POLIS
CITIES AND REGIONS FOR TRANSPORT INNOVATION

SURF

EDF
ENVIRONMENTAL DEFENSE FUND
Finding the ways that work

Sustainable **UR**ban **F**reight

FINAL REPORT

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FOREWORD

It is increasingly clear that the adverse impacts of freight transport need to be addressed to achieve sustainable mobility targets. As air pollution, climate change, congestion and safety goals loom larger than ever, freight will play a key role in our transition to sustainable urban mobility.

A growing number of POLIS member cities and regions are taking active steps towards these targets and engaging in the network's very active Urban Freight Working Group. Local and regional authorities, in partnership with the industry (supported by POLIS' partnership with logistics industry body, ALICE), explore solutions for achieving zero-emission city logistics by 2030. Strategic plans such as SUMPs and dedicated SULPs will be instrumental in tackling this challenge directly, supporting a long-term vision, ambitious targets, integrated packages of measures, and extensive stakeholder involvement.

Urban freight transport is a high priority for the POLIS network and its members. Therefore, we were delighted when Environmental Defense Fund approached us to co-develop a project with the potential to make a tangible difference in this field- the SURF Project. Building on the concept of Zero Emission Zones for Freight (ZEZ-Fs), SURF illustrates how local authorities can develop a framework for green city logistics. Critically, partnering with small and medium sized cities, it demonstrates that regardless of size and geography plans for ZEZ-Fs can achieve success.

The three instant projects funded as part of SURF have prepared the pathway for Aarhus, Denmark, Karditsa, Greece and Ravenna, Italy to move forward, while inspiring other cities to initiate action. This has been actively facilitated through the extensive e-course developed in parallel, featuring an impressive group of experts in the field, helping to build local capacities.

The POLIS Network is practice and action-oriented. Through our working groups and EU funded projects, we support local practitioners progress towards a sustainable mobility future. We thank Environmental Defense Fund for supporting us in this endeavour, by funding this concrete, results-driven project, which is as realistic as it is ambitious.

The three instant projects were small, yet innovative, laying the foundations for other cities to replicate elements and tailor similar initiatives to their specific needs.

Karen Vancluysen
Secretary General, POLIS

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Cities need innovative freight solutions - now more than ever - to protect public health and contribute to a cleaner, more sustainable urban logistics system. Our team at Environmental Defense Fund Europe sees this issue as an opportunity for collaboration across freight stakeholders in an effort to find practical solutions. We partnered with POLIS to leverage their strong expertise in deploying innovative transport solutions and ability to bring together diverse stakeholders and create real change. The **S**ustainable **UR**ban **F**reight (SURF) project builds on their work and aligns with our efforts to drive forward policies that maximise the equitability of climate action.

This was a very exciting project that supported small and medium-sized cities to make real progress to eliminate pollution from freight. By supporting a range of city needs, as well as sharing the knowledge and experience gained, we aimed to achieve a real step change with SURF. Cities need immediate tools and knowledge as they cope with rapidly changing urban mobility landscapes. Through the SURF project, we hoped to make the leap towards ZEZ-Fs less daunting, with a mix of (scalable) quick action and longer term capacity building.

The success of the 'instant projects' demonstrated that innovative solutions are possible without large volumes of financial capital, when diverse stakeholders and expertise collaborate.

We believe that piloting and innovative clean air solutions will help accelerate action at the city level and hope that the experiences of Aarhus, Karditsa and Ravenna and the SURF project team will inspire further action.

I hope that the findings in this report will provide inspiration while the EU is starting to deliver on its commitment of having at least 100 climate-neutral and smart European cities by 2030.

Jill Duggan
Executive Director, Environmental Defense Fund Europe

EXECUTIVE SUMMARY

THE CHALLENGE

Almost 25% of global energy related carbon dioxide (CO2) emissions are generated by the transport sector, with road transport making up 75% of that total.[1] In order to reduce this figure, many cities are electrifying mass transit fleets, providing incentives for individuals to switch to zero-emission vehicles, and supporting the installation of charging infrastructure.

Some governments are taking this a step further by creating low and zero-emission zones (ZEZs) that will only allow access to electric, human powered or other emission free vehicles. In 2017, 35 cities signed the C40 Green and Healthy Streets Declaration, pledging to implement a major zero-emission zone by the year 2030.[2]

As important as these steps are, the transition to cleaner transport has often ignored the role of freight.

Trucks account for only 2% of vehicles on the road, yet they are responsible for 22% of road transport CO2 emissions in the EU.[3] Last mile delivery, waste collection, business to business deliveries, the movement of construction materials as well as service logistics – moving people and materials for maintenance and repair- all make a large contribution to emissions.

To begin to tackle this issue and raise awareness, the Transport Decarbonization Alliance (TDA), C40 Cities and POLIS collaborated on the production of a How-to Guide for creating Zero-Emission Zones for Freight (ZEZ-Fs) published in 2020.[3] The guide provides critical background information about this sector while also including a process for cities to identify the steps for creating a successful ZEZ-F, including design, implementation, and enforcement.

SURF - Helping cities prepare for ZEZ-F

The SURF project builds on this guide, by turning recommendations into action.

Environmental Defense Fund Europe sits under the umbrella of Environmental Defense Fund, one of the world's leading non-profit organisations working to turn environmental solutions into action. A partnership between Environmental Defense Fund Europe and POLIS led to the creation of SURF, the Sustainable URban Freight project.

SURF was conceived as two complementary workstreams consisting of instant projects and an e-course, which, when combined, would help small and medium-sized cities plan and implement ZEZ-Fs.

Three cities of various sizes, unique urban characteristics and geographic locations were selected to implement a project over the course of three to five months.

In addition to the instant projects, SURF developed a free online course on the need to include freight in sustainable city planning. This course features lectures from experts in the field who shared their knowledge in city logistics and on how to design, implement and enforce ZEZ-Fs.

The Instant Projects

	AARHUS Denmark	KARDITSA Greece	RAVENNA Italy
Geographic and spatial parameters	300,000 residents City	40,000 residents City	160,000 residents City
Current Logistics Work	• SULP • Off peak supermarket deliveries • City facilities consolidated procurement	• Adding logistics to the SUMP plan • Cargo bike share plan with funding at train and bus stations for luggage	• SUMP including logistics plans • Planned consolidation hubs and promotion of clean fleets
Proposed Instant Project	Study status of current logistics movement around central train station and create logistics plan for area's redevelopment	Pilot deliveries from cafes/restaurants to customers via shared e-bikes	Create a Freight Quality Partnership (FQP) as a permanent participatory process tool
Replicability	Site-specific Logistics Plan	Cargo-bike Pilot	Stakeholder Engagement Plan

FINDINGS AND CONCLUSION

The overall lessons learned from this project highlighted the importance of:

- Understanding and identifying the key problems;
- Engaging with stakeholders early in a project;
- Utilizing the momentum from a pilot to continue freight work through scalability and replicability.

The findings of this project have demonstrated the importance of freight in the implementation of Zero Emission Zones by 2030 and why it cannot be an afterthought but rather the starting point. The SURF project enabled cities to learn and pilot the critical steps for introducing or furthering existing sustainable logistics goals.

WHO SHOULD READ THIS

Freight impacts must be considered as part of transport planning, engineering and overall city life. Therefore, there is no limit to who might find the lessons and outcomes of this project useful. However, there are some key actors that will benefit from it the most:

- **Policy makers** (and their staff), whose legislation dictates where freight vehicles may travel, load/unload and who set climate goals and make policies at the local, regional and national level;
- **Urban planners and engineers**, who work on land use, street design, transport policy, curb management;
- **Industry stakeholders**, whose business operations will be significantly impacted by ZEZ-Fs including logistics services providers, receivers, OEMs, charging infrastructure companies, and other businesses working on transport innovation and strategy;
- **Researchers**, subject matter experts and NGOs who carry out studies and research and help manage projects relevant to this field;
- **Citizens** – who are directly impacted by the pollutants caused by dirty vehicles and whose day-to-day quality of life will be greatly improved from a switch to zero-emission logistics.

1. INTRODUCTION TO THE TOPIC

URBAN FREIGHT

URBAN FREIGHT (ALSO REFERRED TO AS CITY LOGISTICS, URBAN DELIVERIES, GOODS MOVEMENT) DESCRIBES THE TRANSPORT OF GOODS AND SERVICE ITEMS INTO, OUT OF AND ACROSS A CITY.

This primarily includes Business to Business (B2B), Business to Consumer (B2C) and Consumer to Business (C2B) movement using multimodal transport, including construction materials, food, waste and retail. In some cities, service vehicles (that move maintenance workers and their equipment) are also included in logistics plans and policies.[4]

Logistics is still too often ignored or forgotten in transport planning. Many officials, urban planners and engineers regard city logistics as a private sector, rather than a municipality, issue. However, the COVID pandemic has highlighted the fragility of the supply chain and disruptions along the way, prompting cities' awareness of their role in improving the sustainability of city logistics.

While urban freight represents a wide range of goods movement/services transport, the sharp increase in e-commerce in recent years has increased public awareness of the issue.

In 2019, roughly €3 Trillion was spent on ecommerce worldwide. With the pandemic, that number increased to €3.75 Trillion in 2020, almost a 50% increase on the year-over-year growth seen from 2018 to 2019.[5] Remote working and shop closures led to more purchasing of goods online (and as a result, more waste).

As such, today is an opportune moment for political leaders and decision makers to take active steps towards more sustainable freight. ZEZs are one of many solutions cities can use to manage the climate impacts of increased urban logistics movement.

ZERO-EMISSION ZONES

Cities across the world have committed to implementing Zero-Emission Zones (ZEZs) by 2030 including the signatories to the **C40 Green and Healthy Streets Declaration** and 30+ cities in the Netherlands (which have committed to implementing ZEZs by 2025)
In 2020, POLIS, the Transport Decarbonisation Alliance (TDA) and C40 produced "**Zero-Emission Zones: Don't Wait to Start with Freight!**", a guide on why and how cities should develop ZEZs by starting with logistics. The guide highlights case studies of pre-existing low-emission or zero-emission zones, and how they address freight including:

- Green Logistics Zones in Shenzhen
- Ultra-Low Emission Zone (ULEZ) in London
- Voluntary Zero-Emission Delivery Zone in Santa Monica
- Voluntary local 'Green Deal' in Rotterdam

ZERO EMISSION ZONES: THE IMPORTANCE OF A FOCUS ON FREIGHT

Policies and projects focused on urban logistics and negative environmental impacts remain lacking, despite growing pressure on supply chains. And while there has been some increasing interest over time, change has been slow.

In 2011, the European Commission published the **White Paper on Transport**, which identified the need to significantly reduce logistics related emissions including a goal to "achieve essentially CO2-free city logistics in major urban centres by 2030" and "produce best-practice guidelines to better monitor and manage urban freight flows".[6]

In 2013, as part of the Urban Mobility Package, the European Commission published the Sustainable Urban Mobility Plan (SUMP) Guidelines. It includes the recommendation that a city's overall mobility plan incorporate urban logistics. However, it wasn't until 2019 that guidelines specifically for Sustainable Urban Logistics Plans (SULP) were created.

These guidelines encourage cities to develop more detailed and dedicated actions towards improving urban freight.

In 2021, the EU conducted a **Fact-finding study on status and future needs regarding low- and zero-emission urban mobility**. Astoundingly, the study found that just 68% of cities were aware of the existence of European guidance for SULP, with only 13% having a specific plan addressing logistics.[7]

Freight is all too often an afterthought in local transport planning - if included at all. It is critical to include urban logistics criteria when developing a ZEZ. Failure to do so could prompt difficulties in the implementation and enforcement of a zone - therefore, starting the planning process with freight at the forefront is critical. This is the motivation behind the How-To Guide and the SURF project.

2. ABOUT SURF

The Sustainable URban Freight programme (SURF) takes the lessons learned from the aforementioned How-to Guide and applies it to projects on the ground. SURF supports cities and practitioners who have already pledged to implement a ZEZ, as well as those who still require further information to inform decision making. The goal was to educate cities and other practitioners on how to prepare for a ZEZ by starting with freight. The project was made up of two parts: instant projects and an e-course.

3. INSTANT PROJECTS

OVERVIEW AND LESSONS LEARNED

The instant projects were short term immediate-impact pilot projects to support future implementation of ZEZ-Fs.

Interested cities (or regional authorities) were asked to submit an application outlining a project which fitted several criteria:

- Could be completed within three to five months
- Was relevant to ZEZ-F success
- Provided a benefit to the community of practice
- Demonstrated the potential for replicability and scalability

An advisory committee was established to review and select the shortlisted cities and provide advisory services throughout the duration of the project, with membership consisting of experts from Environmental Defense Fund Europe, ALICE, C40 Cities, ICLEI, SLOCAT and TDA. The committee searched for applicants that had existing relevant policies, strategies and commitments to sustainable logistics planning.

Each selected instant project was given €10,000 and support from two experts, practitioners and researchers in the field selected from an applicant pool.

AARHUS
DENMARK

KARDITSA
GREECE

RAVENNA
ITALY

AARHUS

DENMARK

APPROXIMATELY
300,000 RESIDENTS

SECOND LARGEST
CITY IN DENMARK

LOCATED ON THE
EASTERN COAST OF
THE COUNTRY

AARHUS

DENMARK

Existing work

Aarhus aims to be 100% CO2 neutral by 2030. It has already a SUMP and is considering developing a SULP. The "Mobilitetsplan Aarhus Midtby" (Mobility Plan Central Aarhus) outlines the initial steps towards a SULP, where the expected measures for consideration are:

- Consolidation centres for parcel deliveries to limit the number of vehicles in the city core;
- Off-peak deliveries including morning and evening hours;
- Regulations, such as vehicle access restrictions, limited timeslots and maximum weight.

Most of the oldest part of the city core has been a limited traffic zone for the past three decades, and it has continuously expanded since its first implementation.

Goal

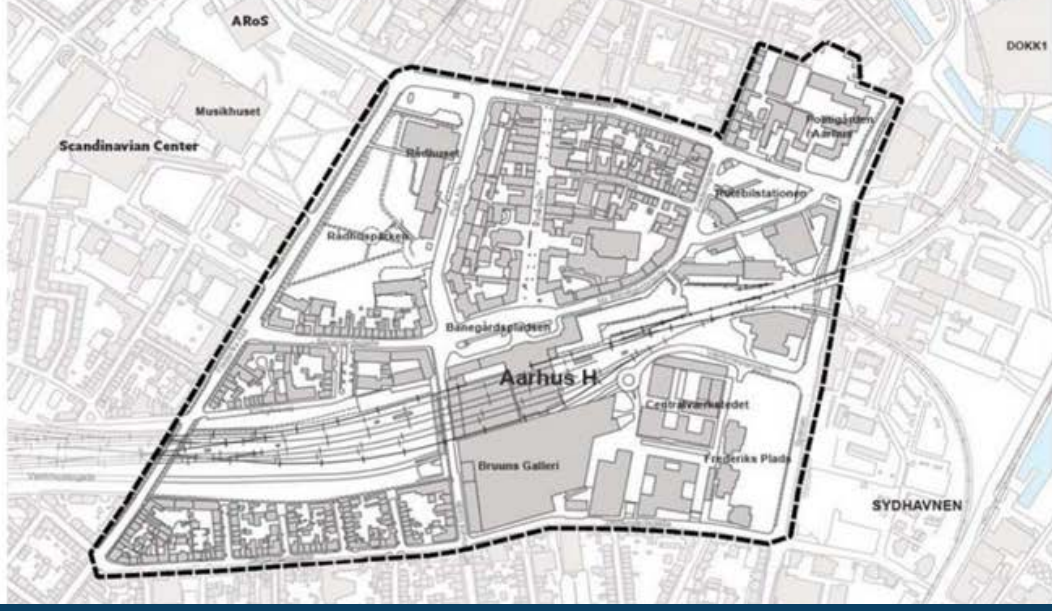
The neighbourhood around the main train station (Aarhus H) will undergo significant changes within the next few years in order to reduce CO2. This includes a new light rail corridor, a new bus terminal and brownfield redevelopment. These changes require new freight solutions to support the existing services in the area, including plans for access routes for logistics, incentives for collaboration and necessary restrictions. The instant project focused on the holistic freight planning approach needed to improve traffic safety, prioritise city life, reduce congestion, noise and air pollution as well as the significant cost for city maintenance due to broken infrastructure and more. It served as an information gathering exercise to better understand the current state of city logistics in Aarhus H and what is needed for the future.

Details

- The CO2 for freight in the area was calculated;
- Over 1500 local companies were categorised;
- Interviews were conducted with businesses including the city mall, street food vendors, reverse logistics companies, drivers, and more;
- Meetings were set up with relevant freight companies and ride-alongs conducted for in-person observation.

AARHUS

DENMARK



Findings

- Few shops have control on timing of their inbound deliveries;
- Many of the specialised shops request specialised deliveries;
- Deliveries are frequent, due to limited storage capacity in shops;
- Some of the present delivery restrictions and regulations are resulting in opposite results of what the city anticipated, including:
  - Loading zones that currently exist in the city centre are actually not helpful for freight companies as they are often occupied by other trucks, and even more often by cars, even if cars get fined when using them;
  - Carriers have to walk a long distance and do so with pallet jacks that make a lot of noise as they often travel over cobblestones;
- Consumers are more concerned with cost, than sustainability of freight;
- Carriers are requesting restrictions imposed by the municipality, so that there is a level playing field between the companies. They acknowledge that the sector must be greener, but freight customers will not drive the demand.

Lessons learned

- It is important to think beyond e-commerce and beyond the city. Freight moves inbound and outbound, and freight is not only the movement of goods, it also includes service logistics like craftspeople and their equipment, as well as the transportation of waste;
- There are 3 overall ways to change the CO2 emissions from freight:
  - Change demand for deliveries;
  - Change technologies;
  - Municipality regulations done in close dialogue with freight companies.
- It's important to engage with courier companies and drivers;
- Establish a dialogue with freight companies and make observations in the field;
- Fully understand the issues and challenges, before you start to focus on solutions;
- Focus on the goal, i.e. what you are trying to achieve, in terms of - climate, traffic security, and infrastructure impacts;
- Time consuming efforts still hold value.

Next steps

- The local shopping mall has existing coordination of waste collection amongst its shops. The City has recognised the potential of optimising waste collection for other businesses. Thanks to this project, the City has established an internal work force to look at other opportunities for optimising garbage collection and sorting within the municipality;
- The team is planning to establish a forum for the freight and distribution companies to discuss both operational challenges and climate challenges, while also focusing on movement optimisation.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KARDITSA

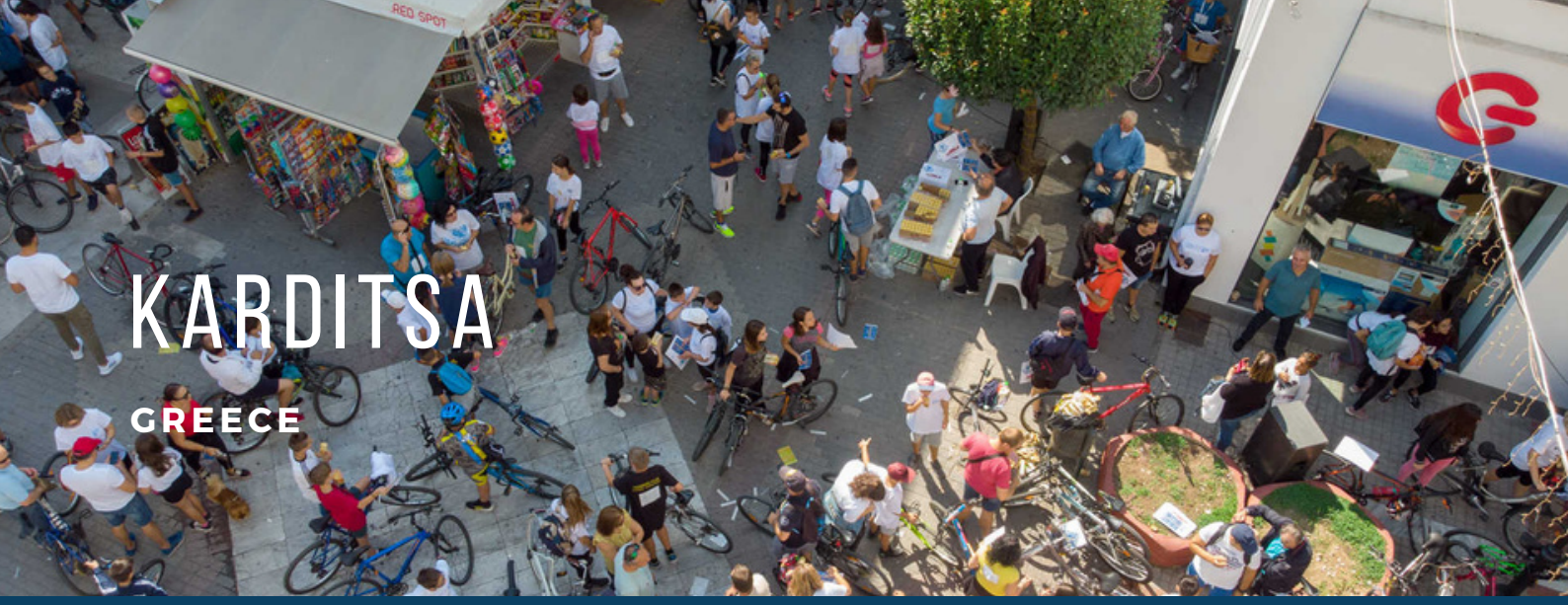
GREECE

APPROXIMATELY
40,000 RESIDENTS

ΔΗΜΟΣ
ΚΑΡΔΙΤΣΑΣ
MUNICIPALITY OF KARDITSA

DIAMETER OF
ABOUT 3.5 KM AND
FLAT TOPOGRAPHY

LOCATED IN
CENTRAL GREECE



KARDITSA

GREECE

Existing work

- Diameter of about 3.5 km and flat topography makes the city ideal for cycling (1 bike for every 2 residents). Known as the "Greek city of cycling", the municipality logo features a person on a bicycle: the "celestial cyclist";
- The City recently joined the Covenant of Mayors, committing to the reduction of CO2 emissions by at least 40% by 2030 and has developed its first Sustainable Energy and Climate Action Plan (SECAP), as well as its first Sustainable Urban Mobility Plan (SUMP). It is a member of the CIVITAS network and its Policy Advisory Committee (CIVITAS PAC), as well as of the JPI Urban Europe community;
- Karditsa's Municipal Council declared its ambition to become a Climate Neutral and Smart Municipality by 2030, in the framework of the "100 Climate Neutral and Smart Cities" Mission of the European Commission, and has already started working towards this goal together with the public;
- The city's bike sharing system is being updated to include both e-bikes and e-cargo bikes for personal use, with the additional goal to create a separate dedicated sharing system for businesses in collaboration with the Chamber of Commerce;
- Karditsa was the winner of the 2019 European Mobility Week award and the first Certified Cycle-Friendly Employer in Greece;
- Currently the city has no dedicated freight zones.

Goal

The aim of the SURF instant project was to support the City's long-term goal to decarbonise the delivery and freight sector by defining a specific area that restricts car access, while supporting and encouraging businesses to make deliveries using cargo bikes and e-cargo bikes.

Details

The project focused on "quick commerce" (food and coffee deliveries), which are usually done by motorbike in the city centre. The City provided local shops with e-bikes to see if they would be supportive of a switch to a green mode of transportation. In addition, the City held trainings on how to ride e-bikes safely. The following actions were taken:

- 2 rounds of testing with 4 shops in each round;
- Purchase of 5 e-bikes;
- Training of delivery staff on bikes with helmets and delivery bags
- Calculation of travel distance and routing using Strava App and speedometers;
- Questionnaires and interviews with shops and delivery people.

KARDITSA

GREECE

Findings

- It was identified that each shop makes around 300 deliveries per day, employing 6-7 delivery people in the morning shift and 4-5 in the afternoon;
- In total, 40 people were trained on safe and green deliveries;
- There is no consolidation/ coordination for deliveries between shops;
- No shops are using an app for optimising deliveries;
- There are a limited number of bike shops that are equipped to service e-bikes in the city;
- Delivery staff prefer e-bikes because they can access more areas, but they prefer motorcycles in bad weather because they ride better over road humps.

Lessons learned

- Before scaling up, it is important to have a well-defined framework and available options that fit the specific needs of a city and its businesses;
- Cities must prepare a clear communication strategy for new programmes;
- It is important to collaborate with Chambers of Commerce as these are important partners that can support projects and provide assistance in encouraging stakeholder participation;
- Cities that have many and small sized businesses should evaluate the possibility of an e-cargo bike sharing platform for businesses which cannot afford purchasing vehicles on their own.

Next steps

Additional businesses, including pharmacies, have expressed interest in participating in the programme. 30 new shops have signed up to test the e-bikes. The concept of Mini-Hubs for cargo as well as smart lockers across the city is under consideration as well. Together with the SURF experts, Karditsa developed a scale-up plan that will allow the City to increase the number of participating businesses, as well as identified a zero-emission logistics zone by focusing on cycle-logistics. The findings and recommendations were included in the proposals of the City's updated SECAP and SUMP, which were approved by the Municipal Council in November 2021 and December 2021 respectively. The findings will be feeding Karditsa's strategy to become a Climate Neutral and Smart Municipality by 2030.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RED SPOT
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RAVENNA

ITALY

AROUND 160,000 INHABITANTS

8 UNESCO MONUMENTS IN THE CITY CENTRE

ONLY COMMERCIAL PORT IN THE REGION

RAVENNA

ITALY

Existing work

Ravenna approved its SUMP in 2019, which includes a strategy to decarbonise urban freight transport. A Limited Traffic Zone and pedestrian areas already exist within the city centre. The City is also involved in the plan for improved air quality as part of the Emilia-Romagna Region (PAIR Air Quality Integrated Plan).

Goal

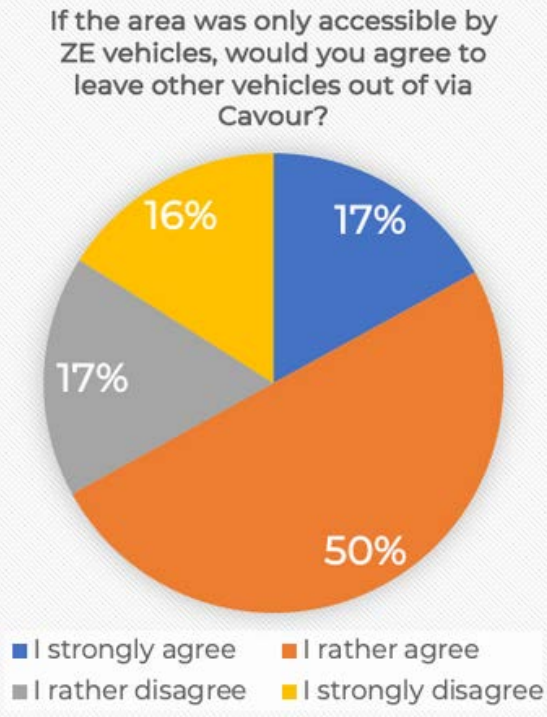
The instant project defined a roadmap for the implementation of a ZEZ-F and established a Freight Quality Partnership (FQP) as a permanent participatory process tool for stakeholders.

Details

The City conducted background research on good practices and measures for supporting an FQP. With that information, Ravenna held three stakeholder workshops with trade associations and transport representatives. These meetings focused on the background of ZEZs and why they are important for freight, the measures that can support them, and experiences from other cities. They also invited guest speakers from the industry.

The Ravenna team created an action plan, which includes strategies for continuous dialogue, an analysis of the costs and opportunities of e-vehicles, research on e-commerce trends within the city centre, and a step-by-step introduction of testing measures.

To complement the aforementioned stakeholder meetings, the City also conducted a survey among shop owners along Via Cavour, the main commercial corridor, which was identified as a potential location to test a ZEZ.



RAVENNA

ITALY

Findings

- This instant project helped the municipality to identify the city's key logistics stakeholders and their concerns related to zero-emission zones. The discussions provided insight into many issues, including parking, which the team was not expecting. As a result, the municipality is evaluating several measures related to the reservation of parking;
- It proved difficult to get many shops to participate in the survey. It was both too focused in its questioning (for the specific stores targeted) and not broad enough (could have surveyed a much wider group of businesses).

Lessons learned

- Both internal and external project expectations need to be managed and plans should be drafted accordingly;
- It can be hard to coordinate differing interests;
- It proved difficult to attract survey participants, but sometimes the lack of responses can provide a better understanding of the issues at stake;
- Stakeholder engagement should start earlier than you would think is necessary.

Next steps

- In the framework of an update of the SULP, a constructive dialogue with stakeholders will be developed further.
- An in-depth survey on logistics will be conducted in Ravenna and results will be included in an update of the SUMP.
- The costs related to cargo bikes and e-vehicles will be analysed.
- E-commerce trends will be studied.
- Measures to reduce the environmental impacts from freight, such as loading zone reservations, will be tested and evaluated.

INSTANT PROJECTS: OVERALL LESSONS LEARNED

The goal of the SURF project was to show that cities do not need a large set of resources to successfully plan for ZEZ-Fs and these three instant projects proved this is possible.

Municipalities of all sizes have pledged to implement ZEZs by 2030. To do that, several steps must be taken. Cities must first understand the current status of urban freight issues and start with the problem not a solution. Conduct studies and pilots that are right sized for the particular city and manage expectations by taking on projects that have achievable but significant goals. Europe will achieve its plan to become climate neutral by 2050 if projects like these are replicable and scalable.

Replicability

The three instant projects were small in size but foundational for creating a successful ZEZ-F, which makes it easy for other cities to replicate elements and tailor similar initiatives to their specific needs. Regardless of their unique needs and the state of freight locally, all cities will need to prepare for ZEZs by:

- Better understanding the state of logistics within their municipality and beyond (Aarhus)
- Running pilots with existing businesses (Karditsa)
- Engaging with relevant stakeholders (Ravenna)

Scalability

For cities like Aarhus, Karditsa and Ravenna, which have now initiated efforts towards the actual implementation of a ZEZ-F, scalability is key. Conducting research and working with stakeholders will help to identify where zones should be located and how to expand to larger or multiple areas within a city. After a pilot, project analysis and stakeholder engagement, it is critical that efforts move forward. Cities must build upon lessons learned and add new partners and projects throughout the process to maintain momentum. It is important to set achievable goals with a detailed timeline.

IT IS IMPORTANT FOR OTHER CITIES TO SET REALISTIC GOALS, BASED ON LIMITATIONS. THE FOCUS OF THESE INSTANT PROJECTS HIGHLIGHTS JUST THREE TYPES OF ACTIONS THAT NEED TO BE TAKEN TOGETHER IN ORDER TO PREPARE FOR ZEZ-FS. ADDITIONAL EFFORTS REQUIRED ARE DISCUSSED IN MORE DETAIL WITHIN THE SURF E-COURSE LECTURES.


BENOIT - VAN WEMMEL
ZONE 30

4. E-COURSE

DETAILS AND EVALUATION

SURF organised an e-course to equip local and national policy makers, practitioners, entrepreneurs, and operators with the skills and knowledge required to develop, implement and operate ZEZ-Fs. The objective is to raise awareness and establish long-lasting capabilities for all key stakeholders to successfully support the transition to zero-emission deliveries.

In recent years, urban logistics concepts and challenges have moved to the forefront of transport planning and the broader political agenda of local authorities. There is a need for further innovative, efficient and sustainable solutions. Despite this growing awareness, only a few cities have prepared intervention plans and roadmaps for logistics.

Furthermore, there is often a lack of freight experts and public officers assigned to the management of these policies and measures. Before intervening, it is necessary to study and understand the trends, needs and requirements of this very diverse and fragmented sector.

Drawing on the **How-to Guide on Zero-Emission Zones for Freight**, the SURF e-course supports capacity building in local authorities through the identification and experimentation of innovative models and tools for planning sustainable solutions.

The course provides an overview of the importance of including freight in transport planning and how to design, implement and enforce a ZEZ-F. It is broken down into 3 units.

In addition, several case studies were distributed among the three units, with interviews and lectures by experts and practitioners of the sector.

The course is primarily designed for city and regional authorities but aims to inform any stakeholder involved in urban freight operations.

The course is openly available to the public on the Mobility Academy, a European learning platform providing an open and flexible learning environment for those working on sustainable urban mobility. It can be accessed by anyone for free at any time. Participants may watch the entire course at once or select specific modules at their convenience. A list of each module with details on the content and lecture can be found in Section 6 of this report.

UNIT 1
WHY ZEZ FOR FREIGHT?
THE CONTEXT

How urban logistics works, how is it impacted by policy, what are the current challenges and trends and logic behind ZEZ-Fs

UNIT 2
TOWARDS A SUCCESSFUL
ZEZ-F: STEPS FOR ACTION

Practical action required once local authorities decide to adopt a ZEZ-F strategy; including setting goals and stakeholder engagement

UNIT 3
KEYS TO SUCCESS

An overview of the key elements for success based on the (limited) experience of electrification in the freight sector so far. This unit also includes tools and tips for how to collect, share and manage freight data

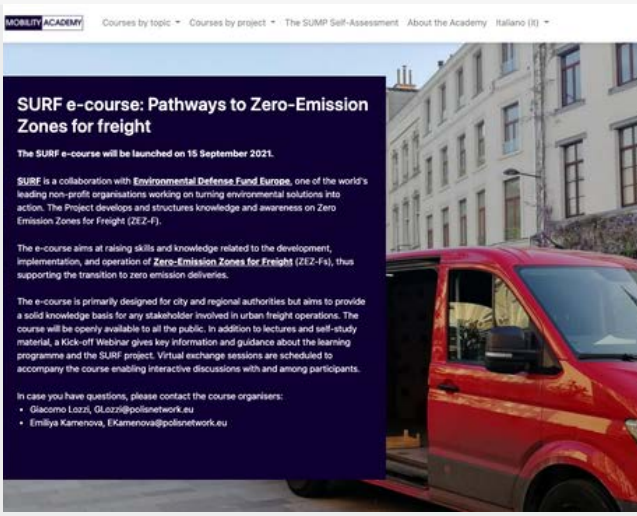
E-COURSE STRUCTURE

The **e-course is divided into 3 units and 12 modules**, each shaped by different contributors, who provided their expertise and promoted their relevant studies, projects and initiatives.

The main components of the e-course are:

- **Video-lectures**: 5-10 mins videos where slide-based content is presented, in an informational and educational way for the modules listed in the programme;
- **Interviews**: providing thought-provoking content and concrete examples to support the topics described in the lectures.

As part of the e-course, 22 videos were produced, corresponding to approximately three hours of recordings, which are all uploaded and can be accessed on the **POLIS YouTube Channel**. All the videos and materials of the SURF e-course are also available on the Mobility Academy and the POLIS website.



5. CONCLUSIONS & KEY FINDINGS

SURF PROJECT

Freight is critical to transport planning and reduction of emissions in cities.

The Green Deal lays out ambitions for Europe to become the “first climate-neutral continent by 2050”. That requires a 90% reduction in emissions within the transport sector by 2050.[8] In 2021, the European Commission released the new Urban Mobility Framework which highlights four proposals for making "urban mobility more sustainable, smart and healthy”.[9] Amongst these proposals is a goal to identify zero-emission solutions for urban freight.

In addition, the EU Climate Neutral and Smart Cities Mission aims to have 100 climate-neutral cities by 2030.[10]

These initiatives demonstrate that the EU understands the importance of urban logistics as a key ingredient in the reduction of greenhouse gas emissions. SURF provides an opportunity to prepare cities to achieve emission reduction goals through pilot projects and online learning.

The findings from this project provide lessons that can be replicated by other cities and regions.

The increase in online purchasing, construction, waste collection and other factors will continue to place pressure on supply chains which have already faced major disruptions in the last couple of years. Cities must look for creative solutions to manage an influx of freight vehicles and develop new strategies with a mix of tools to make city logistics more sustainable.

ZEZ-Fs are just a single example of how municipalities can address the freight impact on climate change, air quality and public health. Small and medium-sized cities may not have the resources that larger cities have to design, implement and enforce a ZEZ, but the SURF project illustrates that even with limited funding, it is still possible to prepare for ZEZ with a specific focus on freight.

The SURF instant projects highlighted three ways cities can begin to implement a ZEZ-F.

However, there is no single solution to make city logistics more sustainable, a strong demand driven approach and a focus on place-based solutions is key, with individual cities tailoring approaches to their specific needs.

The e-course provides a convenient way for private and public sector practitioners, relevant stakeholders, researchers and others to learn more about the importance of freight, why it should be included and prioritised in transport planning and how to meet goals of implementing ZEZ-Fs by 2030 beyond the examples shown in the instant projects.

Cities cannot plan for a ZEZ-F without first understanding how logistics works within their jurisdiction. Therefore, they must conduct research on the state of freight locally and familiarise themselves with the specific needs and challenges present. They must figure out the problems and assess best-fit solutions. They should assess what is doable given funding and time available and set ZEZ planning up for success. It is important to not commit to unachievable goals and understand specific constraints. It is instrumental to have a well-defined plan before scaling up, recognising there will be challenges and therefore revisions, along the way. The contributions from freight stakeholder partnerships serve as catalysts for solutions needed at the local level. As with any project, it is important to manage expectations.

By sponsoring instant projects, partnering cities with experts, and creating an e-course with information on the importance of freight in transport planning, the SURF project was able to show how municipalities can develop a framework to improve and green city logistics.

The SURF instant projects, together with the e-course, helped prepare cities for the design, implementation and enforcement of ZEZFs, enabling them to reach their goal for success by 2030.

6. REFERENCES & RESOURCES

RELEVANT RESOURCES

- How-To Guide: Zero-Emission Zones Don't Wait to Start with Freight!
- SUMP Guidelines second edition
- SULP Guidelines
- Fact-Finding Study on Status and Future Needs Regarding Low- And Zero- Emission Urban Mobility
- C40 Zero-emission Area Programme
- European Commission Transport Proposals
- Sustainable Urban Logistics: Interreg policy learning platform on low-carbon economy
- Go Electric: Zero-emission service logistics in cities
- European Commission Urban Mobility Package
- European Green Deal
- Accelerating Zero-Emissions Delivery: An innovative approach to transforming the last mile

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[2] https://www.c40.org/what-we-do/scaling-up-climate-action/transportation/zero-emission-area-programme/

[3] https://www.polisnetwork.eu/wp-content/uploads/2020/12/ZEZ-F_How-to-Guide_low.pdf

[4] https://www.hva.nl/binaries/content/assets/subsites/kc-techniek/publicaties/final-report-go-electric---zero-emission-service-logistics-in-cities-12april2021.pdf

[5] https://www.digitalcommerce360.com/article/global-ecommerce-sales/

[6] https://www.ptferroviaria.es/docs/Documentos/White_paper_Brochure.pdf

[7] https://transport.ec.europa.eu/system/files/2021-12/isbn-978-92-76-45410-6-fact-finding-study-on-status-and-future-needs-regarding-low-and-zero-emission-urban-mobility-executive-summary.pdf

[8] https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal/transport-and-green-deal_en

[9] https://www.eltis.org/in-brief/news/european-commission-releases-new-urban-mobility-framework

[10]https://ec.europa.eu/info/sites/default/files/research_and_innovation/funding/documents/ec_rtd_mission-board-report-climate-neutral-and-smart-cities.pdf

E-COURSE SESSION DETAILS

Course videos:
https://www.polisnetwork.eu/surf-capacity-building/

UNIT 1 - WHY ZEZ FOR FREIGHT? THE CONTEXT		
Module and contents	Name	Organisation
Intro	Giacomo Lozzi	POLIS
	Jill Duggan	Environmental Defense Fund Europe
	Sandra Rothbard	Freight Matters
1.1 Current challenges and trends	Heleen Buldeo Ra	City Logistic Chair, Universite Gustave Eiffel (FR)
1.2 Getting e-freight right	Heleen Buldeo Rai	City Logistic Chair, Universite Gustave Eiffel (FR)
1.3 The policy context	Giacomo Lozzi	POLIS
	Paola Chiarini	DG MOVE, European Commission
1.4 Sustainable Urban Logistics Plans	Elpida Xenou	CERTH/Hellenic Institute for Transport (GR)
	Eleonora Tu	Istituto sui Trasporti e la Logistica (IT)
	Lola Ortiz Sanchez	City of Madrid (ES)
	Alexandra Bakosch	City of Gothenburg (SE)
	Sjouke van der Vlugt	City of Groningen (NL)
UNIT 2 - TOWARD A SUCCESSFUL ZEZ-F: STEPS FOR ACTION		
Module and contents	Name	Organisation
2.1 Building trust with stakeholders	Giacomo Lozzi	POLIS
	Bram Kin	TNO (NL)
	Carolina Cipres	Zaragoza Logistics Centre (ES)
2.2 Setting objectives and targets	Giacomo Lozzi	POLIS
	Rosemarie Cramer	The Netherlands Ministry of Infrastructure and Water Management (NL)
2.3 Developing an implementation strategy	Lucy Sadler	REVEAL Project
	Jiunn-Ming Chiou	ICLEI EcoLogistics Community
2.4 Test, implement, enforce	Nina Nesterova	Breda University of Applied Science (NL)
UNIT 3 - KEYS TO SUCCESS		
Module and contents	Name and position	Organisation
3.1 Aligning policies across different levels of government	Giacomo Lozzi	POLIS
	Giuseppe Luppino	Istituto sui Trasporti e la Logistica (IT)
3.2 Incentives and other supporting measures	Aileen Nowlan	Environmental Defense Fund
3.3 Charging infrastructure for electric freight vehicles	Lucien Mathieu	Transport & Environment
3.4 Data for freight planning: collect, share and manage data	Gregory Slater	Environmental Defense Fund

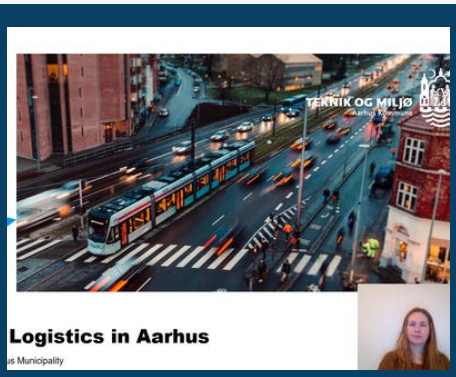
7. COMMUNICATIONS

Featured in:

- POLIS' Thinking Cities Magazine Volume 8 No 2 - December 2021
- EDF Europe Global Clean Air Blog: New Projects in European Cities will trial clean air solutions for freight - 30 June 2021

Presented during POLIS Annual Conference - 1 December 2021
Session 3F. Urban Freight: Zooming in on Zero

CITIES PRESENTATIONS



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- Aileen Nowlan, Environmental Defense Fund
- Lucien Mathieu, Transport + Environment
- Gregory Slater, Environmental Defense Fund