track current research of CPTED globally. The goal of this ICA Theory/Research Team is to provide policy guidance to the ICA regarding best practices in methodology as those practices evolve. For example, new technologies are able to provide different kinds of information to the CPTED practitioner that were formerly unavailable. The Theory/Research Team should work in conjunction with the CPTED Journal and other ICA committees related with CPTED knowledge production.¹⁶

The ICA should establish an on-going, advisory *Theory/Research Team* for the purpose of analyzing various methodologies and theories related to CPTED and track the state of the art of CPTED globally. Ideally, that research team should be comprised of ICCP certified members who have professional research experience, or others with special research/theory skills in relation to CPTED. Some of activities of that team might include:

¹⁶ One example where changes might impact CPTED knowledge is the European Union that has the GDPR privacy regulations enacted since 2016. This means that detailed police data on maps are not available other than to the police. See: https://en.wikipedia.org/wiki/General_Data_Protection_Regulation.

Another example of changes affecting CPTED knowledge is the Danish Police that implemented a new digital database and mapping tool seven years ago. They still use a 15-year-old system where the reported crimes have no geo-positioning codes. This results in poor geo-coding (e.g. where crimes in parks don't show on the maps because of lack of addresses in parks).

- Assembling a bank of information in the form of an online library, (searchable by different categories and geographical regions) related to CPTED research, CPTED projects, and other theory/methodological information for practitioners.
- Reviewing current developments in new CPTED research and theory, particularly new methodologies.
- Monitoring the impact of new technologies, *especially artificial intelligence*, in relation to the impact on the practice of CPTED.

REFERENCES

- Armitage, Rachel & Ekblom, Paul. (Eds). (2019). *Rebuilding Crime Prevention Through Environmental Design: Strengthening the Links with Crime Science*. New York, NY. Routledge.
- Atlas, Randall I. 2013 (1st Ed.) 2008. *21st Century Security and CPTED: Designing for Critical Infrastructure Protection and Crime Prevention*. New York, NY. CRC Press.
- Farrington, David, Doris Layton MacKenzie, Lawrence Sherman, & Brandon C. Welsh (Eds). 2002 (revised 2006). *Evidence-based Crime Prevention*. New York, NY. Routledge.
- Gamman, Lorraine & Pascoe, Tim. 2004a. Seeing is believing: Notes towards a visual methodology and manifesto for crime prevention through environmental design. *Crime Prevention and Community Safety: An International Journal*. Vol. 6, Issue 4, pp. 9-18. Leicester, UK. Perpetuity Press.
- Gamman, Lorraine & Pascoe, Tim. 2004b. Design out crime: Using practice-based models of the design process. *Crime Prevention and Community Safety: An International Journal*. Vol. 6, Issue 4, pp. 37-56. Leicester, UK. Perpetuity Press.
- Gottfredson, Michael R. & Hirschi, Travis. 1990. *A General Theory of Crime*. Stanford, California. Stanford University Press. p. 217.
- Hoover, Kenneth & Donovan, Todd. 2011. *The Elements of Social Scientific Thinking*. New York. Wadsworth Publishing, p. 3.
- International CPTED Association. 2010. *A Bibliography of Crime Prevention Through Environmental Design and Related Environmental Criminology Research Studies from 1975 - 2002* (Updated 2010). <https://cpted.net/CPTED-bibliography>
- Levald, Andres, Jelizaveta Jekaterina Sibul, Martina Proosa, Merli Klein, Panu Lehtovuori, Paul van Soomeren, Tarmo Viikmaa, & Toomas Paaver. 2015. *CPTED Manual for Police Officers*. European Commission. Brussels.
- Mihinjac, Mateja & Saville, Gregory. 2020. Crime and Fear in Hollygrove – building neighborhood resilience. *International Journal of Comparative and Applied Criminal Justice*. Vol, 44. Issue 4, pp. 335-353.
- Patel, Mimansha & Patel, Nitin. 2019. Exploring Research Methodology: Review Article. *International Journal of Research & Review*. Vol. 6, Issue 3, pp. 48-55. https://www.ijrrjournal.com/IJRR_Vol.6_Issue.3_March2019/Abstract_IJRR0011.html
- Rau Vargas, Macarena. 2019. *Impact Assessment in Urban Security: A methodological proposal for Latin America*. PhD Thesis. Department of Urbanism and Architecture, Universidad del Bio Bio, Chile.

Rau Vargas, Macarena et al. 2003. *Manual de Espacios Urbanos Seguros*. Santiago, Chile. www.cpted.cl/publicaciones

Rau, Macarena, Francisco Gatica, Iván Cartes, Timothy Pascoe, & Victor Carrasco. 2019. Perception of Criminal Insecurity in Vulnerable Districts in Latin America. *Urban and Regional Planning*. Vol. 4, Issue 4, pp. 121-135. doi: 10.11648/j.urp.20190404.11

Rau Vargas, Macarena, Iván Cartes, Francisco Gatica, & Tim Pascoe. 2018. Impact Evaluation of Situational Prevention Strategies and CPTED (Crime Prevention through Environmental Design) in Vulnerable Neighborhoods in Latin America. *Journal of Applied Security Research*. Vol. 13, Issue 4, pp. 437-454. doi: 10.1080/19361610.2018.1498254

Rau, Macarena; Pascoe, Tim. 2022. *CPTED Impact Evaluation: What works and What doesn't in a CPTED intervention?* E-book. Santiago, Chile. <https://pbk.cl/producto/libro-evaluacion-de-impacto-cpted>

Saville, Gregory. 1996. Assessing Risk and Crime Potentials in Neighbourhoods. Paper presented at the *1st Annual ICA CPTED Conference*, Calgary, Alberta, October 30 - November 1.

Saville, Gregory. 2009. SafeGrowth: Moving forward in neighborhood development. *Built Environment*. Vol. 35, Issue 3, pp. 386-402.

Saville, Gregory. 2018a. *SafeGrowth: Building Neighborhoods of Safety and Livability*. Charleston, SC. CreateSpace – an Amazon Company.

Saville, Gregory. 2018b. The evolution of spatial forensics into forensic architecture: Applying CPTED and criminal target selection (183-204). In Ronn Johnson (Ed.), *Emerging and Advanced Technologies in Diverse Forensics Sciences*. New York, NY. Routledge.

Schwartz, Jennifer & Vega, Anthony. 2017. Sources of Crime Data. In B. Teasdale and Mindy S. Bradley (Eds). *Preventing Crime and Violence*. New York, NY. Springer.

STANDARDS

- CEN/TC 325 – 14383 Crime Prevention Through Building, Facility and Area Design (a series of 7 European standards)
https://standards.cenelec.eu/dyn/www/f?p=205:32:0::::FSP_ORG_ID,FSP_LANG_ID:6306,25&cs=158B6F7BFD6965AEC5036846DC8663E2A
- ISO 22341:2021 – Security and Resilience – Protective Security – Guidelines for Crime Prevention Throught Environmental Design
<https://www.iso.org/obp/ui/#iso:std:iso:22341:ed-1:v1:en>

WEBSITES

- <http://www.costtu1203.eu/cooperation-in-partnerships-and-process-of-cp-udp/>
- <http://www.costtu1203.eu/milan-crime-prevention-through-urban-design-academic-research-and-training/>
- <http://www.costtu1203.eu/new-publication-online/>
- <http://www.costtu1203.eu/>

BIBLIOGRAPHY

- Armitage, Rachel & Ekblom, Paul. (Eds). (2019). *Rebuilding Crime Prevention Through Environmental Design: Strengthening the Links with Crime Science*. New York, NY. Routledge.
- Atlas, Randall I. 2013 (2nd ed.) *21st Century Security and CPTED: Designing for Critical Infrastructure Protection and Crime Prevention*. New York, NY. CRC Press.
- Atlas, Randy. 2002. The sustainability of CPTED: Less magic, more science! *Journal of the International Crime Prevention Through Environmental Design Association*, Vol. 1, Issue 1, pp. 3-14.
- Cozens, Paul & Love, Terrence. 2015. A Review and Current Status of Crime Prevention through Environmental Design (CPTED), *Journal of Planning Literature*. Vol. 30, Issue 4, pp. 393-412.
- Hillier, B. & Shu, S. 2000. Crime and urban layout: the need for evidence. In S. Ballintyne, K. Pease, & V. McLaren (Eds.), *Secure Foundations: Key Issues in Crime Prevention* (pp. 224-248). London: Crime Reduction and Community Safety, Institute of Public Policy Research.
- Kim, J. & Park, Y. 2002. The CPTED evaluation model using Space Syntax Theory. *The CPTED Journal*. Vol. 1, Issue 1, pp. 35-45.
- Mambretti, I. 2010. *Urban parks between safety and aesthetics: Exploring urban green space using visualization and conjoint analysis methods*. Zurich, Switzerland: Verlag der Fachvereine Hochschulverlag AG an derETH.
- Newman, Oscar. 1972. *Defensible Space: Crime Prevention Through Urban Design*. New York: Macmillan.
- Newman, Oscar. 1996. *Creating defensible space*. Washington, DC: U.S. HUD.
- Plaster-Carter, S., S. Carter, & A. Dannenberg. 2003. Zoning out crime and improving community health in Sarasota, Florida: Crime Prevention Through Environmental Design. *American Journal of Public Health*. Issue 93, Vol. 9, pp. 1442–1445.
- Rau Vargas, Macarena. 2021. *CPTED de Tercera Generación: Diagnóstico de Percepción Infantil la "Nube de Sueños"*. *Revista Constructos Criminológicos*. Recuperado a partir de <https://constructoscriminologicos.uanl.mx/index.php/cc/article7view/4>
- Rau Vargas, Macarena. 2004. *Seguridad Ciudadana y Espacio Urbano Residencial: Vigilancia Natural en el Límite de apropiación Comunitaria*. Tesis de Magíster P.U.C
- Rau Vargas, Macarena et al. 2005. *Estudio comparado de políticas de prevención del crimen mediante el diseño ambiental CPTED*. Fundación Paz Ciudadana. Chile.

Rau Vargas, Macarena et al. 2005. *Ciudad y Seguridad en América Latina, prevención del crimen mediante el diseño ambiental en Latinoamérica*. Un llamado de acción ambiental comunitaria. FLACSO. Chile.

Rau Vargas, Macarena et al. 2008. REVISTA INVI_64.indd 170 21/11/2008 10:07:17 ARTÍCULO: *Prevención de la violencia y el delito mediante el diseño ambiental en Latinoamérica* Nº 64 / / Volumen Nº 23: 169-189 171

Schneider, T., W. Hill, & J. Sprague. 2000. *Safe school design: A handbook for educational leaders applying the principles of Crime Prevention through Environmental Design*. (ERIC Clearinghouse on Educational Management, 5207). Eugene, OR: University of Oregon.

APPENDIX A

CPTED METHODOLOGY WORKSHOP/FOCUS GROUP NOTES ICA CONFERENCE, SEPT 28 – 30, 2019 CANCUN, MEXICO

BACKGROUND

- The CPTED Methodology discussion started within the ICA Board about a year ago – late 2017/early 2018
- Language around CPTED in Latin America referred to CPTED as “CPTED Methodology”
- Board decided they needed a specific meaning and definition of CPTED methodology
- For CPTED certification, the methodology is incredibly important
- There are particular CPTED competencies that are required and one of them deals with CPTED methodology
- What approach should we take to research versus research data collection?
- These were the general questions regarding the “methodology” topic
- There were numerous email discussions about the depth and breadth of “methodology” in relation to CPTED
- The ICA Conference workshop/focus group on Methodology was developed to solicit different views from around the world
- Gregory Saville and Macarena Rau organized and conducted the workshop/focus group both in English and in Spanish
- They developed the following format
- Approximately 45 workshop/focus group participants attended

WORKSHOP FORMAT

1. **Part A – 1 hour.** The workshop will comprise 6 stations around the room at which an ICA board member will briefly present the CPTED methodology common in his or her part of the world. The workshop participants will be divided into teams and those teams will briefly visit all 6 stations.
2. **Part B – 45 minutes.** Each team will remain at one of the stations. A facilitator will help the team through a series of questions regarding how methodologies differ and common approaches that might be useful to CPTED practitioners around the world.
3. **Part C – 30 minutes.** The 6 facilitators from each station will report back to the whole workshop regarding some of the conclusions of team discussions. Those results will be recorded and will comprise the background for a subsequent ICA White Paper on CPTED Methodology for later posting on the ICA website.