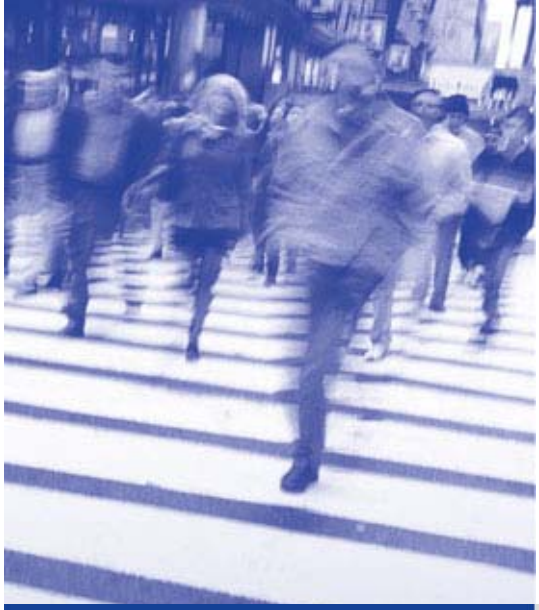

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Measure Evaluation Results

GDA 5.2 Safety and Security – Road Infrastructure

Ewa Zabłocka-Krasowska (Pomeranian Evaluation Society)
Łukasz Kłos (City of Gdańsk)

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Executive Summary

The Gdansk measure 'Safety and Security - Road Infrastructure' aimed at achieving a higher level of road safety for pedestrians and cyclists in Gdansk and especially along the coastal strip which was selected as focused area for this measure. A communication strategy was developed to raise road safety awareness and concrete measures to improve road infrastructures were implemented in the focused area. The coastal strip connects Eastern districts of Gdansk and is daily used by pedestrians and cyclists in transit between these neighbourhoods. It is also the most popular place for leisure and sport activities. The events and activities of this measure were strongly related to the measure 'Mobility Management – Advertising and Promotion' (GDA 4.4), which aimed at promoting cycling in Gdansk along the coastal strip as well as the activities implemented for the measure 'Mobility Management - Mobility Week' (GDA 4.3) which promoted sustainable mobility in a larger context. The complementary of these measures was taking into account in implementation and evaluation processes.

The measure was implemented in the following five stages:

Stage 1: Implementation of cycle racks (Oct. 2009 – Oct 2010) 420 parking places for cyclists were created at the all main accesses to the beach. It contributed to prevent cyclers to park their bikes on the walking sides blocking pedestrians and cyclers traffic along the coastal strip.

Stage 2: Distribution of an informative booklet for cyclists (September 2011) 5000 booklets were published and distributed to cyclists during the diverse events organized in the frame of other MIMOSA measures supported by media campaign. Among other information, the booklet summarized the changes in the road traffic law on cycling issues which entered into force in May 2011 with the aim to strengthen cyclists´ rights and safety.

Stage 3: City-scale distribution of an informative brochure on cycling issues (July 2012 - August 2012) 160.000 brochures – entitled *Cycling safely around Gdansk* - were published and distributed directly to each household in Gdansk during summer 2012. Big media campaign in local radio, press and websites informed citizens about the brochure and its content. The brochure included a map of the current cycle paths in Gdansk, general information on legal issues and traffic regulations for cyclists as well as information on MIMOSA initiative in Gdansk.

Stage 4: Improvement of the technical infrastructure along coastal strip (September 2012) Road markings and signs were implemented in order to enforce road regulations regarding pedestrians and cyclists.

Stage 5: Elaboration of a new social campaign "*Kierunek: szacunek*" ("*Direction: Respect"*) (September 2012 to spring 2013) The "Direction: Respect" campaign was addressed essentially to private cars owners with the aim to raise car drivers' awareness on pedestrians and cyclists safety.

Impact evaluation and process evaluation were conducted. In 2010, a survey was carried out to identify needs and expectations of cyclists regarding facilities along the coastal strip. Between 2010 and 2012, three surveys were conducted during the public campaigns *Bike Fridays* organized in the frame of other MIMOSA measure (GDA 4.3 and GDA 4.4). The statistics on accidents and collisions compiled by the Police Department between 2008 and 2011 were also used. Three indicators were selected to measure (i) the level of safety awareness among cyclists, (ii) the level of acceptance among citizens of the recreational infrastructures in the coastal strip and (iii) the degree of road safety.

Regarding the safe feeling among users of pedestrians and cycling infrastructures along the coastal strip, the **key-result** of the surveys conducted between 2010 and 2012 showed that the number of participants to the survey who considered the cycling as safe remained stable (~70%).The level of satisfaction with security in terms of the segregation of pedestrians and cyclists stabilized at a very high level of more than 95% of the respondents. The level of satisfaction expressed by the users of the coastal strip with regard to the speed developed by cyclists on the cycle path along the coastal strip increased by 20% during the 2010-2011 period. Another significant result regarding acceptance of the infrastructures was the increase of 24% among those citizens who walk daily along the coastal strip between 2010 and 2011. The raise of cyclists using the coastal strip infrastructures is lower though positive: an increase of 7% of cyclists driving along the strip was observed between 2010 and 2011. An additional positive result is the raise of 8% of citizens practicing jogging several times a week or more along the strip between 2010 and 2012. These positive results can be allocated to the public event brochures and promoted trends. The statistics on road safety showed that the incidents involving cyclists increased dramatically between 2008 and 2011 on city-scale (+54 % of registered incidents). In the focused area of the measure, the number of incidents involving cyclists and pedestrians increased threefold between 2008 and 2011. The raise of incidents can be partly explained by the raise of pedestrians and cyclists traffic in the focused area during the implementation of the measure and the necessity to give time to car drivers, pedestrians and cyclists to adapt their behaviours to the new infrastructures. Since changes in behaviours are part of a long-term process, the measure objective to increase road safety could not be achieved in the MIMOSA period of time.

The main barriers encountered during the process were administrative structures, procedures and routines, laws, rules, regulations and ways of their application, hierarchical structure of organization. These barriers caused delays in starting up the realization of the measure and generate several problems during the implementation.

The most important driver (organizational) was the involvement of highly motivated key-actors. This led to reach a compromise between MIMOSA team and the beach administrator for the choice of bike parking racks locations.

The **main recommendation** coming out from the Gdansk experience concerns the necessity of establishing a platform of cooperation between the several and diverse stakeholders involved in road safety issues, including traffic engineering, police services, institutions responsive of mobility management and citizens. A close and well-organized cooperation between the key-actors enables a better decision-making process. The Gdansk's experience showed that the activities implemented were a appropriate solution. **It is therefore also recommended** to adopt similar strategy which enables a more effective improvement of the safety of the coastal strip visitors through small investments in leisure infrastructure.

This CIVITAS MIMOSA measure contributed significantly to increased road safety awareness among Gdansk citizens. The evaluation highlighted the success of the campaigns and of the communication strategy adopted in the measure and encouraged stakeholders to continue their common efforts to give a larger space to pedestrians and cyclists in long-term. The campaign *Direction: Respect* launched at the end of 2012 shows the determination of the authorities to give a priority to road safety in the following years.

A Introduction

A1 Objectives

The measure is undertaken with the following objectives in mind:

High level objective: Shift of the modal split towards sustainable modes

Strategic level objective

- Safety and Security
- Mobility Management, Marketing, Communication and Education

Measure specific objective:

- **Objective 1** Development of safe and secure road and leisure infrastructure for all road users,
- **Objective 2** creating the right conditions of safety for promoting cycling as an alternative to the individual motorisation,
- **Objective 3** Improvement of recreation infrastructure for cycling and walking along the coastal strip.

In its efforts to achieve Measure 5.2 objectives, the MIMOSA team focused above all on the recreational area along the coastal strip in Gdańsk as the area of impact. Information, promotional and educational activities were carried out on a wider scale, whereas the investments in the coastal strip area were implemented only in a specific location along the seaside cycle path near the Reagan Park. Some studies referred to the leisure infrastructure of the whole area of the city of Gdansk, but for the most part they were concentrated on the investigation of impact in the coastal strip area. The analysis of indicators covers a narrower scope (infrastructure of the coastal strip) against a broader background of impact (urban infrastructure).

A2 Description

Actions undertaken within the framework of the Measure 5.2 concerned mainly the course of social communication and the development of bicycle infrastructure along the seaside cycle path.

A party of the measure a brochure (5000 copies) was issued in order to disseminate information on the amendments to the traffic rules concerning cyclists. The publication was distributed during numerous events and actions as part of a wider annual bike festival “Rowerem do Celu” and of the European Mobility Week. The information and promotional activities were also accompanied by educational activities (such as workshops and conferences) and big media campaigns. One of the most significant undertakings was the educational campaign accompanied by the publication of a brochure "Cycling safely in Gdańsk (165 000 copies). It is important to underline that the brochure was delivered to

every household in Gdańsk. It was supported by a vast media campaign in local radio, press, internet websites and TV channels.

This method of distribution of this publication brought the maximum possible effect, since it was made available to all citizens in Gdańsk.

The purpose of the action was to improve the safety of cyclists and raise the awareness of the residents of the city of Gdańsk of the existence of cycling facilities including newly build cycle paths. The brochure contains, among the others, an updated map of cycle tracks and paths, important information about cycling safety issues and other practical information about the use of the recreational area along the coastal strip. Another social campaign prepared in 2012, entitled ”Direction — Respect”, was aimed at a specific target group, i.e. chiefly drivers of private cars. This interesting and unconventional approach to the issue of sustainable transport, persuading drivers to show respect and more consideration to other road users — cyclists and pedestrians, exposed to a greater safety risk than car users.

Another priority area was also the improvement of safety of the vulnerable road users, such as cyclists and pedestrians. The qualitative material was analyzed and utilized in the plans concerning the upgrading of small architecture along the coastal strip in cooperation with ZDiZ (Municipal Road Authority). Measure 5.2 included purchase and installation of cycle racks which previously were unavailable in the coastal strip (MIMOSA team and ZDIZ cooperation). In September 2012 the ZDiZ (Municipal Road Authority) completed renovation works on the cycle path between Brzeźno and Jelitkowo. The project included the following tasks intended to improve comfort and safety of the coastal cycle path users:

- painting pictographs informing about pedestrian crossings,
- lighting was enhanced at the pedestrian crossings (4 locations),
- additional traffic signs for cyclists and pedestrians,
- cyclists resting points.

B Measure Implementation

B1 Innovative Aspects

The innovative aspects of the measure are:

- **Innovative aspect 1** - **New conceptual approach**

  This measure includes a new degree of participation of residents in transportation planning. In September 2010 the MIMOSA team conducted an own on-line study to identify the needs of residents who were cycling along the coastal strip. The qualitative material thus acquired was analyzed and utilized in the plans concerning the upgrading of infrastructure along the coastal strip by MIMOSA in cooperation with the ZDiZ (Municipal Road Authority).

- **Innovative aspect 2** – **Targeting specific user groups**

  The new social campaign prepared in 2012, entitled ”Direction — Respect” was addressed to three specific target groups: drivers of private cars, cyclists and pedestrians. This interesting and unconventional approach to the issue of sustainable transport persuades drivers to show respect and more consideration to other road users — cyclists and pedestrians, who are exposed to a greater risk than car users. At the same time the campaign is aiming at changing cyclist and pedestrian habits that are in contradiction with traffic rules. Social education promoting respectful co-existence of different road users is urgently needed in Gdańsk and all over Poland.

B2 Research and Technology Development

I. Substantive area of evaluation research within Measure 5.2

1. Level of acceptance for the existing bicycle infrastructure among residents of Gdańsk, users of bicycle infrastructure:

a/ level of acceptance for bicycle infrastructure use in the coastal strip,

b/ level of acceptance for bicycle infrastructure (bicycle lane) networks in the metropolitan area,

2. Evaluation of the security level of bicycle lane networks in metropolitan area of Gdańsk in the opinion of bicycle infrastructure users.

II. Evaluation activity: MIMOSA team carried out evaluation actions under Measure 5.2 using the following methods:

1. Desk research - analysis of secondary sources (of existing databases), obtained from the analysis:

a/ of websites connected thematically with the areas of research - 2 external surveys were conducted in July and September 2011 (Internet users’ responses to the on-line survey questions) on the local web portal - www.trojmiasto.pl,

b/ databases from external reports and research studies of institutions and organizations like, the Studio of Sociological Research at the University of Gdańsk - report for 2011 commissioned by the City - "Activity of city authorities and selected problems as seen by

residents", or Report on the certification of the bicycle policy (BYPAD) in Gdańsk - 2010, carried out by the Pomeranian Association "Common Europe" in Gdańsk,

c/ 2 individual interviews with:

- representative of the Headquarters of Municipal Police for road traffic databases,
- Piotr Kuropatwiński Ph. D., an academic teacher of the University of Gdańsk, cycling policy expert, vice-president of the European Cyclists Federation (ECF)

2. Own questionnaire survey directed at users of the Measure 5.2 area, performed by the MIMOSA team in May 2010, 2011 and 2012:

a/ field study, carried out 3 times in the coastal recreation area in the period 2010 to 2012, using the "coastal strip" questionnaire - with participation of trained volunteer-pollsters,

b/ questionnaire survey carried out during the Bike Fridays campaign (2 research studies made in September 2011 and one in September 2012), conducted by the MIMOSA team members and volunteers along several main cycle traffic arteries (bicycle lanes and road junctions in the city),

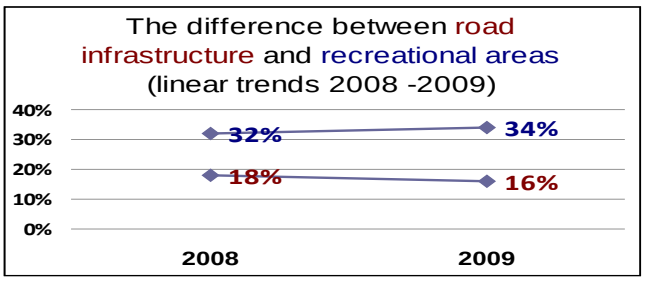
c/ questionnaire survey carried out during the MIMOSA Mobility Week event (in September 2010-2012); the Sustainable Transport questionnaire forms were prepared in two versions: on paper and on-line (using the Survey Monkey website).

III. The results of external studies related to the subject of evaluation Measure 5.2

Assessment of the leisure infrastructure including cycling infrastructure

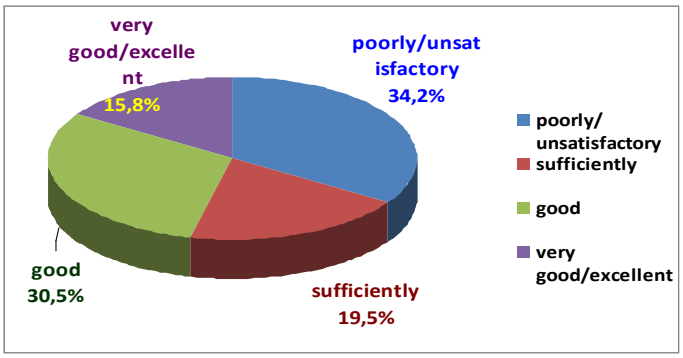
The data were obtained from the analysis of external research, reflecting the level of acceptance/satisfaction of the development of transport and recreational infrastructure in Gdansk. The data indicate that the dynamic changes in this sphere are favourably assessed by the inhabitants of Gdańsk. The users are particularly satisfied with the development of the cycle track network. A significant increase in the users' satisfaction ratings (by 16.9 %) of urban cycling infrastructure in the last 2 years (2007-2009) has been recorded. As far as the safety indicator is concerned, no base-line data were available.

FIGURE B2.1: Report – Quality of life of Gdańsk residents in 2008 and 2009+ – a linear trend – comparative analysis for road infrastructure and recreational areas.



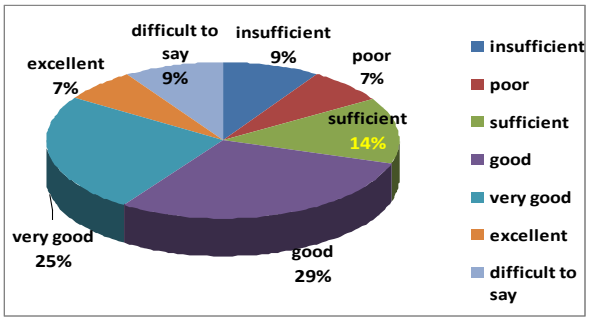
The above graph shows the trends in the development of road infrastructure as compared with the development of recreational infrastructure in the period preceding the implementation of the CIVITAS MIMOSA project. Apparently, as early as in 2008-2009 there was an upward linear trend in the development of the recreational infrastructure in Gdańsk.

FIGURE B2.2: Global assessment of cycling infrastructure by the residents of all districts of Gdansk in 2007 – study conducted by Sociological Research Studio at the University of Gdańsk.



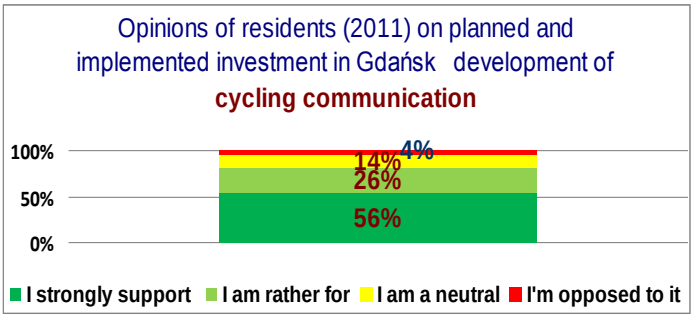
Graph 2 presents the results of research carried out in 2007 by the Sociological Research Studio at the University of Gdańsk, at the order of the City of Gdansk. They relate to the assessment of the quality of bicycle paths in the city. The results indicate that 46.3% of residents were satisfied with the quality of cycling infrastructure (30.5% considered it as good, 15.8% as very good /excellent.), while 19.5% of respondents rated it as sufficient and 34.2 % - as poor or unsatisfactory.

FIGURE B2.3: Assessment of the quality of cycling infrastructure, including bicycle lanes in 2009.



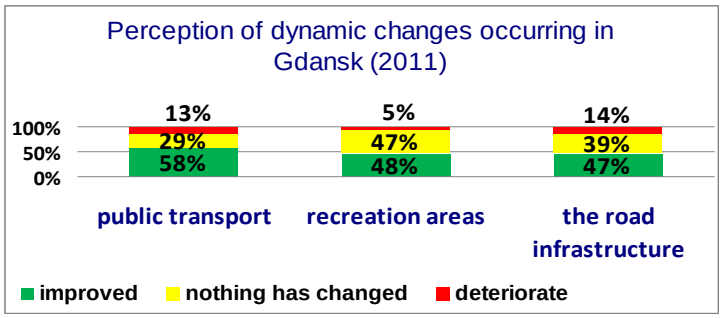
The chart above presents the results of the 2009 study in the same area as the previous graph, carried out by PBS Sopot (Social Research Studio). A total of 61.2% of respondents have a positive opinion about the state of urban cycling infrastructure. 31.4 % of residents considered it as excellent and very good, while almost 30% of respondents opted for the 'good' rating. The 'sufficient' rating was given by about 14% of respondents, and the lowest rating (insufficient and poor) together accounted for 16% of responses.

FIGURE B2.4: Report – Quality of life of Gdańsk residents in 2011 – Residents' views of the planned and completed investments in the development of cycling infrastructure in Gdańsk.



The data concerning the residents' acceptance of the development of cycling infrastructure were obtained in a study conducted on a representative sample N=1000, commissioned by the City Hall of Gdańsk in 2011 (Report – Quality of life of residents). Overall, 82% of the respondents approved the development of cycling infrastructure, 56% strongly supported it, and only 4% were opposed to it.

FIGURE B2.5: Report – Quality of life of Gdańsk residents in 2011 - Perception of dynamic changes occurring in Gdansk (2011).



The graph shows a comparison of 3 individual spheres of the city development, perceived as subject to the most dynamic changes. Between 47% and 58% of respondents indicated an improvement in the 3 spheres of development, including the recreation areas in comparison with PT and road infrastructure. According to respondents, the dominant area of development is the public transport (ca. 10% more respondents perceived an improvement here compared to the other spheres of change). The results of the study show a similar position of the 3 areas with respect to the "improved" rating, whereas the recreational infrastructure received the fewest "deteriorated" ratings.

B3 Situation before CIVITAS

A cycling development program, signed in 2006 by the presidents of the three cities (Gdansk, Sopot and Gdynia) was included in the project, entitled "Development of the Tri-City Cycling Transport 2007-2013" and comprises a list of cycle paths planned for construction and modernization in particular cities. The Gdansk City Council, adopted a resolution about the implementation of the cycling development program, assuming to build 85km and modernize

ca. 11km of cycle tracks. Despite a significant increase in cycling infrastructure of Gdańsk during the past 10 years, the share of cycling trips in modal split increased only from 1.3% to 2%.

In 2008 the City of Gdańsk, as the beneficiary, submitted an updated application for funding the EU Project, entitled "The development of the Tri-City Cycling Transport 2007-2013 ', carried out jointly by the City of Gdynia and Sopot.

The aim of the project was to develop urban and metropolitan functions of the Tri-city via the development and integration of cycling transport system as a sustainable transport option. As a result of the Project the residents were supposed to have easier access to cycling infrastructure, which would contribute to reduce the number of accidents involving cyclists. However, at that time (before 2010), the development of cycle infrastructure was based mainly on creating cycling paths along the main transport routes, connecting principal urban districts with one another. However, intensive growth of motorised transport resulted in the increased number of drivers and an increase in the amount of urban space used for car parking, previously devoted to walking and cycling. This process negatively affected the safety and comfort of people who opted for the use of active mobility modes.

In the earlier stage of the development of bicycle infrastructure (before 2010), there were no integrated actions or a platform of cooperation aimed at the improvement of road traffic safety. Also, no permanent mechanisms existed for the monitoring of safety and analyzing causes and effects of accidents involving cyclists. Insufficient and sometimes misguided efforts were undertaken to eliminate potential hazards at the intersections of pedestrian and cycling traffic as well as at intersections of cycling and motor vehicle traffic. Accident statistics obtained by the Police were not used and analyzed in a professional way. There are many websites managed by cyclists, where they share their observations and assess the quality of the existing bicycle infrastructure in Gdańsk/ Tri-City. However, the Municipal Council of the Road Traffic Safety established by the President of the city did not have representatives of cyclist organizations among its members until 2010. It was only after 2010 that the protection of the safety of cyclists started to be developed in a more integrated way and during the last 2 years an important reorientation of cyclists' safety policy was adopted.

B4 Actual Implementation of the Measure

The measure was implemented in the following stages:

Actions carried out to implement the measure:

Stage 1: Purchasing and installation cycle racks with 420 parking places (*14 October 2009 – 14 October 2010)* on the beach, next to the all entrances from Sopot to Brzeźno. It was one of the first activities of the process of the MIMOSA project implementation in Gdańsk. It was a very important activity because a lot of bikes were cast off or just left besides the popular cycle track leading to hazardous situations (cyclists falling onto the parked bikes or swerving to avoid them towards the pedestrian promenade).

FIGURE B4.1: One of the cycle racks on the beach in Gdańsk

Stage 2: Publishing an information booklet for cyclists *(September 2011)*

An information booklet addressed to cyclists was prepared and 5000 copies published, explaining the newly adopted changes to the road traffic laws concerning cyclists. In mid-May 2011 the amended road traffic law came into force, it was intended to protect cyclists, give them more rights and eliminate numerous inconsistencies of Polish road traffic rules with the Vienna convention on road traffic safety. The booklet was distributed to the participants of many events of the European Mobility Week, when cycling was promoted as a sustainable transport option. At the same time a big media campaign was taking place informing citizens about the changes in traffic regulations. There were articles on the most popular internet website Trojmiasto.pl, rowery.pl and Gdansk.pl, in local press (Diennik Baltycki, Herold) and information in local Radio Gdansk. The campaign was supported by informative actions taken by traffic police and municipal guards.

Stage 3: *Rowerem bezpiecznie przez Gdańsk* *(Cycling safely in Gdańsk*) (July 2012, August 2012) - is a brochure with a map of cycling tracks and lanes in Gdańsk. The purpose of the action was to improve the safety of cyclists and raise the Gdańsk residents' awareness about the accessibility of cycling facilities in the city. There was a huge information campaign in local media which started from a press conference and was followed by articles on trojmiasto.pl; rowery.pl: TVN24.pl and Gdansk.pl websites in July 2012, over 30 spots in Radio Gdansk (from 31.07 till 6.08), articles in local newspaper Dziennik Baltycki and city magazine Herold, short interviews on local television channels: TVT Telectronik (26.07) and Pomorska TV.

The brochure contains, among other things, an updated map of cycle paths, information on the changes to the road traffic rules and traffic regulations concerning cyclists, information on traffic calmed zones and comprehensive information on the objectives and implementation of the CIVITAS MIMOSA project. The map allows to easily plan a cycling journey to daily destinations. The organizers of the action planned a city - wide distribution of the publication between July and September 2012. 165,000 copies of the brochure were delivered to every household in Gdańsk.

FIGURE B4.2: Cover of the brochure published entitled "Cycling safely in Gdańsk"


Rowerem bezpiecznie
przez Gdańsk
CIVITAS
MIMOSA
GDAŃSK
www.gdansk.pl

Stage 4: Improving the technical infrastructure along the coastal strip (September 2012)

The coastal strip between Gdańsk Brzeźno and Jelitkowo was provided with elements of small architecture, installed along the coastal cycling track. The following items of technical Infrastructure were supplied and installed in order to improve users' safety and the quality of the facilities:

- 55 road signs on posts were installed
- 40 metres of barriers separating cycling paths from footpaths were installed
- 506 square metres of path markings were painted on the track
- 3.2 m2 of thick-layer path markings "straight ahead" arrows were painted on the track
- 92.4 m2 of thick-layer path markings "give way to pedestrians" were painted on the track
- 89 m2 of existing path markings were renovated
- 39 traffic lights fixtures with LED technology

Besides that, to increase the quality of the cycle path some small investments were done:

- 17 concrete and wood benches with a backrest
- 7 cast iron and wood benches with a backrest
- 16 rubbish bins
- 21bike racks

Signs bearing the CIVITAS MIMOSA project logo were prepared.

FIGURE B4.3: Modernization elements of small architecture in the coastal strip

Stage 5: Preparation of the implementation of a new social campaign "*Kierunek: szacunek*" (*Direction: Respect*) *(September 2012)*

Stickers of the campaign promoters were posted on private motor cars, promoting considerate behaviour and friendly relationships between cyclists, drivers and pedestrians on the road. The driver of a car bearing the sticker, signals her/his friendly attitude to cyclists and pedestrians and respect of their rights on the road. The Gdańsk City Hall has been preparing the stickers since September 2012, as part of the CIVITAS MIMOSA project. In addition, an educational campaign was planned to be conducted on-line and on the streets of Gdańsk, in partnership with the police, the media and numerous institutions. The organizers intend to win approval for the action and popularize it especially among drivers. The planned campaign run on a dedicated website and through billboards, distribution of gadgets at petrol stations, information and promotional packages given out in cinemas before film shows. The

campaign also features advertising spots in the local media (such as Radio Gdańsk, as well as in regional TV and Web portals).

FIGURE B4.4: The "Direction-Respect" campaign brochure

B5 Inter-Relationships with Other Measures

The measure is related to other measures as follows:

Measure GDA 4.4 Mobility Management – Advertising and Promotion

Actions under Measure 5.2 are closely related to Measure 4.4, since they are focussing on the promoting sustainable transport options, especially the bicycle. Promotion of safe cycling is supposed to favour the implementation of a new urban culture influencing positively the change in transportation habits and the modal-split.

Measure GDA 6.1 New Cycles - Activities under Measure 6.1 serve to strengthen the promotion of cycling including safety issues. Both measures 5.2 and 6.1 aim at promoting the bicycle as an alternative to private motorised transport.

Other activities and investments in the City of Gdansk related to Measure 5.2

1. Public consultation was conducted with residents, cyclists and social partners, to ensure safety and to optimize the solutions at the early stage of designing and constructing cycling infrastructure. Consultation was carried out systematically (April - June 2011) through regular meetings (with the ZDiZ – Road and Green Areas Authority – the main subcontractor). Meetings with residents were arranged by the Community Councils with representatives of the City.

2. 29th April 2011 – a workshop, attended by representatives of residents from 19 districts of the city.

A series of workshops with representatives of 19 districts of Gdańsk was organised within the framework of the STeR programme. The STeR programme was supposed to create a Strategic Plan of implementation of cycling infrastructure in Gdańsk. The bicycle route network is going to be integrated with the public transport system, SKM (Speed Commuter Train) and PKM (Metropolitan Train); besides that a network of bicycle parking facilities is going to be planned. The workshops provided an opportunity to exchange experience and collect the cyclists' suggestions and recommendations concerning safety and the inconveniences they come across while travelling in the city, district by district.

The ideas put forward at the workshops were listed in a document containing suggestions and proposals of residents which will be taken into account while designing new bicycle lanes, to be completed by 2013, as part of designing the future network of cycling facilities in Gdańsk.

3. In 2010, as part of the EU metropolitan project - Development of Bicycle Transport in the TriCity Urban Area until 2013, the construction of 26 cycle paths was planned, with a total length of 34.64 km, including 22.84 km of routes in Gdańsk. In 2011, 5 projects concerning the infrastructure of cycle lanes were carried out.

4. A project entitled "Gdańskie Rowerowe Śródmieście" *(Gdańsk Bicycle City Centre*) - as an important element of the evaluation of Measure 5.2

The Gdańsk Bicycle City Centre was one of the flagship projects carried out in Gdańsk in 2010-2011 by the ZDiZ, in order to promote the pedestrian and bicycle traffic. The CIVITAS MIMOSA project is not connected with the actions of this initiative, but the MIMOSA team was conducting evaluation activity in this area (survey questionnaire used during the Bike Fridays campaign activities, questionnaire on Sustainable Transport, a survey questionnaire of the Clean Stops action). A number of solutions increasing the safety of pedestrians and cyclists and prioritizing bicycle traffic were implemented in the area of the Main and Old Town. The cyclists were given the right for contra-flow cycling on all one-way streets of the historical city centre. As part of this project, traffic was reorganized in this area of Gdańsk, with the application of so-called elements of "invisible cycling infrastructure", including in particular:

- introduction of the 30 km/h speed limit zone on all streets of the Main and Old Town,
- introduction of the right of way intersections zone, both in the restricted car traffic zone, as well as along other streets accessible for cars (at every intersection the principle of "traffic from the right priority" was adopted),
- 100 traffic signs were removed, with the intention to provide more comfort for the pedestrian and cycling traffic,
- A dozen or so pedestrians crossings were eliminated (in order not to limit pedestrian traffic).

5. From April to June 2010 the City of Gdańsk, following the experience of many European towns, cities and regions, carried out a cycling policy audit according to the methodology of the Bicycle Policy Audit (BYPAD), involving regular cyclists, recruited within the framework of a process open to all interested residents. The evaluation group consisted of residents, activists, social organizations, city councillors and employees of city administration offices. The BYPAD certification process proved to be an effective instrument of assessing all elements of bicycle policy making. A 24 months action plan resulting from the BYPAD process provided the City with a document suggesting how to change the ways of development of the cycling system in Gdańsk to shift the modal split toward more sustainable options. The report, elaborated by a team of Polish and foreign professionals in co-operation with Gdansk cyclists, suggested to create a mechanism of monitoring the state of the bicycle infrastructure and the safety of cyclists and other road users.

6. Velorution Conference - On 4th July 2011, a Velorution Conference (attended by 40 persons) was held in the Gdansk Development Office, bringing together local government officials, experts and specialists in the field. A special guest, Olivier Schneider, cycling policy

expert from the French Federation of Bicycle Users (FUB), acquainted the participants with the French solutions adopted to improve the urban mobility systems in large agglomerations.

The discussion, led by Piotr Kuropatwiński Ph. D., vice president of the European Cyclists' Federation, focused on the following issues:

1. The need to integrate spatial planning and traffic management.
2. The role of traffic calmed zones in increasing the attractiveness of public spaces.
3. The French experience in creating a cycling culture in cities.

7. On 30th May 2011 a weekend cycling event "From Pier to Pier" was held, finished with a picnic for all participants near the pier in Gdańsk Brzeźno. The event took place within the framework of a annual education campaign aimed at the improvement of cyclists' safety Rowerem do Celu" bike festival. Participants were cycling along the coastal cycling route from the pier in Gdynia to the pier in Gdańsk Brzeźno.

The main slogan of the fete was "The Cyclist is a rightful participant of the road traffic". The Presidents of the three cities (Gdansk, Sopot and Gdynia) manifested their will to develop the "Cycling Tricity" programme and to actively promote the advantages of local bicycle lanes, took an active part in the event. Among the events featured in the programme were:

- presentations of first aid administration,
- interviews with professional cyclists,
- presentation of bicycle inspection and maintenance services,
- presentation of devices used for secure transport of bicycles on other road vehicles, such as: hooks, trailers, boots etc,
- special "bicycle exercises" for strengthening muscles and getting fit,
- information point for advising residents about safe cycling on the roads,
- small town of road traffic - possibility of obtaining a cycling license (organized by the CIVITAS MIMOSA team as a part of the project)
- competitions - for the advanced and the youngest cyclists.
- snack – a bowl of soldier's pea soup.

8. The Active Mobility Congress 2010, 2011 and 2012 (a conference with foreign experts as keynote speakers), organized by the City of Gdańsk During the First "Active Mobility Congress", held in September 2010, the "Gdansk Charter of Active Mobility" was signed. The Congress was aimed to make the participants acquainted with best practices of mobility management applied in Europe and the USA, with appropriate stress on the role of cycling in promoting road traffic safety and security.

C Impact Evaluation Findings

C1 Measurement Methodology

Evaluation of GDA 5.2, conducted in the form of an on-going research, has been supported by our own and external research (from 2010 - to mid-2011). A mini-survey, conducted for the first time in 2010 by the ZDiZ, delivered conclusions and proposals of changes to improve road infrastructure safety from the cyclists' point of view (a number of statements following an open question included in the questionnaire). After the modification of the Mobility Transport survey (beginning from 2010), studies were conducted among the participants of the MIMOSA Mobility Week event in September 2011. The evaluators also used the results of a survey conducted in September 2011 (2 surveys) during the "Bike Fridays" campaign. In the following paragraph more detailed information on the data collection is given.

Questionnaire study "Bike Fridays"

The study under the scope of the 'Bike Fridays' campaign has been conducted three times: in **2010 (N=326), in 2011 (N=534) and in 2012 (N=300)**. The interview questionnaires used in the subsequent years differed slightly to the version applied in the first measurement of 2010. Accordingly, for part of the data collected it was impossible to conduct a comparative analysis. The study was carried out by means of a face-to-face questionnaire, on the route, on the day of the 'Bike Fridays' campaign taking place. The pollster`s stopped cyclists, conducted a brief interview and passed souvenirs to them. Due to the specific character of the situation, the interview was short and no particulars were obtained (such as gender or social and professional status of the respondents).

Sample specification:

- Sample selection: purposive (cyclists in natural conditions, stopped on a bicycle path during the Mobility Week),
- subject of questionnaire: users of bicycle paths,
- sample unit: Centrum-Main Town (area under MIMOSA'a impact),
- spatial range: city agglomeration – on the route along the main urban bicycle path, large crossroads, main transport node,
- time and place of questionnaire: September 2010, 2011, 2012; each time during the Mobility Week or on the coastal strip (2012).

Study-questionnaire 'Coastal strip'

Interviews with persons using the coastal strip, in particular the Reagan Park, have been conducted three times: **in 2010 (N=270), 2011 (N=173) and 2012 (N=224).** In the subsequent years slightly different versions of questionnaires were used, as a result of which not in every case the answers obtained could be comparable. The statistical significance of differences between averages of responses given was studied by means of the t-Student test, with the significance level assumed α=0.05.

The study was conducted by means of a face-to-face questionnaire, along the recreational promenade of the coastal strip, adjoining the bicycle path. The pollster`s stopped pedestrians or inhabitants at leisure and conducted a short questionnaire-based interview.

Sample specification:

- Sample selection: purposive (inhabitants met in the Reagan Park in field conditions),
- subject of questionnaire: users of the Reagan Park (pedestrians and bicyclists exercising recreation),
- sample unit: the Reagan Park,
- spatial range: city agglomeration – coastal strip of the Gdańsk agglomeration,
- time and place of questionnaire: summer months of 2010-2012; promenade of the coastal strip in Gdańsk, in the Reagan Park (pilot area of CIVITAS MIMOSA).

TABLE C1.1: Study-questionnaire 'Coastal strip' - the sample size.

Sample	**gender**		**total**
	female	**male**	
2010	55.70%	44.30%	100%
2011	52.40%	47.60%	100%
Total	54.50%	45.50%	100%

The gender-based classification shows women to outnumber men as the users of the Reagan Park studied.

TABLE C1.2: Study-questionnaire 'Coastal strip' - overall structure of respondents' gender.

sample	age							total
	under 15 years	**15-20**	**21-30**	**31-40**	**41-50**	**51-65**	**over 65**	
2010	4.50%	4.50%	20.70%	28.20%	18.00%	18.40%	5.60%	100%
2011	5.90%	7.10%	24.10%	18.80%	12.90%	26.50%	4.70%	100%
2012	7.40%	10.60%	23.60%	16.70%	12.00%	19.40%	10.20%	100%
total	5.80%	7.20%	22.50%	21.90%	14.70%	20.90%	6.90%	100%

The largest group of respondents were young people aged 21-30 and people above 40. An equally numerous group were senior respondents aged 51-65.

In terms of the social and Professional status, the predominant group were young people continuing their education and people with full-time employment. In 2012 23.7% of the group were old-age pensioners.

C1.1 Impacts and Indicators

The measurement is based on the MIMOSA own field research, carried out each year in the period 2010-2012 by means of a face-to-face survey. The results of 2012 surveys were updated both in the online version and the field (paper) version. The indicators were selected with consideration to the 3 measure specific objectives. Questionnaire surveys conducted in 2012 aimed at the users of the coastal strip area were carried out shortly after the modernization of the facilities along the cycle path (in the framework of Measure 5.2). The short time separating these events (the survey and modernization took place in the same month) resulted in a relatively low indicator of change in the respondents' perception. The range of indicators includes the measurement of the impact of promotional activities using a wide spectrum of impact tools under the aegis of European Mobility Week in the above-mentioned period. The study included the results of own surveys conducted in the coastal strip area and at the venues of the MIMOSA Mobility Week and the Bike Fridays campaign.

TABLE 1.1.1: Table of indicators.

No	Pointer No.	Impact	Indicator	Data Source	Success quantification
1.	13	safety Awareness	**1. Awareness level:** **The level of sense of security** experienced by users of recreational infrastructure in coastal strip	surveys- on–going and ex-post evaluation (C.MIMOSA) field study, on-line survey	Survey of perceptions of safety shows **40%** increase in feelings improved safety
2	14	Acceptance	**2. Acceptance level** **The level of use of** recreational infrastructure in coastal strip	surveys- evaluation on–going (C.MIMOSA)field study, on-line survey, external research	Use of recreation area increased by **10%**
3.	26	Transport	**3. Safety of the road infrastructure – Frequency of road incidents** involving cyclists (accidents and collisions) on the municipal roads/ in coastal strip	police statistics of accidents and collisions in the period 2008-2011	Frequency of accidents reduced by **50%**

Detailed description of the methodologies applied to assess the value of particular indicators:

1. Awareness level: The measurement of the indicator of the level of sense of security experienced by the users of recreational infrastructure is based on the results of the Bike Fridays questionnaire - conducted as an own field survey, 3 times in the period 2010-2012. The indicator is related to the survey question: "Do you think that the bicycle paths in Gdańsk

you use are safe?" We also used the results of a survey using the Coastal Strip questionnaire, each time conducted in the same recreational area of Reagan's Park. The indicator is related to specific objective 2: *Creating the right conditions of safety for promoting cycling as an alternative to the motor car*. The questions also concerned the satisfaction with the safety of cycle path facilities located in the coastal strip area.

2. Acceptance level - The level of use of recreational infrastructure in the coastal strip

The data used for the measurement of indicator 2 were obtained from the surveys conducted in the period 2010-2012 using the Coastal Strip questionnaire and from the Bike Fridays survey results. The relevant question associated with the indicator applies to the frequency of use of the coastal recreational infrastructure. To a lesser degree, the results of the Sustainable Transport questionnaire were also used. This indicator is related to specific Objective 3 Improvement of recreation infrastructure for cycling and walking along the coastal strip.

3. **Safety of the road infrastructure -** Frequency of road incidents involving cyclists (accidents and collisions) on the roads in Gdańsk. To demonstrate the positive effect on the safety of cycling infrastructure users, police statistics of accidents and collisions in the period 2008-2011 were used. The data from this area are helpful to illustrate the trend in safety. This indicator is related to specific objective 1: "Development of safe and secure road and leisure infrastructure for all road users".

C1.2 Establishing a Baseline

The measurement of selected indicators for Measure 5.2 comes from MIMOSA team's own research from a double measurement using the same (or slightly modified) tools, which ensures comparability of results. The team also used the results of external studies (secondary data), derived from reports made by external research institutions on behalf of the City, in 2007-2011.

The base-line preceding the implementation of the project, was obtained only for road safety involving cyclists. The data were provided by the road traffic department of the Gdańsk Police (figures about accidents involving cyclists). They provided important indicators for the analysis of recreation infrastructure security, including cycling tracks.

TABLE C1.2.1: Source of data.

Nb ind	Name of the impact indicator	Source of data - *raw data*	Source of data - *secondary data*
1.	**The level of sense of security**	1 / "Bike Fridays" (field study of MIMOSA team in 2010 (N=326 2011) (N = 534), 2012 (N=300) 2/ Own research- 'Coastal strip survey" (2010, N=261, and 2011, N=174), 2012 N=250	3/ data from external report - of the Laboratory of Sociological Research of the University of Gdansk 2007, 2011 4/ Report for Social Research Laboratory at Sopot - quality of residents' life - 2009
2.	**The level of use of recreational** infrastructure in coastal strip	1/ The comparative study frequency of use of recreation infrastructure, by means of the Coastal strip survey" (2010, N= 261, and 2011, N=174), 2012 N=250 carried out among the users of the Reagan Park (2010 - 2012),	-
3.	**Safety of the road infrastructure –** frequency of road incidents	-	Data from the Police Headquarters in Gdansk - consisting of Police statistics of road accidents involving cyclists in the years 2008-2011

C1.3 Building the Business-As-Usual Scenario

TABLE C1.3.1: ***BAU assumptions for each indicator***

Indicator	BAU assumptions
1. Acceptance **level:** - sense of security experienced by the users of recreational infrastructure	It's possible to assume that business as usual is very similar or slightly higher than baseline. The range of cycling investment, as well as the scope of the campaign activities do not allow us to expect a significant change in this indicator during the life of the project. The state of the recreation infrastructure of the coastal strip was initially highly rated (level of satisfaction).
2. Acceptance level -the level of use of recreational infrastructure in coastal strip	It's possible to assume that business as usual is very similar or slightly higher than baseline. The range of cycling investment as well as scope of campaign activities, do not allow us to expect a significant change in this indicator during the life of the project. The state of the recreation infrastructure of the coastal strip was initially highly rated (as far as the level of satisfaction was concerned).
3. Safety of the road infrastructure -frequency of road incidents involving cyclists (accidents and collisions) on the roads in Gdańsk	It's possible to assume that business as usual is very similar or slightly higher than baseline. The data for the base-line study come from police statistics of incidents involving cyclists on the roads in Gdańsk. The acquired statistics apply to the entire urban infrastructure system, not only to the cycling infrastructure of the coastal strip. Therefore, the results make it possible to determine the trend on the scale of the entire city, taking into consideration the impact of Measure 5.2 in the coastal strip area. The range of small investments (small architecture) carried out under Measure 5.2 coincided with the last stage of the project, and as a result, were not clearly reflected in the indicators of measurement of the impact.

Development of safe and secure road infrastructure for all road users and creating the right conditions of safety for promoting cycling as an alternative to the motor car constitutes the greatest challenge for Gdańsk, exceeding the time frame of the CIVITAS MIMOSA project. This measure is required in order to improve the security of a large and very important seaside recreational area adjacent to the city centre, thus making it more attractive for residents and tourists. If this measure had not been implemented, the upgrading of cycle paths would not have been tested in Gdańsk and road safety level would not have been improved. Qualitative and quantitative improvement of the small architecture in the coastal strip contributes to the low incident rate in this area despite the increased (very high) number of users. The number of accidents and collisions in the coastal strip area is negligible (compared to other areas), as evidenced by the Police statistics for the period 2008-2010. It is this fact of reduced accident rate that illustrates the benefits and impact of the project, in particular Measure 5.2. Apart from educational and promotional action, it would be necessary to apply good practices associated with the installation of bicycle racks in the coastal strip, or carry out actions improving the road safety of pedestrians and cyclists in the area of the old town (project entitled the Gdańsk Bicycle City Centre).

C2 Measure Results

The results are presented under sub headings corresponding to the areas used for indicators - society and transport.

C2.1 Economy

Not applicable

C2.2 Energy

Not applicable

C2.3 Environment

Not applicable

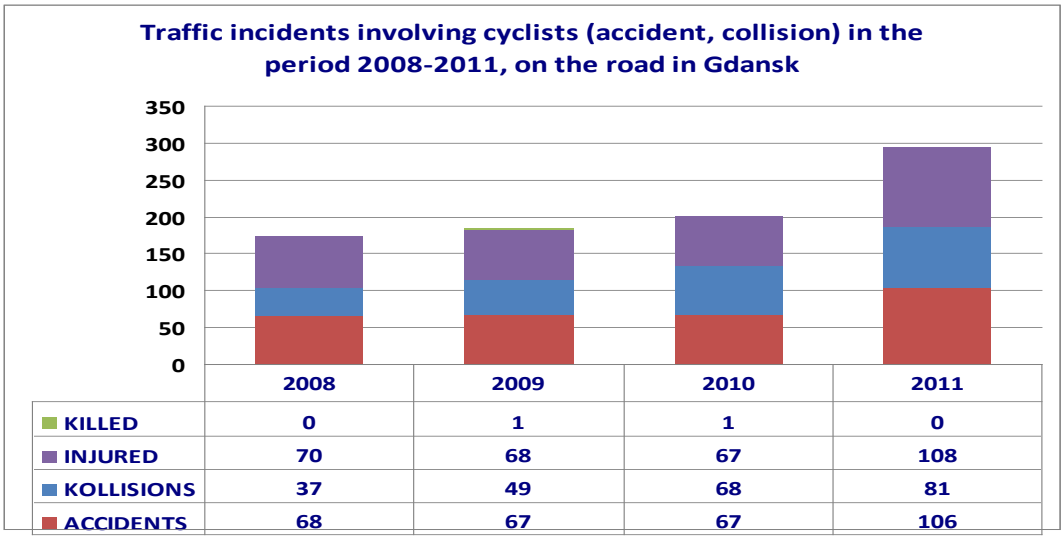
C2.4 Transport

3. Frequency of road incidents involving cyclists (accidents and collisions) on the roads in Gdańsk.

FIGURE 2.4.1 (below) shows general statistics for the entire cycling infrastructure in the city. The above data and their analysis were obtained from the Police Headquarters in Gdańsk and an interview with the Deputy Head of Road Traffic Safety Department in the Gdańsk Police.

As illustrated by FIGURE 2.4.1, the upward trend in the number of accidents did not start until 2011. As for the number of collisions, it was growing steadily year by year. This unfavourable trend has also been confirmed by the number of injuries, which increased dramatically in 2011. According to our interviewee, this year (by the end of October 2012) there have been 155 road incidents that involved cyclists, including 112 accidents. It is essential to determine the reasons of this situation. There is no simple relationship between the level of safety and statistics. They are influenced by the so-called statistical effect, since the development of cycling infrastructure is generating an increase in cycling levels and thus more incidents involving cyclists.

FIGURE 2.4.1: Statistics of Municipal Police in Gdansk 2008 - 2011 - the number of accidents and collisions involving cyclists.



Further analysis of this issue leads to another conclusion, based on the data contained in the TABLE 2.4.1 below:

TABLE 2.4.1: Statistics of Municipal Police in Gdansk 2008 – 2011 - Road incidents caused by cyclists.

COLLISIONS AND ROAD ACCIDENTS CAUSED BY CYCLISTS IN 2008-2011

YEAR	COLLISIONS	ACCIDENTS	DEATHS	INJURED
2011	30	30	0	30
2010	27	18	1	17
2009	18	13	0	13
2008	18	25	0	26

In 70% of cases cyclists are the injured party, and only ca. 30% of the accidents or collisions are caused by them. With regard to the locations, analysis shows that as many incidents happen at intersections as on straight sections of cycle paths or roads. According to cycling statistics, there was no significant increase in the number of cycle path users that would explain the growing number of incidents. In the interviewee's opinion, the safety of cyclists is a very complex issue, chiefly influenced by the road engineering factor. The safety of visible and invisible cycling infrastructure should be carefully analyzed on the urban planning level. According to the interviewee, there is a conflict in urban planning circles between designing cycling infrastructure for leisure versus transport purposes. This is where the core of the safety problem lies, according to the Police representative. To a lesser degree, cyclists' safety and accident statistics are influenced by cyclists' awareness and transport culture. The majority of accidents and collisions are caused by drivers, and a smaller proportion – by

other cyclists or pedestrians. This regularity is confirmed by the following chart, presenting only data for the coastal strip.

TABLE 2.4.2: Statistics of the Municipal Police in Gdansk 2008 - 2011- Road incidents involving cyclists and other users in the coastal strip area.

ROAD INCIDENTS IN COASTAL STRIP AREA - JANTAROWA STREET, 2011

date	type of incident	cause of incident	involved parties
2011.10.07	accident	Careless entry onto the road in front of a moving vehicle	cyclist-pedestrian
2011.08.27	collision	Walking on the wrong side of the road	cyclist-pedestrian
2011.07.22	accident	Not determined	moped rider with a passenger-inline skater
2011.06.12	accident	Failure to adapt the speed to traffic conditions	cyclist-cyclist
2011.06.05	collision	Careless entry onto the road in front of a moving vehicle	cyclist-pedestrian
2011.05.30	accident	Careless entry onto the road in front of a moving vehicle	cyclist-pedestrian
2011.04.17	accident	Not determined	cyclist-cyclist

ROAD INCIDENTS IN COASTAL STRIP AREA - JANTAROWA STREET, 2010

2010.07.04	accident	Careless entry onto the road in front of a moving vehicle	cyclist-pedestrian
2010.04.11	accident	Careless entry onto the road in front of a moving vehicle	cyclist-pedestrian

ROAD INCIDENTS IN COASTAL STRIP AREA - JANTAROWA STREET, 2009

2009.08.20	accident	Not determined	cyclist-cyclist
2009.05.14	accident	Careless entry onto the road in front of a moving vehicle	cyclist-pedestrian

ROAD INCIDENTS IN COASTAL STRIP AREA - JANTAROWA STREET, 2008

2008.06.06	collision	Not determined	two cyclists- inline skater

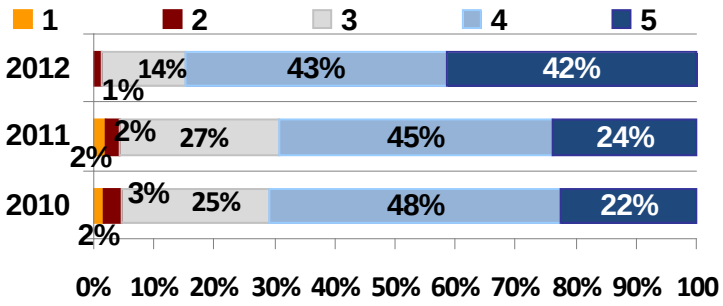
A characteristic feature of these statistics is the increased number of incidents involving cyclists in the spring-summer season. Furthermore, collisions happen far less frequently than

accidents. These incidents happen most frequently between cyclists and pedestrians, less often – between two cyclists, and the least often they involve inline skaters (2 cases in 4 years). Considering very heavy traffic along the coastal strip, including pedestrians, skaters and cyclists, the figures related to accidents in this area are very low, but show a slight upward trend. This growing trend is also due to the statistical effect, with increasing participation of all types of users. It was impossible to reduce the frequency of accidents significantly through actions under Measure 5.2. A 50% reduction in the number of incidents involving cyclists was an entirely unrealistic assumption, even considering the impact of all Measures implemented in Gdańsk in the framework of CIVITAS MIMOSA and other projects. The campaign ”Direction — Respect”, aimed at widespread education of road users, especially drivers of private motor cars, is a step in the right direction in the strategy of cyclist and pedestrian safety improvement.

C2.5 Society

1. Awareness level - The level of sense of security among users of the recreational infrastructure in the coastal strip.

FIGURE 2.5.1: A comparative study - level of satisfaction with the quality of bicycle paths - based on the results of the survey in 2010-2012 (Bike Fridays field studies).



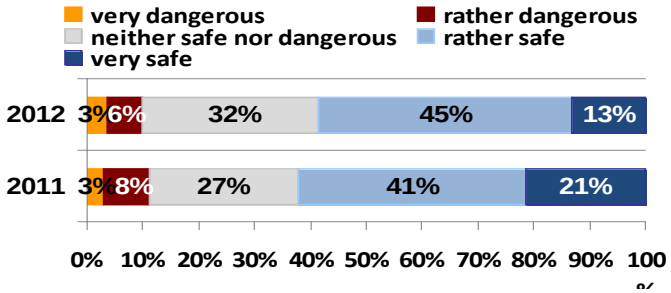
Survey question was: *How satisfied are you with the quality of bicycle paths in Gdansk?*

To express their opinion, the respondents used a 5-point response scale (from 1 - very dissatisfied to 5-very satisfied). The Bike Fridays questionnaire provides information on the general level of satisfaction with the quality of the cycle paths in the city. The overall rating of the cycle path quality is associated with the sense of security indicator. The satisfaction rating is considerably higher than the safety rating and shows a nearly twofold increase of the satisfaction indicator compared with the initial value of 2010. Meanwhile, dissatisfaction is expressed by a very small percentage of respondents (1-3%). The overall percentage of positive ratings (option 4 and 5 on the rating scale) increased from 70% in 2010 to 85% of users expressing satisfaction with the quality of cycle paths in the whole city.

SAFETY

Do you think that the bicycle paths in Gdańsk you use are safe?

FIGURE 2.5.2: The comparative study level of satisfaction, by Bike Friday field studies, addressed to users city bicycle paths (2011-2012).

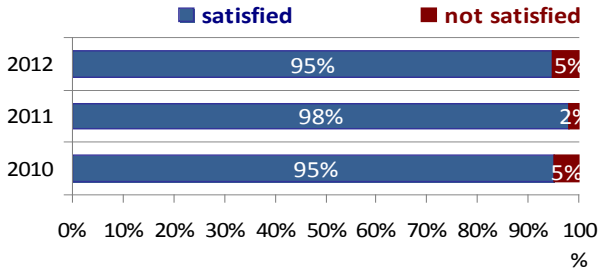


The above graph presents a comparative assessment of the safety of cycle paths in the entire Gdańsk urban area in 2011-2012. Each survey was conducted during the Bike Fridays campaign, run along main roads and at their intersections. The combined percentage of the highest satisfaction ratings (safe and rather safe) is similar in the two years, dropping by 4% in 2012 compared to 2011. About. 60% of respondents on average perceived the city's cycle paths as safe, whereas the two lowest safety ratings (very dangerous and rather dangerous) were given by only ca. 10% of respondents. Thus, the results of the assessment of cycle path safety should be regarded as favourable.

Unfortunately, in 2010 the cycle path safety indicator was not investigated during the Bike Fridays campaign. Other studies conducted by the MIMOSA team with the use of the "Coastal Strip" questionnaire between 2010 – 2012 concerned the level of satisfaction expressed by the users of coastal strip infrastructure. The survey produced indicators of satisfaction with the leisure infrastructure in terms of safety assessment. Satisfaction level was investigated with respect to such aspects of safety as:

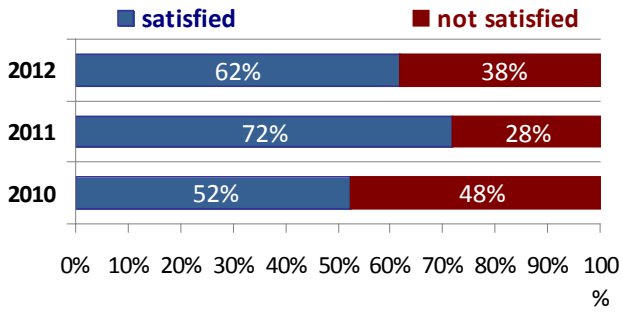
- segregation of pedestrians and cyclists (along the promenade),
- speed of cyclists (along the promenade),
- safety of pedestrians and cyclists at intersections in the coastal strip area.

FIGURE 2.5.3: A comparative study of the level of satisfaction, by means of the Coastal Strip field survey, aimed at users of the *Reagan Park* (2010-2012) - segregation of pedestrians and cyclists



The level of satisfaction with safety in terms of segregation of pedestrians and cyclists stabilized at a very high level of more than 95% of respondents. This result is reflected in statistics of accidents involving cyclists, pedestrians and inline skaters along the promenade in the coastal strip area, where they are a very rare occurrence (2-6 cases per year).

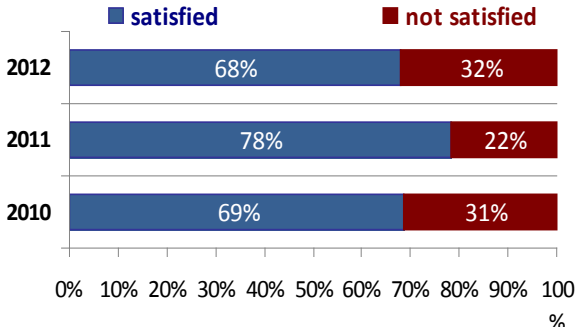
FIGURE 2.5.4: A comparative study of the level of satisfaction, by means of the Coastal Strip field survey, aimed at users of the Reagan Park (2010-2012) - speed of cyclists.



The indicator of Reagan Park visitors' satisfaction with the speed of cyclists on the cycle path along the coastal strip increased by 20% between 2010 and 2011, and by 10% between the first measurement and 2012. During the first measurement at intersections, nearly half of the respondents expressed their dissatisfaction, whereas in 2012 the dissatisfaction indicator was 10% lower, which is a welcome result.

The next graph below illustrates that 10% more respondents in 2011 expressed their satisfaction with the safety of pedestrians and cyclists at intersections, as compared to the previous and following year. About 1/3 of users are not satisfied with this aspect of safety. The cycle path along the coastal strip is separated from the pedestrian walkways in some places.

FIGURE 2.5.5: ***comparative study of the level of satisfaction, by means of the Coastal Strip survey, aimed at users of the Reagan Park (2010-2012) field study*** - safety of pedestrians and cyclists at intersections.



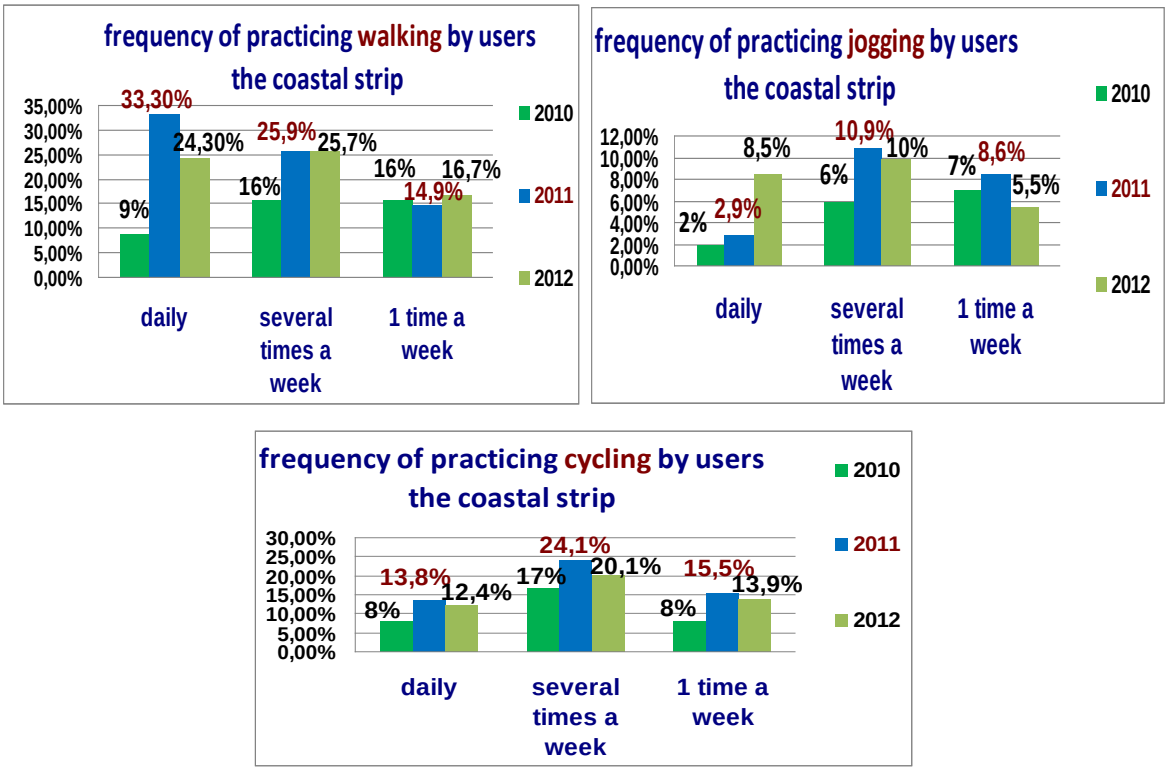
However, there are still many sections where the two paths run alongside without clear separation. Also, the numerous intersections with little streets leading to the promenade present a potential risk for both user groups. Police statistics of accidents and collisions suggest that the number of such incidents in the coastal strip area is very low despite very intensive traffic in this area. This is reflected in the study results presented in this report.

2. Acceptance level - The level of use of recreational infrastructure in the coastal strip 3 indicators.

The use of the leisure infrastructure in the coastal strip area is presented by the indicator of the frequency of most popular forms of recreation, i.e. walking, jogging and cycling trips along the coastal promenade. A comparison of study results from three consecutive years 2010-2012 leads to the following conclusions:

- the frequency of use of the coastal strip has increased since 2010 for each of the 3 most popular forms of recreation,
- the most rapid increase in frequency was observed between 2010-2011, for each of the 3 most popular forms of recreation,
- the least increase or a slight reduction in the frequency indicator was observed between 2011-2012 ,
- the most significant change increase was observed in the daily practice of each of the 3 forms presented,
- the highest frequency indicator increase was noticed in ”once a week” frequency,
- the most frequently practised form of recreation is daily walking along the coastal strip.

FIGURE 2.5.6: A comparative study of the frequency indicator with regard to practicing 3 forms of recreation (walking, jogging, cycling) - Coastal Strip questionnaire 2010-2012, addressed to users of the coastal strip area.



Conclusions from the comparative analysis highlight the following facts:

- with respect to ”walking” activity, the greatest increase in the frequency indicator (by 24.3%) occurred year-to-year in 2010 – 2011 in the daily walking category,

- in the ”several times a week” category, the indicator increased by ca. 10% in the period 2010–2011,
- indicator differences in the case of the ”once a week” walking category are of no statistical significance.

In the case of jogging, the most significant increase occurred in the ”daily” category (by ca. 8%), whereas the differences in the lowest frequency category (”once a week”) are of no statistical significance. In the two lower frequency categories there was a slight downward trend in 2011-2012.

As for cycling for leisure in the coastal strip area, there is an upward trend for each frequency category. The difference was the most striking in the 2010-2011 period, with an increase by ca. 7% on average in each frequency category. In the subsequent period 2011-2012 there was a slight decreasing trend in this form of recreation.

It is very difficult to explain the reasons for the decreasing trend in the recreational use of the coastal strip area between 2011 and 2012, although this may be largely due to the weather conditions. In the past two years the summer season was very fine, but the weather in 2012 was less favourable for outdoor leisure activities.

The UEFA Euro 2012 in June may have caused some disruptions in this sphere owing to the great passenger flows in the public transport and on roads.

The road construction projects connected with the European Football Championship and their peak in spring 2012 presumably limited the accessibility of the coastal strip area by certain means of transport.

At the same time, the rapid development of cycling infrastructure beyond the coastal strip may have contributed to the retreat of part of the cyclists to other areas. The enhanced appeal of the coastal strip area is generating intensified cycling and pedestrian traffic along the entire promenade, which may be discouraging for the users seeking peace and quiet, who may choose to visit other recreational areas available in the city.

C3 Achievement of Quantifiable Targets and Objectives

No.	Target	Rating
1	• Survey of attitudes shows 20% minimum in favour of new measures	**NA**
2	• Survey of perceptions of safety shows 40% feelings of greater safety	*****
3	• Use of recreation area increased by 10%	******
4	• Incidence of accidents reduced by 50%	**0**
NA = Not Assessed O = Not Achieved ✱ = Substantially achieved (at least 50%) ✱✱ = Achieved in full ✱✱✱ = Exceeded		

Ad.1.The first indicator was not evaluated, since the tool was constructed without taking this indicator into account.

Ad 2 In the period 2010-2012 a 22% increase in the indicator illustrating the sense of security cyclists in the city occurred.

Ad 3. With regard to 3 forms of using the coastal strip, the largest increase occurred with regard to walking trips (24.3%). In the case of jogging and cyclists, the increase in their use of the recreational infrastructure of the coastal strip amounted to 7-8%. It is a very important achievement given the disturbances occurring throughout the projects execution (modernization and construction of road and railway infrastructure). In evaluators opinion

those increases are caused by advertising and promotion related to healthy life style and active mobility (active forms of leisure time use are becoming more and more popular and trendy).
Ad.4 An index of vandalism reduction has not been attained; instead, an increase in vandalism was recorded. The assumptions concerning the index proved unreal compared to the scope of the actions and the character of the processes they relate to in the project.

C4 Up-Scaling of Results

Good example of up-scaling of the measure GDA 5.2 result is the continuation of campaign Direction: Respect. Future activities related to realization of submission will be undertaken by City Hall of Gdańsk and Active Mobility Unit. It is very possible that some private companies and NGO's will be ready to support this Campaign.

C5 Appraisal of Evaluation Approach

The last, most important phase of small architecture upgrading (in terms of quality and quantity) was completed in September 2012. Earlier completion was not feasible due to the UEFA Euro 2012 organized in Gdańsk, which was given top priority, with other projects being postponed. Part RTD (B2) was supplemented with external study results to illustrate the context of Measure 5.2 evaluation. The presented results are not identical with those used in this evaluation, but they throw some light on the subject of the study, while also allowing to more accurately interpret the data obtained in order to demonstrate the actual impact of the activities under Measure 5.2.

C6 Summary of Evaluation Results

Focusing the activities under Measure 5.2 on the seaside area turned out to be a successful choice. This strategy has allowed to more effectively improve the safety of coastal strip visitors through small investments in the leisure infrastructure. Aspects of safety have received very favourable ratings from the users, reflected in increased indicators.

The key results are as follows:

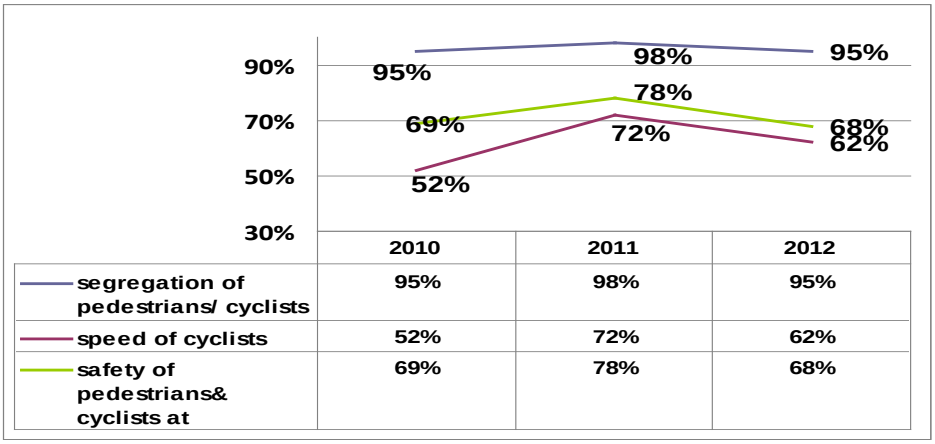
- **Key result 1** – related to indicator 1

The results are presented for the area of impact of Measure 5.2, but against the background of the assessment of the safety of the entire cycling infrastructure in the city: analysis of cycling safety in the entire urban area of Gdańsk in 2011-2012.

An average of ca. 60% of the residents surveyed considered the municipal cycle paths to be safe. The two lowest options on the scale (very dangerous and rather dangerous) account for only ca. 10% of the answers. The results of cycle path safety assessment should be regarded as favourable. The studies conducted by the MIMOSA team in 2010-2012 (based on "Coastal Strip" questionnaire), provide data on the satisfaction with recreational infrastructure, in terms of safety, including:

- segregation of pedestrians and cyclists (along the coastal promenade),
- speed of cyclists (along the promenade),
- safety of pedestrians and cyclists at the intersections in the coastal strip area.

FIGURE C6.1: Coastal strip survey 2010 – 2012 - 3 aspects of security as perceived by Reagan Park users – comparison of differences between.



	2010	2011	2012
segregation of pedestrians/ cyclists	95%	98%	95%
speed of cyclists	52%	72%	62%
safety of pedestrians& cyclists at	69%	78%	68%

The level of satisfaction with security in terms of the segregation of pedestrians and cyclists stabilized at a very high level of more than 95% of the indications.

The level of satisfaction expressed by the users with regard to the cyclists' speed along the coastal strip increased by 20% in the 2010- 2011 period.

The level of satisfaction with the safety of the intersections for pedestrians and cyclists was the same in the first and the last measurement (2010-2012). Ca. 70% respondents expressed a high degree of satisfaction with this aspect of the evaluation. The Reagan Park users show slightly climbing level of satisfaction thanks to secure separation of walkers from cyclers along the sea-shore belt. The security of the sea-shore belt at the cross between walking and cycling ways also shows statistically significant increase in satisfaction ratio. The climbing tendency refers most of all to satisfaction related to the velocity of cycling developed by the users along the cycle path along the promenade. Each aspect of security showed a clearly climbing tendency between 2010 and 2011, which most evidently refers to cyclers' speed (growth by 20%). The recent research, carried out in 2012, shows stabilisation of this tendency in the context of separation of walkers and cyclists for the other two options (speed of cyclist and safety of pedestrians & cyclists), and shows some 10% drop as compared to 2011

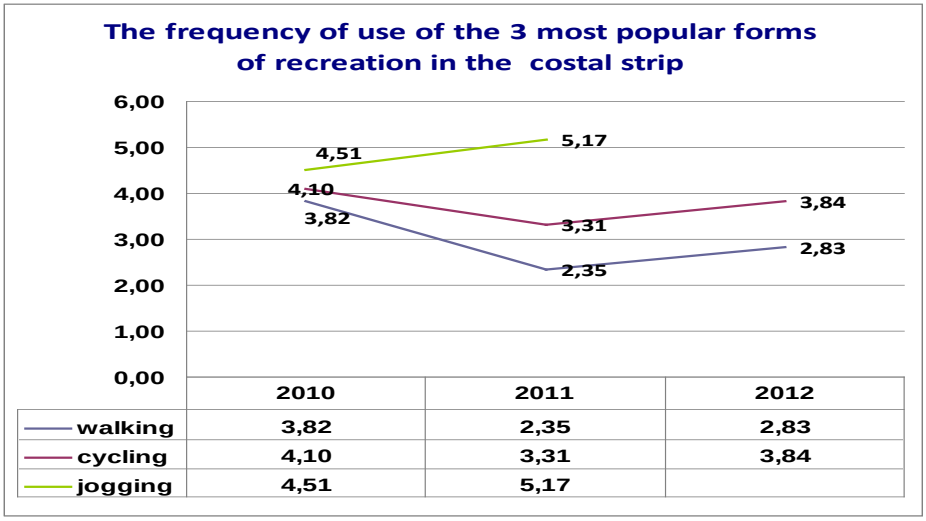
- **Key result 2 -** related to indicator 2

The use of the recreation infrastructure in the coastal strip area is presented by the indicator of the frequency of most popular forms of recreation, i.e. walking, jogging and cycling trips in the seaside area. The evaluation conducted in 2010-2012 demonstrates an increase in the frequency of use of the coastal strip since 2010 for each of the 3 most popular forms of recreation:

- highest increase of indicators in frequency was observed between 2010-2011, for each of the 3 forms of recreation,
- -the most significant increase of indicators occurred in the daily practice of each of 3 presented forms,
- the highest frequency indicator increase was noticed in "once a week" frequency,
- the most frequently practised form of recreation is daily walking along the coastal strip.

The greatest increase in the frequency indicator (by 24.3%) occurred year-to-year in 2010 – 2011 in the daily walking category. In the case of jogging, the use of the coastal strip area by persons jogging every day increased by ca. 8%. As for cycling for leisure in the coastal strip area, there is an upward trend for each frequency category. The difference was the most striking in the 2010-2011 period, by ca. 7% on average for each cycling frequency category.

FIGURE C6.2: Coastal strip survey 2010-2012 - The frequency of using the recreation area of the coastal belt by walkers, cyclists, and joggers.



	2010	2011	2012
walking	3,82	2,35	2,83
cycling	4,10	3,31	3,84
jogging	4,51	5,17	

The mean difference in responses is the highest in the case of practicing jogging and has shown a constant growing tendency during the last three measurements. Practicing walking and riding a bicycle in 2011 clearly decreased the mean ratio of utilisation of the ways as compared with the 1st measure taken in 2010. The recent year (2012) shows an increase in pursuing both options, however it has not reached the level of 2010.

Key result 3 related to frequency of road incidents involving cyclists (accidents and collisions) on the roads at the seaside area in Gdańsk.

The statistics of incidents involving cyclists in the coastal strip area is presented in the context of general indicators for the whole cycling infrastructure in the city. In the case of accidents involving cyclists the increasing trend did not appear until 2011. As for collisions, the upward trend was steady in the consecutive years. Compared with 2008 the number of collisions increased by no less than 54% for the whole city.

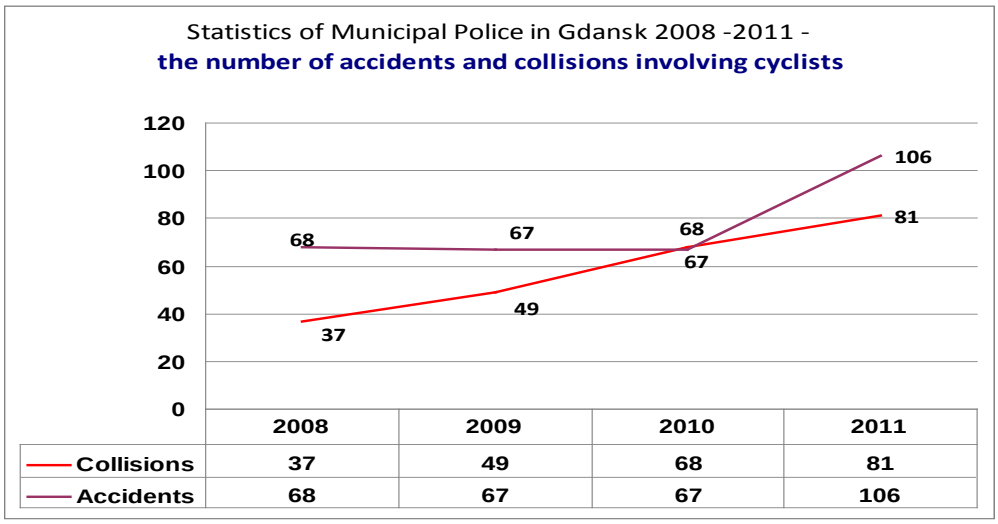
This adverse trend is confirmed by the number of injured persons, especially since 2011. The accident indicator, which increased significantly since 2011, was 35.8% higher than in 2008, with respect to the entire cycling infrastructure in the city.

The number of accidents involving cyclists in the coastal strip area increased threefold, within a single year since 2011: from 2 accidents per year in 2009-2010 to 7 in 2011. In 2012, by the end of October there were as many as 155 road incidents involving cyclists, including 112 accidents.

In 70% of the cases cyclists are the injured party and only in 30% they are the cause of road accidents or collisions. Considering the increased use of the coastal strip (by pedestrians, inline skaters and cyclists), the incident numbers are very low, although there has been an upward trend, particularly since 2011. There was a threefold increase in the number of

accidents involving cyclists in the coastal strip area alone: from 2 accidents per year in 2009-2010 to 7 in 2011. A 50% reduction in the number of road incidents involving cyclists was an entirely unrealistic target.

FIGURE C6.3: Statistics of Municipal Police in Gdańsk 2008-2011- the number of accidents.



The curve of collisions and accidents for the measurements taken between 2008 and 2011 shows a constantly growing tendency. In 2010 there was a rapid increase in the number of accidents (from 68 up to 106), however a nature of the increase in the number of collisions was milder and more progressive along the whole measuring period.

C7 Future Activities Relating to the Measure

In the nearest future it is planned to continue the campaign Direction: Respect. The City Hall of Gdańsk and the Gdansk Cycle Officer are planning to implement a lot of improvements related with cycle infrastructure in Gdańsk. All activities which will be undertaken are intended to improve safety & security in urban area.

D Process Evaluation Findings

D1 Deviations from the Original Plan

The deviations from the original plan comprised:

- **Deviation 1 Delays associated with actions and evaluation process -** Due to the delays of the MIMOSA project in Gdansk, advertising and promotion actions were postponed. The project was launched one year later than initially planned. Owing to problems with organisation and with procedures and routines in City Hall of Gdańsk, the CIVITAS MIMOSA Team was created several months later than it had been initially planned. Some of the activities were postponed till the end of the project, which caused reporting delays.
- **Deviation 2 Lack of data (mostly in Transport, safety category) –** A number of problems occurred in Gdańsk involving data collection by other institutions. The police, supplying information about the safety and security in the impact area, noted only a small number of accidents, because most accidents had not been reported (those accidents did not entail any serious injuries).
- **Deviation 3 Smaller group of respondents –** The CIVITAS MIMOSA Team carried out a survey on a smaller scale than initially planned. The target group was associated with the cycling path in the seaside area and it was difficult to obtain more responses. The evaluation team decided to conduct the surveys on a smaller group, but every year the data were comparable.
- **Deviation 4 Lack of cooperation with bike rental stores** – as a result of this it was not possible to obtain bicycle rental statistics from private bike rental companies.

D2 Barriers and Drivers

D2.1 Barriers

Preparation phase

- **Barrier 1 –- (overall barrier) -** Complex administrative structures, procedures and routines, laws, rules, regulations and ways of their application, hierarchical structure of organization – all these time-consuming factors caused delays in starting up the realization of the measure. There were some organisational problems related to long and demanding employment procedures in the City Hall of Gdansk that caused some difficulties in the implementation of the first tasks. This may result in further, but not significant delays. This kind of procedures and structures causes delays in the project implementation process.

Implementation phase

- **Barrier 1 – Involvement, communication, organizational** - different restrictions concerning the features of cycle racks caused delays in the tender procedure for purchasing the cycle racks. Members of the cycling policy organizations had difficulties to determine the location, shape and ways of creating cycle parking facilities. Also, the

inefficient co-operation with the beach administrator led to delays in installation of cycle racks.

Operation phase

- **Barrier 1** – **Involvement, communication -** various concepts of the measure implementation led us to conduct a survey to choose the way of implementation. The results showed that, according to the public, the most important activity to improve safety in the seaside area was a promotional (social) campaign.
- **Barrier 2** – **Organizational** - problems with co-operation with partners in case of investment part of the measure, lack of partners and incomplete concepts, led to delays in measure implementation.

D2.2 Drivers

Preparation phase

- **Lack of driver during the first phase.**

Implementation phase

- **Driver 1** – **Organizational -** highly motivated key measure persons led to a compromise with the beach administrator concerning the location of bike parking racks. Also, space for cycle racks near the beach has been made available and allowed to implement the measure. Additionally the assistance provided by ZDIZ (Road and Greeneries Management) contributed to finalisation of safety-oriented investments along the seaside cycle path.
- **Driver 2** – **Involvement, communication -** The strong involvement of the organization cooperation in the "Direction – Respect' campaign. Experience from previous campaigns and good contacts with partners supported MIMOSA team to kick of the new campaign easily.

Operation phase

- **Driver 1 – Planning –** The survey gave us an answer as to the direction of implementation of the measure. The answers from the questionnaires forced us to improve the safety in the seaside area by means of a social campaign.
- **Driver 2** – **Financial** - availability of significant funds allowed us to organize two major campaigns: "Direction-Respect" and "Cycling safely in Gdańsk" Additionally thanks to well panned financial budget the investments along the seaside cycle path were possible.
- **Driver 3** - **Involvement, communication –** a workshop with a representative of the French Cyclist Federation on modernisation of cycling infrastructure in European cities gave us advice on how to realize this measure. The workshop for persons/organizations associated with road and infrastructure planning was organized by the City Hall of Gdańsk.

D2.3 Activities

Preparation phase

- **Activities 1** – **Activities 1** – The measure leader was appointed by the President's Regulation of 14th October 2009.

Implementation phase

- **Activities 1** – Cycle parking system – the specification for the tender purpose was prepared and followed by the public procurement procedure for the purchase of cycle racks. The racks were purchased and locations for their installation were selected (420 parking places for bicycles next to 37 beach entrances).

Operation phase

- **Activities 1** – A survey was carried out (among 530 respondents) in order to find out what kind of small investments or actions could increase the safety of cyclists.
- **Activities 2** – Publication of a brochure (5000 copies) was meant to disseminate information on the amendments to the traffic rules concerning cyclists (1). The publication was distributed during numerous events and actions as part of the annual campaign "Rowerem do Celu" bike festiwal and of the European Mobility Week.
- **Activities 3** – Preparation related to the social campaign "Cycling safely in Gdańsk"

  Thanks to the campaign, the brochure containing information about safety, MIMOSA project and a map of cycling facilities was delivered to every household in Gdańsk (165,000 copies).
- **Activities 4** – Cooperation with the Road and Green Areas Authority on investments increasing safety along the pilot cycle path. An outcome of this activity were the improvements in Measure impact area which could affect the safety and security.
- **Activities 5** The new social campaign being prepared in 2012, entitled "Direction — Respect", is aimed chiefly at drivers of private cars. This innovative approach to education for sustainable transport forces drivers to show respect and more consideration to other road users — cyclists and pedestrians.

D3 Participation

D3.1 Measure Partners

- **Measure partner 1 -** Gdansk City Hall, Department of Community Facilities Management – leading role/ project beneficiary
- **Measure partner 2** – Road and Greenery Management – Principal participant – investment in the sea side area realization.
- **Measure partner 4 –** Voivodeship Police - regional Police– principal participant

D3.2 Stakeholders

- **Stakeholder 1 –** Cyclist - most of the improvements and campaigns have been aimed at the cyclists. Cycle racks, the information brochure, social campaign and improvements in the coastal area were benefitted the group.
- **Stakeholder 2** –*The Police* – The measure assumption were in line with the work the Police

D4 Recommendations

D4.1 Recommendations: Measure Replication

- **Recommendation 1 –** The campaign “Cycling Safely in Gdańsk” was a great success. The idea of a direct dissemination of new law regulations regarding cycling brought expected results. . The leaflet form has been enriched by a map of cycling routes, tips on safety and traffic rules. The method of distribution of this publication brought the maximum possible effect, since it was made available to all citizens in Gdańsk.

D4.2 Recommendations: Process (Related to Barrier-, Driver- and Action Fields)

- **Recommendation 1** - It is very important to have support of the institutions or NGOs. The non-governmental sector in Gdańsk is very active and professional, having repeatedly participated in MIMOSA actions. Without an experienced partner in the Road and Greeneries Authority, it would be very difficult to realize the task of improving the small architecture in the coastal strip area.
- **Recommendation 2** – Survey. If there is a lack of clarity as to direction and strategy of action, it is good to ask citizens what they think, by means of a short survey. In this situation answers are provided by residents and there is also a chance that the activity will be positively received by the residents.
- **Recommendation 3** CIVITAS MIMOSA is undoubtedly contributing to the increased attention given to the issue of safety of road and cycle path users. The security issue should be taken up in further research. Consultations regarding security should be attended by road engineering specialists and the Police, rather than only road users and mobility management institutions. This is a very important aspect of local social policy and economy, which requires a lot of further research, consultation and decision-making measures on a broad platform of cooperation involving many stakeholders.