

Urban Safety and Pedestrian Flow Spaces in Neighbourhoods of Latin and Central America: Human Contact and Trust in Pedestrian and Vehicular Flow Spaces as Modulating Variables in spatial localisation of Crime and Areas of Fear Perception.

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Abstract:

The following document describes the issue of Urban Safety linked to Pedestrian and Vehicular Flow Spaces in several neighbourhoods of developing countries, particularly those of Central and Latin America.

It develops and deepens the link between Human Contact and Trust as modulating variables of the Natural Surveillance mechanism from the perspectives of CPTED (Crime Prevention Through Environmental Design) and Situational Prevention of Violence and Crime in Pedestrian and Vehicular Flow Spaces in neighbourhoods of Latin and Central America that present urban pathologies such as urban insecurity, drug-trafficking, pedestrian and vehicular traffic congestion, and weak designs of public space, among others.

Two neighbourhoods are taken as study cases, one in Chile and another in Mexico, presenting criminal environmental issues related to transportation among others and that have performed several interventions in order to solve them. As a conclusion, it is pointed out that environmental characteristics are linked to higher criminal vulnerability in transportation spaces within these specific urban environments.

Keywords: Urban Safety, Transportation Spaces, Urban mobility, Criminal opportunity, CPTED, Human Contact, Natural Surveillance.

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1. Introduction

According to the United Nations Human Settlements Programme, “THE WORLD HAS ENTERED THE URBAN MILLENNIUM”¹. The allure held by urban areas has translated into massive migration from the countryside toward the city, which as a consequence has brought on significant rise on crime rates, safety issues, increased feeling of insecurity among populations, as well as high traffic and pedestrian volume and congestion, among other urban pathologies. It all adds up to the decline of citizens’ quality of life².

Such issues –related with crime, safety, quality of life in urban areas, urban mobility, and implementing measures designed to stop that feeling of insecurity, have become a key issue for all institutions working with safety, crime prevention, as well as social, urban, and transportation policies. It should also be considered that crime phenomena, uncivil acts³ —such as areas in which people feel fear— have a spatial component, since these criminal incidents do not occur or are randomly distributed throughout the public and urban space (Rau, 2006). This is how the environmental characteristics of these spaces become relevant for criminology. Traditionally, two disciplines stand out: Situational Prevention (Felson and Clarke, 1998) and Crime Prevention through Environmental Design, CPTED. The first trend, of English influence, rises in the field of social sciences and is linked to a high use of technological resources (such as surveillance/CCTV cameras) mainly focused on the protection of vulnerable targets. Situational Prevention is characterised by focusing on specific kinds of undesirable behaviour, either incivilities and/or crimes. Also, CPTED is a discipline that rises mainly under the influence of architecture and urban development, examining the manner in which they facilitate or hinder the exercise of informal social control over a set space. Besides approaching spatial localisation problems of crimes and incivilities, CPTED seeks to help to reduce fear and the perception of social unrest in determined spaces, when they are influenced by the existence of certain environmental characteristics.

So regarding the connection of criminal opportunity and insecurity in transportation spaces in neighbourhoods in Latin and Central America, it is relevant to ask the question: **What are the environmental characteristics, in terms of physical space and social behaviour, that have an effect on the vulnerability of the pedestrian and vehicular flow spaces, so that criminal opportunity is localised within them and the areas with insecurity perception in neighbourhoods of Latin and Central America?**

Urban and criminal data will be exposed below, as well as study cases and practical interventions to try to answer such question.

¹Paul Van Soomeren, President of E-DOCA Hábitat II, June of 1996.

²Rau, Macarena and Prosser, Paola. PROGRAMAS DIRIGIDOS A REDUCIR EL DELITO: Una Revisión Sistemática de la Literatura. Fascículo Cuarto: Estudio de Evaluación de Impacto de Estrategias en Prevención Situacional. Interamerican Development Bank. 2012

³Actions that in spite of not always being crimes, are linked to the perception of social unrest and fear. These actions include, as an example, drinking alcohol in the public road.

2. Background Information

2.1. Criminal Background

a. Crime in Latin and Central America

During the last few decades, insecurity and criminal violence have become a structural problem in Latin and Central America, due to its magnitude as well as its expressions. This is why undoubtedly the issue of security and safety currently holds is a priority in government and civil society agendas. However, regardless of the fact its study is paramount for understanding reality in the region; there are only few occasions in which the measures applied regarding public safety respond to a well-organised, long-term strategy, oriented to improve democratic coexistence⁴.

Security is a complex issue these days, since there is an alarming conjunction between “on the one hand, high and sustained levels of delinquency, and on the other, social ‘chronification’ of a diffuse fear of crime” (Curbet, 2009:5). This fear of crime not only generates loss of trust in institutions, but also raises doubt on the ability of a government to handle the growing demand for security by the population. Furthermore, the applied strategies to face insecurity have historically been of a rather repressive nature, which instead of encouraging social inclusion, has ended up stigmatising certain groups of the population, such as youngsters of migrants⁵.

b. The (in) security situation in Countries of the Andean Region

In order to comprehend the security situation within the countries of the Andean Region –Bolivia, Colombia, Ecuador, Perú, and Venezuela—it is first necessary to point out that the phenomenon of public insecurity has both an objective as well as a subjective dimension. The objective dimension is based on the existence of a real risk, that is, a person has a statistical probability of being victim of a crime. Whereas, the subjective dimension, is based on a perceived risk, i.e., people’s fear of crime (Curbet, 2009: 21).

Regarding measurements of the objective dimension of public insecurity is usually based on official records and data, provided by institutions responsible for collecting such information –formal reports—on criminal acts. Homicide is used as the main variable when comparing criminal vulnerability among countries within the region.

⁴ Espín M., Johanna. La Seguridad ciudadana y los procesos de gobernabilidad y convivencia democrática en los países de la Region Andina / Johanna Espín M. -- 1^a. ed. - San José, C.R.: FLACSO, 2009. 28 p. ; 27.5 x 21.5 cm. ISBN 978-9977-68-186-3

⁵ Espín M., Johanna. La Seguridad ciudadana y los procesos de gobernabilidad y convivencia democrática en los países de la Region Andina / Johanna Espín M. -- 1^a. ed. - San José, C.R.: FLACSO, 2009. 28 p. ; 27.5 x 21.5 cm. ISBN 978-9977-68-186-3

Table 1 shows homicide rates of a few Andean countries for 2008. According to the figures, there are two countries with relatively high rates: Colombia and Venezuela –although some of the cities in Colombia have a downward trend, whereas in Venezuela an upward trend can be seen. The rates for the three remaining countries range between 10 and 20 homicides per 100 thousand population, which makes them countries with moderate incidence, according to the World Health Organisation (WHO).

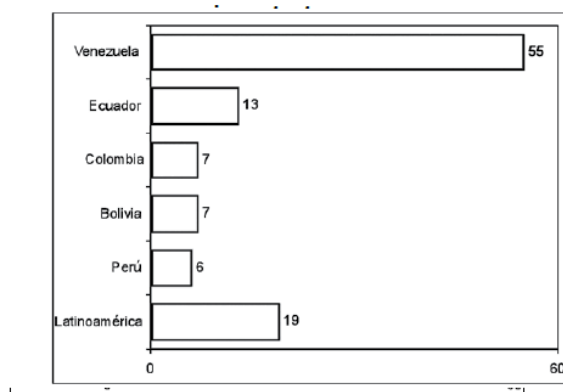
Tabla 1.
Tasas de homicidio por cada 100 mil habitantes

País	Tasa de Homicidios	Año
Bolivia	12,17	2008 ¹
Colombia	33,00	2008 ²
Ecuador	18,80	2008 ³
Perú	11,57	2008 ⁴
Venezuela	52,00	2008 ⁵
Fuentes: 1) Instituto Nacional de Estadísticas 2) Policía Nacional 3) Policía Judicial 4) Policía Nacional 5) OEA		
Elaboración: Propia.		

The provided figures themselves reflect a complicated and complex security situation within the countries of the Andean Region. However, when homicide rates of youngsters between the ages of 15 and 24 are examined, the situation is even graver. In a publication entitled “A Map of Violence: Latin American Youth” (“Mapa de la violencia: los jóvenes de Latin America”), it is mentioned that in 2008, the homicide rate in Latin American youth was 36.6 per 100 thousand population. In Colombia, however, the homicide within youth was 73.4, i.e. there is a difference of over 40 homicides per 100 thousand population compared to the general rate of the country; this is the most significant difference within the countries of the Andean Region. The rate was 64.2 per 100 thousand population in Venezuela, and 26.1 in Ecuador.

Around the world, local concerns for public safety have been top priority in debates on issues of major concern within the public opinion (Curbet, 2009: 18). In Latin America, for instance, according to the data collected in the 2009 “Latinobarómetro” poll, from a list of 13 social, economic, civil, and political guarantees, protection against crime is considered the least secured of all.

Gráfico 1.
% de personas que considera a la Delincuencia como el problema más



Fuente: Latinobarómetro 2009

The aforementioned situation is related to the climate of mistrust reigning over the culture and institutions of Latin American countries. When asked about trusting other people in Andean countries, findings show trust does not exceed 30%. In Bolivia it reaches 26% of those polled, 23% in Venezuela, 20% in Ecuador, 19%, in Colombia, and 17% in Perú. In societies such as those of the Andean countries, where there are high degrees of insecurity –objective as well as subjective—it comes as no surprise that the levels of trust in other people and situations is low, since the causes of distrust are structural.

In this context, Chile is an emblematic case within the Andean region, when comparing criminal indicators. The country boasts the lowest crime rate; 5.3 per 100.000 population, but a high feeling of insecurity, with more than 60% of the population having fear of becoming victims of a crime.

However, fear not only generates distrust and stigmatises human groups, but also deepens inequality. When a space becomes dangerous, those who have the economic resources adopt private measures for their own protection or push for higher police presence, although this may mean more vulnerability in other areas. In a more extreme case, when there is higher deterioration in a neighbourhood, those who can afford the option of leaving do, but there are those for whom this is not an option, so they stay and their fear augments. It is therefore no surprise that most of the public policies are focused on meeting “security demands of a frightened population (safety policies) rather than deactivating the different conflicts found at the origins of the many criminal manifestations (social policies)” (Curbet, 2009: 27).

Lastly, persistency of this climate of uncertainty –brought on by a feeling of insecurity—along with the existence of high levels of violence, produces a feeling within the population that delinquency is due to a lack of political will to solve the problem, or even worse, to the incapacity of the government of doing so (Curbet, 2009: 24).

b. The Situation of (In) Security within the countries of Central America: the case of Mexico

Delinquency has increased exponentially in Central America in the last 5 years, with the influence of two very clear phenomena: organised crime and gangs (maras)⁶.

Central America is a geographical corridor for drug trafficking, reason why several countries have suffered increase of drug trafficking as well as internal consumption, which impacts on the creation of a culture of violence and an increase of criminal indicators. In this scenario, the case of Mexico is well-known as a country that has battled against Drug-trafficking and Crime. Mexico is located in the southern part of North America. It is bordered on the north by the United States; on the southeast by Guatemala, Belize, and the Caribbean Sea; on the east by the Gulf of Mexico and the Caribbean Sea, and on the west by the Pacific Ocean. It is the world's 14th largest country by total area, close to 2 million square kilometres. In 2010 its population was estimated around 112 million people⁷.

In political terms, Mexico is a democratic republic⁸, a federation comprising thirty-one states and a Federal District, Mexico City, the capital, where the seat of Government y the powers of the union are located in. According to the Fourth National Poll on Urban Insecurity, elaborated by the Citizen Institute for Studies on Insecurity (ICESI), Mexico City –which contemplates the Federal District (D.F.) and the conurbation around Mexico City (Mexico City Metropolitan Area)—has a criminal incidence of 24.8%, which means that one fourth of the population was a victim of some kind of crime during 2005.

With a homicide rate close to 20.09% in 2010, Mexico presents accentuated economic polarisation that has created a broad population of the poor, 33.0% moderate poverty and 5.8% extreme poverty. Crime levels in Mexico continue to be high, and crime is frequently violent, particularly in Mexico City, Tijuana, Ciudad Juárez, Nuevo Laredo, and in the Sinaloa state. Other metropolitan areas have serious but lower delinquency levels.

From a security standpoint, Mexico has poverty levels linked to the increment of migratory flows, concentration of poverty in irregular settlements and transfer of inhabitants to the outskirts. Lack of housing and land options for the poor has increased human settlements not considered in planning, and lacking infrastructure and utilities.

2.2. Urban and Environmental Background: Slow Traffic Model vs Urban Model of Highways.

a. Urban Mobility in Mexico

The Urban model developed in Mexico and Latin America for the past 6 decades is closely related to vehicular mobility, stemming from having zoned

⁶ See www.latinobarómetro.org

⁷ Instituto Nacional de estadísticas y geografía INEG, 2010 Census.

⁸ World Bank. World Development Indicators. 2007

cities following the urban model from the United States. It was based on the development of sprawling cities with low construction densities, articulated by a long, extended roadway network⁹. Such is the case of the city of Monterrey, as well as Mexican Federal District, among others.

With the birth of the first cities, men were able to let their imagination flow: Athens, Rome, and Constantinople had indisputable urban strength that integrated and united society. Its citizens were proud of their ability to create spaces that fused the will of each of these cultures: temples, squares, Agoras, markets, and libraries. Magnificent public spaces offered those who arrived in the city the opportunity to also become Citizens. Currently, during the XXI century, our politicians only want to build streets and grade separations. Social equipment, the kind which makes humans better, is no longer made. Therefore, urban crisis is evident¹⁰.

b. “Slow Traffic” Concept¹¹

Slow Traffic is a tool reinvented by the Dutch, whose goal is to achieve harmonious, vibrant cities. Cities are rapidly becoming dehumanised and nobody is doing anything about it. There is an ill-understood Urban Modernism going on in which building streets for cars is prioritised over personalising neighbourhoods.

Examples of successful urban models are cities like San Cristóbal de las Casas and San Miguel de Allende, where pedestrian walks and local commerce work. The rationale to break this kind of urban model is vehicular traffic. Holland and Europe are positive urban models that have searched and have found an efficient balance between vehicular connectivity in the city and a humanist vision that respects traditions and urban coexistence.

Mexico presents great backwardness in the urbanisation of its cities; it will be impossible to become a country with sustainable urban development if we are not able to change the existing premises to an intelligent urban model that is socially sustainable and economically viable. Urban policy responds to the protagonism of developing big road works.

c. Urban Community

The concept of Urban Community has been key to thinking new urban designs thought for the contact with neighbours. These designs seek spaces for the community to meet their main environmental needs.

Jane Jacobs' work is a great contribution in this sense. In her first book, “Death and Life of Great American Cities” in 1960, Jacobs proposes that for a street to be safe it must be designed in such a way that it allows to see and be seen. This is what she called “Eyes on the Street”; she was somehow talking about the Natural Surveillance mechanism that CPTED methodology proposes.

⁹ Instituto Nacional de Estadísticas geográficas INEG, Censo 2012.

¹⁰ Grupo Link. Movilidad Inteligente: Ciudades que Facilitan la Vida. 2011

¹¹ Grupo Link. Reflexiones Urbanas. 2011

One of the fundamental conditions for this mechanism to work is a desired and informal contact among human beings using both vehicular as well as pedestrian flow spaces. This contact will be achieved based on bonds of trust as well as different environmental variables, such as clear visual fields, appropriate lighting, and environmental information, which among others affect the level of trust of those using a neighbourhood street.

d. New Urbanism or Intelligent Urbanism

New Urbanism proposes to stop building developments and start building urban communities, which is strongly linked to the territoriality of our actions. This means, for example, to have available, in an area smaller than 3 km, all the necessary services to stimulate and encourage the urban resident to walk; this promotes the creation of bonds, attachment, and care for public spaces – besides providing the chance of casual and desired encounters among pedestrians.

3. Theoretical Framework

The Theoretical Framework for CPTED and Situational Prevention methodologies is developed below; both will be used later in the analysis of study cases.

CPTED

CPTED is the acronym for **CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN**.

The concept of CPTED, coined in 1972 by C. Ray Jeffery, is based on the idea that certain crimes occur in certain spaces due to the localisation opportunities offered by the physical environment. This allows to hypothesise that it is possible to alter the physical environment in order to decrease the probability that these crimes occur at all. According to Jeffrey, "Urban environments can influence criminal as well as general behaviour in two ways: physically, surroundings in which people live have an effect on each individual; socially, providing social relations.... Noise, pollution, and overcrowding, are the most negative physical characteristics of urban environments. Most negative social characteristics are alienation, loneliness, anxiety, and dehumanisation." (Jeffrey, 1972)

First-generation CPTED (1972) proposes four basic concepts: **Natural Access Control, Natural Surveillance, Maintenance, and Territorial Reinforcement**. The first three are basically instrumental and common to other theories, whereas the fourth is linked to the theory of territoriality, which is part of Ecological Science. Second-generation CPTED (1996) crucially incorporates the fifth principle: **Community Involvement**. This methodology is based on principles that are universal, but which are applied locally, specially modulated by the different communities that populate the studied territory. The 5 principles of CPTED are detailed below.

a. Natural Access Control

Natural Access Control is a group of design strategies that have as a goal to reduce criminal opportunity. It promotes the design of new architectural elements as thresholds to create within potential criminals the perception that there is a risk in choosing that area because it has a specific user. It does not promote the closing or blocking of pedestrian walkways, but rather promotes good flow integration and connectivity but paying attention to their entrance and exit spaces.

b. Natural Surveillance

Natural Surveillance is defined as the ability to see and be seen within the urban space and it refers to designing strategies that seek to increment visibility of a space, by using appropriate location, window design, lighting, and landscaping, among other actions. It seeks to increase the ability of residents to observe the activity in their surroundings, which provides the opportunity to modify inadequate behaviour, or at least report them to the police or the owner of the property. When Natural Surveillance is used at its maximum potential, the possibility of preventing the crime increases, by making the behaviour of the aggressor easily observable.

c. Maintenance

The concept of Maintenance of urban spaces talks about the need of having plans for management, cleaning, and gardening of public spaces. CPTED methodology states the importance that the urban space be perceived by users as receiving appropriate care. The concept of Maintenance of urban spaces is linked with a theory known as "**Broken Windows**" (G, Kelling and C.Coles, 2007), that assumes a deteriorated space localises a higher number of crimes of opportunity than one with good Maintenance.

d. Territorial Reinforcement

The concept of Territorial Reinforcement refers to the sense of affection that a resident establishes with his immediate surroundings, and therefore he takes care of. The process of designing spaces seeking to increase a sense of affection and belonging in its users takes several techniques. Deliberately placing secure activities in potentially insecure areas can achieve this effect. Maintenance as well as use of the area increases.

e. Community Involvement

The concept of Community Involvement is focused on the incorporation of neighbours from a community as essential actors in environmental safety. It emphasises strengthening strategies for neighbourhood and communal organisations, and residents of an area where Natural Surveillance, Natural Access Control, and Territorial Reinforcement must focus toward the development of active participation and local organisation. The latter must structurally be integrated to CPTED strategy. A user of the territory is considered as a NATIVE EXPERT of his feeling of security, reason why he is a key actor at the time of applying CPTED strategy in an integral manner.

Situational Prevention

Situational Prevention¹² has become a protagonist axis within public policy and research since the early 1980s in different countries around the world. This coincided with favourable political and academic junctures in the United Kingdom, as well as in the United States and Australia, which is where it has expanded the most ever since. In this specific manner, development of a situational approach to crime prevention, with theoretical bases and empirical research, is strongly linked to the work of the Home Office Research and Planning Unit, UK, in the early 1980s, specially the work of Ronald Clarke.

In criminological terms, Situational Prevention represents a road towards:

- Prioritisation of crime prevention before control by means of policies oriented in a practical rather than academic manner.
- Emphasis in physical environment alterations.
- Relevance of informal social control.
- Aggression over aggressor as primary focus of attention, located in a spatial context.

Some time ago, criminologists of the Chicago school (1920) and later others linked to British research, identified the importance of informal control and environment when studying crime patterns. This is Hough's definition of Situational Prevention:

- Strategies are directed to confront a specific crime pattern.
- They manage, design, or manipulate the immediate environment in which crimes occur.
- The goal of these strategies is reducing the opportunities for crime.

Within this frame, reducing criminal opportunity may have three interrelated and overlapping forms (see Clarke 1992):

- Increasing efforts linked to the commission of a crime, hardening the target.
- Increasing the risk, whether real or perceived, of detection and apprehension of the offender.
- Reducing the rewards of committing a crime. In some cases, this will imply removing all criminal targets at a time.

The thesis that many crimes respond to opportunity and are susceptible of being modified by varying opportunities rose in the 1970s. This vision was supported by research specially based on interviews to residential criminals (Brantingham and Brantingham 1975; Bennett and Wright 1984). These authors suggested that avoiding the risk plays an important role in the decision-making process of the offender when faced with a criminal situation.

¹² Felson, Marcus and Clarke, Ronald. Situation Prevention of Crime, Police Research Series, Paper 98, 1998.

Rational Choice Theory

At the very heart of situational prevention of a crime is another theory known as Rational Choice of the Offender. It is linked with the criminology concept that emphasises the reasoning, voluntary process made by offenders. It conceptualises the decision-making process in which the choice, whether linked or not to criminal aspects, would be performed based on pondering the relative weight between perceived risk and the effort of obtaining relative gain. In this case, the offender is seen as a decision-maker who carefully ponders the advantages and disadvantages associated with certain activities.

Rational Choice theory offers an economic model of crime, similar to a cost-benefit analysis. The focus is located from the individual up to costs and benefits, as well as the way they express themselves in the context or situation in which the crime occurs.

Situational Prevention presumes certain aspects about offenders and victims. The former as seen as decision-making actors, who ponder the potential of a criminal action, its risk and its cost before committing a crime. In this balance, the offender is seen abstractly in terms of his social and structural context.

4. Cases

Two study cases are presented below; one in Población el Caleuche in Chile and the other in Terremoto Colony, in San Luis de Potosí, Mexico. In both cases, the factor of pedestrian as well as vehicular flows is quite relevant for the diagnosis and design of CPTED strategies and Situational Prevention. Strategies performed in both neighbourhoods contemplated participative design of a new pedestrian-flow system, mainly considering the Safe Route strategy.

4.1. Human contact and Trust in a Residential Community: el Caleuche case, Chile. (2006)

a. Background information



Photo 1¹³



Photo 2¹⁴



Photo 3¹⁵

¹³ Rau, M. (2006). In the photo, a group of young graffiti artists on a scaffolding painting the mural of the Sacred Hearts Christ, one of the drawings the community agreed to after the Diagnosis and Participative design stages of the "Beautifying your Villa" project.

Puente Alto is a commune with a population of 600 thousand¹⁶ and is located in the south-west periphery of the Santiago Metropolitan Region in Chile. Criminal indicators from 2006 showed this was a commune with high levels of victimisation and fear¹⁷. An interdisciplinary team was constituted within the municipality, which was called a CPTED management team and lead by the Mayor. Relevant actors of local security, such as the police, sports associations, neighbourhood council representatives, and firefighters, among others, joined the team. Using georeferences of reported crimes to the Chilean Police Force (Carabineros de Chile), main criminal hotspots were localised within the commune. It was concluded that high concentration of mugging and theft were located at the urban and commercial centre of Puente Alto, as well as high concentration of larceny was localised in the south-west area of the commune, which spatially corresponded to the localisation of extensive areas of social housing at Población El Caleuche.

The urban centre in Puente Alto was rebuilt in a period of three years, following CPTED parameters which had a positive impact on safety perception of its inhabitants, as well as on the commerce productivity¹⁸. The Mayor's popularity was also strengthened; he has been reelected three consecutive periods since then. In the Social Housing sector, known as the area of El Caleuche, three kinds of works were performed. A first one (2003) consisted of the implementation of CPTED methodology by way of performing participative diagnosis, followed by participative design, and finally recovery of public space, taking into account the environmental preferences detected by the community¹⁹. Later, a survey was carried out within neighbourhoods, to measure victimisation levels and feeling of fear. The neighbourhoods involved in the sample were the slums of Villa el Caleuche, Villa Altos del Maipo, and Villa Volcán 1 and 2. All of these slums are adjacent and the size of the sample was 1200 people.

Data collected from the survey and later analysis showed quite interesting results when formatted as maps (map 1) and databases. The main discovery was the interacting dynamic existing between these four slums, which was called el Community Appropriation Limit²⁰ (map 2). This was mainly a space for pedestrian and vehicular flows covering the four slums where the Natural Surveillance mechanism waned due to a break in the Territorial Reinforcement bond within the residents in this territory. However, this space had high levels of visual fields used by opportunity criminals; that is, an inverse Natural

¹⁴ Rau, M. (2006). In the photo, a pilot patio at Villa El Caleuche in the framework of the "Beautifying your Villa" project, once painting the blocks was finished.

¹⁵ Rau, M. (2006). In the photo, a group of neighbours of Villa El Caleuche paint their own homes.

¹⁶ Ver en <http://www.mpuentealto.cl/>

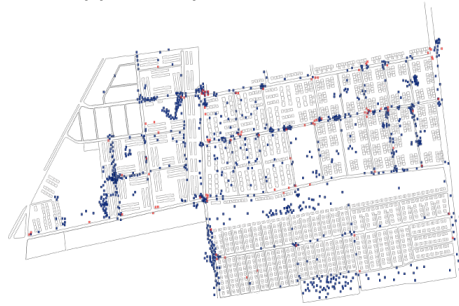
¹⁷ Adimark y Fundación Paz Ciudadana (2002), Crime and Fear Index.

¹⁸ Rau, M. & Stephens, R. (2003) Informe de Vulnerabilidad Espacial Delictiva y Percepción de Temor en Puente Alto, Fundación Paz Ciudadana.

¹⁹ Rau, M. & Stephens, R. (2003) Informe de Vulnerabilidad Espacial Delictiva y Percepción de Temor en Puente Alto, Fundación Paz Ciudadana.

²⁰ Rau, M. (2004) Seguridad Ciudadana y Espacio Urbano Residencial: Límite de Apropiación Comunitaria. Tesis de Magister, Pontificia Universidad Católica de Chile.

Surveillance condition occurred at the borders that was quite favourable for the commission of crimes of opportunity²¹.



Mapa 1.



Mapa 2

In 2006 the Mayor of Puente Alto contacted once again PBK Consulting (www.pbk.cl) to take up again the work in Villa El Caleuche. It had been 3 years since the intervention at the public space and later study; the goal now was to monitor what was going on at Villa El Caleuche from an environmental security perspective. The low municipal budget for the execution of the project was limiting from the very beginning. The plan was to carry out in full all the stages of a CPTED project: Diagnosis, Design, Execution, and Evaluation. The project was started performing a new Participative Diagnosis in the format of an assembly. During the Diagnosis the issue of a low budget was immediately explained, so as not to create false expectations. This project was named by the community as **“Beautifying Your Villa”**, and based on the Diagnosis, it was decided along with the community to paint the walls of the three-story high blocks of flats. The chosen colour was grey and several colours, plus murals in some specific cases. This was decided after making sure that the municipal budget could afford buying the necessary paint.

Based on the **“Community Appropriation Limit”**, participative design workshops were carried out to encourage the neighbours’ creativity. Young residents of Villa El Caleuche got organised to paint murals, especially those who had experience with graffiti. The very organising process strengthened community bonds of trust and collaboration among neighbours. It was decided to begin painting a specific space within the neighbourhood, named **“Work of Trust”**, one of 9 patios in the spatial structure of Villa El Caleuche. The Execution phase began once the designs of the different patios were agreed upon. Since hiring specialised labour was out of the question, work groups

²¹ Rau, M. (2004) Seguridad Ciudadana y Espacio Urbano Residencial: Límite de Apropiación Comunitaria. Tesis de Magister, Pontificia Universidad Católica de Chile.

were organised including neighbours, and those who had experience in construction trained others who did not. Active participation of women as labour was one of the highlights of the event. When the pilot patio project was finished, a survey was carried out as an Evaluation method, to a universe of 100 neighbours.

b. Evaluation

The following questionnaire was applied to 100 neighbours in Villa El Caleuche once the pilot patio was done. This was an open questionnaire, since there was suspicion of drug trafficking in the area, so there was no room for direct questions regarding security or drugs. The results of this questionnaire were the following:

PUNTE ALTO
PUBLIKA CONSULTING

ENCUESTA DE EVALUACIÓN PROYECTO PILOTO "HERMOSEANDO SU BARRIO"

Nombre	KAREN SINGAROWITZ TAPIA
Nº Departamento	#31
Calle y Block	CHILENA # 1163

1. Pertenecía usted al patio piloto?
NO, NO PERTENECÍ.
2. Como encontraba usted que estaba el patio piloto antes de la intervención?
MUY DESORDENADO
3. Que problemas presentaba este patio?
MUY BARRO
4. Como se sentía en el barrio antes de la intervención?
MEL BOR QUE ESTABA MUY FEO
5. Como se enteró usted del proyecto?
POR LA COMUNIDAD VECINOS
6. Que le mejoraría al proyecto?
NADA
7. Le gustan los murales o sólo le gusta la pintura de las fachadas?
ME GUSTAN LAS PINTURAS DE LAS FACHADAS
8. Que tema le gustaría tratar en los talleres de los viernes?
EL DE LA SEGURIDAD
9. que aporte haría usted como vecino a este proyecto?
LO QUE PUEDA
10. Que espera de sus vecinos en este proyecto?
QUE SE UNAN MAS

Gráfico 122



Gráfico 223

- **The answers for PROBLEMS IN THE PATIOS Category were:**
70% thought the patios were ugly and disorganised, 10% thought they were dirty, 10% thought they presented all problems, and 10% did not specify.
- **The answers for NEIGHBOURHOOD PERCEPTION Category were:**
50% considered their Neighbourhood was doing badly, 25% considered it was degrading, 10% considered it was depressing, 10% thought it was supported by the municipality, and 5% marked "other".
- **The answers for HOW YOU FOUND OUT ABOUT THE PROJECT Category were:**
70% found out via neighbourhood council, 20% via meetings, and 10% via community leaders.
- **The answers for WHAT WOULD YOU IMPROVE ABOUT THE PROJECT Category were:**

²² Rau, M. (2006). Informe de CPTED project "Hermoseando Tu Villa". Municipio de Puente Alto.

²³ Rau, M. (2006). Informe de CPTED project "Hermoseando Tu Villa". Municipio de Puente Alto.

60% answered promptness, 20% wanted shinier paint, 10% would incorporate lighting, and 10% would incorporate green areas.

- **The answers for WHAT WOULD YOU LIKE TO INCLUDE IN WORKSHOPS Category were:**

20% would be interested in having workshops on Crime Prevention, 20% on Drug Abuse, 10% on Garbage, 10% on Sports, 20% Novelty Topics, and 20% states they would not be able to attend.

- **The answers for MURAL PREFERENCE Category were:**

65% of the neighbours stated they did not want to have murals, and 35% did want to.

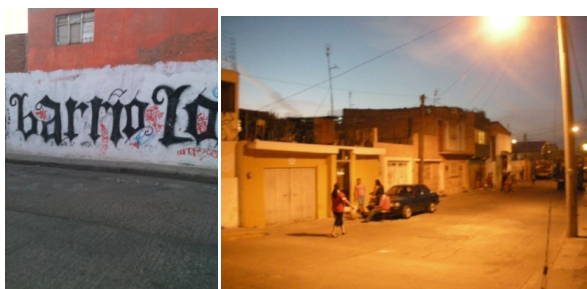
- **The answers for HOW WILL YOU HELP IN THIS PROJECT Category were:**

70% of the polled were willing to help, 25% would help somehow, and 5% would not help.

- **The answers for WHAT DO YOU EXPECT FROM YOUR NEIGHBOURS Category were:**

60% stated cooperation was expected, 20% expected union, and 20% wanted the neighbours to maintain the project.

4.2. San Luis de Potosí, Terremoto Colony (Mexico, 2011).



a. Background Information

In 2011, the Inter-American Development Bank (IDB) sought PBK Consultores for professional counselling to incorporate Situational Prevention and CPTED into two pilot projects to be carried out in Mexico, in the cities of Tapachula and San Luis de Potosí. PBK designed a proposal considering the four phases of a CPTED strategy. This project was carried out in coordination with the Secretary of Social Development (SEDESOL) Habitat Program and the local government of each city.

The Diagnosis phase was divided into three stages: the first stage consisted of training 53 employees of the Local Government as well as SEDESOL of both cities on CPTED methodology and Situational Prevention. The second stage was direct observation by onsite experts as well as a Participative Diagnosis

process with the communities of the three chosen colonies. The third stage was the development of the baseline for impact assessment.

a. Demographic Background

San Luis de Potosí has an estimated population of 772,828¹, which means 30.32% of the total state population. 31% of the population is less than 15 years old and 4% is more than 70 years old. Average age is 23 for men and 26 for women, and most of the population is -- 42% is between 25 and 59. Regarding distribution, 94.67% lives in an urban area and 5.33% in a rural area.

San Luis Potosí's location within the Mexican territory is quite beneficial: it is located at the midpoint of the three of the most important cities in the country: Mexico City, Monterrey, and Guadalajara, and between 4 big port cities: Tampico, Altamira, Manzanillo, and Mazatlán. Their diverse climates allow them to be one of the few states in which a significant entrepreneurial infrastructure can be developed.

b. Administrative Background

The state of San Luis Potosí is divided in 58 municipalities, which are distributed in four main geographical regions: Huasteca, Media, Central, and Altiplano Potosino. According to the political Constitution, its maximum authority is the Constitutional Governor, democratically elected for a period of 6 years². The state is considered cradle of the Mexican Revolution, because the Plan of San Luis (1910), which summoned the Mexican people to rise in arms and reinstate democracy, was written up here. Home of the executive, legislative, and judicial powers, has a City Council and a City Government elected by direct universal suffrage and is divided into four electoral districts. The mayor is democratically elected for a period of 3 years³.

c. Social Background

5% of the total population has alarming levels of social exclusion and poverty. 1.95 % of total households (3,338) present food poverty. Currently, San Luis de Potosí has 52 medical assistance centres, 1,120 Schools, 208 religious temples, 4 Cemeteries, 27 Markets, 392 Squares. The city of San Luis de Potosí has 5 Centres of Community Development: San José Valley, Silos, Maravillas, Familiar Simón Díaz, and Simón Díaz Colonia Trojes del Sur. The Habitat Program has identified 29 polygons of poverty with 15,387 households completing 70,348 people. The average number of people per household is de 4.0. From 2004 to 2010, 459 works and social actions were carried out, with investments that benefited a little over 13 thousand households in the areas of street paving, drainage, electrification, and network deployment.

d. Criminal Background

The city is divided into 700 colonies, grouped in 7 Zones in which crime is distributed the following way:

According to the study on Expectations and Actions of the Council of San Luis Potosí, between 2002 and 2009, the most common crimes are theft and fraud,

21-1-12 20:33

Comentario [1]:

JKE 1/19/12 1:09 PM

No me atrevo a sacar esto por si acaso

21-1-12 20:33

Comentario [2]:

JKE 1/19/12 5:21 PM

No me atrevo a borrar esto

21-1-12 20:33

Comentario [3]:

JKE 1/19/12 5:45 PM

idem

bodily injury and property damage, and license to carry weapons, adding up to 70% of the total. A study performed by Sedesol in 2009 showed the areas with higher poverty in San Luis de Potosí are the “Saucito-Terceras” zone, with 60.52%, followed by the “Progreso-Satélite” zone, with 28.25%, and “Morales-Industrial Aviación” zone, with 6.83%.

This same study points out that the percentage of people in social problems represents 2.84% of the total population in the urban zone. The southern Industrial zone is the one presenting the highest percentage of social problems in relation to its total population. Regarding violence rates, the central “Progreso-Satélite” zone presents the highest rate with 41.6%, followed by the “centro” zone, with 32.2% (2009). Within the urban area of San Luis de Potosí, the area presenting most gangs is “centro” with 50.24%, followed by the “Progreso-Satélite” zone, with 31.58%, reason why it is perceived as the two most vulnerable and insecure areas (2009). Regarding criminal incidence, store robbery, 20.8% and car theft, 43.6% are the most frequent kinds of crimes (2009).

Intense Gang activity can be found in San Luis de Potosí, which is apparent in the Youth Gang Report from the San Luis de Potosí Municipality, Study 1 of the San Luis de Potosí Municipality, performed in September, 2010. This report proposes “Generic use of the “youth gang” concept that encompasses a complete range of multiple violent youth organisations of very diverse character and modus operandi may lead to serious distortions when designing and implementing public policies aiming their control. Not all of youth gangs are as violent as maras (in fact, very few are so to that degree); even when violent, not all youth gangs are as threatening for democratic governability as other entities with adult members, including some tolerated by the State in its struggle against organised crime. Thus, in this field, the objects of study must be rigorously defined.”

b. Baseline for Impact Evaluation

In the case of the Terremoto de San Luis de Potosí colony, again the development of a baseline allowed to take a much precise “picture” of the criminal and environmental problems. A set of variables with quantifiable indicators was developed based on the principles of CPTED methodology. This set was assigned a scale from 1 to 10 for intensity and frequency levels.

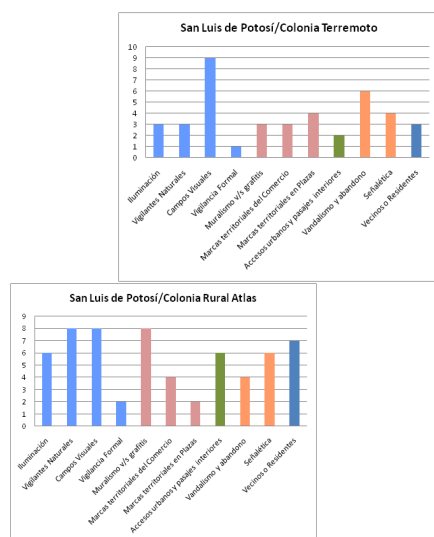


Chart 1

Chart 2

Chart 1 shows clear visual fields in Terremoto Colony are the highest variable (9). Vandalism and abandonment (6), especially of street furniture is the most frequent negative variable found in this zone. Chart 2 shows Natural Surveillance (8) and clear visual fields (8) are the most recurrent positive variables in this study area, as opposed to muralism / graffiti (8) and lack of lighting (6) variables, which are the most recurrent negative characteristics found in this zone.

c. CPTED Intervention Proposal in Terremoto Colony

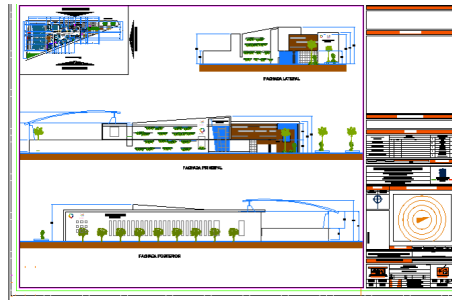
CPTED Intervention Proposal based on the Diagnosis for Terremoto colony, performed during participative design workshops with the community, consisted of restructuring a secure pedestrian system based on Secure Routes, transport spaces with new pavement, lighting, environmental information, landscaping, among other characteristics.

In this new system of secure pedestrian flows the construction of a Community Development Centre (CDC) is proposed. Localisation of the CDC can be seen in the triangular site in the aerial photo. However, it is very important that the Center have a SAFE ROUTE through General Porfirio Díaz Avenue up to San José del Barro. This SAFE ROUTE must have appropriate lighting, environmental information, and clear visual fields. It is also very important to properly pave and light the streets marked in blue in the aerial photo, at least during a first stage. Proper paving and lighting should cover the complete colony in future stages.

Aerial Photo.



Map 1.



This project is quite relevant from the viewpoint of CPTED methodology, since it localises a territory where there is a virtual limit of land use, i.e., only some territorial groups use it. One of the relevant goals is the CDC summon all of the actors in Terremoto Colony to collaborate and build peace and community coherence. A big Auditorium stands out in the architectural programme, which undoubtedly will contribute to the sense of cohesion of the different groups living in Terremoto Colony.

A rather defensible architecture can be observed in the Façade design, which is comprehensible considering the environmental security issue at hand. It is recommended, however, that there be enough asymmetrical Natural Surveillance from the inside of the CDC toward the public space, for which windows and accesses are relevant in terms of transparency.

If the exterior walls simulate a "Fortress", a community effort can be made to have them painted as emblematic murals for the local community. Territorial actors will then feel this building not as a foreign element, but rather something close that must be taken care of.

5. Final Thoughts

Pilot cases contribute with real information used to contrast theories – CPTED model and Situational Prevention. Several aspects rise which also contribute to answer the initial question, **What are the environmental characteristics, in terms of physical space and social behaviour, that have an effect on the vulnerability of the pedestrian and vehicular flow spaces, so that criminal opportunity is localised within them and the areas with insecurity perception in neighbourhoods of Latin and Central America?**

The information collected onsite at the El Caleuche Neighbourhood in Latin America, Chile and the Terremoto neighbourhood, Central America, Mexico allows the observation of three conceptual axes that must be developed in order to understand the criminal vulnerability relation in flow spaces. The speed in which contact is made in the pedestrian flow space, Depth in bonds of trust in pedestrian flow and detention spaces, Collective Awareness of Urban Safety as a global goal. Further detail and look greater depth of these three axes below.

5.1. Speed of contact in pedestrian flow space.

In both neighbourhoods, Caleuche and Terremoto, the contact neighbours establish with one another affects subjective and objective security. This contact, mainly established in pedestrian flow spaces, which are streets due to lack of parks and squares, also varies depending on time; i.e., if the space allows a pedestrian to walk peacefully and start the Natural Surveillance mechanism, there is a chance for deeper contact. On the contrary, if a pedestrian is afraid of being a victim of a crime or environmental threat, he tends to walk faster and therefore, less Natural Surveillance mechanism is made and contact is shallower. Thus, the speed in which contact is made is directly linked with the feeling of security the pedestrian has with the territory he uses to move about.

If this feeling of security when moving about is modulated by the environmental characteristics contemplated in the safe route from CPTED perspective: broad visual fields, appropriate lighting, even paving, and environmental information, among others. It is fundamental for the contact to be made in these flow spaces that there be other pedestrians using the same space.

5.2. Depths within bonds of trust in pedestrian flows and pause spaces.

Casual or sought contact is not enough for the Natural Surveillance mechanism to be effective; a rich and active social network is necessary in the community using the space. If this condition is met, it is possible that the newly-formed bonds of trust among community members not only observe, but also confront in case of the commission of a crime.

The case of El Caleuche neighbourhood teaches how relevant social architecture is. It is intangible but fundamental to measure trust levels among neighbours and their real will to commit not only to preserve a restoration project, but also Social Peace.

It is required for promoting community trust to design flow spaces as well as meeting spaces with environmental characteristics that promote harmonic coexistence; that is, attractive, ludic public spaces, that respond to the deep environmental needs of all the users of the system.

5.2. Collective Awareness of Urban Safety as a global goal

A social structure not only operates from the Natural Surveillance mechanism; this mechanism must rely on subtle links based on the agreements the parties reached to.

These agreements must be aligned to collectively face issues attempting against social peace among residential or virtual community members; a collective awareness of the threat or potential criminal risk and the agreed strategies to counteract this risk must be a requirement. To develop collective awareness, clear and available information is required, representative of all community members, whether residential or in transit, in all kinds of spaces, detention spaces and flow spaces, vehicular or pedestrian.

Both pilot cases teach that every situation is unique and it is hard to generalise and create standardised solutions, but rather choose the alternative: good socio-spatial diagnoses by area and later, develop tailored interventions.

It is important to point out that the perception of insecurity when faced to the real possibility of being a victim of a crime is individual, reason why the measurement unit is HUMAN BEINGS. From that viewpoint, pedestrian flow spaces should be designed first; later, vehicles should be incorporated, as well as other means of transportation, but subordinated to the environmental experience of pedestrians, if the goal is reducing urban vulnerability and insecurity and promoting a culture of peace and harmonic encounter among the residents of diverse neighbourhoods and cities in the world.