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# METAMORPHOSIS

Transformation of neighbourhoods in a child-friendly way  
to increase the quality of life for all citizens



## *Activity handbook: School Environment Scan*



THE CIVITAS INITIATIVE  
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# METAMORPHOSIS

## The School Environment Scan

*Scanning the school-environment through the eyes of children.*

Developed by:  
The Municipality of Tilburg under the Tilburg Veilig Naar School programme,  
in cooperation with Breda University of applied sciences.



**GEMEENTE TILBURG**



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## Preface

Welcome to the School Environment Scan handbook. This handbook was created as a result of the execution of three School Environment Scans in the municipality of Tilburg. The School Environment Scan is developed as an answer to the challenge that was created by the European Horizon2020 research project METAMORPHOSIS. The goal is to find new ways to translate the needs of children in neighbourhoods and urban districts into mobility solutions and to find new ways to deliver these solutions in a process of co-creation. The Municipality of Tilburg first developed the tool for the local project of Tilburg Veilig Naar School. The first pilot of the School Environment Scan was held in the fall of 2017. A year later, the tool was developed further and tested. From the results of these tests and the evaluation that followed, this handbook is developed.

This handbook has been developed by students of the Breda University of applied sciences, the Netherlands, as commissioned by Inez Rastovac, project leader METAMORPHOSIS from the Municipality of Tilburg.

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## 1. Introduction

A child-friendly city is a sustainable and pleasant city (METAMORPHOSIS, 2018). From this premise, the European H2020 research project METAMORPHOSIS started. As cities all across Europe are still growing in size (Eurostat, 2017) and challenges like climate change and a changing society occur, spatial development within cities is changing. Inspired by, among others, the ideas of renowned Urban Design Consultant and urban researcher Jan Gehl, the project METAMORPHOSIS was initiated. Using a bottom-up approach in city development aims to create places that people are proud of, fulfil their needs, and increase liveability.

The aims set in the METAMORPHOSIS programme, closely connect to the SUMP Tilburg2040 which states that end-users ought to have a central position in thinking of smart and innovative (mobility)solutions. Putting together the aims of the SUMP and METAMORPHOSIS results in putting children as end-users and giving them a central position in thinking of smart and innovative solutions. Sustainable cities are, nearly by definition, child-friendly cities. Most of the travelling and playing that children do often take place in the direct surroundings of the schools that they attend. The quality and safety of these surrounding are therefore of high importance. METAMORPHOSIS believes that, because the school surrounding has such a substantial impact on children, children should also have important input on its layout. From this belief, together with the idea of the bottom-up approach, the School Environment Scan - from here on referred to as SES - was born. This activity enables municipalities and cities to see and understand what children see and think. It is a method for identifying points of improvement and praise. Besides explaining the activity, this document will provide its readers with the templates needed for execution.

## 2. The School Environment Scan

The activity of SES is an answer to the question of having a successful activity that involves the end-users to influence decisions on a neighbourhood scale. Who else but the people that see and experience their neighbourhood every day are fit to think about what can be improved? One of the major nodes in neighbourhoods are the schools that call it home. They are a hub for movement within the neighbourhood as children and parents come and go at similar points in time, with many different modes of transport. Besides this, children are a specific user of the public space as they use it differently than most of us. When using public space as a playground, streets, greenery, street furniture, and facilities are perceived and used differently.

### ***What the SES is***

The SES activity is a way to get to know the opinion and thoughts of a certain group of end-users about their surroundings in an interactive way. In specific, it aims to understand the surroundings of primary schools within cities and the way in which their users perceive them (e.g. the children of those primary schools). Knowing this will help to alter them in a way so that safety and liveability are improved. The municipality is a facilitator in which it tries to support the end user as far as possible in realising their goals.

Through a system based on TIPS and TOPS, children can communicate their opinion and thoughts about their surroundings to the ones that can influence it. During the activity, the municipality, parents, and the children will walk through the school environment together. During the walk, the children can hand out these TIPS and TOPS. By doing this, the municipality will be able to identify priorities in for possible neighbourhood (re)development. After looking at their surroundings, the children will think of ideas of improvement during a workshop and present these to the class, parents, and municipality.

### ***The three phases of the SES***

Within the entire activity of the SES, there are three phases. The SES is organised from within the municipality. Therefore, organisation becomes a cooperative task. The municipality is to chair the SES but works together with the school in question to organise a successful activity. Every school, class, neighbourhood, and situation is different so it is of importance that communication between organiser - the municipality - and the participating school is open and clear.

There are three stages in the SES: the preparation phase; the execution phase; and the continuation phase.

### 3. Preparations

During the preparation phase, the SES will be organised. This organisation process includes several research items that are to make clear what the characteristics of the location and school are. If these are known, the SES can be adjusted to fit the situation better. Case studies have been done with the age categories of 8-10-year-olds, and 11-12-year-olds. The preparations consist out of three parts: pre-work, the activity, and the workshop. For clarification, this document starts with the given that a school has signed up for the SES, and the first contact is made.

#### Pre-work

The pre-work holds the largest portion of work within the preparation phase. All items that will be prepared in this section, will influence both the activity and the workshop. As soon as a school signs up for the activity, a procedure is set in motion. As said in chapter 1: Introduction, the preparations start as soon as a school signs up for the activity. From this point, *Figure 1: Chronological steps of SES pre-work* comes to force. The steps shown in Figure 1 are further elaborated in *Figure 2: Step-details SES pre-work*. All named documents can be found in the appendix.

**Figure 1: The steps of SES pre-work.**

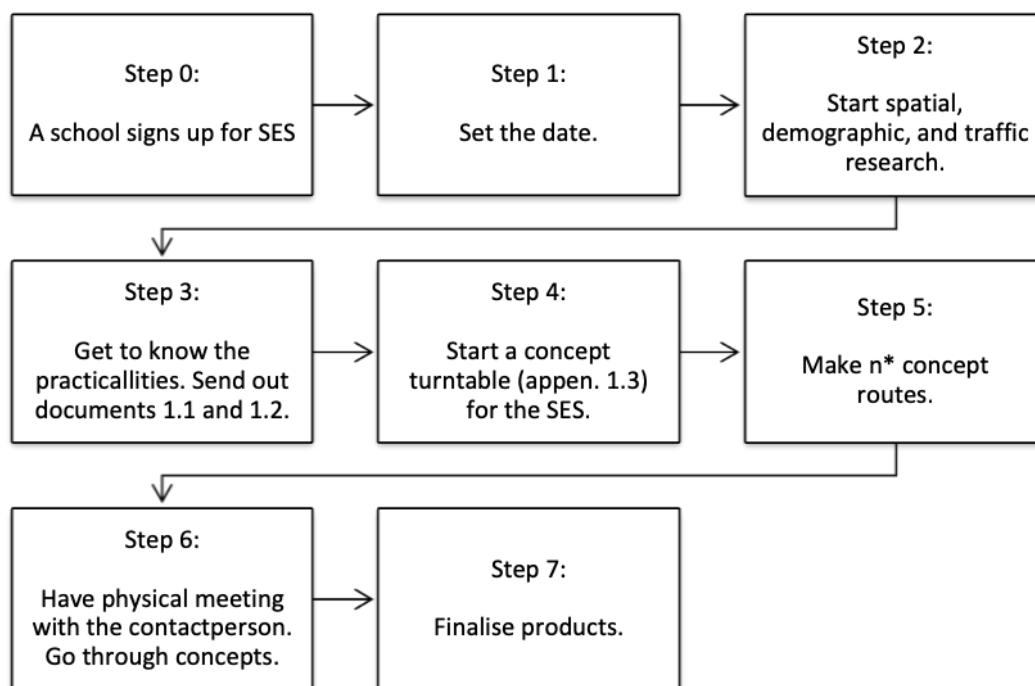


Figure 1 | Chronological steps of SES pre-work.

\* *n* corresponds with the number of groups. The number of groups is based on the number of participating children. ± five children per group.

**Figure 2: Step-details of SES pre-work.**

Step	Responsible	When	Details
0.	The municipality	April	Inform schools about the programme TVNS and the importance thereof. The schools decide if they join the programme and sign up in June. As soon as they do, the preparations can begin.
1.	The municipality	Right after a school signs up for the SES.	Get into contact with the school. Make sure that a date is set. If all is correct, the class and contact person should be known from the sign-up. If not, get that information now.
2.	The municipality	As soon as the SES date is set.	To be able to understand what topics are to be addressed during the SES, start a spatial, demographic, and traffic safety research. Get to know interesting locations (for routing), background information about the residents (for argumentation), and challenges in traffic safety (for steering during SES).
3.	The municipality	As soon as the SES date is set.	Through the contact person, get to know the practicalities. In order to continue the organisation of the SES, information is needed on: <ul style="list-style-type: none"> <li>- With what class will the activity take place (aim for 8-10-year olds) and how big is this group?</li> <li>- Who is the teacher of this group and will she/he join?</li> <li>- Are there people available (parents, colleagues, etc.) to act as guides?</li> <li>- Make inventory on available facilities (classroom, technology, safety jackets etc).</li> </ul> During this step, send documents 1.1 and 1.2 to the contact person.
4.	The municipality	After getting to know all practicalities.	Make concept day-script (document 1.3) with the information gathered. This is the most important document for the SES at this point. It holds all steps that needs to be taken during the day.
5.	The municipality	Once results of research (step 2) are known.	From the research at step 2, it should now be known if there are risk full or interesting locations within the school environment. With this information, the routes that the children will follow during the SES can be made. The information gathered in the research acts as argumentation for the route. Make these routes in cooperation with the neighbourhood director <sup>1</sup> .
6.	The municipality and the school	Once concept day-script and routes are finalised.	Organise a physical meeting with the school. <ul style="list-style-type: none"> <li>- Go through the concept day-script so the school knows what is going to happen, but also what is expected of them. Their feedback might still alter the day-script.</li> <li>- Go through the concept routes. The teacher probably knows the area, feedback is welcome.</li> <li>- If available (step 3) and if needed, arrange guiding for SES.</li> <li>- Make sure document 1.1 and 1.2 are sent out and signed where needed.</li> </ul>
7.	The municipality	After meeting	Finalise day-script, get (signed) forms of consent.

**Figure 2 | Step-details of SES pre-work**

<sup>1</sup> **A neighbourhood director** is the direct contact person for the different neighbourhoods in the municipality of Tilburg. He/she is the linking factor between the residents and the municipality. Because of the, the neighbourhood director is well aware of the social status of the neighbourhood in question as well as a personal connection with the people that live there.



## **The activity**

As the pre-work is done, the largest portion of the preparations are as well. After the steps in Figure 2, the following items should now be arranged, and documents done:

- A school has signed up and a date for the SES is set;
- A compact research in the subjects of spatial, demographics, and traffic is done;
- Practicalities like the age group and group size are known;
- Documents 1.1 and 1.2 are sent out and if needed, signed;
- A day-script is made, and the school has had the opportunity to deliver feedback;
- Concept routes are made, and the school has had the opportunity to deliver feedback;

In the activity-phase of the preparations, all focus is on getting the activity right. Since a lot of work is already done, there are only three things left to do.

First, the school environment is influenced by many factors. One of them is the traffic generated by the school itself. It can even be argued that in the short periods that most children come to and leave school, it is the leading influencer of generation traffic. If it is known how children come to school and where approximately they live, a better understanding of the neighbourhood and its challenges will be achieved. To be able to find these results, a map from the school in the neighbourhood is needed. The map-size is location dependent, but the goal is to enable the children to find their approximate place of residence on it. Here, they can then place a red or green sticker. Red stand for car, green stands for active modes.

Second, it is important to finalise the routes. Each route should fill about an hour. Thinking of the fact that the activity will be done with children and that they will be handing out TIPS and TOPS during this route, a route between 1400 1800 metres is advised. From the case studies done in the municipality of Tilburg, it turned out that this distance will take the groups 45-60 minutes to complete. The routes need to be followed by the guide that walks with the children. As the focus of the children is on their surroundings, the guide is in charge of walking the right route. The route should therefore not be too difficult to read, and a full route description is advised.

Lastly, all group guides will be provided with an all-including package. A clipboard is advised as it enables the guide to write freehandedly. This compact package is made to keep the SES as easy to set up and execute as possible. This clipboard contains the following:

- Instructions for guidance;
- Route;
- Min. 5 red and min. 5 green thumbs;
- Fluorescent jackets;
- Camera.

The Instructions for guidance (document 1.4) provides the guide with a summary of the activity explanation, the steps he/she is to take as soon as one of the children wants to give a TIP or TOP, and a table where the TIP or TOP should be written

down. The route is to be followed by the guide, the thumbs are for the children when posing with the TIP or TOP, the fluorescent jackets are for the children so that they are safer, and the camera is used to take a picture of the TIP or TOP.

### ***The workshop***

The pre-work is done, the activity is organised. The only thing left to organise is the workshop. After the activity in which the children scan the school environment and think about what is good and what could be improved, they come back to class to narrow down the results and think of possible solutions.

The workshop is designed to be a pressure-cooking session. Within about 45 minutes total, the children will have to decide on what the most important TIPS and TOPS are, why they are so important and think about possible solutions. There are many ways in which this can be done. The way in which the workshop can be done depends on several characteristics: cultural background, age, class characteristics, and wanted outcomes to name a few. The goal should follow the following:

- All given TIPS and TOPS need to be narrowed down to the most important per group;
- Possible solutions should be given.

There are many paths that can be taken to do this. Examples of the workshop:

#### **Dream Street.**

During the first SES in 2017, the workshop consisted of creating a dream street. What is the best street the children can think of? The children were to think about their dream street in silence for a minute or two and then draw this street and present the result.

#### **Solution drawing.**

In 2018, a new workshop activity was thought of with its roots in the Dream Street. Every group had to choose the best TIP of their own list after which they together would think about what could solve this. The solution would be drawn. In the end, there are five drawings which relate to the five most important TIPS. The results would then be presented for the class, by the children.

#### **Brainstorm session.**

One of the SES's held in 2018 was held with 11 to 12-year-olds. It was expected that drawing together would maybe not deliver the right outcome. So, it was decided that they would choose the most important TIPS and TOPS in groups. And then brainstorm about possible solutions to the TIP. How this brainstorm was done, was up to the groups. From writings to drawings, different results were seen. After the session, they would present their work.

## 4. Execution phase

Time to move from organisation to result. If everything is correct, the preparation covers all needed items to successfully perform the SES. Before executing the SES, the following should be ready:

- All documents are done and where needed, signed.
- All involved parties have a copy of the day-script and thus know what is expected of them and when what will happen.
- Routes are made and the number of groups is therefore known. All groups have a minimum of one guide;
- Guide packages are made and include all needed items;
- A small presentation about METAMORPHOSIS, the SES, the activity, and the workshop is made.

If these items are ready, the SES should be easy to perform. The aim is that as soon as the day starts, no new work needs to be done. As soon as the day starts, follow the day-script.

### **Points of attention**

For the execution there are some general points of attention to keep in mind. Working with children, there are several things to think of. These revolve around communication, attention span, and thinking capabilities. It goes without saying that communication with children should be done on a level in which they understand it. Since the host of the SES is likely someone from the municipality, these child-like communication skills might not come naturally. Remember that the SES is a cooperative activity which means that the teacher of the group can be used for advice on how to effectively communicate with children. This includes not using words that they do not understand and being able to keep them interested.

Their interest goes hand-in-hand with their attention span. Depending on the culture in which the SES is performed, children might not be able to focus on the same thing for too long. This given is already taken into account in the day-script template, but it is good to remember that variety in communication, use of voice, and activity is advised. A 10-year-old child can keep attention on a subject for about 20 minutes. This does however largely depend on what the subject or assignment is. *Listening* is more concentration-intensive than *doing*.

Asking an open question that seeks to find an opinion about a certain subject can already be challenging for the adult, let alone for a child. Putting up a frame for thought is therefore useful. However, it is important to do this in such a way that the results are not influenced by the thoughts or opinions of the one putting up the frame. How to do this can also be discussed with the teacher. Examples of putting up this frame are asking their opinion (objective, open question) on a very specific item or topic or providing the children with a specific problem and asking for a possible solution.

## 5. Continuation phase

The aim of the SES is to get an understanding of what children think is important in their school environment. Their opinions and ideas pave the way for adults to follow and add to. During the execution of the SES, results have been gathered. Now it is time to give meaning to those results and use them for the purpose for which they were collected: to make the school environment better. In *Figure 3: Steps towards action* the continuation process can be read. The central item and therefore starting point, are the results. The results need to be organised and researched and evaluated. Once this is done, a meeting with the neighbourhood director and spatial executor is held to discuss the results. From there, the plans are followed up with the needed party.

Figure 3: Steps towards action

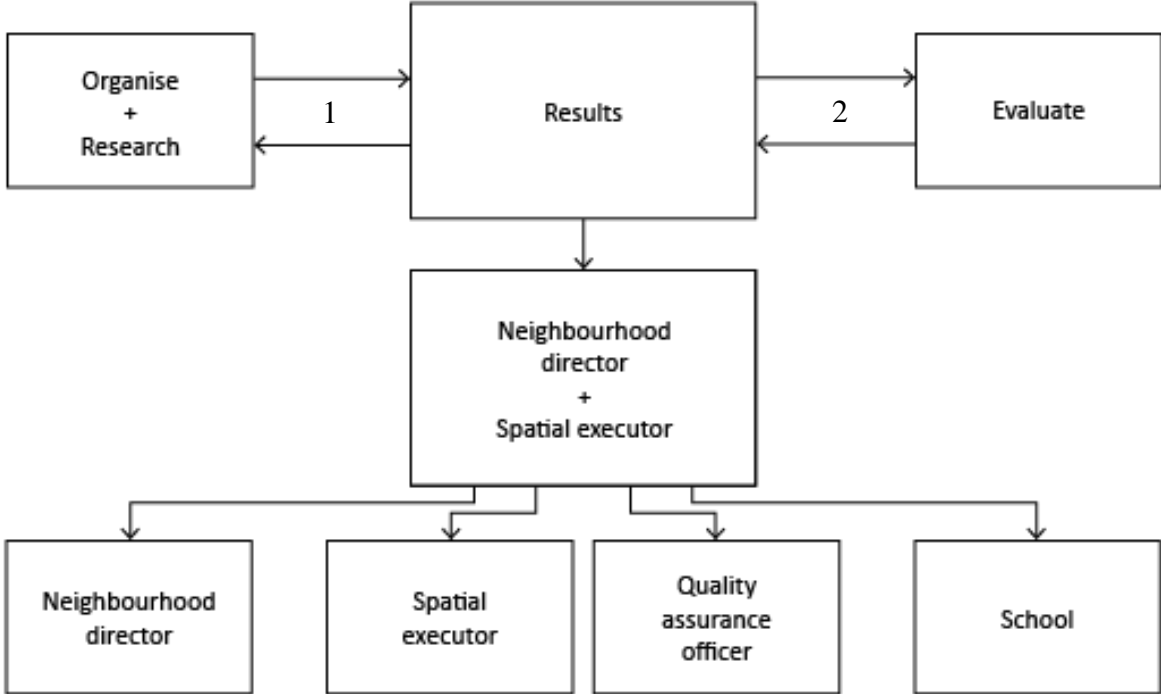


Figure 3 Steps towards action after the SES

### Organising and researching the results

Before anything can be evaluated or put into action, the results of the SES need to be organised and researched. Listing all the TIPS and TOPS that were given, linked to the pictures of the situation and ideas for possible solutions that came from the workshop. Organising them can be easily done in Excel or similar programmes. It is advised to categorise the TIPS and TOPS in a hand-full of categories. In this way it becomes clear what children see and where the focus should be. As soon as the organising of the results is done, a research on these outcomes can start. What is found and why? The research done during the pre-work phase can help to understand what is said and addressed by the children. Focussing on the TIP, knowing where it comes from, might also help to find a fitting solution. A good

example of this comes from the residential map. If it is found that the largest portion of the children comes to school by car, it can be expected that there will be issues about traffic safety in the school environment. This is the part where conclusions are drawn from the results.

## ***Evaluation***

After organising and researching the results of the SES, they should be evaluated. To do this, the Municipality of Tilburg developed an evaluation form - document 1.5 - for the activities developed by the Municipality of Tilburg for the local programme of Tilburg Veilig Naar School. This document can be filled in by any or all adult participants. The teacher of the class with whom the SES is done, is leading. She/he knows the children and sees them almost every day during a wide variety of activities. Besides this, she/he has didactical and pedagogical knowledge which enables her to form an opinion on the effects of the SES. Where the teacher is the expert on how the children experienced it, the neighbourhood director is the expert on what happens in the neighbourhood. She/he should also fill in document 1.5. The aim of the evaluation is to get an understanding on how the children experienced the SES and if the people involved believe that they are a valuable source of opinion and ideas.

## ***Continuation***

Hopefully the results have showed the value the SES. With organised, researched and evaluated results, a real step towards school environment improvement can be made. These improvements can come from actual changes of the spatial environment of the school, and/or from changes in the behaviour of the users of the school environment. In order to make a step towards improving the school environment, the results of the SES need to be discussed and seen by the people who influence the topics of spatial development and of behavioural change. Depending on the municipality and organisation, these roles are generally fulfilled by someone of spatial execution for the topic of spatial development, and a neighbourhood director for the topic of behavioural change. Therefore, it is advised to plan a meeting with these two people to see what TIPS can be tackled and solved.

During this meeting, it will hopefully become clear what needs to be done in order to resolve the TIPS. The results from the workshop or the TOPS show the way of thinking that is needed here. From this meeting, the responsibility of continuation becomes that of different parties. This might be the neighbourhood director for social or behavioural items, the spatial executor for changes in the spatial environment, the quality assurance officer for maintenance items, or the school itself for possible implementations that involve further cooperation with children.

## 6. Appendix

All referred documents:

[1.1 TEMPLATE Informative Letter for parents - SES](#)

[1.2 Form For Consent - SES](#)

[1.3 TEMPLATE Day-Script-SES](#)

[1.4 TEMPLATE Guidance Instructions - SES](#)

[1.5 EvaluationDoc 181030 Metamorphosis and TVNS Questionary](#)

*All named documents are products of the Municipality of Tilburg, 2018.*

# 7. Sources

