Analysis of the Pilot run of the self-assessment tool to assess and measure security and safety in urban areas

Urban Agenda for the EU Partnership on Security in Public Spaces

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1 Background

The Action Plan of the Urban Agenda for the EU Partnership on Security in Public Spaces foresees in the context of its Action 1 the development of a self-assessment tool in the field of urban safety and security to support policies of EU cities and regions of all sizes. A desk study of existing approaches indicators used for measuring safety and security in cities in Europe has been carried out under Action 1. This study was carried out in the context of the Action 1 of the Urban Agenda for the EU Partnership on Security in Public Spaces. It aims to define a holistic framework to assess urban safety and measure urban security addressing the specific needs of European urban authorities of cities of all sizes. It is also meant to provide indications on how to implement approaches and tools for city's self-assessment based on the proposed framework.

This has led to a definition of a new conceptual framework in an earlier study conducted under Action 1, aiming at supporting European cities in their self-assessment exercises related to urban safety and security. The proposed conceptual framework relies on precise definitions of urban security and sense of safety and public space. The proposed framework is structured around six dimensions (i.e., quality of life, social cohesion, public space liveability, sense of safety in public spaces, urban security and background conditions) and takes into account almost 200 indicators.

Availability of data is the cornerstone of the successful implementation of such a framework in cities and regions. Considering the operationalisation challenge, the conceptual framework has been designed to be modular and adaptable for its application to different urban settings. Finally, a question-based checklist was compiled to guide cities in defining their self-assessment method for measuring urban security.

This approach has been developed and approved by the Urban Agenda for the EU Partnership on Security in Public Spaces Action 1 in a desk study done by Simona Cavallini in the report *"Approaches and tools to assess and measure security and safety in urban areas".* This study contains a very comprehensive study of previous work in the field of indicators across Europe, and based on this study, the framework containing the 6 dimensions of safety and security for the Pilot study was developed. It also recommended that a Pilot study should be done with 5 – 10 cities participating.

2 The Pilot Study

This study started in early July 2021 where an e-mail was sent by the project lead to the participants of Urban Agenda for the EU Partnership on Security in Public Spaces asking the members to participate in the Pilot of the Urban Agenda Action 1. The deadline was set to August 10, 2021. The e-mail contained the six spreadsheets that was developed as a conceptual framework in the previous phase of Action 1. Along with spreadsheets the report "Approaches and tools to assess and measure security and safety in urban areas" was sent. This is a very comprehensive report, that contained the thoughts behind the conceptual framework to the respondents of the Pilot survey.

There was no hands-on user manual at that time of reaching out to the cities for their participation in the Pilot, so the cities filled the indicators based on the report. The reason for this was that the expert wasn't part of this project over the summer holidays, so the project lead decided to reach out to the cities anyway in order to get data for the Pilot. The project lead and the expert reached to the cities and provided guidance to them during their process of collecting the data. A hands-on user manual has since been written utilising the experiences gathered from the interaction with the cities during their process.

A total of six cities took part in the survey and gave their feedback. It was the cities of Helsinki (FI), Mechelen (BE), Gdansk (PL), Vantaa (FI), Vilnius (LT), and Tampere (FI). Three of these cities filled in the information in the spreadsheets to varying extent. The feedback was given in writing and via Teams in feedback sessions between the cities, the project lead, and the expert.

The participation rate was relatively low. The reason the relatively low participating rate could be, that the Pilot ran over the summer holidays making it difficult for cities to muster the needed resources, or it could be sheer size of the task at hand.

During the time in which the cities could answer the Pilot, the project lead, the Joint Research Centre (JRC) and the expert tried to get more cities to take part in the Pilot. During that phase, a city asked what indicators that they had to fill since they had to prioritise under a very strict time constraint.

To get as much information as possible, we asked the cities to fill as many indicators as possible, and in order to carry out a meta data analysis, the cities were asked to mark each indicator as to how challenging it would be for the city to fill the particular indicator. The cities were asked to use the following grading system.

1. You already have data at your disposal (please enclose if possible)
2. You can gather the data, but not within this timeframe
3. Gathering the data would require a big resource input, for example surveys would have to be launched or special calculations need to be made at national statistical offices.
4. Data for this indicator is not available, for example for legislative restrictions

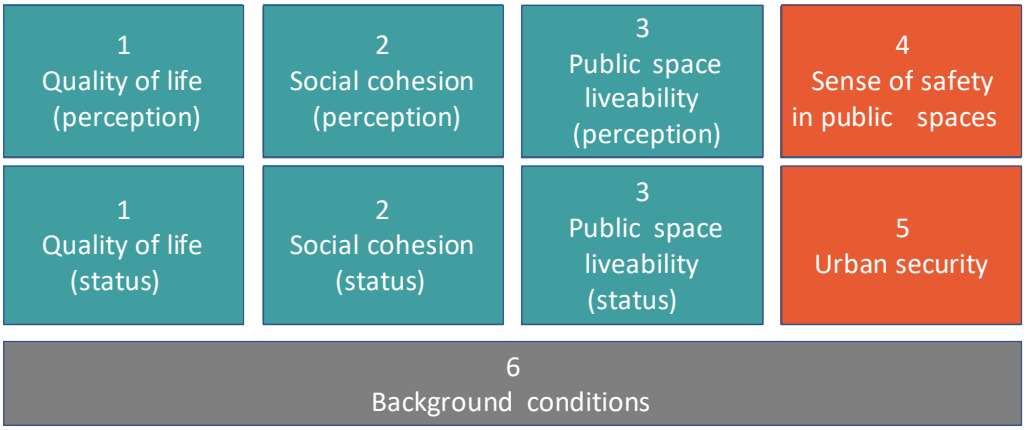
2.1.1 Analysis of the Pilot study

In this part the framework and its dimensions will be described in greater detail. The self-assessment tool is divided into six main dimensions:

1. Quality of life
2. Social cohesion
3. Public space liveability
4. Sense of safety
5. Urban security
6. Background conditions and demographic aspects.

A more detailed overview of the self-assessment tool is presented in Figure 1 below.

Figure 1 The final conceptual framework and its six dimensions[1]



The first three dimensions, quality of life, social cohesion, and public space liveability, are divided into two sets of sub-indicators. The first group of sub-indicators are a set of indicators, that collects information about citizen's perception with in each of these three dimensions, marked with *(perception)* in Figure 1. The subjective information would in most cases require cities to do surveys to obtain the information.

The second group of indicators is a set of a statistical or objective nature, marked with *(status)* in Figure 1. These could either be obtained from the city level or could be calculated by National Statistical offices. The information that is collected for all dimensions for the self-assessment tool should be entered in a separate spreadsheet for each dimension.

The fourth and fifth dimension, sense of safety in public spaces and urban security, each consist of four subgroups with sub indicators. In this dimension there is a mix of subjective and objective sub indicators.

[1] The conceptual framework and its six dimensions were developed in an earlier study conducted under Action 1, aiming at supporting European cities in their self-assessment exercises related to urban safety and security; https://futurium.ec.europa.eu/en/urban-agenda/security-public-spaces/library/action-1-report-approaches-and-tools-assess-and-measure-security-and-safety-urban-areas

Each dimension has a varying number of sub-indicators, so it will be possible to self-assess on a wide variety of detailed objective and subjective indicators over time. After that, the three parts of the analysis of the Pilot study, the building of the database and the quantitative analysis and the qualitative analysis will be described.

3 The process of creating the database and analysis of completion percentages

This section describes the work of creating the database done by the JRC. This work was done to assist participating cities, but also to have an overview of how the cities did with respect to completion of the indicators.

The present work considers possible future developments and the automation of the processes for data collection of the self-assessment proposed by Action 1 of the Urban Agenda for the EU Partnership for Security of Public Spaces; this includes the processing of information from cities aiming at using a self-assessment tool with the importing of the excel files filled in by the cities participating in the Pilot activity.

The database for the collection and storage of such data has been designed on the basis of the Report *Approaches and tools to assess and measure security and safety in urban areas* and the Excel files used to collect data and sent to the participating cities. It must be noted that, given the initial limited number of participating cities in this phase, the amount of information is not such to require the development use of a dedicated database. However, its development allows addressing some of the challenges in future automation and data standardisation for a self-assessment tool, also in view of the development of a dedicated web application to collect data.

In this initial phase of the Action 1 Pilot, the use of Excel files allowed too much flexibility, thus preventing a standardised importing of data into the database. However, such flexibility is intentional and in line with the scope of the Pilot, to allow the participating cities to better provide feedback and minimise spreadsheets constraints that would have prevented an exhaustive analysis of cities' needs and difficulties related to data availability.

It appears that cities have different source data for same indicators. Therefore, considering the possible adoption of different unit of measurement for each indicator, it is suggested to add the associated information on the type of measurement inserted. This would prevent direct comparison among different cities but would allow greater flexibility so that each city could better use information already available within the administration. Harmonisation of unit of measurements for the indicators could be considered or transformation strategies could be defined towards a more standardised data structure.

A *data dictionary* is also recommended in order to preserve knowledge and details on the submitted data and the numerical values for each indicator: a dedicated table could host detailed information of each city indicator and explanation of the source data considered.

The Excel files, compiled by the cities participating to the Pilot, present challenges for standardised data import workflows. It is understood that, at this stage of the Pilot, one of the main challenges for compiling the forms is related to the heterogeneity of data formats available by the city administrations; information and statistics can be collected at different scales and aggregations (e.g. at regional level rather than city level), different unit of measurement (although these could be

homogenised). Other data may be unavailable or collected with reference to different parameters or split in more groups. Hence, for many of the indicators, homogenisation and conversion strategies should be defined and possibly discussed by the single cities.

Future developments can envisage a standardisation at European level so that cities could be able to implement internal processes (data collection and statistics) for a direct submission of local data to a self-assessing tool based on the Action 1 Framework.

In order to import all the data into the draft database, for each indicator filled in by the participating cities, the provided data are considered and converted to a single value. In the following paragraph details from the importing process of each city's provided data are reported with notes on specific challenges in source data.

For the three cities involved in the Pilot, a matrix was compiled to show the data provided and the missing values. It must be noted how, for some of the indicators, the possibility to obtain data was indicated but it was not feasible to provide real values within the timeframe available. In this case such indicators were considered as unavailable.

In Figure 2 the percentage of completion of the sub indicators of the proposed framework for all the cities is reported.

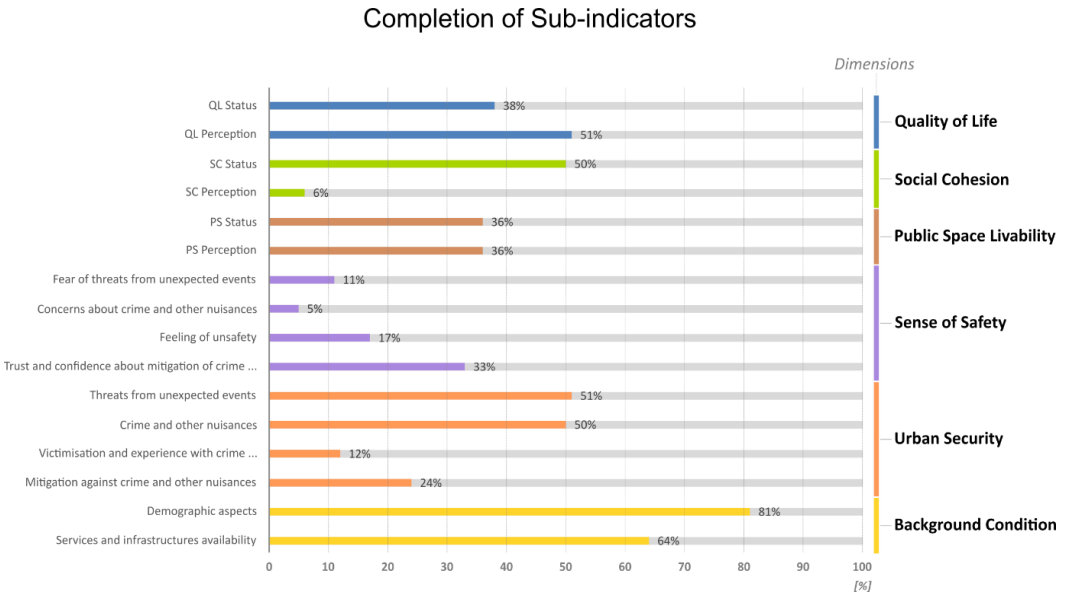
The *percentage of completion* P_c of each sub-dimension is calculated as the sum for the n cities of the ratio between the counts of each city filled-in indicators V_c and the total number of indicators I_s within each sub-dimension.

$$P_c = \sum_{c=1}^{n} \frac{V_c}{I_s}$$

The percentage shows the share of indicators, that the participating cities managed to fill. If for example a dimension has six sub-indicators, and three cities take part, there would be a total of 18 sub-indicators. If the three cities managed to fill six indicators, the completion rate would be 6/18= 33.3%

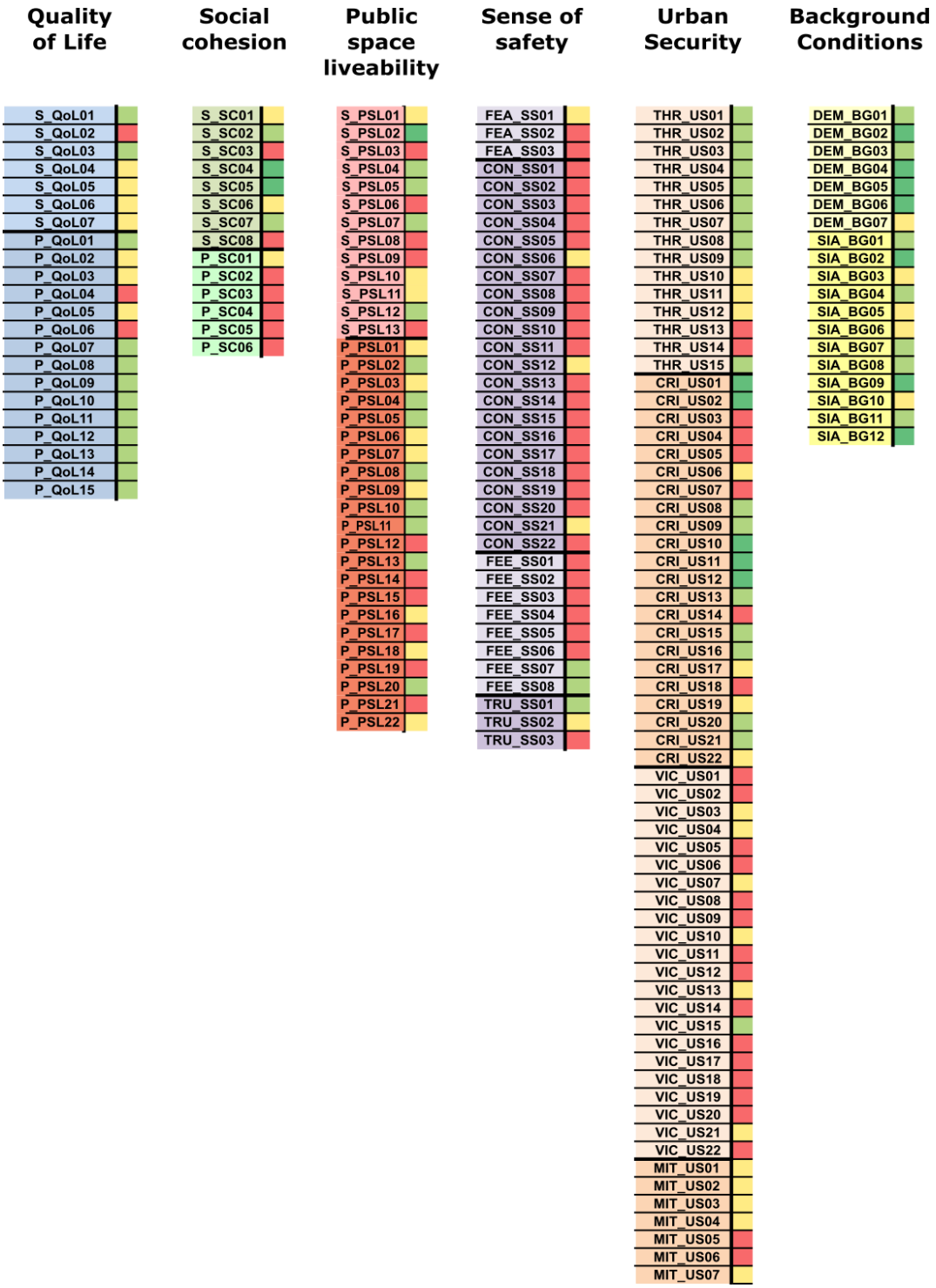
It can be noted how information on *Social Cohesion Perception* and Concerns about crime are particularly difficult to be made available from the cities.

Figure 2 Percentage of completion of the sub indicators groups



In Figure 3, the amount of completion of each indicator in this Pilot phase is reported, with colours ranging from red (no indicator available for all the cities) to dark green (all the cities provided data for the indicator). It is noted that the It can be noted how information on *Social Cohesion Perception* and Concerns about crime are particularly difficult to be made available from the cities.

Figure 3 Completion of indicators by participating cities (dark green (3), green (2), yellow (1), and red (0))



3.1 Summary of the process of building the database and analysis of the completion percentages

The work with the process of building the database and analysis of the completion percentages shows

- The development of the database allows addressing some of the challenges in future automation and data standardisation for a self-assessment tool, also in view of the development of a dedicated web application to collect data.
- It appears that cities have different source data for same indicators.
- A data dictionary is recommended.
- The Excel files, compiled by the cities participating to the Pilot, present challenges for standardised data import workflows to the database.
- It can be noted how information on Social Cohesion Perception and Concerns about crime are particularly difficult to be made available from the cities.

4 Qualitative feedback

In this section the qualitative feedback from the participating cities will be described. First, the general comments to the self-assessment tool will be described, and then comments to the individual dimensions will be described.

The cities noted that the material that was sent out to the member cities for the Pilot survey, was hard to overlook. It was also noted that it was not clear what was expected from the cities in connection with the Pilot survey. Therefore, a shorter manual would have been very useful.

One city noted that they believe that there is a need for greater coordination nationally to systematically apply such a serious and wide-ranging tool. The city also noted that smaller cities could have a resource issue in coordinating the gathering of data, that they themselves were not in possession of. It will also take time and resources to coordinate surveys at a city level where that is needed to fill the indicators. It is also a challenge to get data where they come from different authorities or different departments in the municipality. Therefore, this city suggests, that it would be an advantage if the collection of most of the data could coordinated at a central level, such as the Department of Statistics or the Ministry of the Interior.

4.1 Data collected

One city also gave a more detailed feed back to each of the dimensions in the self-assessment tool. The feedback is listed below

Quality of life

- Quite a lot of work, for general indicators. I'm not sure this information is relevant for the urban security department. These things are nice to know, but don't seem to be needed to develop (prevention) projects or react on certain problems.
- It is difficult to find information on perception on a local level.
- Perception is asked to be formulated in a scale from 1 to 10, but in the data that we have from our city is asked differently, so we often only have a percentage of people that are satisfied.
- Cultural and leisure activities: we have multiple indicators about these.

Social Cohesion

- Percentage of employed migrants and/or refugees: We don't seem to have these, we do have the difference between the national level, EU and non-EU citizens.
- Perception: we don't have the answers on the asked questions, on these opinions. It has never been asked.
- It might be useful that there would be an example of a question we could ask to measure these opinions. In this way, the cities who never asked this before and want to do it all use the same question?
- In this part, only the opinions seem to be interesting for developing urban security/prevention measures.

Public Space Liveability

- The indicators are asked in other measurements than we have (eg m² or from 1 to 10, but we only have the percentage).
- What is the definition of public space accessible to citizens? Is a sports hall a public space? Is a library a public space? Or is it only the unbuilt accessible areas?
- Same question about pedestrian area: are these places where only pedestrians are allowed? Or is it the pathways for pedestrians? What about spaces that are only temporarily not accessible to cars?
- These questions are also quite time consuming and do not always seem relevant for an urban security/prevention policy. E.g.: how is it relevant to know how much money is invested in the renovation of public space? Others are relevant, like noise.
- Same remark as on the social cohesion excel: Perception: we don't have the answers on the asked questions, on these opinions. It has never been asked here.
- It might be useful that there would be an example of a question we could ask to measure these opinions. In this way, the cities who never asked this before and want to do it all use the same question?

Urban Security

- Here as well the measurements are different. E.g.: vulnerability to terrorist attacks is asked in 1 to 10, but OCAD has a scale from 1 to 5.
- Vulnerability terrorist attacks: it would be useful to give some inspiration here. So that when a city/police force want to do a vulnerability assessment they can find a good instrument and we can all use the same vulnerability assessment.
- Very detailed information is asked.
- Most of the information must be collected from to the police, we ourselves don't have these numbers. I could ask them, but I'm not sure they have them, and it seems quite a lot of work for something we ourselves will probably not use immediately. And it is not easy to get information in the summer months.

Sense of security

- Tab 1: These indicators are not believed to be available at the national level, let alone for the city level. Same remark as already mentioned a few times: It might be useful that there would be an example of a question we could ask to measure this. In this way, the cities who never asked this before and want to do it now all use the same question?
- Tab 2: Same remarks. It is known that there are numbers about the worries to be contaminated with COVID-19, because this is a question in a survey from a university. This university started a weekly survey in the beginning of the corona crisis (March 2020) for the regional level, but the postal code is asked, so it should be known somewhere. In the city's opinion, this has little to do with security, and this information does not seem of much relevance for urban security/prevention policies.
- Tab 3: We only have one kind of indicator, in another scale.
- Tab 4: Same.

Background conditions

- What is the definition of young people? Is it until 25? 35? Same for elderly: is it 65? Or 75? This information is necessary to complete correctly.
- Vulnerable people: we probably do have these numbers, or at least part of it (e.g. the city does not believe it has the numbers on persons with serious illnesses), but it is a lot of work

to gather this, certainly in relation to the added value to the development/evaluation of the urban security/prevention policy.

- Capacity of public utilities services: not sure what is meant. Almost every house in the city has an electricity connection and a connection to drinkable water. Maybe there are data of the number of connected inhabitants at the companies, but it is not available now.

4.2 Summary of the qualitative feedback

The qualitative feedback from the cities shows

- The cities would have liked a guideline, or user manual, as to how to fill the indicators. Based on the cities feedback, a user manual has been compiled for future needs in case the piloting phase would be continued.
- The time available to fill the indicators was too short.
- The suggestions in the spreadsheet on how to define the individual indicators sometimes do not match the cities own definitions. For instance, with the scales 1-10 or 1-5.
- Sometimes there is a lack of precision in the concepts, for instance young people and elderly people.
- Some cities fail to see the relevance for some of the indicators for the key concepts safety and security.

5 Recommendations

The Pilot survey was sent to 80 cities. Six cities indicated that they would undertake the task of entering data into the prototype. All six cities gave very useful qualitative feedback. three cities submitted partly filled indicators. The dimensions in the self-assessment tool had a completion percentage ranging from 5% to 81% across the three cities.

The main findings from the analysis of the Pilot run are, that the task of filling the self- assessment tool is too big a task for cities to undertake in its present form, and a guideline to the cities as to how to go about filling the indicators is needed together with a standardising of the way to define the individual indicators.

It is therefore the recommendation that a seminar is held to onboard the cities based on the work of Simona Cavallini, where the cities go through the indicators and group the indicators after how relevant the cities perceive the indicators are in relation to their work with security and safety. The seminar would also be an opportunity to listen to what cities need to make this tool operational in the cities.

An online seminar was already held in April 2021 to present the framework for member cities prior to the current Pilot. It is the belief of the expert that an additional – preferable a physical meeting – seminar could add value to the effort of making the self-assessment to operational because it would make cities feel a bigger ownership to the self-assessment tool, and it would give cities an opportunity to discuss technical challenges with each other. The outcome of the seminar should be, that a close to final self-assessment tool could be made ready based on user experiences from the seminar.

It is also recommended that an expert prepare a suggestion for a segmentation of both the subjective and objective indicators after importance and relevance for the cities that can be used as a foundation for the discussion at the seminar.

The idea of having the JRC or another central body help the cities with building a database is good. To make this task manageable, a set data input format should be designed that the cities must follow, because the more flexibility the cities have in the input phase the more complex the building the database becomes. It should also be considered if it would be possible to prefill some of the mainly objective indicators as a help to the cities. It should be investigated by Eurostat and/or the JRC, or by reaching out to the national statistical offices.

The information in dimension six, *Background Conditions*, only have an indirect effect on the concepts of security and safety. They would be very important if researchers would try to explain the reasons for a certain level of safety in a city by doing, for instance, statistical inference analysis. But since this is not in scope at this stage in the self-assessment tool, it is recommended, that cities are not asked to fill the indicators in this dimension.

The focus of the self-assessment tool, rather than comparison between the cities. However, it is suggested that some of the indicators could be made mandatory. This could for example be the

objective and subjective indicators that relate to crime and safety. This could also be discussed with cities at the proposed seminar.

This expert believes that the crucial element for making this very well founded and very comprehensive tool a success in the long term is:

- Create city ownership.
- Adjust the size of the tool so it has a manageable size by focusing on the most important indicators.
- As much of the administrative work like collecting data as possible should be centralised.
- Collaboration of central actors at a European and a national level to help cities with data collection.
- An inflexible input format should be developed in order to be able to build a central database.
- Knowledge sharing between cities as to what policy implications cities derive from the self-assessment tool.