



*New Emergency Management
in a Resilience Era Facing
Health, Climate and Energy
Challenges*

6th - 10th December 2021

10th December 2021

SESSION 17 - URBAN AND PUBLIC SAFETY

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TIEMS Italian Chapter

<http://www.tiemsitalianchapter.it/>

A conceptual framework to assess and measure security and safety in urban areas

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 - A. Definition of the phenomenon
 - B. Added-value of what is proposed
 - C. Structure of the framework
- A **checklist** to operationalise/revise/validate the framework.



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RESEARCH QUESTIONS AND FRAMEWORK



How to measure/assess urban security and urban safety?

Urban Agenda for the EU - Security in Public Spaces Partnership - Final Action Plan

→ Six actions

Action 1 - Developing a Framework for a Self-Assessment tool dedicated to Urban Authorities (leader: City of Helsinki; partners: Madrid, Unione della Romagna Faentina)

→ Report on Approaches and tools to assess and measure security and safety in urban areas (author: Simona Cavallini)



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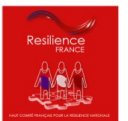
RESEARCH QUESTIONS AND APPROACHES/TOOLS



How to measure/assess urban security and urban safety?

A mapping exercise about existing approaches/tools (12):

- **Surveys addressed to citizens of more urban areas (SMUA).**
- **Surveys addressed to citizens of one urban area (SOUA).**
- **Indexes for ranking or benchmarking (IRB) of more urban areas.**
- **Indexes for self-assessment (ISA) of one urban area.**



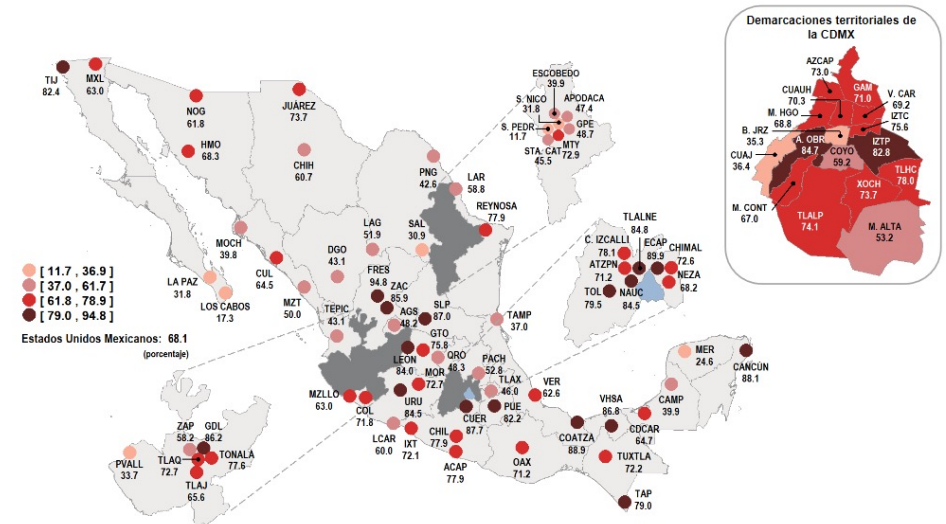
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EXISTING APPROACHES/TOOLS – Examples (1/4)



Surveys involving more urban areas (SMUA).

Case SMUA03 (GP)_ Encuesta Nacional de Seguridad Pública Urbana (ENSU)

Ten categories for 85 selected cities in Mexico. Including at least one city for each federal entity and the 16 territorial districts of Mexico City: **feeling of insecurity due to fear of crime; expectation about the trend of crime; witnessing of criminal or antisocial behavior; change of routines due to fear of being a victim of crime; sources of information to be updated about public security; criminal victimisation; performance of the police as a public security authority; conflicts and antisocial behavior; government performance; acts of corruption; experiences of violence.** Within the survey indicators of categories are grouped in seven main topics.



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EXISTING APPROACHES/TOOLS – Examples (2/4)

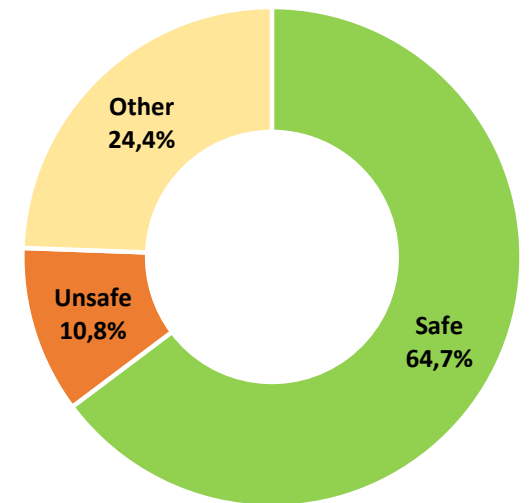


Surveys involving one urban area (SOUA).

Case SOUA02 (GP)_ Survey about the fear of crime and victimisation at the neighbourhood level within the BeSecureFeel Secure project

Five categories for the Municipality of Piraeus with a focus on the 2nd Municipal Department (Agios Dionysios area) and on the 5th Municipal Department (Piraeus Centre):

- perception of safety;
- fear of crime;
- individual participation in community-based crime policy;
- intention to participate in community-based crime policy;
- citizens' trust in local authorities regarding urban security.



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EXISTING APPROACHES/TOOLS – Examples (3/4)



Indexes for ranking or benchmarking (IRB)

Case IRB04 (GP)_

The Safe Cities Index of The Economist

Four categories with 57 indicators for 60 cities.

- **Digital security** (input/output). Es. Percentage of computers infected
- **Health security** (input/output). Es. Emergency services in the city
- **Infrastructure security** (input/output). Es. Deaths from natural disasters
- **Personal security** (input/output). Organised crime



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EXISTING APPROACHES/TOOLS – Examples (4/4)



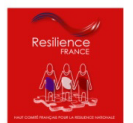
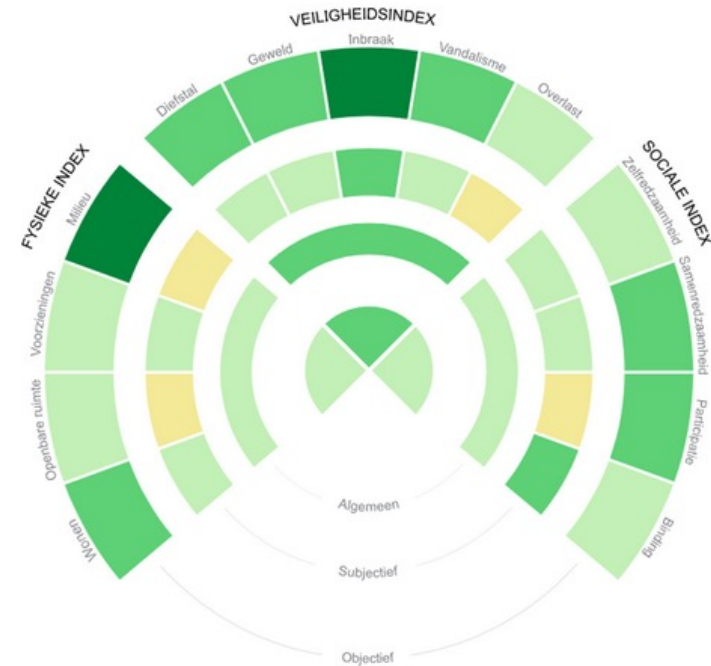
Indexes for self-assessment (ISA)

Case ISA02 (GP)_

The Neighbourhood Profile (Wijkprofiel) of Rotterdam

Three categories for Rotterdam and its 71 neighbourhoods.

- **Safety domain** (theft, violence, burglary, vandalism, nuisance)(objective/subjective). Es. registered violent crimes per 1,000 inhabitants in the district in terms of public violence
- **Social domain** (self-sustainability, cooperation, participation, connection)(objective/subjective). Es. indicators about provision of informal care and help from neighbours
- **Physical domain** (living conditions, public space, services, environment) (objective/subjective). Es. indicators about cleaning conditions (e.g., presence of trash cans, daubs)



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WHICH ACTORS ARE INVOLVED? (1/3)



Urban authorities

Objective → to increase urban security and sense of safety in the city acting on prevention of crime and violence leveraging on improvements of the **social cohesion** and of the **quality of life of citizens** as well as on improvements of the **liveability in public spaces**.

= reduction of the actual and of the future levels of criminal activities and violence through **policies**, defined by **strategies** and operationalised by **plans**, set targets/milestones over time in terms of social cohesion, quality of life of citizens and liveability in public spaces.



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WHICH ACTORS ARE INVOLVED? (2/3)

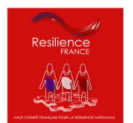


Local polices/Law enforcement agencies operating at local level

Objective → to increase urban security fighting crime and violence as per institutional role.

= reduction of the actual and future levels of crime and violence through a **continuous work based on investigations and related actions**.

Local polices/law enforcement agencies operating at local level have **situational awareness** in terms of threats, crime (reported) and violence (data from citizens/residents, internal sources) with an overview of **urban security** without information on unreported crime.



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WHICH ACTORS ARE INVOLVED? (3/3)



Citizens

Objective → to increase **quality of life** that is in turn affected by **social cohesion, liveability of public spaces and urban security**. Fears about threats, concerns about crime and feeling about safety of all the citizens provide the level of the **sense of safety of a city**.

= **Citizens as final beneficiaries** of:

- policies aiming at preventing crime and violence defined by the urban authorities
- effectiveness of actions to fight against crime and violence carried out by police forces.

Collaboration in terms of **knowledge sharing** with urban authorities permits the design and the implementation of informed policies.



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SOLUTIONS FOR URBAN AUTHORITIES' GAPS



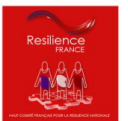
Two main knowledge gaps preventing **urban authorities** from defining effective policies towards improved urban security and/or urban safety:

1. What is **needed to know in order to assess and measure urban safety and/or urban security?**

A conceptual framework of indicators

2. How to make **practical and effective assessment and/or measurement of urban safety and/or of urban security?**

A checklist



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BUILDING A CONCEPTUAL FRAMEWORK - PHASES

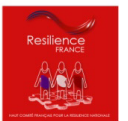


A **conceptual framework** behind a tool that allows cities of all size to assess their security.

3 main phases:

- A. Definition of the phenomenon
- B. Added-value of what is proposed
- C. Structure of the framework

→ A **checklist** to operationalise/revise/validate the framework.



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A. DEFINITION OF THE PHENOMENON – Concepts (1/2)

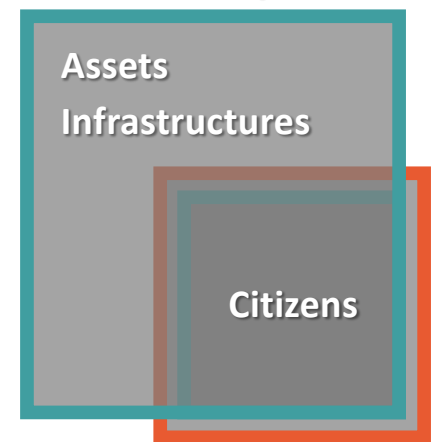


Concepts of urban safety and urban security are intended in many different ways and affected by the cultural background, change from one language to the other and are differently addressed in the world. Citizens' security, urban security, urban safety, human security.

In the present research the following distinct **definitions** are adopted:

- **Urban security**: the overall condition of a territory (e.g. a neighbourhood, a city) of being protected from **harm caused by intentional human action/behaviour**. It includes harms to **assets, infrastructures and citizens** in the concerned territory. Possible harms to citizens range from reduction of quality of life to casualties. Urban security applies in case of crimes and terrorist attacks. For example, a city is secure because a number of measures have been set to protect its assets, infrastructures and citizens against crime.
- **Urban safety**: the condition of citizens in a territory (e.g. a neighbourhood, a city) of being protected from **harm caused by both intentional human action/behaviour and/or not intentional failure**. It includes harms to **citizens** in the concerned territory. Possible harms to citizens range from reduction of quality of life to casualties. Urban safety applies in case of natural disasters (such as earthquakes and pandemics) as well as in case of crimes and terrorist attacks. For example, a city is safe because a number of measures have been set to protect its citizens against flooding.

Urban security



Urban safety



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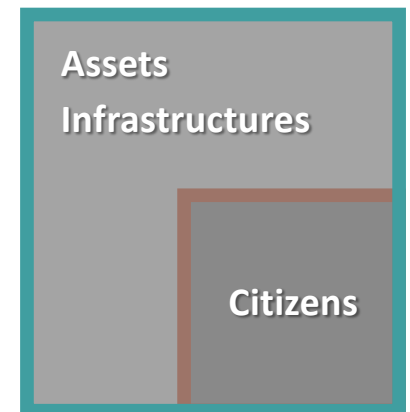
A. DEFINITION OF THE PHENOMENON – Concepts (2/2)



*Although urban safety applies also in case of natural disasters (such as earthquakes and pandemics), for the purpose of this research the **focus will be only on harms caused by intentional human actions/behaviours**. For such reason, in this context, **the definition of urban security encompasses the definition of urban safety**.*

- **Sense of safety in a city/perception of urban security** is then defined as the **feeling of people about safety/security of a territory**. Perception can be expressed by people leaving in the territory as well as by people never been in the concerned territory. Sense of safety in a city/perception of urban security can importantly vary across people (given their socio-economic conditions, direct experience with safety/security issues, etc.) and over time.
- **Public space** is common good implies its accessibility to all with **no direct cost to the user**, and also its **spirit of “public service”** without any purpose other than contributing to the overall quality of urban life. These spaces can be then categorized into streets (not highways), open spaces (parks, gardens, pocket parks, plazas, squares, river banks, beachfronts, etc.) and public facilities (social halls, libraries, municipal buildings, schools, health facilities, etc.). Also places, not strictly considered as public space, but that have a considerable impact on public and city life (e.g. private spaces contributing to public utility, in which public services are provided) such as tourist sites, transport infrastructures, shopping malls, places of worship, concert halls are included in the adopted definition.

Urban security



Urban safety (in this research)

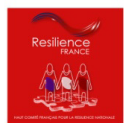


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B. ADDED VALUE OF WHAT IS PROPOSED

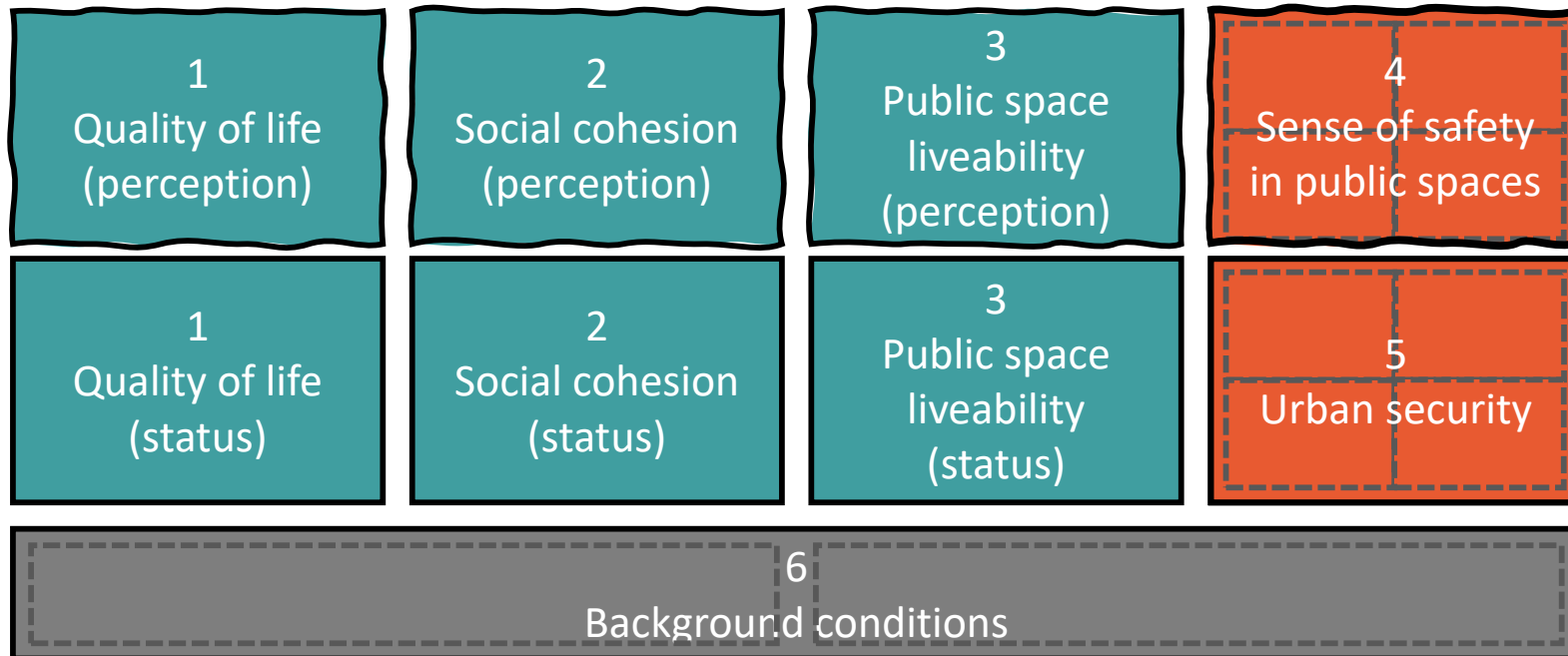


- the **objective perspective (i.e. status)** and the **subjective perspective (i.e. perception)** of the dimensions of the framework. Urban security is taken as the status of security, while sense of safety is the perception of security by citizens;
- the inclusion of a dimension related to **quality of life** of residents;
- the inclusion of a dimension related to **social cohesion**;
- the focus on **public spaces**;
- the inclusion of **background conditions** of the urban area under investigation;
- the goal to address the assessment and measurement needs of **cities of any size** (e.g. targeting small cities as well as i.e. targeting the smallest administrative units of the large urban areas);
- the opportunity to makes **comparison over time, within the city** (i.e. by administrative unit) and **between the cities** (i.e. a standard approach).



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C. STRUCTURE OF THE FRAMEWORK - Components



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C. STRUCTURE OF THE FRAMEWORK - Indicators



Quality of life (dimension 1). Status: 7; Perception: 15.

Social cohesion (dimension 2). Status: 8; Perception: 6;

Public spaces liveability (dimension 3). Status: 13; Perception: 22.

Sense of Safety (dimension 4). (4): Feeling of unsafety (FEE): 8; Concerns about crime and other nuisances (CON): 22; Fear of threats from unexpected events (FEA): 3; Trust and confidence about mitigation of crime and other nuisances (TRU): 3.

Urban security (dimension 5). (4) Crime and other nuisances (CRI): 22; experience with crime and other nuisances (VIC): 22; Threats from unexpected events (THR): 15; Mitigation against crime and other nuisances (MIT): 7.

Background conditions (dimension 6). (2): Demographic aspects (DEM): 7; Services and infrastructures availability (SI): 12.



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C. STRUCTURE OF THE FRAMEWORK – Public space liveability



Public space liveability Status

	What	Indicator	How to measure it	Possible sources
S_PSL01	+ Public space	Extension of public space accessible to citizens	Square meters per inhabitants (last year)	Data already available to the urban authority.
S_PSL02	+ Green areas/public parks	Extension of green areas/public parks accessible to citizens	Square meters per inhabitants (last year)	Data already available to the urban authority.
S_PSL03	+ Pedestrian areas	Extension of pedestrian areas accessible to citizens	Square meters per inhabitants (last year)	Data already available to the urban authority.
S_PSL04	+ Cycle paths	Length of cycle paths accessible to citizens	kms per inhabitants (last year)	Data already available to the urban authority.
S_PSL05	- Traffic congestion	Time in traffic with private car home-work in the morning/in the evening	Average time spent in the home-work travel in the morning/in the evening/ km in the last year (last year)	Data already available to the urban authority.
S_PSL06	+ Renovation of public buildings/areas	Percentage of investment in renovation of public buildings/areas	Expenditures of the urban authority on renovation of public buildings/areas in the last 3 years/ Total expenditures of the urban authority in the last 3 years	Data already available to the urban authority.
S_PSL07	+ Maintenance of green areas/public parks	Percentage of investment in maintenance of green areas/public parks	Expenditures of the urban authority on maintenance of green areas/public parks in the last 3 years/ Total expenditures of the urban authority in the last 3 years	Data already available to the urban authority.
S_PSL08	+ Urban planning design to prevent crime in new buildings/areas	Percentage of interventions in new public buildings/areas adopting CPTED or CP-UDP	Number of interventions in new public buildings/areas adopting CPTED or CP-UDP/ Total number of interventions in new public buildings/areas (last 3 years)	Data already available to the urban authority. CPTED (Crime Prevention Through Environmental Design) or CP-UDP (Crime Prevention through Urban Design and Planning).
S_PSL09	+ Urban planning design to prevent crime in renovating existing buildings/areas	Percentage of interventions in renovating existing public buildings/areas adopting CPTED or CP-UDP	Number of interventions in existing public buildings/areas adopting CPTED or CP-UDP/ Total number of interventions in existing public buildings/areas (last 3 years)	Data already available to the urban authority. CPTED (Crime Prevention Through Environmental Design) or CP-UDP (Crime Prevention through Urban Design and Planning).



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C. STRUCTURE OF THE FRAMEWORK – Sense of safety



Sense of safety				
Concerns about crime and other nuisances				
	What	Indicator	How to measure it	Possible sources
CON_SS01	– Concern about crime	Worries about being victim of a crime	Residents' assessment. Likert scale. 1=no worries; 5=extremely worried.	<i>Primary data to be collected with population surveys (statistically significant samples). To be collected on regular basis. Taking into account men/women, young people/adults, nationality, education level.</i>
CON_SS02	– Concern about family/friends being victims of crime	Worries about family/friends being victim of a crime	Residents' assessment. Likert scale. 1=no worries; 5=extremely worried.	<i>Primary data to be collected with population surveys (statistically significant samples). To be collected on regular basis. Taking into account men/women, young people/adults, nationality, education level.</i>
CON_SS03	– Concern about crime perpetrated by firearms	Worries about being victim of a crime perpetrated by firearms	Residents' assessment. Likert scale. 1=no worries; 5=extremely worried.	<i>Primary data to be collected with population surveys (statistically significant samples). To be collected on regular basis. Taking into account men/women, young people/adults, nationality, education level.</i>
CON_SS04	– Concern about homicides	Worries about being victim of an homicide	Residents' assessment. Likert scale. 1=no worries; 5=extremely worried.	<i>Primary data to be collected with population surveys (statistically significant samples). To be collected on regular basis. Taking into account men/women, young people/adults, nationality, education level.</i>
CON_SS05	– Concern about assaults	Worries about being victim of an assault	Residents' assessment. Likert scale. 1=no worries; 5=extremely worried.	<i>Primary data to be collected with population surveys (statistically significant samples). To be collected on regular basis. Taking into account men/women, young people/adults, nationality, education level.</i>
CON_SS06	– Concern about sexual assaults	Worries about being victim of a sexual assault	Residents' assessment. Likert scale. 1=no worries; 5=extremely worried.	<i>Primary data to be collected with population surveys (statistically significant samples). To be collected on regular basis. Taking into account men/women, young people/adults, nationality, education level.</i>
CON_SS07	– Concern about rapes	Worries about being victim of a rape	Residents' assessment. Likert scale. 1=no worries; 5=extremely worried.	<i>Primary data to be collected with population surveys (statistically significant samples). To be collected on regular basis. Taking into account men/women, young people/adults, nationality, education level.</i>
CON_SS08	– Concern about thefts/pickpocketing (on the street)	Worries about being victim of a theft/pickpocketing (on the street)	Residents' assessment. Likert scale. 1=no worries; 5=extremely worried.	<i>Primary data to be collected with population surveys (statistically significant samples). To be collected on regular basis. Taking into account men/women, young people/adults, nationality, education level.</i>
CON_SS09	– Concern about thefts/damages of a private land vehicle	Worries about being victim of a theft/damages of a private land vehicle	Residents' assessment. Likert scale. 1=no worries; 5=extremely worried.	<i>Primary data to be collected with population surveys (statistically significant samples). To be collected on regular basis. Taking into account men/women, young people/adults, nationality, education level.</i>



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C. STRUCTURE OF THE FRAMEWORK – Features and suggested steps



The proposed framework is characterised by:

- **Modularity.** This implies that it remains robust also when not all the dimensions are considered (e.g. because a city needs only to measure urban security and correlate it with the social cohesion dimension).
- **Adaptability.** This implies that it can be scaled-down or -up in terms of territorial scope (e.g. because a city needs to assess the sense of safety and measure urban security only for some of its districts).

As data for the **suggested indicators are unlikely to be available for all cities**, the final conceptual framework may require further refinements depending on **actual data availability and quality** (e.g. lack of data, redundancy problems, correlation issues).

→ **a pilot on data collection** needs to be carried out by some urban authorities to operationalise/revise/validate the framework.



A conceptual framework to assess and measure security and safety in urban areas **SUGGESTING A CHECKLIST – Assumptions**



The proposed check-list is meant for urban authorities that:

- 1) have **high in their policy agenda** the improvement of city's security as well as security's perception by citizens;
- 2) have already **one department in charge of policies to increase security and prevent crime** in the city;
- 3) agree on our **conceptual framework and its dimensions** (i.e. urban security, sense of safety, quality of life, social cohesion, public space liveability and background conditions); and
- 4) need **a standard method** based on a modular and adaptable framework which rely on one or more approaches and/or tools to measure urban security and/or assess citizens' sense of safety (i.e its self-assessment).



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SUGGESTING A CHECKLIST – Key questions



Prioritisation in terms of urban security and/or sense of safety
1. Which are the issues in terms of urban security and/or sense of safety that should be measured and/or assessed in the city?
2. Which are the policies that could be implemented to improve urban security and/or the sense of safety?
Detection of external owners/sources of data
3. Who are the external owners/which are the external sources of missing information/data?
Data collection
4. Which approach should be used to collect data?
5. Which are the resources available for data collection?
Data analysis
6. Which tool should be adopted to analyse data?
7. Which are the resources available for data analysis?
Capitalisation of knowledge and its sharing
8. How to use knowledge to inform policies?
9. How to share knowledge with external stakeholders?

→ **concrete hints** addressed to the department of the urban authority in charge of policies for the security and prevention of crime in the city.





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**Thank you for your attention!
Simona Cavallini**

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