Integrated Action Plan for Urban Resilience through promoting cycling policies and culture throughout Thessaloniki

Sustainable Mobility and Network Directorate
Transport Planning Department

10 February 2018

[An Integrated Action Plan (IAP) is a policy instrument that can be used to respond in a concrete way to a policy challenge. Each IAP is unique, in terms of local context, theme and coverage.]
City: Thessaloniki

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1. Introduction

The Thessaloniki Urban Area is the contiguous densely built-up urban area around the municipality of Thessaloniki, Greece, which is the second largest municipality by population in the country after Athens. In the 2011 Greek census, the municipalities of the urban area had a combined population of 790,824 inhabitants, while their combined land area was 111.703 km².

The contiguous urban fabric (built-up area) consists of six self-governing municipalities and the municipal unit Pylaia, and forms the urban core of the Thessaloniki Metropolitan Area. This urban area is referred to as the "City of Thessaloniki", as there is no clear visual distinction or geographic barrier between the municipality of Thessaloniki and the other municipalities of the area. The largest of the municipalities, in terms of population is the municipality of Thessaloniki.

Thessaloniki has a rich history as a major hub of business and culture, from the Roman period to the Byzantine Empire. Today it is still an important metropolitan region for Greece, with an active port, respected universities, and a robust tourist industry.

The functional city area of Thessaloniki is highly urbanized with the building stock covering vastly a larger part of the city. The city mainly consists of residential areas with retail and services market, public buildings and schools, public and private healthcare units and the road network. The housing stock is rather old and presented as significant opportunity for energy savings. The city and its visitors are served by the Thessaloniki Port, Makedonia airport, the railway station and the Thessaloniki International Exhibition Center. The museums and cultural landmarks of the city's 2,330 years of history are famous and numerous, as are also the universities and research institutions.
In 2014 the City of Thessaloniki was accepted in the network of the 100 Resilient Cities, pioneered by the Rockefeller Foundation and created to help cities around the world built resilience to the social, economic and physical challenges that are an increasing part of the 21st century. The City Resilience Index, as defined by the Arup/ Rockefeller Foundation and adopted by the Municipality of Thessaloniki within establishing the Resilient Thessaloniki Strategy 2030 is the following: “City Resilience describes the capacity of cities to function, so that people living and working in cities – particularly the poor and vulnerable – survive and thrive no matter what stresses or shocks they encounter.”

Moreover, Thessaloniki has joined the Covenant of Mayors Initiative in reducing the CO2 emissions and participates in two commitments (7886 and 7948) at the European Innovation Partnership on Smart Cities and Communities.

Having as our main framework the concept of urban resilience, Thessaloniki focuses on one of its main challenges, the issue of mobility within the city, trying to connect problems of infrastructure failure with broader social, economic and environmental issues, in collaboration with a spectrum of different actors and stakeholders creating a base of dialogue and common design and action while learning from the experience and knowledge of other cities within the network.

The Municipality of Thessaloniki is a Public Local Authority (Local Administration). It has a population of 325.000 and is the 2nd largest in Greece, following the Municipality of Athens. The Municipality of Thessaloniki is the main public stakeholder representing the local authority for the city of Thessaloniki, Greece. It aims to the development of the city of Thessaloniki in several levels referring to civil, technical and cultural matters, through the provision of services, the coordination of the public instruments, the solution of the city's problems and the general supervision of the law's implementation. The Municipality of Thessaloniki consists of several departments having different actions, such as the following: Department of Administrative Services, Department of Financial Services, Department of Cultural Services, Department of Sustainable Mobility and Networks, Department of Urban
and Architectural Planning, Department of Construction and Maintenance Works, Department of Environmental Services, etc. The current Integrated Action Plan for Urban Resilience through promoting cycling policies and culture throughout Thessaloniki is edited by engineers (Transport and Architects), on behalf of the Municipality of Thessaloniki, Sustainable Mobility and Network Directorate, Department of Transport Planning.

2. Current Situation

The city has been affected by the economic and political crises that have rocked Greece in recent years. Growing unemployment from a shrinking manufacturing sector and a lack of opportunities for young people have increased social needs, while resources to provide services have decreased. The City of Thessaloniki, in order to address a series of critical problems and challenges in its urban context, has started re-evaluating and re-designing its traffic systems and infrastructures having as a main reference point the concept of resilience.

Concerning the existing transport system, the internal and external ring roads along with the city’s road network (485Km) constitute the main road transport infrastructure. The city and its visitors are served by the Thessaloniki Port, Makedonia airport and the railway station. Intra-urban transports are mainly based on the bus line network (planning by Thessaloniki Public Transport Authority (THE.P.T.A.) {in Greek: Οργανισμός Συγκοινωνιακού Έργου Θεσσαλονίκης Ανώνυμη Εταιρία - ΟΣΕΘ}, operation by Organization of Urban Transportation of Thessaloniki {in Greek: Οργανισμός Αστικών Συγκοινωνιών Θεσσαλονίκης - OΑΣΘ}). The metro construction continues yet hurdled, while the tram and suburban railway remain long term regional plans. Further to the existing, currently, the new parking control system and the new time restrictions for freight road transport (carrying and unloading) are being introduced. The cycle path network of the city is 12km long, while planning for its expanding is ongoing. Several problems exist regarding traffic at the city center and lack of sufficient open, green and parking space. Maintenance of the city’s transport infrastructure always remains a challenge, mainly due to shortage of funding. The Sustainable Urban Mobility Plan of the city is under elaboration with the cooperation of the Institute of Sustainable Mobility and Transportation Networks (in Greek: Ινστιτούτο Μεταφορών - IMET).
Figure 2: Map of Thessaloniki, public transport - bus line network

Figure 3: Thessaloniki Metro Map, Attiko metro (under construction)
Figure 4: Existing parking control system

Figure 5: Existing bicycle network
The overall picture is concluded with the open public spaces, the recently regenerated sea front promenade and the urban green spaces of the city.

**Stresses**

**Figure 7: Transport mode usage in Thessaloniki**

<table>
<thead>
<tr>
<th>MEANS OF TRANSPORT</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car</td>
<td>47%</td>
</tr>
<tr>
<td>Bus</td>
<td>30%</td>
</tr>
<tr>
<td>Walking (&gt;10 min)</td>
<td>15%</td>
</tr>
<tr>
<td>Motorcycle</td>
<td>3%</td>
</tr>
<tr>
<td>Back-seat Driver</td>
<td>3%</td>
</tr>
<tr>
<td>Taxi Cab</td>
<td>1%</td>
</tr>
<tr>
<td>Bicycle</td>
<td>0%</td>
</tr>
<tr>
<td>Other</td>
<td>0%</td>
</tr>
</tbody>
</table>

**Figure 8: Main trip purposes distribution**

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Work</td>
<td>15%</td>
</tr>
<tr>
<td>Shopping</td>
<td>6%</td>
</tr>
<tr>
<td>Going out to eat and drink</td>
<td>4%</td>
</tr>
<tr>
<td>School, University graduate, private teaching centre</td>
<td>2%</td>
</tr>
<tr>
<td>Leave somebody (child at English teaching centre)</td>
<td>2%</td>
</tr>
<tr>
<td>Sports activities</td>
<td>1%</td>
</tr>
<tr>
<td>Pick somebody up (child from English teaching centre)</td>
<td>1%</td>
</tr>
</tbody>
</table>

**Mobility infrastructure is neither well maintained nor connected:** The city lacks a connected mobility system that will allow inter-modality routes and lessen the pressure of overuse in existing infrastructures, like street pavements and buses. There is no clear methodology on estimating and assessing modality modes in the city that further worsens the inefficiency of the existing mobility system. This also results in positioning low carbon mobility options, like the bike, unattractive for everyday transportation and profiles them as recreational, rather than functional. Furthermore, the existing bicycle lanes of the city are not well maintained and, as such, not acknowledged as cycling infrastructure from other users (e.g. parking). The lack of modal connectivity is also a result of a non-collaborative
attitude between the bus operating agency and the local government, as well as the lack of collaboration and communication between the cyclists’ civil society organizations and the bus agency.

Another stress that requires a different approach in the city of Thessaloniki is the mobility infrastructure concerning the mobility network, the mobility units (e.g. busses) and the organizational structures operating them.

The City of Thessaloniki used to be one of the cities with permanent residents at the city center. However, the increased traffic and the increased pollution, due to the increased traffic, and also the deteriorating state of the existing old blocks compared with the high rent prices, have led a lot of city center inhabitants move to the suburbs of Thessaloniki, in search of a better and cheaper living environment. In addition, most companies have decided to leave the city centre and move their headquarters close to the Thessaloniki but outside the city center, due to lower renting costs and due to the lack of parking facilities at the city center for both themselves and their clients. This situation also led the city center inhabitants move outside the city center of Thessaloniki. Finally, the lack of permanent parking places and the need to use the car for their mobility activities, since the local transportation system is very stressed, have also led them to leave the city center of Thessaloniki as a permanent residence. The introduction and the usage of bicycles and generally cycling could invert this unfavorable situation.

According to measurements of the municipal air pollution measurement stations network, the city of Thessaloniki suffers from significant air pollution. Annual CO2 emissions in Thessaloniki are calculated to 2.494.215 tones CO2 (baseline year: 2011). Thessaloniki is determined to decrease these values by approximately 40% by the year 2030 (Sustainable Energy Action Plan under the Covenant of Mayors initiative).

Ageing of building stock: The historical centre of Thessaloniki faces a series of challenges, such as the ageing of building stock and infrastructure, changes of land uses, because of macro-economic factors, decrease of permanent residents and environmental deprivation.

Open public spaces remain not well maintained: The open public spaces, especially squares and pathways around and along cultural heritage sites, are not well maintained due to lack of investments in infrastructure conditioning and improvement. Introducing the bicycle and cycling, as low carbon mobility option, can counterbalance this, by creating place stewardship and restoring/ maintaining urban infrastructure of public spaces.

Lack of trust and transparency: There is a climate of mistrust between the different urban agents, when it comes to issues of urban space and urban conditions of infrastructure development and upgrade. During the workshop with citizens and the local group in Thessaloniki, the lack of trust amongst local government, NGOs, civil society movements and organizations, citizens and other agencies has emerged. This results in disrupted collaborations and mainly sporadic examples of good practice where a multi-actor approach was facilitated and brought about useful outcomes.

Institutional gap about low carbon mobility and accessibility requirements: There is neither national legislation nor strategic plan ratified by the local government that refer to low carbon mobility (including cycling) and to accessibility of areas. Even though civil society initiatives are active in creating awareness about cycling in the city and leading by
example’, there is imminently difficult to measure social impact of accessibility with bicycle, as a unit of mobility. The lack of institutions and requirements on accessibility by citizens to the life of the city also results in the fact that excluded or marginalized populations to remain isolated and excluded with limited means to access the city.

**Facing the stresses**

Historically, Thessaloniki has faced several acute shocks and chronic stresses throughout the centuries both on the urban, social and economic fabric of the city. Every time the city, and mostly its citizens, succeeded in overcoming the different challenges, despite the difficulties. According to the above, the main strength of the city is the various communities of people inside the city. The residents of Thessaloniki have proved to be resilient by creating a vibrant scene of different cultures, mentalities and knowledge that have developed through the numerous universities and research centers located in the city, producing world class research for Thessaloniki and beyond.

Thus far, the institutional responses to social needs have mainly been reactive to problems, rather than proactive. This institutional mode of operation is another reason that created the gap between what citizens need and envision and the public services provided to the citizens. As such, there is a need for an open and collaborative approach that will bring together multiple actors in co-creating strategic agendas and plans, as well as interventions. The increasing interest from citizens on bike mobility (e.g. 1200 people are registered in city bike program) is an encouraging sign that the bicycle, as a resilience ‘catalyst’, can change the city towards more sustainable approaches for urban places and urban infrastructures that will in turn result in strengthening urban resilience.

Currently, the City of Thessaloniki is trying to face its stressed mobility network with the use of different tools and policies: e.g. designing an integrated mobility network for the metropolitan area of Thessaloniki, securing funding for the implementation of these projects, creating a sustainable city-logistics system, promoting alternative means of transportation, through the use of ICTs such as the Urban Mobility Centre and the Easy-Trip platform.

Further to policies, over the past years, the city of Thessaloniki has implemented a number of pilot projects, not only on regeneration of streets and neighborhoods in the inner city, but also in pedestrianisation along sites of cultural heritage. The creation of cycle paths in the city in 2009, even in absence of national technical guidelines (published in 2016), has been received with mixed feelings from both citizens and the planning departments, further worsening the lack of trust and the gap between social demands and public sector (in this case local government) responses and services.

Today, based on the principles of environmental sustainability and urban resilience, the City of Thessaloniki is designing and implementing a series of integrated urban design projects in different neighborhoods of the city. Selected projects recently operational are the “Environmental upgrade of the stock market square” and the “regeneration of the sea front promenade”. As such, the city of Thessaloniki, within the framework of URBACT Resilient Europe project, deploys real-life spatially-explicit experimentation in the area of Toumpa, so as to learn new approaches and co-create new solutions together with citizens to bring the bicycle outside the realm of sports into the everyday city life.
3. Working for urban resilience in urban living labs (co-creation, description of process in ULL = TM)

Urban resilience is the capacity of urban systems, communities, individuals, organisations and businesses to recover and maintain their function and thrive in the aftermath of a shock or a stress, regardless its impact, frequency or magnitude. Aiming at the enhancement of urban resilience for the people, the place and the institutions, the City of Thessaloniki uses the bicycle as a catalyst to achieve lessons and policy experience in planning. Besides, the aspects of cycling could impact social inclusion and self-reliance of citizens, in view to face the traffic congestion and the decrease of permanent residents. The focus is on improving infrastructure’s resilience and connecting it with social resilience, as ways to strengthen local markets, partnership work and collaborative integrative governance approaches for urban resilience at city-level. Particularly, the resilience challenges are formulated as above: i) establishment of cycling-friendly lifestyles, ii) partnership building and involvement of local stakeholders and iii) enhancement of social inclusion and environmental sustainability. The ambition is the effective function of measures and interventions at the Urban Living Lab (ULL) area and the replication of the approach in other urban areas.

Concerning the area of Toumpa, the anchor point for experimenting with the ULL is the issue of bicycle accessibility. Therefore, a local group of people related to mobility, bicycle and the area of Toumpa is formed, in order to co-design and experiment with new ways of planning, organising and thinking for building urban resilience. The local stakeholders and the departments of the institutions that form the knowledge hub of Thessaloniki are positively related to the theme of urban resilience and have an active role towards the “Resilient Thessaloniki” direction. Furthermore, great effort has been made to approach people from the local community interested in the promotion of cycling policies and culture throughout the city:

- Municipality of Thessaloniki-Administration,
- Directorate of Sustainable Mobility and Networks, Department of Traffic Planning,
- Municipal Police - Traffic Directorate
- Representatives of 4th Municipal Arrondissement,
- Thessaloniki Public Transport Authority,
- Sustainable Mobility and Accessibility Committee of the Aristotle University of Thessaloniki,
- Infrastructure and Regional Planning Engineering of the Aristotle University of Thessaloniki,
- Hellenic Institute of Transport,
- Union for Pedestrian Rights,
- Metropolitan Development Agency S.A.,
- Association of Spatial Planning and Urban and Regional Development Engineers – Division of Northern Greece,
- Thessaloniki Association of Bicycle Athletes,
- Bicycle Club “Velos”,
- Representatives of primary and secondary education of the local schools,
- Businesses and
- Citizens
Consultations, discussions and information gathering, as well as exchange of experience took place in URBACT Local Group (ULG) meetings, round tables, seminars and workshops organized periodically by the Directorate of Sustainable Mobility and Networks, Department of Traffic Planning of the Municipality of Thessaloniki, depending on the progress of project activities, according to the following schedule:

1. October 17th, 2016, 1st ULG meeting: Launching and getting to know the project by discussing on the problems allocated during Phase I for the city of Thessaloniki, as they are observed in the neighborhoods of the ULL area and that may constrain the promotion of cycling. Discussion on the positive features of the ULL area and how may they function as drivers for the promotion of the daily use of the bicycle in the specific area. This 1st ULG meeting aimed to set the scene for transition management, since the transition team was formed to drive the process and embed it in the local context.

2. February 20th, 2017, 2nd ULG meeting: Firstly, a questionnaire research took place, consisting of a series of questions and other prompts, in order to gather information from the responses on the bicycle use and the cycling characteristics at the area of Toumpa. The aim of the questionnaire research was to gather information on the potential role and the expectations of the participants. Secondly, the participants were called to allocate on maps their daily routes towards their daily activities, either cycling or walking, in order to emerge whether the designed plan (within the relevant study by the Municipality of Thessaloniki) is consistent with the local people’s everyday needs and demand. Finally, the participants were divided at three thematic tables to discuss potential ways towards the promotion of cycling: a) School and bicycle: education and bike culture, b) Shopping and bicycle: Trade enhancement within promoting cycling, c) Bike commuting to work: information and education of local employers, d) Leisure cycling: pleasure, social and cultural, fun and exercise and e) review of the National legislations: Legal framework and traffic-related rules and regulations. Following the transition management process implementation, during this 2nd ULG meeting the transition team started to explore the city’s dynamics, by conducting interviews and by doing desk research, within conversations at the thematic tables. Overall, the transition team worked towards a system analysis and actor analysis and engaged to cooperate at a series of meetings as a transition arena group. Apart from the phase of exploring local dynamics, during this important meeting the transition challenged was also framed, since within exploring the transition challenges, a shared problem framing was also created.

3. March 31st, 2017, 3rd ULG meeting: Participation of Lead Expert and Expert Mobility. Chris Roorda presented lessons and results on mobility transition, drawn in the city of Rotterdam, but also gave further inspiration from all over the world, by the application of small actions, which, however, are of important strategic impact: closure of streets, making routes to schools safe, providing bikes to children, crowd-sourced cycling maps. Niki Frantzeskaki gave some further guidelines for the participatory planning process, in order to elicit local citizens’ contribution. Following the guidelines of the experts, the discussion was developed on the citizens’ reservations on the cycling infrastructure to be constructed at the neighborhood. Also, a specific cycle route was suggested, in order to serve accessible, safe and attractive cycling.
Through this meeting some first visionary images for the future of the city were created, both by getting inspired by the city of Rotterdam and from other sustainable cities from all over the world, but also by exchanging and elaborating perspectives on a possible future.

4. July, 12th, 2017, 4th ULG meeting: Presentation of good practices at international level, in view to form a pool of measures and actions to include at the Integrated Action Plan. The discussion extended further from Toupma, at municipality and metropolitan level. A questionnaire research followed, so that the participants to co-work and co-operate in planning bicycle infrastructure and definition of other soft measures.

Envisioning of Thessaloniki as a sustainable city was continued also during the 4th ULG meeting, where perspectives' exchange and elaboration also took place, within the presentation, the discussion and the questionnaire research and the creation of visionary images for the future of the city. Furthermore, the different transition pathways were elaborated, and the several objectives for the fundamental changes and the corresponding actions were defined to reach the envisioned future, forming a transition agenda divided in with long and short term goals.

5. September, 19th, 5th ULG meeting: Discussion, progressive deepening in specific measures that should be included into and pursued within the Integrated Action Plan for promoting of cycling at the neighborhood of Toupma, as well as at municipality and metropolitan level. Participatory infrastructure planning at particular road axes for bicycle integration, e.g. synergy between public transport and cycling, as basic component for promoting sustainable mobility and urban development, longer-term parking and increased protection against theft, protected storage facilities and potentialities at city level. Discussion of the potential role of the various relevant stakeholders.

During the 5th meeting and taking into consideration the actions performed before and after it and generally during this phase, actions were undertaken to make the transition agenda public and give others the chance to adopt, adapt and relate it to their own agenda and practices. Namely, this represented the engaging and anchoring phase of the transition management process implementation. The transition experiments elaborated, as described at the following paragraphs, were radical short-term actions in line with the transition agenda and, through these, more people got involved. It is worth mentioning that the insights from these experiments, as documented at the following paragraphs, can be taken to a more strategic level.

The ULG co-works and co-operates unofficially, apart from the scheduled local meetings, during teleconference interaction (email, telephone) and some remarkable further events, actions, experiments to elaborate the Integrated Action Plan. The methodology followed is an oriented and participatory steering approach that enables social learning through iterations between collective vision development and experimenting.
4. The vision of Urban Resilience (vision and objectives)

The recorded demand at the questionnaires collected during meetings and events are the following:

- integration of the traffic/ transportation/ cycling course as mandatory,
- organisation of further actions for on-road cycling education, within the organisation of campaigns and cycle routes,
- construction of bicycle infrastructure, bike lanes and facilities (parking lots),
- improving road safety, calming of the motorized traffic by reducing vehicles’ speed,
- rationalization of on-street parking on urban roads, tackling illegal parking,
- upgrade and extension of the operation of the bicycle-sharing system at the neighborhood of Toumpa and
- revision of the Greek Highway Code with the integration of cycling.

Based on the conclusions through the (selective) participation of frontrunners in the tactical phase and bringing them together in transition arenas, the results of the questionnaire research and in-situ recognitions during the experiments, the shared vision for the area of Toumpa has been formulated. The participants at the experiments have created visionary images for the future of their neighborhood integrating bicycle. The overarching vision of Toumpa is to become a more resilient place, with more resilient people and institutions, through integrating cycling into daily life, by promoting relevant policies and culture throughout Thessaloniki.

Of course, it consists a long-term vision and an anchor point for strategies, requiring short-term actions to be elaborated as priority issues. Indicative objectives, as short-terms actions, are the following:

- optimization of traffic education,
- awareness and respect from other road users,
- interventions and infrastructure upgrade to formulate cycle infrastructure and cycle streets,
- controls on behalf of the (Municipal) Police - Traffic Directorate,
- maintenance of the city’s transport infrastructure and
- continuous monitoring of the above mentioned measures.

A large part of them concern policy and tool development.

5. Pathways to Urban Resilience (actions for people, places, institutions)

Transition pathways describe possible routes from the existing situation to the envisioned future. Each pathway revolves around a subtheme. It describes intermediate goals, barriers to overcome, important actors, and essential actions. The transition pathways are neither fixed plans nor detailed scenarios. They are inspiring storylines that include goals and interventions on the short, mid and long term. They provide insight into what is needed to reach the envisioned future and give direction to the subsequent development of the transition agenda. For the City of Thessaloniki, the pathways, as mixes of actions, are defined as follows:
5.1 Implementation of a number of citizen participation mechanisms and dissemination: As mentioned at the second chapter describing the existing situation and the stresses, the City of Thessaloniki faces persisting stresses that challenge its pathway to urban resilience. The lack of trust and the inconsistency between citizens’ need and envision and public services provided to the citizens is of great importance. The Municipality of Thessaloniki needs to continue implementing mechanisms involving citizen’s inputs and participation of the local communities in solution finding and designing, in order to create capacity of citizens to be (pro)active in engaging with the city and build relationships of trust.

Furthermore, the City of Thessaloniki should continue to implement pilot projects, such as regeneration of streets and pedestrianisation and to disseminate this activity adequately to the citizens, in order to develop an open and collaborative approach and bring together multiple actors in co-creating strategic agendas and plans, as well as interventions.

5.2 Traffic education: In the framework of Urban Resilience project, the City of Thessaloniki has disseminated the e-drive Academy (platform organised by the General Directorate for Road Safety of the Hellenic Ministry of Infrastructure, Transport and Networks), developed cooperation between primary and secondary schools of Toumpa with the Municipal Police - Traffic Directorate and the Thessaloniki Association of Bicycle Athletes, who perform traffic education courses and on-road cycling education respectively. Municipality of Thessaloniki should continue to support the citizens’ and children’s needs for Traffic education in cooperation with the Municipal Police - Traffic Directorate and the Thessaloniki Association of Bicycle Athletes through: efforts for the introduction and establishment as mandatory of the traffic/transportation/cycling course, organization of further actions for on-road cycling education, organisation of campaigns and cycle routes, establishment of a “Riding to School” programme designed to drive culture change within the school community (with teachers’ and parents’ contribution), integration of “shared streets”/woonerf in the schools’ areas and support the construction of bicycle parking facilities (parking lots) at the schools’ entrances.

5.3 Bottom up engaging with visions for place and community and establish new collaborative relations between the city and its citizens: The aim is to create a bottom-up knowledge on how revatilising local economies, local citizen-driven infrastructure solutions and pathways for accessibility, the city will learn from and showcase on which actions and investments work for building resilience from the bottom-up. The commitment of the citizens to the topic of ‘bicycle’ and urban resilience building from the bottom-up is an asset of the city. This is a creative capital to mobilise citizens and to co-create solutions for place-explicit urban resilience.

5.4 Integration of the bicycle at the Urban Mobility Planning of the city: The Municipality of Thessaloniki needs to focus on the maintainance and connectivity of mobility infrastructure and design a connected mobility system that will allow inter-modality routes. The existing bicycle lanes of the city should be maintained and gradually extended, in order to provide modal connectivity with the bus operating agency the metro under construction. The bicycle should be integrated at the Sustainable Urban Mobility Plan, and almost every other study and project under elaboration at neighborhood, urban and metropolitan level. This includes a strong commitment to integrated public transport networks and ticketing as part of a wider suite of policies that favour the bicycle and its integration at the local public transport planning (Thessaloniki metro, Organization of
Urban Transportation of Thessaloniki, Thessaloniki Urban Sea Transportation, Suburban Railway) and requires strong determination from the local authorities and the mayor's office. Finally, the investigation of the potential financial institutions and instruments could contribute significantly in this direction.

6. Monitoring and assessing the progress towards urban resilience

Towards urban resilience, short and long-term measures and actions have been defined, in line with the prescribed transition pathways. In view to develop an intervention logic as a tool to describe the “result framework”, and evaluate the effectiveness of the Integrated Action Plan for promoting cycling in the neighborhood of Toumpa (4th Municipal Arrondissement), in order to repeat good practices to other neighborhoods (Municipal Arrondissements) and extend the advantages of promoting cycling at urban and Metropolitan level, in the current chapter are presented the specific objectives and the results expected from the planned interventions after their implementation.

The result framework is formulated as above for the Thessaloniki case study:
### Action Plan

**Existing situation** as described at the 2nd chapter.

<table>
<thead>
<tr>
<th>Specific objectives/ Intended results</th>
<th>Result indicators</th>
<th>Output indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Facilitating traffic education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Integration of the traffic/transportation/cycling course as mandatory</td>
<td>Fall 2017: Awareness of e-drive academy</td>
<td>Number of schools, classes, students, teachers, participating at the courses</td>
</tr>
<tr>
<td>- Education at the traffic park (New Coast of Thessaloniki)</td>
<td>Fall 2017:</td>
<td></td>
</tr>
<tr>
<td>- Municipal Police - Traffic Directorate - performance of traffic courses at the cultural public space of Toumpa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Thessaloniki Association of Bicycle Athletes - performance of cycling courses at the cultural public space of Toumpa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Regular organisation of cycling events at the neighborhood of Toumpa (connection with other areas)</td>
<td>Monthly (eg. the first Sunday of every month)</td>
<td></td>
</tr>
<tr>
<td>- “Ride to school” with the contribution of students’ parents or teachers</td>
<td>2017-2018: Monthly (eg. approximately every 15th of the month)</td>
<td></td>
</tr>
<tr>
<td>- Participation and support at Thessaloniki Association of Bicycle Athletes’ cycling events at urban/metropolitan level</td>
<td>Regularly (eg. 3 times per week, depends on Thessaloniki Association of Bicycle Athletes)</td>
<td></td>
</tr>
<tr>
<td>- Municipality of Thessaloniki, Sustainable Mobility and Network</td>
<td>Annually during the European Mobility Week (16-22/9)/ every year on the Car-free day (22/9)</td>
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<tr>
<td><strong>Coordination of actions for cycling integration into daily life</strong></td>
<td></td>
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<tr>
<td>Strategic Planning</td>
<td>2017</td>
<td>2020</td>
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<tr>
<td>-------------------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td><strong>Development of bicycle infrastructure network – upgrade and extension</strong></td>
<td>12 km</td>
<td>16 km</td>
</tr>
<tr>
<td><strong>Development of bicycle parking facilities – short and long term – upgrade and new constructions</strong></td>
<td>existing short-term parking facilities</td>
<td>construction of long-term parking facilities</td>
</tr>
<tr>
<td><strong>Development of a bicycle-sharing system</strong></td>
<td>BikeThess and Biket</td>
<td>extension of the bicycle-sharing system</td>
</tr>
<tr>
<td><strong>Coordination of cycling promotion campaigns (Municipal Telecommunications’ contribution)</strong></td>
<td>2018, 2019, 2025, 2030, long-term: Cycling promotion within municipal television and radio spots, dissemination within Municipality’s social media</td>
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</table>

**Change - Cycling integration into daily life**
Description of the specific objectives, the intended results and the indicators, result and output

Facilitating traffic education: Raising awareness on traffic education and respect between all the road network's users is of major importance for the improvement of road safety for cycling and definitely incorporates all the means of transport and modes of urban mobility. Therefore, the first priority is the facilitation of traffic education at schools, since students shall be the road network's users of the next generations. This specific objective and its intended results require consecutive efforts. Following our communication with the Greek Ministry of Education, Research and Religious Affairs and the Ministry of Infrastructure, Transport and Networks, the educational material published on the innovative internet platform e-Drive Academy (organised by the General Directorate for Road Safety of the Ministry of Infrastructure, Transport and Networks) shall constitute the educational material to be taught when the traffic course will be integrated as mandatory at the scholar program. Following our communication, this is expected at the spring semester 2018. Until then, we have disseminated the e-Drive Academy platform operation, so that the teachers can refer to it to organise their optional courses. Moreover, we have connected the primary and secondary schools of Toumpa with the Municipal Police - Traffic Directorate and the Thessaloniki Association of Bicycle Athletes, in order to perform traffic and cycling courses respectively at the cultural public space of Toumpa. Furthermore, the organisation of visits and performance of traffic courses at the traffic park (New Coast of Thessaloniki) is considered as of great importance. Those courses are proposed to be performed twice per year each, one course during the fall and one course during the spring semester. The monitoring and assessing of the progress with the output indicators should be consecutive.

Coordination of actions for cycling integration into daily life: The cycling integration into daily life for the citizens of Thessaloniki (neighborhood of Toumpa, other neighborhoods and generally at urban and metropolitan area of Thessaloniki) could be based on the coordination of relevant actions, even before the intended formulation of the bicycle network. Therefore, the regular organisation of cycling events, either on behalf of the Thessaloniki Association of Bicycle Athletes, or by the citizens on their own initiative, are proposed as specific objectives. In this direction, the three cycling routes planned while developing the experiments (see maps following at the next chapter) could contribute indicatively as guidelines. The frequency of the organisation of these actions is presented as result indicator. Moreover, the citizens are encouraged to follow the cycling events that the Thessaloniki Association of Bicycle Athletes organises already with high frequency (several times per week). In order to coordinate these actions with the students of the neighborhood, the establishment of the “Ride to school” practice with the contribution of students’ parents or teachers is also strongly proposed, since it constitutes a good practice performed at other European cities with important intended results. Additionally, the Municipality of Thessaloniki, and particularly the Sustainable Mobility and Network Directorate, Transport Planning of the Department, should establish the organisation of big cycling events during the European Mobility Week (16-22/9) every year on the Car-free day (22/9), following the good practice performed this year (22/9/2017). Obviously, the local authority and particularly the coordinator of the URBACT Local Group should monitor and assess the progress with the output indicators, in order to review and potentially reform the interventions.

Participatory Strategic Planning: The third and most demanding in time and cost specific objective is the Strategic Planning and particularly within participatory process. In this
framework, the development of the bicycle infrastructure network and adequate bicycle parking facilities could give the strongest motivation to promote cycling in Thessaloniki, given the current situation's characteristics, as described in the 2nd chapter, either regarding the upgrade of the existing infrastructure of regarding new constructions. The formulation of a bicycle infrastructure network within Strategic Planning, involving experts', more or less experienced bicycle users', citizen's inputs and of course the approve of the local authorities, is the most important investment. The Strategic Plan (see following map) for the extension of the bicycle infrastructure is hierarchized in priority projects and the extensions in the several urban axes are separated at various target years, taking also into consideration the maturity processes. The development of a bicycle-sharing system also contributes as an important motivation in the same direction (promoting cycling in Thessaloniki). Last but not least, the coordination of the required efforts for the planning of an integrated cycling promotion campaign, involving the contribution of Municipal Telecommunications could serve for the dissemination of the cycling benefits, the other road users' sensitization and dissemination of the local authorities' efforts for promoting cycling, also in view to face the lack of trust and transparency. The output indicators for this specific objective are the percentages of bicycle usage and of modal shift from car to bicycle, which are of great importance for the sustainable and resilient development of urban mobility and should be monitored and assessed consecutively by the Sustainable Mobility and Network Directorate and the relevant Transport Planning Department.

7. Experimenting for urban resilience (description of experiment and lessons learnt)

Public participation and citizen involvement in developing a common understanding of the objectives, problems and possible strategies providing solutions to problems can improve the quality of decision planning, its implementation and evaluation throughout the entire duration, increase its efficiency in financial terms, effectiveness, transparency, acceptability and public support, but also its legitimacy. It improves the quality of decisions, certain issues and challenges are identified in the planning phase and consultation in the planning phase leads to agreeing controversial issues and preventing the opposition in the decision making process. It can also prevent delays and reduce costs during implementation, increase acceptability of measures, the decisions making process becomes more democratic, putting in the hands of local communities the power to influence decisions. As a consequence, they become responsible, consultations determine the capacity to plan locally, increase public confidence in their decision-making ability, learn and exchange of experience.

The system analysis is an important stepping-stone for the participatory framing of the transition challenge and the collective envisioning process in the later arena discussions. As it encourages a holistic and long-term perspective, it supports the transition team members and the change agents involved in looking beyond their own expertise, questioning their beliefs and values, making different perceptions explicit. Furthermore, the system analysis provides participants with a shared information base and understanding of their city.

Following these guidelines, the ULG meetings and the experiments were planned. From the first ULG meetings it was already clearly recorded that we should focus to the children's mobility to structure the transition challenge and draft visionary images. Besides, children
are them, who currently formulate everyday mobility to and from the school, which is intended to be tapped into transformative capacity of change agents and create future-oriented networks. Therefore, the following events were organized commonly by the Municipality of Thessaloniki with the engagement of the ULG, as transition experiments:

1. May 28th, 2017, Event – Cycling safely in my city: Dissemination of good practices and lessons draw: questionnaire research, subscription of people of local community, guidelines and tips for cycling safely on roads, interactive games

   There was not an attendance list with signatures kept, because it was an open door event. There were collected 33 questionnaires, 22 by people from the neighborhood of Toumpa and 11 by people from the outer area.

2. June 11th, 2017, 1st Cycling event (6km) for cycling promotion and sensitivity of local community – Participatory planning of the neighborhood cycling routes: in situ road traffic education – on bike training for riding in traffic, questionnaire research, subscription of people of local community

   22 people participated at the cycle route, while there were collected 16 questionnaires by people from the neighborhood of Toumpa.

3. June 19th, 2017 Presentation of the URBACT III actions at the Local Council of the 4th Municipal Community: inform the Local Council of the 4th Municipal Community (Toumpa) about the vision and the actions within the URBACT III, discussion on their point of view.

   20 people participated, 14 people on behalf of the Local Council of the 4th Municipal Community (Toumpa), 2 people from the Municipality and 4 from the ULG.

4. June 21st, 2017: 2nd Cycling event (10km) for cycling promotion and sensitivity of local community – Participatory planning of urban and neighborhood cycling routes: in situ road traffic education – on bike training for riding in traffic, questionnaire research, subscription of people of local community.

   20 people participated at the cycle route, while there were collected 12 questionnaires by people from the neighborhood of Toumpa.

5. September 22nd, 2017: Car-free day in the framework of the European Mobility Week 2017 (16-22/9/2017): Pedestrianisation of Agias Sofias and 3rd Cycling event (9km route from Toumpa towards Agias Sofias): dissemination of the ongoing studies and projects at neighborhood, urban and metropolitan level.

   80 people participated at the cycle route, while there were collected 59 questionnaires by citizens of Thessaloniki.

The experiments planned aimed to address all of the pathways developed (see chapter 5). At the following tables the interconnection between the pathways and the events implemented as experiments is presented.

<table>
<thead>
<tr>
<th>Experiment 1 – Dissemination of the Local Authorities’ actions towards cycling and generally sustainable urban mobility promotion</th>
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<tbody>
<tr>
<td><strong>Associated Pathway</strong></td>
</tr>
<tr>
<td><strong>Associated Actions</strong></td>
</tr>
<tr>
<td>Description</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td>Main Target Groups</td>
</tr>
<tr>
<td>Steps taken</td>
</tr>
<tr>
<td>Lessons learned/ Next steps</td>
</tr>
</tbody>
</table>
| Dates and locations of the implementation | • *Cycling safely in my city*, Cultural Center of Toumpa, 28/5/2017

• *Presentation of the URBACT III actions at the Local Council of the 4th Municipal Community*, Cultural Center of Toumpa, 28/5/2017

• *Car-free day in the framework of the European Mobility Week 2017*, Agias Sofias, 22/9/2017 |
## Experiment 2 – Facilitating traffic education

<table>
<thead>
<tr>
<th>Associated Pathway</th>
<th>5.2 Traffic education</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Associated Actions</strong></td>
<td>Coordination of Main Target Groups’ efforts for the facilitation of traffic education: performance of traffic and cycling courses</td>
</tr>
<tr>
<td><strong>Description</strong></td>
<td>This experiment aims at coordinating the main target groups’ efforts, in order to highlight the need of traffic education at the scholar program as mandatory and the introduction of the main transition team members, proper for traffic/transportation/cycling course performing, to the school representatives, the implementation of traffic/transportation courses by the Municipal Police - Traffic Directorate and the implementation of cycling courses by the Thessaloniki Association of Bicycle Athletes, not only theoretically, but also interactively, experientially, such as interactive games, bike training for riding in real traffic and in-situ road traffic education, lessons on the appropriate behaviour on behalf of all of the users of the road network (and not only the cyclists), horizontal and vertical signs and other operational characteristics of the road network.</td>
</tr>
<tr>
<td><strong>Main Target Groups</strong></td>
<td>Thessaloniki citizens, people from the neighbourhood of Toumpa, primary and secondary schools, parents, teachers and students, Municipal Police - Traffic Directorate and the Thessaloniki Association of Bicycle Athletes</td>
</tr>
<tr>
<td><strong>Steps taken</strong></td>
<td>i) Awareness raising on e-drive academy, ii) Coordination of the main target groups’ efforts, iii) Implementation of interactive games, bike training for riding in real traffic and in-situ road traffic education, lessons on the appropriate behaviour on behalf of all of the users of the road network</td>
</tr>
<tr>
<td><strong>Lessons learned/ Next steps</strong></td>
<td>Citizens’ (students and parents) needs for facilitation of traffic education and willingness to cooperate at such actions Introduction and establishment as mandatory of the traffic/transportation/cycling course, organization of further actions for on-road cycling education, organisation of campaigns and cycle routes, establishment of a “Riding to School” programme designed to drive culture change within the school community (with teachers’ and parents’ contribution)</td>
</tr>
<tr>
<td><strong>Dates and locations of the implementation</strong></td>
<td><strong>Cycling safely in my city</strong>, Cultural Center of Toumpa, 28/5/2017</td>
</tr>
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</table>
Experiment 3 – Actions for cycling integration into daily life, familiarization with existing situation, location of problems and chances

<table>
<thead>
<tr>
<th>Associated Pathway</th>
<th>5.3 Bottom up engaging with visions for place and community and establish new collaborative relations between the city and its citizens 5.4 Integration of the bicycle at the Urban Mobility Planning of the city</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associated Actions</td>
<td>Cycling at streets in the area of Toumpa and generally Thessaloniki. Cycling integration into daily life for the citizens. Encouragement of citizens to activate themselves and their familiars for promoting cycling.</td>
</tr>
<tr>
<td>Description</td>
<td>This experiment aims at encouraging citizens (of the neighbourhood of Toumpa but also generally the city of Thessaloniki) to participate at cycling events. Within cycling at streets with low traffic speeds (like in the areas of the school complex in Toumpa and connection with the New Coast and the existing bicycle infrastructure of Thessaloniki, 21/6/2017) and the city centre of Thessaloniki, Agias Sofias, 22/9/2017.</td>
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</table>
school complex in Toumpa), the citizens have the chance to realise that, even before the intended bicycle infrastructure developments, there already exist calm streets, particularly in the area of Toumpa, that could constitute their trips to their daily activities. The citizens, through this experiment, have the chance to observe the existing situation, understand their city and their area, locate the difficulties, the problems but also the chances, raise their awareness, in order to develop and record their point of view on the things that should be changed. They should be able to plan their own cycling routes, in order to start commuting by bicycle. Finally, the introduction of the Thessaloniki Association of Bicycle Athletes, that already organises cycling events with high frequency, to the citizens should result to raise their activation and participation to actions promoting cycling and even start organizing on their own similar actions for cycling promoting and, therefore, integration into daily life,

<table>
<thead>
<tr>
<th>Main Target Groups</th>
<th>Thessaloniki citizens, people from the neighbourhood of Toumpa, primary and secondary schools and the Thessaloniki Association of Bicycle Athletes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Steps taken</td>
<td>Cycling events through calm streets with low traffic speeds that could constitute their trips to their daily activities. Introduction of the Thessaloniki Association of Bicycle Athletes, that already organises cycling events with high frequency.</td>
</tr>
<tr>
<td>Lessons learned/Next steps</td>
<td>Citizens’ (students and parents) needs for bicycle integration into daily activities and willingness to cooperate at such actions. Citizens’ ability raising to plan their trips with bicycle/cycling routes for their daily activities, in order to start commuting by bicycle and, therefore, integrate bicycle into daily life. Citizens’ activation raising, motivation and participation at actions promoting cycling and even organizing on their own similar actions for cycling promoting.</td>
</tr>
<tr>
<td>Dates and locations of the implementation</td>
<td><strong>6 km cycling event</strong> at “cycle streets” in the areas of the school complex in Toumpa, 11/6/2017</td>
</tr>
<tr>
<td></td>
<td><strong>10 km cycling event</strong> at “cycle streets” in the areas of the school complex in Toumpa and connection with the New Coast and the existing bicycle infrastructure of Thessaloniki, 21/6/2017</td>
</tr>
</tbody>
</table>
**Experiment 4 – Participatory at Strategic Planning, formulating the Integrated Action Plan and the bicycle infrastructure development**

| Associated Pathway | 5.3 Bottom up engaging with visions for place and community and establish new collaborative relations between the city and its citizens  
5.4 Integration of the bicycle at the Urban Mobility Planning of the city |
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<tbody>
<tr>
<td>Associated Actions</td>
<td>ULG and other focus meetings and workshops, discussion of further measures and actions for cycling promotion and its integration into daily life, questionnaire research</td>
</tr>
<tr>
<td>Description</td>
<td>This experiment aims at approaching the main target groups, in order to inform them concerning the current studies, actions and forthcoming steps, on behalf of the Sustainable Mobility and Network Directorate, Transport Planning of the Department, in view to promote the cycling and generally sustainable urban mobility. The main message is the URBACT III vision and the actions. Coordination of main target groups’ efforts towards participatory at Strategic Planning, formulation of the Integrated Action Plan and the bicycle infrastructure network development. Discussion of the potential role of the various relevant stakeholders. Definition of short and long-term measures and actions.</td>
</tr>
<tr>
<td>Main Target Groups</td>
<td>Sustainable Mobility and Network Directorate, Transport Planning of the Department, relevant experts from science institutions (e.g. Hellenic Institute of Transport), engineers, Thessaloniki citizens, people from the neighbourhood of Toumpa, primary and secondary schools, Thessaloniki Association of Bicycle Athletes, representatives from other relevant associations (e.g. Union for Pedestrian Rights)</td>
</tr>
<tr>
<td><strong>Steps taken</strong></td>
<td>Public participation and citizen involvement in developing a common understanding of the objectives, problems and possible strategies providing solutions to problems. Improvement of quality and approve of decision planning, its implementation and evaluation throughout the entire duration</td>
</tr>
<tr>
<td><strong>Lessons learned/ Next steps</strong></td>
<td>Citizens’ needs for Strategic Planning on urban mobility (including cycling) and bicycle integration into daily activities Continuous consultation, in view to develop and implement the participatory process at strategic planning and ensure that institutional responses act proactively, rather than react to the social needs and problems</td>
</tr>
</tbody>
</table>
| **Dates and locations of the implementation** | • **3rd ULG meeting**, Cultural Center of Toumpa, 31/3/2017  
• **Questionnaire research during the event: Cycling safely in my city**, Cultural Center of Toumpa, 28/5/2017  
• **Questionnaire research after the 6km cycling event**, Cultural Center of Toumpa, 11/6/2017  
• **Questionnaire research after the 10km cycling event**, Cultural Center of Toumpa, 21/6/2017 |
Specifically concerning the cycling events, the cycling routes were designed along streets in the neighborhoods of as many as possible primary and secondary schools of Toumpa, public spaces and other places of interest. The children had the chance to participate at bike training for riding in traffic and in-situ road traffic education, but the most important is that they (together with their parents that accompanied) could realize that there already exist “cycle streets” in the areas of the school complex in Toumpa with low traffic speeds (less than 30km/h), where children could start commute by bicycle, even if there are not bicycle infrastructure exclusively for cyclists.
While riding the bicycles and due to the number of the participants (20 and 22 persons at the two first cycling events), further to recognising the streets that are bike-friendly or not, their geometric and operational characteristics, the legal or illegal driving behavior of the rest of the road network’s users, we had the chance to discuss and realise also the aspects of cycling that could impact social inclusion and self-reliance of citizens, since:

- cycling enhances autonomy and self-management,
- cycling includes and enhances collegiality,
- cycling has been and still is a sport activity and, therefore, is not a particularly social action,
- cycling has zero operating costs (insurance premiums, fuel, maintenance, etc.),
- reduces commuting times,
- reduces commuting costs,
- it remedies the defensive - passive way of living,
- creates human contact,
- is recreational,
- remedies exclusion through the socialization it provides,
- improves health,
- reduces social inequality,
- reduces traffic congestion and
- cycling reduces stress.

The 1st cycling event was faced as a remarkable event by the participants and took a form of public awareness campaign promotion cycling. It was repeated soon after (2nd Cycling event), due to the participants' demand. After the 2nd, there was demand recorded for even more cycling events.

Therefore, while planning the Municipality's campaign and actions for the Car-free day, in the framework of the European Mobility Week 2017, the cycling event of a 9km route from Toumpa towards Agias Sofias was organised. That day, the participation was much bigger (80 persons of all ages). Moreover and in view to promote as much as possible the visions of urban resilience, the participation of 30 refugees was organised, following the appropriate communication, coordination and cooperation with ARSIS - Association for the Social Support of Youth. For the participation of the 30 refugees the disposal of 30 bicycles for free was obtained, thanks to the courteous sponsorship on behalf of the Thessaloniki bicycle-sharing operators (ThessBike and BikeIT). Apart from the cycling promotion, the Car-free day actions aimed at the dissemination of the ongoing studies and projects (Sustainable Urban Mobility Plan, Study for the Urban Mobility Planning, Study for the new parking control system and the new time restrictions for freight road transport (carring and unloading)) and the presentation of the pedestrianisation of Agias Sofias urban and social benefits. That day the citizens were encouraged to enjoy the public space and contribute by co-operating and co-designing the City within questionnaire research and participatory planning. The questionnaires on cycling issues collected came up to 59, while the questionnaire on more extended sustainable mobility issues came up to 220.
Figure 11: Cycle route (green line) planned for the Municipality’s campaign and actions for the Car-free day (3rd Cycling event), 22/9/2017, [red line: existing bicycle infrastructure, points: Toumpa schools approached]

Based on the analysis of questionnaires and centralization answers given:

- almost all of the participants at the questionnaire researches own bicycle(s), however, the majority of them uses it once per week, due to the low feeling of road safety. Currently, the participants mostly walk, or commute by car, bus or motorbike for everyday activities.
- Most of the participants were not aware of the innovative internet platform e-Drive organised by the General Directorate for Road Safety of the Hellenic Ministry of Infrastructure, Transport and Networks (a central road safety web platform for developing and exchanging road safety knowledge and resources with final objective to gradually develop consciousness towards an ecological and safe driving behavior in Greece. The e-Drive Academy platform contains currently a series of programmes, destined for training of young, novice, older and professional drivers.).
- On the other hand, it emerged from the reactions of the participants during the cycle route that the in-situ experiential bike training and generally the road safety lesson was very useful, since we discussed, while cycling, about the appropriate behavior on behalf of the users of the network, horizontal and vertical signs and other characteristics of the street characteristics.
- Following the responses to questionnaire emerged that the planned cycle routes, as designed, appeared useful, safe and comfortable for daily bike commuting towards the everyday activities.

Concerning the existing bicycle infrastructure, the most important problem recorded from all the people participating at the research and the actions is proved to be the inadequacy of the current situation (bicycle infrastructure and parking facilities), the lack of cycling network, the lack of continuity and the bad situation of the existing bike lanes (e.g. narrow lanes). Indeed, the existing infrastructure (12km) was constructed in 2009, in absence of the national technical guidelines (published in 2016) and, therefore, they must be reconstructed in accordance with them.
Thus, in the framework of the participatory planning process a Strategic Plan for the bicycle infrastructure network development has been drafted. Apart from the opinions collected and analyzed within the URBACT Resilient Europe project, there were retrieved and taken into consideration many previous studies, exercises, plans and scientific papers. Indicatively, some of them are listed:

- Bicycle in Greek Cities - Proposals to municipal authorities, A. Vlastos, Efth. Bakogiannis, Sustainable Mobility Unit, 2017
- Feasibility study of the co-modality opportunities between public transport and cycling towards the sustainable mobility promotion in a safe city, P. Katselas, G. Mintsis, M. Mirtsopoulou, S. Basbas, L. Papafoti, Ir. Stamos, Chr. Taxiltaris, A. Tsakiropoulou, A. Tsoukala, WCTR 2016 “14th World Conference on Transport Research”, Shanghai, China, 10-15/07/2016
- General Urban Plan of the Municipality of Thessaloniki, B1 phase, 2015
- SUMP for the Metropolitan area of Thessaloniki, Thessaloniki Public Transport Authority, 2014
- Feasibility study of the synergy between public transport and cycling with the use of traffic flow simulation software, the cases of I. Tsimiski and Egnatia, M. Mirtsopoulou, Chr. Taxiltaris, A. Tsakiropoulou, 6th Research in Transportation Congress, Thessaloniki, Greece, 17-18/10/2013
- Cycling infrastructure and comodality between bicycle and public transport in Thessaloniki, Chr. Taxiltaris, A. Tsakiropoulou, podilates – thess, Workshop Mobility concession and sustainable mobility in the City of Thessaloniki, Thessaloniki, Greece, 22/5/2011
- Synergy between public transport and cycling in the City of Thessaloniki, A. Tsakiropoulou, Master thesis, Aristotle University of Thessaloniki, 11/2010

Therefore, following specific scientific guidelines and within the participatory planning process, a list of priority projects has been formed for the bicycle infrastructure network development. The bicycle integration, concerning the upgrade of the existing infrastructure and the construction of new infrastructure is presented at the following maps for the following time horizons:

- 2017: existing infrastructure 12km
- 2020: upgrade and new infrastructure in the area of Toumpa: 16km
- 2025: upgrade and new infrastructure in view to formulate an integrated network 48km
- 2030: new infrastructure in view to upgrade the bicycle network and develop the Metropolitan bicycle infrastructure 77km
- Long-term: new infrastructure and network densification at the neighborhoods of Thessaloniki 88km
Figure 12: Thessaloniki existing bicycle network 2018 (12km)
Figure 13: Planning - Thessaloniki bicycle network 2020 (16km)
Figure 14: Strategic planning - Thessaloniki bicycle network short-term (48km)
Figure 15: Strategic planning - Thessaloniki bicycle network long-term (77km)
Figure 16: Strategic planning - Thessaloniki bicycle network long-term (further extension) (88km)
8. Conclusion (relation of IAP with other strategies in the city)

According to national legislation (Law 3463/2006 Art. 203-207), all Greek Municipalities had/ have the obligation to formulate an Operational/ Strategic Plan, for a specific time period. In addition to this obligation, the Municipality of Thessaloniki recognized the need for an integrated long-term strategic planning that will lay the foundations for the city’s development in the coming decades, by addressing the urban, economic and social invitations of the present and of the future, while safeguarding the welfare of its citizens. Therefore, in 2014 the Municipality started designing its strategic planning for the period 2014 – 2019, which was approved by the City Council (decision 1573/2015) and its supervising authority (decision 95845/2016 of the Decentralized Administration of Macedonia – Thrace). Afterwards, the Municipality formulated its Operational Plan, which was approved by the City Council (decision 729/2017) and its supervising authority (decision 51877/2017).

The Operational Plan of the Municipality consists of 4 basic pillars, namely:
- Environment and Quality of Life
- Social Policy, Health, Education, Culture & Sports
- Local Economy & Employment
- Internal Environment of the Municipality

Each Pillar is divided into Measures, Aims and Actions. Within these subdivisions we recognise a lot of similarities with the IAP that has been produced within the Resilient Europe Project. The greatest relation that our Strategic Planning and the IAP have is found within the 1st Pillar and several of its Measures (e.g. Updating and implementation of Thessaloniki’s urban, traffic and energy planning for the promotion of sustainable residential development, Improvement of the existing municipal road network, Promoting alternative-soft ways of mobility etc.). However, similarities can be discovered throughout the whole Municipality’s Operational Plan.

In addition to the above, the IAP deals with issues that are trying to be dealt with by strategies developed by other authorities as well, such as adjacent municipalities, as well as the Region of Central Macedonia, which is the Managing Authority of the Operational Program of the Region of Central Macedonia and one of the major destinations that the Municipality will address in its effort to secure funds for the actions that need to be implemented during the following period.

During the previous programming period (2007 – 2013) the Municipality funded its development actions through various funding sources (i.e., National and Regional Funds, Cross-Border Cooperation Programs, National funds, EC funds, JESSICA, etc.). The portfolio included more than 46 projects/ actions with an initial total budget of more than 100 mil euro and total verified expenses of 57 mil euro, approximately. Especially, regarding its performance in leveraging National Structural Funds (i.e., ERDF, ESF) the Municipality of Thessaloniki can be ranked 1st when compared either with adjacent municipalities or with the other large municipalities of Greece.

Based on this experience, the Municipality is planning to fund its development actions through the following sources:
National Sectoral Operational Programmes (i.e.)
Regional Operational Programmes (namely the Operational Programme of the Region of Central Macedonia)
Cross-border Cooperation Programmes
Its own funds (although very limited)
Grants (the Municipality has received a Grant from the Stavros Niarchos Foundation of 10 mil euro)
Bank loans (the Municipality has signed a loan with the European Investment bank for an amount of 25 mil euro).
Other EC Programmes (i.e., Horizon 2020, LIFE etc.),

More specifically, the Municipality is hoping for a large number of its planned actions/projects to be funded by the Operational Programme of the Region of Central Macedonia, as this was the case in the previous programming period, as well. It is worth mentioning that the Managing Authority has already published an elative call entitled “Development of a bicycle lane within the Sustainable Urban Development Strategy of Thessaloniki Metropolitan Unity” with a budget of 1 mil euro. The call is issued under the Priority Axis “Support the transition to a low-carbon economy in all sectors”, Thematic Objective “Support the transition to a low-emission economy of CO2 in all sectors”, Investment Priority “Promote low-carbon strategies for all types of regions, particularly for urban areas, including the promotion of sustainable multimodal urban mobility and mitigation measures”, Specific Objective “Promoting Sustainable Urban Mobility in the Region of Central Macedonia”. To the best of our knowledge this is the first call of a series that will follow dealing with identical or similar issues. Nevertheless, we would like to stress the fact that similar actions, contributing to the IAP and to the overall strategy of the Municipality, might be funded under other calls, as well, belonging to other Priority Axes (i.e., PA5: Promoting adaptation to climate change, risk prevention and management, PA6: Protecting the environment and promoting resource efficiency and others).

In conclusion, there are several sources that could fund the IAP and other actions of the Municipality. However, we acknowledge the fact that the procedure of acquiring such funding is highly competitive, that the solutions that we offer must contain state of the art actions, which are sustainable and inclusive and in line with the EU and national strategy. Moreover, proposals for co-financing infrastructure projects must contain a cost-benefit analysis, must be approved and engaged by the local community and finally must be well maintained and preserved throughout their circle of life.