

SCHOOL MOBILITY:

Improving Safety and Comfort of
Students Traveling to School



These Guidelines have been produced by the Project «TUMI: Get to School Sustainably», aimed at the development of sustainable mobility and improvement of safety and comfort of students of Zhytomyr City Territorial Community travelling to and from school (Veresy School, School No. 8, Zhytomyr Ecological Lyceum No. 24 and School No. 36).

The Project has been implemented by the Municipal Institution «Agency for City Development» of Zhytomyr City Council in cooperation with Transformative Urban Mobility Initiative (TUMI) funded by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH and local budget during 2019-2021.

Project Initiators:



Project Partners:



Institute for Transportation
& Development Policy



Any materials may be used or reprinted only with permission from the Project and with mandatory reference to the source.

©Project «TUMI: Get to School Sustainably», 2021

CONTENT

EXECUTIVE SUMMARY, OR OVERVIEW OF THE ESSENCE AND ROLE OF MOBILITY MANAGEMENT.....4

What is Mobility Management About?6

1. DEVELOPMENT OF SUSTAINABLE SCHOOL MOBILITY PLAN.....9

What is Sustainable Mobility Plan?.....9

1.1. Creation of School Mobility Committee.....10

What is School Mobility Committee?.....11

Roles in School Mobility Committee.....11

How to Initiate a School Mobility Committee?.....13

RECOMMENDATIONS.....15

1.2. Data Collection and Background Analysis.....16

School Mobility Survey.....17

RECOMMENDATIONS.....19

Walking Audit of Infrastructure.....20

RECOMMENDATIONS.....32

1.3. Goal Setting.....34

RECOMMENDATIONS.....37

1.4. Development of Measures for the Sustainable School Mobility Plan.....37

The 6 E's Framework for Action Planning.....38

Options for financing activities.....44

RECOMMENDATIONS.....46

1.5. Implementation of Measures.....47

RECOMMENDATIONS.....55

1.6. Monitoring of Results.....56

RECOMMENDATIONS.....59

CATALOGUE OF IDEAS AND EXAMPLES OF MOBILITY EVENTS AND ACTIVITIES.....60

INSTEAD OF CONCLUSIONS.....68

USEFUL RESOURCES.....70

Annex 1. Questionnaire for the School Mobility Survey.....71

Annex 2. Calculation Form for School Mobility Survey.....73

Annex 3. General Walking Audit Form.....74

Annex 4. Form – Application to Local Authorities.....78

Annex 5. Action Plan Template.....83

Annex 6. Cycling School Plan.....86



EXECUTIVE SUMMARY, OR OVERVIEW OF THE ESSENCE AND ROLE OF MOBILITY MANAGEMENT



For most children, school takes up the biggest part of their lives between six and seventeen years of age. During this time, habits are formed, some of which will remain throughout life.

Every day children travel a certain distance from home to school and back, learn about the world, face the first difficulties, and form their perception of a beautiful, safe, and comfortable space.

If you are reading these Guidelines, you are probably interested in the comfort and safety of children travelling to school. This document presents practices of various public and state initiatives aimed at improving the comfort and safety of children on the way to school, as well as its adaptation to Ukraine through the project «TUMI: Get to School Sustainably» in Zhytomyr. These Guidelines offer a six-step model for creating a sustainable mobility plan for an educational institution; they also provide ready-to-use examples, templates and forms, as well as a catalogue of ideas and examples of mobility measures. Before we go into detail, however, we should take a look at why it is important to think about school mobility management and take a systematic approach to it.

Studies have shown that fewer and fewer children travel to school on foot or by bicycle, and they are less active. As a result, more children are at risk of being overweight. For example, studies¹ conducted in Ukraine over the past decade have demonstrated that only 23.3% of modern Kyiv students can be considered healthy, while 47.4% of them have been diagnosed with chronic diseases. Today's high school students compared to their peers 50 years ago have 6 times higher incidence of respiratory diseases, 3 times higher incidence of digestive organs, 5.2 times – endocrine diseases, including obesity – 4.3 times and 2.8 – diseases of the nervous system.

¹ Health condition of students in Ukraine. Nyankovskiy S.L., Yatsula M.S., Chykailo M.I., Pasechniuk I.V. — Danylo Halytsky Lviv National University

Walking and cycling contribute to the recommended amount of daily physical activities that children need under these circumstances. The World Health Organization² recommends at least an hour a day outdoor exercises for children. In addition, while walking and cycling, children become more active, more aware of their surroundings and also develop road safety skills.

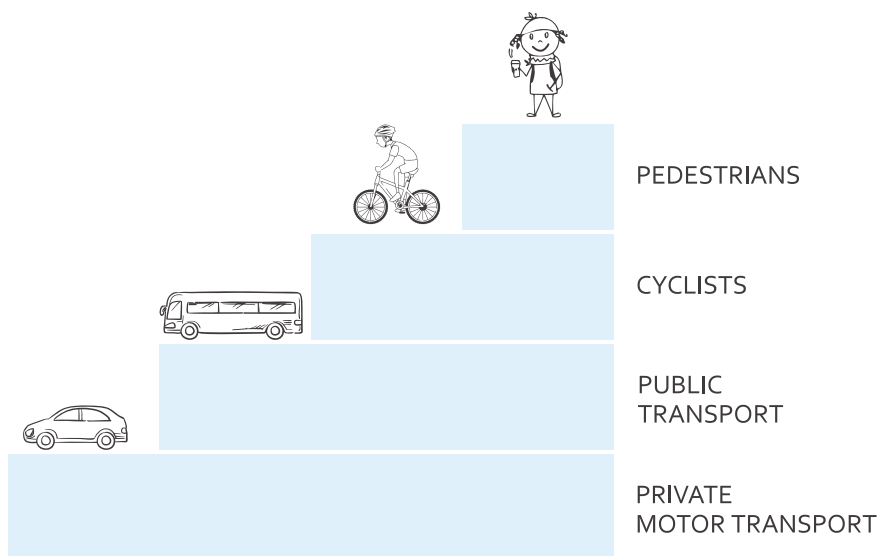
During peak times traffic flow is very heavy, affecting children's daily way to school in the morning and afternoon. At the same time, children are amongst the most vulnerable road users and often face a number of challenges. Mobility choices of children to and from school are based on many factors, such as weather conditions, distance from school to home, the availability of public transport stops near the house, travel habits in the family and many others.

In some European countries, there is a leading principle/hierarchy used to make decisions regarding improving mobility and safety in general but also for schools. This model is called Walking – Cycling – Public transport – Private transport, or WPP³ (Walking – Cycling – Public transport – Private transport), which stands for the priority that should be given to different modes of transport. Thus, the first priority is walking, then cycling. The third priority is public transport, for example, if the distance is too long to walk or cycle. The lowest priority is given to a private car or car sharing, motorcycles, etc., if the above options cannot be used for travel.

This model can be applied not only to school travel, but also to other decisions in the field of urban mobility management.

² <https://www.who.int/ru/news-room/fact-sheets/detail/physical-activity>

³ The Traffic Snake Game network. Campaign and policy roadmap. <https://bit.ly/3sUib7G>



What is Mobility Management?

Mobility management is a set of so-called soft and hard (infrastructure) measures aimed at improving transportation options and conditions. Soft measures include information exchange and communication, organization of informational and awareness-raising events, coordination of activities of various partners, etc. Infrastructure measures include reconstruction and construction of roads and pavements, the construction of cycle lanes, the introduction of speed reduction measures – construction of safety islands and other infrastructure facilities. Soft measures do not necessarily require large financial investments and costs, but they can have a high level of impact and often increase the effectiveness of infrastructure measures. Read more on event planning in Section 1.5. of these Guidelines «Implementation of measures».

In the course of the implementation of the project «TUMI: Get to School Sustainably»,⁴ a package of measures to encourage safe, healthy and sustainable transportation to and from school was developed by project initiators together with participating schools (students, parents, and teachers) of Zhytomyr City Territorial Community. In these Guidelines you will find out what project participants have been through to create a safe space and how everyone can initiate and implement such initiative in their school. So let's go!



⁴ Official project website: tumi.agency.zt.ua

The sustainable school mobility plan is a tool for solving problems systematically, starting from identifying challenges on the way to school to solving problems and monitoring results. A key feature of this process is the focus on the needs, opportunities, and limitations of users, namely school children. At the same time, the implementation of measures is delegated to those who have to deal with it: from city transport administration to school guard, from police department to a tenth-grader.

Thus, the sustainable school mobility plan is a document of an educational institution, which includes an overall goal, analytical study of problems, a set of measures to solve these problems and a systematic evaluation of results. The development of sustainable mobility plan for an educational institution looks like this:

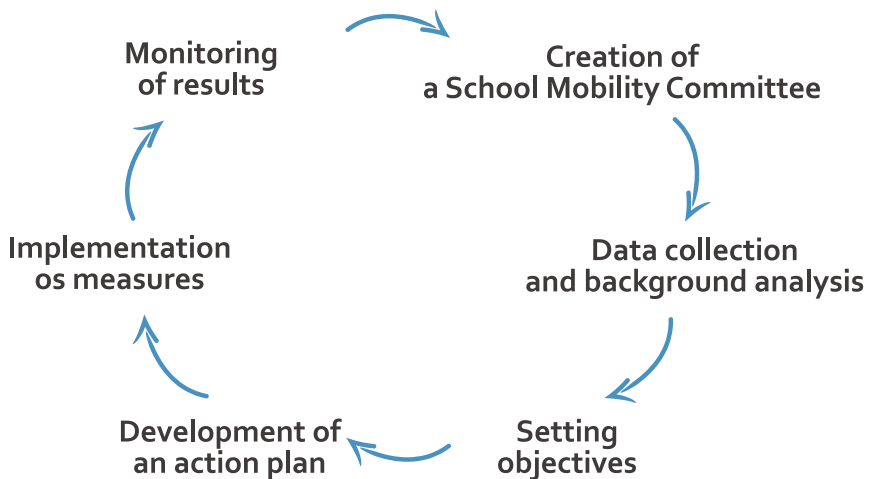


Figure 1. Development scheme for Sustainable School Mobility Plan



DEVELOPMENT OF SUSTAINABLE SCHOOL MOBILITY PLAN

What is a Sustainable Mobility Plan?

The Sustainable School Mobility Plan is an important document that includes a set of strategies and initiatives aimed at improving traffic safety and comfort of children on their way to and from school and encouraging the use of sustainable transportation modes: walking, cycling, roller-skating, skateboarding or kick scootering. The plan addresses specific issues related to the safety and comfort of everyone getting to school.

However, it is not possible for one structural unit to solve all the problems. Different stakeholders are responsible for different measures. For example, the organization of awareness-raising activities and work with children is the responsibility of the administration of an educational institution. Police is responsible for traffic regulation or control of compliance with parking rules. However, working together toward a common goal makes it possible to achieve much more than working individually.

Imagine that there is a road near a school in your city. The school is located between two large intersections almost in the city centre. Hundreds of children (and sometimes parents) cross the road every day to get to school. Once there was even a very unpleasant traffic accident. The school administration cannot prohibit cars from driving near the school. The city administration recommends children not to run to school (as if it has ever worked). The police say there is nothing they can do because their job is to monitor the rules, not to initiate changes in traffic management. This is exactly the situation in one secondary school in Zhytomyr, but in fact it is relevant for almost every city in Ukraine.

Thus, the step-by-step development of the Sustainable School Mobility Plan consists of:

Step 1. Creation of a School Mobility Committee.

Step 2. Data collection and background analysis.

Step 3. Setting objectives.

Step 4. Development of an action plan.

Step 5. Implementation of measures.

Step 6. Monitoring of results.

Let us have a closer look at each step separately.

1.1. Creation of a School Mobility Committee

"Start where you are. Use what you have.

Do what you can".

Arthur Ashe, American Tennis Player

Before you start planning and working on any project, it is necessary to build a good team. School administration should play an active role in planning, supporting and implementing mobility projects. Why? With sustainable mobility projects, schools provide teachers and other educators with opportunities and incentives to acquire new competencies related to the needs of the school. Such projects help to involve parents and students in the joint solution of problems that children face travelling to and from school. In addition, it is important to share the acquired knowledge and practices at school: to hold general school and parent meetings, public presentations, discussions, etc. and integrate them into school practice (curricular and/or school development plan).

What is a School Mobility Committee?

A School Mobility Committee is a team of change agents, which includes proactive representatives of the school. Their tasks are to define the mobility goals of a certain educational institution, conduct a necessary survey, coordinate mobility management activities of educational institutions and involve others in relevant activities to achieve the set goals. You can find more in Section 1.3. Goal Setting.

Let us take a closer look at the tasks and issues the school mobility committee works on. It can be said that all members of the mobility committee play several roles, namely, researchers, planners and actors.

What kind of roles are these? What are these people doing?



1. Researchers

Collect information, study the behaviour of students, analyze needs and problems of a school and its students.



Questions they need to answer: What are we going to study? Why did children become less active? Why do children not walk to school? How can one inspect problems children face while travelling to and from school?



2. Planners

Make decisions, give recommendations, and develop policies and measures.

Questions they need to answer: What decisions, recommendations, measures need to be arranged and taken to solve a problem? How can we improve the situation? What can be done to help children travel safer?



3. Activist

Present their projects, fundraise, conduct campaigns, and lobby school interests.

Questions they need to answer: How can you mobilize resources to solve the problem? Which solution is the most adequate and realistic?

When forming a mobility committee, it is important to remember that this group is a driving force behind the initiative, and everyone should be prepared to be a researcher, planner, and activist.




To sum it up, the school mobility committee performs the following tasks:

- ✓ participates in the planning, organization and coordination of strategic measures and decisions for improving safety and comfort of students travelling to and from the secondary school;






- ✓ engages key stakeholders, namely students, parents and school teachers in decision-making process regarding development and improvement of students' mobility and/or looking for other stakeholders.

How to initiate a school mobility committee if you are:







Student:

-  Make a list of questions and problems that you think students of your educational institution face on the way to school. Based on this, make a short presentation and show it to others.
-  Hold a joint discussion, general student meeting, or school parliament meeting.
-  Present the results of the discussions to representatives of school administration and parents and suggest creating a mobility committee.







Student's parent:

-  Share your idea with other parents and find those who will support the idea.
-  Find out if there is a person in your child's school who has the authority to deal with road safety.
-  Contact school administration members who have appropriate authority and are most open to new ideas in your opinion.
-  Suggest creating a mobility committee.
-  Inform parents, children and the entire teaching staff of the school about the possibility of joining the mobility committee.

Representative of the school teaching staff:

-  Find out if there is a person in your secondary school who has the authority to deal with road safety.
-  Share your idea with colleagues at a teachers' meeting. Earn the support of the school administration.
-  Present the idea of creating a mobility committee at the general parent meeting of the school and students self-government meeting.
-  Find like-minded, active people who are open to ideas.
-  Suggest creating a mobility committee.
-  Inform parents, children and the entire teaching staff of the school about the possibility of joining the mobility committee.

Representative of the city administration or city council:

-  Hold a general meeting with the principals of secondary schools and their deputies.
-  Share the idea of creating school mobility committees on the basis of educational institutions.
-  Appoint (select) an authorized person in educational institutions who will deal with mobility and road safety of students.
-  Sign a memorandum of understanding with the school to improve the safety and comfort of children on the way to school.
-  Develop an action plan, programme, etc. for the year.
-  Hold monthly meetings and discussions, develop short- and long-term programs (plans), etc. to address the challenges faced by children on the way to school.

RECOMMENDATIONS:

- ✓ The total number of members of the school mobility committee should not exceed 5-7 people. It will be difficult for a group of more than 7 people to get together regularly and communicate effectively. You can involve more people in individual tasks or activities.
- ✓ The mobility committee should include at least two representatives from the student self-government body (children), one or two representatives of the parent committee and two representatives from the school administration. For example, this can be a deputy director, a teacher, responsible for organizational issues, or a teacher with an active life position. The main thing is that this person shares the values of sustainable development and has the desire and energy to promote the development of mobility in the school.
- ✓ The composition of the school mobility committee should be approved in writing at the level of the school administration (by the relevant order or instruction of the principal). Although formalization of the process is not mandatory, it will make the work of the committee official and help attract resources to support the activities of the committee or resolve disputable issues.
- ✓ Choose a committee coordinator to organize and remind everyone of committee meetings, or agree on the distribution of roles in the committee.
- ✓ Hold regular meetings of school mobility committee representatives to discuss issues, goals, results achieved, etc. at least once a month and keep minutes of meetings.

1.2. Data Collection and Background Analysis

Once the team is formed, you can proceed to the background analysis. Data collection is important. Data and its analysis is a starting point that can be compared and studied all the time. The background analysis will help you understand what problems children face and what your activities should be aimed at.

Research methods for school mobility can be divided into qualitative and quantitative.

Quantitative study is aimed at collecting quantitative information about a large number of people or objects. Statistical methods are used to analyze this data, particularly questionnaires, personal and telephone interviews, etc. They are used when accurate, statistically reliable data is needed. Quantitative studies are most often conducted because they make it possible to talk generally about the residents of the city, neighborhood, school students, etc. due to the coverage of many respondents.

An example of such study is a mode choice survey or a survey assessing the travel distance from home to school. The school mobility survey given below is an example of a quantitative study.

Qualitative study is aimed at identification of non-typical or generalized information. It is used to identify motivation, impressions, expectations, values, etc. An example of such a study is the analysis of mobility diaries, where students write down their observations, details of the way to school and their impressions during a certain time period. A good qualitative survey requires more time and longer processing. However, this type of survey makes it possible to identify factors that were unknown before, as well as finding out the unique perception of factors by participants. An example of a qualitative study is the walking audit of the route to school, which is described in more detail below.

School Mobility Study

A school mobility study reflects the choice of transportation modes by children travelling to and from school and defines key mobility indicators of students, which can be changed and improved. A basic indicator used for mobility analysis all over the world is modal split. It can help to identify how many children get to school by car (of course, accompanied by their parents), by bicycle, on foot or by public transport. The more sustainable a transportation mode is, the more useful mobility patterns children develop. However, various difficulties may come up, depending on the mode of transportation.

A quantitative study, namely a survey among students, was applied by the project «TUMI: Get to School Sustainably» to collect baseline data. The survey template can be found in **Annex 1. Questionnaire for the school mobility survey**. The Modal split indicator was used for assessing mobility patterns. As a result of the survey on school mobility conducted in early September 2019, more than 28 thousand students were interviewed.

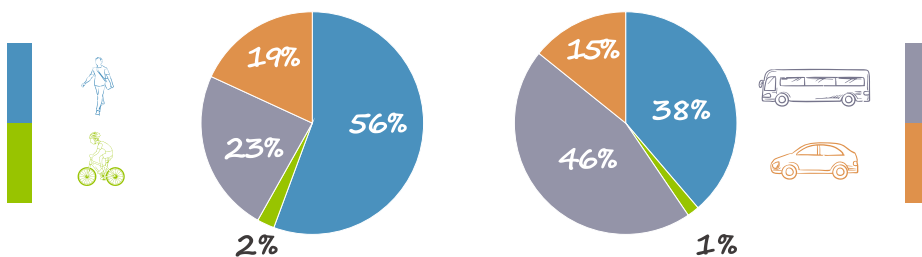


Figure 2.

Modal split: Secondary schools of I-III degrees of Zhytomyr City Territorial Community (on the left) and city of Zhytomyr (on the right)

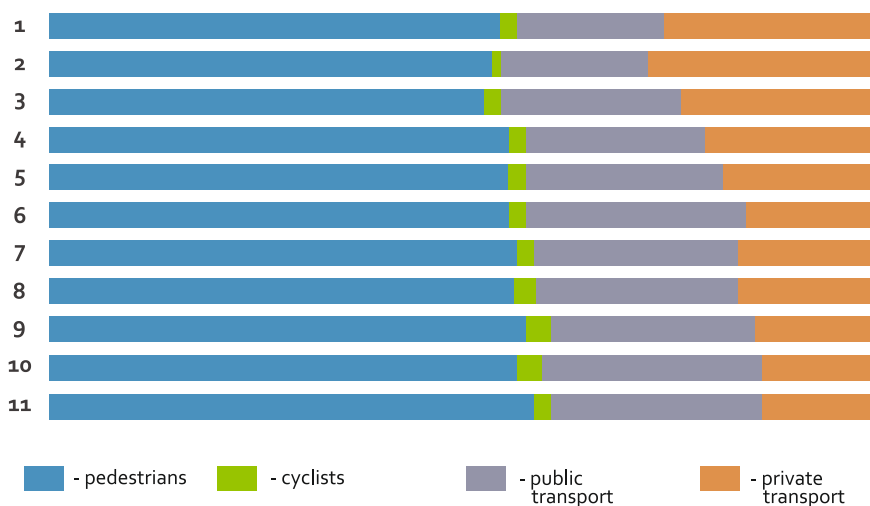


Figure 3. Modal split depending on the year of study (grade)

Source: Survey on school mobility among secondary schools of Zhytomyr City Territorial Community (2019)⁵

The survey showed that the share of car trips among school children is higher than on average in the city (15% of the population of Zhytomyr travel by car).⁶ Although it may seem safer than walking, children get used to travelling by car from a young age, leading to decreased physical activity and a higher risk for serious health problems in the future. At the same time, children generally cycle more often, especially children from educational institutions located far from the central part. For example, according to the survey 16% of students of Veresy School, which became part of Zhytomyr City Territorial Community in 2018, cycled to school, while in schools located closer to the city centre this indicator was about 1%.

⁵ https://tumi.agency.zt.ua/school_mobility_research_2019_zhytomyr

⁶ Mobility Survey among residents of Zhytomyr, 2018 (Sustainable Urban Mobility Plan of Zhytomyr: <http://zt-rada.gov.ua/?3398%5Bo%5D=8685>)

If many children from your educational institution travel by public transport, you should start exploring stops and initiate discussions about safety in transport (both physical and psychological). It is equally true that, if many children get to your school by bicycle, or you would like to increase this share, try to conduct the audit described below on bicycles and assess how comfortable and convenient this transportation mode is.

RECOMMENDATIONS:

- ✓ School mobility surveys should not be organized in the first and last weeks of the school year. In early September and late May, the transportation of children to school is not really typical, and some students may be absent.
- ✓ Choose the middle of the week for the survey (Tuesday to Thursday) to improve the quality of results, and avoid public holidays.
- ✓ Distribute the forms (questionnaires) to teachers/class teachers in advance, inform how to fill in the form, and about the desired dates of the survey. Remind about the survey one day before.
- ✓ Involve volunteers to calculate the results and enter the data in the table. An example of the documentation of the results can be found in **Annex 2. Calculation Form for School Mobility Survey**. Save the received data. You will need it to analyze and compare (monitor) the situation in a year or several years.

Walking Audit of Infrastructure

After finishing a school mobility study and obtaining results, showing which transportation mode children prefer, it is necessary to identify obstacles or threats they have on their way to school. This requires an audit of infrastructure. An audit is a process of assessing the safety and comfort of a particular route to school and makes it possible to clearly identify problematic or dangerous areas. This process can be roughly divided into the following stages: preparation, implementation and processing of results.

1. Preparation

Before conducting an audit, it is necessary to prepare for it:

- determine a research area;
- develop routes for analysis;
- put a team together;
- print out the forms;
- instruct people who will conduct an audit.

Preparation is the first and very important stage. At this stage it is necessary to define an area of research (where, what and how we are going to analyze).

An area is a city territory students actually use to get to school. Even though school administration is not responsible for children outside the school, adventures actually begin on the way from home to school. To determine the area of research, you should collect depersonalized information, where students live.

This information can be obtained from the school principal office. With the help of lead teachers, it is necessary to clarify the actual place of residence of children in each class, as well as to record the actual address from which each child goes to school. Then you will have the most

accurate baseline data for the study.

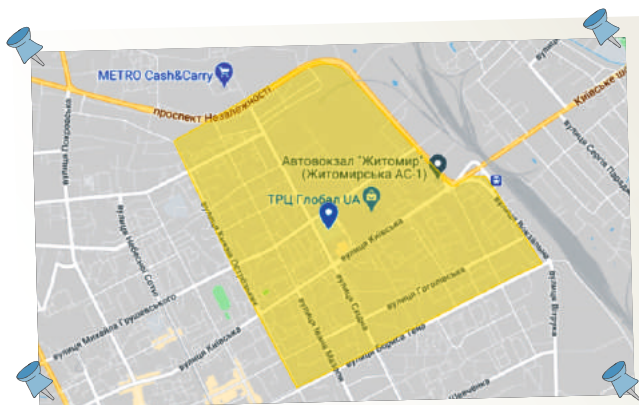
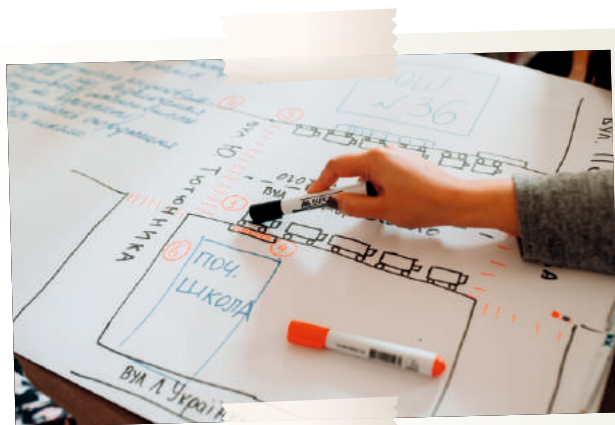


Figure 4. Research area (territory where over 85% of students live). School No. 8 in Zhytomyr

You can map locations to make it easier to define boundaries of areas. This can be done using mapping services (for example, Google Maps). You can even create a heat map to find out the population density of students studying at your school. Why do you need it? First, to find out where the largest number of students live. Second, you will be able to identify the routes that most children use more accurately.





If addresses are not possible to collect, create an e-map. If you want to involve all children in mapping the area of research, you can do the following:

Print a large size map of your city or village with street names and house numbers. Hang the map on a board or wall in the lobby near the school entrance/exit. Make an announcement and ask students to mark places where they live with a coloured paper sticker or marker. It is important to explain that children should mark their homes only once. Then remove the map and analyze which areas have the highest concentration of stickers or markings. A high concentration of such markings will indicate the areas of residence with the highest density of students from your educational institution.

Next, it is necessary to form a set of routes for analysis. These should be routes which are most often used by students. In an ideal scenario, all routes should be identified, or at least those used most by children and

those where the largest number of children live. To do this, you need to find out where the route begins, i.e. determine the endpoints (addresses), where children begin their trips to school.

Routes should run within the research area and preferably start from the outermost boundary of the area, except when it is not appropriate. For example, when the boundary goes through a wasteland, river, cemetery, landfill, or other area that does not reflect the beginning of the route.

During the mapping, the routes are marked directly on the map in the form of ways that correspond to the most common routes to the school, but do not duplicate absolutely all elements of the road network (streets, roads, paths, etc.).

Each school that participated in the project «TUMI: Get to School Sustainably» defined and studied 5 routes that most students use. We suggest considering the process of drawing up the routes of School No. 8 in Zhytomyr as an example.

As a result, we have collected the data about the following routes:

Route 1 (Vokzalna Str. – School): 1.3 km or 16 min on foot.

Route 2 (Hoholivska Str. – School): 1.1 km or 14 min on foot.

Route 3 (Kniaziv Ostrozkykh Str. – School): 1 km or 13 min on foot.

Route 4 (Montana Str. – School): 900 m or 12 min on foot.

Route 5 (Mykhaila Hrushevskoho Str. – School): 1.2 km or 15 min on foot.

When the set of routes is identified, field studies and audits of infrastructure are conducted according to the template given in

Annex 3. General Walking Audit Form.

Finally, you should print out a map of the city showing the research area and one route that is being analyzed. It is reasonable to prepare such printouts for each route and distribute them among participants

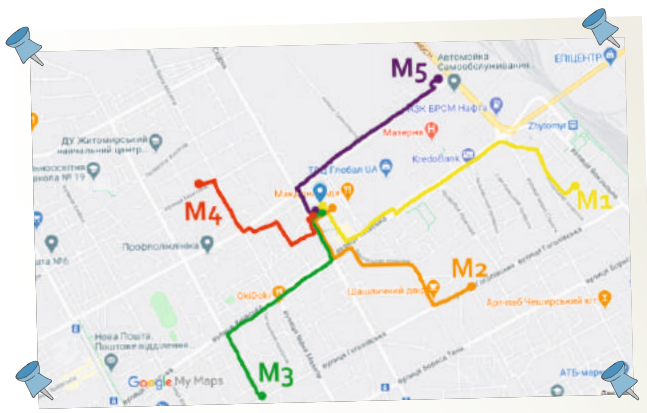


Figure 5. Routes most frequently used by students of School No. 8 in Zhytomyr

of the audit. It will be more convenient for you if each participant has their own template and a map. If it is not possible to print out maps for everyone, make sure that participants have the opportunity to discuss and be heard while completing the joint audit form.

Now you should assign roles and determine who will analyze each route. Several people should be involved to ensure a good walking audit. For example, within the framework of the project «TUMI: Get to School Sustainably», field studies were conducted by students,



representatives of the parent committee, and teachers. However, this is not a must. Most importantly, different people should participate in the study, with different experiences, education, age, height, etc. Why is this important? For example, a high school student and a primary school student who are of different age and even height perceive everything around them differently and can notice not only different details, but also problems that are relevant to their age.



2. Implementation

You should choose a day and time to conduct a study. Schedule one or two hours depending on the length of the route. It is necessary to move thoughtfully, pay attention to details, record assessments and comments in the form of an audit. Ideal scenario means that all routes are covered by as many of the same participants as possible, because different people have different ideas about what is good and what is bad. It will be difficult for you to compare routes if they are analyzed by different people.

If the weather gets worse on the day and time you have planned, we still recommend you conduct the study, because children still go to school when it is snowing or raining. You may discover problems that cannot be noticed in good weather (such as flooding). It may also be useful to conduct the study in the dark. For example, in Lyceum No. 24, which participated in the project in Zhytomyr, children study in three shifts and often return home when it is already dark outside. The audit made it possible to pay attention to lighting problems and identify additional hazards that are not visible in daytime. For analysis, you can prepare your own form for assessment of infrastructure or use the template provided in **Annex 3. General Walking Audit Form**. Project participants in Zhytomyr city territorial community evaluated the following:

- availability and state of pavements;
- quality and safety of pedestrian crossings and intersections;
- behaviour of drivers;
- general feeling of safety;
- comfort and attractiveness of the space.

It is very important to take into account the experience and perception of those who will conduct the assessment. One should try to assess the infrastructure based on feelings, not attitudes towards a specific infrastructure solution, by answering the questions below:

- ➡ Do I feel comfortable here?
- ➡ Do I feel safe at this crossing/next to this fence/at this bus stop?
- ➡ Is it convenient to use this pavement/crossing/bridge?

You can divide the route into sections for convenience of assessment. The assessment template will help to determine where one section ends and another one begins. If the infrastructure around you has changed or you have felt differently in terms of safety and comfort, mark this place on the map.

As a result, each route will be divided into sections (segments) depending on the quality and condition of the infrastructure. For your convenience, you can mark them in numbers or letters, for example, A, B, C, D, etc. You can single out an unlimited number of sections, depending on the length of the route. There can be 3 or 10 route sections. Figure 6 shows how the participants from Veresy School built routes and divided them into sections.



Figure 6. Routes divided into sections and problematic areas around Veresy School

The most problematic areas should be marked on each route. Also, photos and videos of these areas should be taken. For example, you can mark a problem with a red square, circle, asterisk, or other mark that you understand. Participants of the study assess each section together through discussion. Assessment of infrastructure should be carried out for each section separately and is determined separately. You can walk the route together and discuss directly while walking or meet after exploring the route and discuss it over a cup of tea. If participants have very different assessments, it is very important that everyone expresses

themselves. You may not have noticed something, or you may not know what other participants know or how they feel.

3. Processing of Results

When the audit is completed, it is necessary to summarize the most problematic sections on each route in accordance with the assessments made by explorers during a walking audit, as well as to specify the problems that were recorded with the help of photos and videos.

The following are the examples of problems:

- absence of pavement along the road with heavy traffic;
- lack of lighting;
- construction debris that hinder the movement along the pavement;
- restriction of movement (fence, barrier) in a public space on the way to school;
- branches of trees that obscure the road signs, hinder the movement along the pavement or prevent cycling;
- open manhole covers, open construction sites, etc.

After that, it is necessary to prepare materials to present the results of the audit and proceed to the development of an action plan. The presentation should include specific locations and photos of the most problematic sections on each route. In addition, they can be shown on the map; and it is a good idea to determine the degree of importance of a problem, i.e. to set the priority for each problem.

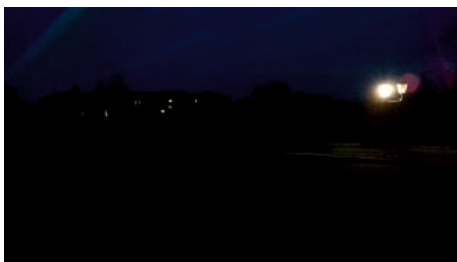
The participating schools presented the results of the walking audit⁷ and the problems around their schools to local MPs, police and structural units of Zhytomyr City Council, as well as submitted a request to the city administration with a list of problems to be solved by responsible government bodies. An example of the request can be

⁷ <https://tumi.agency.zt.ua/page8487378.html>

found in **Annex 4. Form – Request to Local Authorities**. You can find more on what to do with the results of the study in Section 1.4. Development of measures for the sustainable mobility school plan.

Below you can read about problems identified by project participants in Zhytomyr City Territorial Community.

Veresy School



Lack of street lighting near the school



Wide intersection near the school with no road, signs and drivers drive dangerously



Aggressive animals



No or damaged pavements

School No. 8 in Zhytomyr



Construction debris on the pavement



Cars parked on sidewalk



Narrow and cluttered pavements



Damaged pavements

Zhytomyr Ecological Lyceum No. 24



Trampled paths in the green area,
which turn into a muddy skating rink when it's raining and lead to injuries



No pedestrian sidewalk where children move actively

School No. 36 in Zhytomyr



Lack of pavements and surface,
that can cause injuries



Garbage in the pedestrian area



Dangerous high curbstone



No sidewalks

RECOMMENDATIONS:

- ✓ A proper walking audit of the infrastructure takes time. You should prepare for it in advance: choose a convenient date and time, identify responsible and active participants, print out maps, etc.
- ✓ Find out the actual residential addresses of the students and check/correct the routes they take to get to school together with children.
- ✓ 3-5 routes should be selected for analysis. Draw the routes yourself and ask children to review and correct them. Here children can tell where they cut the path, or can show alternative routes to school.
- ✓ Make coloured schematic markings: routes, conditional areas on them, problems, etc.
- ✓ Walk the routes in both light and dark hours of the day. This will

help you find out if the lights in the streets used by children are working. You will not notice it during the day, but it is obvious in the evening.

- ✓ Although it is much more enjoyable to conduct an audit in good weather, try out school routes after rain or in winter. Remember that children travel to school in all weather conditions, so you may be surprised by what you see.
- ✓ Present the results of your survey at a general parent and student meeting, your district councilors, etc.
- ✓ Save the obtained data in multiple copies on different digital media and/or free cloud storage.

1.3. Goal Setting

After conducting a walking audit and making a list of problems, it is important to understand how they can be solved. One of the easiest ways to set and understand goals, as well as achieve the desired results, is to use SMART concept. It is one of the most popular and effective concepts, and also helps to set goals correctly. The word «smart» means clever, but in this case it is also an abbreviation.



Specific

A goal should be specific, clear, and unambiguous, which increases the likelihood of achieving it. Specific means that when setting any goal, the result you want to achieve is determined precisely.

The following questions will help set a specific goal:

- ➡ What result do I/we want to achieve by achieving the goal and why?
- ➡ Who is involved in achieving the goal?
- ➡ Are there any restrictions or additional conditions that are necessary to achieve the goal?

One rule is always relevant: one goal – one result. If you set a goal and you find out that you need to achieve several results in the end, the goal should be divided into several ones.

Measurable

At the stage of setting goals, specific criteria need to be defined to measure the process of achieving the goal. The idea is that if progress

towards a goal cannot be measured, it is impossible to know whether there is a progress towards successful completion.

The following questions will help set a measurable goal:

- ➡ When can one assume that the goal has been reached?
- ➡ What indicator will show that the goal has been achieved?
- ➡ What value should this indicator have for the goal to be considered achieved?

Achievable

It is important to have ambitious goals, but at the same time not to lose the sense of reality. The goal must be achievable, because the realistic implementation of the task affects the motivation. You need to reach the objective step by step.

There can be restrictions, such as time resources, investments, labour resources, knowledge and experience of the player, access to information and resources, the ability to make decisions and the availability of management tools to achieve the goal.

The following questions will help set an achievable goal:

- ➡ How can this objective be achieved?
- ➡ How realistic is the goal, given the various constraints, such as finances?
- ➡ Is there enough time to complete the tasks?
- ➡ Are resources available?
- ➡ Can you use them?

Relevant

This is the degree of compliance and adequacy of something. The main task of this criterion is that each goal corresponds to other goals.

The following questions will help set a relevant goal:

- ➡ What benefits will the solution of the set task bring to you and your institution?

Time-bound

Any goal or objective should be time-bound and have a deadline. Having a deadline helps focus on achieving the goal on time or earlier.

A time-bound goal usually answers the following questions:

- ➡ When?
- ➡ What can be achieved today?
- ➡ What can be achieved in a month?
- ➡ What can be achieved in half a year, a year?

| EXAMPLES OF INAPPROPRIATELY SET GOALS | EXAMPLES OF SETTING SMART GOALS (specific, measurable, achievable, relevant, time-bound) |
|---|--|
| Students will learn to cycle in a safer way. | 200 school students will master more confident cycling and will get to school by bicycles during 2019-2020. |
| Everyone will safely cross the roadway within a year. | 100 primary school students will safely cross the roadway while moving from the junior school building to the high school building and the canteen during the 2019-2020 school year. |
| Make intersections (pedestrian crossings) near the school safer and more comfortable. | Make the intersection (pedestrian crossing), which is the closest to the school and which is used daily by primary school students, safer and more comfortable in 2020. |

Once the list of objectives is compiled and expected results are defined, it is worth developing an action plan.

RECOMMENDATIONS:

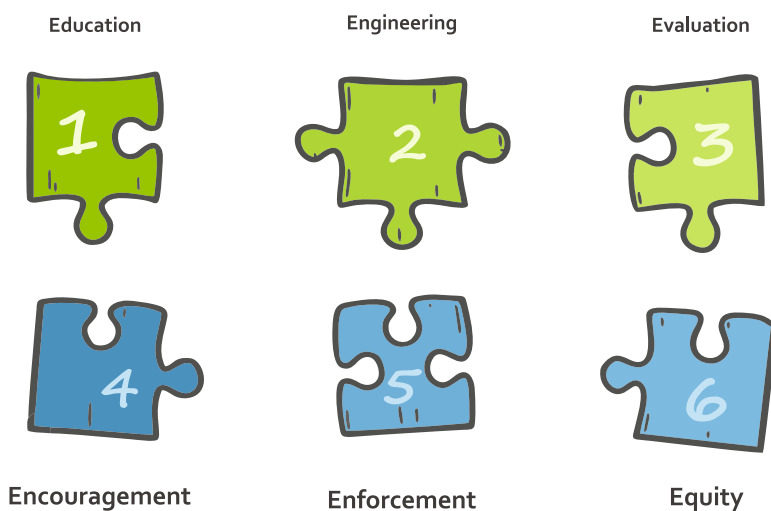
- ✓ Discuss the objectives with your team (involving representatives of the school mobility committee: students, parents, teachers, etc.) and write them down.
- ✓ Remember to set SMART goals. For example, go through each of the SMART, where each letter refers to a different criterion, and check if your goal meets these criteria.
- ✓ For additional motivation, you can set intermediate objectives that can be achieved fairly quickly. These quick wins will not let your enthusiasm fade, and you are more likely to get the first serious results.
- ✓ Print out your goals and hang them in the room where you usually meet. This will help you remember the purpose of your mobility committee.
- ✓ Define how often you will review the goals and evaluate their achievement. Don't forget to do it. Even if you can't reach your goals 100%, discuss your successes and failures. Review the goal or timing of its implementation.

1.4. Development of Measures for the Sustainable School Mobility Plan

Once you have completed the analysis, identified the most problematic segments, and set the goals your campaign will target, you need to develop an action plan. This will make you understand the specific steps that need to be taken, as well as identify the important aspects that need to be involved in addressing mobility issues of your institution.

Safe Routes Partnership⁸, an American NGO, suggests using the 6 E's framework to develop an action plan for safe routes to school. This model makes it possible to include all key areas to develop an integrated and comprehensive mobility program. The 6 E's framework consists of Education, Engineering, Evaluation, Encouragement, Enforcement and Equity.

So what do the Six E's look like? Here's a quick summary of each component.



The 6 E's model for the development of an action plan

1. EDUCATION



Providing students and the community members with skills for safe walking and cycling, teaching them the benefits of physical activity, walking and cycling, as well as informing about a wide range of transportation options.

⁸ www.saferoutespartnership.org

Examples may include:

- ⇒ Integration of the topic of safe transportation and sustainable mobility in various subjects. This can be keeping a travel diary as a part of lessons in Environmental Studies, calculating the length of the braking distance of a car in front of a pedestrian at night and during the day in Physics, or analyzing a text about sustainable mobility in English lessons. In fact, there are many ways to do it. The main thing is that it should be useful and interesting for students.
- ⇒ Organizing a cycling school as practical and theoretical event to teach safe cycling. Read more about the organization of the cycling school in Section 1.5. Implementation of Activities.
- ⇒ Educational program for parents and the community. Students themselves or NGOs may act as teachers of traffic safety and mobility. They can arrange and conduct an educational event, develop a media campaign for social networks or distribute leaflets with information about school mobility. There is an unlimited number of options. The main thing is to have clearly defined objectives and support.

2. ENGINEERING



Creation of infrastructure improvements for streets and neighbourhoods that make walking and cycling more convenient and safer, while reducing the risk and consequences of injury. Changes in the physical environ-

ment are a critical element of any sustainable school mobility plan. It is necessary to coordinate efforts with the relevant departments of local councils and professional communities, as well as to conduct investigation on the shortcomings of the urban environment to make these changes successful. A very important source of information in engi-

neering is the result of the walking audit described in the previous sections.

Examples may include:

- ➡ redesigning an intersection with the use of specific elements to reduce speed and increase safety of pedestrians;
- ➡ construction of raised pedestrian crossings;
- ➡ arrangement, extension, or repair of pavements and cycling lanes.

It should be noted that this component requires professional attitude and involvement of experts. You can find more about effective implementation of infrastructure changes in Section 1.5. Implementation of measures.



3. EVALUATION

Evaluation of approaches, whether they are more or less successful, ensuring that programmes and initiatives lead to equitable results, and identification of unex-

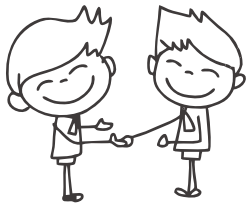
pected consequences or opportunities are necessary to improve the effectiveness of each approach. Evaluation should take place when implementing any activities or plans. This makes it possible to track progress, analyze successful and not so successful results and set new objectives. The evaluation and monitoring stages include data collection, analysis and summarizing.

The measures of this stage include the following:

- ➡ Conducting studies and surveys. You can find more in Section 1.2. Data Collection and Case Analysis.
- ➡ Systematic evaluation of the sustainable mobility plan by reviewing the goals, objectives, and measures of the programme. This can be done by the coordinator, the mobility committee, the facilitator of the training event or a representative of the local administration.

- ➡ Collection of empirical data on safety and comfort indicators: speed measurements, counting of cyclists, etc.

You can find more about evaluation and monitoring in Section 1.6. Monitoring of Results.



4. ENCOURAGEMENT

Creation of a lively and enthusiastic atmosphere and boosting walking and cycling among children through events, activities, initiatives, and programs.

Such activities are fun and help to attract many people, particularly students, their families and residents of the neighbourhood. These activities are focused on changing mobility patterns, forming new habits and promoting active mobility as an alternative for using cars.

There are many examples of encouragement measures. Here are some of them:

- ➡ Bike to school – a cycling promotion campaign in which students receive a reward for cycling to school and can compete with each other or between classes and even between schools.
- ➡ Walking bus is a way to travel to school on foot, popular in Europe. Children, who still need to be accompanied while travelling along the streets and roads of the city, gather in previously agreed places on the way to school, and an adult on duty accompanies the whole group to school.
- ➡ Quests and contests with an emphasis on active mobility and knowledge of traffic rules and safety.

More examples of encouragement activities are presented in Section «Catalogue of Ideas and Examples of Mobility Activities», but everyone can come up with their own fun and exciting initiatives.



5. ENFORCEMENT

Addressing dangerous behaviour on the road and promoting safe behaviour patterns of people, who walk, cycle and drive in neighbourhoods around schools and along school routes. A rule does not make any sense without its proper enforcement. These can be both compliance with traffic rules and other measures, ensuring compliance with the parking rules near the school, maintenance of the area (for example, ensuring manhole covers are in place), etc. You will need to cooperate with police, municipal enter-prises, or other responsible officials or authorities to achieve certain objectives.

Examples of enforcement measures may include:

- ➡ Police patrolling the area of the educational institution. For this purpose, you can meet with police representatives and inform them about the problem areas.
- ➡ Coordination of the student drop-off/pick-up zone. A car that is in the immediate proximity of the school poses a danger to children. Patrolling a student drop-off/pick-up zone can improve the structure and increase safety.
- ➡ Crossing guard – a person, patrolling a crossing with dangerous traffic and helping to cross the road, especially little schoolchildren. Read more about this measure in Section «Catalogue of Ideas and Examples of Mobility Activities» («Lollipop Man or Lady»).



6. EQUITY

Ensuring that safe routes to school initiatives are benefiting all demographic groups, with particular attention to ensuring safe, healthy, and fair outcomes for all students, including students with disabilities, etc. It is impossible to achieve all objectives with one programme, but it is vital to look at different social groups and think

about how to encourage their engagement. In fact, it is very easy to omit someone's interests. For example, children who live outside the city or very far from school most probably will not take part in the Bike to School campaign, or families that cannot afford a bicycle will not be able to participate in a biking tour or cycling school. Although the reasons of such situations are outside the authority of mobility committee, it is always possible to come up with a good solution to involve everyone. For example, in the case of a campaign to encourage active behaviour, you can allow participation not only cyclists, but also skaters, roller-bladers, and kickboarders. In this case, children who live far away and get to school by public transport or car will be able to leave home earlier and travel a part of the route actively.

Another example of equity is the inclusion of people with different characteristics in the group of those exploring walking routes: girls and boys, junior and senior students, people with disabilities, etc. Although this may not be obvious, some elements of the environment pose a bigger threat to some people than to others. For example, girls may be more disposed to neglected and unlit areas, and high school students may feel at risk near entertainment venues where people drink alcohol and are likely to fight. The identification of such problems will make it possible to include target-oriented measures in the sustainable mobility plan and to think together how to address such concerns.

Participants of the Project «TUMI: Get to School Sustainably» were asked to divide measures as shown in **Annex 5. Action Plan Template**. You can choose another convenient form for activities, but you should keep in mind that each activity should have a responsible person and implementation period.

Activities can be short-term, medium-term and long-term, depending on the period required for their implementation. When planning activities for one academic year or semester, make a more detailed plan for each time period.

To address specific issues, you may involve stakeholders and organizations, whose interests can positively or negatively impact the out-

comes of the project or its successful implementation. For example, you can include neighbors, , the police, businesses or factories, markets, etc. operating near the school, a local councilor whose election district includes the school, cycling organizations and other NGOs, and, of course, the city authorities.

Apart from planning activities, setting deadlines, appointing responsible people and finding partners, you should think about the resources needed to implement them. Some activities, such as infrastructural ones, will have significant financial costs, others will require only minor expenses, such as souvenirs for the winners of the competition. Here are some ideas on how to get funding for projects.

Financing Options

1. Crowdfunding

Crowdfunding is the practice of funding a project or venture by raising small amounts of money from a large number of people, typically via the Internet, to support the efforts of other people or organizations. Crowdfunding has been used for a wide range of purposes, including helping people who suffered from natural disasters, supporting fans, political campaigns, financing startups and small businesses, creating free software, etc. To start fundraising, it is necessary to declare a goal, determine the price of its achievement. In addition, costs and methods of financing should be made publicly available.⁹

Once a goal is set, you can announce fundraising in your school community, neighborhood or city. Fundraising can be organized by a coordinator; you can launch an online program or use independent fundraising platforms (for example, the Ukrainian crowdfunding platform <https://biggggidea.com/>). The main thing to remember is that crowdfunding means that the whole idea of the project should be simple and useful to a wide range of people, and reporting should be open and transparent.

⁹ The definition is taken from uk.wikipedia.org/wiki/Crowdfunding

2. Local grants

Some local authorities launch local grants. You should check the information available on the official website of your municipality and/or prepare a request to the department of family, youth and sports, the department of education or another structural unit (the executive body of the city council of your community). You may contact a councilor from your election district and invite him or her to assist with financing of your initiatives.

3. Including measures from the sustainable mobility plan in municipal target programs

In fact, most of the necessary changes can and should be implemented within operational activities of the local administration. Such activities are regulated by city target programs, which are developed every 2–3 years. You should develop proposals and register your request of application with the city council. It will also be useful to get support of a councilor or a person in the administration that will help send proposals to the responsible implementing agencies. Please find an example of the application in **Annex 4. Form – Request to Local Authorities.**

4. International grants

Apart from getting support from your community and city administration, you can apply for international financial assistance. You will probably need a partner NGO to support your initiatives. Grants often provide funding for educational and cultural activities, promote equity and inclusiveness. In recent years, there has been a growing number of opportunities for community development. We recommend that you check the portal of the resource centre gurt.org.ua. You should keep in mind that most grant programmes accept applications only over a limited period, so you should regularly check opportunities. In addition, the selection process takes from a few weeks to six months. So be patient because your ideas are worth it.

RECOMMENDATIONS:

- ✓ Brainstorm and write down all activities that you can come up with in each category. Discuss these ideas with the mobility committee and make a list of activities you want to implement.
- ✓ Involve students in developing activities. It can be an educational event, allowing you to look at the problem in a broader and more creative way.
- ✓ Choose the activities you want to implement. It is very important to find a champion, i.e. a person who is willing to push this activity. Discuss potential candidates with the group and document everything.
- ✓ Try to reach stakeholders and involve them in co-financing and/or discussions and problem solving.
- ✓ Look for funding, contact NGOs, cultural department or the department of family, youth and sports in your settlement. They may suggest what programs are available and help prepare and apply for a grant.
- ✓ Inform others about the results achieved.

1.5. Implementation of Activities

Preparation and planning are an important part of any activity, but without implementation there will be no results. So, if you have conducted an analysis, set objectives, and planned activities, you probably already know what to do. This section provides some examples and recommendations that may come in handy when implementing your sustainable mobility plan.

Implementation of infrastructural measures such as construction of new pavements, safety islands, etc. often requires a lot of money and time. Usually, the implementation of infrastructure solutions goes far beyond the responsibility of any educational institution, especially when it comes to the municipal territory. However, you can give it a try and implement infrastructure projects in Ukraine in cooperation with a city council. Though, it is necessary to know and understand the process of constructing new infrastructure.

The procedure below describes how to implement an infrastructure component in Ukraine. It is developed based on experience of the authors and in accordance with the applicable law of Ukraine (as of January 2021).

| No. | Task description | Expected implementation period (days) |
|-----|--|---------------------------------------|
| 1. | Initiation of a project/idea. | - |
| 2. | Preparation of a proposal for amendments to the city target program and the local budget and submission of such proposal to the mayor, councilors or executive body of the city council (in case the applicant is a subordinate budgetary institution – an educational institution). ¹⁰ | 3–5 днів |

¹⁰ This may be a proposal to allocate funds only for the development of design and estimate documentation *if it is impossible to develop it, conduct a state expert review and carry out certain construction works within one calendar year). It can also request the allocation of funds for construction works, field and technical supervision for simple construction projects that can be implemented within one calendar year.

| No. | Task description | Expected implementation period (days) |
|-----|---|---------------------------------------|
| 3. | Consideration of the request/proposal and preparation of draft resolutions by the city council on making changes to a relevant city target program and local budget, determining a responsible implementing agency and spending unit. | Up to 30 days |
| 4. | Publication of draft resolutions issued by the city council, consideration of these draft resolutions by local parliamentary commissions and adoption of the corresponding resolution by the city council. | Up to 45 days |
| 5. | Signing the adopted resolutions of the city council by the mayor (on amendments to the corresponding city target program and the local budget) and making the adopted resolution publicly available. | Up to 5 days |
| 6. | Preparation of the plan/changes to the plan for the use of budget funds for the relevant year by the spending unit and submission of this plan to the State Treasury Service of Ukraine. | Up to 15 days |
| 7. | Preparation of tender documentation in accordance with the Law of Ukraine On Public Procurement for the development of design and estimate documentation (if the price of expected procurements exceeds the pre-threshold value of the procurement item) ¹¹ and terms of reference for design. | Up to 15 days |
| 8. | Preparation of amendments to the annual procurement plan, making these amendments and publication of the plan in the electronic procurement system (according to the Law of Ukraine On Public Procurement). | Up to 5 days |

¹¹ If the expected amount of procurement for the design and estimate documentation does not exceed the pre-threshold annual cost of the procurement item, you can conclude a direct contract with the contractor.

| No. | Task description | Expected implementation period (days) |
|-----|--|---------------------------------------|
| 9. | Publication of the announcement about competitive bidding / simplified procurement in the electronic procurement system through an authorized electronic platform (according to the Law of Ukraine On Public Procurement). | Up to 2 days |
| 10. | Evaluation of proposals submitted by participants and selecting the winner. | Up to 5 days |
| 11. | Preparation of a notice of intent to award a procurement contract and its publication in the electronic procurement system. | Up to 1 day |
| 12. | Concluding a procurement contract. | Up to 20 days |
| 13. | Development of design and estimate documentation. | According to the schedule |
| 14. | Concluding a contract for state expert review of design and estimate documentation and conducting the state expert review, obtaining a positive conclusion. | Up to 30 days |
| 15. | Preparation of tender documentation for construction works in accordance with the Law of Ukraine On Public Procurement. | Up to 15 days |
| 16. | Preparation of amendments to the annual procurement plan, making these amendments and publication of the plan in the electronic procurement system (according to the Law of Ukraine On Public Procurement). | Up to 5 days |

| No. | Task description | Expected implementation period (days) |
|-----|---|---------------------------------------|
| 17. | Preparation of a notice of intent to award a contract for construction works and its publication in the electronic procurement system. | Up to 1 day |
| 18. | Concluding a contract for construction works. | Up to 20 days |
| 19. | Preparation and conclusion of the contract for the technical supervision of construction and publication of the contract in the electronic procurement system. | Up to 10 day |
| 20. | Preparation of documents and their submission to the State Architectural and Construction Inspectorate to obtain a permit to start construction works. | Up to 5 days |
| 21. | Execution of construction works. | According to the schedule |
| 22. | Preparation of documents and their submission to the State Architectural and Construction Inspectorate to obtain documents on completion of construction works and putting the facility into operation. | Up to 15 days |

To speed up the implementation of infrastructure solutions, the relevant spending units may perform individual, unrelated tasks simultaneously.

However, some infrastructure problems can be solved much faster and easier. For example, within the framework of the project «TUMI: Get to School Sustainably» in Zhytomyr, a walking audit of the streets, used by children, had positive results, namely the street lighting was improved and construction debris, which prevented children from walking on the

pavement, was removed. Such things can be done within operational activities of local government bodies and subordinate public utilities.

However, improving mobility is not just about infrastructure. The implementation of certain measures depends on the priorities and goals you want to achieve. For example, if the construction of new pavements, raised pedestrian crossings, etc. requires significant financial, time and other resources, the implementation of informational and educational activities does not require a lot of resources. Nevertheless, they are as important as infrastructural measures because they form new habits and attitude towards traffic safety and sustainable modes of transportation.

Let us have a closer look at the educational event that was implemented by the Project «TUMI: Get to School Sustainably». The event strengthened the infrastructure component of the Project (installation of covered bicycle parking lots). In particular, 4 Cycling Schools¹² were arranged within the Project. More than 100 children took part in the Cycling Schools. Despite the fact, that most children enjoy cycling, there is hardly any person who would teach children how to cycle on the urban roads and outside of the city.

The survey on school mobility among students of Zhytomyr city community (2019), mentioned in previous sections, showed that more than half of children would like to cycle to school and that over 70% of children have a bicycle at home.

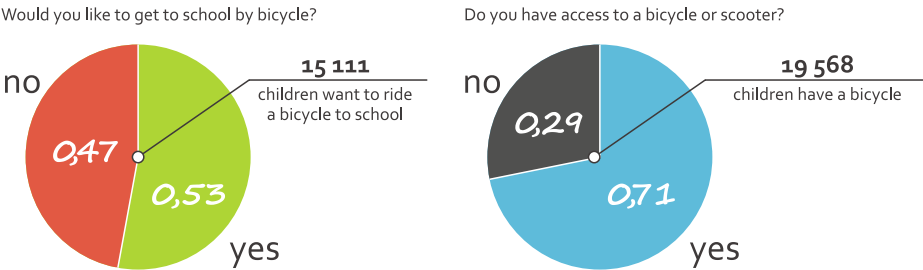


Figure 7. Potential of using bicycles

¹² <https://tumi.agency.zt.ua/page14925386.html>

Official data show that the number of bicycle owners increases every year in Ukrainian cities. For example, estimates of cyclists conducted by NGOs¹³ demonstrate that a particularly large number of people switched to bicycles in the spring of 2020, when Ukraine was subject to quarantine restrictions in connection with the COVID-19 pandemic, particularly restrictions on public transport. As a result, there is a growing number of bicycles in the streets.



Peremohy Str. in Zhytomyr (April 2020)

Awareness raising and educational activities have a positive effect because children acquire new knowledge easier and faster through learning and practice, while games and exciting activities boost interest and encourage responsibility.

Cycling School participants:

- ➡ found out how to check their bicycle before a ride and how to properly maintain a bicycle;

¹³ <https://u-cycle.org.ua/articles/pidrakhunok-osin-2020/>

- ➡ learned the traffic rules that cyclists must follow;
- ➡ got to know what equipment cyclists should have and with the help of instructors made themselves more visible on the road;
- ➡ practiced everything they learned by participating in a joint cycling ride along the closest block to the school accompanied by experienced cyclists and instructors.

More detailed information on planning and conducting a cycling school is presented in **Annex 6. Cycling School Arrangement Plan.**



Cycling School in Zhytomyr Ecological Lyceum No. 24 (September 26, 2020). The instructor is telling children about the basics of bicycle mechanics



Cycling School in Veresy School (September 27, 2020)
Children received light-reflecting means from the project initiators and fixed them to their two-wheel transport



Cycling School in School No. 8 in Zhytomyr (October 03, 2020)
Discussion of possible situations on the road, traffic rules and road signs that cyclists must know



Cycling School in School No. 36 in Zhytomyr (October 04, 2020)
Participants before a bike race

If you are also interested in organizing a cycling school, here are some useful materials you may need:

- ➡ information about the benefits of light-reflecting means¹⁴ and their examples, brochures or other printouts of traffic rules that cyclists must follow;
- ➡ videos about the traffic safety and civility of cycling,¹⁵ traffic rules for cyclists,¹⁶ a handbook for cycling instructor¹⁷ from NGO U-cycle (previously called «Kyiv Association of Cyclists»);
- ➡ Webinars from the National Police of Ukraine: «Cyclists behind the wheel. Traffic rules for cyclists»¹⁸ and «Equipment for cyclists. Typical road traffic accidents with cyclists»;¹⁹
- ➡ tests on traffic rules.²⁰

You should involve experienced cyclists, marshals, people who organize Cycling Day or other active cyclists in your community to collaborate and arrange a route for a practical cycling ride with children. The route should be easy but include those components that were presented to the participants of the Cycling School during the theoretical part. For smaller children (under 14), arrange a route within the school territory with simulated obstacles that need to be bypassed or overcome following the traffic rules (for example, to show a turn to the right, to stop, to get off a bicycle, etc.).

¹⁴ <https://tumi.agency.zt.ua/page18149733.html>

¹⁵ bit.ly/veloshkola_playlis

¹⁶ <https://u-cycle.org.ua/articles/pravyla-dorozhn-oho-rukhu/>

¹⁷ <https://u-cycle.org.ua/wp-content/uploads/2020/02/Posibnyk-dlia-velotrenera.pdf>

¹⁸ <https://www.youtube.com/watch?v=iYQjRpBV0Xc>

¹⁹ <https://www.youtube.com/watch?v=CHVxmdN5u4Q>

²⁰ <https://naurok.com.ua/test/pravila-dorozhnogo-ruhu-dlya-velosipedistiv-254004.html>

RECOMMENDATIONS:

- ✓ Don't be afraid to get down to the implementation of activities you come up with. In winter, you can focus on preparation stage and activities that can be carried out indoors. We recommend having activities outdoors in warm weather to interact with space as much as possible.
- ✓ When having an event with a large number of participants, such as cycling school, announce the event in advance, for example, two weeks before the planned date, and offer people to fill in an online registration form for participants or help them fill it in. When registering participants, it is necessary to indicate the following information: student's full name, his or her age, grade, phone number, etc. It is necessary to remind participants of location, date and time of the event one or two days before it. It is better to choose time when it is not very hot. In addition, it would be great to have outdoor training sessions (near a school stadium, garden, where there are shaded areas, benches etc.).
- ✓ You are likely to reach more children, for example, from neighboring yards and houses, when having events at the weekend.
- ✓ Prepare for your event. For example, a cycling instructor at a cycling school should have the following materials: a bicycle that one hundred per cent meets all the requirements, flipchart and marker pens to draw something for better explanation, a first aid kit, a minimum repair kit, water, etc.
- ✓ You can give participation certificates to attendees to encourage them and acknowledge their commitment to the event, or involve sponsors or partners to purchase valuable prizes: light-reflecting means, flashlights, etc. for the most active participants who asked the cycling instructors the most interesting questions.

- ✓ Involve parents, high school students, and the local community in your activities, as this is the best way to get more support and to have a more successful event.
- ✓ Remember that you can attract additional opportunities or co-financing for a particular event by the means of city budget, crowdfunding, grants, etc.

1.6. Monitoring of Results

Anything needs to be verified. Why? We should have objective and reliable data, and make management decisions based on such data in the future. However, it is important to remember what exactly you want to verify and how you will do it. Monitoring is one of many verification methods.

Monitoring is a systematic tracking of qualitative and quantitative indicators that describe an activity and/or current situation. The main purpose of monitoring is to observe development trends and identify differences to predict future conditions. Thus, with the help of monitoring it is possible to identify, reduce or completely eliminate undesirable trends or influence the development of certain positive processes.

Monitoring is closely related to the background analysis, because changes can be identified only if a condition is recorded before and after implementation of changes. Some indicators that you will use apply to school or even city, such as the share of students, using a particular mode of transportation, or who passed an exam on safe cycling. Other indicators will be associated with the location, such as the density and speed of cars on a particular street or intersection.

You should choose relevant indicators depending on the objectives you have set. Please find below an example of a monitoring table for two consecutive years. Feel free to choose and add your lines if needed.

| Indicator | Before (e.g. 2021) | After (e.g. 2022) |
|---|--------------------|-------------------|
| Share of students who walk/cycle/use a car/public transport | | |
| Speed of vehicles near the school (specify a street, section) | | |
| Number of pedestrians, crossing the road at the intersection (specify) | | |
| Number of cyclists, passing a section (specify) | | |
| Vehicle density in the street (specify) | | |
| Number of students (residents) who took part in training on safe travel in the city | | |
| Number of local councilors and representatives of local self-government who participated in the walking audit of the infrastructure | | |

Let us have a closer look at one example of monitoring conducted by the Project «TUMI: Get to School Sustainably». When the project team had the first meeting with the mobility committee of Veresy School, it turned out that students had to lean their bicycles against school walls. At the same time, a survey about mobility carried out at the beginning of the project showed that bicycles are a very popular mode of transportation among residents of Veresy.



Veresy School (September 2019)

At the end of August 2020, a covered bike parking station was installed on the territory of Veresy School within the framework of the Project. After that, the number of students using bicycles to travel to and from school more than doubled. According to the school mobility survey, 15 students cycled to school in September 2019, while in 2020 this figure was 32 for the same period.



Territory of Veresy School before installation of a covered bike parking station (March 2020)



Territory of Veresy School after installation of a covered bike parking station (August 2020)



Veresy bicycle record.
32 bicycles at the parking station
(September 15, 2020)

The school eventually made a request to project initiators to install two more bicycle parking stations, which were installed in December 2020.

RECOMMENDATIONS:

- ✓ Identify the indicators and changes that you expect or want to observe before the implementation of measures. Choose a few indicators (3 to 10) that are most relevant to your objectives. Make sure they can be measured.
- ✓ Record the indicators before and after implementing changes. Try to choose typical conditions for your observations: the same month as the previous year, the middle of the week for traffic investigation, similar weather conditions, etc.
- ✓ Carefully monitor changes in behaviour, actions, etc. of participants of any new solutions and decisions.
- ✓ Take photos, videos and make estimations.
- ✓ Save the obtained data. You will need them to compare and make decisions in the future.
- ✓ Try to collect the same data using the same method for several years, but be prepared to add or adjust indicators, if needed.

CATALOGUE OF IDEAS AND EXAMPLES OF MOBILITY EVENTS AND ACTIVITIES

You should keep in mind that soft measures, in particular, awareness-raising campaigns, do not necessarily require big financial investments and considerable costs, but such measures can have many benefits, and even increase the effectiveness of infrastructure measures.

Children absorb new knowledge easier and faster through learning and practice, especially through games and exciting activities that attract their interest and encourage them to take up responsibility. There are infrastructural, educational and awareness-raising activities. The latter are very actively used globally.

We have collected examples from various mobility campaigns in different parts of the world. One of the most popular events is Bike2school campaign, which encourages and motivates children to cycle more.



Bike2School

It is an educational movement widespread throughout the world. For example, in Canada, there is a Bike2School month every year. In 2018, 543 educational institutions joined the initiative. As part of this campaign, teachers, parents and volunteers organize bike tours, bike maintenance

workshops, impromptu competitions and races for students.

In Slovakia, another interesting way has been invented to encourage students to cycle more. They offer to keep a cycling diary to record the number of bike trips to school. A student can exchange every 10 trips for the opportunity not to answer teacher's questions in class.

In the capital of Hungary, a pilot Bike to School campaign was launched in 2011. During the campaign, primary school students from Budapest joined bike groups and cycled to their schools together, i.e. children moved one after another in a column; one adult led the column and the other one closed it. All participants of the column wore bright T-shirts with Bike2School logo and hanged flags on bicycles. The campaign was successful, and the initiators also involved parents, informing them that a car is not the only way to take children to school. The issue of safety during the campaign is very important: children are not allowed to cycle without their parents. The Hungarian Cycling Club organizes the necessary courses and provides information for the participating parents, such as guides on riding a bike in traffic.

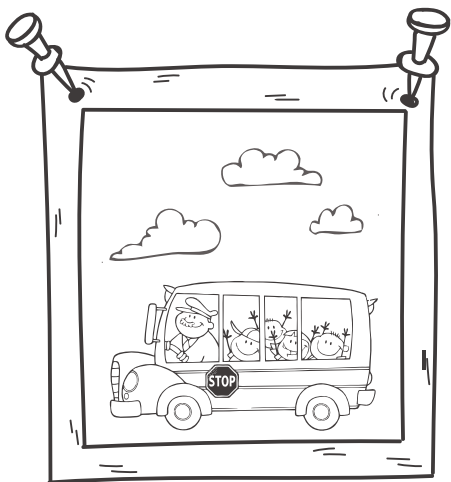
Rowerowy Maj

The annual cycling campaign in Poland is worth mentioning. It promotes a healthy lifestyle and sustainable mobility among preschool children, primary school students, teachers, parents and guardians. Bicycle May, through fun combined with elements of competition, popularizes the bicycle as a means of transportation to school, teaches good and healthy habits.

First, participants should register. During May, everyone who comes to school in an active way, i.e. using bicycle, roller-blades, kickboard or skateboard, receives special stickers for a bicycle diary and a joint class poster. Based on this, scores are calculated and ratings are made. Participants compete at the class level, between schools and even cities. At the end of the campaign, valuable prizes are awarded to the most active participants and educational institutions.

For more details, please visit: www.rowerowymaj.eu

Campaigns that make walking pleasant and bring a lot of fun are extremely popular.



Walking School Bus

This campaign is popular around the world. It combines safety, fun and walking to school. Its idea is that children (mostly primary school students) walk to/from school using pre-designed routes under the supervision of volunteers (often parents), acting as «drivers».

Children are picked up from planned stops along the route and are accompanied to the school gates.

Along the way, children learn how to walk safely on the road, as well as communicate with friends, neighbours, etc.

Routes vary in length, usually about 1.5 km and/or a 30 minute walk. The start time and locations depend on the length of your route and school start and finish times. The walking school bus can operate five days a week or just one day, as well as in the morning or after school, or both. It depends on the availability of volunteers who are ready to accompany children along the route.

Each child signs when joining the walking school bus, agreeing to follow the road safety rules and to listen to the conductors instructions . In addition, when children get to/from school by a walking school bus, they receive a stamp and/or a clip on a ticket upon arrival at the final destination. The stamp may indicate the student's name, grade, etc., as well as depict a funny bus. When tickets are completed, children receive a corresponding merit key tag (key word) or a special skill key tag, that can be earned. Thus, the walking school bus can be not only a cognitive game, but also lots of fun.

With this program, children develop positive walking behaviour and social skills, they can concentrate better, the number of cars on the

roads is reduced, etc.

You can turn a trip to school into an interesting and fun journey using colourful ropes, ribbons or a huge toy in the shape of a crocodile held by children. If you type “Kids walking rope” in the Google search, you can find many ideas and options that will keep the attention and interest of children when moving in a group (chain).

For more details, please visit: www.at.govt.nz/walkingschoolbus

There are also campaigns that combine different components and make you look for alternatives to travelling by car.

The Traffic Snake Game

The Traffic Snake Game (TSG) is a campaign intended for primary schools and aimed at encouraging children, parents and teachers to walk, cycle, use public transport or car sharing when travelling to and from school.

Starting as a relatively small project in Flanders (Belgium), TSG eventually has become a pan-European campaign. The evidence shows that the campaign successfully increases the use of sustainable modes of transportation and reduces CO₂ emissions.

Once the school is ready to start, a two week period needs to be identified in the school year for running the campaign. This can be any period or, for example, during the European Mobility Week, which takes place every year on September 16–22.

Each school sets its own objective at the beginning of the campaign based on a preliminary measurement (estimations) of how children get to school: by car, bicycle, on foot, etc. The goal is to fill a special banner, which shows a funny snake, with dots within two weeks. The dots can be put every time children walk, cycle, use public transport or share a car while travelling to school. Progress is monitored daily.

Children receive a reward when they reach key points on the banner. As

a reward, they may get no homework or it may be something similar. When children reach the snake's head (the objective of the campaign set at the beginning), they receive an even greater reward, such as a walking or cycling tour, installation of a bicycle parking, or any reward that the school can organize. You can play the game an unlimited number of times and each time compare and improve the results. In addition, there is now an updated version of the game, where you can enter all the data online.

For more details, please visit: www.trafficsnakegame.eu



Lollipop man/Lady: A Crossing Guard

It is a common practice in European countries, and in the USA the project has been implemented since the 1950s, when adult volunteers in bright yellow clothes carry a special sign in their hands, resembling a lollipop, to stop the flow of cars so children can cross the road safely for an hour before lessons.

A crossing guard can work for money or free of charge. In addition, this person can be a school employee, a representative of local law enforcement agencies, a city official, etc.

Crossing guards are not authorized to arrest and may not write tickets, but they can write down car license plates, record violations and provide this information to local law enforcement authorities, who decide what to do with this information: the results can range from a verbal warning to written summons or fines.

Studies in the UK have shown that parents and children consider crossing guards (lollipopers) to be the safest way to cross the road near schools; nine out of ten pedestrians (92%) believe that every school should have one.

There is a similar campaign called «Yellow Gentlemen» in Lviv, Ukraine, which is a part of the Safe City Program. This campaign is aimed at arranging concerned residents so they can take children across the road. Adult activists from Lviv come long before school to help children cross the road safely. Locations with Yellow Gentlemen are marked on a special map.

European Mobility Week (EMW)

Europe-wide awareness-raising campaign, aiming to promote sustainable transportation modes, encouraging community leaders to equally take into account the needs of pedestrians, cyclists, and car drivers.

It is celebrated every year from 16 to 22 September in more than 2,000 cities and villages in Europe and around the world to show that the use of private cars needs to be reduced and the use of public transport and bicycles needs to be increased. Common activities during the EMW include the transformation of streets in the city centre into pedestrian ones, car free days, cycling to work, bicycle tours, the organization of temporary thematic exhibitions on more efficient use of road network by all road users, the impact of the increasing traffic on the environmental situation in the city, etc.

In addition to mobility campaigns, one of the world's most popular tools for implementation of rapid and modern measures is tactical urbanism. This is an approach to the transformation of the urban environment through fast, temporary, cheap projects (measures) aimed at intensifying long-term change. Ideas for measures on **tactical urbanism** are given below.

Narrowing the roadway

A measure that can show an alternative vision and use of the roadway (free space), such as narrowing the wide part of an intersection area and

increasing the pedestrian zone. Chalk, paint, paper stencils, plastic cones, flower beds are the main tools of such temporary transformations.

Arrangement of temporary chicanes

A measure to be taken in the streets in order to intentionally slow down cars. The chicanes usually resemble the winding turns of the road in the shape of the letter S.

Temporary chicanes can be tested in action with the help of stones, soil, straw/soil bales, flower beds, grass, etc.

Streets for playing

These are streets closed from cars and adapted for children's entertainment. Most often, such streets are created where traffic congestion is found. To do this, people use a minimum of tools and a maximum of imagination! :) The main rules are no vandalism and using only temporary tools (adhesive tape, chalk, paint that disappears in a few days, etc.) to create the space.

Enhanced zebra area

To improve the visibility of crossings and to draw the attention of the city authorities to the fact that pedestrians should be the main priority in the transport and infrastructure policy of the city, create temporary zebras in places that people think require a surface level pedestrian crossing.

For creating temporary zebras and intensify the visibility of the crossings, use chalk, paint, and sometimes even create mobile rubber or cardboard zebras, which can be easily moved from place to place.

Social art interventions

To improve the visibility of crossings and to draw the attention of the city authorities to the fact that pedestrians should be the main priority

in the transport and infrastructure policy of the city, create temporary zebras in places that people think require a surface level pedestrian crossing.

INSTEAD OF CONCLUSIONS

Dear readers,

As we can see, there are many methods and measures that can impact the transportation of children to school and encourage them to use different means of transportation from point A to point B. We believe that if you are holding these recommendations and you are reading them carefully, you are already on the way to great changes. Let us remind you that change agents are not born, but to be made.

Today's school students will shape our cities in 15 years' time. And everything that surrounds them now shapes their habits, health and attitude towards the environment. Even now everyone can make the world a little better or safer place to live in.



These Guidelines are the first attempt to make safe space along the route to school, but in fact in every street in our cities. We would very much like you to succeed, gather a cool team of like-minded people and get outside to the streets of your city to learn something new, to look at the world through the eyes of explorers.

Participants of the Project «TUMI: Get to School Sustainably» in Zhytomyr share their thoughts: «Everything has changed after this Project. Now, I look at the things around me from a different angle, I notice how everything is arranged». We are convinced that acknowledging the problem is the first step to change. We invite you to join our team of those who improve safety and comfort of street space.

To sum up the above, we would like to share some tips that may come in handy:

- 1 Get to know things. Look around yourself all the time.
- 2 Find like-minded people who are also concerned about what is happening in your community.
- 3 Get the support.
- 4 Define the main goal you want to achieve.
- 5 Identify steps that you need to take to achieve the goal.
- 6 Do not give up and get disappointed if something does not work out right away.
- 7 Change the space around you, because if not you, no one else will.

If you have any questions or want to leave comments after reading these guidelines, please send them to us by email: tumi.zt.ua@gmail.com

We will try to find answers together.

USEFUL RESOURCES

- ➡ Grant opportunities and world best practices in the field of sustainable mobility: www.transformative-mobility.org/, www.biggidea.com, <https://gurt.org.ua/>
- ➡ Sustainable mobility development: best practices of Ukrainian cities: <http://surl.li/qses>
- ➡ Information about the budget process for cycling activists: <http://surl.li/qset>
- ➡ Comfortable city: how to plan cycling infrastructure: https://issuu.com/kyivvelo/docs/knyga_velo_2017
- ➡ PRESTO Cycling Policy Guide: Cycling Infrastructure: <http://surl.li/qseu>
- ➡ Ukrainian Centre for Cycling Expertise (information and consulting expert centre): <https://velotransport.info/>
- ➡ Bike to School Guidelines: <http://surl.li/qsfe>
- ➡ Video lessons «Cycling traffic school» from U-Cycle (NGO «Kyiv Cyclists' Association»): <http://surl.li/qsev>
- ➡ Bicycle parking installation guidelines: <http://surl.li/qsew>

ANNEX 1.

QUESTIONNAIRE FOR THE SCHOOL MOBILITY SURVEY

| | |
|----------------------|--|
| School No.: | |
| Grade: | |
| Date and time: | |
| Number of attendees: | |
| Teacher's Full Name: | |

For a teacher:

The number of responses does not have to match the number of attendees. If a student refuses to answer, he or she should not be forced.

Questions to students:

Please read the questions and ask the students to raise their hands when you name different modes of transportation. Calculate the number of students who raised their hands and make notes in the relevant field (for example, walking – 15 persons).

Question 1: Which transportation mode do you usually use to get to your educational institution (school)?

| | |
|--|--------------------|
| | Number of students |
| Walking (including roller-blades and skateboard) | |
| By bicycle (including kickboard) | |
| By public transport | |
| Passenger in a car | |

Question 2: Would you like to cycle to your educational institution (school)?

| | Number of students |
|-----|--------------------|
| Yes | |
| No | |

Question 3: Do you have a bicycle or a kick scooter (at home or in the city)?

| | Number of students |
|-----|--------------------|
| Yes | |
| No | |

ANNEX 2.

Calculation Form for School Mobility Survey

| School Name (No.) | Grade | Letter | Date | Time | Number of attendees | Teacher's full name | 1.1. Which mode of transportation do you usually use to get to your educational institution (school)? On foot (including rollerblades and skateboard), number | 1.2. Which mode of transportation do you usually use to get to your educational institution (school)? By bicycle (including kickboard), number | 1.3. Which mode of transportation do you usually use to get to your educational institution (school)? By public transport, number | 1.4. Which mode of transportation do you usually use to get to your educational institution (school)? Passenger in a car, number | Total | Error margin | 2.1. Would you like to cycle to your educational institution (school)? Number of students: Yes | 2.2. Would you like to cycle to your educational institution (school)? Number of students: No | Total | Error margin | 3.1. Do you have a kickboard (at home or in the city)? Number of students: Yes | 3.2. Do you have a bicycle or a kickboard (at home or in the city)? Number of students: No | Total | Error margin | |
|-------------------|-------|--------|------|------|---------------------|---------------------|--|---|--|---|-------|--------------|---|--|-------|--------------|---|---|-------|--------------|--|
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | |

*Error margin is the number of students who were present but did not raise their hands and/or were not calculated.

ANNEX 3.

GENERAL WALKING AUDIT FORM

Route No.____ (indicate a route name)

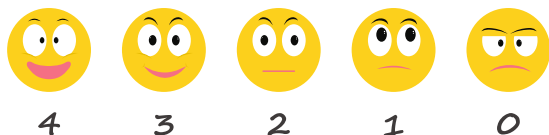
Section (indicate streets):

Instruction: Please select all corresponding answers from the list below to indicate the problems while walking. You can use the suggested options to assess the whole route of its section.

1. Pavements:

- ☐ No pavements, no pathways (footpaths);
- ☐ Pavements are broken, cracked or dangerous for walking;
- ☐ Pavements are covered with overgrown vegetation, blocked with posts, signs, plants, vehicles, etc.;
- ☐ Pavement is not solid;
- ☐ Pavement is not wide enough (two people cannot easily walk together side by side);
- ☐ There is nothing that would separate pavement from the street (grass, trees, parked cars);
- ☐ Other problems:

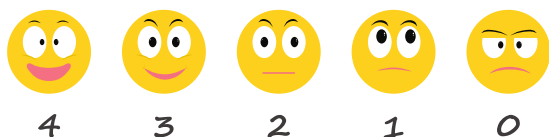
Overall quality and safety of pavements:



2. Pedestrian crossings and intersections:

- ☐ Road is too wide to cross it easily and safely;
- ☐ Traffic lights do not give enough time to cross the road;
- ☐ There is no button at the crossing that can be activated by a pedestrian;
- ☐ There is no special traffic lights for pedestrians at the signal controlled intersection;
- ☐ The pedestrian crossing(zebra) is absent or poorly marked;
- ☐ I need to walk a long way to find a safe and marked pedestrian crossing;
- ☐ At the intersection, the curbs are not lowered and there is no ramp for wheelchairs, prams, walking frames, etc.;
- ☐ Other problems:

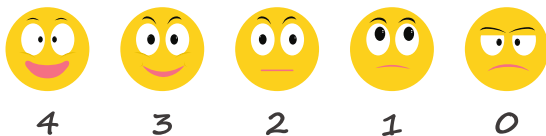
Overall quality and safety of (pedestrian) crossings and intersections:



3. Driver's behaviour:

- ☐ Drivers do not stop in front of the STOP sign or stop after the pedestrian crossing;
 - ☐ Drivers exceed the speed limit;
 - ☐ Drivers do not give way to pedestrians;
 - ☐ Drivers are distracted from the road (talking on the phone, send texts, pay attention to passengers, not the road);
 - ☐ Drivers do not expect pedestrians, turn unexpectedly or seem unfriendly;
 - ☐ Other problems:
-
-
-

Overall quality and safety of drivers' behaviour:



4. Safety:

- ☐ The speed of a vehicle is too high;
- ☐ Traffic density is too high;
- ☐ There are no or only few street lights;
- ☐ Street lights are pointed at the road, not at the pavement;
- ☐ There are people in the street who seem dangerous;
- ☐ There are loose dogs or other frightening animals;
- ☐ Other problems:

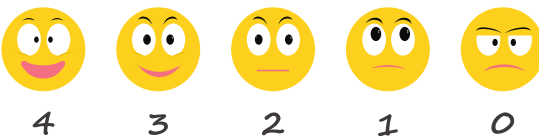
Overall feeling of safety in this area (section):



5. Comfort:

- ☐ There is not enough shade from sheds or trees;
 - ☐ There are no or a few trees or other greenery ;
 - ☐ There are abandoned areas, wastelands or ruined buildings;
 - ☐ The streets lack benches and recreation areas;
 - ☐ Other problems:
-
-
-

Overall comfort and attractiveness in this area (section):



Additional comments:

ANNEX 4.

FORM – REQUEST TO LOCAL AUTHORITIES

_____ No. _____
на _____ as of _____

To the atten. of City Mayor of
(Name of settlement)
(Full name)

Departments and Units of
(Name of settlement) City Council
E-mail:

Name of Applying Institution
Contact Person — Full Name
Tel.:
E-mail:

Dear Mr./Mrs (Name),

Municipal Institution «Agency for City Development» of Zhytomyr City Council has been implementing the Project «TUMI: Get to School Sustainably», aimed at promoting sustainable mobility and improving the safety and comfort of students of Zhytomyr City Community.

During October–November 2019, the project participants carried out mobility survey on safety and comfort around their educational institutions, and also identified key problems that children face while travelling to and from school. The results of the survey were presented publicly on November 21, 2019 at an event as part of the Road Safety Week in Ukraine.

We would like to inform you that a list has been formed, which includes priority problematic areas and facilities that endanger safety of children and create discomfort on the way to school. The list is provided in the Appendix to this letter.

We ask you to include this list of key problems for further resolution in

the budget of 2020, and also to involve relevant structural units and executive bodies of the city council in their resolution, and also to appoint persons responsible for elimination of these problems or their mitigation. The list of problematic areas and their addresses are presented in the Appendix.

If you have questions or need additional explanations, meetings, the structural units of the city council and responsible persons may contact [contact information of the coordinator].

Date

Director’s Full Name
or name of another
authorized person

Annex – List of Problematic Areas around Schools

| Problematic area | Address | Possible solution |
|---|---------|---|
| There are no public transport stops or their condition is unsatisfactory — Department of Transport and Communication | | |
| 1. The stop is not equipped in accordance with the standards; and the safe distance to the intersection is not taken into account. There is not enough space to wait for transport. There are no safe approaches to the stop. | | Equipment of a stop in accordance with the applicable standards, construction of passage ways to a stop, extension of the waiting area. |
| 2. No safe area to wait for a bus; no protection from weather conditions at the bus stop. | | Equipment of a stop in accordance with the applicable regulations, construction of a pavilion or shed, extension of the waiting area. |

| | | |
|--|--|--|
| 3. No equipped waiting area, area for passenger boarding or drop-off. | | Make an official bus stop in the street, install a sign, and install a pavilion or shed, seats. |
| There is no street lighting or it is unsatisfactory, there are problems with traffic lights — Department of Public Utilities, City Lighting Company | | |
| 1. There is no street lighting. | | Arrangement of lighting with installation of contact supports, checking existing lighting, replacement of defective lamps, etc. |
| 2. Signal controlled intersection, where traffic lights often do not work and cars do not give way to pedestrians. Pedestrians gather in groups of several people to cross the road. It is uncomfortable for one person to move due to high density and speed of traffic. Nearby there is a dangerous driveway/exit (slope) of transport, a parking lot, and storage facilities with limited visibility. | | Maintenance, inspection or replacement of traffic lights. Means of speed reduction. Increasing visibility from the surrounding areas, etc. |
| There are no pavements and curbs, or they are damaged or littered — Department of Capital Construction and other units | | |
| 1. High curbs in the areas where the footpath crosses the exits from territories adjacent to buildings. | | Lower the curb. |
| 2. The area of intersection is full of parked cars; the condition of the pavement is unsatisfactory, water accumulates at road crossings within the intersection. | | Repair a pavement along the entire length of intersection, parking arrangements, etc. |

| | | |
|---|--|--|
| 3. There is no pavement, which is protected and physically separated on both sides of the street, or pavements are incomplete. Pedestrians are forced to travel on the roadway. | | Construction of a wide pavement on one side of the street. |
| 4. There are no pavements. Pedestrians are forced to move on the roadway. | | Construction of pavement on one side of the street. |
| 5. Cluttered pavements: concrete slabs, rubbish, branches lie on the pavements | | Check and clean up problematic areas. |
| 6. The pavement is narrow; cars are constantly parked on the pavement, which makes it difficult for pedestrians to walk. | | Install a metal fence (to separate the pavement from the roadway). |

Problems at intersections, crossings — Department of Transport and Communication, Department of Capital Construction

| | | |
|--|--|---|
| 1. A long crossing; it is uncomfortable to cross the road due to high traffic density, lack of protective elements (e.g. safety islands) and short green light for pedestrians. | | Redesign the intersection in order to create safer traffic conditions for pedestrians: a safety island, roundabout, etc. |
| 2. Uncontrolled pedestrian crossing. Erased road marking. Drivers often do not stop at intersections and do not give way to a pedestrian. It is uncomfortable to cross the road due to high traffic density. | | Implement speed reduction measures, such as traffic lights, safety islands, zone 30, etc. |
| 3. Limited visibility in the area of the intersection because of the parked cars. Drivers do not follow the rules of crossing the intersection. | | Installation of deterrents near intersection in order to reduce parking and make the crossing wider. Painting the intersection area (for example, box marking). |

| Other problems — Department of Capital Construction, Department of Transport and Communication, municipal company, responsible for greenery, and other units | | |
|--|--|---|
| Self-arranged crossing over the ditch. | | Installation of a high-quality bicycle and pedestrian bridge across the ditch. |
| Homeless and aggressive dogs. | | Implementation of the program of sterilization of homeless animals. |
| Dangerous slope (earth and stones). | | Redevelopment of the area, which will result in reduced negative consequences. |
| Obstacles that hinder the movement of pedestrians on the pavement through metal structures (outdoor restaurant facilities). As a result, children and pedestrians often move through the parking lot between cars. | | Request, appeal to restaurant owners with a requirement to remove metal structures from the pavement. |
| Damaged asphalt covering of the school yard. | | Repair the school yard. |
| Flooding in the school yard, especially in the area of the gate. | | Surface drainage. |
| Limited visibility of the road sign due to overgrown branches. | | Cut the branches of trees near the school to make the sign visible. |

ANNEX 5.

ACTION PLAN TEMPLATE

| STRATEGY AND ACTIVITIES | SCHEDULE | RESPONSIBLE FOR IMPLEMENTATION | PARTNERS | RESOURCES |
|--|-------------|--------------------------------|---|--|
| Management and coordination | | | | |
| <p>Example:</p> <p>1. Create a mobility committee. Involve representatives of the city, education departments, selected schools and NGOs.</p> <p>Meet monthly or quarterly to discuss program directions and coordination.</p> | 2020 – 2021 | Agency for City Development | Department of Education, educational institutions | |
| | | | | |
| | | | | |
| Training | | | | |
| <p>Example:</p> <p>1. Extend training on road safety to cover both pedestrian and bicycle safety. The ultimate goal is to provide extracurricular education in each school for several classes.</p> | 2019 – 2020 | Department of Education | City, school, cycling NGO, volunteers | City budget, involvement of volunteers |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

| Encouragement | | | | |
|---|--------------|-------------------------|--|--|
| <p>Example:</p> <p>1. Conduct Walk to School and Bike To School campaigns and provide information on the list of measures that can be organized on each day.</p> | 2018 – 2019 | Department of Education | Selected educational institutions, teachers, mobility committee, parent committee institutions, teachers, mobility committee, parent committee | City budget, looking for sponsors, involvement of stakeholders |
| | | | | |
| | | | | |
| Engineering solutions | | | | |
| <p>Example:</p> <p>1. Assess pedestrian accessibility and bicycle accessibility around the primary school with representatives of city administration, school staff, students and families to identify areas (sections) that need improvement, such as pavements and difficult crossings.</p> | 2017 – 2018 | Educational institution | Agency for City Development, patrol police | |
| | | | | |
| | | | | |
| Monitoring and evaluation | | | | |
| <p>Example:</p> <p>1. Carry out mobility survey among students twice a year (autumn and spring).</p> | Twice a year | Educational institution | | |

| | | | | |
|--|-------------|-------------------------|--|--|
| | | | | |
| Control over implementation | | | | |
| <p>Example:</p> <p>1. Assess the need for adult supervisors on the general school route at intersections near schools where students and families have difficulty crossing the street. Involve (recruit) and train an adult volunteer as a traffic controller.</p> | 2019 – 2020 | Department of Education | Department of Transport and Communication, the police, educational institution | |
| | | | | |
| Policy | | | | |
| <p>Example:</p> <p>1. Develop and approve safe routes for an educational institution or school district.</p> | 2020 – 2021 | Educational institution | | |
| | | | | |

ANNEX 6.

CYCLING SCHOOL PLAN

10 min. – Registration of participants.

5 min. – Opening. Information about cycling school, presentation of the cycling school plan (schedule). Presentation of instructors and locations where they will work with children.

10 – 15 min. – Getting acquainted with participants to know how long and how often they cycle, etc.

1 hour – 1 hour and 30 min. – Working with children in mini-groups according to their age at 3 different locations. The instructors answer children's questions. Every 20 – 30 minutes children change locations, i.e. they move over from one location to another one (up to 5 minutes to move over to another location). Each location will be devoted to certain tutorial block; they can be roughly divided into three different colours so that children could easily find the necessary location.

| Name of location (instructional part) | | | |
|---------------------------------------|---|---|---|
| | Location 1 (red) Basics of mechanics | Location 2 (yellow) Equipment for cyclists | Location 3 (green) Traffic rules for cyclists |
| What was it about? What was shown? | 1. Checking a bicycle for normal operation before a ride: - checking brakes, handlebar, treadles, wheels; - how to inflate wheels; - how to adjust the seat. | 1. Things that make cycling safer: - a helmet; - gloves; - comfortable clothes; - a mirror; - a flashlight; - a frame bag (first aid kit, a bottle of water, etc.); | 1. Position of a cyclist on the road. 2. Basic signals to be used by a cyclist while riding a bike: - turning left/right; - stopping; - going straight on; 3. Interaction with other vehicles: - blind spots; |

| | | | |
|--|--|---|--|
| | <p>2. Recommendations to beginners:</p> <ul style="list-style-type: none"> - correct position of arms while cycling; - uphill breathing techniques; - how to use gears while cycling; - how to back pedal correctly. <p>3. Recommendations how to properly look after a bicycle:</p> <ul style="list-style-type: none"> - how to wash the dirt off the bicycle (frame, wheels, bottom bracket); - cleaning and lubrication of the chain; <p>4. Tips how to fall off the bicycle.</p> | <p>2. Use of light-reflecting means:</p> <ul style="list-style-type: none"> - examples (vests, key chains, stickers, etc.); - interesting facts about light-reflecting means, about the study of drivers' reaction to light-reflecting means, etc. <p>3. Giving away light-reflecting key chains and stickers. Ensure that children stick them to their bicycles and backpacks straight away.</p> | <p>4. Main road signs and riding across intersections, giving way to cars and pedestrians, bypassing buses (public transport stops and parked cars, etc.).</p> <p>5. Traffic rules for columns.</p> <p>6. Hand out guides or handouts that contain traffic rules for cyclists.</p> |
|--|--|---|--|

5 min. – Returning to the main (general) location.

5 – 10 min. – Lining up to start a bicycle race.

20 – 25 min. – Practicing (bicycle race) along the closest block to the school accompanied by cycling instructors and marshals; returning to school.

10 – 15 minutes – Awarding certificates to all participants of the cycling school. Awarding ceremony to distinguish the most active participants for the most interesting questions to the cycling instructors at locations. Taking photos.

These Guidelines have been developed by

Text:

Alina Kundich,
Project Coordinator, TUMI: Get to School Sustainably

Olena Chernyshova,
Project Mentor, TUMI: Get to School Sustainably
Advisor to the Mayor of Zhytomyr on Mobility Issues (2019–2020),
Transport Planning Consultant

Borys Pakholyuk,
Director of Municipal Institution «Agency for City Development», Zhytomyr
City Council

Ivan Furlet,
Member of the Project Steering Committee, TUMI: Get to School
Sustainably

Edited by:

Iryna Milash

Design, Layout:

Arina Orlova

Proofreading:

Martin Schaefer, GIZ

Photos by:

Andriy Didkivskyi
Anna Kobylko (Smokorivska)
Alina Kundich

Pictured:

Project initiators and participants, TUMI: Get to School Sustainably,
representatives of Veresy School, School No. 8, Zhytomyr Ecological Lyceum
No. 24 and School No. 36

