



Action Plan for Municipality of Bydgoszcz

May 11st, 2022

Municipality of Bydgoszcz



Municipality of Bydgoszcz – Energy Management
Office



1. Table of contents

1. Part I – General information	3
2. Part II – Policy context.....	4
3. Part III – Details of the actions envisaged	5
3.1 Proposed actions.....	7
3.1.1 Action 1: 2050 CliMobCity contribution report for the Bydgoszcz Spatial Development Masterplan	9
3.1.2 Action 2: Technical specification for the “Feasibility study into the micromobility and car-sharing development in the City of Bydgoszcz”	12
3.1.4 Action 3: Pilot enrolment of the Bydgoszcz Cycling Network wayfinding system.....	14
4. Monitoring of the action plan implementation in Phase 2.....	17
5. Signatures	18



1. Part I – General information

Project:	2050CliMobCity
Partner organisation(s) concerned:	<i>Municipality of Bydgoszcz</i>
Country:	Poland [Polska]
NUTS2 region:	PL 613 Bydgosko - Toruński
Contact person:	Hanna Lewandowska Arkadiusz Drabicki (external consultant – Gradiens Sp. z o. o.)
Email address:	h.lewandowska@um.bydgoszcz.pl arkadiusz.drabicki@gradiens.pl
Phone number:	+ 48 52 58 59 490

*This is the reformatted web-version of the Action Plan.
For the formal version, please contact the indicated contact person.*



2. Part II – Policy context

The Action Plan aims to impact: ✓ Local Development Policy Instrument

Name of the policy instrument(s) addressed:

ERDF

The Regional Operational Program for the Kujawsko-Pomorskie Voivodship 2014-2020; Priority 4e "Promoting low-carbon strategies for all types of territories, particularly for urban areas, including support for sustainable urban mobility and adaptation measures having a mitigating effect on climate change".

Further details on the policy context and the way the action plan should contribute to improve the policy instruments:

The action plan of the 2050CliMobCity project will support the ERDF policy instrument mentioned above by **highlighting not only the need to undertake general initiatives to reduce CO₂ emissions from the mobility sector**, but also by identifying specific actions that can eventually contribute towards effective implementation of the ERDF objectives:

- Improving the efficiency of urban transport and freight system in the city.
- Promotion of sustainable and integrated transport and land use planning.
- Promotion of alternative transport schemes by installing the appropriate infrastructure in the city's public space
- Raising the citizens' awareness of sustainable mobility by targeted campaigns and joint initiatives with specific stakeholders to secure low carbon emissions from transport mode choices



3. Part III – Details of the actions envisaged

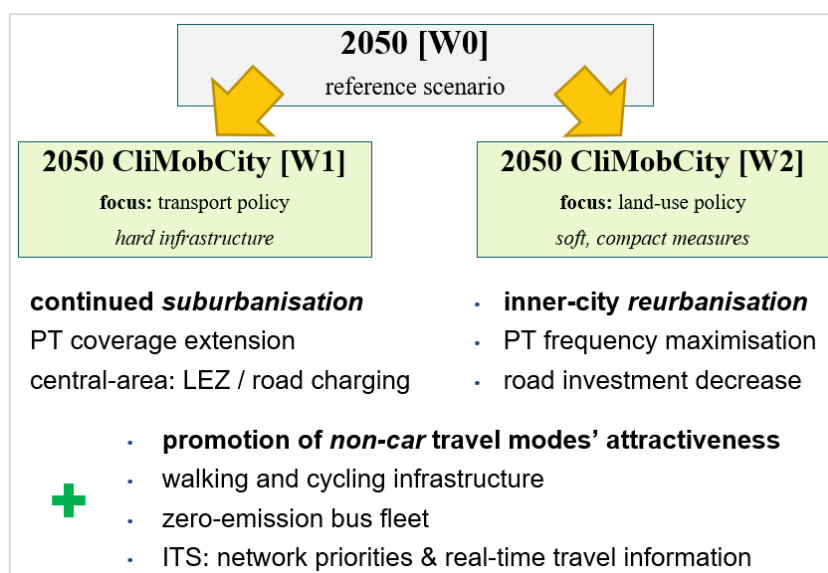
The 2050 CliMobCity Bydgoszcz project works have resulted in measure packages for reducing the GHG emissions, which have been conceived on the basis of:

- Formulating and enhancing measure packages resulting from the consultation procedure between the project team, the Municipality and stakeholders,
- Predicting the change of mobility due to the measure packages by using the multimodal transport model of the Bydgoszcz City. Such analysis and the process of defining measure packages took place iteratively by acquiring stakeholders' feedback on analysis results.
- Elaborating accompanying measures, including thematic areas insufficiently addressed (or 'overlooked') in the present-day strategic policies and tactical actions. The latter form the basis of the reference scenario [W0] (= business-as-usual scenario = BAU scenario).

The proposed measures are pillared on the intervention areas defined by the 2050 CliMobCity project, namely:

- Land use
- Public transport
- Active modes
- Individual car transport

Table 1: The outline of 2050CliMobCity measures packages and scenarios



The main measures (indicated above) comprise a range of specific interventions, infrastructure projects and policy proposals. These were eventually combined into two CliMobCity scenarios targeting the (aforementioned) pillar areas with distinct approaches:



- **The CliMobCity scenario [W1]** assumes that the current suburbanisation process will remain sustained in the foreseeable future, resulting in greater investment activity and residential development further away from the central areas. The public transport resources will have to be channelled towards coverage extension projects to provide a sustainable transport alternative for the private car use in low-density outer areas. The Bydgoszcz Low Emission Zone (LEZ) will be established, firstly in the central area, and then gradually extended towards surrounding areas. The LEZ project will help to facilitate the modernisation of private car fleet towards mostly zero- (or low-) emission vehicles by the year 2050.
- **The CliMobCity scenario [W2]** reverses the long-term spatial development process assumed in the scenario [W1] towards continuous reurbanisation and inner-city densification. The aim is to support the compact city development, discourage extensive greenfield investment, and promote brownfield regeneration projects instead. Public transport investment will then primarily focus on efficient utilisation of the existent resources and providing high-frequency services within densely populated areas. Certain road investment projects will be rendered then superfluous, especially in suburban areas, while the inner-city road capacity will be partially relocated to alternative transport modes (tram and bus lanes (and designated carriageways), cycle lanes and pedestrianised public spaces).

Both 2050 CliMobCity scenarios have an explorative nature, driven by out-of-the-box thinking, in order to identify promising ingredients for future strategic policies which together provide sufficient CO₂ reduction for the climate aim of Bydgoszcz. Moreover, **in both scenarios** efforts will be taken into consideration to foster the attractiveness of active and new travel modes (walking and cycling), both by means of *hard* investment and intervention schemes, as well as *soft* policy instruments and promotion campaigns. The whole city bus fleet will become zero-emission by the year 2050 which will additionally help tackle the CO₂ emissions originating from transport sector. Innovative ITS (Intelligent Transport Systems) solutions will be deployed to ensure effective bus and tram priorities and equip passengers with real-time travel information. Hence, the ITS measures will contribute not only to improved travel conditions (shorter journey times etc.) but will enhance the overall perceived quality of public transport service. In longer run, all these measures should influence favourably the travel behaviour attitudes and perceptions of the Bydgoszcz City transport users.

The CliMobCity scenario measures were analysed with modelling tools, which thus yielded an evidence-based assessment for the presented Action Plan of the 2050 CliMobCity project. The measures were simulated in a multimodal strategic transport model (in PTV VISUM software) of the Bydgoszcz City. The model is capable of forecasting the impact of various transport network schemes – including private (road) transport, public transport, walking and cycling – and yield a wide range of quantitative performance results. The demand model is represented with the full, classical 4-step calculation procedure that emulates the travel behaviour process outcomes, depending on socio-demographics, land-use data, mobility preferences. Finally, the results of transport modelling analysis were then evaluated by PIK¹ to assess the potential CO₂ emissions' changes. This was carried out in the Euro-Calc model, adapted to the city level.

The fact that the impact of proposed CliMobCity measures are calculated and tested using the Bydgoszcz strategic transport model can be a strong validation of the Action Plan actions. Hence, the measures presented further in the Action Plans can be perceived as favourable and promising steps towards the achievement of ultimate 2050 CliMobCity project objectives. Importantly, the action plan should be implementable and monitorable during the second phase of the project. Hence, the relative **narrowness of time window has to be taken into account**.

¹ Potsdam Institute for Climate Impact Research

**Moreover, the Action Plan should contain:**

- Activities to support the creation or adaptation of a policy, resulting in a process
- Activities to create, improve or strengthen, elaborate or supplement policy plans
- Activities to achieve concrete policy implementations of measures in practice

In advance for each action of the 2050CliMobCity Action Plan should be justified:

- the way the action is linked to the project,
- the nature of the activity to be implemented,
- the timeframe,
- the stakeholders involved,
- the costs and the funding sources,

Last but not least, the actions that are going to be implemented are aiming to influence policy instruments addressed in the application form of the project. The main policy instrument in this regard is the ERDF document, i.e. the Regional Operational Program for the Kujawsko-Pomorskie Voivodship 2014-2020.

3.1 Proposed actions

The 2050 CliMobCity project works involved the participation of Municipal Services and the Administration Authority to in order identify the set of actions feasible within the timeframe of the 2nd Phase of the CliMobCity project. These actions are an outcome of modelling analyses and stakeholder meetings and have been conceived as auxiliary (supportive) measures for the main measure packages of the CliMobCity Bydgoszcz scenarios. They should be undertaken by the City as the prerequisite actions within the short-term time horizon, thus paving the way towards eventual implementation of the main measures.

The 2050 CliMobCity Action Plan for the Municipality of Bydgoszcz consists of the following actions:

1. **2050 CliMobCity contribution report for the Bydgoszcz Spatial Development Masterplan**
2. **Technical specification for the “Feasibility study into the micromobility and car-sharing development in the City of Bydgoszcz”**
3. **Pilot enrolment of the Bydgoszcz Cycling Network wayfinding system**

The scope of the Bydgoszcz CliMobCity Action Plan has been formulated to initiate and support transport measures in the areas that have been hitherto insufficiently addressed by the City’s strategic documents and activities. These pertain to promotion of new travel modes, fostering the role of active modes (walking and cycling) and long-term adjustments in the City’s transport and urban planning strategy. These measures have been revealed in the CliMobCity modelling analysis as prospective in reducing the negative climate externalities (CO₂ emissions etc.) and, simultaneously, preserving the sustainability and efficiency of the city transport sector.

Therefore, the main emphasis of Action Plan is placed upon the following spectre of transport themes:

- land use and transport interactions,
- active travel modes and micromobility,



- shared transport modes.



3.1.1 Action 1: 2050 CliMobCity contribution report for the Bydgoszcz Spatial Development Masterplan

ACTION 1:	2050 CliMobCity contribution report for the Bydgoszcz Spatial Development Masterplan
1. Relevance to the project	<p><i>Land use development policy has profound implications in longer term for the transport system efficiency and its negative externalities. This is supported by manifold state-of-the-art research studies (in the LUTI² domain etc.) and practical observations, and was therefore included in the objectives of the project (Application form of 2050 CliMobCity). In the past decades, the sustained socio-economic development, coupled with relatively lax spatial planning framework, has fostered the suburbanisation processes in multiple Polish cities, Bydgoszcz included. This inevitably lead to higher car dependency and longer trip distances, increasing the pressure on city transport networks. Unfortunately, national and regional forecasts indicate that the suburbanisation trend will prevail in the forthcoming years, strengthening these phenomena and the negative externalities of transport sector. Among these, a major risk pertained to even greater CO₂ emissions in urban areas.</i></p> <p><i>The 2050 CliMobCity analyses on Bydgoszcz underline the advantages of sustainable and efficient land use development strategy for the transport sector. In the compact city scenario [W2], the demand pressure upon road network decreases, as many trips fall within an acceptable walking or cycling distance, or can be made efficiently by public transport. Transport simulation and PIK's CO₂ analysis point to reduced trip distances, shorter travel times, modal shift towards public transport and active travel, and CO₂ reduction on the city scale in the [W2] scenario, slightly more than in the [W1] scenario and substantially more compared to the BAU scenario. Such benefits, in particular the decrease of average travel distance, are difficult to achieve without spatial measures, as could be learned from the demonstrations of the other partner cities.</i></p> <p><i>With the [W2] measure package and its effects in mind, the City policies should be ultimately reoriented towards an effective spatial development strategy: i.e., one that encourages reurbanisation and densification schemes, brownfield regeneration projects. Meanwhile, excessive greenfield investment should be indirectly constrained, so as to promote a more 'inward' land use development direction.</i></p> <p><i>The planned Bydgoszcz Spatial Development Masterplan (SUiKZP) will be the main document that outlines future development directions at the strategic level, spanning multiple aspects: transport system, land use policy, technical infrastructure, environmental protection etc. While the main direction of spatial development has been stipulated during the 2050 CliMobCity project works, the concrete spatial development still needs to be outlined. The stakeholders from the Department from Spatial Development (MPU) of the Bydgoszcz Municipality presented us the SUiKZP assumptions and future ideas. Interestingly, the LUTI topic was heavily debated during</i></p>

² LUTI – land-use and transport interaction



	<p>the stakeholder meeting and led to a number of conclusions. The consequences of continued suburbanisation and greenfield residential projects were raised as points of potential concern. Consequently, it was observable that the Spatial Development Masterplan (SUiKZP) could benefit from an in-depth analytical exploration of LUTI consequences of alternate land-use scenarios in the Bydgoszcz City.</p>
2. Nature of the action	<p>The nature of the action is contributing to the municipal strategic planning.</p> <p>The scope of proposed action is to produce a contribution report from the 2050 CliMobCity Bydgoszcz project for the Spatial Development Masterplan (SUiKZP), which is currently being updated. The SUiKZP updating procedure envisages public consultations and stakeholders' feedback. At this stage, the SUiKZP proposal can be submitted for an in-depth consideration by the Municipality.</p> <p>The CliMobCity project team can support the above co-creation process with a series of recommendations based on the CliMobCity analytical works. The Contribution report to the SUiKZP will consist of following items:</p> <ul style="list-style-type: none"> • executive summary ('key takeaways') • report scope and objective • data inputs, methodology – multimodal transport modelling • analysis scenarios and modelling results – KPIs: projected transport network performance, quality of transport service, plus environmental (CO₂) impacts. • conclusions and discussion • <u>recommendations for long-term spatial planning of Bydgoszcz City and SUiKZP amendment proposals.</u>
2b. Estimated impact	<p>The Spatial Planning Department will be provided with a series of evidence-based proposals for updating the newly developed SUiKZP masterplan. This will reinforce the analytical fundament for crafting the ultimate SUiKZP strategy. Moreover, the potential success of this action could inspire the development of follow-up (and synergic) actions that will foster further the efforts towards the GHG emission reductions.</p> <p>Such fundament will support the ensuing consultation meetings, raise awareness on long-term adjustments in urban and mobility planning directions and in this way give advisory orientation to all involved municipal and stakeholder decision-makers, improve the quality of the SUiKZP and reduce its production time. These effects, however, cannot be monitored in the monitoring phase. The monitoring will be limited to 1) municipal decision to carry out the 2050 CliMobCity contribution report and produce a draft version, 2) conduct corresponding consultations and feed the results back to the city and its experts, and 3) launch the final contribution report.</p>
2c. Relations	
3. Actors involved	<ul style="list-style-type: none"> • Spatial Planning Department of the Bydgoszcz Municipality [Miejska Pracownia Urbanistyczna]. The MPU department is the main



	<p>body responsible for Spatial Development Masterplan, urban planning and spatial management in the Bydgoszcz City.</p> <ul style="list-style-type: none"> • Road and Public Transport Department of the Bydgoszcz Municipality [Zarząd Dróg Miejskich i Komunikacji Publicznej]. The ZDMiKP department is the main body responsible for transportation system management and development in the Bydgoszcz City. 																																																																																									
3b. Responsible Actor	<ul style="list-style-type: none"> • Energy Management Office of the Bydgoszcz Municipality [Zespół Zarządzania Energią] 																																																																																									
4. Timeframe	<table border="1"> <thead> <tr> <th rowspan="3">Actions</th> <th colspan="12">Time</th> </tr> <tr> <th colspan="6">2022</th> <th colspan="6">2023</th> </tr> <tr> <th colspan="6">7th Semester</th> <th colspan="6">8th Semester</th> </tr> <tr> <th></th> <th>7</th> <th>8</th> <th>9</th> <th>10</th> <th>11</th> <th>12</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> </tr> </thead> <tbody> <tr> <td>Preliminary report submission</td> <td>■</td> <td>■</td> <td>■</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Consultations and feedback</td> <td></td> <td></td> <td></td> <td>■</td> <td>■</td> <td>■</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Final report submission</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>■</td> <td>■</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Actions	Time												2022						2023						7th Semester						8th Semester							7	8	9	10	11	12	1	2	3	4	5	6	Preliminary report submission	■	■	■										Consultations and feedback				■	■	■							Final report submission							■	■				
Actions	Time																																																																																									
	2022						2023																																																																																			
	7th Semester						8th Semester																																																																																			
	7	8	9	10	11	12	1	2	3	4	5	6																																																																														
Preliminary report submission	■	■	■																																																																																							
Consultations and feedback				■	■	■																																																																																				
Final report submission							■	■																																																																																		
5. Costs	<p>The report will be prepared by the CliMobCity project team, subject to verification by the Municipality staff – requiring their limited involvement.</p> <p>Costs for the preparation of the report: approx. 2.000 €</p>																																																																																									
6. Funding sources	<p>The main funding source for the documentation will be the Municipality of Bydgoszcz funds (Energy Management Office budget).</p>																																																																																									
7. Priority	<p>This action is of high priority</p>																																																																																									



3.1.2 Action 2: Technical specification for the “Feasibility study into the micromobility and car-sharing development in the City of Bydgoszcz”

ACTION 2:	Technical specification for the “Feasibility study into the micromobility and car-sharing development in the City of Bydgoszcz”
Relevance to the project	<p><i>New travel modes are emerging in urban areas. Stakeholder meetings revealed much interest in solutions such as: (1.) micromobility: e-scooters and e-bikes, as well as (2.) car-sharing (and ride-hailing) solutions. The exact role and potential of these travel modes remain yet not sufficiently understood. This was also the conclusion from discussions at different 2050 CliMobCity project meetings, despite the fact that there has already been some pilot experimentation in Leipzig. It has been underlined that micromobility and car-sharing could be utilised by many travellers both as ‘core’ transport mode, as well as the access modes (‘first-/last-mile solution’).</i></p> <p>The Municipality of Bydgoszcz and stakeholder meetings are keen in general to understand the prospects for growth of micromobility and car-sharing systems in the City of Bydgoszcz. Hence, it was concluded that a feasibility and/or analytical study may be commissioned to examine that topic. The study will focus on the following topics:</p> <ul style="list-style-type: none"> • <i>preferences and attitudes towards using e-scooters, e-bikes, car-sharing and ride-hailing options in everyday journeys,</i> • <i>potential barriers in adoption of micromobility or car-sharing modes,</i> • <i>present legal framework and required changes,</i> • <i>conceptual strategy for development of micromobility and car-sharing in the City of Bydgoszcz Area – including: location hubs, designated parking places and travel routes.</i> <p><i>The feasibility study should aim at a comprehensive investigation of current and future prospects of effective micromobility and car-sharing development in Bydgoszcz. Strengthening the role of these travel modes will decrease the propensity towards individual car journeys. In longer perspective, this will support much the CO₂ emission reduction efforts, which have been analysed in the CliMobCity modelling works.</i></p>
Nature of the action	<p><i>The nature of the action is contributing to the municipal strategic planning.</i></p> <p><i>This action will provide a document formulating the technical specifications for a later “Feasibility study into the micromobility and car-sharing development in the City of Bydgoszcz”. As less conventional and underexplored transport modes are involved, a comprehensive understanding of their features and functioning (e.g. which mobility chains, types and locations of hubs, mobility and CO₂ effects, potential and spatial demand) is needed, and of the required innovations of methods and mobility modelling. This all is the subject of the Technical specifications document, providing professional assistance to the Municipality of Bydgoszcz and enabling the city to conduct the planned feasibility study.</i></p> <p><i>The action will include and the monitoring will focus on 1) the municipal decision to carry out the Technical specifications document, and the production of a draft version, 2) conducting corresponding consultations and feeding the results back to the city, and 3) launching the final Technical specifications report.</i></p>



2b. Estimated impact	<p>A professionally designed technical specification will define clearly: objectives, methods and expected outcomes of such feasibility study. This will ultimately provide the Municipality with a high-quality and insightful research and policy material. Moreover, the study will put the Municipality in an advantageous position to facilitate further development of micromobility and car-sharing modes in the City. The research and evidence-based report will help city identify and potentially overcome various challenges and obstacles (legal framework, mobility behaviour preferences, technical implementation) and define follow-up actions supporting the creation of effective micromobility and car-sharing systems in the City. Eventually, increasing the share of such trips will help reduce the GHG emissions resultant from individual, motorized car travel.</p>																																																																																									
2c. Relations																																																																																										
Stakeholders involved	<ul style="list-style-type: none"> • Road and Public Transport Department of the Bydgoszcz Municipality [Zarząd Dróg Miejskich i Komunikacji Publicznej]. The ZDMiKP department is the main body responsible for transportation system management and development in the Bydgoszcz City. 																																																																																									
Actors involved	<ul style="list-style-type: none"> • Spatial Planning Department of the Bydgoszcz Municipality [Miejska Pracownia Urbanistyczna]. The MPU department is the main body responsible for Spatial Development Masterplan, urban planning and spatial management in the Bydgoszcz City. 																																																																																									
3b. Responsible Actor	<ul style="list-style-type: none"> • Energy Management Office of the Bydgoszcz Municipality [Zespół Zarządzania Energią] 																																																																																									
Timeframe	<table border="1"> <thead> <tr> <th rowspan="3"></th> <th colspan="12">Time</th> </tr> <tr> <th colspan="6">2022</th> <th colspan="6">2023</th> </tr> <tr> <th colspan="6">7th Semester</th> <th colspan="6">8th Semester</th> </tr> <tr> <th>Actions</th> <th>7</th> <th>8</th> <th>9</th> <th>10</th> <th>11</th> <th>12</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> </tr> </thead> <tbody> <tr> <td>Proof-of-concept specification</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="background-color: yellow;"></td> <td style="background-color: yellow;"></td> <td style="background-color: yellow;"></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Municipality feedback</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="background-color: yellow;"></td> <td style="background-color: yellow;"></td> <td style="background-color: yellow;"></td> <td></td> </tr> <tr> <td>Final technical specification</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="background-color: yellow;"></td> <td style="background-color: yellow;"></td> </tr> </tbody> </table>		Time												2022						2023						7th Semester						8th Semester						Actions	7	8	9	10	11	12	1	2	3	4	5	6	Proof-of-concept specification													Municipality feedback													Final technical specification												
	Time																																																																																									
	2022						2023																																																																																			
	7th Semester						8th Semester																																																																																			
Actions	7	8	9	10	11	12	1	2	3	4	5	6																																																																														
Proof-of-concept specification																																																																																										
Municipality feedback																																																																																										
Final technical specification																																																																																										
Costs	<p>This action will require the involvement of Municipality staff, and optionally - external professional support.</p> <p>Estimated costs:</p> <ul style="list-style-type: none"> • Municipality staff: 4 man-months work -> 10.000 € • External expertise (if needed) -> 10.000 € 																																																																																									
Funding sources	<p>The main funding source for the documentation will be the Municipality of Bydgoszcz budget.</p>																																																																																									
Priority	<p>This action is of high priority</p>																																																																																									



3.1.4 Action 3: Pilot enrolment of the Bydgoszcz Cycling Network wayfinding system

ACTION 3:	Pilot enrolment of the Bydgoszcz Cycling Network wayfinding system
<p>1. Relevance to the project</p>	<p><i>Bicycle as an everyday transport mode in Bydgoszcz (and Polish cities) has a relatively low patronage rate: its modal share oscillates within a range of 1 to 5% of trips. While investment in cycle infrastructure has been increasing significantly in recent years, more can be done to foster its role as an efficient and climate-friendly means of urban transport. The 2050 CliMobCity modelling analysis has revealed the prospective potential of the bicycle in multiple short- and medium-range trips in city journeys: ca. 15% of motorised trips in Bydgoszcz can be completed by cycling up to 10 minutes; and ca. 40% of them would require a max. 20-minute cycling trip. This observation has been raised in meetings with the Project Leader, who shared their interesting experiences from the Netherlands. These were all the more important, considering the prominent role of bicycle as a primary transport mode in Dutch cities.</i></p> <p><i>Meanwhile, stakeholder meetings revealed certain obstacles to effective promotion of cycling journeys in Bydgoszcz. These stretch from infrastructural deficiencies (multiple gaps in bicycle network), limited accessibility, lack of dedicated signage for cycling traffic, insufficient prevalence of traffic calming measures etc. Consequently, these aspects may influence the relative unattractive perceptions of bicycle transport among the city residents.</i></p> <p><i>Consequently, a solution which has been conceived during the CliMobCity project works relates to pilot development of wayfinding and signposting elements dedicated for cyclists in the Bydgoszcz central area. These are inspired by solutions present in countries with high modal share of cycling (Netherlands in particular). Such system will help cyclists navigate through road network more easily and conveniently. New signposts located at the crossroads will indicate cycling directions to main districts (or POIs³), including cycling distance or (estimated) time. These signs could either follow the main cycling routes, as well as indicate low-traffic 'quietways' as recommended cycling routes – thus helping the cyclists avoid the busiest roads.</i></p>
<p>2. Nature of the action</p>	<p><i>The nature of this action is implementing a pilot and preparing the implementation.</i></p> <p><i>The first major step of the action is to describe the concept and its benefits and give an overview of the locations in the Bydgoszcz central area. This includes defining the technical and visual design features and all what is required to implement a set of cycling signposts. The second step is to implement the pilot cycling signposts themselves. The third step will involve the monitoring and short-term evaluation of this pilot project.</i></p>

³ POI – point of interest



<p>2b. Estimated impact</p>	<p><i>This action will contribute to the promotion of alternative and active means of transport. Its objective will be to improve the perceived attractiveness of cycling and pave the way towards wider enrolment of dedicated cycling wayfinding system.</i></p> <p><i>Preferably, the impacts of pilot cycling signposting system will have to be monitored ex-post and ex-ante, with the following approaches:</i></p> <ul style="list-style-type: none"> <i>bicycle traffic counts (before vs. after)</i> <i>user satisfaction survey (before vs. after).</i> <p><i>Within the (relatively short) timeframe of this action, only a limited scope of monitoring and evaluation analysis will be viable (e.g. analysing users' perceptions of newly installed signposts). This should be followed up by main, proper monitoring process which will take place outside of the project.</i></p> <p><i>Analogous to previous actions, the success of this actions can spur the emergence of follow-up proposals, especially those targeting and supporting the bicycle traffic promotion in the City. These actions will be simultaneously supportive (and synergic) in context of the overarching objective – the GHG emission reductions.</i></p>																																																																																																						
<p>2c. Relations</p>																																																																																																							
<p>3. Stakeholders involved</p>	<ul style="list-style-type: none"> Road and Public Transport Department of the Bydgoszcz Municipality [Zarząd Dróg Miejskich i Komunikacji Publicznej]. The ZDMiKP department is the main body responsible for transportation system management and development in the Bydgoszcz City. 																																																																																																						
<p>3b. Responsible Actor</p>	<ul style="list-style-type: none"> Road and Public Transport Department of the Bydgoszcz Municipality (ZDMiKP) [Zarząd Dróg Miejskich i Komunikacji Publicznej] 																																																																																																						
<p>4. Timeframe</p>	<table border="1"> <thead> <tr> <th rowspan="3"></th> <th colspan="12">Time</th> </tr> <tr> <th colspan="6">2022</th> <th colspan="6">2023</th> </tr> <tr> <th colspan="6">7th Semester</th> <th colspan="6">8th Semester</th> </tr> <tr> <th>Actions</th> <th>7</th> <th>8</th> <th>9</th> <th>10</th> <th>11</th> <th>12</th> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> </tr> </thead> <tbody> <tr> <td>Preliminary procedures for the staff members</td> <td></td> <td></td> <td></td> <td style="background-color: yellow;"></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Concept preparation and selection of signposting locations</td> <td></td> <td></td> <td></td> <td style="background-color: yellow;"></td> <td style="background-color: yellow;"></td> <td style="background-color: yellow;"></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Physical installation of cycling signposts</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="background-color: yellow;"></td> <td style="background-color: yellow;"></td> <td style="background-color: yellow;"></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Monitoring and evaluation</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td style="background-color: yellow;"></td> <td style="background-color: yellow;"></td> <td style="background-color: yellow;"></td> <td style="background-color: yellow;"></td> </tr> </tbody> </table>		Time												2022						2023						7th Semester						8th Semester						Actions	7	8	9	10	11	12	1	2	3	4	5	6	Preliminary procedures for the staff members													Concept preparation and selection of signposting locations													Physical installation of cycling signposts													Monitoring and evaluation												
	Time																																																																																																						
	2022						2023																																																																																																
	7th Semester						8th Semester																																																																																																
Actions	7	8	9	10	11	12	1	2	3	4	5	6																																																																																											
Preliminary procedures for the staff members																																																																																																							
Concept preparation and selection of signposting locations																																																																																																							
Physical installation of cycling signposts																																																																																																							
Monitoring and evaluation																																																																																																							
<p>5. Costs</p>	<p><i>This action will involve costs associated with physical installation of cycling signposts and the necessary staff support (concept preparation and monitoring).</i></p> <p><i>Estimated costs:</i></p> <ul style="list-style-type: none"> <i>pilot cycling signposting elements – ca. 50.000 €</i> <i>staff support: approx.3 man-months – ca. 10.000 €</i> <i>user satisfaction survey - ca. 5.000 €</i> 																																																																																																						



6. Funding sources	<i>The main funding source for the documentation will be the Municipality of Bydgoszcz budget.</i>
7. Priority	<i>This action is of high priority</i>



4. Monitoring of the action plan implementation in Phase 2

Monitoring procedures consist of the usage of Performance Indicators to evaluate the implementation of the proposed actions. This helps to identify whether their progress is in line with the timetable, and until what percentage they have been fulfilled.

For each of the actions, a specific monitoring procedure has been outlined as follows:

ACTION 1: 2050 CliMobCity contribution report for the Bydgoszcz Spatial Development Masterplan

The **performance indicator** is the submission of the CliMobCity contribution report [YES/NO].

To monitor the progress of participation in the Spatial Development Masterplan design process, the following **milestones** are used:

- Submission of the initial report to the MPU [YES/NO]
- Organising 1 or 2 consultation meetings with the MPU and other stakeholders and feedback to the municipality [YES/NO]
- Submission of the final report to the MPU [YES/NO]

ACTION 2: Technical specification for the “Feasibility study into the micromobility and car-sharing development in the City of Bydgoszcz”

The **performance indicator** is the preparation of technical specification [YES/NO].

To monitor the progress of this action, the following **milestones** are used:

- Proof-of-concept specification [YES/NO]
- Feedback to the municipality [YES/NO]
- Final technical specification [YES/NO]

ACTION 3: Pilot enrolment of the Bydgoszcz Cycling Network wayfinding system

The **performance indicator** is the number of cycling signposts installed in Bydgoszcz:

- Number of pilot cycling signposts installed in the City [X/2]

To monitor the progress of the installation of cycling signposts the following **milestones** are used:

- Concept preparation and selection of signposting locations [YES/NO]
- Physical installation of cycling signposts [YES/NO]
- Monitoring and evaluation of travel behaviour preferences [YES/NO]



5. Signatures

Action Plan for the region of the Municipality of Bydgoszcz

Date: _____

Name of the organisation(s) : :

Signatures of the relevant organisation(s): _____