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- ✓ A look at "Community CPTED"
- ✓ A Risk Assessment Model for CPTED
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All submissions to the CPTED Journal will be considered. Submission guidelines are published at the back of this issue. Articles may be edited for clarity and length. At present, resources allow publication only in english. All rights reserved. Articles contained herein do not necessarily represent the views of the International CPTED Association.

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THE CPTED JOURNAL

FOREWORD

Welcome to the first issue of The CPTED Journal! This journal is published for the members of the ICA and for those persons involved in CPTED research and practice. This issue covers some exciting new ground. It begins where our field of crime prevention through environmental design must begin — with an understanding of the crimes we face. This issue focuses on new ways of diagnosing problems and assessing risk. Each article takes CPTED on a slightly different path. Each has merit, albeit with different audiences. The first article was written by an architect, the second by a planner, the third a police officer/architecture student, the fourth a researcher. The authors write from three different continents. Obviously there is broad appeal to the CPTED approach and a wide span of ICA membership.

In the first article architect Randy Atlas describes the importance of moving CPTED from alchemy to a more scientific approach. This is a revised paper taken from his keynote address at an ICA conference. It throws the gauntlet to all CPTED practitioners and researchers to become more systematic in diagnosing problems before recommending CPTED strategies. This is how we will move our field forward.

There have been other calls for moving the field forward. For example, in 1997 school violence expert Gerry Cleveland and myself introduced the concept of *2nd Generation CPTED* at the Orlando ICA conference. We show how CPTED can be more sustainable by expanding it into “affective” (social/cultural) environments. There are others who, through their own experiences, have developed similar models. In this issue Sherry Carter expounds on one – a Sarasota, Florida, study using a model





she calls *Community CPTED*. For her, “law enforcement cannot alone resolve the social, physical and economic factors that weaken neighborhoods.” Her conclusion is a careful diagnosis so that “community-wide recommendations, when used collectively, will synergistically enhance” safety. Community CPTED shows the kind of neighborhood analysis and recommendations that ideally arise from taking such an approach. It is precisely the kind of diagnosis that has been missing from CPTED practice in the past.

The final two articles seize on this diagnostic approach from a different direction. The article by Phil McCamley reports on his new CPTED risk assessment instrument in Sydney, Australia. He contends that CPTED training that teaches little about diagnosis does a disservice. He notes how “design checklists and cookbook approaches to CPTED cannot discriminate for the many different...conditions that influence crime”. His solution emerges out of his graduate research at the University of Sydney architecture school. It is a rare find among a very small group of comprehensively tested CPTED evaluation kits for neighborhood crime.

Joowon Kim and Youngki Park also take the diagnostic path, but on more theoretical ground. Their research in South Korea presents *space syntax theory* as a possible future direction for CPTED. Their technical article will appeal to academic researchers in CPTED. But they also show us how the mathematical field of topology can be applied to the spatial structure of crime to create a “new index for the degree of crime prevention” in different spaces. As with McCamley, they point to “local neighborhood characteristics, such as playgrounds, basement parking lots” as the most appropriate level of analysis.

Taken on whole, these articles conclude that the diagnostic approach is the most appropriate starting place for CPTED. It is why we begin with this theme in the first issue. In future editions, as here, we will bring a balance of contemporary practice with theory to reflect the creative directions that CPTED can take. This is a crime prevention landscape that has vast potential benefit. We look for your input to help us map it out.

Greg Saville, CPTED Journal Editor



The Sustainability of CPTED: Less Magic, More Science!

By Randall I. Atlas, Ph.D., AIA, CPP
Atlas Safety & Security Design Inc.

This is an abbreviated version of an important paper provided by Randall Atlas as keynote at the Mississauga ICA conference. It's central theme, as with the other papers in this issue of the CPTED Journal, is the progress of CPTED towards a more systematic method.

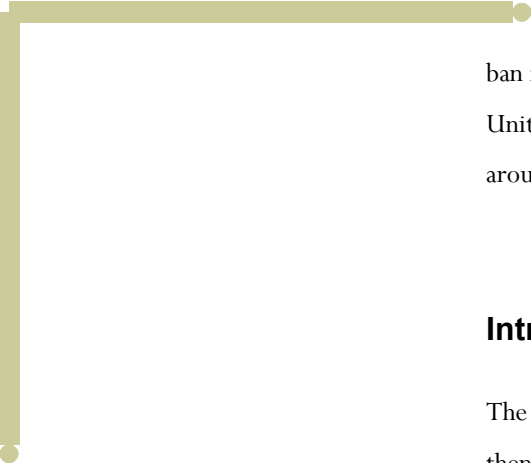
INTRODUCTION

The theory and concepts of CPTED were developed similar to the story of the Ten Commandments: The story of the Ten Commandments was a result of the freedom of the slaves of Egypt into the desert to form their own destiny. As the slaves of the pharaohs, the Jews were forced from their homeland by the Egyptians and wandered the desert for 40 years. Their faith was wavering from being socially and economically isolated in the desert for too long. Moses went up to the Mountains and received a message from God on what acceptable human conduct should be: the Ten Commandments.

In the CPTED view of the world, unruly criminal behavior sends the first generation of CPTED gurus (Oscar Newman, Richard Gardner, and Tim Crow representing Westinghouse Corp.) to different mountains where they return with the formulation of the commandments of Defensible Space and CPTED. Newman's early works bordered on architectural determinism, and Westinghouse's four test projects for CPTED were so intricate and complicated that they were difficult to measure and evaluate any discernable success. The many physical and social factors made evaluation almost impossible to isolate and measure what was creating the changes in behavior and environment. The implementation of defensible space and CPTED looked and felt good, but lacked the basis in comprehensive logic and the scientific method.

The pioneers of the CPTED and Defensible Space movements became the lighting rods for social and architectural change. Public housing now incorporates the principles of New Urbanism and CPTED in their designs. Urban infill is replacing subur-


"While the scientific method is necessary in developing scientific knowledge..."



ban flight. Main Street USA is boasting hundreds of success stories around the United States. There are thousands of persons trained and practicing CPTED around world.

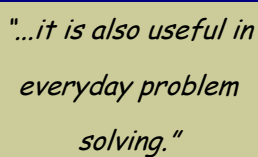
Introduction to the Scientific Method

The year 1543 may be taken as the beginning of the scientific revolution, for it was then that Copernicus published *The Revolution of the Heavenly Bodies* and Vesalius, on the structure of the human body. Within a century and a half, mankind's conception of itself and the universe was altered, and the scholastic method of reasoning was replaced by new scientific methods. The scientific method is the process by which scientists, collectively and over time, endeavor to construct an accurate (that is, reliable, consistent and non-arbitrary) representation of the world.



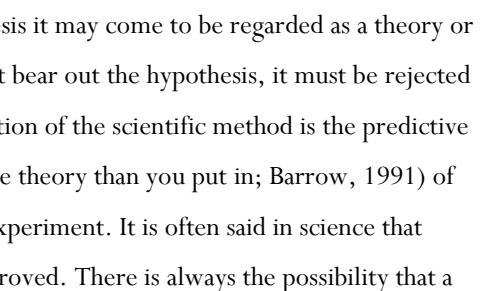
Recognizing that personal and cultural beliefs influence both our perceptions and our interpretations of natural phenomena, we aim through the use of standard procedures and criteria to minimize those influences when developing a theory. The scientific method attempts to minimize the influence of bias or prejudice in the experimenter when testing an hypothesis or a theory. The scientific method has four steps:

1. Observation and description of a phenomenon or group of phenomena.
2. Formulation of an hypothesis to explain the phenomena. In physics, the hypothesis often takes the form of a causal mechanism or a mathematical relation.
3. Use of the hypothesis to predict the existence of other phenomena, or to predict quantitatively the results of new observations.
4. Performance of experimental tests of the predictions by several independent experimenters and properly performed experiments.



"...it is also useful in everyday problem solving."

If the experiments bear out the hypothesis it may come to be regarded as a theory or law of nature. If the experiments do not bear out the hypothesis, it must be rejected or modified. What is key in the description of the scientific method is the predictive power (the ability to get more out of the theory than you put in; Barrow, 1991) of the hypothesis or theory, as tested by experiment. It is often said in science that theories can never be proved, only disproved. There is always the possibility that a



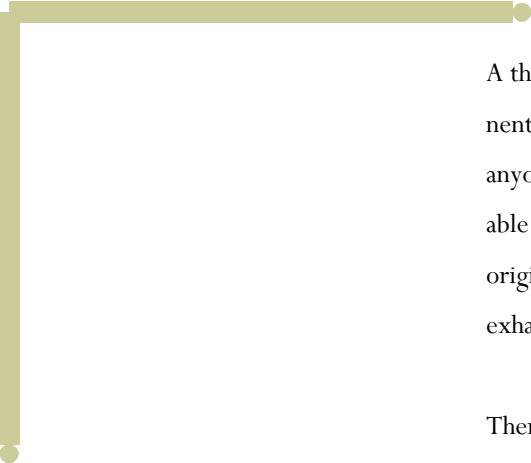
new observation or a new experiment will conflict with a long-standing theory.

Experimental tests may lead either to the confirmation of the hypothesis, or to the ruling out of the hypothesis. The scientific method requires that an hypothesis be ruled out or modified if its predictions are clearly and repeatedly incompatible with experimental tests. Further, no matter how elegant a theory is, its predictions must agree with experimental results if we are to believe that it is a valid description of nature. In physics (except theoretical physics), as in every experimental science, "experiment is supreme" and experimental verification of hypothetical predictions is absolutely necessary.

Experiments may test the theory directly or may test for consequences derived from the theory using mathematics and logic. The necessity of experiment also implies that a theory must be testable. Theories which cannot be tested, because they have no observable ramifications do not qualify as scientific theories.

In a field where there is active experimentation and open communication among members of the scientific community, the biases of individuals or groups may cancel out, because experimental tests are repeated by different scientists who may have different biases. In addition, different types of experimental setups have different sources of systematic errors. Over a period spanning a variety of experimental tests (usually at least several years), a consensus develops in the community as to which experimental results have stood the test of time.

A theory in experimental science represents an hypothesis, or a group of related hypotheses, which has been confirmed through repeated experimental tests. Theories are not easily discarded; new discoveries are first assumed to fit into the existing theoretical framework. It is only when, after repeated experimental tests, the new phenomenon cannot be accommodated that scientists seriously question the theory and attempt to modify it. The validity that we attach to scientific theories as representing realities of the physical world is to be contrasted with the facile invalidation implied by the expression, "It's only a theory." For example, it is unlikely that a person will step off a tall building on the assumption that they will not fall, because "Gravity is only a theory."



A theory is accepted not based on the prestige or convincing powers of the proponent, but on the results obtained through observations and/or experiments which anyone can reproduce: the results obtained using the scientific method are repeatable. In fact, most experiments and observations are repeated many times. If the original claims are not verified, the origin of such discrepancies is hunted down and exhaustively studied.

There are many types of "pseudo-scientific" theories, which wrap themselves in a mantle of apparent experimental evidence but that, when examined closely, are nothing but statements of faith. Alchemy is an example of such a "pseudo-science".

Webster defines alchemy as: "A medieval chemical philosophy whose chief aim was the conversion of base metals into gold. 2: An apparently magical power". The Egyptians practiced alchemy over 4000 years ago in order to create gold from other metals. The real aim of alchemy is the transmutation of all elements, physical, mental, and spiritual. Conventional science has achieved the medieval dream of element conversion with atomic fire. New elements are being created regularly and old ones transmuted to energy and chaos. The "Philosophers Stone" of spiritual transformation sought by the old and new alchemists have been forgotten by conventional science. Most conventional scientists consider alchemy bad science.

Changes in scientific thought and theories occur, of course, sometimes revolutionizing our view of the world (Kuhn, 1962). Again, the key force for change is the scientific method, and its emphasis on experiment. While the scientific method is necessary in developing scientific knowledge, it is also useful in everyday problem solving. What do you do when your telephone doesn't work? Is the problem in the handset, the cabling inside your house, the hookup outside, or in the workings of the phone company? The process you might go through to solve this problem could involve scientific thinking, and the results might contradict your initial expectations.

The scientific method is intricately associated with science. While the method appears simple and logical in description, there is perhaps no more complex question than that of knowing how we come to know things. The scientific method distinguishes science from other forms of explanation because of its requirement of systematic experimentation.

TESTING THE SCIENCE OF CPTED

CPTED has generally been practiced without the benefit of a systematic process or assessment as dictated in the scientific method. Most practitioners are in the law enforcement and have gained their CPTED expertise by attending one or several trainings. The police officer /CPTED practitioner is seldom given the time, resources, or expertise to conduct pre and post evaluations of crime hot spots requiring improvements. The universal solution has been to conduct a "quick and dirty" study of a troubled neighborhood or housing project requiring attention from crimes, illegal drugs, or gang related activity. The typical practitioner developed recommendations without the benefit of gathering all of the relevant information, without the benefit of power or authority to implement recommendations, without the power to make design or management decisions that perpetuate the problems, nor the ability or resources to evaluate or measure the success or failure of the recommendations. Each new site or crime project invoked reinventing the process again without a standard code or protocol.

The CPTED practitioner often goes to a potential crime site with their CPTED toolbox of "experience". Like a magician empowered to pull a rabbit from a hat, the CPTED practitioner must often pull the divergent forces of architecture, operational/management practices, governmental bureaucracy, and vested interests together in a collaborative process. Each new situation requires creative problem solving. But, as of yet, there is no standard of care. There are no minimum standards of what the process should be or the criteria for evaluation. With the exception of several cities with CPTED codes/ordinances/resolutions there are virtually no common guidelines for the practitioners to follow, other than their own experience or resources.

The standardization of fire prevention, as a very close cousin of crime prevention, is based upon the belief (theory) and practice and principal, that people's safety is the highest law. The building and life safety codes have as their fundamental goals the preservation of human life and property from fire and other life safety hazards related to buildings and building construction through enlightened and proper design; construction and inspection of all buildings and structure; uniformity in building regulations; the development of better methods of construction based on rational analysis;



"...as of yet...there are no minimum standards of what the (CPTED) process should be or the criteria for evaluation."

and the establishment of a sound basis for the growth of a defined geographic area.

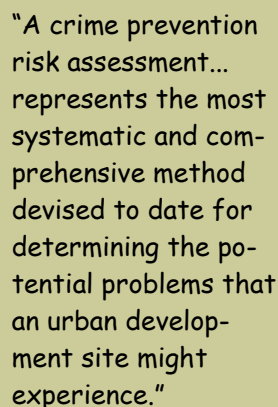
Imagine the changes in our built environment if a crime prevention committee had been developed in the early 1900's to prevent and reduce the loss of life resulting from crime in our built environment. How would the architecture have changed if a code had been established to rationally determine the minimum requirements for safe and crime resistant buildings? What if specific requirements and provisions had been established for security and crime prevention through standards and codes, and adopted as law and national standards of care?

A CPTED RISK ASSESSMENT MODEL

Fire prevention and life-safety codes developed a systematic and scientific process to establish measurable and predictable criteria for buildings to prevent fires, structural failures, and other life-threatening events. It has been proposed by Saville (1996) that a documented crime prevention risk assessment process be conducted during the development of new urban designs. A crime prevention risk assessment, in conjunction with implementable crime prevention recommendations, represents the most systematic and comprehensive method devised to date for determining the potential problems that an urban development site might experience (Saville and Wright, 1998).

The history of urban planning, architecture, and environmental criminology has recorded many instances where significant criminal problems arose when architectural development proceeded without a comprehensive crime/security risk assessment. The CPTED risk assessment has been developed to respond to the need for a more targeted approach: that crime reduction must proceed from as good an understanding as possible the actual crimes being committed at that point in time in that area; and that targeted crime reduction seeks to break down the idea of crime into a more clear picture of exactly what crimes, against what targets, where, and by whom.

Risk assessments have been developed by combining scientific field research and analytical methods with the practical experience of crime prevention practitioners and the perceptions of community members. There are four minimum criteria for conducting crime risk assessments. These criteria represent a combination of quantitative (statistical) and qualitative (perception) approaches. Specific research techniques for each risk assessment criteria are determined by factors at each site such as the size,



"A crime prevention risk assessment... represents the most systematic and comprehensive method devised to date for determining the potential problems that an urban development site might experience."

scope of development, and timing of a project, and what problems currently exist in the surrounding area (Saville, 1996).

This implementation of a CPTED risk assessment process provides a guideline or standard of care for developers, CPTED practitioners, architects and planners, CPTED consultants, or police officers. The following guide provides an overview of the minimum CPTED risk assessment steps a CPTED trained practitioner should be looking for in order to determine which CPTED strategies make sense, and which do not.

CPTED can be applied *before* or *after* a site is developed. It can also be applied on the basis of scale: *small, medium, or large* projects. This guide shows the minimum kinds of risk assessment research tactics that should be conducted prior to the development of CPTED strategies (Saville and Wright, 1998).

"The CPTED risk assessment has been developed to respond to the need for a more targeted approach..."

THE CPTED RISK ASSESSMENT GUIDE

	<u>BEFORE</u>	<u>AFTER</u>
SMALL SCALE	CATEGORY 1 TACTICS	CATEGORY 2 TACTICS
MEDIUM SCALE	CATEGORY 3 TACTICS	CATEGORY 4 TACTICS
LARGE SCALE	CATEGORY 5 TACTICS	CATEGORY 6 TACTICS

Category 1: This is a very small scale of development, before construction has begun.

Category 2: This is a very small scale of development, after the development has been built. It may be up for redevelopment, or you may have been asked to help resolve ongoing problems there.



Category 3: This is a medium scale of development, perhaps a new townhouse complex or a urban park. It is before the development has been built.

Category 4: This is a medium scale development, after the development has been built.

"...targeted crime reduction seeks to break down the idea of crime into a more clear picture of exactly what crimes, against what targets, where, and by whom."

Category 5: This is a very large scale of development, before the development has been built. This is the most complex level of CPTED review and normally a independent CPTED report would be written.



Category 6: This is a very large scale of development, before the development has been built. This is the most complex level of CPTED review and normally an independent CPTED report would be written. It is essentially the same as with category 5 *except that a safety audit is included, since there is now a site to audit*. The risk assessment at this level should include site visits - Local knowledge is absolutely crucial to the process. The collaborative research process is used with both users of the new development, local residents, the developer and architects, police and other relevant persons.

Action step	Category 1 Small scale before the fact	Category 2 Small scale after the fact	Category 3 Medium scale before the fact	Category 4 Medium scale after the fact	Category 5 Large scale before the fact	Category 6 Large scale after the fact
CPTED Review of architectural sketches	✓	✓	✓	✓	✓	✓
Assess current crime trends	✓	✓	✓	✓	✓	✓
Assess who are user groups?	✓	✓	✓	✓	✓	✓
What are current problems?	✓	✓	✓	✓	✓	✓
Does design fit designated use?	✓	✓	✓	✓	✓	✓
Assess adjacent land uses			✓	✓	✓	✓
Review lighting			✓	✓	✓	✓
Review landscaping			✓	✓	✓	✓
Advisory Design Panel			✓	✓	✓	✓
Partnerships with planners, owners, task forces				✓	✓	✓
Site Visits		✓	✓	✓	✓	✓
Interviews / Surveys	✓	✓	✓	✓	✓	✓
Personal Interviews		✓	✓	✓	✓	✓
Telephone Questionnaires					✓	✓
Field Observation		✓		✓	✓	✓
Category 6 Large scale after the fact Focus groups					✓	✓
Town meetings					✓	✓
Community planning/design workshops					✓	✓
Statistical data collection			✓	✓	✓	✓
Analysis of crime types and hot spots	✓	✓	✓	✓	✓	✓
Analysis of Marketing studies (if available)			✓	✓	✓	✓
Relevant time series crime data			✓	✓	✓	✓
Relevant crime data within 1 km radius	✓	✓	✓	✓	✓	✓
Socio-economic data			✓	✓	✓	✓
Demographic and mobility forecasts			✓	✓	✓	✓
Assess impact of entrapment areas & activity generators				✓	✓	✓
Assess sight lines/visibility/ear distances	✓			✓	✓	✓
Assess defensible space and space hierarchy	✓			✓	✓	✓
Assess territoriality/ boundary definition	✓			✓	✓	✓
Assess conflicting user groups	✓		✓	✓	✓	✓
Category 6 Large scale after the fact Hot spots and crimesite evaluation	✓		✓	✓	✓	✓
Crime analysis Analysis of crime types	✓	✓	✓	✓	✓	✓
Traffic counts Plan review of mobility paths				✓	✓	✓
Public transit information				✓	✓	✓
Mobility and activity patterns			✓	✓	✓	✓
Mobility predictors	✓	✓	✓	✓	✓	✓
Computerized geographic information system simulations					✓	✓
Action planning- development of some specific design strategies					✓	✓
Safety audits				✓	✓	✓
CPTED literature review						✓
Design charrettes					✓	✓
Research survey					✓	✓
Make changes based on CPTED & area knowledge	✓	✓	✓	✓	✓	✓

The appropriate CPTED risk assessment allows the CPTED practitioner to determine which CPTED tactics need to be applied. Based on the scale of the development or building different amounts of data and analysis will be required in order to make well-based decisions.

The CPTED Risk Assessment Process is the vehicle that will provide the justification and information needed for the planners, architects, and developers to design safe buildings. The architects and developers have to design buildings resistant to fire and other life threatening situations because they are required to by code. But crime is not included as a life threatening activity, even though recent acts of terrorism and workplace violence has reached the level of death and destruction of some of the nation's biggest fire tragedies. There is a need to provide the same process for crime prevention as fire prevention to the architectural community.

CONCLUSION

The science of alchemy was revealed as a "false science" for using improper scientific methodology to create gold from lead. Today, the CPTED practitioner is often asked to change lead (typical of urban crime environments) to gold (Main Street USA, New Urbanism, Gated Communities, etc.). CPTED has an established process to evaluate the linkages between the built environment and criminal behavior, yet CPTED as an "environmental design science" has failed because of the lack of systematic testing and evaluation of projects, the lack of a systematic risk assessment process, and the lack of standardization.

The CPTED practitioner often reinvents the process for each project. CPTED practitioners must start to read new books and articles on environmental research, and how to do it. The utilization of the scientific method and using a risk assessment model is what the future and long-term goals should be for the successful implementation of CPTED into the built environment. It is time for the future of CPTED to get SMART:

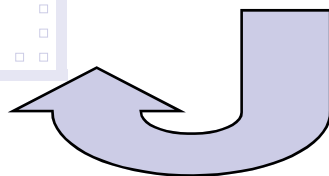
Specific goals of what crimes are to be reduced and experience outcome

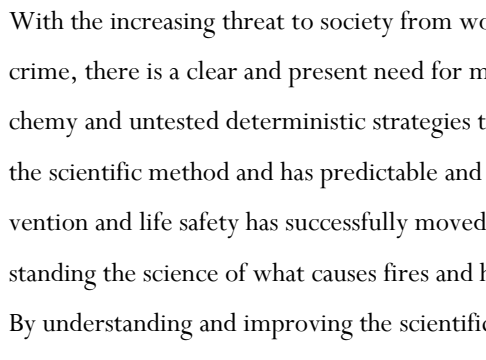
Measurable and replicable goals and results in the form of POE's

Achievable goals and results by clearly defined action steps

Realistic goals that are well grounded and have a scientific basis

Timed goals for a logical sequence, and ordering of action steps.





With the increasing threat to society from workplace violence, terrorism, and street crime, there is a clear and present need for moving CPTED from the magic of alchemy and untested deterministic strategies to a process that stands up to the rigors of the scientific method and has predictable and measurable results. The field of fire prevention and life safety has successfully moved beyond the fear and panic, to understanding the science of what causes fires and how the architecture can prevent them. By understanding and improving the scientific method of CPTED we can prevent fear and the opportunity for most crime and improve the quality of life.



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Community CPTED

By Sherry Plaster Carter, AICP

Carter and Carter Associates

Sarasota, Florida, U.S.A.

Sherry is a partner of Carter & Carter Associates and an urban planner. She works with her husband and partner, Ret. Police Captain Stan Carter, with whom this work was a collaborative effort. She is former Chief Planner for the city of Sarasota, Florida, and is the immediate past chair of the ICA.

The city of Sarasota is located within one of the wealthiest counties in the nation however, like most areas, the wealth is unevenly distributed with the poorest residents living in the city. While the city has enjoyed a resurgence of its downtown and waterfront areas there are older, once suburban neighborhoods that are showing the physical and socioeconomic characteristics that have historically contributed to economic and fiscal decline of central cities. Left unchecked

these could result in an erosion of property values, increases in service demands and reduced municipal income.

This study focuses on the aspects of a *Financial Sustainability Study* in which we reviewed the physical, social and economic factors of the city's neighborhoods that can be resolved or improved with expanded CPTED strategies, which I refer to as "Community CPTED".

Four Sample Areas

Four areas of the city were selected to facilitate a better understanding of the relationship between physical, social and economic conditions. These areas collectively and geographically represented the range of issues challenging the city's older neighborhoods. Each area had an increase in some aspect of public safety demands. A simple field review was conducted to identify physical signs of neighborhood stability that included the condition of public and private property, mixture of land uses, apparent code violations, the impact of major roads or facilities and the transition between residential and nonresidential areas. In addition to public safety demands and the field review discussed above, the 1990 census was used to extract appropriate demographic data. The selected areas

"Residents needed help and guidance with what to do"

were then used to solicit public opinion which furthered our understanding of the dynamics taking place in the neighborhoods. The following is a sample of the neighborhood profiles obtained from this analysis.

Area One

Not surprisingly, the area experiencing a steady increase in what we called Weighted Calls for Service (WCS) and in Part 1 serious crimes was characterized by the worst social, physical and economic conditions. Older, deteriorating single family homes were sometimes beyond rehabilitation. Marginal multi-family projects were distributed throughout. Transitions between residential and nonresidential areas were nonexistent. Streets were in fairly good condition, having recently experienced a major streetscape improvement project but several rights-of-ways were in need of maintenance. Incomes and home values were low at \$13,500 and \$40,000 respectively. Females headed 30% of family households. Fifty-six percent of the adults did not have a high school education. Police calls for service included incidents of suspicion, narcotics, miscellaneous and traffic. Residents expressed a need for help and guidance with what efforts they should make.

"The only activities for youth were found across major roads, making this a dangerous movement predictor"

Area Two



With high Part 1 crimes and WCS, this area has a mixture of land uses including single family, multi-family, commercial, industrial/warehousing, and a major ballpark stadium. Conditions of private property vary from poor to good and from old to new. Many homes were small, with carports and garages converted for extra space. Cars and work vehicles were often parked in front yards. Streets were good in the residential portion and poor in the industrial area. Transitions between residential and nonresidential were nonexistent. Residential borders were uneven, giving way to unattractive, non-residential land use directly adjacent to, or across from, residential. Two major roads traverse the area, both widened after the neighborhoods were developed. No efforts were made to mitigate the negative impact of heavily-traveled roads upon the neighborhood. A rarely used railroad track, with overgrown rights-of-way, runs the full length of the area. The only activities for youth were found across major roads, making this a dangerous movement predictor.

Median household incomes reflect the median income for the city, approximately \$24,000. Home values were below the median of \$71,600 at \$60,000. Renter occupancy were high at 72.4% and educational levels were mixed, with 22% without a high school diploma, 32% having a high school diploma and 45% with some college or better. Speeding, suspicion, larceny, noise and juvenile violations top the list of demands for police services.

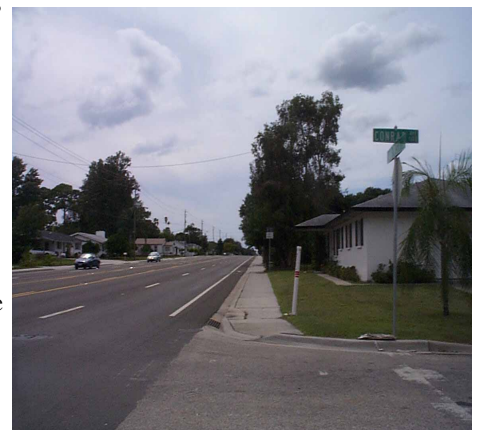
The general theme of the public discussion was to create pride and identity for the neighborhood. Like the participants of Area 1, they wanted information and assistance. They also wanted residential/commercial buffers brought into compliance, parking eliminated from front yards and improvements necessary to stabilize their neighborhood.

Area Three

This area contained a unique and troublesome combination of public safety demands. It was ranked 21st in Weighted Calls for Service and 5th in Part 1 crimes, leading us to wonder if residents were just leaving the area instead of calling police or were generally unaware of the problems. As it turned out, false burglar alarms, juvenile offenses, abandoned 911 and larceny topped the list of calls-for-service. The steady increases in larceny count for a high rate of increase in Part 1 crimes.

The area was predominantly single family housing with some commercial development. Private property conditions were fair to good. Code violations included illegally parked vehicles. Like Area 2, many homes were small with limited garage and parking areas. Public property was in good condition except the railroad rights-of-way. There is a point of passage from the neighborhood over the tracts into a park that allows offenders easy and sheltered egress from the residences. Two major roads separate and isolate the residential area from surrounding land uses. Homes with partial front yards (remaining from the widening of roads) create the edge of the neighborhood. Median household income is \$22,000, with home values at \$ 68,000. Educational levels are fair, with 40% having some college or a degree. The residents want code enforcement, better communication with the city, and enhanced neighborhood identity.

"The residents want...better communication within the city, and enhanced neighborhood identity."



Area Four

“...emphasis was placed upon a data gathering and review process that would encourage a multi-discipline, public-private approach to problems solving...”

This area had the reverse combination of trends than Area 3. WCS were ranked 6th and Part 1 crimes 12th, perhaps indicating the residents were more vigilant about the local problems. The area was characterized by single family, limited multi-family, commercial, and medical uses. Several homes were historic and many were along the waterfront. Conditions of homes range from fair to excellent with a great deal of renovation underway. Public property conditions were inferior to private property. Improvement of curbs, gutters and streets and better maintenance of rights-of-way was needed. Transitions between residential and nonresidential are better than the three other areas. The area enjoyed the highest median household incomes at \$36,324 and the highest median house values at \$146,400. Public safety demands were largely a result of calls for speeding and traffic violations. Residents want to sustain their quality of life, control traffic and work in closer association with the City.

Recommended Strategies

Financial Sustainability Model



The analysis for these four sample areas were used to assist with the identification of physical and socioeconomic factors that impact the city's bottom line. The resources of the study did not allow for the development of a set of solutions for each set of conditions. Instead, emphasis was placed upon a data gathering and review process that would encourage a multi-discipline, public-private approach to problem solving to develop recommendations for geographically identified problems. This is referred to as the *Financial Sustainability Model*. It is a three-tier process that includes quantitative and qualitative data at a city-wide, regional and neighborhood level. It is to be reviewed on an annual basis by a team of representatives from various departments, including the police department. Public participation would take place at the neighborhood level.

The model provides city staff and the community with a continuous opportunity to review and assess the interactions between the physical, social and economic environment of the city. It is an organizing framework for stimulating coordination, collaboration and communication between the various city departments and for

improving the quality of discussion between the city government and its citizens. It will allow for a comprehensive understanding of the various factors that contribute to neighborhood wellness and will facilitate feasible and sustainable strategies for community enhancements. It will also identify early warning signs of decline and indications of improvement.

Use Design to Protect and Revitalize City Neighborhoods

A major recommendation of the model is to use design as a tool for neighborhood revitalization and enhancement. Good design is essential to an attractive, livable, and functional built environment. It can mitigate the negative impacts of adjacent or incompatible land uses, and provide guidance for the redevelopment of neighborhoods. It can also encourage social interaction and provide exciting solutions for enhancing the public environment and meeting the land use needs of all citizens.

Design Recommendations

The following design recommendations take into consideration the advice provided by four local architects who facilitated public comments for the four sample areas. They are also a result of data analysis and field reviews.

Create Identity and a Sense of Pride for Fragmented Neighborhoods.

Several residential areas have irregular borders, ill-defined boundaries, wide-open edges and barren entrances that are the result of poor initial planning and a more intensive road system than existed at the time the homes were originally constructed. According to Jane Thompson and Ron Fleming, two recognized experts on “placemaking”, a sense of identity can be created by:

- Proprietorship (public participation, ownership, management)
- Names (Providing a positive sense of identity)
- Functional features (clocks, parks, sidewalks, lighting, community rooms, etc)
- Signage (information, identification)
- Landscaping (increase residential qualities, mitigates transitions from non-residential, adds interest and creates borders)

**“Placemaking”
enhances a
sense of
identity through
both physical
and social
influences**

- Historical/cultural connections (commemoration of significant features or events)
- Creation of lovable objects or places (interaction with nature, artwork, views, gathering spaces)
- Use of local designers/artists (supports the community)
- Involvement of children (affirmations in the future)
- Functional features that are aesthetically pleasing (such as transit stops).

Develop Design Solutions to Mitigate Impact of Major Roads on Neighborhoods.

Over the course of development of the city/county road system, neighborhoods now find themselves with homes immediately adjacent to, or even located on, major roads. The value of these homes is negatively impacted and so is the remainder of the neighborhood. As these homes deteriorate, they form a negative first impression of the entire neighborhood.

Individual homeowners are currently responding to the impact of traffic in front or on their side yards in a variety of ways, using a variety of materials. Some of the treatments are subtle and attractive; others are not.

Developing road mitigation solutions should be done in conjunction with a neighborhood planning process that includes similarly impacted neighborhoods. This will maximize benefits derived from developing solutions for other neighborhoods and it will insure the solutions are reflective of the desires of the residents.

Design solutions would include:

- Selected streetscape improvements, if needed, for the major or minor arterial streets serving a neighborhood
- Front and side yard guidelines for the development of public and private fences and walls along major roads or for heavily traveled roads
- Guidelines for public and private landscaping
- Attractive, traffic-calming neighborhood entry features
- Possible removal and replacement of deteriorating residential structures, particularly on corners.

Good Design can:

- Mitigate the impacts of incompatible land uses.
- Provide guidance for the redevelopment of neighborhoods.
- Encourage social interaction.
- Provide solutions for meeting the land use needs of diverse groups of people.

Expand Streetscape Improvements to Side Streets.

The city's streetscape improvements have created a positive impact in previously targeted areas. This impact could be further enhanced by the expansion of a simplified theme to adjacent side streets for at least a block. Of particular importance are side streets that provide links to other areas of the city. A simple application of lighting, sidewalks, canopy trees and painting of parking lines would suffice. Small scrubs are unnecessary, require more water and maintenance and often lend an disheveled appearance.

Provide Professional Planning and Design Assistance to Residents.

During public workshops, participants reflected upon their lack of professional expertise with design and planning principles. They noted difficulties in adequately responding to plans or having the desire to participate. The lack of planning and design expertise sometimes limits their ability to give informed responses or make appropriate demands for improvements. A request was made for an advisor (planner and/or architect) to be made available to neighborhood associations. Additional requests were made for home maintenance instruction, design and quality guidelines and assistance with grants.

Explore Amending the Land Development Regulations.

A neighborhood planning process for older neighborhoods with small homes and large streets might prove beneficial. It could identify a need for a transition from current regulations to formalized parking on residential streets, front porch encroachments and reduced setbacks for areas with small houses in need of expansion.

Plan for Transit.

Neighborhoods are negatively impacted by road widening, traffic volumes, noise and pollution. A concern for the safety of children, pets and the elderly is a factor

in home buying decisions. Therefore a goal to decrease reliance upon the automobile, particularly of commuters with set routes, is imperative for the ability of city neighborhoods to compete with traffic free suburban developments. Use design to develop attractive, interesting, dignified, convenient, comfortable and safe waiting areas.

Protect Neighborhoods from Traffic.

Perhaps the most difficult challenge to protecting neighborhoods is directing traffic and mitigating the impacts of too much traffic. The City should continue to pursue the right to implement traffic calming devices as a result of a thorough planning process, study impacts of traffic on all future developments and provide incentives to reduce the amount of traffic through neighborhoods.

Increase Informational Opportunities for the Public

In addition to recommending a collaborative process and the use of design we suggested increasing the amount and type of information available to the public. Using a resource guide, the city's website, newsletters and education forums, information could be easily made available to the public regarding code violations, city processes and programs, home maintenance and rehabilitation . An informed public is better equipped to self-patrol and improve their homes and neighborhoods.

**"(Neighborhood) ...requests
were made for home
maintenance instruction, design
and quality guidelines, and
assistance with grants"**



Conclusions

I have come to six major conclusions regarding cities and CPTED as a result of this study and previous work efforts:

1. Different geographic areas are impacted by different sets of conditions that require the development of a unique set of solutions for each area.
2. A process is needed for review and assessment of the interactions between the physical, social and economic environment.
3. Law enforcement can predict future increases in crime and service demands through analysis of order maintenance and quality of life indicators. But law enforcement cannot alone resolve the social, physical and economic factors that weaken neighborhoods and exacerbate public safety demands.
4. Quality of life conditions have a measurable and predictable impact upon the financial sustainability of a jurisdiction, both in lost values and cost for services.
5. CPTED concepts of access control, visibility, territorial reinforcement and maintenance play a major role in increasing neighborhood stability, improving home values and reducing the rise of law enforcement demands.
6. While CPTED concepts are critical, expanded views of CPTED on a community-wide level need to be furthered.

"Community CPTED examines the interaction of physical, social, and economic conditions...to develop strategies."

Community CPTED

As noted above in item six above, an expanded view of CPTED needs to be developed. While the basic concepts of CPTED can be applied to, either a single site or a geographic area, it is most commonly applied to single sites or single systems, such as a transit system. Some jurisdictions have passed CPTED ordinances that require a CPTED review of new or redevelopment projects and some have passed ordinances that require CPTED concepts be included in redevelopment efforts. However, I believe CPTED can be used as a powerful tool for assessing and guiding the development of recommendations that will lead to greater neighborhood stabilization, increased property values and reduced law enforcement costs for entire jurisdictions. It could also be thought as "Community CPTED".