

Part I – General information

Project: OptiTrans

Partner organisation: Zadar City

Other partner organisations involved (if relevant): Inovativni Zadar, Liburnija I.t.d. Port Gaženica, Zadar Airport, Zadar County

Country: Croatia

NUTS2 region: Adriatic Croatia

Contact person: Ivana Vrsaljko

email address: ivana.vrsaljko@grad-zadar.hr

phone number: +385(0) 23/208-009

Part II – Policy context

The Action Plan aims to impact: Investment for Growth and Jobs programme
 European Territorial Cooperation programme
 Other regional development policy instrument

Name of the policy instrument addressed:

- Strategija razvoja Grada Zadra (City of Zadar development strategy)
- Županijska razvojna strategija Zadarske županije (Zadar County development strategy)
- Strategija prometnog razvoja Republike Hrvatske (Republic of Croatia traffic development strategy)
- Prometni masterplan funkcionalne regije Sjeverna Dalmacija (Mobility Masterplan for a functional region of North Dalmatia)
- Glavni plan razvoja turizma (Zadar County tourism development plan)

Regional context

The Baseline study made through the project concretized some of the regional transport issues and this Action plan aims to improve the listed problems. The discussed measures are in the line with a number of strategic documents and correspond to the findings discussed in the study. They are also measures we have developed by integrating our partners' experiences to our own and by modifying them to our regional context we hope to achieve the best results.

Some of the main transport problems can be defined in three separate categories which interact with each other: firstly, to further develop regional transport, sustainability is the key factor that needs to be influenced, either by making the services better or by integrating the existing systems to one a one whole; secondly, to make a sustainable transport service and

eco-friendly at the same time, investments must be made that would make the public transportation attractive and more viable solution; thirdly, investments are lacking due to other regional issues that need more urgent attention and due to the low political engagement and coordination, which reflects on the sustainability as each transport stakeholder can manage on their own. Seen this way transport situation in Zadar region is in a deadlock which hopes to be relieved by innovation and developmental push each stakeholder gives in its own. This Action plan is thus conceptualized to propose soft measures with mostly low costs at three different stages, with the aim of raising the quality of communication among the transport stakeholders, raising the attractiveness of the public transport and ensuring sustainability for the new eco-friendly transport.

OptiTrans project put some different perspectives on the actual implementation process that occur when improving the regional transport. It was clear Zadar region still lacks some basic infrastructure to grow, as well as it lacks the intangible resources like a sense of a bicycle culture well developed in some cities. Furthermore, to fully understand the transport position in the region, as discussed in the Baseline study, Zadar region is characterized by strong seasonal differences and issues with connecting the hinterland and the islands with the gravitational centre of Zadar region, Zadar. On the other hand, Zadar region has a number of strong transport intersections, and Port Gaženica and Zadar Airport show a continuous growth, and this is something to build upon. This is also an important fact to notice, as they are ready to advance to the next level and are willing to engage more actively in the regional development. City of Zadar has good communication with all of the main regional and local transport service providers so any suggested cooperation proposal should be accepted.

This cooperation was a relevant part of the OptiTrans project: we have communicated with the regional stakeholders on resolving the traffic issues Zadar region and city itself was facing. This cooperation included various stakeholders from Liburnija (public bus transport and local bus and railway terminal main responsible partner), Inovativni Zadar (public institution City of Zadar holds shares in and is responsible for much of the info-mobility service development in the region), Zadar County and our own different administrative departments. We have also talked with Zadar Airport and Port Gaženica about their own plans towards their development as intermodal hubs and tried to use our knowledge and position to foster the traffic improvement in the region. As traffic is closely related to the interest of the touristic stakeholders, and is largely influenced by the tourism seasonality we have contacted the Zadar Touristic board to gain more insights on these issues and the bottlenecks they might foresee in our discussions. By addressing all these stakeholders we could firstly detect the most important most urgent to solve issues related to traffic development in the region from different perspectives: each institution had their own unique position and problems (some were of concrete matter, some of them were administrative) and could provide their own expertise on the matter. By addressing those issues, City of Zadar has worked to propose solutions based on our experiences gained through the OptiTrans project: seeing how some ideas developed was insightful in a way we could avoid mistakes and implement them for our own context.

Zadar region has a specific context with not much opportunity or need to develop a sustainable public transport during the winter season and a necessity to increase the transport capacities by a huge margin during the summer season. Balancing those two is even harder due to the fact that rural and island area demand separate modes of transport, which increases the logistic costs of the public transport, as it's much harder to provide sustainable yet

consistent bus and ferry lines. This is especially underlined by the fact of the depopulation process noticeable in both the hinterland-rural area and island ones, so one of the Action plan focuses was to increase the attractiveness of the public transport by optimizing the services and implementing new ones. On the other hand, touristic season brings an overflow of passengers, and the public transport lines can be made more effective and sustainable, especially in reducing the carbon emissions. The Mobility Masterplan as well as our Baseline study gave more detail on these topics.

To affect the mentioned issues a mixture of activities regarding infrastructural, organizational and institutional bottlenecks will be addressed, and in a way that it can be beneficial for both touristic and winter season. A number of most relevant stakeholders will be contacted to help implementing these activities and sub-activities. City of Zadar will support the implementation of those activities and direct the stakeholders where possible.

As mentioned, this Action plan is divided in three different activity sets, each one with several specific actions. The idea of the Action plan is to engage several frontlines at once through different stakeholders so progression can be continuous and with as few of setbacks as possible. Secondly, the proposed activities are the result of experiences gathered from OptiTrans project, so the focus is primarily set on achieving the projects objectives. In that regard, cooperation with our project partners provided insights on setbacks they've experienced when implementing similar activities and our aim is, because of those examples, to mitigate the setbacks during the implementing period by learning from others. The logic of the Action plan is that some activities, although they all can stand alone, will foster the implementation of the others. Some of those haven't been largely discussed by our project partners as they might have saw them as implicitly understood, however, in our view, these issues needed to be tackled and are a result of a thought process gained from OptiTrans project.

Action plan activities can therefore stand by themselves and in their own right improve the transport situation in the region, but idea is to mutually develop the conditions for future developmental activities. Focus of the activities is twofold: firstly it aims to increase the attractiveness of the local and regional public transport to the local population by providing more opportunities in which public transport users could benefit through the whole year. Secondly, it aims to address the seasonality problems by implementing a bicycle system as a low-carbon mobility solution and increasing its attractiveness to potential passengers. The aim is to develop the touristic mobility so it can be sustainable during the winter period as well, especially regarding the hinterland/island connections. The Action plan concludes in the most long term activity of a touristic route, which would be an example of integrating intermodal low-carbon transport services and the regional community with benefits for everyone involved.

There are several strategic documents that are in line with the proposed activities: City of Zadar developmental strategy, Zadar County development strategy, Republic of Croatia traffic development strategy to name a few. However, some of them are valid up until 2020. so a look ahead might be useful to support this Action plan more precisely. The Mobility Masterplan is yet to be officially accepted, but at the current stage it is the most important document on the future of traffic development in Zadar region. This document was the "Local strategy on Transport" intended to be influenced by City of Zadar by OptiTrans project: "Local strategy on Transport" was a descriptive name and it refers to the "Mobility

Masterplan for a functional region of North Dalmatia” document, referred to as the Mobility Masterplan further in text.

Mobility Masterplan is a strategic document that encompasses regional and local developmental issues up to 2040. It will be used by the Zadar County, City of Zadar and a number of municipalities in the region as a guideline for development and to enable financial support by the EU. Topics of sustainable development, green development and improvement of intermodal transport on regional and local scale are the most common themes of the Masterplan. It also contains different analyses on regional transport situation, and given all stated above it is the most important transport related strategic document for the region.

The proposed activities aim to influence the implementation of the Mobility Masterplan and other strategies through experiences gained from the OptiTrans project and encompass short term, midterm and long term activities aiming to develop the traffic situation of Zadar region in a holistic way. The Action Plan was developed by cooperation with the local stakeholders and hired external experts. The approach was to discuss the transport issues they are noticing and implement our experiences gained from the project as a viable solution.

Part III – Details of the actions envisaged

ACTION 1: Improving the public transport information system of Zadar County region

1. **The background** (please describe the lessons learnt from the project that constitute the basis for the development of the present Action Plan)

As detailed in the Baseline study, Zadar area lacks railway connections and substantial green-oriented infrastructure so by lower cost investments to the existing public transport services this Action aims to mitigate some of the soft problems encountered with the transport. The proposed activities are influenced by the good practice examples gathered from the OptiTrans project, specifically examples of Cluj information points delivered by Baia Mare, communication with our project partners, and other info-mobility trends we’ve had the chance to encounter during the project.

Zadar bus system, as well as Zadar bus terminal, is managed by Liburnija l.t.d.. City of Zadar is the majority owner (58%) of Liburnija, while the rest of the ownership is distributed through several municipalities. Liburnija has been consistent on the quality of their services for a number of years so only a few changes regarding the bus lines have been made, as the town has grown so have the new bus lines been implemented; overall there is a consistency in the bus lines over the years and that mode of public transport is generally considered reliable. Furthermore, Liburnija has recently added 25 new ecologically friendly buses to their capacities, making them an ideal partner to further lower the carbon emissions by usage of public transport. Coordinated activity with Liburnija as the most important stakeholder in this point is a necessity for all of the future developments as well.

Following the peer review of Zadar transport system, the project partners noticed that the bus transport lines lack the names of the bus stations they are stopping on. While this is not a big problem or an issue for the local population, due to the before mentioned consistency of the transport service, for incoming passengers this provides a noticeable problem. Lack of clear naming keep the users guessing where and when they should leave the public transport and as such lowers the reliability of the public transport.

This is especially underlined by the fact that bus lines and bus stops are not present on Google Maps service, which makes it even more difficult for tourists to navigate through the bus lines. This is also a necessity to further develop monitoring of the public transport, as in providing live data on the position of the buses, delays and other schedule information. We’ve seen a development of this issue

addressed in Baia Mare good practice example as they have recently implemented a transport schedule that is responsive to live data. Google Maps is mentioned as an example of a global info-mobility service, and it is a one with huge coverage and trustworthiness, but developing resources for both global and regional info-mobility services is a necessary step towards integrating the public transport into an intermodal easy-to-use network.

That being said, local info-mobility services can be developed in a number of ways, but they always have to be responsive to the local/regional transport context. As developments in the traffic situation progress, along with technology developments and big data analytics, keeping an info-mobility service is maintaining the balance between the necessities and possibilities. One of the proposed actions is to keep following the trends and build upon the gathered experiences. The lower developmental state of info-mobility services can be taken as an advantage: by learning what went wrong with other info-mobility service examples, and by timely adjusting to the global trends and the regional needs, cheaper and better long term solutions will be developed. On the regional level, there are institutions like Inovativni Zadar dealing with these issues, and this Activity aims to influence their developments.

Finally, to conclude the preparatory activities of info-mobile integration to the public system an example of bus station at “Mala Pošta” will be made. Beside the Zadar bus terminal, bus station at “Mala Pošta” is the only bus stop intersection where all of the busses stop by. As it’s in close proximity to the center of the town as well as it has several ways out of the town or towards other most relevant town districts, “Mala Pošta” also serves as a meeting place for taxi service providers, and is in great position to direct the passenger transport management. As such, an info-panel providing data on local and regional intermodal transport, as well as an automated ticketing service would be beneficial for the optimization of the local public transport.

Much of these issues will be addressed by the Zadar Urban Mobility 4.0 project. Total value of the project is approximately two million euros, and some of this budget will be used to implement the actions mentioned below. City of Zadar as the lead partner of the project has benefited from the experiences gained through the OptiTrans project and hopes to apply that knowledge in practice on the activities described.

2. Action

Action 1.1 Naming the bus stops

This activity is relatively easy to implement but would be beneficial for a number of reasons. Firstly, it would open up conditions to further develop the info-mobility services, as well as it would be easier to classify which stations are in need of change/development/anything else related. This activity would greatly serve over the touristic season to increase the attractiveness of the public transport as for a non-local it would be much easier to navigate through the city. Furthermore, by doing this standardization process, beside the immediate impact, Zadar would gain a prerequisite to further develop a comprehensive information system.

The process of naming the local bus stations would include both designating official names to the bus stations but it would also mean that actual stations would get the visible marks of their name. So overall this activity would be impactful on an administrative level and on a much more practical level, especially for tourist. These activities will partly be addressed by the project Zadar Urban Mobility, so the City of Zadar and its Administrative department for EU funding and Administrative

department for Utilities and Environmental Protection will be responsible for naming the bus stations. Bus stations that would not be named in the first part of the process will in any case be named in time by Liburnija I.t.d.

For successful implementation of this activity it is necessary to:

- 1) Organize a working unit which would achieve consensus on the bus stop names and make them official
- 2) Implement the official changes and provide basic infrastructure with names of the bus stops on the them

Related strategic document measures:

Zadar County development strategy:

Measure 2.4.2. *Developing public transport system and creating the conditions for intermodal development*

Zadar County tourism development strategy:

Measure 3.1.3. *Developing and strengthening public touristic infrastructure*

Mobility Masterplan:

Measure M-I-23 *Implementing bus stations with minimal technical specifications*

Activity indicators:

- 1) Bus stations names developed and officially accepted
- 2) Bus stations name visibly displayed at the stations

Action 1.2 Adjusting to the global info-mobility services

To make the public transport Google Maps has distinguished itself as one of the most used info-mobility service, with 1 billion users as of 2017. However, local bus stations are still not shown on the Google Maps application, so just naming them would be a first step towards easing this process. Zadar area still lacks GTFS data, but a lookout for new developments must be prioritized to not invest into technologies that are soon to become obsolete. Overall this activity aims to positively influence the usage rate of public transport services by the tourists and especially during the summer season, and it implies monitoring the development of big data analysis, while recognizing the branches that should be made as prerequisite to benefit from them, such as naming the bus stations, live feed of traffic data etc. This is especially relevant activity for the future progress, as its development is still low, and it's indicative that specific strategic measures fully corresponding to this activity cannot be found in the older strategic documents, but have a place it soon to be accepted Mobility Masterplan. This activity was also an idea developed by our partners review and our visit to Erfurt, where using the public transport is eased by the info-mobility services. As mentioned, visit was the revealing experience, as the domicile passengers know where and how to get by the public transport, but having a reliable source of information is hugely beneficial for any visiting passenger.

To successfully implement this activity it is necessary to:

- 1) Foster the development of human capacities working in the public transport institutions related to info-mobility services, especially with a focus on Geo Data Upload for Google Maps
- 2) Monitor the info-mobility trends to be updated on the newest services

Related strategic document measures:

Mobility Masterplan:

Measure M-I-14. *Developing informational infrastructure to manage the system for informing the passengers*

Activity indicators:

- 1) Human capacities for information technologies for transport develop each year

Action 1.3 Developing local info-mobility services

Zadar County area still lacks an approachable info-mobility system and this is also one of the activities City of Zadar has addressed by the Zadar Urban Mobility project. With our partners in Inovativni Zadar we are establishing an informational database needed for the info-mobility services. Again, this activity came to fruition based on our experiences gained in Erfurt where we could first hand notice how public transport approachability is increased through optimized information system. To be precise, although a number of users, especially tourists, rely on global info-mobility services, local and regional info-platforms that offer added value to the users are still considered relevant especially for local/regional passengers. Reimagining this info-platform as a service that will foster the usage of public transport and offer new services to the users is the next step that should be taken to further develop the local transport. What this service might enable is to be determined depending on the necessities of the region, but data on arrivals/departures, parking capacities, single ticketing, touristic information and points of interest, accounts for benefits etc. are just some of the approaches new info-mobility service can offer.

To successfully implement this activity it is necessary to:

- 1) Build upon existing or create a new regional info-mobility service
- 2) Enable live-feed on transport data to make the local transport more easy to manage
- 3) Engage with the public to determine their needs and expectations of a regional info-mobility service
- 4) Engage the public by making special offers and developing the service

Related strategic measures:

Zadar County development strategy:

Measure M 2.4.1. *Improving the quality of vehicular, pedestrian and idle traffic as well road networks and the improvement of management of traffic control systems*

Mobility Masterplan:

Measure M-U-3. *Creating a database relevant for developing the public transport*

Activity indicators:

- 1) Developed info-mobility service
- 2) Number of passengers using the service

Action 1.4 Info-point at “Mala pošta”

Mala Pošta is one of the locally recognized stations and it's the core station beside the local bus terminal. While bus terminal has available info-points with employees, “Mala Pošta” station has basic infrastructure (bus stop cover) and nothing else. This is a problem for a station that every bus line in Zadar stops on, and developing an information point much like the mentioned Cluj example might make the local transport more attractive and easier to use. Experience gained from Cluj was a good guideline to adjust the public transport approachability to the new trends. Making the public transport easier to use is hoped to be achieved by the project Zadar Urban Mobility, which will address some of these issues. The project will be implemented by City of Zadar as the lead partner, while Inovativni Zadar, Liburnija and Obale i Lučice are the partners on the project. Total value of the project is approximately two million euros, and some of this budget will be used to implement this activity. This activity would thus provide an info-point with enabled ticketing, to foster the usage of public bus transport. Important aspect would be also implementing an automated ticketing service, to reduce the waiting period in front of the busses and to make the public transport more approachable. Although this activity covers a few basic actions, the info-point can be upgraded along with the developments on the other info-mobility fields, so it should be included in the long term plans as well. Finally, e-ticketing service will be made. With this activity we're hoping to finalize the major steps towards making Zadar an approachable, easy to use public transport system, with any information and ticket availability reachable at any time for anyone.

To successfully implement this activity it is necessary to:

- 1) Provide 2 info-panels, one on each side of the bus stop lanes
- 2) Enable a comprehensive public transport information system
- 3) Enable an automated ticket selling service
- 4) E-ticketing service developed

Related strategic measures:

Zadar County development strategy:

Measure M 2.4.1. *Improving the quality of vehicular, pedestrian and idle traffic as well road networks and the improvement of management of traffic control systems*

Mobility Masterplan:

Measure M-I-14. *Developing information infrastructure for the system management and quality information for users*

Measure M-O-6. *Developing new possibilities of ticketing services*

Activity indicators:

- 1) Info-panels placed on the relevant locations
- 2) Automated ticket selling service
- 3) E-ticketing service

3. **Players involved** (please indicate the organisations in the region who are involved in the development and implementation of the action and explain their role)

- City of Zadar
- Liburnija l.t.d.

- Inovativni Zadar
- Obale i Lučice

4. Timeframe

The Zadar Urban Mobility project ends by the end of 2022. so the foreseen deadline is a must before that end. However, the approximate timeframe of the implementation is up to the end of 2021.

5. Costs

Action 1.1

Costs for this activity include the logistics of meetings, making an official planning documentation and at last printing out the names and placing them on the designated stations.

Approximate cost 20.000 EUR

Action 1.2

Costs for this activity include monitoring and steering the developmental process which is an on-going practice so defining an accurate number is a problem. Making data available and ensuring that the public transport data is approachable is also an on-going process, so costs for a single person working on this issue over one year period are taken into account.

Approximate cost 100.000 EUR per year

Action 1.3

This activity requires number of experts working on the application, data collection, management of the system, upkeep etc.

Approximate cost 100.000 EUR per year

Action 1.4

This activity requires procurement of two info-panels, logistics of connecting it to the power line and the internet, maintenance of the server, data management and warranty.

Approximate cost 100.000 EUR

6. Funding sources (if relevant):

- National funds
- ERDF
- Institutional budget
- IPA mechanism funds

ACTION 2: Fostering the intermodal connectedness of regional transport intersections by making the public bicycle system more approachable

7. The background

As described in the Baseline study, Zadar County region has several big spots to look upon for developing the regional intermodal transport possibilities, but it also has a lot of potential. To be specific, Port Gaženica is 9km distanced from Zadar Airport and less than 3km away from main bus/railway terminal. Balancing the needs and possibilities between developing a sustainable public transport for winter season and upgrading the efficiency and attractiveness of it during the summer season is the core task of this activity and it starts by addressing several issues. This action consists of several activities establishing the potential of the existing situation and aiming to improve intermodal connectivity of the region by bicycle system connecting the most vital intermodal points.

First and foremost, railway connection is non-existent and one of the priorities of the Action plan would be finding a way how to empower the railway mode of transport in Zadar region. The railway system is in a difficult position in Croatia as a whole, not just Zadar County, which makes implementing new activities related to railway transport a difficult if not an impossible task. But, a starting point for any positive change can be made in close future and the proposed actions will steer this issue in that direction. Local bus terminal and the railway terminal in Zadar are on the same location, which makes them an interesting intermodal point whose potential is not used at all. As mentioned before, bus terminal and railway terminal are in close proximity to both the centre of the town, Port Gaženica and Zadar Airport, which provides great opportunities for passenger transport. However, due to old infrastructure and general unreliability of Croatian Railways which govern the system, depopulation process etc. raise the question of rentability of investing in the railway system and it being a part of a regional intermodal system.

Although a different mode of transport is analyzed in this situation, experiences from our project partners from Thuringia provide important starting points to think about for re-conceptualizing the public transport for more efficient rural connectivity. As Zadar County is diversified with the regional settlement structure it must also be considered that on the touristic season the traffic flow changes drastically. Due to this discrepancy between low traffic on the winter period and high traffic during the summer, intermodal mixture of railway, bus and on-demand public transport is an activity to build upon and it might provide a strong case for revitalization of the railway system. Specifically, research on how the railway system can be used as a supplementary network for a region with characteristics of “unfavorable framework conditions for public transport, above all low population density and a shrinking number of inhabitants” is a valuable lesson worth developing upon. Revitalizing the railway system is a long way ahead and it’s dependent on a number of factors and interest beyond City of Zadar influence, however, feasibility studies will serve as a starting point to attract investments and develop the service.

Secondly, Zadar Airport is continuously developing and with each year increase in capacities is necessary to keep the progression on-going and sustainable. This year alone, from the period of May to October (summer season), 700.000 passengers arrived to the Airport, which is approximately 20% more than the previous year. One of the opportunities is to focus on developing a public bicycle system that incoming passengers could use as a cheap and effective way of transport to the town. This bicycle system connecting to Zadar Airport would provide new mode of transport and there are reasons to believe it would be successful. Firstly, during the summer season main reason for arrivals is tourism. Bicycle as a mode of transport is attractive to younger population and, being on demand and more approachable than for example shuttle bus or taxi service, is a cheaper option suitable for short distances. Airport is in a great geographical position, close to the main roads connecting the inner Croatia and Zadar. Zadar Airport is in close proximity to Port Gaženica and has consistent lines to local bus terminal as well. Finally, Zadar Airport has developed its own info-mobility service and as such proves as a strong partner for regional transport optimization.

This proximity can be utilized more, as a part of the passengers opts out to go by foot to Zadar. Public bicycle system, much like the one seen in Bicropolitana example or the one implemented Granada can explore this possibility and build both local bicycle lanes and ones intended for sustainable tourism transport, branching through the bus terminal, Port Gaženica and Zadar Airport as three most vital intermodal intersections. Those factors counted, paired with the possibility of single ticketing and spreading the bicycle service, could lead up to a sustainable, environmental-friendly service.

Port Gaženica has great if not the greatest potential in Zadar region to develop the intermodal possibilities. As the port is placed in close proximity to Zadar Airport and Zadar main bus terminal, so is the railroad in close reach of the port. However, developing bicycle lanes would be especially beneficial for the summer season, to ease up the passenger flow to Zadar when cruisers and other passenger ferries arrive. Furthermore, developing a stronger connection to local islands is also one of the priorities. Having seen how bicycle system operates first-hand on examples of Granada and Tartu, developing a bicycle system that would suit the geographical and seasonal characteristics of Zadar County is the next step to improve the regional sustainable transport.

Zadar and Zadar region have yet to fully “accept” the public bicycle service, which will be addressed by developing infrastructure and enabling easy to use and economically approachable system. However, developing a “bicycle culture” is still an issue that will need to be addressed to work in Zadar area context, and promotional activities seen in cities where public bicycle system is a success will also be a part of the action plan. This is especially relevant for the local population – by making bicycle system a functional aspect of the local public transport, users adjusting to regional lines schedule would benefit the most. City of Zadar has had previous experiences on EU projects promoting the bicycle usage, and the proposed activity would grow on the previously achieved results and lessons learned. Promotional activities should follow the development of the bicycle system, and should not focus only on the public bicycles, but instead promotion should be a continuous effort going in line with infrastructural and organizational developments in the region.

To influence the seasonality of transport even more ideas gathered MOVE ON GREEN project will be taken in the consideration, specifically The Village Bus in Kolsillre. The Last Mile project also provides methods of organizing transport services for the touristic needs. The mentioned examples found through the OptiTrans project aim to contribute to making the Zadar region an inter-connected region with consistent public transport.

8. Action

Action 2.1 Feasibility studies for railway

First issue addressed in this Action would thus be gathering enough data to determine how to build upon the existing potential of the railway and explore the ways to attract passengers. This action would be divided in three parts, each one contributing to its own objectives but as well to developing railway terminal in Zadar to an intermodal hub.

- A) Feasibility study focusing on needs of the rural area during the winter season. Establishing a clear idea if railway can supplement and upgrade the existing public bus system connecting the rural area of the region with it gravitational centre would be the first step towards the revitalization of the railway.
- B) Feasibility study focusing on needs of the touristic season traffic influx and developing upon favourable tourism opportunities in Zadar region. In this regard, it would be important to research the structure of the incoming visitors to Port Gaženica, Zadar Airport and Zadar bus

terminal to conclude can the railway system improve the intermodal value of the whole region with its own possibilities

- C) Feasibility study focusing on local intermodal connectivity. This study would determine the passenger flow and needs after the lines have been implemented or planned, aiming to establish what additional infrastructure needs to be implemented, would different bus and ferry schedule be beneficial for the passenger flow during different seasons and all the other quality of life services needed to make the railway system attractive and reliable source of transport.

To successfully implement this activity it is necessary to:

- 1) Feasibility study/studies; one or more documents that would cover all three topics

Related strategic measures:

Zadar County development strategy:

Measure 2.4.2. *Improvement of the public transport system and creation of preconditions for the development of intermodal transport*

Zadar urban development strategy:

Measure 3.1.5. *Supporting the railway traffic*

Mobility Masterplan:

Measure M-1-7. *Defining intermodal terminals, integration points and stops in the public transport system*

Measure M-1-18 *Determining the possibility of the railway infrastructure rehabilitation*

Activity indicators:

- 1) Feasibility studies or any other research on the topics

Action 2.2 Public bicycle system connecting Zadar Airport and Port Gaženica

This would be an activity Zadar Airport would have to start-up, but building a reliable infrastructure for bicycle usage would be a bigger task. The idea for this activity was identified in the OptiTrans study visit in Zadar, as the terrain and the weather conditions (at least not during the winter season) are optimal for cycling activities. Based on the overall experiences in the project, approaching to a bicycle system of this scale looks much more plausible than before. As mentioned, about 10km separates Zadar Airport and Port Gaženica and investments for a separate lane, signs and the bicycle system would have to be made. The section of 10km between Zadar Airport and Port Gaženica is the priority here, as there is existing infrastructure between Port Gaženica and Zadar main bus terminal. Depending on the successfulness of the project more e-bicycles and bicycles can be supplied. The scope and developmental potential public bicycle system would enable to users of Zadar Airport and Port Gaženica is something to fully explore as well, but indications given so far give reasons to believe that this activity would improve the traffic flow and increase the quality of transport during the summer season by a noticeable number. These activities are planned as a part of the larger scale infrastructure overhaul, worth over 10 000 000.00 EUR, concerning multiple stakeholders (Zadar County, Port Gaženica, Zadar Airport, Tourist board, City of Zadar etc) and locations to be developed, but from our side we would focus on supporting the connection between Zadar Airport and Port Gaženica, as the idea has added strategic value in regards to cyclotourism and sustainable development. It also has grounds in needs of the Zadar Airport/Port Gaženica especially during the

summer season, but due to the complexity of this activity in the period of 2 years we are aiming to provide supporting activities such as research and cooperation.

To successfully implement this activity it is necessary to:

- 1) Research how many incoming passengers would use the bicycle service to determine the scope of the project
- 2) Provide basic infrastructure (safety measures, signalization etc) towards Port Gaženica
- 3) Foster the bicycle system and cooperate with other regional stakeholders to support its development

Related strategic measures:

Zadar County development strategy

Measure 2.4.5. *Promotion and development of bicycle traffic*

Mobility Masterplan:

Measure M-I-5. *Construction of the bicycle infrastructure*

Measure M-I-6. *Construction and development of the bicycle lanes which connect the households with the regional public transport stops, bus terminal and intermodal terminals*

Measure M-I-19. *Developing optimal ways to connect the land and the islands of the Zadar archipelago*

Measure M-I-26. *Development of study documentation for the further development of air transport in terms of intermodal transport*

Activity indicators:

- 1) Cooperation between Port Gaženica and Zadar Airport
- 2) Number of bicycles incoming towards the port from the Zadar Airport

Action 2.3 Public bicycle system connecting the Port Gaženica, Zadar and other destinations

As mentioned, Port Gaženica has a great potential to keep on developing as an intermodal hub. Beside the summer season increased transport, it also serves as the main point connecting the regional islands and the land, so there is a consistency of transport in it during the whole year. Implementing the public bicycle system is more environmental friendly and an initiative to develop bicycle system on the islands most suitable for it would be a next step for Port Gaženica. To provide consistency and open the possibilities for future developments surveys on how to make the bicycle transport more attractive are a necessity, along with the special promotional services integrating the marine transport and bicycle one to a single service. It's important to differentiate between public and private bicycle users, as developing infrastructure accounts for both private bicycle users and eventual public bicycle users. Integrating bicycle mode of transport to maritime involves different perspectives depending on the users and to that end, integrated service can be understood as implementing optimal solution, prices and promotions for two different populations. The public bicycle one would have to be more engaged with the transport stakeholders and service keepers, while addressing the needs of the private bicycle users would mostly be discounts for bicycle charge and similar activities. As mentioned before for the activity 2.2. this is a large scale operation and a strategic issue, so at first City of Zadar will focus on fostering the preconditions needed to enable full realization of this idea in the future.

To successfully implement this activity it is necessary to:

- 1) Support the implementation of a consistent Port Gaženica – Zadar bicycle system

- 2) Promote the integrated system as the part of transporting experience
- 3) Research if there is potential for touristic usage of public bicycle system on regional islands
- 4) Enhance the bicycle and port infrastructure to enable seamless cycling-to-ferry transition

Related strategic measures:

Zadar County development strategy:

Measure 2.4.4. *Development of maritime infrastructure and services and supporting the Port of Gaženica as an international port*

Measure 2.4.5. *Promotion and development of bicycle traffic*

Zadar urban development strategy:

Measure 3.1.8. *Developing pedestrian and bicycle transport*

Mobility Masterplan:

Measure M-I-5. *Construction of the bicycle infrastructure*

Measure M-I-6. *Construction and development of the bicycle lanes which connect the households with the regional public transport stops, bus terminal and intermodal terminals*

Measure M-I-19 *Developing optimal ways to connect the land and the islands of the Zadar archipelago*

Activity indicators:

- 1) Number of cyclist using the Port services
- 2) Public bicycle system integrated in the Port services

Action 2.4 Creating a “culture” of public bicycle usage

This activity would include promotional activities, raising visibility and awareness but as well fostering the development of bicycle infrastructure Zadar and the region needs to be fully optimized for bicycle usage. For that reason focusing on how to sustain the bicycle usage and making it a viable option for the local population is a long-term necessity. To do so, City of Zadar must push the agenda of infrastructural development suitable for bicycle mode of transport, as the means of creating the right conditions for developing the bicycle community. This accounts for both public bicycle users and cyclist with their own bicycles, although the biggest improvement for all the bicycle users would be suitable infrastructure. However, to promote the ecologically friendlier bicycle usage visibility measures and subventions, discounts and special offers to potential public bicycle users must be taken in consideration. As mentioned before, due to the experiences gained through the communication with our project partners, field visits and other good practices gained with the OptiTrans project, City of Zadar opinion is shifted towards making a bicycle system a lot more plausible transporting solution, and this action aims to create the public habits needed for long-term sustainable and green transport.

To successfully implement this activity it is necessary to:

- 1) Work on improving the existing and creating new bicycle infrastructure
- 2) Promotional activities
- 3) Develop special offers and discounts for frequent users to increase the green mobility

Related strategic measures:

Zadar County development strategy:

Measure 2.4.5. *Promotion and development of bicycle traffic*

Zadar urban development strategy:

Measure 3.1.8. *Developing pedestrian and bicycle transport*

Mobility Masterplan:

Measure M-I-5. *Construction of the bicycle infrastructure*

Measure M-I-6. *Construction and development of the bicycle lanes which connect the households with the regional public transport stops, bus terminal and intermodal terminals*

Measure M-O-11 *Organizing promotional campaigns on the benefits of public transport*

Activity indicators:

- 1) Investments to bicycle culture (EU projects, infrastructure, visibility)

Action 2.5 Diversifying the transport possibilities for rural area by implementing bus on demand service

To diversify transport possibilities connecting the main gravitational point of the County (Zadar) and rural area, much like the islands, in a sustainable way, is a big task and a number of different methods must be used to ease this problem. Some of these methods were already mentioned, but this activity would focus on a pilot test of a “bus on demand” connecting the rural area with Zadar. This would be partly a mimic of the practice already established in Zadar but further developed through Study visit in Zadar. Rentability of this line is something to discuss, as well as the exact regional stops it should cover, but a starting point for developing this service is a realistic aim for the next few years. Cooperation with the local transport providers (Liburnija and other private bus companies) to detect their transport weak spots is a necessity, as well as detecting which places would benefit the most from a more consistent bus line.

To successfully implement this activity it is necessary to:

- 1) Cooperate with the local transport providers to determine how can bus on demand improve the quality of their service

Related strategic measures:

Mobility Masterplan:

M-O-1. *Introduction of on-demand public transport service*

Activity indicators:

- 1) New on-demand transport service implemented

All of the previously mentioned activities would rely on

9. Players involved

- Croatia Railway Infrastructure

- Zadar Airport
- Liburnija l.t.d.
- Port Gaženica
- City of Zadar
- Zadar County

10. Timeframe

2 years

These activities will take its course over the two years, as they are affecting the strategic priorities of the region.

11. Costs

Some of the proposed actions can be made through consistent day to day work of the existing institutions, but the infrastructural costs will be higher. Depending on the made studies, the budget for infrastructural changes might be 1.000.000 EUR to 3.000.000 EUR. Implementing a public on-demand transport service for a cheapest solution of giving a concession would be approximately 300.000 EUR.

12. Funding sources

- National funds
- ERDF
- Institutional budget

ACTION 3 Preparations to capitalize on the transport potential

13. The background

This activity comes as the most long-term of all the proposed activities so far, and it would encompass their development to open new possibilities for transport services and the regional community. As Zadar region has its own specific context which must be kept in mind while implementing and adjusting to experiences gathered from OptiTrans, so must the proposed actions be responsive to the newly developed needs and opportunities. That being said, previous activities served well by themselves but this action relies on development of those activities to adjust for Zadar region.

Firstly, offering an integrated service for all of the public transport modes would be a further step forward towards improving the public transport via info-mobility services. Example from La Rochelle CiViTAS success points several things: info-mobility services can improve the quality of the passenger experience and info-mobility services can create an “added value” especially beneficial for visiting tourists. Single ticketing service would thus be a vital step towards capitalizing on the integrated public transport. Furthermore, experiences gathered from our project partners indicate the ways this service should be developed: bonuses like adding discount based on the mileage covered by the user would be beneficial for environmental sustainability, and overall the usage of public transport would increase. Pairing the info-mobility services and single ticketing as the means of creating integrated intermodal public transport also provides more attractiveness to each mode of transport as more opportunities provide alternatives to any single mode of transport weak spots. In that regard, public bicycle system would also benefit from this if included.

Croatia still has ways to go when analysing big data and providing the best solutions from it. This can be turned to our advantage: as technology develops and costs of implementing tools of public utility lower, the proposed solutions can make an immediate impact at less cost than before. Data analytics are becoming a lot more efficient and encompass a lot more of data than before. Opening the statistical and qualitative data to the public, ensuring new measurements for relevant indicators and opening the solution proposals to the innovativeness of the market is a big step that can singlehandedly, through different sources, optimize the transport situation in Zadar region and beyond. Transfers of experience are also an added value of this activity so the background for it is City of Zadar participating in the EU projects such as OptiTrans.

Consolidating public interests is also an important step to develop anything and public transport is not an exception. The proposed activities so far all included a share of responsibilities among relevant stakeholders, but a step further would be connecting the private sector and the public one to develop new services and possibilities beneficial for the community.

The final proposed activity is establishing a regional touristic route, growing on all of the activities proposed in this action plan and the specific regional context. This activity would be, at its inception at least, a smaller scale version of the St. Francis road, given as an example by our partners. Zadar County is rich in cultural and natural attractions, and a touristic route would be beneficial for both sustainable tourism and sustainable transport. This takes in count the rural area, island area and the town area, and its basic idea is to create demand for transport opportunities by developing tourism packages involving visits to touristic points of interest. Providing new modes of transport to reach the destinations and working with the regional stakeholders to develop new transport destinations is a long term action that needs graduate development of transport possibilities, fostering the relationship between the tourism and transport sector are the key aspects of this activity. Ideally, by enabling a profitable yet eco-friendly route over the summer expenses of maintenance during the winter season should be covered, providing a sustainable transport opportunity during the whole year.

14. Action

Action 3.1. Single ticketing service

Single ticketing service would allow the users a seamless transition from different modes of transport, which would raise the attractiveness of the public transport overall. The previous activities focused on making the public transport a more viable option for the locals and the tourists, and this activity would further capitalize on the mentioned activities. The reason why this activity would thrive the most if saved for last is because more modes of transport add more value to the single ticketing service. It would also give time for the users to get accustomed to a variety of public transport, making this service a desirable prospect.

To successfully implement this activity it is necessary to:

- 1) Cooperate with different public transport providers to find the optimal single ticketing service

Related strategic measures:

Mobility Masterplan

M-O-2 Introduction of common ticketing system

Activity indicators:

- 1) Common ticketing developed

Action 3.2. Public visibility of transport data

Making the transport data available to public would enable the private sector innovators to develop new services and transport solutions the whole community could benefit from. Zadar region has yet to make available all of the relevant data to the public, and supporting the idea of data public availability is an important method to provide new transport solutions needed for sustainable urban and regional transport. Optimizing transport means enabling the city to become a smart city, and proposed solutions would figure their own way to the implementation if they are good.

To successfully implement this activity it is necessary to:

- 1) Make statistical and other data available to public

Related measures:

Mobility Masterplan

Measure M-U-2 *Ensuring continuous collection of information on mobility and system functioning*

Activity indicators:

- 1) Data on transport, users, roads etc to be released to public

Action 3.3. Fostering the cooperation between the regional touristic and transport sector

City of Zadar will work with Touristic Board Zadar, developmental agencies, regional and inter-regional transport providers to foster the communication between those two sectors. This communication is a starting point for mutual development and optimal usage of regional opportunities. At this point it is important to note that greater transport opportunities provide more touristic opportunities, as well as the other way around, so developing this network in a sustainable way would be beneficial to a number of stakeholders.

To successfully implement this activity it is necessary to:

- 1) Create the list of touristic potentials that would benefit the most from sustainable modes of transport (e-bikes, e-vehicles in general, bicycle)
- 2) Select the optimal routes that would have the most impact
- 3) Foster the communication between the private transport services and touristic sector and enable the right conditions for investments

Related strategic measures:

Zadar County tourism development plan:

Measure 2.1.4. Creating an entrepreneur network

Activity indicators:

- 1) Number of stakeholder meetings held

Action 3.4. Regional cultural/touristic routes

To fully capitalize on the development made through the implementation of the Action Plans activities a regional cultural route will be setup. This regional route would be connected to the regional intermodal network so it could be approached from any of the developed transport intersections in the region. This connectivity is something to develop upon, so City of Zadar would work with the Touristic Board to link the touristic capacities of the region and the transport possibilities into a single narrative. Furthermore, cooperation with Zadar County is a necessity as well, as the regional touristic boards is something to develop through their projects of “Cultural heritage”, which aims to prepare the infrastructural conditions needed for a creation of a cultural route. In that regard, connecting those routes is something that a number of stakeholders have to approach together.

Developing a touristic route in Zadar region, and beyond, would consist of several tasks. Firstly, a list of touristic opportunities in need of visibility and connectivity would be made, and Touristic Board would work with the local stakeholders on unifying the touristic offer. Secondly, communication between transport service operators and the touristic stakeholders would be fostered. Seeing how to attract the tourists would be beneficial for both sides as in this regard, having various transport opportunities to reach the destination is something beneficial for both transport operators and the tourism offer. Making a final product is something that will be discussed with the market experts and the field experts, depending on the focus of the route.

To successfully implement this activity it is necessary to:

- 1) Cooperate with the regional touristic stakeholders and the transportation ones, to determine which locations would benefit most from a touristic network
- 2) Cooperate with regional stakeholders to ensure the sustainability of the route
- 3) Organize a coordination body that would invite new stakeholders to continue developing the route

Related strategic measures:

Zadar County tourism development plan:

Strengthening Zadar's international connectivity by air, sea and rail traffic

Mobility Masterplan:

M-I-19 *Developing optimal ways for connecting the land and islands*

15. Players involved

- City of Zadar
- Zadar Touristic Board
- Zadar County
- Zadar Airport
- Port Gaženica
- Liburnija
- Local stakeholders and entrepreneurs

16. Timeframe

2 years

These activities will take its place over the course of two years, as they affect the strategic priorities of the region.

17. Costs

Beside the eventual infrastructural costs for the route, which are impossible to determine at this

point, this action consists of soft measures steering the work of the regional agencies and as such does not need extra founding. However, if possibilities for investments arise, costs of feasibility studies, research, meetings etc will require some founding.

18. Funding sources (if relevant):

- Institutional budget
- EU funds

Date: _____

Signature: _____

Stamp of the organisation (if available): _____