

# R E G I O N A L A C T I O N P L A N

*Municipality of Reggio Emilia*

*March 2019*

**RESOLVE**

*Sustainable mobility and the  
transition to a low-carbon retailing  
economy*

## Sustainable mobility and vitality of the city center

The overall objective of the RAP is to reduce carbon emissions created by retail related traffic in town and city centres while also supporting jobs and growth in the local retail economy.



# TABLE OF CONTENTS

<b>EXECUTIVE SUMMARY</b> .....	<b>3</b>
<b>INTRODUCTION</b> .....	<b>4</b>
<b>PART I – GENERAL INFORMATION</b> .....	<b>6</b>
<b>PART II – POLICY CONTEXT</b> .....	<b>7</b>
<b>PART III – DETAILS OF THE ACTIONS ENVISAGED</b> .....	<b>10</b>
ACTION 1 – FREE-FLOATING BIKE SHARING FOR THE CITY CENTRE.....	10
ACTION 2 – URBAN DISTRIBUTION CENTRE (UDC) FEASIBILITY STUDY.....	13
ACTION 3 – MONITORING THROUGH USERS INTERVIEWS .....	16
<b>PART IV – MONITORING PHASE</b> .....	<b>19</b>
<b>PART V – CONCLUSION AND LESSONS LEARNT</b> .....	<b>20</b>
LESSONS LEARNT.....	20
SYNERGIES OF RAP WITH REGIONAL POLICIES .....	21

## List of tables

TABLE 1 – RAP MONITORING SYSTEM .....	19
TABLE 2 – RESOLVE STUDY VISITS ATTENDED BY REGGIO EMILIA TEAM AND BEST PRACTICES SELECTED .....	20
TABLE 3 – CORRELATION MATRIX BETWEEN RAP ACTIONS AND PRIT STRATEGIC GOALS (H: HIGH CORRELATION, M: MEDIUM, L: LOW) .....	21
TABLE 4 – CORRELATION MATRIX BETWEEN RAP ACTIONS AND PAIR STRATEGIC GOALS (H: HIGH CORRELATION, M: MEDIUM, L: LOW) .....	22

## List of figures

FIGURE 1 –ZTL (RED) AND 30 KM/H (BLUE) AREAS .....	4
FIGURE 2– PARTICIPATION PROCESS FOR SUMP.....	5
FIGURE 2 – REGGIO EMILIA AV MEDIOPADANA RAILWAY STATION.....	9
FIGURE 3 – FFBS TEST IN REGGIO EMILIA (MAY 2018-SEPTEMBER 2018) .....	10
FIGURE 6 – GASOMETRO FORMER PARKING AREA.....	13
FIGURE 7 – AREA AND PATHS RUN BY INTERVIEWERS DURING THE BASELINE SURVEY.....	16

## Executive summary

In **Part I – General information**, high-level information about RESOLVE project are provided (partner responsible of the Regional Action Plan (RAP) contacts, etc.) including a brief description of the project, ,

In **Part II – Policy context**, main Regional and Local plans are described, and in particular:

- POR FESR Emilia Romagna 2014-2020: priority of POR FESR, the ERDF Emilia-Romagna Regional Operational Programme, in promoting sustainable multimodal urban mobility is highlighted.
- PRIT 2025 (Piano Regionale Integrato dei Trasporti): strategic goals of PRIT2025, the Regional integrated plan for transport, are summarized.
- PAIR 2020 (Piano Aria Integrato Regionale): strategic goals of PAIR2020, the Regional integrated plan for air quality, are summarized.
- Reggio Emilia Sustainable Mobility Plan (SUMP): overall objectives of SUMP, the Sustainable Urban Mobility Plan of Reggio Emilia, are presented.

In **Part III – Details of the actions envisaged**, Reggio Emilia RAP actions are described:

- **ACTION 1 – Free-Floating Bike Sharing for the city centre**: for promoting cycling and sharing mobility with a new free floating service dedicated to the city centre of Reggio Emilia.
- **ACTION 2 – Urban Distribution Centre (UDC) feasibility study**: for studying and designing new Urban Distribution Centre enabling last-mile logistics with e-vehicles.
- **ACTION 3 – Monitoring through users interviews**: for evaluating the effectiveness of Municipality mobility actions in ameliorating the accessibility and liveability of the city.

In **Part IV – Monitoring phase**, the monitoring phase is drafted, providing a list of expected results and performance indicators for assessing the effectiveness of each action described in Part III.

Finally, in **Part V – Conclusion and lessons learnt**, the learning process is described, highlighting the influence of exchange knowledge in conceiving and designing RAP actions. Furthermore, links and mutual influences between RAP actions and Regional planning instruments are systematized.





*Figure 2– Participation process for SUMP*

SUMP identified **travel-to-shop as a significant generator of trips** and related pollutant and carbon emissions in the central area.

Within RESOLVE, Reggio Emilia Municipality, after has observed interesting measure implemented by other European partners, identified actions aimed at promoting an **active retail**, discouraging private car use in favour of walking, cycling and public transport. The identified actions for mitigating travel-to-shop externalities are described in present Regional Action Plan.

## Part I – General information

**Project:** Interreg Europe RESOLVE - *Sustainable mobility and the transition to a low-carbon retailing economy*

**Project description:** Combining sustainability and economic vitality of commercial activities is a complex matter, and very often policy makers and retailers hold opposing views. Eight regional and local authorities across Europe decided to join forces and exchange knowledge and experiences to reduce the negative effects of commercial related travels in cities and regions, and improve and increase the accessibility of commercial areas for people and goods through an improved understanding between public authorities and commercial sector. This is the main focus of RESOLVE, an Interreg Europe project led by the Municipality of Roermond in the Netherlands, which has closely work with Reggio Emilia Municipality (IT), Transport for Greater Manchester (UK), Maribor Municipality (SI), Kronoberg County Administration Board (SE), Almada City Council (PT), City of Warsaw (PL), Moravian-Silesian Region (CZ) to improve regional policies and leverage new resources with the goal to reduce carbon emissions created by retail related traffic in town and city centres while also supporting jobs and growth in the local retail economy. Erasmus University of Rotterdam - Department of Regional, Port and Transport Economics is part of RESOLVE as advisory partner and has guided local and regional authorities through the activities of the Interregional Learning.

RESOLVE aims at promoting the introduction of low-carbon retailing economy in partners' Sustainable Urban Mobility Plans, improving the dialogue with all stakeholders and increasing their support to local sustainable transport strategies through the establishment a local stakeholders group, and produce Regional Action Plans.

Interregional cooperation is the core of the RESOLVE project. During the first phase of the project, RESOLVE proposed an intensive work-plan. Peer reviews about SUMP and mobility plans, using the EC's SUMP Guidelines have been carried out; local stakeholders, policy makers and technical staff exchanged their experience during study visits and masterclasses focused on active retail and low carbon economy. This exchange process led to one of the main output of RESOLVE: the Regional Action plan, which explains how measures, already carried out by other partners, will be implemented in our local context. During the following two year, monitoring activities will check RAP results.

In Reggio Emilia, RESOLVE main target is the historical city centre, an area that is the focus of much public, commercial and cultural life, and is the focus of important projects of the Administration. Starting with traffic and its reduction and taking into account the multiple implications mobility has at social, economic and urban quality level it is possible to make effective steps towards a renewal of public spaces and an improvement of commercial and cultural areas. Travel to shop is a significant generator of carbon emission in the central area, and with RESOLVE Reggio Emilia has identify innovative strategies to tackle the current challenges in the field of transport with cost efficient measures aimed at discouraging private car use in favour of walking, cycling and public transport, and reduce congestion and emissions by promoting an active retail.

**Partner organisation:** Municipality of Reggio Emilia

**Other partner organisations involved:** N.A.

**Country:** Italy

**NUTS2 region:** ITH53 Reggio Emilia

**Contact person:** David Zilioli

email address: david.zilioli@comune.re.it

phone number: +39 0522 45 63 82

## 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

### POR FESR Emilia Romagna 2014-2020

**POR FESR Emilia Romagna** (ERDF Emilia-Romagna Regional Operational Programme, in particular: **Priority Axis 4** – Promoting low carbon economy in territories and industry. **Investment Priority 4e** – Promoting low carbon emission strategies for all kind of territories, in particular for urban areas, including promotion of sustainable multimodal urban mobility) actively promotes sustainable mobility at regional level.

The policy instrument POR-FESR of the Emilia Romagna Region was approved in February 2015 by the European Commission. The structure and the specific measures have already been identified in the operational programme for the entire 2014-2020 programming, which focuses on six priority axes. These priority axes follow the thematic objectives for the implementation of the Europe 2020 Strategy and the regional development policy priorities. A total of € 481,895,272 had been allocated to Emilia-Romagna for the implementation of the Programme.

The priority axis that the RAP aims at influencing is priority axis 4, which intends to create incentives for energy efficiency and savings as well as for the development of renewable resources both by public bodies and companies with a view to regional sustainable development both in terms of protecting the environment and saving energy costs. In particular, one of the objectives of the axis is the promotion of sustainable mobility in urban areas. Priority Axis 4 includes 3 investment priorities:

- **Priority investment 4b** - encouraging businesses to lower their energy consumption and to produce energy from renewable resources to support self-consumption, including by setting up ecologically equipped production areas;
- **Priority investment 4c** - promoting lower energy consumption in buildings and public facilities, as well as the introduction of renewable energy production systems;
- **Priority investment 4e** - promoting low carbon economy, in particular in urban areas, including actions aimed at boosting multi-modal, low-carbon and sustainable mobility.

The increase of sustainable mobility represents the specific objective of Priority investment 4e, which includes 3 actions and 3 budget lines

1. Intelligent transport systems – budget line 044
2. renewal of public transport fleet (including bike sharing) – budget line 043
3. development of low carbon mobility related infrastructure (pedestrian areas, cycle paths, better access to low energy impact vehicles) – budget line 090

Being at the end of the programming period, the entire budget had already been allocated and the RAP will hardly influence new projects of the current programming period. Nevertheless, it has to be stressed that Emilia Romagna Region financed through Axis 4 Funds the elaboration of Sustainable Urban Mobility Plans in urban areas with more than 100.000 inhabitants. The Municipality of Reggio Emilia accessed to these funds and at this moment is finalizing the last version of the SUMP that has been strongly affected by the exchange of experience process of RESOLVE project, as explained in one of the following paragraphs.

In this perspective, the RAP positively influenced the ROP through the SUMP financed by ERDF funds. Moreover, the RAP represents for the Region a best practice able to show the relevance of financing soft and sustainable mobility measures in synergy with the infrastructural approach (e.g. new cycle paths) usually

adopted to address transport and mobility topic

Additionally, during the elaboration of the RAP, the Municipality of Reggio Emilia contributed to the regional discussion about the development of SUMP's and their implementation, inspiring several actors of different levels (Region, metropolitan areas, municipalities and union of more municipalities) with measures and policies on retail mobility included in the RAP and therefore contributing to improve the governance of the ROP.

### PRIT 2025 (Piano Regionale Integrato dei Trasporti)

The PRIT2025 is the **Regional integrated plan for transport**, approved in 2016, with the mission of guaranteeing a sustainable, safe, and inclusive accessibility of regional territory. Main PRIT2015 goals are:

1. **Guarantee high levels of accessibility** for people and goods at regional and National scale;
2. **Guarantee an efficient and effective use of public resources** for mobility and transport;
3. **Increase the liveability** of territories and cities, reducing the space dedicated to private cars and promoting green areas and non-motorized mobility;
4. **Ensure mobility sustainable development** by reducing energy consumption, polluting emissions and impacts on the territory;
5. **Ensure equal opportunities**, in particular by guaranteeing vulnerable people mobility;
6. **Promote the citizens' engagement** for participatory processes;
7. **Guarantee the attractiveness of the territory** for external investments, increasing its competitiveness.



RAP will contribute in redefining PRIT policies regarding retail related mobility, promoting at regional level the monitoring tool developed within RESOLVE project and the creation of Urban consolidation centre to improve city logistic in urban areas affected by traffic congestion caused by logistic operations in city centre. In fact, despite that Reggio Emilia is below the average of shopping-related trips made by car (that is around 65% in Europe), there is room for improving this situation, thanks to the promotion by the Emilia Romagna Region of analysis, actions, and monitoring sessions, consistently with what have been outlined by the Regional Action Plan.

### PAIR 2020 (Piano Aria Integrato Regionale)

The PAIR2020 is the **Regional integrated plan for air quality**. Main PAIR2020 goals are.

1. **Reduce private vehicles in the cities** (-20%, compared to 2010);
2. **Increase bike networks** (1,5 meters for each inhabitant);
3. **Achieve 20% of cycle modal split**;
4. **Replace old and inefficient busses**;
5. **Enhance local public transport**, both road (+10%) and railway (+20%);
6. **Identify new pedestrian areas** (at least 20% of city centres).



## Reggio Emilia Sustainable Mobility Plan (SUMP)

The Regional planning (POR2014-2020, PRIT2025, PAIR2020) supports policies aimed at making urban mobility less dependent on personal car use and are embedded into an integrated strategy for sustainable urban mobility. SUMPs are thus a key tool in fulfilling the regional planning objectives. Six are the SUMP strategic goals for the City of Reggio Emilia:

1. **Liveability and safety in the city:** increase the liveability and the safety in the city, improving collective, cycle, and pedestrian mobility, and completing the beltway around the City.
2. **Improve the sustainable accessibility of the city centre:** creation of a large buffer with speed restriction (max 30 km/hour) all around the city centre, enlargement of the pedestrian area and limited traffic zone in the city centre, and renovation of strategic road-axis.
3. **Electric local public transport:** an integrated network of LPT electric vehicles for boosting intermodality and enhancing the role of park-and-ride system.
4. **Bike strategy:** creation of 20 km of cycling superhighway, and increase of bike parking spaces.
5. **High-speed trains railway station:** improve the connection of the Reggio Emilia AV station with the city centre.
6. **Sharing and smart mobility:** boost of sharing mobility services and implementation of smart services (e.g. digital payment for parking).



*Figure 3 – Reggio Emilia AV Mediopadana railway station*

*The SUMP goals are all integrated in a framework of regeneration process of public spaces, with a gradual reduction of public spaces at disposal for private cars. With the two monitoring activities carried out to assess the results of the PUM2008, the City discovered that a clear trend has emerged – car use is going down, while walking, public transport and cycling are rising, with cycling having the most relevant growth in the modal share at the expense of the car.*

The overall objective within the SUMP2018 is to foster this trend of car-use reduction, with some specific goals: -3% of trips with private motorized vehicles thanks to the modal shift policies, -3% of trips with private motorized vehicles in the city centre thanks to policies for increase the liveability in the city, and a quote of 3% of LEV-ZEV (low and zero emissions vehicles).

The exchange of experience process carried out during the first phase of RESOLVE project has strongly influenced the current SUMP that is going to be adopted in 2019. The final SUMP version refers directly to some of the good practises observed during the study visits of RESOLVE project and included in the Regional Action Plan. Sustainable Urban Mobility Plans, as explained in the ROP policy instrument paragraph, are an initiative partially funded by ERDF funds. Commercial related travels, both of people and goods represent the focus of this Regional Action Plan and one of the main issues targeted by the SUMP. During the elaboration of the SUMP, in the process led by the Region to guide cities in the development of SUMP, RESOLVE approach contributed to the discussion of retail mobility policies promoting the inclusion of commercial related travel to sustainable mobility policies and plans, with recommendations for policy improvements

## Part III – Details of the actions envisaged

### ACTION 1 – Free-Floating Bike Sharing for the city centre

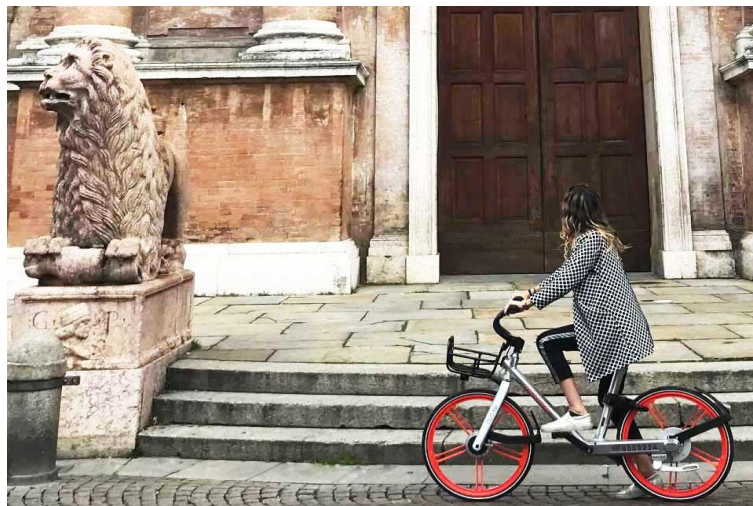
#### 1. The background

Reggio Emilia Municipality run a **station-based bike sharing** (SBBS) with 16 stations with around 200 parking slots, and 150 bikes, from 2008.

RESOLVE projects allowed the Municipality to experience a new innovative bike sharing system that is spreading all around the world. In fact, in January 2017 during the third **Peer Review** and the first Study Visit of the project, RESOLVE partners had the chance to gain a better understanding of what is happening in **Manchester** about **sustainable and sharing mobility**: Manchester 2040 Transport Strategy, Bus priority Program, Greater Manchester Electric Vehicle Scheme, Air Quality Action Plan, Freight and Logistics Strategy, Sharing Mobility Strategy.

In particular, the City of Manchester launched a **free-floating bike sharing** (FFBS) in May 2017 with circa 2.000 bikes provided by Mobike operator, with the intention of facing the last mile issue, in which users and commuters are stuck a bit too far from their destination to walk, but too close to justify the cost of finding a taxi. The service in Manchester is currently facing some problems in terms of **vandalism** and Mobike is possibly leaving Manchester. Otherwise, Manchester experience inspired Reggio Emilia, and recent troubles steered Reggio Emilia in adopting smart solutions for ensuring long-lasting resilience of the FFBS service.

In fact, thanks to experience gained in running a SBBS and looking at FFBS best practices performed in Manchester and other Italian cities (namely Bologna, Firenze, and Milano), Reggio Emilia tested FFBS from May to September 2018, with 500 bikes, provided by Mobike. The **test** achieved **remarkable results** with around 15.000 users (8,7% of Reggio Emilia population) and more than 500 trips per day.



*Figure 4 – FFBS test in Reggio Emilia (May 2018-September 2018)*

#### 2. Action details

Thanks to the above-mentioned experiences (e.g. SBBS, RESOLVE best practice, and FFBS test), Reggio Emilia decided to **include FFBS** service into the RAP for providing a sustainable and effective option for accessing the city centre without the car.

The services will be launch in June 2019, will run for at least 2 years, with **350 bikes**. In order to ameliorate service management, encourage proper parking habits, and reduce vandalism, two strategies will be adopted in Reggio Emilia FFBS, **Geo-fencing and Beacon**.

A geo-fence is a virtual border associated with a geographical area in the real world. **Geo-fencing** has several different applications, and this technology will be used within FFBS for bordering the service area in order to discourage users to leave the bikes outside it, allowing the use but not the parking outside the service area. Geo-fencing will:

- a. ameliorate the level of service, guaranteeing a high density of bikes in a limited area and helping users in finding a bike;
- b. help in reducing the reallocation costs for the operator;
- c. ease the control of bikes, helping in reducing vandalism.

Furthermore, **beacon** technology will be used in identified Mobike hubs for rewarding users that will leave the bike in those spaces. Hubs will be identified by Reggio Emilia Municipality in Mobility Points of Interest, such as Railway stations, LPT stops, hospitals, etc. Beacon will be a useful tool for boosting sustainable mobility between the city centre and significant hubs, helping residents and city users in shifting to cycle mobility, without extra-costs for the operator.

The potential users **target** will be young people (20-40 years) living in, or commuting to, Reggio Emilia, aiming in reaching the city centre area covered by the service with a sustainable and active mode of transport.

In particular, the FFBS action will be included into the SUMP that is currently under adoption and is in coherence with the goal of PAIR (Piano Aria Integrato Regionale 2020 – Regional Integrated Plan for Air Quality) for the promotion and optimization of local public transport thanks to the boost of sharing mobility services.

### 3. Players involved

- a. TEA Consortium: current management company for Reggio Emilia for Limited traffic zone, Parking, School bus, and bike sharing service (from 2016 to 2024). TEA is 90% controlled by TIL (Trasporti Integrati e Logistica, company for Mobility service provision in Reggio Emilia).
- b. Mobike: FFBS company, Chinese-based. Mobike service uses a mobile app to unlock and lock the bike. The service app allows to access to Mobike service in more than 200 cities worldwide.
- c. Emilia Romagna Region, for assessing the effects of the action in promoting and optimizing local public transport offer, ameliorating the old town city centres accessibility without private cars.

### 4. Timeframe

The FFBS will run from June 2019 for at least 2 years (June 2021). Service extension is under evaluation.

### 5. Milestone

- a. Signature of the service agreement between TEA Consortium and Mobike represents a significant milestone for FFBS service kick-off – April 2019
- b. Kick-off of the FFBS – June 2019

## 6. Costs

The costs include vehicles and service provision, management, maintenance, relocation, and, in general, all the implementation and running costs, in order to have at disposal a turn-key service.

Overall estimated cost is 70.000 €/year.

## 7. Funding sources

Costs for FFBS provision will be covered by the Municipal budget and TEA Consortium.

## 8. Expected results

The expected result of the Action 1 is the increase of cyclability of Reggio Emilia, with a particular focus on the city centre. Therefore, this action will facilitate the use of bike sharing especially for visitors of city centre. The increase of cyclability will be assessed collecting data regarding the performance of the FFBS in terms of **number of users** and **number of trips**.

## 9. Influence on Regional Policy Instrument

The RAP and the learning process of RESOLVE project proved the need of involving the public part in the design and implementation phase of bike sharing free floating systems. The strategies aimed at ameliorating service management, encouraging proper parking habits and reducing vandalism have been included in the final version of the SUMP. Moreover, this approach highlights to the Region and other municipalities some possible improvements to tackle issues and criticalities related to FFBS systems. In addition, bike sharing represents a way to promote active retail especially in the city centre; indeed, this new service will facilitate, mainly for visitors, the access to the city centre where the majority of shops are located. In this perspective, the aim of this action is to positively influence measures included in the ROP and addressed to increase the use of low carbon modes of transport like bike sharing and cycling in general. Even though for this programming period the entire budget has already been already allocated, the results achieved by the implementation of this action will be presented to the Region together with suggestions for improvements of the next programming period.

## ACTION 2 – Urban Distribution Centre (UDC) feasibility study

### 1. The background

Reggio Emilia is affected, like most of the cities with an historical centre, by the impact of logistics last-mile deliveries on the pedestrian and the limited traffic zone areas in terms of pollution and congestion.

**NOVELOG** (New cooperative business models and guidance for sustainable city logistics), is an H2020 project (2015-2018) with the aim of creating an advance understanding of freight distribution and service trips by providing guidance for implementing effective and sustainable policies and measures. NOVELOG gave the chance to Reggio Emilia to study how to **mitigate** the **impacts of last-mile logistics** in the city centre. In fact, besides 6 Pilot cities, NOVELOG identified 6 case studies, with a focus in Emilia Romagna Region in general and Reggio Emilia in particular. In Reggio Emilia, the scope of the study was to support the Municipality understanding if an underused parking area (Gasometro) could be used as an **UDC** (Urban Distribution Centre) to deliver goods in the city centre. A robust data analysis was performed to study the situation of goods deliveries in the city centre, by involving shops in the analysis. Based on data analysis, interviews, and business simulation models, the study defined the theoretical functional design for distribution and collection schemes.



*Figure 5 – Gasometro former parking area*

During the RESOLVE two-day Study Visit, that took place on 20th and 21th February of 2018 in Roermond and Rotterdam, Reggio Emilia had the chance to visit the **Roermond City Hub**, an innovative UDC providing successful last-mile city distribution with small electric vehicles on a commercial basis. City Hub works organizing environmentally friendly urban transportation, offers self-storage boxes to companies and private consumers and rents temporary work spaces. In particular, Roermond City Hub provides external storage space to retailers in the City Centre and the Designer Outlet Roermond (DOR). Roermond City Hub runs without subsidy, combining last mile delivery and storage services.

At the moment, in Reggio Emilia has already an EVs rent service dedicated to local retailers. TIL, a company for Mobility service provision in Reggio Emilia, offers rental service offering electric vehicles for both personal mobility and good transport. The service offers valuable advantages for companies that have to deliver goods in the city centre: in fact, electric vehicles can access the limited traffic zone without time limitation and can park for free in all the parking slots. It should be highlighted that recently the Municipality decided to enforce rules of deliveries in the city centre installing mobile bollard that allows commercial vans to entry in the city centre only in specific time windows.



## 2. Action details

UDC implementation is one of the priorities for Reggio Emilia Municipality for optimizing the logistics chain in the city centre, boosting electric mobility and avoiding inefficient trips. In general, the UDC has been conceived as a **logistics platform** able to perform **last-mile delivery** with **full-electric vehicles**, both e-vans and e-cargobikes, collecting the deliveries of different logistics operators and express couriers.

For implementing the UDC, an **updated feasibility study** needs to be performed for taking into account innovative service models, such as the one running in Roermond able to combine last mile delivery and storage service, and for considering the new framework and goals of Reggio Emilia Municipality.

Furthermore, the new UDC feasibility study will consider the external drivers of logistics, such as the **growth of e-commerce market**, and the strategy at European, National, and Regional level, such as the European Commission strategy for a low emission mobility that encourage the development of low-emission vehicles for “last mile” deliveries and the development of facilities in urban areas for freight intermodality in last mile.

Internal drivers will be also taken into account, such a **new possible position for the UDC**, which should be located in an area at north of the city centre, close to the fruit-market logistics centre: impacts on transport network will be evaluated.

The new UDC feasibility study will include the study of organizational model, operational plan for the UDC kick-off, the investment and economic plan, the business model and the value proposition of the UDC, the impact of the new UDC to local transport network.

## 3. Players involved

- a. Emilia Romagna Region, for collecting the effects highlighted in the study and for promoting this solution in other city affected by same problems.
- b. TIL, Trasporti Integrati e Logistica, company for Mobility service provision in Reggio Emilia, for supporting the feasibility study of the UDC, proving info about last-mile logistics and electric mobility in the city.
- c. Local retailers' association.

## 4. Timeframe

- a. UDC feasibility study will be performed within March 2021

## 5. Milestone

- a. UDC feasibility study finalized in the final version – March 2021

## 6. Costs

The UDC feasibility study might include:

- a. Study of the organizational and operational model
- b. Identification of the value proposition and study of the business model
- c. Impact assessment on environment and mobility network through micro-simulation

modelling

- d. Localization criteria and identification of the site through multi-criteria analysis

The estimated cost for the feasibility study is 2-15.000 €

## **7. Funding sources**

Costs for the UDC feasibility study will be covered by the Municipal budget. The external estimated costs will vary, and the range indicated at previous paragraph will depend on which activities will be finalized directly by internal Reggio Emilia Municipality staff.

## **8. Expected results**

The expected result of the Action 2 is the production of a consistent and updated feasibility study for the set-up of the UDC. The feasibility study production will be assessed through qualitative evaluation about the effectiveness of the study and the level of involvement of stakeholders in co-designing the study.

## **9. Influence on Regional Policy Instrument**

This measure encourages the use of low carbon modes of transport for logistic operations, especially in the last mile part that particularly affects city centres, where pedestrian areas are mainly located. Creating an efficient and sustainable city logistic supports the real and effective pedestrianisation of city centre that is one of the actions included in the Priority Investment 4e of the ROP. The UDC, analysed by the feasibility study described in this measures, is coherent with the action of the ROP aimed to develop low carbon mobility related infrastructure. Since travel-to-shop is a significant generator of pollution and carbon emission and being the SUMP one of the main action promoted by the Emilia Romagna Region to enhance sustainable mobility in urban areas, this measure will contribute to the debate led by Emilia Romagna Region for the inclusion of logistic measures in the elaboration and implementation of Sustainable Urban Mobility Plans. The results of the feasibility study could represent a best practise that the Region might promote to define specific objective and measures in favour of low carbon infrastructure in the urban areas of the Region.

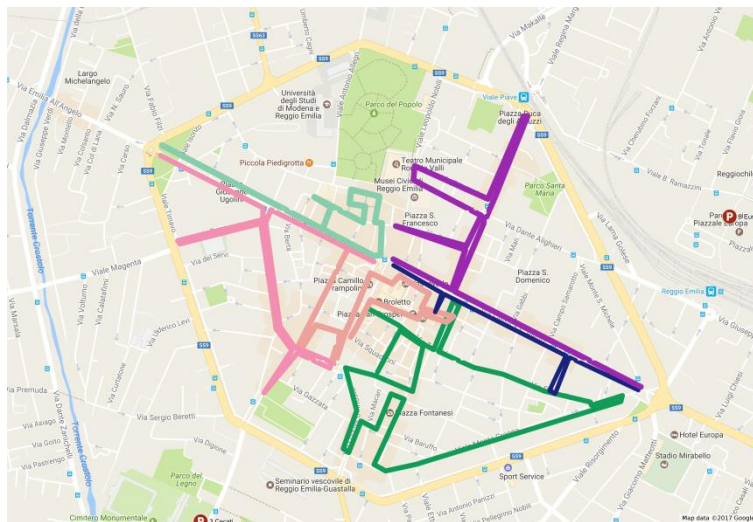
## ACTION 3 – Monitoring through users interviews

### 1. The background

One of the most innovative aspects of RESOLVE project is the **Monitoring and Evaluation Tool** developed by partners for assessing the effects and the effectiveness of mobility actions. This tool consists in a **survey** meant to collect relevant information about the visitors and retailers in designated areas of the cities involved in the partnership. The monitoring plan counts three different moments during the lifetime of the project for data collection: in semester 3 (baseline), semesters 5/6 (for Regional Action Plan ex-ante evaluation) and in semesters 9/10 (for RAP ex-post evaluation).

In Reggio Emilia two types of surveys have been developed: one for collecting information about how **visitors** and one to collect information about **retailers**. Interviews dedicated to retailers explored the characteristics of logistics chain, and how to innovate it, their feeling about walking area extension, and how is their business trend. Following info has been collected from the visitors: how they are used to reach the city centre and how they would improve the accessibility, how much they have spent.

First two surveys, baseline and ex-ante evaluation, have been performed: the baseline in May 2017 (more than 350 visitors and 100 shoppers interviewed), and RAP ex-ante evaluation in December 2018 (250 visitors and 100 shoppers interviewed). RAP ex-post evaluation will be performed in 2020.



*Figure 6 – Area and paths run by interviewers during the baseline survey*

### 2. Action details

Thanks to RESOLVE experience Reggio Municipality decided to set a continuous monitoring activity through survey dedicated to visitors and retailers in order to have updated feedback from these two categories about the effectiveness of the SUMP mobility actions in boosting the modal shift from internal combustion engine cars to sustainable mobility, for both passengers and goods.

The approach adopted is included into the so-called **Engaged scholarship**, presented to RESOLVE partners during Manchester Masterclass, a participatory process for obtaining the understanding of a complex problem in its particular context, typically from those key stakeholders affected by the issue that needs to be studied. In particular, the survey will provide useful info for the first phase of the Engagement scholarship process, the **problem formulation**, helping in grounding the problem in the real context, catching the points of view of different stakeholders, i.e. visitors and retailers. Through a phase of analysis (**theory building**) and planning (**research design**), Reggio Emilia Municipality staff will perform solutions to be shared with the different stakeholders for ameliorating the policies of the

Municipality (**problem solving**).

The surveys will be performed once per year, the first after the ex-post evaluation, within the end of the project.

### **3. Players involved**

- a. Consultancy company to be identified through a tender for performing data collection through survey and related data analysis and reporting.
- b. Emilia Romagna Region, for continuously evaluating the effects of mobility actions on citizens' perception of city centre accessibility and liveability.
- c. Local retailers' association.

### **4. Timeframe**

The surveys will be performed in 2021 and 2022.

### **5. Milestone**

- a. Selection of the consultancy company and contract signature – June 2020
- b. 2021 survey performed and report finalized – December 2021
- c. 2022 survey performed and report finalized – December 2022

### **6. Costs**

5.000 € for each survey, 10.000 € for the two surveys.

### **7. Funding sources**

Costs for the surveys campaign will be covered by the Municipal budget.

### **8. Expected results**

The expected result of the Action 3 is the creation of a continuous monitoring system for assessing visitors and shoppers' satisfaction about SUMP results. The effectiveness of the Action 3 will be evaluated analysing the number and contents of the answers provided by visitors and shoppers.

The analysis of the data collected through the monitoring system will provide added value info for designing actions and measures able to enhance the attractiveness of the city centre, ameliorate the accessibility without private cars, and sustain the local retail sector. This info would be ideally included, once implemented, in the Reggio Emilia Municipality Strategic Plan dedicated to the city centre.

### **9. Influence on Regional Policy Instrument**

The monitoring tool developed within RESOLVE has been presented to the Region and to the main cities of the Emilia Romagna Region during a Masterclass held in November 2018. About 60 people from different government level (municipalities, union of municipalities, metropolitan area and region) had highly appreciated the methodology and the results achieved by the use of the RESOLVE monitoring tool. The success of the Masterclass confirms that RESOLVE contributed to raise the awareness of the importance of the retail related mobility, especially in city centre. The case of Reggio

Emilia represents for the Region a pilot case which methodology could be adopted also by other urban areas of Emilia Romagna Region, which share similar problems. This is congruent with the general objective of Priority Axis 4 that is promoting sustainable mobility in urban areas. In order to evaluate the results in terms of accessibility to the city centre, the Municipality of Reggio Emilia will submit the results of the 3 monitoring session of RESOLVE project to the Region, with the aim that the monitoring tool could be used to contribute to the evaluation of results achieved by projects financed by the current ROP. This might also support the Region in the definition of new priority investments axes in the 2021-2027 programming period. In addition, the monitoring tool represents a best practice showing a way to improve the cooperation between policy makers and retailers. The RAP improved the SUMP policies dealing with the governance of measures related to the accessibility of city centre: the Municipality will involve retail associations and organizations not only to discuss retail issues as already is happening, but also mobility and accessibility topics. In this sense RESOLVE approach has already contributed to a better dialogue between policy makers and retailers: sharing data about retail and accessibility with retail associations and organizations is one on the activities included in the SUMP aimed at identifying new strategies of promotion of the city centre, where the majority of shops are located.

## Part IV – Monitoring phase

The overall target for RESOLVE in general and the RAP in particular is a 5% of extra reduction in retail related car trips in shopping areas targeted by projects by 2020. The achievement of the target will be assessed through the monitoring activities implemented by the Municipality, including ACTION 3 – Monitoring through users interviews.

Furthermore, the progress and the effectiveness in addressing RESOLVE goals of each action will be monitored through a dedicated **monitoring system**, conceived to include specific, measurable, and realistic performance **indicators**.

A first list of **performance indicators** is presented in Table 1 that includes, for each action, a sum-up of expected results and timeframe of the monitoring phase.

*Table 1 – RAP Monitoring system*

Action	Expected result	Timeframe	Performance indicators
<b>ACTION 1 – Free-Floating Bike Sharing for the city centre</b>	Increase of cyclability of Reggio Emilia, with a particular focus on the city centre.	Start: June 2019 End: March 2021	N° of subscribing users N° of daily trips
<b>ACTION 2 – Urban Distribution Centre (UDC) feasibility study</b>	Production of a consistent and updated feasibility study for the set-up of the UDC.	Start: January 2021 End: March 2021	Effectiveness of the feasibility study N° of meeting with stakeholders for co-design the feasibility study
<b>ACTION 3 – Monitoring through users interviews</b>	Creation of a continuous monitoring system for assessing visitors and shoppers' satisfaction about SUMP results.	Start: January 2021 End: March 2021	N° of interviews for each monitoring session Level of satisfaction of visitors and shoppers in relation with SUMP actions

Once each action will be implemented, an assessment of proposed RAP Monitoring system and performance indicators will be proposed, eventually updating and upgrading Table 1.

## Part V – Conclusion and lessons learnt

### Lessons learnt

RESOLVE produced a learning process based on the identification, analysis and exchange of knowledge and practices in the field of sustainable and low-carbon mobility for retailing economy, in order to set up and implement a Regional Action Plan in each partner region.

The process is particularly focused on supporting national and regional governments in developing and delivering better policies on RESOLVE themes, by creating opportunities for sharing solutions, exchanging knowledge and good practices, especially through study visits and peer-learning visits. For this reason, RESOLVE represented a valuable opportunity for Reggio Emilia Municipality to touch innovative mobility solutions. In particular, during the study visits in Manchester, Almada, and Roermond, several case studies have been presented to Reggio Emilia team.

In Table 2, a sum-up of main outcomes is presented: in bold-italics, the best practices included by Reggio Emilia in their Regional Action Plan are highlighted.

*Table 2 – RESOLVE study visits attended by Reggio Emilia team and best practices selected*

Study visit	Date	Best practices	RAP Action
Manchester	18 <sup>th</sup> -19 <sup>th</sup> January 2017	<ul style="list-style-type: none"> <li>• Air Quality Action Plan</li> <li>• <b><i>Free-floating bike sharing</i></b></li> <li>• Freight and Logistics Strategy</li> <li>• Greater Manchester EV Charging Network</li> <li>• Greater Manchester Transport Strategy 2040</li> <li>• Manchester Metroshuttle</li> <li>• Personal Travel Planning with Retailers</li> <li>• Sustainable Travel Grants</li> <li>• Trafford Park Metrolink Extension</li> </ul>	<b>ACTION 1 – Free-Floating Bike Sharing for the city centre</b>
Roermond and Rotterdam	20 <sup>th</sup> -21 <sup>st</sup> February 2018	<ul style="list-style-type: none"> <li>• Bicycle policy Rotterdam</li> <li>• Low Emission Zone Rotterdam</li> <li>• <b><i>Roermond City Hub</i></b></li> <li>• Roermond mobility fund</li> <li>• Smart Mobility for a sustainable, healthy and attractive City of Rotterdam</li> <li>• Smart Mobility Schiphol</li> </ul>	<b>ACTION 2 – Urban Distribution Centre (UDC) feasibility study</b>

Finally, the **ACTION 3 – Monitoring through users interviews** represents the adoption, within the tools at disposal for Reggio Municipality for monitoring the effectiveness of the SUMP, of the Monitoring and Evaluation Tool, one of the main output of RESOLVE project.

### Synergies of RAP with regional policies

RAP contributes in reaching the strategic objectives defined by Regional planning. In particular:

- **ACTION 1 – Free-Floating Bike Sharing for the city centre** contributes in increasing the liveability of the city and ensuring mobility sustainable development (PRIT, goal 3 and 4) and in reducing private vehicles in the cities and achieving 20% of cycle modal split (PAIR, goal 1 and 3).
- **ACTION 2 – Urban Distribution Centre (UDC) feasibility study** will provide essential info and data for the set-up of an innovative UDC, that will reduce the impact of logistics in the city centre, increasing its liveability (PRIT, goal 3)
- **ACTION 3 – Monitoring through users interviews** guarantees the attractiveness of the territory for external investments (PRIT, goal 7).

In Table 3 the correlation between RAP actions and PRIT strategic goals and in Table 4 the one between RAP actions and PAIR strategic goals are summarized.

*Table 3 – Correlation Matrix between RAP actions and PRIT strategic goals  
(H: high correlation, M: medium, L: low)*

	<b>3. Increase the liveability</b> of territories and cities, reducing the space dedicated to private cars and promoting green areas and non-motorized mobility	<b>4. Ensure mobility sustainable development</b> by reducing energy consumption, polluting emissions and impacts on the territory	<b>5. Ensure equal opportunities</b> , in particular by guaranteeing vulnerable people mobility	<b>7. Guarantee the attractiveness of the territory</b> for external investments, increasing its competitiveness
<b>ACTION 1 – Free-Floating Bike Sharing for the city centre</b>	H	H	M	M
<b>ACTION 2 – Urban Distribution Centre (UDC) feasibility study</b>	H	M	L	L
<b>ACTION 3 – Monitoring through users interviews</b>	L	L	M	H

RAP will contribute in redefining PRIT policies regarding mobility associate to retails. In particular, the ACTION 2 will provide crucial analysis for tackling the innovative issue of creating UDCs close to urban area for boosting cycle and electric logistics.

**Table 4 – Correlation Matrix between RAP actions and PAIR strategic goals**  
(H: high correlation, M: medium, L: low)

	<b>1. Reduce private vehicles in the cities (-20%, compared to 2010)</b>	<b>3. Achieve 20% of cycle modal split</b>
<b>ACTION 1 – Free-Floating Bike Sharing for the city centre</b>	H	H
<b>ACTION 2 – Urban Distribution Centre (UDC) feasibility study</b>	L	L
<b>ACTION 3 – Monitoring through users interviews</b>	L	L

RAP addresses the sustainable mobility topic in a wide perspective, with the provision of new services (ACTION 1), the study of new solutions for the city (ACTION 2), and the continuous monitoring with the collection of citizens' feedbacks (ACTION 3).

The ambition of the RAP is to positively influence **Axis 4** of ROP 2014-2020, for what concerns low-emission transport modes (budget line 043) and cycle and pedestrian mobility funds (budget line 090), supporting the inclusion of RAP approach (new services and surveys actions) within the traditional approach (hard and infrastructural interventions), with the final aim of enhancing soft mobility and ameliorating the liveability of Emilia Romagna cities. In order to reach this goal, the Region has already allocated ERDF funds for the elaboration of SUMP to the main urban areas of the Region, including the Municipality of Reggio Emilia. Each action of the Regional Action Plan, as detailed in Part III, has an influence on the SUMP policies and measures. Therefore, beyond representing a best practice able to show the relevance of financing soft and sustainable mobility, in synergy with the traditional infrastructural approach usually adopted to address transport and mobility topic, it could be asserted that the RAP has an impact on Axis 4 of POR 2014-2020 through the SUMP financed by its funds.

Finally, it has to be stressed that actions implemented within RAP will be accurately monitored (ACTION 3) and data collected will be presented to Emilia Romagna Region in preparation to POR 2021-2027. Particularly relevant will be the estimation of the effects of actions implemented for enhancing pedestrian and cycle mobility for reaching the city centre, contributing in adequately and coherently setting the resources distribution among different Axis and actions.

**Date:**01/04/2019

**Signature:** \_\_\_\_\_

**Stamp of the organisation (if available):** \_\_\_\_\_