



## LEARNING LOOPS IN THE PUBLIC REALM

WP5. Learning Living Lab – Brussels

T5.2. Participatory data collection and visualisation

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### Deliverable D 5.2b

# REPORT ON THE OUTCOMES OF THE PROBLEM IDENTIFICATION PHASE

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## DOCUMENT CHANGE RECORD

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0.2	9 March 2020	Draft for internal review	Sara Tori; Jesse Pappers	Additional information with regards to the second loop
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## PUBLISHABLE SUMMARY

Problem identification is a key phase in the Looper co-creation process. This phase seeks to engage residents of the area covered by the Living Labs in surfacing problems in the public realm and coming to understand those problems more deeply in order to address them.

The Brussels Looper Living Lab is located in the municipality of Schaerbeek in the north of the Brussels Capital Region. This municipality has many issues regarding mobility and is therefore an interesting testing ground for the Looper co-creation methodology. VUB-MOBI partnered with citizen NGO BRAL to try to identify and address issues of concern in Schaerbeek.

The problem identification for the second loop began in June 2019, with the explicit aim to focus on school streets to improve traffic safety near a school. Whereas in the first loop much time was spent on identifying the problem and organising participatory data collection moments, the second loop focused on the problems that could arise when implementing a traffic safety measure. The Schaerbeek municipality, where the living lab was located, has been encouraging the temporary closure of streets located in front of schools to allow students to get to and from school safely. Looper decided to collaborate with the municipality on these school streets for the second loop. Once a school expressed interest in the project, the aim of the problem identification turned towards smaller issues: how can we together identify and solve the problems that arise when implementing a school street? Schaerbeek municipality had already encountered issues when setting up school streets in the past, which is why they asked Looper to conduct research into school streets. For this second loop, VUB-MOBI and BRAL therefore joined an ongoing initiative from the municipality of Schaerbeek and Ecole 10, an elementary school located in the Grande Rue au Bois in Schaerbeek.

Once the school street had been identified as the topic for the living lab, data was collected to understand the current mobility situation of the neighbourhood and to evaluate it once the school street has been implemented. Different types of data were collected to understand the involved parties' concerns and interest in the school street. Objective data on traffic volumes and speeds were collected with professional equipment as well as by citizens who installed a Telraam – a small counting computer – behind their windows. To identify their perception of traffic safety, residents, parents, and pupils participated in surveys. Other stakeholders, such as the municipality and the regional mobility ministry, were interviewed. Overall, the second loop went smoother than the first, as there was a lot of support from both the municipality and the school itself for the implementation of the school street.

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# 1. INTRODUCTION

## 1.1.Objective of D5.2b

The objective of this deliverable is to describe and summarise the outcomes of the problem identification as it was applied in the second loop of the Looper Living Lab in Brussels. This document is based on information from deliverable 5.1 on the Brussels Living Lab implementation plan as well as input from the logbook in which all Living Lab meetings in Brussels are logged.

## 1.2.Related deliverables

Deliverable 5.2a precedes 5.2b as a preliminary report focused on the first loop of the Brussels Living Lab. Deliverable 5.2b is based on the implementation plan found in Deliverable 5.1 and focuses on the second loop. Similar deliverables will be written about the Looper Living Labs in Verona and Manchester in work packages 6 and 7, respectively.

The report on the data collection procedure framework (deliverable 2.2) and the guidelines for implementing urban living labs (deliverable 4.1) are also linked to this report on the outcomes of the problem identification phase in the Brussels Looper Living Lab.

# 2. FRAMING AS PLANNED IN D5.1

## 2.1.The Living Lab

The Brussels Living Lab was originally located in Helmet. For the second loop, the Lab moved to Dailly, also a neighbourhood in the municipality of Schaerbeek (Dutch: Schaarbeek) in the north of Brussels (see Figure 1). The living lab changed locations after it was decided to collaborate with the municipality on an ongoing project to encourage school streets. The area was selected after the municipality contacted different schools and one school in this neighbourhood volunteered to join the project.

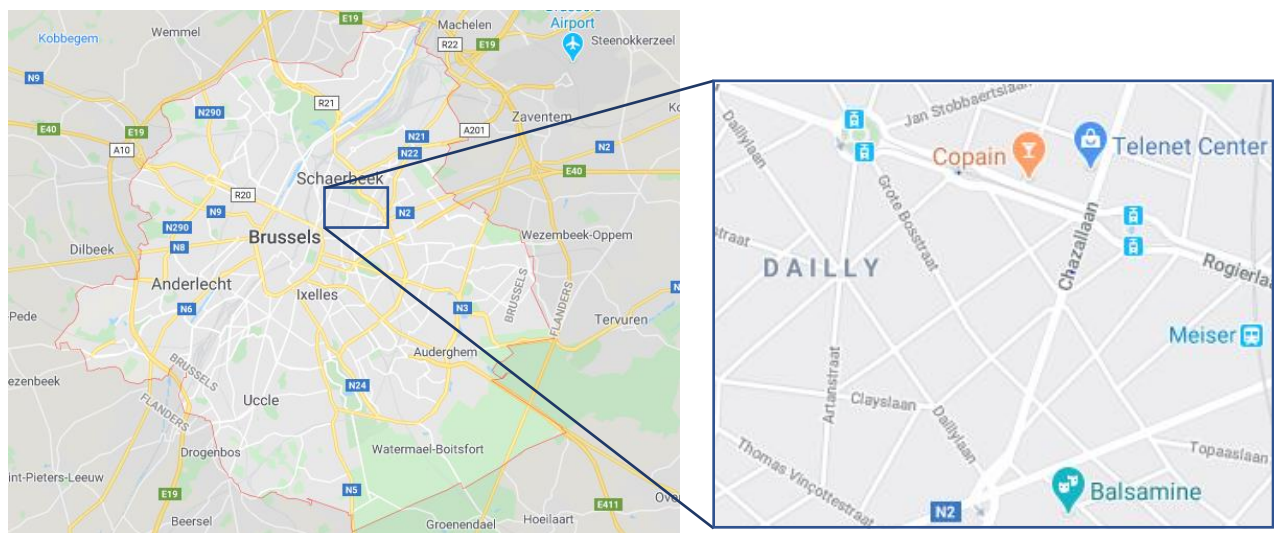


Figure 1 The location of the Brussels LOOPER Living Lab

A more detailed description of the Brussels LOOPER Living Lab can be found in deliverable 5.1b.

## 2.2.Data collection plan

### 2.2.1.Defining the problem

Traffic safety was the problem identified in the Brussels living lab in the first loop (see deliverable 5.1a). The second loop continued with this issue but focused on the implementation of a measure to improve traffic safety near a school.

In Belgium, new road legislation came into effect in October 2018 to include school streets as a legal intervention. The road in front of the school is closed to motorised traffic in the morning before school starts and/or in the afternoon when school lets out. Students are therefore no longer able to be dropped off in front of the school itself. Kiss-and-ride zones close to the school can be designated for those that continue to come by car.

The specificity of school streets is that the road closure occurs during peak hours, rather than off-peak hours (for example, temporary road closures on Sunday for “play streets”).

A few **guiding questions** can be asked on how school street interventions (or temporary pedestrianization) would affect children, parents, neighbourhoods and the school run itself:

- How willing are parents to drop off their children farther from the entrance of the school? How does this relate to mobility licenses granted to children?
  - o Do school streets change (increase/decrease) children’s independent mobility?
- How does a temporary road closure (limited in times per day and days per week) affect adjacent roads?
- How can drop off points be effective (i.e. not pushing the issue elsewhere)?
- Do school streets during drop-off/pick-up change the transport mode of children/their parents?
- Do school streets change the perception of traffic safety (in parents, in children)?
  - o How does the temporal aspect affect safety (i.e. knowing when cars are present or not)?
- How do children view and experience school streets?

## 3. DATA COLLECTION METHODOLOGY AND RESULTS

Due to the set-up of the second loop, participatory data collection was not emphasised as much as in the first loop. Since the living lab assisted in setting up and implementing a solution to a problem – i.e. a school street – no data collection was necessary to prove the problem existed. Nonetheless, data was collected on traffic volumes and speeds (by citizens themselves and by an external source), and surveys were launched among residents, students, and parents.

### 3.1.Air quality

The street on which the Ecole Nr. 10 is located is also host to another, Dutch-speaking primary school, called De Kriek. Construction on this primary school started in 2019 and will continue until 2021. After discussions with air quality experts from BRAL it was decided that pollution from the construction site would cause air quality measurements to be unreliable. For this reason, no air quality analysis was performed.

### 3.2.Traffic counts

Two separate methods were used for traffic counts. The first counts came through measurements using official traffic count devices from the VIAS Institute, an institute aimed at improving traffic safety. Five measurement devices were installed in the neighbourhood of the school and counted

traffic for seven days between January 15 and January 21, 2020. The devices are Black Cat Radars<sup>1</sup>, which allow for the collection of traffic data without the need for in-road traffic sensors. It can detect lane positions of vehicles and can therefore be used to monitor two lanes of traffic going in the same direction. The location of the devices can be seen in Figure 2, where a blue arrow indicates incoming traffic, and an orange arrow indicates outgoing traffic. The numbers refer to the house numbers in front of which the devices were placed. The red circle shows the location of the school.

These initial counts then served as a basis for comparison, since they took place before the implementation of the school street. The second round of measurements was supposed to take place during the implementation of the school street in May 2020 but was postponed due to the outbreak of COVID-19.

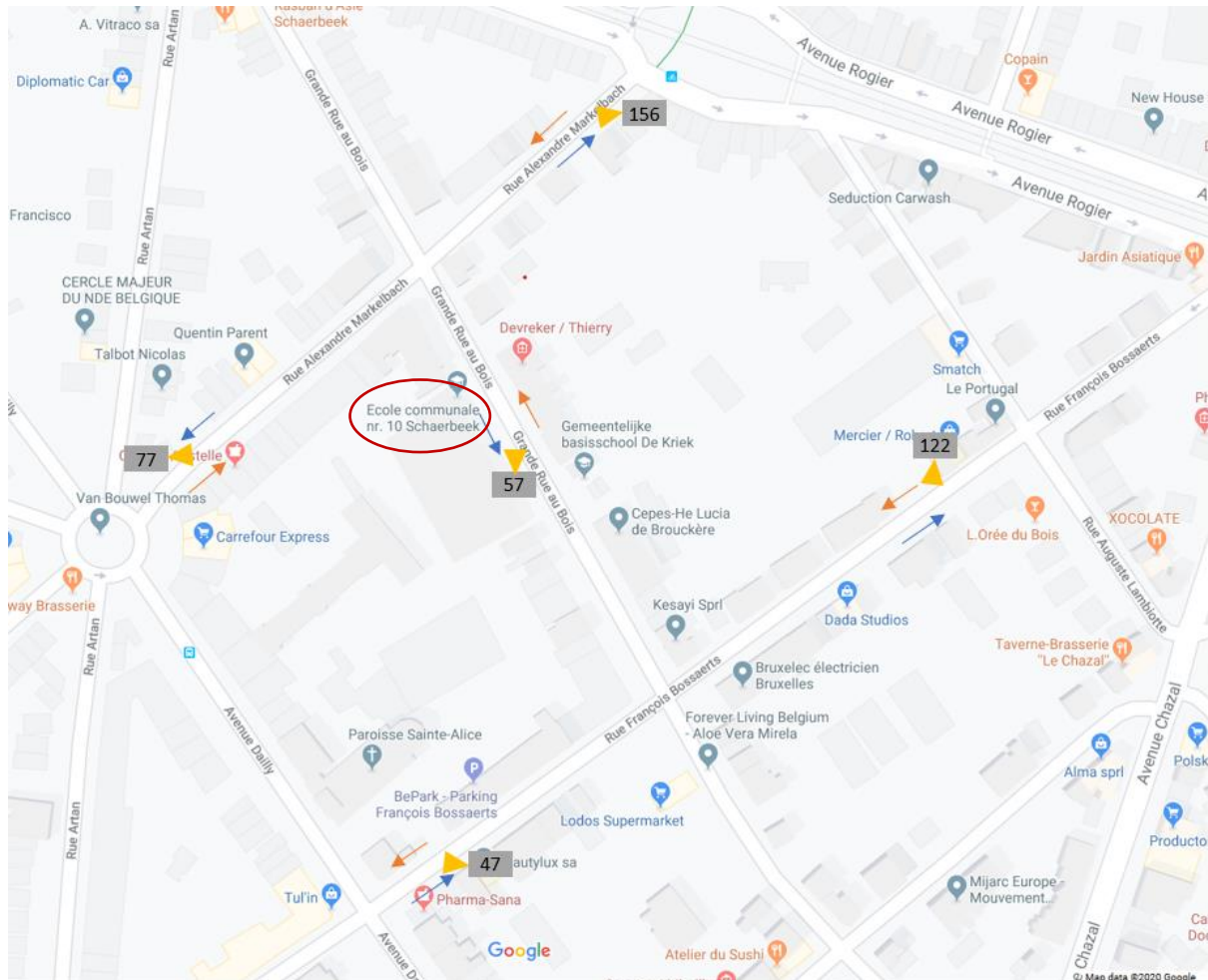


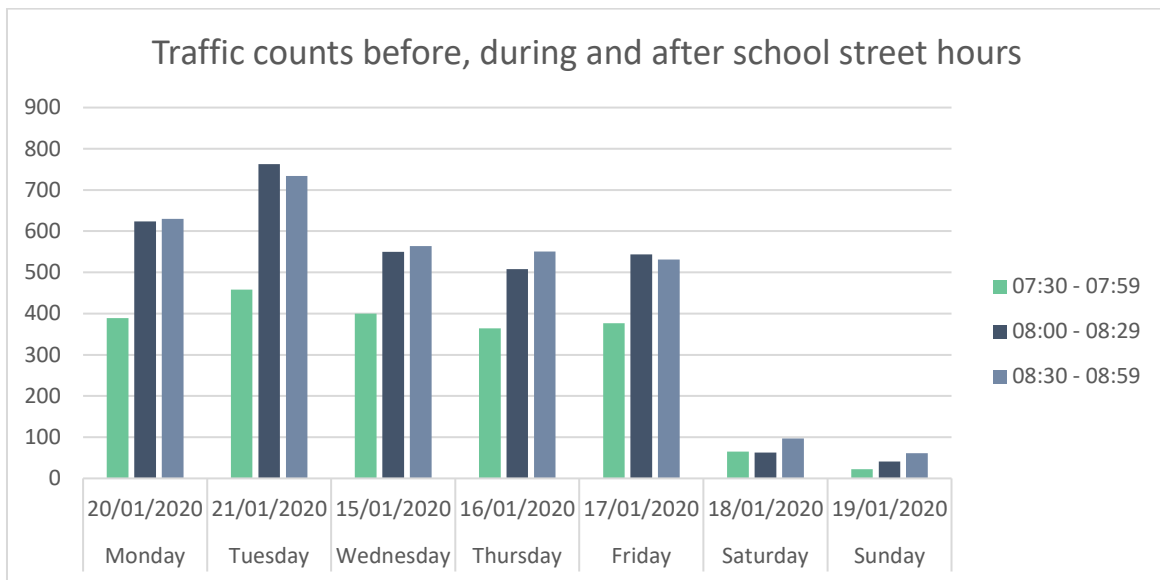
Figure 2 The location of the VIAS traffic measurements

The figure below shows the number of motorised road users counted by the Black Cat Radars from VIAS 30 minutes before, during, and 30 minutes after the time of the planned school street.

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<sup>1</sup> <http://www.ca-traffic.com/en/ca-solutions/black-cat-outstation-platform/black-cat-radar/>





*Figure 3 Traffic counts before, during and after school street hours*

In addition to the VIAS traffic count, Telraam<sup>2</sup> devices (see Figure 3) were installed in the streets adjacent to the school street. A Telraam is a low-cost device that allows for continuous traffic counts. It is a participatory system, since it is installed in citizens' homes. The technology employed by the devices is a combination of a Raspberry Pi microcomputer, sensors, and a low-resolution camera. The Telraam needs to be continuously connected to the Wi-Fi, as it sends the traffic counts straight to a central database. The collected data can be viewed and downloaded in real-time via [www.telraam.net](http://www.telraam.net). The device needs to be installed on a window that is not at ground level and that is not blocked by trees or lamp posts.



*Figure 4 Example of a Telraam device*

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<sup>2</sup> [www.telraam.net](http://www.telraam.net)

Within the LOOPER school street project, three such devices were installed in the neighbourhood of Ecole Nr. 10, as can be seen in Figure 4. The numbers indicate the house numbers where the devices were installed. The data collected by the Telraam at Grande Rue au Bois

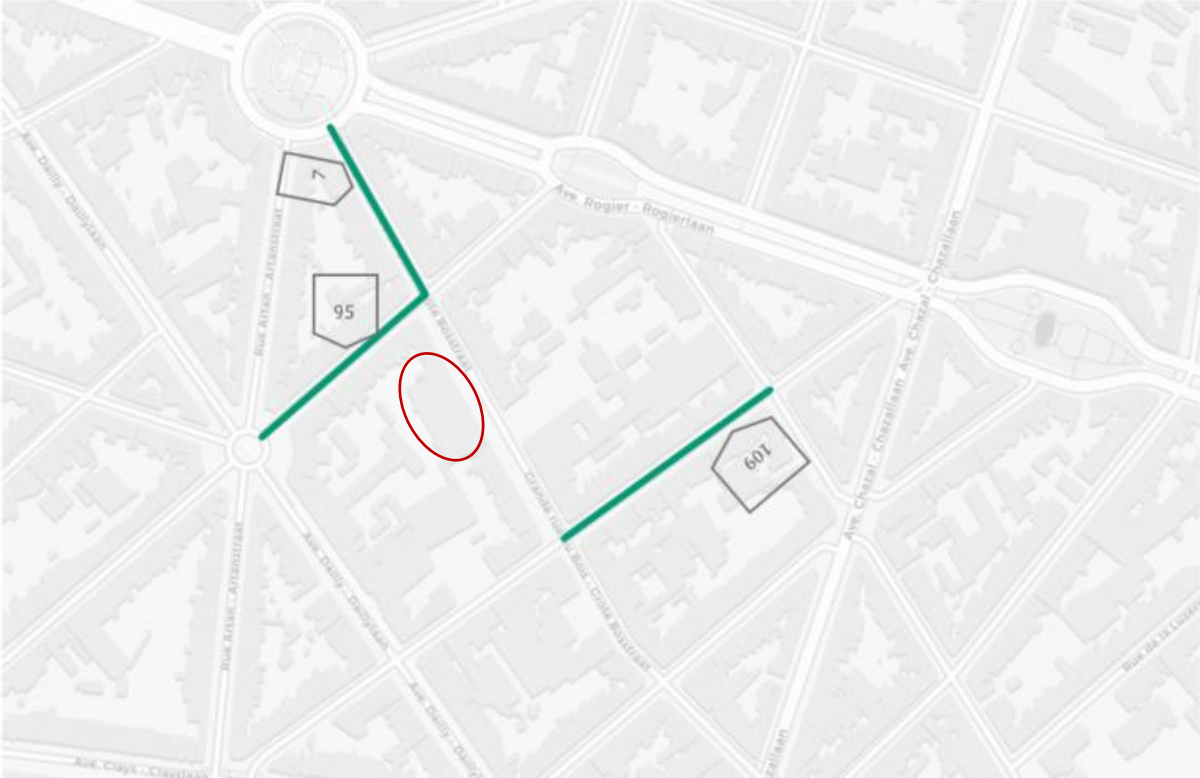


Figure 5 Location of Telraam devices around Ecole 10 (red circle)

Results from the measurements with the Telraam devices are visualised in Figure 6. The visualised data is based on two out of three Telraam devices. The number of road users counted by the third device was incorrect because it mostly counted cyclists. Data between 07:00 and 07:59 is only available from one Telraam device. The data collected by the Telraam devices confirms the trends found in the data collected by the Black Cat Radars, e.g. the highest number of motorised vehicles was counted on Tuesday.

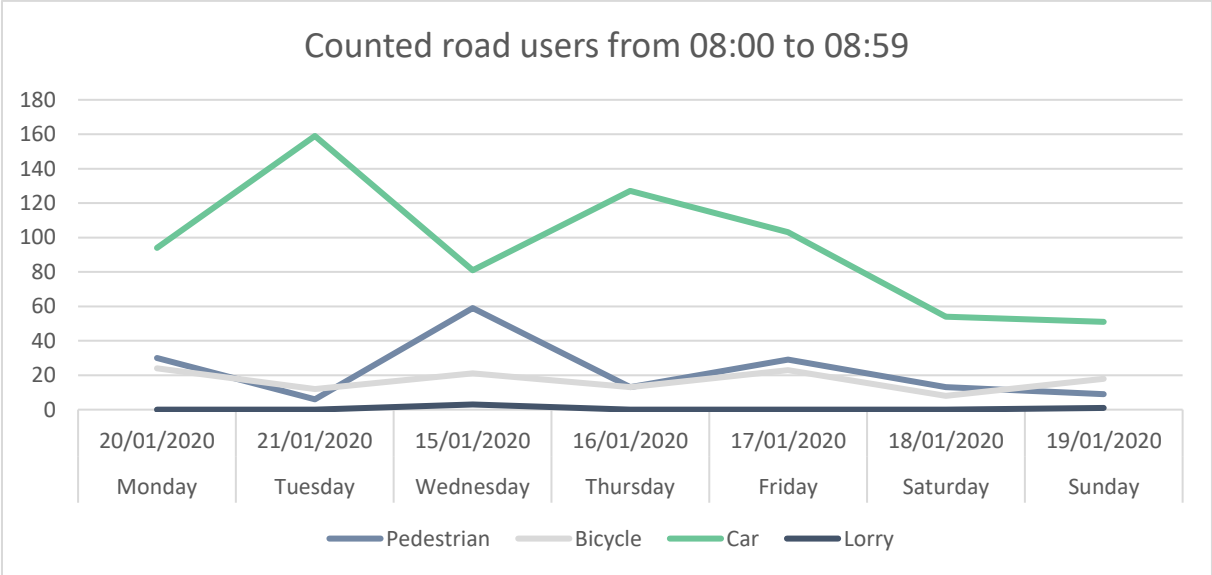


Figure 6 Counted road users using Telraam devices

### 3.3.Speed Measurements

Measurements with regards to speed were also performed via the measurement devices installed by VIAS. A first round of measurements was performed during the installation before the implementation of the school street (January 15-21, 2020). A second round, to be used as a basis for comparison, was supposed to be performed during the implementation of the school street in May 2020. This measurement was postponed due to the school closures caused by the outbreak of COVID-19. The average speeds of motorised vehicles passing through the Dailly neighbourhood 30 minutes before, during, and 30 minutes after the time of the planned school street can be found in Figure 7.

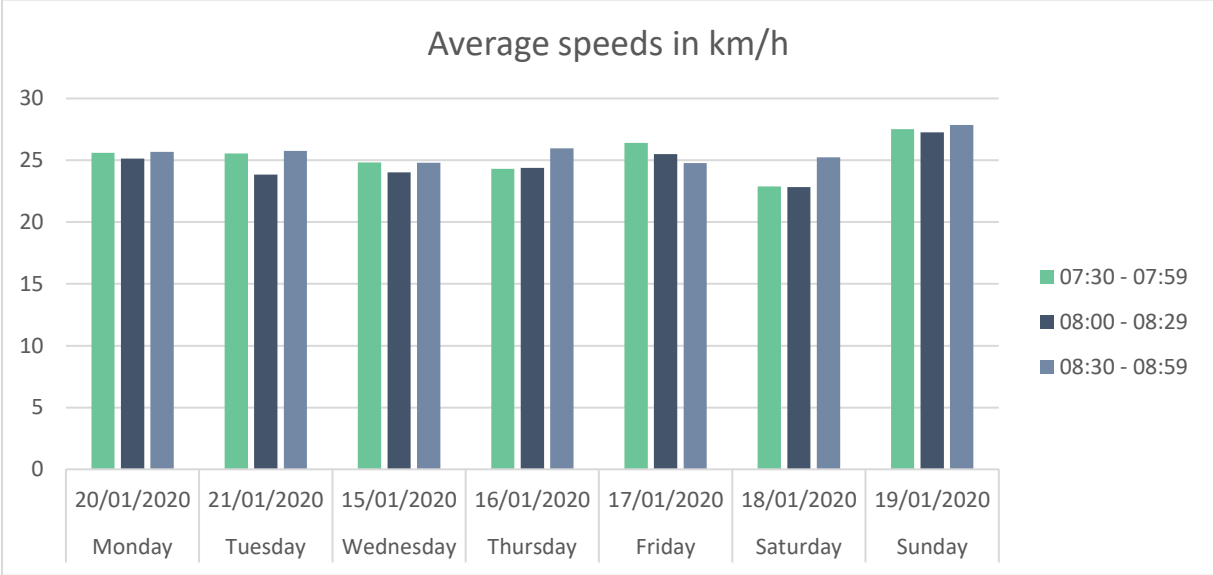


Figure 7 Average speeds of motorised vehicles

In addition to the speed measurements by VIAS, the Telraam devices that were discussed earlier are also able to measure traffic speeds using the device’s camera. The accuracy of these speed measurements is unknown<sup>3</sup>, however. Figure 8 shows the speeds of cars and lorries registered by two Telraam devices on weekdays between 07:00 and 09:00 on the same dates as the measurements using the Black Cat Radars from VIAS. The analysis below was not done using 30-minute intervals because the Telraam devices aggregate collected data per hour.

<sup>3</sup> <https://telraam.zendesk.com/hc/en-us/articles/360034536711-How-do-I-read-the-speed-chart->

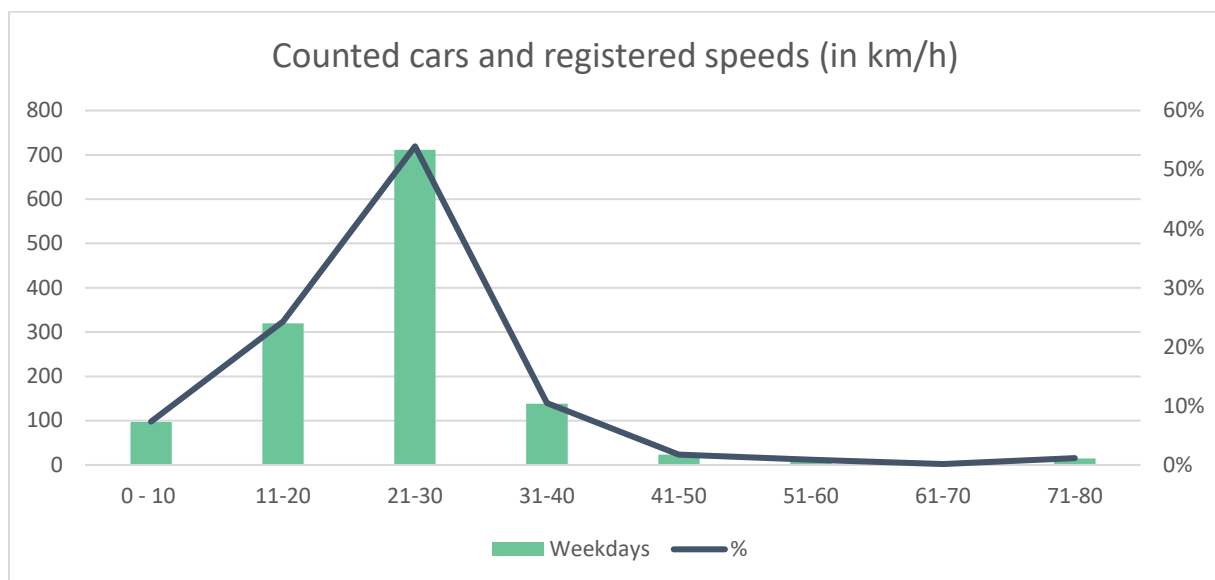


Figure 8 Registered speeds using Telraam devices on weekdays between 07:00 and 09:00

## 3.4. Surveys

### 3.4.1. Survey of children

*Children's independent mobility* was first operationalized by Hillman, Adams & Whitelegg (1990), who put forth six 'licenses' by which children achieve independent mobility from their parents. These licenses or mobility permissions are effectively granted when, unsupervised, children are allowed to do the following:

- cross a main road;
- go home from school;
- go to places other than school;
- ride a bike;
- take public transportation;
- go out after dark.

Since this operationalization of children independent mobility by Hillman et al. (1990), these licenses have been used repeatedly in research, most notably the international children independent mobility survey that compared data from 16 countries (Shaw, 2013). An adapted version of the student and parent surveys is used as part of the data collection plan. The surveys aim to answer questions about independent mobility, perceived safety, and modal split for commute to school. The children's surveys were filled out on paper by children in all classes of Ecole Nr. 10 before the implementation of the school street. Two versions of instructions were made, depending on the age group of the children (full instructions can be found in annex):

- M3-P2 (age 5 to 7): Teacher fully assists.
  - The teacher reads out each question as the children follow along and answer on their survey sheet. The teacher can assist the children in filling in the survey.
- P3-P6 (age 8 to 11): Teacher partially assists.
  - The teacher reads out each question as the children follow along answer the survey individually. The teacher should let the children respond to the best of their abilities without intervening.

This survey resulted in 285 responses, with 33 responses coming from children in kindergarten and 252 from children in primary school. 273 responses could be used for the data analysis. From the results of the survey, it could be seen that 58% of children walk to school, which makes walking the preferred mode of transport. The biggest category after walking is driving, as 22% of children indicated coming to school by car. Only two respondents indicated they had come to

school by bicycle. The figure below gives an overview of all modes of transport used by the children of Ecole 10. Interestingly, no major differences were found between children in the kindergarten classes (61% walking, 18% by car) and children in the primary school classes (58% walking, 18% by car). The full survey can be found in section 8.1.

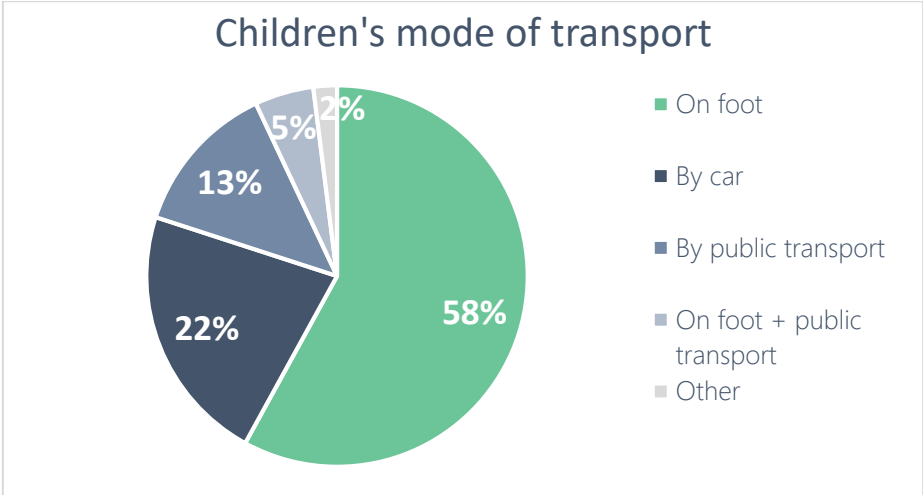


Figure 9 Children's mode of transport

In a follow-up question, the children were asked through what mode of transport they would want to come to school. The majority, as can be seen from the figure below, indicated that they would want to come to school using an active mode of transport (34% biking, 28% walking). Only 19% stated that they would want to come to school by car. The majority (63%) of respondents indicated they wanted to change their mode of transport. Of this group (N=172), 48% indicated they wanted to change from going to school by foot, public transport, or car to coming by bicycle. 29% of this group indicated they wanted to change from coming by foot or public transport to coming by car.

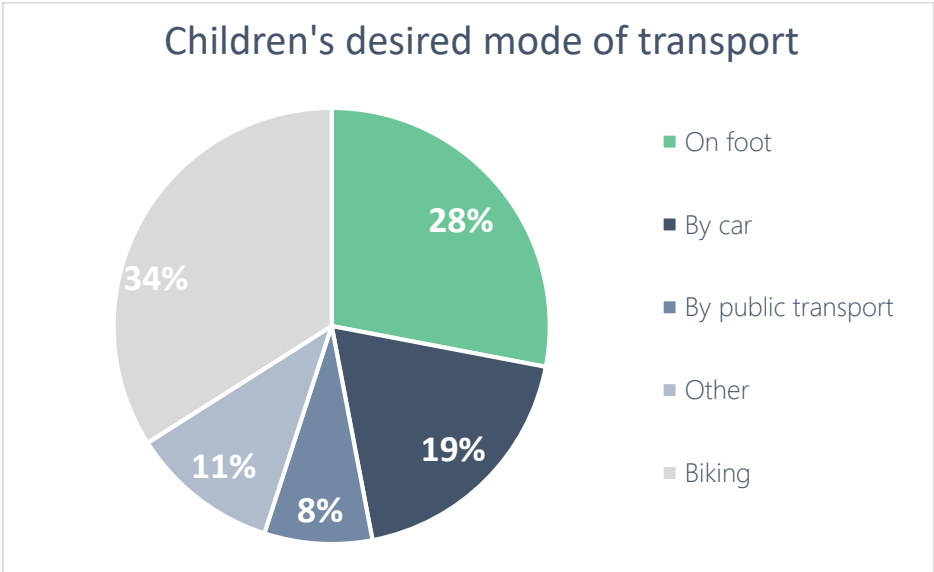


Figure 10 Children's desired mode of transport

When looking at who accompanies the children of Ecole 10 to school, it can be seen that 72% are accompanied by a parent, and 13% come to school by themselves. The graph in Figure 6 shows the full distribution of who accompanies children to school. Here, however, there is a major difference between children in kindergarten and children in primary school, as all of the kindergarteners indicated coming to school accompanied by an adult.

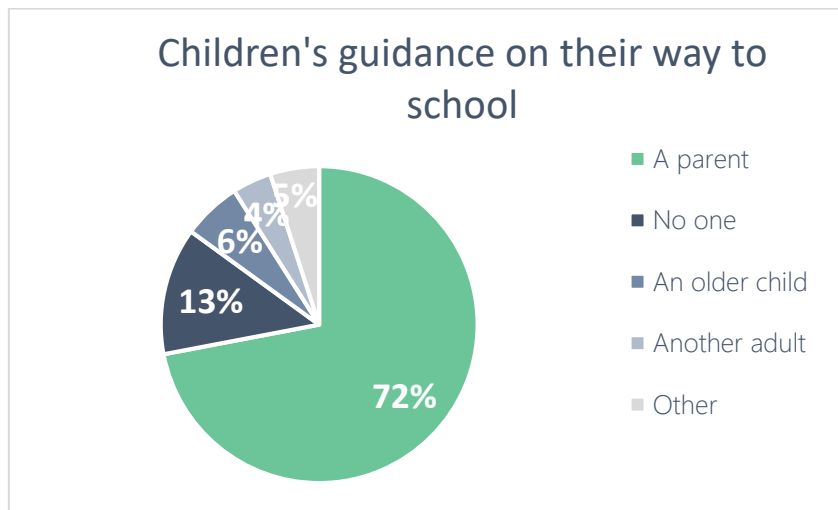


Figure 11 Children's guidance on their way to school

A last element which the children were asked about was their perceived feeling of safety on their commute to school. The results can be seen in the figure below.

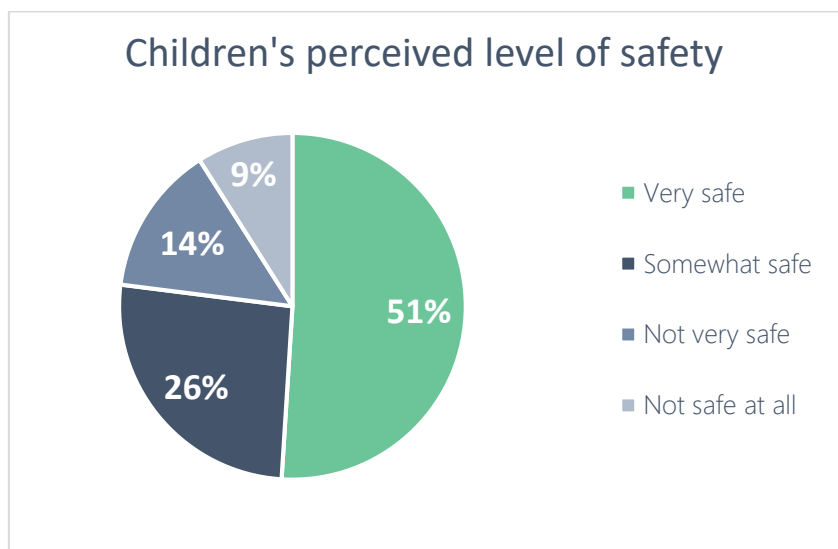
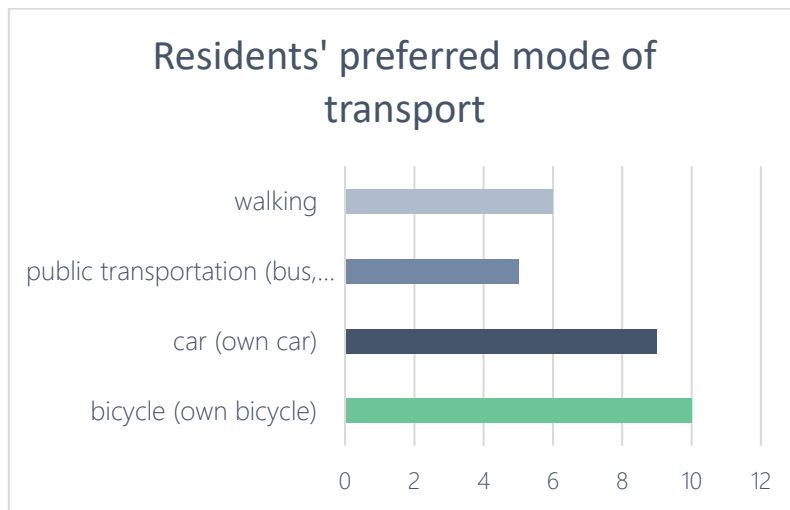


Figure 12 Children's perceived level of safety

### 3.4.2. Survey of residents

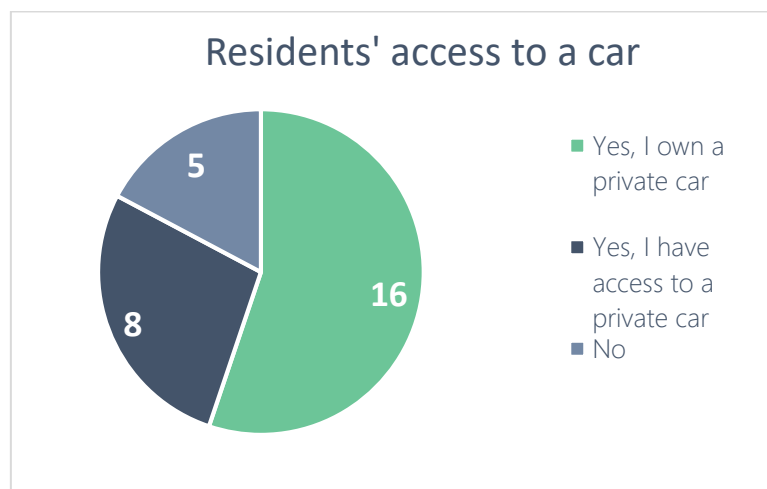
In order to assess the perceptions of residents in the Dailly neighbourhood with regards to the school street, a survey was developed for them as well. The survey, aimed at collecting residents' opinions before the implementation of the school street, was made available online in three languages (EN/FR/NL) between January 20 and February 10, 2020. Residents were informed of the survey through online posts in relevant Facebook groups and on the living lab website. Additionally, flyers were distributed in residents' mailboxes informing them of the survey and of an upcoming information session. The full survey can be found in section 8.2.

In total, 33 residents responded to the survey. After filtering the responses, 30 usable ones remained. From the responses, it appeared that the preferred mode of transport is a bicycle (10 respondents), followed closely by cars (9 respondents). The overall preferred modes of transport are shown in figure 9.



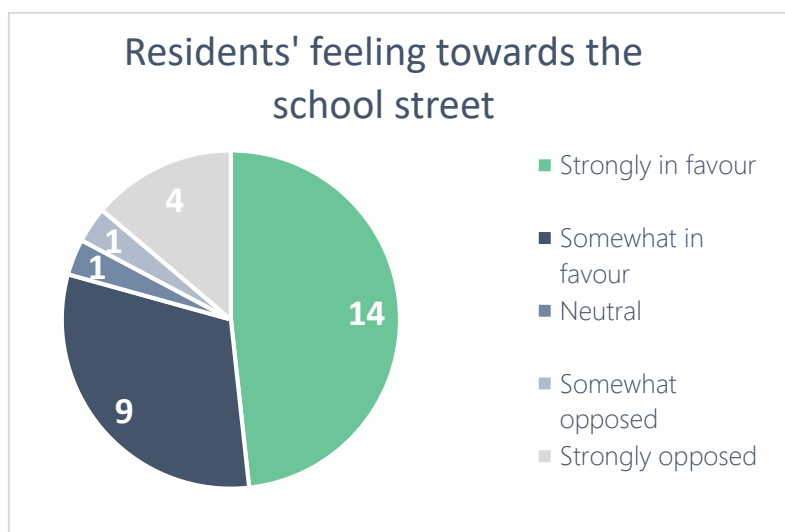
*Figure 13 Residents' preferred mode of transport*

The responses also showed that a majority (16 respondents) owned a private car, as can be seen in Figure 10.



*Figure 14 Residents' access to a car*

When asked about their feeling towards the implementation of a school street, responses showed that the majority of respondents were in favour (14 strongly in favour, 9 somewhat in favour), as can be seen in the graph in Figure 11.



*Figure 15 Residents' feeling towards the school street*

From the comments that could be added to this question, it emerged that the residents who were opposed mainly did not see how this would solve issues of traffic safety and air pollution. The feeling was that it would push traffic to adjacent streets and not solve the problem, and that air pollution cannot be solved through a single intervention such as a school street. The respondents in favour of a school street mentioned road safety issues, especially concerning children.

Residents were also asked about their feelings with regards to traffic safety, accessibility, and air pollution around the Dailly neighbourhood. Their responses can be seen in the graphs below.

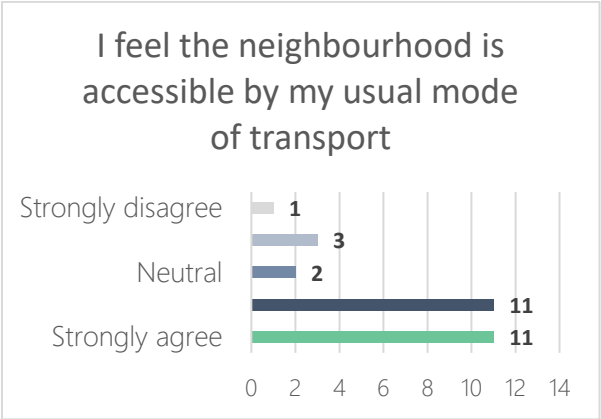


Figure 16 Feeling of accessibility

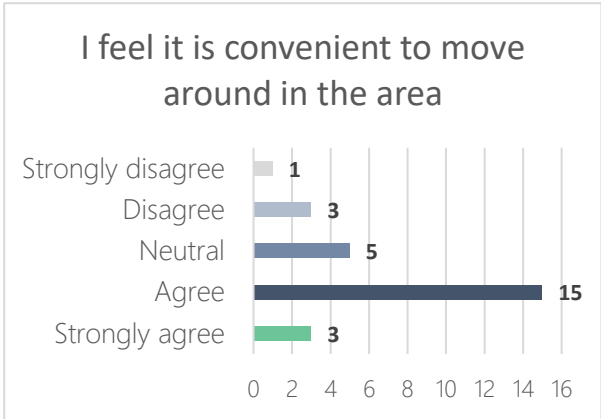


Figure 19 Feeling of convenience to move around

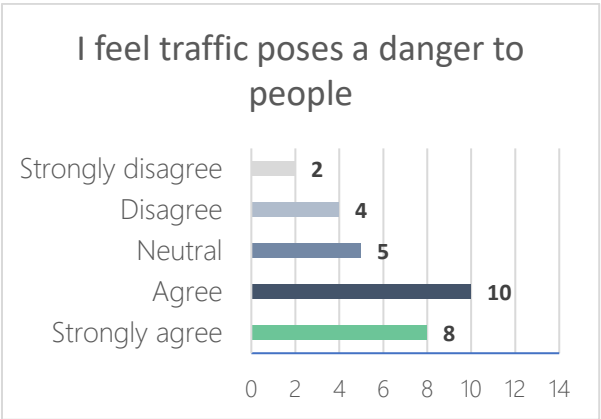


Figure 17 Feeling of traffic danger Figure 18 Feeling of needing improved traffic measures

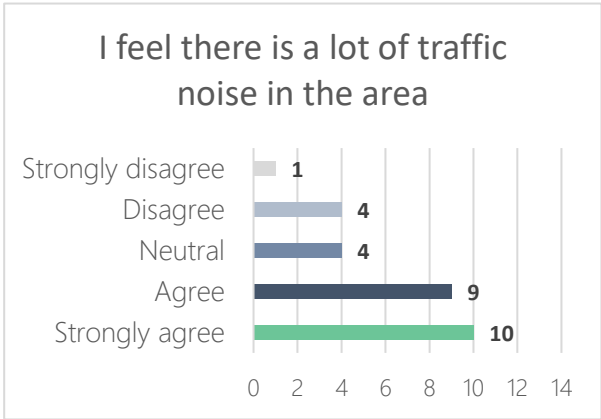
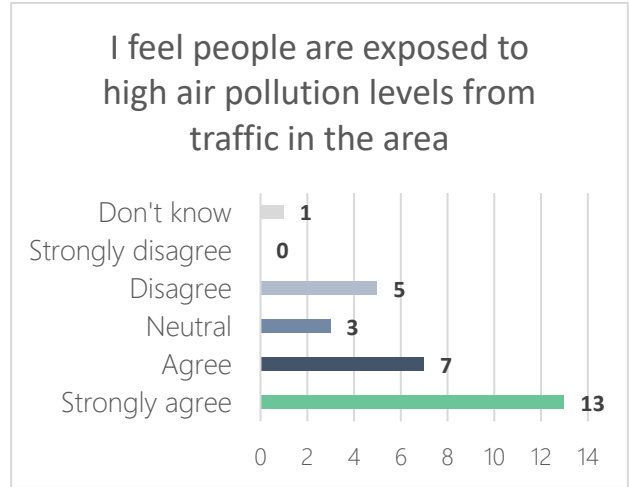
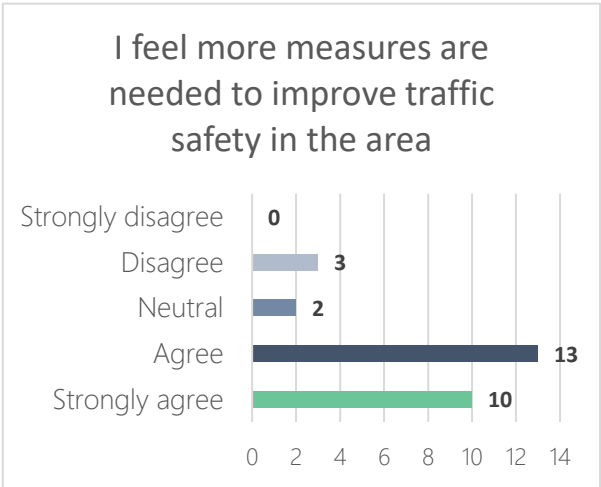


Figure 20 Feeling of exposure to traffic noise Figure 21 Feeling of exposure to air pollution





### 3.4.3. Survey parents

A survey was also developed for the parents of pupils at École 10 in order to assess their feelings about the school street. The survey aimed at collecting parents' opinions before the implementation of the school street. It was made available online in French between January 27 and February 17, 2020. Parents were informed of the survey using the pupils' *cartable* (a folder given to pupils through which the school sends messages to the parents). Although a pen-and-paper version was supplied to the school, only the QR-code and a link to the online survey was sent to the parents via the children's *cartable*. In total, 14 parents responded to the survey. This low response rate may have been caused by parents not speaking French as well as the fact the survey could only be filled in online. The full survey can be found in section 8.3.

Nearly half of the respondents had a child aged 5 or younger (see Figure 22). This also explains why most children were not allowed to go to school without supervision (see Figure 23). The majority of respondents' children came to school by foot (see Figure 24). Although the number of respondents of the parents' survey is a lot lower, this confirms the data from the children's survey.

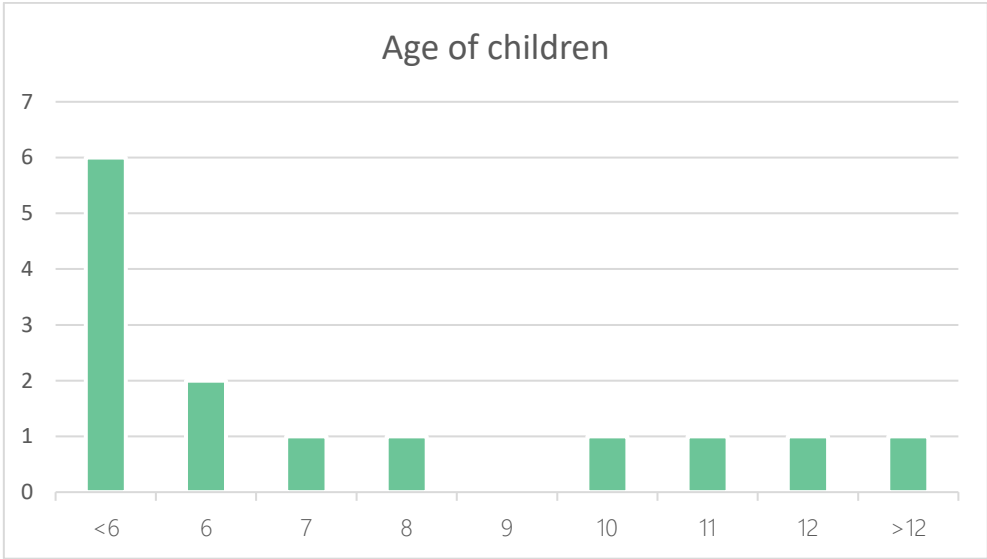


Figure 22 Age of children

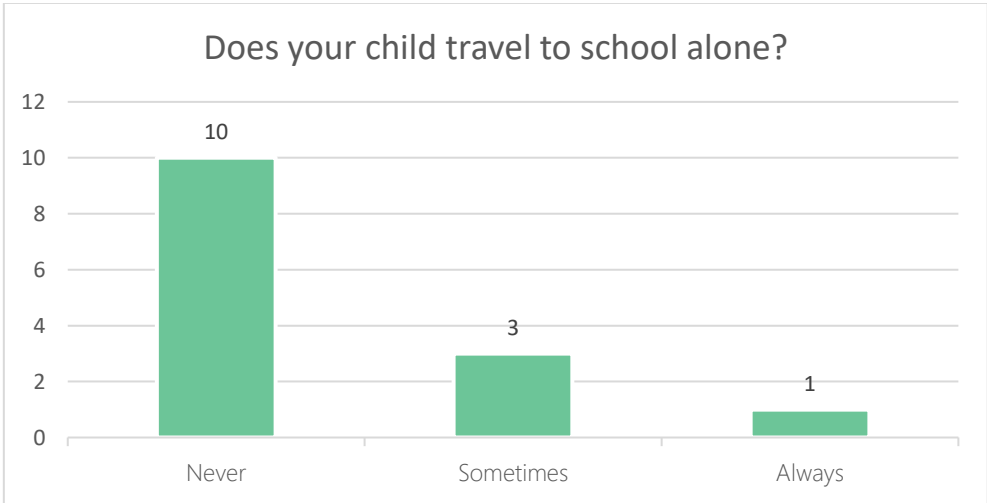
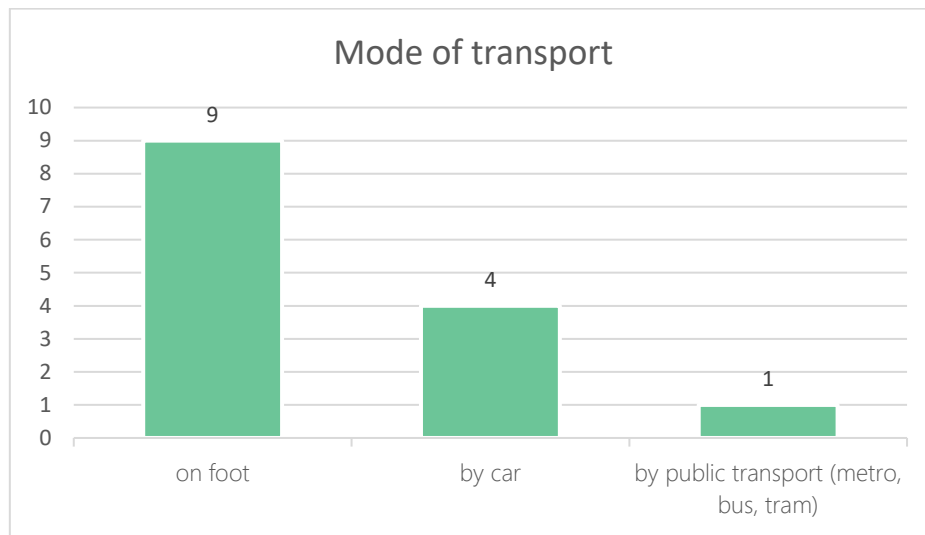


Figure 23 Permission to travel alone children



*Figure 24 Mode of transport children*

The respondents were asked to state to what extent they agreed or disagreed with statements. There was strong agreement among respondents that the school is easily accessible (see Figure 26) and that it is convenient to drop off children by car near the school (Figure 30). There was also no respondent who believed their child(ren) were not exposed to high levels of air pollution (see Figure 27). The respondents were more divided over whether traffic poses a danger to the children (see Figure 25), whether children are exposed to traffic noise (see Figure 28), and whether there is a lot of traffic near the school during drop-off (see Figure 29).

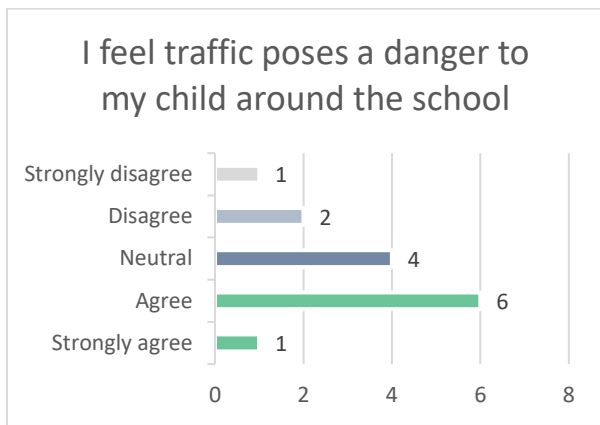


Figure 25 Perceived danger of traffic to child

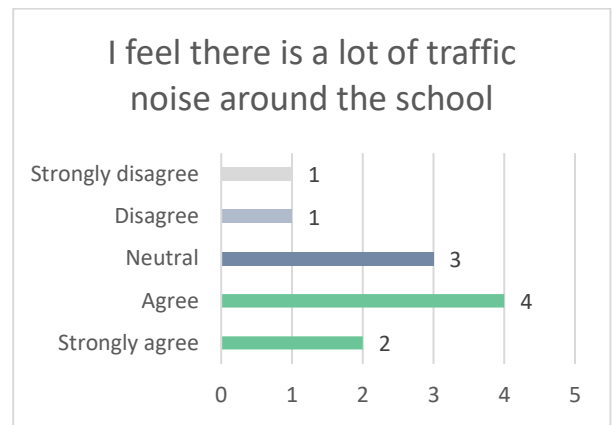


Figure 28 Perceived level of noise pollution

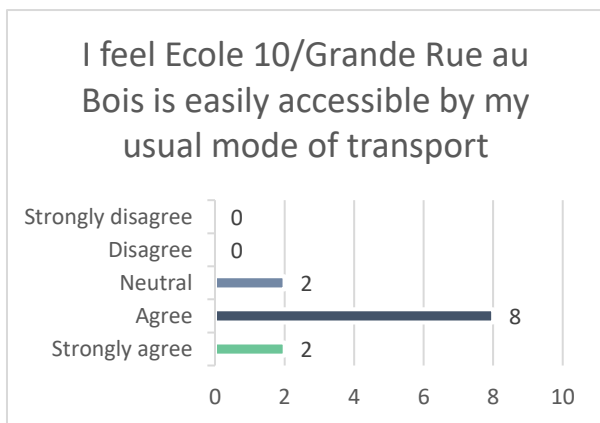


Figure 26 Perceived accessibility of the school

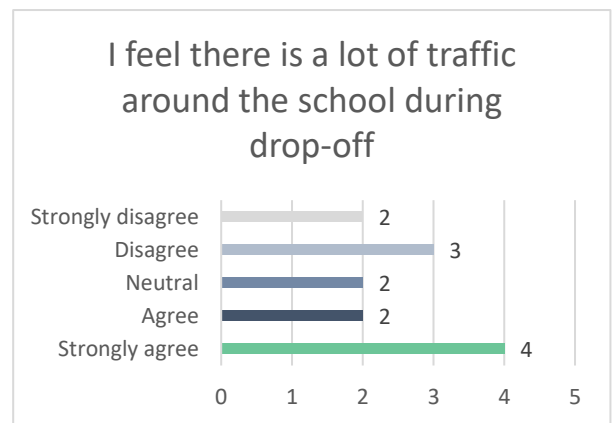


Figure 29 Perceived traffic pressure around school

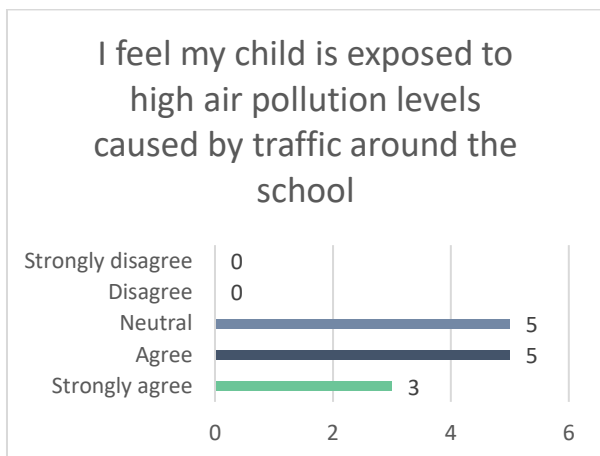


Figure 27 Perceived exposure to air pollution

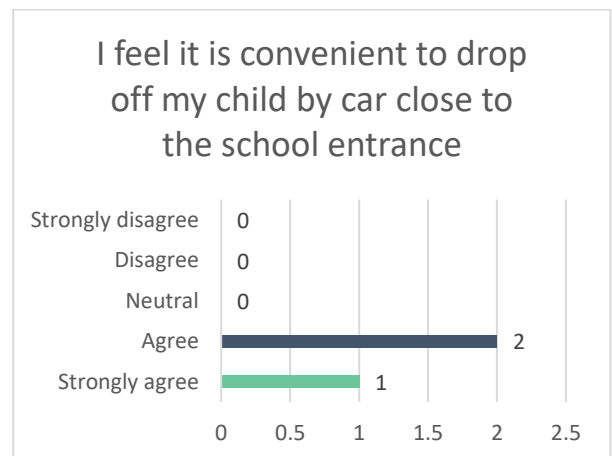


Figure 30 Perceived level of convenience to drop off child by car

Most parents indicated they are interested in finding out what the impact of a school street would be (see Figure 31).

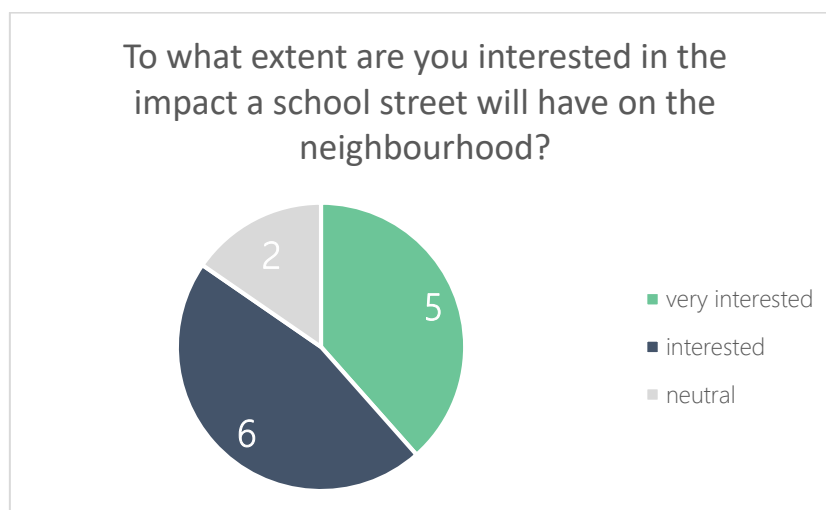


Figure 31 Level of interest in the impact of the school street

## 4. RESULTS FROM THE DISCUSSION WITH STAKEHOLDERS

### 4.1. Interviews

Interviews with several stakeholders were held to introduce and get feedback on the school street:

- Representatives of neighbouring school De Kriek;
- Bruxelles Mobilité, the Brussels Ministry of Mobility;
- The alderwoman of mobility.

These interviews served as a way to introduce the research team to the relevant stakeholders as well as a way to collect criteria and weights for the evaluation of alternatives using Multi-Actor Multi-Criteria Analysis (as described in Deliverable 5.3b).

#### 4.1.1. Interview with representatives of De Kriek

De Kriek is a Dutch-speaking primary school situated on the opposite side of the street compared to Ecole 10. The interview was conducted on August 23, 2019, with the principal of de Kriek and the coordinator of the school.

From the interview, it came out that De Kriek is a big supporter of the implementation of a school street. The school started construction in January 2020 in order to increase their capacity, which concerned residents. Starting in September 2022, an additional 220 students will be attending the school. Residents' main concern was therefore the impact of this increased capacity on mobility in the street, so they support the implementation of a school street, as this is a response to their concern. The implementation of a school street shows that both De Kriek and the municipality are listening to the concerns they raised.

Since De Kriek is not located in the Grande Rue au Bois throughout the construction period, the parents cannot help with barrier management.

During the meeting, the representatives of De Kriek raised a few concerns:

- Residents can no longer access their garages.
- Logistics operators that deliver supplies to the school.

- School excursions by bus: can the bus still park in the street?
- The effect of the school street on the traffic flow in adjacent streets. However, it's easy to avoid *Grande Rue au Bois* by car.
- Supplies going to Lodos supermarket (north of the school).
- De Kriek has a school mobility plan (*schoolvervoersplan*) that focuses on sustainability. Improving the air quality is important for De Kriek. The school intends to reduce the use of cars for transporting children to and from school and increase the use of bicycles by providing cycling lessons to children (in cooperation with cycling NGO Pro Vélo). The school also tries to involve parents in cycling, e.g. by organising Fridays on which parents are invited to come to school by bike. The new De Kriek building will also have bicycle parking.

#### 4.1.2. Interview with Bruxelles Mobilité

On September 23, 2019, an interview was held with two representatives of the Brussels Ministry of Mobility (*Bruxelles Mobilité*), which oversees the definition of mobility strategies in Brussels. During the meeting, they had the following remarks concerning the school street:

- Manning the barrier is not a task of the municipality's street guards (*guardiens de la paix*).
- While parking in front of a garage is illegal, standing still is not. Garages could therefore easily become kiss-and-ride locations.
- Is it possible to delay the start of implementation to March 2020? January is dark and cold. Any positive effects of a school street (more cyclists; spaces of aggregation; conviviality) will be a lot smaller in winter than in spring.
- The barrier should not be too far from the school entrance, as this reduces the authority of the barrier holder (gatekeeper) in the eyes of car drivers. However, the most logical option at *Grande Rue au Bois* is from intersection to intersection. Any shorter variants would cause cars to make manoeuvres that would endanger pedestrians and cyclists.
- The kiss-and-ride locations cannot be too far from the school entrance as some parents want to see their child enter the school. A possible solution could be that (a) teacher(s) escort the children into the school.
- The police should be contacted so they are aware of the intention to implement a school street. They could patrol in the neighbourhood and keep an eye on the school street.
- When the school street starts, children could make a large street drawing to make passers-by aware of the school street. However, this should not be a game like a hopscotch because this would be confusing and dangerous for kids.
- It would be good to check if the crossings are sufficiently lit up.
- It's important to involve those who will implement and follow up the school street on the long term, from the start.

They also raised a few problems with regards to the implementation:

- Long-term commitment of parents to man the barriers.
- Residents can be exempted, but what about school buses that drop off children or pick them up for an excursion?
- The construction of the new De Kriek building will cause lorries and trucks to enter the road. They recommend contacting the construction manager for more information.

#### 4.1.3. Interview with the alderwoman of mobility

The meeting with Adelheid Byttebier, the alderwoman of mobility of Schaerbeek took place on November 21, 2019. The alderwoman expressed a high level of interest in the project and wants to see if the school street generates a modal shift among pupils and staff. Furthermore, she wants the data about a potential modal shift as well as the rest of the research to be replicable for other

schools in Schaerbeek. She would like the team to send the planning of the traffic counts (both VIAS and Telraam), as well as the options for barrier management to her associate.

She also advised to discuss the school street with the police, and to discuss the management of the *gardiens de la paix*. She is sceptical about parents actually managing the barriers and stressed the fact that parents will be more inclined to help if they see that other parents are already committed. However, she responded positively to the suggestion by the principal of École 10 to use people from the *Maison de l'emploi/Jobhuis* to manage the barrier, even though they should not be the only people managing it. It was also mentioned that every school in Schaerbeek could receive a new €3.000 budget for volunteers to manage the barriers if the test at École 10 would be positive.

## 5. CONCLUSIONS

The problem identification phase for the second loop of the Brussels Looper living lab ran from September 2019 through January 2020. Since Looper joined an ongoing initiative with regards to school streets in the Dailly neighbourhood, the data collection in this second loop was rather targeted, as the problem had already been identified.

Results from the children's survey showed that over half of them would like to come to school using an active mode of transport (biking or walking), which a school street could help facilitate. When it comes to residents, the majority of respondents indicated feeling that traffic poses a danger to people, and that they feel more measures are needed to improve traffic safety in the area. Respondents also feel that there are high air pollution levels from traffic in the area. The surveys also showed that the majority of the residents who responded are in favour of implementing a school street, but that the main reason for opposing the school street appeared to be that they did not see how a school street would solve the issues of traffic safety and air pollution. The parents' survey, even though the number of respondents was rather limited, seemed to confirm the information provided by the children about walking being the most used mode of transport. Furthermore, a majority of respondents indicated not allowing their child to go to school alone, which is probably due to the fact that most respondents indicated having kids under the age of five. Parents also indicated agreeing with the fact that their children are exposed to high levels of air pollution, but they were more divided about whether or not traffic poses a danger to the children.

Overall, from the results of the surveys and the interviews with the stakeholders, it appears that there is a strong basis for support in favour of the school street. Even though the sample of residents and parents was quite limited, most of them indicated being in favour of the school street. However, it should be noted that the limited number of responses to the survey makes it difficult to draw generalizing conclusions for the neighbourhood.

The main issue with the implementation of the school street will be the managing of the barriers that close off the road for motorised traffic. Will parents volunteer? Will residents participate? Or will teachers be asked to help? Other school streets in Brussels have failed because there were no volunteers to manage the barriers.

The next steps of the school street will be its implementation, co-design of possible alternatives, and evaluation of these alternatives. These steps are described in Deliverable 5.3b.

## 6. ACKNOWLEDGEMENTS

The support of Brussels Capital Region – Innoviris (Belgium), Ministero dell'Istruzione dell'Università e della Ricerca (MIUR) (Italy), the Economic and Social Research Council (UK) and the European Union is gratefully acknowledged.

## 7. LITERATURE

Hillman, M., Adams, J. G., & Whitelegg, J. (1990). *One false move: A study of children's independent mobility*.

Shaw, B. (2013). *Children's independent mobility: A comparative study in England and Germany (1971-2010)*. Policy Studies Institute.

## 8. ANNEXES

### 8.1. Survey children

Classe :

Comment es-tu venu-e à l'école ce matin ?

à pied



à vélo



en bus, tram, ou métro



en voiture



autre

\_\_\_\_\_

Qui est-ce qui t'a accompagné à l'école ce matin ?

- Personne
- Un de mes parents
- Un autre adulte
- Un enfant plus âgé

Comment aimerais-tu pouvoir aller à l'école et en revenir ?

à pied



à vélo



en bus, tram, ou métro







en voiture



autre

\_\_\_\_\_

Est-ce que tu te sens en sécurité par rapport aux voitures lorsque tu vas à l'école ?

-  Pas du tout en sécurité
-  Pas très en sécurité
-  Assez en sécurité
-  Très en sécurité

Y a-t-il autre chose qui t'inquiète quand tu es en route pour l'école ?

*Tu peux aussi utiliser l'autre côté de la feuille !*

Quel âge as-tu ? .....

Es-tu :  une fille  un garçon



## 8.2. Survey residents

This survey is part of the testing of a school street for Ecole no. 10 (Grande Rue au Bois). A school street is a temporary closure to cars of the street next to a school. From 10 February onwards, the street in front on École no. 10 will be closed for traffic between 08:00 and 08:30.

You are invited to complete this survey as a resident of the Dailly neighbourhood. The survey will take approximately 5 minutes. All information gathered from this survey will remain confidential.

Q1.1 What is your relationship to the Dailly neighbourhood?

- I am a resident of Dailly
- I own a business/shop in Dailly
- I commute through Dailly
- I have no relationship with Dailly
- Other \_\_\_\_\_

Q1.2 In what street do you live or is your business located?

- Grande Rue au Bois
- Rue Alexandre Markelbach
- Rue François Bossaerts
- Rue Auguste Lambiotte
- Rue Joseph Coosemans
- Other street in the Dailly neighbourhood
- Outside the Dailly neighbourhood

Q2 Which mode of transportation do you use most often to get around in the city?

- walking
- bicycle (own bicycle)
- bicycle (shared bicycle, e.g. Villo!, JUMP, Billy)
- public transportation (bus, metro, tram)
- car (own car)



The following questions are about school streets and the planned school street in Grande Rue au Bois.

A school street closes the street next to the school so that cars/vehicles cannot pass (with exception for emergency services and residents), in favour of pedestrians and cyclists. The proposal for Ecole no.10 is to test a school street in the morning, from 8h00 to 8h30 for three months (February to April 2020), co-designed by the school, students, parents, and residents.

Q4.1 To what extent are you in favour of testing a school street in Grande Rue au Bois?

- strongly in favour
- somewhat in favour
- neutral
- somewhat opposed
- strongly opposed

Q4.2 Why did you select "[Q4.1/ChoiceGroup/SelectedChoices](#)" as your opinion towards a school street in Grande Rue au Bois?

M1

What is important for you around the Dailly neighbourhood?

*Multiple answers are possible*

- improved traffic safety
- improved air quality
- decreased noise pollution
- increased accessibility by car
- increased accessibility by foot or bicycle
- more opportunities for social interaction

M2 Distribute 100 points across your chosen items based on how important you think each one is.

*What is important for you around the Dailly neighbourhood? Multiple answers are possible = improved traffic safety*

\_\_\_\_\_ improved traffic safety

*What is important for you around the Dailly neighbourhood? Multiple answers are possible = improved air quality*

\_\_\_\_\_ improved air quality

*What is important for you around the Dailly neighbourhood? Multiple answers are possible = decreased noise pollution*

\_\_\_\_\_ Decreased noise pollution

*What is important for you around the Dailly neighbourhood? Multiple answers are possible = increased accessibility by car*

\_\_\_\_\_ Increased accessibility by car

*What is important for you around the Daily neighbourhood? Multiple answers are possible = increased accessibility by foot or bicycle*

\_\_\_\_\_ Increased accessibility by foot or by bicycle

*What is important for you around the Daily neighbourhood? Multiple answers are possible = more opportunities for social interaction*

\_\_\_\_\_ More opportunities for social interaction

I3 The following questions are to understand the demographics of people responding to this survey. All information will remain confidential.

Q5 What is your age?

▼ 18 (1) ... 99 (82)

Q6 What is your gender?

- Male
- Female
- Other
- Prefer not to say

Q7 What is your highest completed level of education?

- none
- primary education
- secondary education
- post-secondary education
- I do not want to say

Q8 What is your employment status?

- student
- full time employment
- part time employment
- sabbatical/time credit

- I am starting a job soon
- I am currently not working
- Retired
- I do not want to say

Q9 Do you have a comment, idea, concern about school streets?

Q11

Select what applies to you.

I would like to receive updates about the school street

I would like to participate in the competition to win prizes

Q10

Please leave your email address below.

*N.B.: this will render your answers no longer anonymous!*

I4

Thank you for your answers!

If you have any questions or want to get involved, please contact us! [florence@bral.brussels](mailto:florence@bral.brussels)  
[jesse.pappers@vub.be](mailto:jesse.pappers@vub.be)

If you would like to learn more about the project, visit [bxl.looperproject.eu](http://bxl.looperproject.eu) or  
[facebook.com/looper1030](https://facebook.com/looper1030).

## 8.3. Parents survey

### La Grande Rue au Bois se transforme en rue scolaire

Cette enquête s'inscrit dans le cadre du projet d'étude de l'implantation d'une rue scolaire pour l'Ecole n°10. Une rue scolaire est une rue située à l'entrée d'une école et qui, à l'heure d'entrée des classes, est fermée temporairement à la circulation des véhicules motorisés (avec exception pour les riverains, les services de secours et d'utilité publique). Dès le 10 février, la rue adjacente à l'Ecole n°10 sera fermée entre 8h00 et 8h30.

Vous êtes invité à répondre à cette enquête en tant que parent ou responsable d'un-e élève de l'Ecole n°10. L'enquête est conçue pour se référer à un enfant. Si vous avez plus d'un enfant inscrit à l'école n°10, veuillez remplir l'enquête pour l'enfant le plus âgé. Toutes les informations resteront confidentielles.

Rempissez l'enquête numérique sur [bitly.com/ruescolaire](https://bitly.com/ruescolaire) ou scannez le code ci-dessous :



1. Quel âge a votre enfant ?

\_\_\_\_\_

2. Mon enfant arrive généralement à l'école

- en vélo
- à pied
- en voiture
- avec les transports en commun (métro, tram, bus)
- autre (par. ex. trottinette)

3. Votre enfant se rend-il seul-e à l'école ?

- toujours
- parfois
- jamais

4. Dans quelle mesure êtes-vous intéressé par l'impact que la rue scolaire aura sur le quartier ?

- fortement intéressé
- plutôt intéressé
- ni intéressé ni désintéressé
- plutôt désintéressé
- fortement désintéressé

5. Dans quelle mesure êtes-vous favorable au test d'une rue scolaire dans la Grande Rue au Bois ?

- tout à fait favorable
- plutôt favorable
- neutre
- plutôt défavorable
- tout à fait défavorable

6. Pourquoi ?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

7. Êtes-vous d'accord ou en désaccord avec les points suivants concernant le trajet de votre enfant à l'Ecole n°. 10 ?

	fortement en accord	plutôt en accord	ni d'accord ni en désaccord	plutôt en désaccord	fortement en désaccord	Ne sais pas
Je trouve que la circulation autour de l'école constitue un danger pour mon enfant	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Je trouve que l'Ecole 10/Grande Rue au Bois est facilement accessible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Je trouve que mon enfant est exposé à des niveaux élevés de pollution de l'air à cause du trafic autour de l'école	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Je trouve qu'il y a beaucoup de bruit dû à la circulation autour de l'école	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Je trouve qu'il y a beaucoup de circulation quand je dépose mon enfant à l'école	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Je trouve que déposer mon enfant en voiture près de l'école est facile	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

8. Lesquelles des choses suivantes sont les plus importantes pour vous dans le quartier Dailly ? Répartissez 100 points parmi les éléments suivants en fonction de l'importance que vous accordez à chacun d'entre eux.

Si vous n'accordez rien de l'importance d'un élément, donnez 0 points

- plus de sécurité routière \_\_\_\_\_ pts
- meilleure qualité de l'air \_\_\_\_\_ pts
- moins des nuisances sonores \_\_\_\_\_ pts
- plus d'accessibilité en voiture \_\_\_\_\_ pts
- plus d'accessibilité à pied ou à vélo \_\_\_\_\_ pts
- plus d'opportunités d'interaction sociale \_\_\_\_\_ pts

Remplissez votre adresse email ci-dessous si vous voulez être tenu au courant de la rue scolaire.  
N.B. : si vous remplissez votre adresse email, vos réponses ne seront plus anonymes

Si vous souhaitez en savoir plus sur le projet, visitez le site [bxl.looperproject.eu](http://bxl.looperproject.eu) ou notre page Facebook [facebook.com/looper1030](https://facebook.com/looper1030)



## 8.4. Observation/measurement protocol

### **M3-P2 – Teacher Fully Assists (group/assisted completion)**

Teacher explains the purpose of the survey.

Teacher hands out the survey and explains the procedure:

- Do not put name on survey
- Answer at the same pace as it is read out loud
- Ask questions for clarity

The teacher reads out each question as the children follow along and answer on their survey sheet. *The teacher can use the visuals provided to enhance the comprehension of the children.*

The students can ask questions; for clarity the teacher can explain/answer the question. *For how to answer, the teacher can assist the student by filling in the survey with them, asking for oral feedback that the teacher can write down (dictée).*

### **P3-P6 – Teacher Partially Assists (Step-by-step completion)**

Teacher explains the purpose of the survey.

Teacher hands out the survey and explains the procedure:

- Do not put name on survey
- Answer at the same pace as it is read out loud
- Ask questions for clarity

The teacher reads out each question as the children follow along answer the survey individually.

The students can ask questions; for clarity, the teacher can explain. For extra assistance in answering, the teacher should not intervene or prompt but let the student answer to their best ability.

Sources:

Legendre, Alain, Enora Ripaud, Elodie Brisset, Olivier David, Lucie Kostrzewa, Tiphaine Laigre, and Dominique Munchenbach. 'Children's Independent Mobility: Survey in French Brittany (2011)'. HAL, 2013.