

CONCEPT PAPER

Integrated risk map: the theoretical framework

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This paper defines the theoretical framework at the base of the model for the definition of a “System of Maps Assessing Risk of Terrorism against Critical Infrastructures in Big Events Rallies”.

The main theories adopted in Smart Ciber model can be distinguished within two categories, as two are the main perspectives of the research approach: i.e. the “urban security” aspect on one side and the “terrorism” phenomenon on the other.

According to this distinction, it is possible to consider “Environmental Criminology” and “Situational Crime Prevention” theories, as the two theoretical approaches addressed to analyze the “urban security” focus; while “Radicalization” and “Lone Wolf” theories characterize the study of the “terrorism” aspect.

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INTRODUCTION

The theoretical framework for the settlement of a prevention/repression strategy against Terrorism within the context of the EU Council Decision No 2007/124/EC about a Program of *Prevention, Preparedness and Consequent Management of Terrorism and Security related Risks*¹, in coordination with the *European*

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¹European Council, Decision 2007/124/EC of 12 February 2007 establishing for the period 2007 to 2013, as part of the General Programme on Security and Safeguarding Liberties, the Specific Programme ‘*Prevention, Preparedness and Consequent Management of Terrorism and other Security related risks*’, in OJ L. 58/1-6, 24.02.2007

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*Programme for Critical Infrastructures Protection (EPCIP) – COM(2004) 702² and the specific Action Plan on Critical Information Infrastructures Protection (CIIP) – COM(2009) 149³, about **Big Cities (BC), Big Events (BE) and Critical Infrastructures (CI)** protection policies, needs to take into consideration the doctrine that through the decades (from the years '70s to the present) has the aim to study and understand the relationship between the urban context and the crime rates, focusing its attention in the most recent time (after the 9/11 terrorist events in U.S.A., 2001), on the topic criminological phenomenon of **Terrorism**.*

Consequently, the theoretical perspective addresses its attention on the selection of a set of theories which better study and assess the “*milieu*” where specific forms of crime, among which Terrorism, more frequently develop and the related cause/effect principle: i.e. the urban context. It is important to underline that the focus of these theories is exactly the “Urban Security” subject and, because of their flexibility, the doctrine afterwards applied the same theories also to the strict phenomenon of terrorism within the urban context, as well for the development of Critical Infrastructures’ operative protocols to manage emergency situations (terrorist attacks, sabotages, subversive violent activity, etc.): i.e. the *Crime Prevention Through Environmental Design & Environmental Criminology (CPTED & EC)* and the *Situational Crime Prevention (SCP)*.

ENVIRONMENTAL CRIMINOLOGY THEORY

The *Environmental Criminology (EC)* is a set of theories that have been developed through the years '60s-'70s in the United States, where many socio-criminological studies tried to explain the “crime” focalizing their attention on the “settlement” of crime, rather than on the “criminal”, intended as the subject/person who commits a crime (Jaffry, 1971; Newman, 1972).

The theoretical framework of this doctrinal stream is based on the idea that the analysis of an “environment”, or in specific terms, an “urban context” would be the key-point to study and *de relato* to

² Commission of the European Communities, Communication from the Commission to the Council and the European Parliament COM(2004) 702 final, *Critical Infrastructures Protection in the fight against terrorism*, Brussels, 20.10.2004, in OJ C. 52, 02.03.2005

³ Commission of the European Communities, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions COM(2009) 149 final, on Critical Information Infrastructure Protection – ‘*Protecting Europe from large scale cyber-attacks and disruptions: enhancing preparedness, security and resilience*’, Brussels 30.03.2009

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create programs of prevention/repression of any form of crime, because of the inner potential capability of any environment to attract or reject specific forms of crime.

The focus in fact, is a strict analysis of the architectural components, given a specific (urban) space: i.e. the s.c. *Crime Prevention Through Environmental Design* (CPTED) (Newman, 1972). Furthermore, it is important to underline that *Oscar Newman*, himself was an architect and he can be considered one of the “fathers” of the *Environmental Criminology* theories, which developed in the course of this decade.

In detail, he analyzed the architecture of the public housing, revealing that the large dimension and the uncontrollability of these buildings leads to a high level of “anonymity” on the people living in this area and the consequence is an increase in crime rates, supported with statistical data.

In fact, the conclusion of his research defined that the crime can be controlled through the creation of a “Defensible Space” (Newman, 1972). *Newman* underlined three main elements on which he based an effective program to reduce/control the crime rates, through the following three points:

- Reducing anonymity
- Increasing surveillance
- Reducing escape routes for offenders

In other words, according to the *Environmental Criminology*, the crime is the result of the interaction of two main variables: Space & Time (Brantigham & Brantigham, 1993; Brantigham & Brantigham, 1994). According to *Brantigham* in fact, the main question to answer for creating an effective crime prevention/repression program would be: “*how crime happens in specific locations and in time*”. In other words the emphasis of this theory is stressed on the place of the criminal event (Brantigham & Brantigham, 1981), i.e. it is a sort of transposition of the *Labelling Theory* about the “places of disease”.

The criminal or the subject “who” commits a crime and the target or the victim of a crime are a natural consequence of the location “where” the crime is committed. As well as the *modus operandi* (“how”) a crime is committed is also influenced from the logistic (environment) “where” the crime happened.

Therefore, the crime is the result of the interaction of the criminal’s “motivation” and the normal activity in a specific context (e.g. streets, buildings, countries, etc.). Furthermore, it is important to underline that the motivation is based on the assumption according to which the subject who commits a crime is a rational person and the *ex ante* analysis in choosing where and when committing a crime is a pure “costs/benefits” valuation (*Rational Choice Theory*: Bentham, 1824, Becker, 1968; Cornish & Clarke, 1987). The second component, i.e. the normal activity of a specific space, is based on the idea that the analysis of a context

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produces the s.c. *Routine Activity Theory* (Cohen & Felson, 1979), according to which the typology of activities repeated and repeated again every day facilitates the commission and *ab origine*, the selection of specific forms of crime in an *ad hoc* place.

The development of the *Environmental Criminology* and the consequent adaptation to different contexts object of different researches, allowed this extremely flexible theory to be adopted for a wide *spectrum* of problems within an urban space: it has been applied for policies against Terrorism, as well as for creating operative protocols to protect Critical Infrastructures against terrorist attacks, sabotages, etc. (Atlas Randall, 2008). As the context of its application is the urban space, this theory has also revealed that the suburban areas, as well as the public housing and any other critical area can create the good condition in “facilitating” these forms of macro-criminality (organized crime and terrorism), because of the high level of “anonymity factor” due to a complete lack of space control. In other words, the “anarchic evolution” of any urban space, should be substituted with a rational and studied development of a concrete urban program (from the single architecture of a building, to the logistic plan of streets and public areas). The aim is to reach the maximum control of the urban environment, but the same concept can be transposed to the Big Event or Critical Infrastructure contexts, the only difference is the necessary adaptation of the space to the typology of risky situations that each topic context can produce itself.

In reality, it is important to underline the limits as well of the *Environmental Criminology* theory, as it needs to be integrated with other theories to be applied in this research about the prevention/repression policy against terrorism within the context of BC, BE, CI. In fact the limits of the *Environmental Criminology* can be summed-up through the following points:

- There is no consideration about the criminal motivation in committing a crime (subjective perspective and psychology)
- This theory takes into consideration specific forms of crime (e.g. burglary, robbery, begging, etc.), through the development of a set of instruments to prevent/repress those violent actions, but it excludes a “general-prevention approach” in light of the “Urban Security” wider concept.

SITUATIONAL CRIME PREVENTION THEORY

The previous theory, the *Environmental Criminology*, has been developed (years ‘80s) in light of the objective necessity to adequate the application of a crime repression/prevention program to the



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progressive complex evolution of the urban context and the consequent adaptation of the forms of crime to the location. The result is the creation of a further theory within the subject of the “Urban Security” matter: i.e. the s.c. *Situational Crime Prevention* (SCP).

The author of this theory, *Clarke*, defines the focus of the *Situational Crime Prevention*, which means the attention in controlling crime is centred on the “setting” of the crime. Once again the “*milieu*” where a crime is committed, in line with the previous theories (Clarke, 1980; Clarke 1983).

The definition of this theory is explained by *Clarke* on the base of the assumption that an offender chooses to commit a crime because of a rational valuation (*Rational Choice Theory*) of the place and the related opportunities that this location gives in being successful in the crime commission (“attractiveness of crime” principle). Therefore in light of this premise, it is necessary to develop a strategy (SCP) able to reduce/control the crime opportunities: “*Situational prevention comprises opportunity-reducing measures that (1) are directed at highly specific forms of crime, (2) involve the management, design or manipulation of the immediate environment in as systematic and permanent way as possible, (3) make crime more difficult and risky, or less rewarding and excusable as judged by a wide range of offenders*” (Clarke, 1997).

In fact the cases studied by the author allowed him to understand that, once a place to commit a crime is found, then there is a “domino effect” in committing a specific form of crime, especially when the first crime commission is successful (“broken window” principle), because the opportunities in reaching the aim by an offender are already tested from an other criminal: an example can be the repetition in committing vandalism acts, such as graffiti. The lack of control (guardian) and the accessibility (suitable target), as well as the lack of prompt repair (clean-up/restoration) to the damage are facilitator conditions in repeating this form of crime, given a precise “Space & Time” (basic variables).

The crime-opportunity depends on the following factors:

-Socio-economical structure	} Industrialization, Urbanization, Welfare/Health/Education/Legal Institutions
-Demography	
-Geography	

which influence the described two components:

-Lifestyle/Routine activity (Leisure/Work - Shop/Residence)
 -Physical Environmental (Urban form, Housing type, Technology, Communication, Vehicles)

Consequently the aim of the *Situational Crime Prevention* can be summarized as follow (Clarke, 1997):

- A theoretical foundation drawing principally upon routine activity and rational choice approaches
- A standard methodology based on the action research paradigm

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- A set of opportunity-reducing techniques
- A body of evaluated practice including studies of displacement

The result is a strategy addressed to eliminate, reduce and control the crime-opportunity factors, through the definition of a set of reducing-opportunity techniques (16 basic techniques) from the analysis of a specific context indicators related to specific form/s of crime:

1. Target hardening
2. Access control
3. Deflecting offenders
4. Controlling facilitators
5. Entry/Exit screening
6. Formal surveillance
7. Surveillance by the employees
8. Natural surveillance
9. Target removal
10. Identifying property
11. Reducing temptation
12. Denying benefits
13. Rule setting
14. Stimulating conscience
15. Controlling disinhibitor
16. Facilitating compliance

These techniques are justified with a list of aims able to control/reduce the commission of certain forms of crime:

- Increasing perceived effort
- Increasing perceived risks
- Reducing anticipated rewards
- Removing excuses

The progressive adaptation of this theory to deeply diversified urban contexts demonstrated its flexibility and the exemplification is given by the fact that the “Urban Security” strategy in many Countries adopted

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the theory by *Clarke*, among which there are cultural, economical, social substantial differences (Arlaud, 2007; Barr, 1990): UK, USA, Australia (Indermaur, 1999), Canada/Ottawa (Linden, 2007), etc.

It is the demonstration that the peculiarity of the SCP theory is the fact that is the theory that adapts itself to the context of application, that is the main reason according to which it is possible to adopt this approach to reduce/control other specific crimes related to peculiar contexts.

For this reason, the experience in studying certain forms of crime, made it possible to understand also that this model can be adapted for creating topic opportunity-reducing techniques for combating macro-criminality, in particular Terrorism, as experimented after the threat of the *Jihadist* terrorism against the U.S.A. after the 2001 and its recent evolution (Schmid, 2011). In fact *Clarke* created *ad hoc* techniques able to study the opportunity-reducing indicators related to this specific phenomenon (Clarke & Newman, 2006; Clarke & Newman, 2007; Özer & Akbaş, 2011).

Related to the application of SCP to the terrorism form of crime, the doctrine tried also to adapt this theory model to create a program of protection (operative protocols) of one of the privileged targets of this phenomenon: i.e. the Critical Infrastructures, as this target has been object of many legislative interventions at an international level (European Union Framework Decisions and ONU Resolutions) especially after the intensification of the menace of the *Jihadist* international terrorism (La Vigne, 1997).

The limits of the *Situational Crime Prevention* theory are in part similar to the ones analyzed for the *Environmental Criminology* and in part it is possible as well to recognized other *ad hoc* limits of this theory application, as classified as follow:

- There is no consideration about the criminal motivation in committing a crime (subjective perspective and psychology)
- This theory takes into consideration specific forms of crime (ex. theft, robbery, begging, etc.), through the development of a set of instruments to prevent/repress those violent actions, but it excludes a “general-prevention approach” in the light of the wider concept of “Urban Security”
- Lack of interest in the criminal-judicial system institutions (deterrent factor)
- The model is a rigid form of analysis, once the opportunity-reducing techniques are identified, always on the base of a precise “Space & Time”

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Other approaches: RADICALIZATION THEORY and “LONE WOLF” THEORY

Beyond the aforementioned theoretical perspective, there are other approaches that emphasize the relationship between the urban context and the complex set of vulnerabilities that might arise in certain places. In particular, radicalization theories shed light on behavioural and social processes that might justify the use of violence. The aims of the following pages are both analyzing radicalization theories by focusing on causes and triggers and highlighting relevant indicators.

The term radicalization refers to a process “through which an individual changes from passiveness or activism to become more revolutionary, militant or extremist, especially where there is intent towards, or support for, violence. It includes Al Qaeda inspired and related radicalisation, far right and far left violent movements, and animal rights and environmental extremism” (Institute for Strategic Dialogue). Therefore, despite **radicalization is not terrorism**, it might lead to violent acts and ultimately to terrorism. Moreover, as shown in this theoretical contribution, there are more similarities than differences between terrorism indicators and indicators which are related to radicalization.

There are many theories about the causes of radicalization. Most agree that there is no single pathway, but instead a mixture of factors that help to contribute towards an individual becoming radicalized. As argued in *Radicalization, Recruitment and the EU* (2007): “in past and present studies, factors or conditions that are frequently mentioned as causes of radicalization (in general) include relative deprivation (Gurr, 1970), Western occupations and support for oppressive regimes (e.g., Pape, 2006), identity politics (Choudhury, 2007), poor political and socio-economic integration, feelings of humiliation (Stern 1999, 2003; 2000;

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Richardson, 2006), and other psychological mechanisms”. Radicalization seems to be more a mixture of psychological, socio-economic conditions as well as technological opportunities rather than a simple step-by-step process⁴. Therefore, even the causes of radicalisation are diverse (Hudson, 1999; Borum, 2004; Nesser, 2004; Bjorgo, 2005; Victoroff, 2005; Loza, 2007; Silber & Bhatt, 2007).

As the European Commission’s expert group on radicalization concluded, “the convergence of several possible contributing variables can usually be found at the origin of the radicalisation process”. The factors or drivers of radicalisation are outlined in the box below⁵:

Type of factor	Drivers of radicalization
Divisions	Lack of integration, ghettoisation, polarization, internal community divides, identity crisis, isolation, weak community leadership
Grievances	Under-employed, poor education, discrimination, foreign policy and international conflicts/disputes
Narratives	Political movements, ideologies, faith
Means	Social/family/criminal networks, vulnerable/risky institutions and places, vulnerable individuals

While drivers of radicalization are important, Neumann highlights – in relation to Islamist radicalization- the centrality of the so- called “recruitment grounds”. In particular, the typology of recruitment grounds include (2007: 46):

1. places of congregation (i.e. mosques, internet cafes etc.)
2. places of vulnerability (i.e. prisons, refugee centres etc.)
3. recruitment magnets (i.e. radical bookshops)

⁴ However, the New York City Police Department, developed a model, related to the jihadi-salafi ideology, based on 4 steps: pre-radicalization, self-identification, indoctrination and Jihadization (2007).

⁵ Source: http://www.strategicdialogue.org/PPN%20Paper%20-%20Community%20Engagement_FORWEBSITE.pdf

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Neumann argues that recruitments grounds are locations “in which individuals are likely to be vulnerable and may thus be receptive to the appeal of violent extremists” (2007: 33). The role of recruitment grounds is crucial along with the role of the “gateway organizations” (2007: 51), namely organizations that facilitate individuals’ path into violent extremism. Within gateway organizations, indoctrination, socialisation and even subversion occur.

The key aspect here seems to be both the **vulnerability of certain places⁶ where radicalisation is more likely to occur and the vulnerability of people or groups who, due to several aspects, are more exposed to radical messages**. Furthermore, when radical views turn into violence, there are, especially within big cities, either vulnerable (and more appealing) targets such as critical infrastructures, or “vulnerable events”, such as mega-events like EXPOs or Olympic Games which draw attention of the terrorists and/or extremists.

Beyond contextual conditions within the urban environment, the growing role of the Internet plays a crucial role as it can be used to reinforce violent narrative, to join and integrate into organizations and to create new social environment of socialization and normalization of deviant behaviour (Neumann 2009). On the Internet, self-recruitment and self-radicalization are more likely to occur even if new technologies are never used in a social vacuum. What we have learned about lone wolves in recent years, for instance in the case of Anders Behring Breivik, is that the Internet “acts as a catalyst or plays a supportive role in pushing the individual from radical thought into action” (Pantucci 2011: 35). The Internet has been a key tool for him in ideological and operational terms (*ivi*). When looking at **lone wolves⁷**, radicalization process plays out in more complex ways because of the convergence of the real and the virtual world. As a consequence, while the virtual worlds cannot be analysed as a driver of radicalization in itself, it should be considered as a potential magnet or even a safe haven to spread and/or reinforce radical views and even simulate violence (i.e. virtual worlds).

Limits

⁶ The outskirts of big cities, often characterized by specific contextual conditions (i.e. underemployment and low level of education) can be safe havens for militants.

⁷ A lone wolf is “a person who acts on his or her own without orders from — or even connections to — an organisation (Burton and Steward 2008).

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The limits of radicalization theories are at least threefold:

1. working on early warnings signals of radicalization, as shown by a report issued by Open Society (2009), might be problematic as it could lead to ethnic profiling. If the nature of religious practice becomes the core criterion in determining suspicions, discrimination and stigmatization of already marginalized groups might arise.
2. so far, most of the research has been focused on Islamic radicalization. However, the growing role of extreme right extremism in Europe, calls for a shift in perspective. Radicalization does not occur only within certain communities, but rather is a complex cross-cultural phenomenon.
3. Lone Wolf or Lone/Solo Actor Terrorists add further complexity as they are more problematic in terms of prevention and potential dangers.

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GLOSSARY

BIG CITY: it refers to a metropolis or a complex urban setting, characterized for a big flow of people living and/or working within a specific urban context.

BIG EVENT: Big Events of mega-events are “large-scale cultural (including commercial and sporting) events which have a dramatic character, mass popular appeal and international significance”.

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN (CPTED): it is a theory that focalizes the attention on the architectural and urban components, intended as key-aspects to prevent crime within a certain urban context.

CRITICAL INFRASTRUCTURES: the EU Communication COM(2004) 702 defines Critical Infrastructures as “Those physical and information technology facilities, networks, services and assets which, if disrupted or destroyed, would have a serious impact on the health, safety, security or economic well-being of citizens or the effective functioning of the government Member States”.

ENVIRONMENTAL CRIMINOLOGY (EC): it is a criminological theory, inspired from the CPTED, which focalizes the attention on the settlement “where” a crime is committed, instead of analyzing the criminal and profiling the subject who commits a crime. This theory takes into consideration two main variables: i.e. “space” and “time”, the interaction of these two components determines and facilitates the commission of certain criminal phenomena.

LABELLING THEORY: it is a criminological theory characterized for the fact that the society often “labels” and classifies the individuals’ behaviors that compose the society itself, stigmatizing certain categories, because certain behaviors are condemned (“labelled”) as “criminal” or “socially deviant” by the society.

“LONE WOLF” THEORY (LWT): it is the brand new frontier of terrorism expression, as it is a phenomenon characterized for an individualistic subversive activity: a lone wolf is “a person who acts on his or her own without orders from — or even connections to — an organization”.

RADICALIZATION THEORY (RAD): it is a theory according to which an individual can develop an inner process “through which an individual changes from passiveness or activism to become more revolutionary, militant or extremist, especially where there is intent towards, or support for, violence”.

It is important to underline that “radicalization” is not “terrorism”, as the inner psychological process of radicalization not always lead to terrorism, while terrorism is always the result of a radicalization process.

RATIONAL CHOICE THEORY: it is a criminological theory, which assumption is the rational approach that any criminal adopts for the crime commission. It is based on the principle that any criminal choice is taken on a cost/benefit valuation, excluding any emotional or irrational component by the criminal who commits a certain crime.



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ROUTINE ACTIVITY THEORY: it is a criminological theory according to which the typology of activities repeated and repeated again every day facilitates the commission of certain forms of crime, given a certain context.

SITUATIONAL CRIME PREVENTION (SCP): it is a criminological theory based on the assumption that an offender chooses to commit a crime because of a rational valuation of the place and the related opportunities that this location gives in being successful in the crime commission.

In 2003 (after the 9/11 terrorist attack in New York in 2001), this theory has been re-calibrated on the Terrorism phenomenon, through the study of terrorism potential privileged targets features, given a certain space (crime setting) on the base of the s.c. “Evil Done” model.

TERRORISM: the doctrine has not given an exhaustive and clear definition of “terrorism”. In fact, both the U.S.A. and the EU created their own “terrorism” definitions, although the result is for both definitions, a list of behaviours that the experience refers to terrorism phenomenon.

The main difficulty in defining this complex criminal activity is due to its “dynamic and flexible” capability in adequate its violent strategy to the social, political, religious, historical context of reference. Thereof, the doctrine distinguishes different forms of “terrorism”: i.e. religious terrorism, political terrorism, narco-terrorism, environmental terrorism, etc.; furthermore the logistic violent operative capability influences the “terrorism” definition: i.e. national terrorism and international terrorism.



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APPENDIX

Appendix I INDICATORS of *ENVIRONMENTAL CRIMINOLOGY* (EC)

CPTED (acronym for *Crime Prevention Through Environmental Design*, pronounced septed)

Definition: Altering or enhancing the physical environment to reduce opportunities for crime. Traditionally, the principles of CPTED are:

- surveillance (formal and informal),
- territoriality,
- defensibility,
- maintenance/milieu (order and maintenance of an area),
- eyes on the street,
- access control,
- target hardening.

CPTED Analysis

Demographic analysis: The object is to identify population characteristics that impact crime such as high-risk or vulnerable populations. Some populations such as seniors have higher levels of fear.

- gender
- income
- incidence of low-income
- government transfer payments
- tenure
- population / density
- age distribution
- household size / make-up
- ethnicity (mother tongue)
- mobility (2 year and 5 year)

Crime Statistics from Police Reports and Calls *



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- geographic 911 calls maps - for broad definition of city wide spatial distribution
 - geographic reported crime maps - 9 categories, scale to requirements of study
 - crimes to property
 - theft from auto (TFA)
 - theft of auto (TOA)
 - commercial break and enter (Burglary)
 - residential break and enter (Burglary)
 - mischief
 - crimes to person
 - robbery
 - assault (all levels of assault including sexual assault)
 - other
 - drug offenses
 - sex trade or prostitution offenses
 - temporal analysis
 - written reports by police
- *Keep in mind the weaknesses of unreported crime, changing techniques of police reporting

Site Analysis

The object is to study the site numerous times, on different days, different weeks, even different seasons if possible. For example, places look different at night and places are used differently during the week rather than the weekends.

- consider time, place, scale
- look for pathways and activity nodes
- look for debris i.e. needle caps, cigarettes butts, condoms, slurpy straws
- look for maintenance levels, graffiti
- signs of remediation / retrofit: i.e. graffiti removal, window bars
- look for neighbourhood caring
- night conditions: i.e. Lighting
- consider prospect and refuge opportunities
- look for potential guardians

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- people watch: who's going where

Use Analysis

The object is to search for activity nodes that attract, facilitate or generate crime. The following list shows uses that are often, but not always, associated with crime.

- schools
- convenience stores
- liquor establishments
- fast food outlets
- coffee houses
- shopping malls
- youth homes
- drug houses
- methadone dispensary (drug store)
- parks
- low-income housing projects

Neighbourhood Consultation / User Analysis

The object is to understand the various groups that live in the neighbourhood and who moves through the neighbourhood, to establish what are the patterns of movement of these groups. The focus is on high-risk and vulnerable populations.

- consider users of the past, present and future
- itemize each group and the typical movement patterns
- consider which groups live in the neighbourhood and which come to the neighbourhood
- interview neighbourhood groups and organizations
- informal discussions with passers-by during site visits such as postal workers, commuters
- interview business owners, building managers and strata council representatives.



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Pathway Analysis

The object is to identify pathways on and surrounding the site. Some of these pathways may carry high-risk populations and some may carry vulnerable populations. Consider future pathways as well as present and past.

- mass transit such as buses, rapid transit, transfer loops and stations
- automobile traffic densities
- pedestrian pathways by different users
- bicycle pathways

**Source:*

Brantigham P.L. & Brantigham P.J. (1981) "Environmental Criminology", Sage, Beverly Hills

Brantigham P.L. & Brantigham P.J. (1993) "Nodes, paths and edges: considerations on the complexity of crime and the physical environmental", in Journal of Environmental Psychology, Vol. 13, Issue 1, March 1993, pp. 3-28

Newman O. (1972) "Defensible space: crime prevention through urban design", Macmillan, New York



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Appendix II INDICATORS of *SITUATIONAL CRIME PREVENTION* (SCP)

The “Indicators” according to the SCP theory are indirectly revealed through the several typologies of techniques *ad hoc* selected on the base of the relationship between the two main variables: “Space & Time”.

SEEXTHIN OPPORTUNITY-REDUCING TECHNIQUES

INCRISING PERCEIVED EFFORT	INCRISING PERCEIVED RISKS	REDUCING ANTICIPATED REWRDS	REMOVING EXCUSES
1. Target hardening -Slug rejecter device -Steering locks -Bandit screens	5. Entry/Exit screening -Automatic ticket gates -Baggage screening -Merchandise tags	9. Target removal -Removable car radio -Women’s refuges -Phonecard	13. Rule setting -Customs declaration -Harassment code -Hotel registration
2. Access control -Parking lot barriers -Fenced yards -Entry phones	6. Formal surveillance -Red light cameras -Burglar alarms -Security guards	10. Identifying property -Property marking -Vehicles licensing -Cattle branding	14. Stimulating conscience -Roadside speedometer -“Shoplifting is stealing” -“Idiots drink and drive”
3. Deflecting offenders -Bus stop placement -Tavern location -Street closures	7. Surveillance by the employees -Pay phone location -Park attendants -CCTV systems	11. Reducing temptation -Gender-neutral listing -Off-street parking -Rapid repair	15. Controlling disinhibitor -Drinking-age law -Ignition interlock -V-chip
4. Controlling facilitators -Credit card photos -Gun controls -Caller-ID	8. Natural surveillance -Defensible space -Street lighting -Cab driver ID	12. Denying benefits -Ink merchandise tags -PIN for car radio -Graffiti cleaning	16. Facilitating compliance -Easy library checkout -Public lavatories -Trash bins

*Source: Clarke R.V. (1997) “Situational Crime Prevention – Successful Case Studies”, Harrow & Heston, New York

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SITUATIONAL CRIME PREVENTIONS TECHNIQUES AGAINST TERRORISM

	<i>Targets</i>	<i>Means/Instruments/Services</i>	<i>Weapons</i>	<i>Facilitator factors</i>
<i>Increase the effort</i>	-Protection of sensitive targets -Trainee of the security agents -Increase the control on the weapons diffusion	-Reducing the cash transfers -To design the electronic instruments in a safe way -To utilize high-tech ID card	-To limit the weapon market -To make responsible the Companies for explosive material thefts -To reduce the explosive material keeping -Few info about the weapons use	-Increase the security protocols of identification -Increase the controls of borders -To destroy the paramilitary training camps -To obstacle the recruitment
<i>Increase the risks</i>	-Increase the formal/informal surveillance through CCTV, neighborhood and call-centers	-Technologies to localize cars, trucks and mobiles -Internet monitoring -Identifying through Gis and radio-frequencies the terrorist instruments -To anticipate terrorists in adopting innovative instruments	-Identification of weapons -To check-out containers	-Transparency of financial transactions -To implement the collaboration between police and immigrants
<i>Reduce the advantages</i>	-Hide or remove the targets -Project buildings against-attack -Evacuation-plans in case of attack			-Using publicity for isolating the terrorists from the community -Anti-money laundering rules

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	-Prompt management of the place after the attack			
Reduce the provocations	-To build Institutional buildings not too visible			-To work together with the immigrants communities -To avoid provocative announcements
Remove the excuses			-Do not use controversial weapons	-Do not maltreat prisoners -Precise rules for the interrogatories

**Source: Clarke R.V. & Newman G.R. (2006) "Outsmarting the Terrorists", Praeger Publisher, Westport*

SITUATIONAL CRIME PREVENTION TECHNIQUES FOR CRITICAL INFRASTRUCTURES (METRO SYSTEM in Washington DC)

- Open space and wide/high sealing: open view of the station (spatial control)
- Long and winding corridors and corners: avoid shadows and nooks
- "Farecards" as tickets: payable in any dollar amount (avoid long explosion of money and wallets)
- "Farecards" must be used both on entry and exit the place
- Place is equipped with anti-graffiti and anti-vandalism materials and damages are promptly repaired
- Implementation of the attendants/staff (capable guardians) control though the use of two-ways radios
- Increasing formal surveillance: police patrols, employees, Metro's entry/exit screening police, etc.
- Implementation of the CCTV number especially located in risky areas (ex. tunnels, platforms, entrances, etc.)



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**Source: La Vigne N.G. (November 1997) “Visibility and vigilance: Metro’s situational approach to preventing subway crime”, Research in Brief, National Institute of Justice, U.S. Department of Justice, Office of Justice Programs, pp. 1-12*



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Appendix III INDICATORS of *RADICALIZATION* (RAD.)

In light of the theoretical framework outlined above, the drivers of radicalizations can also be seen as potential indicators. Namely:

- Lack on integration
- Polarization
- High rate of under-employment
- Low level of education
- Spatial proximity with criminal networks
- Radical mosques (Islamic Radicalization)
- Gateway organizations



SOCIAL AND SPATIAL LEVEL

In relation to Islamic radicalization and behavioural patterns, it is worth mentioning that the Netherlands has pioneered efforts to put into practice antiradicalization theories through a multi-sectoral approach that uses indicators of radicalization to identify persons who may be in the process of becoming radicalized. The development of these indicators is a component of the Netherlands’ “broad-based approach” against radicalism and radicalization, an approach that aims to “detect radicalization processes at an early stage and to reverse them before they lead to punishable offenses. The objective is to enable these actors to identify persons or organizations of potential interest to the police and intelligence services. According the Open Society Report (2009), “the city of Rotterdam took the lead with a program called “Join in or get left behind,” initiated in February 2005⁸. According to this program, indicators of radicalization include particular behaviour patterns, such as frequent travel or hosting gatherings at one’s home, and changes in behaviour, such as a man of Arabic origin who suddenly acquires more traditionally religious Muslim

⁸ Through the so-called ISPR, The Information Switch Point Radicalization that addresses both radicalization and polarization in order to prevent violence.

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approaches to hair style, dress, mosque attendance, or physical contact with women in public. Dutch officials have taken pains to avoid the inclusion of ethnicity or nationality as suspicious criteria, but the indicators developed nonetheless draw attention to individuals who are becoming more orthodox in their practice of Islam. Essentially, a Muslim who shows outward signs of more conservative practice would become suspicious. Likewise a non-Muslim who outwardly shows signs of Muslim practice, indicating that he is a convert, would also become suspicious”.

For instance, in a guide intended for large and small companies (*What steps can your company take to counter terrorism?*)⁹ there is a set of factors that must be taken into consideration as might signal the presence of radicalised personnel:

- possession of extremist literature, pamphlets or sound and data recording equipment,
- or the perusal of extremist literature by means of the internet. This can be difficult for companies to assess, as such activities are often carried out in another language, such as Arabic;
- seeming approval of terrorist attacks;
- travel to regions or countries in which a terrorist conflict is taking place or in which there are terrorist training camps, such as Chechnya, Kashmir, Iraq and Pakistan;
- a sudden aversion of ‘Western customs’ such as mixed activities (male/female), or drinking alcohol, and requesting specific Islamic meals;
- wearing specific clothing and symbols, or a sudden change of clothing style.

⁹http://www.english.nctb.nl/.../Guide%20counterterrorism%20for%20companies_tcm92-132218.pdf

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These indicators fall under the category of **behavioural patterns**. It should be noted that across the Netherlands there is currently a shift away from this approach as it stigmatizes and potentially discriminates Muslims. In fact, as argued in the report **Trust in Safety** “trust in “certain outward characteristics and opinions can easily be confused with an (ultra) orthodox interpretation of a religion without the intention to change society in an un- democratic way by using violence. The ISPR’s approach is expressly not aimed at orthodoxy” (p.42). The current approach tackles radicalization through measures that seem to go beyond an exclusive focus on Islamic radicalization (i.e. regional study of the nature and the extent of right-wing extremism).

Furthermore, from the report issued in 2006 by the Information Switch Point Radicalization (ISPR) emerged a cautious approach towards the use of indicators. While from the start of the project an important role was given to early warnings indicators gleaned from the literature, “situations in practice are always more complex” (2006: 12).

Indicators of radicalization, drawn from the Dutch model, have also been applied in other contexts through projects led by local law enforcement agencies, such as the COPPRA –Community Policing for Counter-Radicalization- project in Belgium. This project has created a pocket guide for police patrol officers in order to detect radicalization indicators at an early stage (Open Society 2009). Indicators¹⁰ are, *inter alia*:

¹⁰ However, as argued in the Open Society report (2009) “The guide cautions officers to rely on a range of factors and that none of the indicators constitute evidence per se that a process of radicalization is taking place, and that all indicators must be assessed in light of background knowledge of the individual”.



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- clothing style;
- changes in physical appearance with a focus on facial hairs;
- changes in religious practice;
- participation in closed meetings;

Another relevant indicator is the association with organisations that hold extremist views.

Sources:

Information Switch Point (2006) Radicalisation in Rotterdam
[tp://www.rotterdamveilig.nl/Media/pdf/Radicalisering%20in%20Rotterdam%201%20Januari%202006%20Engelse%20versie.pdf](http://www.rotterdamveilig.nl/Media/pdf/Radicalisering%20in%20Rotterdam%201%20Januari%202006%20Engelse%20versie.pdf)

Neumann P. Stevens T. (2009). Countering Online Radicalisation. A Strategy for Action, ICSR.
<http://www.cleanitproject.eu/thirdpartydocs/2009%20OnlineRadicalisationReport.pdf>

Open Society (2009). Ethnic Profiling in the European Union. Pervasive, Ineffective and Discriminatory.
http://www.soros.org/initiatives/justice/articles_publications/publications/profiling_20090526

Trust in Safety. Participating in the City. Rotterdam 5 years safety action programme



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Appendix IV INDICATORS of “*LONE WOLF THEORY*” (LWT)

Lone wolf is a broad term that stands for a wide variety of extremists. In this context, lone wolf comprises both radicals and terrorists. There is no standardized profile for lone wolves as such as but there are commonalities that might be useful in order to identify potential early warnings.

For instance, as Bakker and de Graaf argue (2011), lone wolves tend to distribute their ideas to the world through different means, above all the Internet. Another commonality is that they seek materials or skills to carry out an attack and they are often under surveillance or, as Spaaij puts it, “they are vulnerable to detection at several different stages of their attack cycle” (2012: 83).

Given the unpredictability of their acts, the following is not a comprehensive list, but rather a list of potential early warning signs:

- the purchase (or the attempted purchase) of large quantity ingredients for explosive devices;
- the illegal purchase of guns and actual munitions;
- the active involvement (i.e. dissemination of extremist ideology) in extreme right/left/environmental/jihadi forums, chat and social networks sites;
- the repetitive use of specific sites in order to engage with extremists groups or to disseminate violent ideologies;
- the connection (real or virtual) to radical groups;
- the use of surveillance tools to observe the environment right before the attacks
- financial support for extremist (foreign) organizations or groups

However, more research is needed in order to identify patterns of actions.

Sources

Bakker E. de Graaf B. (2011) Preventing Lone Wolf Terrorism: some CT approaches addressed. Perspectives on Terrorism, vol 5. Issues 5-6

Spaaij R. (2012) Understanding Lone Wolf Terrorism. Springer, New York.

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Appendix V COMPARATIVE ANALYSIS OF INICATORS (EC-SCP and RAD-LWT)

EC / Indicators

Demographic	Police Crime-Rates	Site analysis	Places of crime	Neighbourhood consultation	Pathway Analysis
Gender	Geographic police-calls for intervention maps	Consider time, place, scale	Schools	Consider users of the past, present and future	Mass transit i.e. buses, rapid transit, transfer loops and stations
Income	Geographic reported crime maps	Look for pathways and activity nodes	Convenience stores	Itemize each group and the typical movement patterns	Automobile traffic densities
Incidence of low-income	Crimes to property	Look for debris (needle caps, cigarettes butts, etc.)	Liquor establishments	Consider which groups live in the neighbourhood and which come to the neighbourhood	Pedestrian pathways by different users
Government transfer payments	Theft from auto	Look for maintenance levels, graffiti	Fast food outlets	Interview neighbourhood groups and organizations	Bicycle pathways



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Tenure	Theft of auto	Signs of remediation (graffiti removal, window bars, etc.)	Coffee houses	Informal discussions with passers-by during site visits such as postal workers, commuters	
Population/density	Commercial break/enter (Burglary)	Look for neighbourhood caring	Shopping malls	Interview business owners, building managers and strata council representatives	
Age distribution	Residential break/enter (Burglary)	Night conditions (ex. Lighting)	Youth homes		
Household size / make-up	Mischief	Consider prospect and refuge opportunities	Drug houses		
Ethnicity (mother tongue)	Crimes to person	Look for potential guardians	Methadone dispensary (drug store)		
Mobility (2 year and 5 year)	Robbery	People watch: who's going where	Parks		
	Assault (all levels of		Low-income housing		

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	assault including sexual assault)		projects		
	Drug offenses				
	Sex trade or prostitution offenses				
	Temporal analysis				
	Written reports by police				

SCP / Indicators

Slug rejecter device	Automatic ticket gates	Removable car radio	Customs declaration
Steering locks	Baggage screening	Women’s refuges	Harassment code
Bandit screens	Merchandise tags	Phonecard	Hotel registration
Parking lot barriers	Red light cameras	Property marking	Roadside speedometer
Fenced yards	Burglar alarms	Vehicles licensing	“Shoplifting is stealing”
Entry phones	Security guards	Cattle branding	“Idiots drink and drive”
Bus stop placement	Pay phone location	Gender-neutral listing	Drinking-age law
Tavern location	Park attendants	Off-street parking	Ignition interlock
Street closures	CCTV systems	Rapid repair	V-chip
Credit card photos	Defensible space	Ink merchandise tags	Easy library checkout
Gun controls	Street lighting	PIN for car radio	Public lavatories
Caller-ID	Cab driver ID	Graffiti cleaning	Trash bins

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RAD / Indicators

Radicalization / Spatial Level	Radicalization behavioral patterns
Lack of integration	Clothing styles (i.e. wearing specific symbols)
Polarization	Changes in religious practice
High Level of under-employment	Changes in physical appearance
Low level of education	Possession of extremist literature
Spatial proximity with criminal networks	
Gateway organizations	
Radical mosques	

LWT/ Indicators

(attempted) purchase of large quantity ingredients for explosive devices
illegal purchase of guns and actual munitions
active involvement in extreme right/left/environmental/jihadi forums, chat and social networks sites
repetitive use of specific sites
connection (real or virtual) to radical groups
use of surveillance tools to observe the environment right before the attacks
financial support for extremist (foreign) organizations or groups