Low-carbon economy

MATCH-UP

Interreg Europe

Handbook

Project Partners

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County of Northeim (DE)
The Southern Regional Assembly (IE)
Municipality of Funchal (PT)
Timisoara Municipality (RO)

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Introduction

Nowadays, EU countries are experiencing growing levels of air pollution, CO2 emissions and traffic congestion. Improving low-carbon mobility policies is therefore essential and passengers' modal interchange is a crucial point of this challenge.

MATCH-UP goal is to improve policies in terms of low carbon mobility by boosting modal interchange between sustainable transport modes in one Region one County and two Cities.

The consortium involved in MATCH-UP comprises the Southern Regional Assembly (IE), Northeim County (DE), Funchal Municipality (PT) and Timisoara Municipality (RO), coordinated by the University of Bologna which has the role of leader and scientific advisor of the project activities.

By considering 4 main types of low carbon means of transport (Walking/cycling; Rail transport; Public transport; Green vehicles) MATCH-UP investigates multimodality under different multifaced perspectives in order to achieve a concrete change in the policy instruments selected by the involved regions.

MATCH-UP approach for achieving a real policy change is based on the exchange of valuable experiences among the involved regions and a deep involvement of key local Stakeholders who contribute in planning, organizing and managing mobility and transports locally. Therefore, Project Partners together with their Stakeholders collected and analyzed valuable experiences of modal interchange, ensuring their transferability.

The Handbook results from this process started in June 2018 and based on three main steps: Good Practice collection, identification of key factors of success in each Good Practice (GP), indications for their transferability.

Good practice collection

During this first phase, Project Partners have been involved in collecting successful examples related to multimodal and low-carbon mobility implemented in their territories. Local Stakeholders participated to this campaign by proposing practices they have been implementing.

The Good Practices have been described highlighting specific elements of multimodality, such as planning and design requirements for ensuring an interchange-friendly urban space; organizational, technological and operational requirements for ensuring a better coordination among different means of transport, thus strengthening modal interchange and enabling a seamless mobility. The main aim was to identify main strengths of the practices, showing a real and tangible success.

Key factors of success identification

By considering the Good Practices already selected and described, Project Partners were engaged to identify key factors of success concerning modal interchange within the GPs adopted within each territory. Key factors of success are specific planning, design, organizational, technological, operational elements and requirements that make a practice a valuable and successful example of multimodality.

Starting from a literature review, a collection of possible key factors of success has been undertaken, then each Partner analyzed their Good Practices by highlighting those key factors which really favored modal interchange and the promotion of low carbon means of transport. This was possible also with the involvement of the local Stakeholders who provided their expertise by highlighting valuable elements from their point of view.

Insights on transferability

After having identified the key aspects for successfully enable modal interchange the further step was to create the good environment for an effective transfer of these experiences among the partnership and beyond. Thanks to the outcomes of the 4 Transferability workshops organized by the project Partners, a deeper analysis of specific key factors was done for those Good Practices that raised more interest among local stakeholders. After an exchange of information among partners and stakeholders on specific elements of the Good Practices analyzed, further details and insights targeted to ensure their real transferability have been identified and collected.

MATCH-UP Handbook is then the main intermediate output of the project, summarizing the hints from the exchange of experience among the involved partners.

Southern Regional Assembly

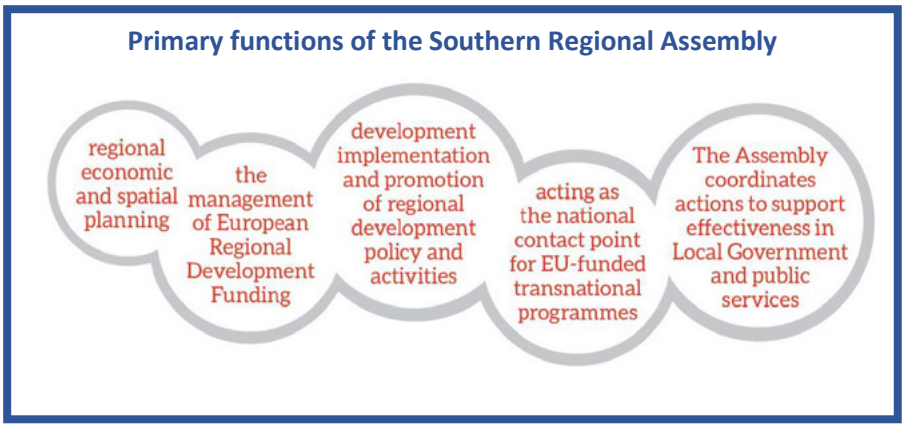
Ireland

PP2: Southern Regional Assembly

State of the play

The Southern Regional Assembly, established on 1st January 2015, is one of three Assemblies following on from the dissolution of the Border Midland and Western and the Southern and Eastern Regional Assemblies. The three new Assemblies incorporate the functions of both the former regional authorities and assemblies, with significant enhancement of powers, particularly in relation to regional spatial planning and economic development.

One of the key functions performed the former Southern & Eastern Regional Assembly was as Managing Authority for successive Southern & Eastern Regional Operational Programmes (S&E ROP) from the year 2000. The Southern Regional Assembly retained the Managing Authority Function and is currently responsible for the S&E ROP 2014-2020, the geographical remit of which extends beyond the geography of the Southern Region in terms of its regional planning remit.



The Assembly interacts with a wide variety of Government Departments and Agencies. In particular, it has an important relationship with the Local Government sector through the development of Regional Spatial and Economic Strategies (RSES).

The Southern Region covers 29,590 sq. km representing 42.4% of the landmass of the country. The Region's main urban centres are the cities of Cork, Limerick and Waterford. With an average population density of 48 persons per sq. km it is predominantly a rural Region. The Region is subdivided into sub-regions or Strategic Planning Areas (SPAs), namely the Mid-West, South-East and South-West.

With one-third of the State's population (1.58m), the Region is the second most populated Regional Assembly area and all Local Authority areas have experienced growth since 2006 (albeit at differing levels). However, population decline was seen in some rural and peripheral areas. The overall age structure for the Region is very similar to that of the State, with higher rates in the older working ages and beyond (45 plus). The largest increases in population are expected in the 15-24 year cohort (+26%) and 65 plus (+56%). This change in age profile has consequences in terms of how to plan for the Region's future.

By 2040 it is likely that the population of our Region will grow by 380,000 people to almost two million. This growth will require new jobs and new homes. It will also require us to plan for the future in a different way and to avoid a "Business as Usual" scenario, which if continued unchecked will deteriorate our quality of life, our environment, erode competitiveness and compound regional disparity.

Transport has a major impact on the quality of life; the level of community interaction; the economic prosperity; and the environmental quality of the Southern Regional Assembly (SRA) area. The following table sets out the hierarchy of policies and plans, against which transport policy in the SRA area is formulated and implemented.

International	Trans-European Transport Network (TEN-T); Trans-Boundary Interaction with Northern Ireland.
National	National Planning Framework, Smarter Travel – A Sustainable Transport Future.
Metropolitan Areas	Metropolitan Area Transport Strategy currently being finalized for Cork, transport strategies proposed for Limerick and Waterford.
County & City	Development Plans, County Walking and Cycling Strategies.
Settlement	Settlement Walking and Cycling Strategies, Local Area Plans, Local Transport Plans, Local Link Rural Transport Programme Strategic Plan 2018 to 2022.

Strengths

As an island nation, with an open economy, our airports and ports play a vital role for our competitiveness and for our International connectivity. The Region has 2 state airports and 2 regional airports and all Tier-I and Tier-2 ports of National significance. These ports and airports represent an international gateway to/from Britain, continental Europe and further global locations for trade directly from the Region. The Region also have a vast network of road infrastructure and a network of bus routes connecting to our rail network across the Region.

The Metropolitan Area Transport Strategy for Cork is published, and the Metropolitan Area Transport Strategies are currently being prepared for the Limerick-Shannon and Waterford Metropolitan Areas. These transport strategies, when complete will inform the integration of land use and transport planning within their respective metropolitan areas and will also inform investment in transport infrastructure and services over the short (5 years), medium (10 years) and longer terms (20 years).

Opportunities to catch

Trends within the Region indicate that there is an overreliance on the private car for travel to work and education. Approximately 14% of the Region's population travelling to work/ education used green modes in 2016, lower than the State average (17%) and significantly lower than the Eastern and Midland Region (20.6%). The challenge facing this Region is a shift towards alternatives to the private car and promoting greater efficiency in the use of public transport networks.

The Southern Region has created 11 strategic development goals to build a strong, resilient and sustainable Region including a Sustainable Mobility Goal:

SUSTAINABLE MOBILITY	TO TRANSFORM PUBLIC AND PRIVATE TRANSPORT SYSTEMS FROM POLLUTING AND CARBON INTENSIVE MODES TO WELL-FUNCTIONING INTEGRATED PUBLIC TRANSPORT, WALKING AND CYCLING AND ELECTRIC VEHICLES

This Sustainable Mobility Goal includes the following sustainable mobility investment actions subject to required appraisal, planning and environmental assessment processes:

- Support Steady State Investment to maintain and upgrade the existing road, rail and bus networks to provide a quality service to transport users.
- Support initiatives under the Department of Transport, Tourism and Sport to reduce congestion in the Southern Region's cities and enhance sustainable travel options through Smarter Travel projects that include traffic management, bus priority, urban cycling and urban walking routes.
- Continued investment in bus and rail fleets.
- Reduction in the use of fossil fuels for public transport and increasing use of technology and green energy sources to pursue low emission public transport fleets.
- Delivery of the Bus Connects programme for Cork, Limerick and Waterford metropolitan areas including associated customer services and facilities.
- Development of strategic park and ride sites and customer facilities.
- Delivery of comprehensive cycling and walking networks with an emphasis on Cork, Limerick and Waterford metropolitan areas.

Low-carbon economy

Limerick Smarter Travel
Workplace Mobility Management

MATCH-UP Interreg Europe

Extent of the practice

Limerick City

Region/country where the practice takes place

Limerick City awarded the Title of Ireland's first Smarter Travel Demonstration City in a National Competition funded by the Department of Transport, Tourism and Sport and co-funded by the European Regional Development Fund under the Southern and Eastern Regional Operational programme 2007-2013.

Website

https://www.limerick.ie/council/services/community-and-leisure/sports-and-fitness/limerick-smarter-travel/workplace

Promoter(s) (owners/in charge) of the practice

Name of the organization	Contact person	Role and responsibilities against the practice
Limerick City and County Council	Sadbh Hanley	Smarter Travel Co-Ordinator – Workplace Travel Planner
University of Limerick	Seán Collins	Facilities Manager – Smarter Travel Co-Ordinator
National Transport Authority	Siobhán O'Dwyer	Smarter Travel Consultant – Workplace Travel Planner
Various Limerick Workplaces	Various	Facilities, HR, Management

Type of Funding

Limerick City Smarter Travel - €9 million over a 5-year period.

Year of introduction

The project was introduced in 2012, consisting of an infrastructural and behavioral change programme. Funding has ceased but Limerick Smarter Travel remains as a behavioral change programme under the remit of Limerick City and County Council.

Description of the practice

The Limerick Smarter Travel project consisted of a schools programme; a community programme; and a workplace programme. The workplace programme remains in place after the project wrapping up under the remit of Limerick City and County Council (LCCC).

LCCC run the workplace programme in conjunction with the National Transport Authority (NTA). LCCC and the NTA form partnerships with large workplaces throughout Limerick in a

bid to encourage and promote sustainable transport. Once a workplace is signed up to the programme, we ask for a survey to be submitted to all employees.

The initial baseline survey is designed to gain an understanding of the existing situation in each workplace with regards to their mode share and any real or perceived barriers to smarter travel. The MMP Guidelines contains a baseline survey example (direct link: https://www.nationaltransport.ie/wp-content/uploads/2011/12/Workplace-Travel-Plans-A-Guide-for-Implementers111.pdf).

The survey contributes to define an origin-destination matrix that is coordinated in an Access Database – carried out in the National Transport Authority.

The re- sults are collated into a mobility management plan with recommendation for hard and soft measures to be carried out and guideline timeframes to carry them out.

Recommendations take the form of hard and soft measures.

Hard measures: In order to change modal split, there is a need to create infrastructures. Hard measures may include bicycle parking, showers, lockers, public transport displays and car-pool spaces that are considered into the surveys. Companies provide these from their own budget, as, in this case, there is not LA funding. Hard measures are also mandated for through the planning process, meanwhile on street inner city bike parking is funded by the local National Transport Authority.

Soft measure: are more promotional and include; car-pool coffee mornings; promotions and information on tax-saver Leap Cards (Leap Cards are smart public transport cards that can be pre-loaded and used to avail of cheaper bus travel in Limerick, Cork & Galway and all public transport in Dublin); and cycle to work scheme; cycle clubs.

Workplaces can join the programme in two ways: on a voluntary basis or as a planning condition.

The programme is intertwined with the planning process. Workplaces must engage with the programme in terms of hard measures at the construction stage, and soft measures for a period of 5 years after construction.

The workplace programme is a holistic approach to sustainable transport and encourages multimodality by encouraging all forms of sustainable transport and providing improvements in linkages – e.g. increased bicycle parking provision can link cycling and public transport and leap cards make public transport much more convenient. Follow up surveys and action plans are carried out every year to two years.

The participating workplaces are requested to form a smarter travel committee and to have some high level buy in for their programme to be successful. To date, we have 12 active partners including third level institutes, shopping centres and large business park workplaces.

A Smarter Travel Co-ordinator works with the workplaces, provides advice and guidance free of charge. A number of challenges are run throughout the year that workplaces can join, compete with other workplaces and win prizes. Prizes are funded through the NTA (a national level awards ceremony that recognise workplaces for their achievements) and on a local level.

Benefits to the workplace partners include:

- Travel survey & analysis.
- Action plan based on survey.
- Address analysis.
- Walking and cycling challenges and promotions.
- Bike Week grants.

- Best practice tips on walking/cycling/car sharing.
- Partner networking events.
- Annual NTA workplace awards.
- Compliance with future planning permission applications.
- Direct link to the local authority and NTA.

LST provide input into planning applications for developments that will impact upon current congestion levels. We require applicants to submit a mobility management plan and to provide results from a baseline survey. This mobility management plan will be reviewed to ensure it is a holistic approach to sustainable transport incorporating walking/cycling, public transport, rail and green vehicles. Follow up surveys and monitoring reports are requested from these developments (workplaces) on year one, three and five after the building become operational. This allows LST's scope to be much broader than just our partner workplaces and it requires workplaces to work on smarter travel and to engage with us for at least five years.

Low-carbon means of transport touched by the practice

Key factors

Service Information

- **Basic components of service information** ***(Presence of timetables, maps and real-time information):*** As part of this GP large employers (over 250 employees) will provide displays in the workplace detailing travel apps, real time travel information for cyclist, public transport etc..

Changing Behaviors

- **Changing perspectives** ***(Measures that help users discovering benefits of a multimodal, interconnected transport):*** Promotion of NTA cycling and walking challenges to partner workplaces throughout the year. Bike mechanic visits and bike fixing demonstrations in partner workplaces during bike week.

Policy, Norms and Regulations

- **Joint governance and initiatives** ***(Presence of targeted policy actions, framework conditions, recommendations, norms, etc.):*** This GP is run by Limerick City and County Council in conjunction with the National Transport Authority with the aim to engaging large employers (over 250 employees) to create a mobility management plan for their organisation to promote multi modal sustainable travel for their employees.

  They undertake a sustainable transport assessment and based on this, facilities are enhanced: increased bicycle parking, showers, lockers, public transport displays, promotion of sustainable transport. Follow up surveys are conducted with employees after 1, 3 and 5 year to ensure behavioural change is embedded.

Mobility management plans are requested to accompany planning applications that may affect current congestion levels and Limerick Smarter Travel will recommend conditions to be included in the planning decision including reduced car parking, increased cycle parking, collaboration with public transport operators etc..

- **Coordination and cooperation** ***(Presence of win co-operation schemes among key stakeholders, fostering modal interchange and seamless mobility):*** Round table seminars for partner workplaces so that successes and challenges encountered through the smarter travel programme can be discussed and learned from.

Main strengths of the practice

Urban and transport planning integration

Limerick Smarter Travel have an opportunity to provide input into the planning process when applications are received for developments that will impact upon current congestion levels. LST examine applications in order to ensure that smarter travel is a key consideration from the offset. Mobility management plans are requested to accompany planning applications and baseline survey results are to be included along with an action plan of smarter travel goals. LST will recommend conditions to be included in the decision which may include hard measures such as reduced car-parking; increased bike parking; showers etc. Soft measure including collaboration with local public transport operators; car-pool clubs etc..

Joint governance and coordination

LCCC operate their programme as part of the NTA's Smarter Travel Workplace Programme. LCCC have a dedicated local coordinator to act as a point of contact for Limerick workplaces. LCCC provide smarter travel advice and guidance to smaller workplaces that fall below the threshold of the national programme.

Main results and evidences of the practice success

- We have expanded the programme from the initial four study areas of the European project to now encompass all areas of Limerick.
- We have 12 active partners but engage with many other employers through the planning process.
- Since initial baseline surveys in 2012/13 we have seen reduced rates of single occupancy car use by circa 8%.

Going in depth into the Practice

Comments from Stakeholders and Project Partners interested in the practice

PP4, their local stakeholders related to ITS, environmental regional agency, the regional government and the university were very interested in this practice, especially in relation to the strategies in engaging citizens and key actors

Cork Transport and Mobility Forum (TMF)

Extent of the practice

Cork City and County

Region/country where the practice takes place

Cork City and County, Ireland

Website

https://transportandmobilityforum.com

Promoter(s) (owners/in charge) of the practice

Name of the organization	Contact person	Role and responsibilities against the practice
Founder Members & Lead Promotors		
Cork City Council (CCC)	Anita Lenihan	Sustainable Travel Officer (CCC), Support and implement measures to promote sustainable travel in Cork
University College Cork (UCC)	Stefan Koch	Current chairperson for TMF and Mobility Commuter Planning Manager at UCC
Cork Environment Forum (CEF)	Bernie Connolly	CEO of CEF
Other Stakeholders		
Cork County Council	Martin Ryan	Promote and support sustainable travel
Cork Institute of Technology	Kevin McCarthy	Promote and support sustainable travel
The Health Service Executive – Health Promotion Unit & HealthymCities	Clare Deasy	Promote and support sustainable travel
Cork Cycling Campaign	Darren McAdam O'Connell	Promote and support sustainable travel
Cork University Hospital (CUH)	Ruaidhri Be Barra	Promote and support sustainable travel
An Taisce Green Schools	Catherine Russell, Lisa O'Grady	Promote and support sustainable travel
Cork Chamber of Commerce	Michelle O'Sullivan	Promote and support sustainable travel

Bus Eireann	Fiona Connolly	Promote and support sustainable travel
Iarnrod Eireann – Irish Rail	Stephen Hackett	Promote and support sustainable travel
SECAD	Toni McCaul	Promote and support sustainable travel
Private Companies including Apple and Tyco International	Dan Hackett (Apple); Juan Camarasa (Tyco)	Promote and support sustainable travel

Type of Funding

Run on a voluntary basis with very small amounts of funding available from Cork City Council, but a grant has now been secured from HSE Healthy Ireland/Cork City and County Councils to cover the employment of a part-time temporary coordinator for the period to 31/03/2019. The TMF coordinator, overseen by CEF, assists in administration and arranges/promotes the Mix Your Mode Annual Seminar. Long-term source of funding is needed.

Year of introduction

2013 – Practice still in force

Description of the practice

The Transport & Mobility Forum, Cork TMF is a representative group of organisations who have a common interest in sustainable and active travel. TMF fully support sustainable modes of travel measures and policies. Sustainable and Active Travel helps reduce congestion on our roads, supports a low carbon economy, reduces noise and air pollution, improves public health and quality of life.

Mission: to increase the number of people travelling through sustainable and active travel in Cork.

Purpose:

1. Improve the quality of environments through which people travel.
2. Broaden accessibility for people to travel more frequently through sustainable and active travel means.
3. Change the culture/mind-set in favour of sustainable and active travel.

Objectives:

1. Provide a networking opportunity for stakeholders to coordinate sustainable and active travel projects, programmes and services.
2. Influence travel infrastructure and policy at the national, regional and local levels.
3. Advertise/promote options for sustainable and active travel in and around Cork.
4. Support and promote sustainable and active travel events in Cork.

Low-carbon means of transport touched by the practice

Other low carbon means of transport

Encourages car-pooling as an option, promotes and supports Go Car as a car sharing option. Go Car are also currently transitioning to electric vehicles.

Key factors

Efficiency of the Interchange

- **Efficient vehicle movements** ***(Presence of sufficient space for interchange together with passenger waiting and transit facilities):*** Trains pass through the Railway Station, Buses have their own dedicated bus entrance lane and there are also cycle/pedestrian walkways.
- **Efficient fare payment and validation** ***(Presence of in convenient locations and devices to purchase or validate a ticket, near the interchange nodes):*** Yes, using a leap card or purchasing tickets online, in Station or on the bus.
- **Flexibility in time and use** ***(Ease of Interchange node design that eases the accommodation of new modes of transport):*** There is the room and flexibility to integrate new modes if required.

Service Coordination

- **Timetable coordination** ***(Coordinated timetables of different means of transport to reduce transfer time and improve customer convenience):*** Bus services operate to the station to connect in with arrivals and departure of trains.
- **Ticket coordination** ***(Presence of a comprehensive multi-modal ticketing system):*** Leap card or online tickets, Leap card can be used on Cork/Midleton and Cork/Cobh routes as well as buses.

Quality of the Interchange Environment

- **Urban realm** ***(Presence of facilities that add value to the user experience, especially during the waiting time):*** All of these can be found in Kent Station terminal, there are no Green areas on this side of the Station.
- **Universal design** ***(Interchange spaces are designed for all passengers, particularly those with reduced mobility):*** Working lifts to all areas of the interchange and Station.
- **Close proximity of modes** ***(Design solutions that reduce both actual and perceived interchange distance among means of transport):*** The opening of the Interchange has moved the Station and our customers closer to the city.
- **Accessible pedestrian routes** ***(Ensure routes in the wider area are of the same accessibility standards as within the interchange facility):*** Public realm has been upgraded in the vicinity of the station, with provision of enhanced footpaths and cycle lanes.

- **Parking facilities** ***(Presence of cycle parking areas, cycle/e-car hiring spots as well as kiss and ride for cars and taxis near the interchange node):*** There is cycle parking and also 3 Coke Zero Bike docking stations but no car hire facilities on site. There is a set down area for drop off and taxis are available on the public road outside the station. The older parking area has charge points for 2 EVs.
- **Wayfinding** ***(Design solutions to ensure consistent, clear and comprehensible signage, to help passengers to navigate the interchange):*** Available throughout the Station Interchange.

Service Information

- **Basic components of service information** ***(Presence of timetables, maps and real-time information):*** Yes, in the railway Station and at the bus shelters.
- **On line information** ***(Presence of apps/websites allowing passengers to access information in advance or while travelling. Information delivered in accessible formats):*** Dedicated apps for Iarnród Éireann, Transport For Ireland, Leap Card and bike share.

Changing Behaviors

- **Changing perspectives** ***(Measures that help users discovering benefits of a multimodal, interconnected transport):*** Occasional Mix Your Mode initiatives highlighting multi-modality with schools in the Cork area.

Policy, Norms and Regulations

- **Joint governance and initiatives** ***(Presence of targeted policy actions, framework conditions, recommendations, norms, etc.):*** This GP provides a forum that allows for the interface between users of sustainable transport and the transport infrastructure providers and policy makers. It allows for the opportunity and promotion of integration initiatives by providing a forum for stakeholders to coordinate sustainable and active travel projects, programmes and services.
- **Coordination and cooperation** ***(Presence of win co-operation schemes among key stakeholders, fostering modal interchange and seamless mobility):*** This GP is a representative group of stakeholders who have a common interest in sustainable and active travel in Cork City. The forum is made up of representatives from the City Council, Environmental Forum, Cycling Associations, schools and universities, Public Transport providers (rail and bus), Private Transport Providers and large employers. They come together monthly to discuss sustainable transport issues and seek consensus to achieve their overall objective to improve the quality of travel environments, broaden accessibility and achieve behavior change in favor of sustainable and active travel and improved multi modal travel interchange.

Main strengths of the practice

Urban design features for interchange friendly urban spaces

- Advocate for policy that progresses outcomes such as improved public transport services, cycling and pedestrian infrastructure including modal interchange improvements.
- Engagement with and submission of evaluation and suggestions for proposed developments by local authorities in terms of user friendly low-carbon interchanges. TMF makes submissions in relation to proposals for road and transportation infrastructure

with an emphasis on promoting sustainable/multi modal solutions. The following links are about the submission made for the Little Island Transportation Study and the Dunkettle Interchange: https://transportandmobilityforum.files.wordpress.com/2018/12/20181207littleislandtransportationstudy_v1_0.pdf

https://transportandmobilityforum.files.wordpress.com/2018/03/2018-03-09-shared-pedestrian-and-cycle-route-dunkettle-interchange-v1_0.pdf

Urban and transport planning integration

- Positively influence travel infrastructure, policy formulation and policy improvements regarding sustainable travel at a local, regional and national level.
- Support the implementation of National Policy E.g. Smarter Travel at a local level.

Interoperability of the transport services

- Identify key barriers to the provision of sustainable travel and look for solutions to address these barriers through coordinated actions.
- Change the culture/mind-set in favour of sustainable and active travel.

Joint governance and coordination

- Public engagement forum providing an interface between users of sustainable transport and the transport infrastructure providers and policy makers.
- Provide networking opportunity and promotion of integration initiatives by providing forum for stakeholders to coordinate sustainable and active travel projects, programmes and services.

Main results and evidences of the practice success

Mix Your Mode Annual Seminar – Last Seminar 3rd May 2018 held at Cork County Hall. Next schedule for 29th March 2019

Mix Your Mode is supported by the European Commission's Sustainable Urban Mobility (SUM) campaign and is promoted by Cork Transport and Mobility Forum (TMF) and Cork Environmental Forum (CEF).

Mix Your Mode Connectivity and Active Travel Seminar offered stakeholders an opportunity to hear about and discuss modern sustainable and active travel developments and goals for Cork. Given the significant increase in population projected for Cork City and County over the next 20 years, the challenge is to have sustainable economic growth whilst maintaining a good quality of life for residents, visitors, local businesses and communities. The half day seminar was a combination of talks and discussions relevant to Cork. From these discussions the aim was, with stakeholders, to produce outcomes which will progress sustainable and active travel measures for the benefit of Cork. The annual seminar is now CPD accredited by RIAI, Engineers Ireland, RTPI Ireland.

2018 Presentations at Mix Your Mode Annual Seminar

20180503 Designing Streets for People V1_0

Dr Lorraine D'Arcy – Scholl of Civil and Structural Engineering – Dublin Institute of Technology

20180503 Harley Street Bridge, Cork V1_0

John Stapleton – Senior Engineer – Cork City Council – ERDF funding of €5.2 million approved May 2018, construction commenced July 2018, construction to be completed April 2019 and Harley Street pedestrian and cycle Bridge official opening May 2019. The new bridge will affect 2.5 million journeys annually with an average time saving of 75,000 hours which will create an economic value of €862,500 per annum.

20180503 Bandon Transportation + Public Realm Enhancement Plan, Cork V1_0

Gillian Vaughan – Traffic & Transportation – Cork County Council – Bandon Town Public Realm Enhancement Plan (TPREP) commenced in 2016 and is a long term plan to strengthen Bandon's position as a premier market town through the creation of a unique sense of place, which supports ease of movement for all, embraces its rich built and natural heritage, and enhances its role as the gateway to West Cork will be completed in 2028. The plan includes a town centre traffic management strategy to improve accessibility for pedestrians and cyclists by changing junctions, upgrading footpaths, cycle lanes and introducing 30kph zones. It also includes upgrading and adding new bus shelters to accommodate disabled travelers and restricting HGV in the town centre.

20180503 Tramore Valley Park, Cork V1_0.pptx

Dr Kevin Ryan, Cork City Council & David Bosonnet, Brady Shipman Martin, Landscape Architects – project will see the rehabilitation of an old landfill site in Cork City into a greenway and park for walking and cycling with connectivity to Black Ash park and ride and Cork Cycle Network.

A Mix Your Mode Week of activities is also organised to coincide with the seminar and includes a mix of travel modes. This year's activities included a history walk, a school's bus trip to Blarney Castle, Bike maintenance at City Hall, facebook competition with prizes of Park & Ride vouchers and public transport tickets. The Forum members also have an input into Bike Week, PARKING day, Rebel Pedal, and make submissions on policy and infrastructural policies and promote multi-modality.

The Cork Transport and Mobility Forum (TMF) has created a forum for all transport stakeholders to come together to promote more sustainable, accessible and low carbon transport in Cork which had led to significant increase in participation rates as follows:

	2016	**2017**	**2018**
Attendees Mix Your Mode Seminar	45	40	70
Cork Bike Week Participants	4484 (54 events)	6535 (70 events)	6195 (72 events)
Rebel Pedal Tour Participants	60	90	20 (bad weather)
Cork Park & Ride Utilisation	128.193	130.221	134.156
PARK (ing) Day	3 (city)	4 (city), 1 (county)	7 (city)
Cork Zero Bikes	Membership 9549 Cumulative trips 290.590	11.459 861.282	12.225 1.027.137
Cork City Bus Passenger Journeys	12.60 million	12.07 million	/

Low-carbon economy

Cycle and Ride Infrastructure associated with Luas Light Rail

MATCH-UP Interreg Europe

Extent of the practice

City

Region/country where the practice takes place

Dublin

Promoter(s) (owners/in charge) of the practice

Name of the organization	Contact person	Role and responsibilities against the practice
Transport Infrastructure Ireland	Sarah O' Donnell	Assistant Chief Architect

Type of Funding

National transport Authority Sustainable Transport Grant.

Year of introduction

2011-2015

Description of the practice

The Luas Accessibility Review was undertaken to address the barriers to accessibility at all stops on the Luas (Luas – Public Transport Tram Service in Dublin). This review highlighted significant infrastructure changes were required to improve modal interchange. These improvements included relocating pedestrian crossings and more direct access routes (particularly from schools, hospitals & tourist attractions), cycle parking (300 new parking spaces), cycle lanes, improved lighting and drop off areas to improve the modal interchange between pedestrians and cyclists and the tram network.

This systemwide survey in particular sought to improve the cycle provision and installation of a range of cycle and ride measures from simple cycle hoops to attractive covered shelters, local area maps, bicycle lockers, CCTV and information was undertaken. Located adjacent to tram stops identified as having highest need – Dundrum, Docklands, Heuston etc.

The objective of these installations was to increase the use of more sustainable modes of transport to encourage the link between cycling and public transport.

Low-carbon means of transport touched by the practice

On the left: New bike parking adjacent to Heuston Train Station, Dublin and Public Transport Tram Station, Dublin. Linking National Rail, City Tram and Cycling Network for Dublin City.

Below: New bike parking and safe and secure bike lockers at Dundrum, Dublin. Linking public transport buses and trams and commuter cycling network from South Dublin to Dublin City.

Key factors

Efficiency of the Interchange

- **Efficient vehicle movements** ***(Presence of sufficient space for interchange together with passenger waiting and transit facilities):*** The layouts allow for all modes to function effectively.
- **Clear pedestrian routes** ***(Presence of clear and direct routes for pedestrians connecting walking routes, facilities and destinations, as well as helping to select shortest-distance 'desire lines' within the interchange space):*** This GP included the relocation of pedestrian crossings and more direct access routes particularly from schools, hospitals and tourist attraction to improve the interchange between pedestrians and tram network. These changes improved the modal interchange between pedestrians and the tram network.
- **Efficient fare payment and validation** ***(Presence of in convenient locations and devices to purchase or validate a ticket, near the interchange nodes):*** Ticket machines and validators are located on all stop platforms, which are adjacent to cycle facilities.
- **Flexibility in time and use** ***(Ease of Interchange node design that eases the accommodation of new modes of transport):*** Cycle facilities are located immediately adjacent to tram stops.

Service Coordination

- **Delay management** ***(Presence of procedures connecting services wait for each other in the event of minor delays, especially when frequencies are low):*** Delays or disruption to tram service are communicated through the Passenger Information Display (PID) and via Passenger Announcement (PA), located on each platform.

Quality of the Interchange Environment

- **Permeability** ***(High interchange permeability from all directions to pedestrians):*** Luas Light Rail is an open, on-street system. Further efforts have been made to improve access and permeability to the stops by way of opening up routes through housing estates, constructing pathways and cycle ways etc.
- **Perception** ***(Built and urban design solutions ensuring: direct sightlines among different parts of transport interchanges, Using the same architectural style to reinforce legibility, clear relationship with the urban realm):*** The cycle infrastructure was designed to be identifiable with the Luas Light Rail brand. Materials – paving, shelter structures, information boards etc. - were coordinated to create a consistent language.
- **Comfort** ***(High standards of cleanliness and comfort):*** The cycle infrastructure is maintained to the same standard as the light rail stops and is regularly cleaned.
- **Safety and security** ***(Urban design ensures high levels of safety, especially in road crossing and security):*** Proximity of cycle infrastructure to tram stops maximizes safety and optimizes existing CCTV and other features as well as passive surveillance. Access to stops is carefully considered. The Design Manual for Urban Roads and Streets is a key reference document and encourages safety, lower traffic speeds and better pedestrian priority by design.

Accessibility

- **Universal design** ***(Interchange spaces are designed for all passengers, particularly those with reduced mobility):*** Luas Light Rail was designed on the principle of universal access and has incorporated accessibility features from the outset to allow everybody to access it, regardless of ability. Features include:
  - Low floor vehicles and gently ramped platforms to allow level boarding for wheelchairs and prams.
  - Passenger information Displays on platform and on board.
  - On-board next stop and destination announcements.
  - Hearing loops.
  - Ticket machines designed to facilitate wheelchair users, to minimize glare and with voice instruction.
  - Accessible websites and travel apps.

Cycle infrastructure was designed to allow ease of access. Bicycle guiding strips were installed on steps in the vicinity of stops. Physical barriers are minimized by design.

- **Close proximity of modes** ***(Design solutions that reduce both actual and perceived interchange distance among means of transport):*** Bike facilities are located adjacent to the stops. Inter-visibility between stops and cycle infrastructure was important, for reasons of safety, convenience and promotion of use. A common architectural language also helped to create a link.

- **Accessible pedestrian routes** ***(Ensure routes in the wider area are of the same accessibility standards as within the interchange facility):*** TII worked with the Local Authorities to improve accessibility standards in the vicinity of stops where possible.
- **Parking facilities** ***(Presence of cycle parking areas, cycle/e-car hiring spots as well as kiss and ride for cars and taxis near the interchange node):*** This GP allowed for the installation of a range of cycle and ride measures including new cycle lanes, 300 new cycle parking spaces, covered shelters and bicycle lockers adjacent to tram stations in Dublin to improve the modal interchange between cyclists and the tram network. Kiss and ride and taxi space is provided where possible.
- **Wayfinding** ***(Design solutions to ensure consistent, clear and comprehensible signage, to help passengers to navigate the interchange):*** Bespoke totems were designed to accompany the bike parking, which functioned as an identifier, a wayfinding structure and a local area map point.

Service Information

- **Basic components of service information** ***(Presence of timetables, maps and real-time information):*** Area maps and wayfinding are located at bike parking totems. Real time information, help-points etc. are located at adjacent stops. Customer Service Officers move from stop to stop on a continuous basis.
- **On line information** ***(Presence of apps/websites allowing passengers to access information in advance or while travelling. Information delivered in accessible formats):*** Information on all Luas Light Rail services is available on a dedicated website. Web-based cycle and ride information could be improved

Changing Behaviors

- **Passenger Motivation** ***(How did passenger motivations impact on design decisions):*** A decision to choose quality bicycle lockers and well-designed furniture as opposed to the cheapest solution was driven by passenger motivations for comfort, personal and bicycle safety and weather concerns. Therefore, high end bicycle lockers and bespoke shelters and totems were installed at tram stations that provide dry, durable, safe, well-lit bicycle facilities and satisfied the passenger need for security/comfort.

Policy, Norms and Regulations

- **Joint governance and initiatives** ***(Presence of targeted policy actions, framework conditions, recommendations, norms, etc.):*** In line with National Transport Authority's National Cycle Policy: Smarter Travel 2009 as well as City and Regional Development Plans.
- **Coordination and cooperation** ***(Presence of win co-operation schemes among key stakeholders, fostering modal interchange and seamless mobility):*** TII worked extensively with the Local Authorities, other transport providers and third-party stakeholders as part of these works.

Main strengths of the practice

Urban design features for interchange friendly urban spaces

An emphasis was placed on quality of design and materials in order to convey a sense of positivity, safety and security. Bike parking was made from durable materials (brushed steel) and bike lockers are lockable and in well- lit locations. The bike lockers are made by Warrior (purchased through BikeAway) who have achieved Sold Secure Gold Standard - the highest accolade set for cycle storage, for this bike storage. Sold Secure is widely recognised within the insurance industry as a mark of quality and this level of security is often essential for more expensive commuter bikes. The Warrior cycle storage is made from steel and provides dry and secure parking for bicycles and also a hook for hanging wet weather clothing and helmet.

Urban and transport planning integration

Identified locations have proved to be well used since installation.

Interoperability of the transport services

The intention was to allow direct transfer from bike to tram, enabling 'last leg' journeys, safe all-day bike parking, bike lockers etc. at the point of modal interchange to encourage end to end sustainable journeys.

Technological support for intermodality

Would have liked to have had a dedicated and positive webpage promoting and advocating cycle and ride with wider cycle information available, such as local repair shops, upcoming cycle events, good cycle mapping, car-free days etc.

Joint governance and coordination

Initially difficult to make the case for quality– the instinct was to provide cheapest off the shelf products and to challenge the need for adjacent tree planting etc. Subsequent support and coordination.

Main results and evidences of the practice success

The cycle infrastructure in Dublin city is heavily used. There is a demand to extend further and a review of the current needs would be timely.

The number of cyclists in Dublin City has more than doubled in the since 2011 to over 95,000 cyclists in the city every day. The number of passengers using the Luas public transport increased to 37.6 million in 2017 up from 27.53 in 2010 an increase of over 27%.

Green-Schools Travel Programme

Extent of the practice

National

Region/country where the practice takes place

Ireland

Website

https://greenschoolsireland.org/

Promoter(s) (owners/in charge) of the practice

Name of the organization	Contact person	Role and responsibilities against the practice
An Taisce EEU	Jane Hackett	National Programme Manager
Department of Transport, Tourism & Sport	Michael Spillane	Provide funding
National Transport Authority	Siobhan Hamilton	Support to scheme
Smarter Travel Schools		Active Participants

Type of Funding

The programme is funded by the Department of Transport, Tourism and Sport and receives an annual budget of between €1,6 and €1,7million per annum. This funding pays for over 25 Travel Officers to work with schools nationwide. In addition, the programme receives €125k per annum for cycle and scooter parking infrastructure in schools.

Year of introduction

2008 and the programme is still in operation.

Description of the practice

The aim of the Green-Schools Travel programme is to promote walking, cycling, scooting, public transport and carpooling on the journey to school. The programme is targeted to primary and secondary schools, but also some creches and pre-schools, participate in the programme. So the main target group are students in formal education from the age of 5-18 years old.

Almost 1800 schools have partici- pated in the programme since 2008, which represents almost 400,000 students and 35,000 teachers. Green-Schools has established key national events which promote sustainable transport including: Walk to School Week, Scoot to School

Week, National Cycle to School Day and the Big Travel Challenge.

Green-Schools has also introduced **Walk on Wednesday** (WOW Days), **Cycle on Wednesday** (COW Days) and **Scoot on Weekdays** (SOW days) to schools throughout Ireland.

Schools can also avail of educational workshops and lessons which focus on climate

change, sustainable travel, health and road safety. In addition, we offer training on the following; bike maintenance, cycle training and scooter training. Schools can also avail of funding for cycle training, scooter parking and cycle parking.

The programme has developed to incorporate **infrastructural audits** (walkability and cycle-ability audits) and these audits are compiled by students and submitted to the local authority. The audits developed by Green-Schools Programme assess how friendly pedestrian and cycling routes to school are. They were undertaken by students with the support of a Green-Schools Travel Officer and once the route has been audited a report is written up with key recommendations (i.e. a new footpath is needed or a pedestrian crossing etc). The report is then submitted to the Local Authority (Municipality) for action.

The audits relate to safety, infrastructural provision, accessibility and permeability.

As a result of these audits key infrastructure has been installed outside schools which support walking and cycling to school. Infrastructure improvements include new bus zones outside schools, speed sensors, new footpaths, improved/replaced warning signs, new pe- destrian crossings, new road markings and new lighting.

In particular, Green Schools Travel is working with the National Transport Authority to draft a national Walkability Audit so that it is a universal tool for schools and community groups. An Infrastructural Officer was also hired and charged with overseeing the process so that recommendations from the audits are carried out by Local Authorities.

As part of the programme multimodal journeys are encouraged and **Park N Stride** has been introduced to schools that have large catchments and poor walking and cycling infrastructure.

The Park N Stride idea is similar to Park N Ride whereby cars park away from the school gate and walk the remainder of the journey. There have been some partnerships with Local Authorities and shopping centers whereby they agree for their car parking to be used during drop off times. Green Schools Travel developed the idea of Park N Stride because a large number of schools are located in rural areas where there is little or no public transport or infrastructure to support walking or cycling. In addition houses are dispersed and schools are located in isolated communities. The ideal distance from the school gate is 500metres to 1km.

This option encourages parents to drive their children some of the journey and then allow them to walk from designated Park N Stride locations. Park N Stride is also encouraged for school bus journeys whereby students are disembarked away from the front of school environs to improve air quality, safety and increase activity levels. The benefit of the initiative is also that cars are removed from the school gate, air quality and safety at the school improve, and children get exercise before they start the school day.

The main challenges we have and continue to face are as follows:

- Congestion at the school gates.
- Speeds outside schools.
- A lack of proper infrastructure – mainly in relation to cycling but also in relation to poor planning of schools.
- Increased traffic volumes – especially in relation to urban areas and our current economic boom.
- Gender issues – less teenage girls cycling due to several issues.

- A lack of political will – no vision in terms of funding cycling and walking infrastructure.
- A lack of joined up thinking in relation to climate, transport, health and planning issues.
- New schools being built on greenfield sites away from towns.

The effectiveness of the programme means that 93% of all schools in Ireland, i.e. 4,000 schools, 71.514 teachers and 782.661 students, now participate in this programme. From 2014 to 2015 the local travel surveys showed a decrease in car travel to school by 22,4% and an increase in walking of 10,3%, cycling 1,9% and park and stride of 10% (source link: https://greenschoolsireland.org/wp-content/uploads/2019/10/Seminar-2019-Global-Citizenship-Travel.pdf).

Despite the public transport providers were limited involved in the programme, Green Schools Travel run an initiative, called **Bus in the City**, involving operators of Limerick city. The initiative is run annually for schools to introduce them to their local bus routes and how to use tickets, etc.. Public transport is promoted as a preferred mode and a large number of rural students travel by school buses. Finally, a small number of schools participating in the programme have lobbied their local bus provider to change the route of the bus based on the catchment of their students.

Low-carbon means of transport touched by the practice

Other low carbon means of transport

Scooting by foot.

Key factors

Quality of the Interchange Environment

- **Permeability** ***(High interchange permeability from all directions to pedestrians):*** The audits which are undertaken by students assess the permeability of the route to school and indicate where desire lines are and recommends areas for improvement. These recommendations may identify laneways/cut throughs or other informal desire lines which when opened up and formalized will increase the permeability of the local urban environment.
- **Safety and security** ***(Urban design ensures high levels of safety, especially in road crossing and security):*** This GP assists in ensuring safe and sustainable travel for students by undertaking walking and cycling audits of the environment. These audits are then submitted to the Local Authority (Municipality) who then upgrade the route by installing infrastructure to improve safety for travel to schools. The key types of infrastructure which have been installed include; new bus zones, speed sensor signage, new footpaths, improved/replaced warning signs, new pedestrian crossings, new road markings and new lighting.

Accessibility

- **Parking facilities** ***(Presence of cycle parking areas, cycle/e-car hiring spots as well as kiss and ride for cars and taxis near the interchange node):*** Green-Schools provides cycle and scooter parking in schools which facilitates parents to park their bikes and use public transport for the rest of their journey.

Changing Behaviors

- **Changing perspectives** ***(Measures that help users discovering benefits of a multimodal, interconnected transport):*** This GP seeks infrastructural audits for journeys to schools both walkability and cyclability audits which are undertaken by the students who then submit same to the owner of this GP who undertake the installation of transport infrastructure upgrade. As this policy is student led, the behaviour change starts in the classroom, expands to the school and then to families which eventually fosters change in the community.

  The key types of infrastructure provided are; new bus zones, speed sensors, new foot-paths, improved/replaced warning signs, new pedestrian crossings, new road markings and new lighting.

  Green-Schools also offer bespoke training, educational workshops, campaigns and competitions to participating schools to promote multi modal journeys.

  There is a second project, called Green Campus, which works in local universities – www.greencampus.org. The programme is a behaviour change programme which is funded on an annual basis. A wide range of educational workshops, initiatives, competitions, events and training take place in schools over a two-year period, as well as other national events (e.g. National Walk to School Week in May, Bike Week in June, Scoot to School every Wednesday in March, The Big Travel Challenge in February and the new Clean Air Week event in October). The core element of the programme is that it goes beyond awareness raising and that schools develop an action plan which will be implemented over two years. The "7 Step" methodology is how the programme is implemented in schools (link: https://www.ecoschools.global/seven-steps).

Main strengths of the practice

Urban and transport planning integration

Each audit is submitted to the Local Authority Roads Department with suggested infrastructure improvements to assist the modal interchange between public transport, pedestrians and cyclists for journeys to school. This assists local planners to incorporate a more multi-modal approach to locations close to schools.

Joint governance and coordination

The Green-Schools programme has significant political support. It is operated in partnership with Local Government Authorities and is supported by a number of National Government Departments including: Department of Housing, Planning, Community & Local Government; Department of Communications, Climate Action and Environment; Department of Transport, Tourism and Sport; The Department of Arts, Heritage Regional, Rural and Gaeltacht Affairs; Department of Foreign Affairs and Trade; Irish Aid, National Transport Authority; National Parks and Wildlife Service, Irish Water and the Wrigley Company Limited.

Coordinating and promoting long term, whole-school action for the environment Green-Schools by creating a student-led programme with involvement from the wider community. It starts in the classroom, expands to the school and eventually fosters change in the community at large.

Main results and evidences of the practice success

Key results for 2017 include:

- 1,800 extra pupils walking and cycling to school and increasing their physical activity.
- 4,400 cars parking away from the school gate, with pupils walking the remainder of the journey to school.
- 700 pupils less taking the bus, freeing up bus capacity for other users.
- 1,000 pupils are leaving the car at home for the whole journey therefore improving air quality and reducing CO2 emissions.
- Over 30,000 students walked to school on National Walk to School Day;
- Over 5,000 cycled to school on National COW day as part of National Bike Week, and over 4,200 students scooted to school on National Scoot to School Day.
- 2026 WOW days, 651 COW days, 1007 SOW days and 521 Park N Stride days during the academic year.
- 102 Walkability Audits and 54 Cyclability Audits carried out with school in the academic year.

Key outputs since 2008:

- 4,291 bicycle spaces were installed in schools.
- 1,220 scooter parking space were installed in schools.
- 36,674 students from schools received subsidised cycle training.

Going in depth into the Practice

Comments from Stakeholders and Project Partners interested in the practice

PP3 and PP4's local stakeholders showed high interest in this practice during the Transferability workshop. In particular they acknowledged the importance in reversing the modal split towards soft modes of youngsters and students. In Funchal Municipality several campaigns have being developed in local schools, although with uninteresting results. Furthermore, the lack of commitment from schools themselves hampers potential changes as well as there are often no spatial conditions in the surrounds of most schools to improve accessibility. Therefore the Project Partners expressed the need of better understanding how the practice tackle the challenge of changing youngsters' behaviours.

Local Link Rural Transport Programme

Extent of the practice

County Waterford

Region/country where the practice takes place

County Waterford

Website

https://www.locallinkwaterford.ie/

Promoter(s) (owners/in charge) of the practice

Name of the organization	Contact person	Role and responsibilities against the practice
Local Link Waterford	James O'Donoghue Teresa Fennell	Road Transport Co-Ordinator Finance Administrator
Comhlucht Forbartha na nDéise	Críostóir Ó Faoláin	Finance Administrator
National Transport Authority	Marian Willson	Head of Services Planning
Department of Transport, Tourism & Sport		
Department of Social Protection		
Waterford City & County Council		
Comeragh Development Group		
Irish Farmers Association		
MACRA		
Transport for Ireland		

Type of Funding

The Local Link Rural Transport Programme 2018 to 2022 – Nationally €14.3 million – Department of Transport, Tourism & Sport €12.8m and the Department of Social Protection €1.5m of 17 Local Link Groups. Waterford Local Link funding €1.2m. The cost was €120k for 2018 and is due to increase in 2019 as additional services are added. (currently awaiting approval from National Transport Authority).

Year of introduction

2015

Description of the practice

The key priorities of the programme is to include addressing rural social exclusion and the integration of rural transport services with other public transport services. The programme mission statement is 'to provide a quality nationwide community based public transport system in rural Ireland which responds to local needs'.

- Local Link is a national initiative specifically aimed at people in rural areas. It provides public transport links with individual houses or rural areas to larger towns and cities.
- This provides a low carbon option for residents in rural areas who do not have access to a car or for rural residents who wish to travel more sustainably.
- The practice fosters multimodality as it provides the necessary rural linkages to urban public transport linkages for both bus and rail.
- Since the development of the initiative the Local Links Transport Programme in Dungarvan now has high frequency services that run 6 times a day for 6 or 7 days a week. As a result, commuters are now also using the service to travel to Dungarvan and onwards and leaving their cars at home.
- School children are also using the service and thereby not requiring parents to drive them to school.
- College students are also using this service which connects them to a wider network of bus and rail services to travel to third level institutions in Waterford and Cork cities.
- It also provides an essential service to tourists with links with all the main attractions including The Waterford Greenway, Lismore Heritage town and several beaches in the area. Offering tourists, a low carbon and sustainable alternative to sightseeing in the area by cycling or public transport.

Local Link also ensure that the programme continues to best meet the needs of users from a social inclusion perspective by promoting a suite of additional transport options including the Community/Voluntary Car Scheme, and Evening/ Night time services. Improve linkage of rural transport services between and within towns and villages to provide more direct access to workplaces, tourist and visitor destinations, health services, shops and educational establishments.

In Waterford Local Link offer people who are unable to get to the bus stop, a door-to-door services in the more rural areas where in most cases they can collect them and return them to their homes with a semi- flexible transport service, i.e. the service can divert off route if necessary to accommodate passengers' needs. In addition, during the month of July when children are on school holidays – children can travel on Local Link free of charge.

Low-carbon means of transport touched by the practice

Key factors

Efficiency of the Interchange

- **Efficient vehicle movements** ***(Presence of sufficient space for interchange together with passenger waiting and transit facilities):*** The appropriate High Frequency Services would use the multi model interchange areas / hubs available in the bigger towns of the county.

Service Coordination

- **Timetable coordination** ***(Coordinated timetables of different means of transport to reduce transfer time and improve customer convenience):*** Service timetables where possible are coordinated to make connections with other public transport providers, this allow for a more integrated transport system that is specifically designed to meet the needs of both commuters and local rural passenger needs, and in doing so is flexible and accessible to passengers.
- **Delay management** ***(Presence of procedures connecting services wait for each other in the event of minor delays, especially when frequencies are low):*** Where possible Local Link bus services will wait for the arrival of other services to make connections with both Local link service and other Public transport providers. This is not reciprocated by other public transport providers.

Quality of the Interchange Environment

- **Safety and security** ***(Urban design ensures high levels of safety, especially in road crossing and security):*** In conjunction with the Local Authority, the local urban interchange was redesigned to allow accessibility to services for Passengers with reduced mobility, this redesign included the mandatory speed reduction and pedestrian crossing to be retained.

Accessibility

- **Universal design** ***(Interchange spaces are designed for all passengers, particularly those with reduced mobility):*** Interchange areas are available in some more urban areas for those with reduced mobility, but additional accessible interchange areas are needed to allow Passengers access the full range of services that is available to those without mobility issues.
- **Close proximity of modes** ***(Design solutions that reduce both actual and perceived interchange distance among means of transport):*** We would as a norm Public transport designated stops for services, with the exception of more rural areas where such interchange/ Hubs are not available, but these would be a highly desirable for the Passenger interchange and customer convenience.

Service Information

- **Basic components of service information** ***(Presence of timetables, maps and real-time information):*** Where possible timetable information and contact details are available to passengers.
- **On line information** ***(Presence of apps/websites allowing passengers to access information in advance or while travelling. Information delivered in accessible formats):*** Service information is available through website and social media, the National Transport

Authority manage the National Journey planner and all service information should be available here also.

Changing Behaviors

- **Changing perspectives** ***(Measures that help users discovering benefits of a multimodal, interconnected transport):*** Information and social media sites kept up to date and relevant. Kids Go Free campaign during summer months to benefit and encourage usage by younger passengers to enable convenient transport modes available, and to encourage the practice of using Public Transport modes by youth in all areas.

Policy, Norms and Regulations

- **Coordination and cooperation** ***(Presence of win co-operation schemes among key stakeholders, fostering modal interchange and seamless mobility):*** Cooperation and Coordination between Local Authority has been productive over the past few years. With consultation on a Bus Stop Audit for the County and the redevelopment of accessible bus stops in Dungarvan, the largest urban town in the County, being undertaken and finalised last year giving access to passengers of reduced mobility that was not available previously.

  Cooperation between Rural Transport Programme and Bus Éireann has not been forthcoming to date.

- **Sharing solutions** ***(Activation of technical planning tables, shared decision processes with citizens and users, to build solutions enabling modal interchange and seamless mobility):*** A Transport Plan is underway and consultation is ongoing between the Local Authority, Southern Regional Assembly and the Rural Transport Programme.

- **Integrated Transport System** ***(Modal Interchange Connections):*** This GP provides the opportunity to connect more rural areas to bus and rail transport hubs. This initiative provides more responsive local bus connection from set points or direct from people's homes with a semi flexible transport service i.e. bus can divert off route when required. It provides a more integrated transport system that is specifically designed to meet rural needs or those with accessibility difficulties.

Main strengths of the practice

Joint governance and coordination

The programme allows for a more integrated transport system that is specifically designed to meet the local rural needs and in doing so is flexible and fully accessible to all passengers. Infrastructure improvements including bus stops, shelters, bike parking are part of the Local Link initiative but the funding for these have been challenging to date.

Main results and evidences of the practice success

The National Local Link Rural Transport Programme has seen passenger journeys increase from 1.76 million in 2015 to 1.89 million in 2017.

Waterford Local Link launched new services recently and now provides 6 return services Monday to Saturday and 3 return services on Sunday. Demand responsive door to door bus services in more rural areas remains a cornerstone of what Local Link do, the development of higher frequency services operating 6 and 7 days a week are designed to ensure connectivity

and contribute to supporting and sustaining the rural economy. This is underlined by the increase of over 80% in passenger journeys on Local Link services since 2015.

Challenges Encountered:

- Infrastructure and the erecting of bus stops and shelters along routes, lack of funding for these is a challenge.
- Joined up thinking and lack of consultation to the local Council Development Plan.
- Lack of a Transport Plan for the County.
- The turnaround of approval for additional routes can be slow.
- Budgets and contracts, we are now required to retender every 4 years to continue to run the project, this process was done in December of last year, but we have not been informed of the outcome yet.

County of Northeim

Germany


Richtung
Innenstadt
Hardegsen

PP3: County of Northeim

State of the play

The County of Northeim is a rural area with three middle-sized towns and many small villages. The closest bigger cities are the university city of Göttingen (30 km) and the capital of Lower Saxony Hanover (90 km). In the County of Northeim, there are 41 regional bus lines, 16 county overlapping bus lines (counties Holzminden and Göttingen) and 11 town bus lines (8 in Northeim, 3 in Einbeck), 7 regional railway lines and 2 mainly transport nodes – railway stations in Northeim and Kreiensen.

Within the region, the connections of public transport offered are not sufficient. Aside of the main transit routes, which do connect larger cities via public transport and roads, smaller villages are not sufficiently connected, and maintenance of public transport is only possible with high subsidies. Long distances and too few users make these too costly or simply not feasible, so many people use cars. Inhabitants that cannot afford or are unable to use cars are less likely to get a job, or will move to larger agglomerations and cities. This results in a vicious circle making these areas less attractive for business.

The existing bus lines orientate themselves towards the school schedules and their locations. However, the county suffers from the impacts of the demographic change – like many rural regions in Germany. The population has fallen since 2000 (appr. -8,4% / 42.000 people, source: expertise for the county of Northeim - Initiation of an Interreg project in the field of mobility, author: ateneKOM). The younger ones become less; the older groups (from 60-years-old) have grown.

Currently, activities to tackle the problems in rural mobility focus on the operation of additional bus connections and on mobility centres. In addition, there need to be approaches of multi-modal transport within the urban-rural mobility. In this context, the use of or the switch to public transportation and the connection with other forms of low-carbon mobility need to be promoted.

Our key stakeholder, the public transport authority organisation South Lower-Saxony (ZVSN), is included in the project activities and promotes multimodal mobility solutions by implementing new flexible transport offers, like citizen's busses and other flexible on-demand systems. In the meantime, it also realized several improved connections from bus/train to bus/train and added busses on some bus lines.

In 2019, the County could implement more night busses for young people to go to the City of Göttingen for cultural events. Here also taxi drivers with smaller cars offered their services for the night rides.

All new offers are promoted via marketing activities. Furthermore, there is an assessment about the tariffs of the public transport in the County. In the beginning of 2020, cheaper tariffs for special target groups are to be implemented.

Strenghts

The County of Northeim has a regional public transport plan which helps to formulate objectives, to be realized in the near future. This plan will be updated every five years.

The regional public transport plan is drawn up also thanks public participation. It includes several approaches relating to multimodal mobility solutions. The objective of barrier-free

stops is currently realized step-by-step. This will also enable multimodal mobility for people with disabilities. In addition, the equipment of the stops is renewed or replaced so that these stops are getting more attractive for passengers. There are also written steps how to get a better connection between busses and trains, and described ideas for e-bikes, shuttle to the public transport and pooling or sharing mobility. In particular, the County's bicycle traffic concept aims at a better connection between the public transport and bikes.

Opportunities to catch

The County of Northeim needs to focus on the following challenges and opportunities:

- Better connections from one transport service to another (coordination of the respective timetables, delays, failure management and digital connection between different transport means).
- Better designs of interchanges, especially to foster cycling and pedestrian traffic.
- Embedding of digital solutions in services, e.g. electronic tickets and sharing-offers via app.
- Step-by-step introduction of electric cars for the fleet of the County of Northeim.
- Implementation of new tariffs in public transport – aim: lower prices.
- Barrier-free reconstruction of bus stops (at local schools).

Low-carbon economy

Revitalization "Ilmebahn"

MATCH-UP Interreg Europe

Extent of the practice

The re-opening of the 'Ilmebahn' between Salzderhelden and Einbeck is a milestone to attractive the public transport service between Einbeck, Salzderhelden and Göttingen. The 4 km rail track between Einbeck and Salzderhelden is still a missing link to the existing public transport service to Göttingen (118.000 inhabitants). The rail service to Einbeck (27.000 inhabitants) was closed in 1984. The ZVSN will support the revitalization with additional bus services in the area of Einbeck.

The Ilmebahn project is a project of the State of Lower Saxony and it's financed by the Ministry of Economic Affairs.

Region/country where the practice takes place

County of Northeim

Website

In German:

http://www.mw.niedersachsen.de/aktuelles/presseinformationen/streckenreaktivierung-derilmebahn-zwischen-einbeck-salzderhelden-und-einbeck-mitte--154098.html

Promoter(s) (owners/in charge) of the practice

Name of the organization	Contact person	Role and responsibilities against the practice
ZVSN	Michael Frömming	Co-ordinator of additional bus services

Type of Funding

State of Lower Saxony/ Ministry of Economic Affairs (6 Mio. € of 7,1 € total costs).

Year of introduction

2018

Description of the practice

The re-opening of the rail service between Einbeck and Salzderhelden stands for the inter-operability between the different sustainable transport modes and passenger information systems. The ZVSN as public transport authority will organize a comfortable connection between rail and bus services at the main interchange in Einbeck. For passengers there will be a real time information at the station in Salzderhelden, a second one in Einbeck will follow when the interchange location was reconstructed – especially also for pedestrians and cyclists (new bike racks). As an option for the future a Car Sharing location will be added to the interchange in Einbeck.

Currently approximately 350 per day passengers use the new rail track.

The framework condition for a revitalisation is the "cost-benefit analysis" ("Nutzen-Kosten-Untersuchung", NKU) which analyses all economic effects towards a new railroad project. Some pre-selection economic criteria for eligible rail tracks are: traffic potential reduction too low, stations/stops outside main residential areas, if the traffic flows deviate substantially from the railway routing, if the bus transport cannot be replaced, if the investment costs are too high, if the integration into the existing network is not possible.

At the same time, in Germany a discussion on expert level started to include more ecological criteria as well as regional planning effects (regarding demographic aspects), and the State of Lower Saxony, where the practice is based, is interested in an updated NKU-research.

Anyway, the Comparative Analysis (which copy is available as an extract from the LNVG, even if only in German) is the second part of a 3-step procedure. In the first two stages there are no fixed thresholds to move on to the next stage of the procedure. In the third stage, a standardised assessment is carried out by an appraiser. In this third step it is necessary that the cost-benefit ratio is >1 (threshold value) in order to reactivate a railway line. The aim is to consider the overall economic benefit.

The decision of undertaking a similar project is influenced politically. The German political process just started on the level of the 16 German States, in this case in close relationship with the Ministry for Transport. Some States, e.g. Hessen and Lower Saxony, are the forerunners. The final decision will be made on the national level after debates between States, involving Ministries on both levels.

During this project there were no public consultations before pre-selection stage or at any other stage in the process, even if all aspects of social inclusions had to been regarded.

Low-carbon means of transport touched by the practice

Key factors

Efficiency of the Interchange

- **Efficient vehicle movements** ***(Presence of sufficient space for interchange together with passenger waiting and transit facilities):*** The Ilmebahn includes an intermodal context: Bus and rail transport. The Ilmebahn operates all bus and train stations including the train stations in Göttingen, Einbeck and Northeim. All connecting services are available, on the central stations, there is enough space for an interchange.
- **Clear pedestrian routes** ***(Presence of clear and direct routes for pedestrians connecting walking routes, facilities and destinations, as well as helping to select shortest-distance 'desire lines' within the interchange space):*** All services are included at the main railway stations in Göttingen, Northeim, Einbeck.Salzderhelden and Einbeck-Mitte.
- **Efficient fare payment and validation** ***(Presence of in convenient locations and devices to purchase or validate a ticket, near the interchange nodes):*** In the Ilmebahn-Bus, at the ticket machines of the DB and metronome, in the information tower at the Göttingen station square, in the advance booking offices of the transport companies.

Service Coordination

- **Timetable coordination** ***(Coordinated timetables of different means of transport to reduce transfer time and improve customer convenience):*** Passenger information systems is on all railway stations available, VSN-App, DB-App.
- **Delay management** ***(Presence of procedures connecting services wait for each other in the event of minor delays, especially when frequencies are low):*** Passenger information systems is on all railway stations available, VSN-App, DB-App.
- **Standardisation** ***(Presence of uniform technical, service and design specifications):*** Yes.
- **Interchange management schemes** ***(Presence of Interchange facility management agreements identifying interfaces and responsibilities between all the parties involved in managing and serving the interchange facility):*** Yes, partially. Ilmebahn Ltd, DB Regio.

Quality of the Interchange Environment

- **Urban realm** ***(Presence of facilities that add value to the user experience, especially during the waiting time):*** Some of them are available at the train stations in Northeim, Salzderhelden, Einbeck Mitte, Nörten-Hardenberg, Göttingen.
- **Permeability** ***(High interchange permeability from all directions to pedestrians):*** Yes.
- **Perception** ***(Built and urban design solutions ensuring: direct sightlines among different parts of transport interchanges, Using the same architectural style to reinforce legibility, clear relationship with the urban realm):*** Bus services are near the train station.
- **Comfort** ***(High standards of cleanliness and comfort):*** Partially.
- **Safety and security** ***(Urban design ensures high levels of safety, especially in road crossing and security):*** Will be from the DB Regio and from the Ilmebahn Ltd controlled.

Accessibility

- **Universal design** ***(Interchange spaces are designed for all passengers, particularly those with reduced mobility):*** The busses are uniform, all have the sign “Ilmebahn”. All trains from the DB Regio are uniform.
- **Close proximity of modes** ***(Design solutions that reduce both actual and perceived interchange distance among means of transport):*** Yes.
- **Accessible pedestrian routes** ***(Ensure routes in the wider area are of the same accessibility standards as within the interchange facility):*** Yes.
- **Parking facilities** ***(Presence of cycle parking areas, cycle/e-car hiring spots as well as kiss and ride for cars and taxis near the interchange node):*** There are many parking facilities for cars and for bikes at all railway stations.
- **Wayfinding** ***(Design solutions to ensure consistent, clear and comprehensible signage, to help passengers to navigate the interchange):*** Signs for station in Einbeck Mitte insufficient, in Salzderhelden available.

Service Information

- **Basic components of service information** ***(Presence of timetables, maps and real-time***

information): Most railway stations include timetables, maps and help points, staff.

- **On line information** ***(Presence of apps/websites allowing passengers to access information in advance or while travelling. Information delivered in accessible formats):*** VSN App, VSN website, DB App and DB website.

Changing Behaviors

- **Changing perspectives** ***(Measures that help users discovering benefits of a multimodal, interconnected transport):*** Communication companies, marketing.

Policy, Norms and Regulations

- **Joint governance and initiatives** ***(Presence of targeted policy actions, framework conditions, recommendations, norms, etc.):*** Policy actions from Lower Saxony State.
- **Coordination and cooperation** ***(Presence of win co-operation schemes among key stakeholders, fostering modal interchange and seamless mobility):*** Promoter and builder is the Ilmebahn GmbH Einbeck, partners: county of Northeim, Einbeck city, public transport authority (bus services), DB Regio (train services) and Lower Saxony Transport Authority (LNVG), many votes necessary.

Main results and evidences of the practice success

The reduction of car traffic including CO2 reduction was the basis for a positive decision towards the reopening of the Ilmebahn by the State of lower Saxony.

Going in depth into the Practice

Comments from Stakeholders and Project Partners interested in the practice

PP2's stakeholders were very interested in this practice, especially in terms of selection for funding and criteria for same. The attention was put on the process, in order to be able to transfer it and improve the governance of policy instruments regarding selection criteria, assessment process and management of process itself.

Low-carbon economy

Night Bus
"Einbecker Night Owl"

MATCH-UP
Interreg Europe

Extent of the practice

The Einbecker night owl is a night bus offer in the nights between Friday - Saturday and Saturday - Sunday. The offer is aimed in particular at night owls and theatre-/moviegoers. The bus runs between approx. 0:30 am and 4:30 am from Einbeck via Northeim to Göttingen and the same way back. The night owl started its operation at the end of 2017.

Region/country where the practice takes place

The county Northeim is located in the south of Lower Saxony. The county consists of 11 municipalities and has mainly a rural structure. In the district of Northeim live approx. 134,000 people (as of 09/2015) on an area of about 1,220 sq km. The district administration is seated in the city of Northeim (population 28,940).

The city of Einbeck is located in the north of the district Northeim and has about 32,668 inhabitants.

Göttingen (distance to the city of Northeim: 20 km, population 134,000) and Hanover (distance to the city of Northeim: 90 km, population 532,888) are the closest major cities. Göttingen is home to a university with about 30,000 students.

Website

https://www.vsninfo.de/de/fahrplaene/nachteule-einbeck

https://de-de.facebook.com/einbeckernachteule

Promoter(s) (owners/in charge) of the practice

Name of the organization	Contact person	Role and responsibilities against the practice
County of Northeim	Mr Detlef Schrader	office for mobility and economic development head of office
County of Northeim	Ms Stefanie Thomuscheit	office for mobility and economic development project manager "project match-up"

Type of Funding

Zweckverband Verkehrsverbund Süd-Niedersachsen (ZVSN), regional public transport authority, supported by Landesnahverkehrsgesellschaft Niedersachsen (LNVG), State public authority.

Year of introduction

2017

Description of the practice

Göttingen with its many events and restaurants is a magnet for the inhabitants of the district of Northeim. At the weekends, public transport ends at a certain time, too early for many people to have the opportunity to get home by public transport. Therefore, many residents go to Göttingen or in the opposite direction by car.

The night owls offer shall give these people the opportunity to leave their car at home and still come home from Göttingen, Northeim or Einbeck, even at a later time.

Not all users live directly at a night owl bus stop. Depending on the distance, they either walk or bike to the night owl bus stops. Thus, the night owl promotes multimodal mobility. The local public transport company tries to promote this multi/intermodal mobility through safe waiting areas and sufficient bicycle parking facilities at the night owl bus stops. Moreover, the night bus service is connected with the rail one, developing intermodal systems in Göttingen and Northeim.

As the night owl is a service in the late hours there is no arrangement with local traders towards peripheral parking required. But in other contexts it could be an interesting upgrade.

The service includes one vehicle for each service: one bus Göttingen–Northeim; one bus Göttingen–Hardegsen; one taxi Northeim–Moringen; one taxi Northeim–Einbeck; one taxi Northeim–Bad Gandersheim.

The busses run per weekend night and on holidays from:

- Northeim (0:23 am) -Einbeck (1:30 am)
- Einbeck (1:34 am) - Göttingen (2:46 am)
- Göttingen (2:47 am) - Einbeck (4:00 am)

The monthly/yearly cost for running this bus system is about 66.000€ per year. It is not a profitable service, as public transport in most cases. But in relating with effects like road safety, reduced numbers of accidents and medical health system, a special offer for night bus services are an important impact to reduce costs in other sections.

Low-carbon means of transport touched by the practice

Key factors

Efficiency of the Interchange

- **Efficient vehicle movements** ***(Presence of sufficient space for interchange together with passenger waiting and transit facilities):*** The Night Owl starts at the main interchange for public transport in Göttingen next tot he main railway station. All connecting services are available, there is enough space for an interchange.
- **Clear pedestrian routes** ***(Presence of clear and direct routes for pedestrians connecting walking routes, facilities and destinations, as well as helping to select shortest-distance 'desire lines' within the interchange space):*** All services are included at the main railway station Göttingen.

- **Efficient fare payment and validation** ***(Presence of in convenient locations and devices to purchase or validate a ticket, near the interchange nodes):*** In the bus, at the ticket machines of the DB and metronom, in the information tower at the Göttingen station square, in the advance booking offices of the transport companies.
- **Flexibility in time and use** ***(Ease of Interchange node design that eases the accommodation of new modes of transport):*** Yes, some of them are available at the train stations in Northeim, Salzderhelden, Einbeck Mitte, Nörten-Hardenberg, Göttingen and at some bus stops.

Service Coordination

- **Timetable coordination** ***(Coordinated timetables of different means of transport to reduce transfer time and improve customer convenience):*** As the Night Owl starts in Göttingen there are connecting train and bus services from other parts oft he city as well as from other regional rail stops 1 Umstieg auf der Strecke Göttingen – Northeim, RB – Bus Nachteule.
- **Delay management** ***(Presence of procedures connecting services wait for each other in the event of minor delays, especially when frequencies are low):*** Delay in VSN App available.
- **Ticket coordination** ***(Presence of a comprehensive multi-modal ticketing system):***

  - Separate tickets for the night owl only.
  - Student free time card as additional card, free travel in the VSN network: in all regional and city buses, in all commuter trains, in the 2nd car class (not in ICE, IC, EC).
- **Standardisation** ***(Presence of uniform technical, service and design specifications):*** No. The Night Owl service is part oft he VSN coperate identity and benefits from common marketing campaings from VSN (standing for 16 bus companies) and ZVSN (as the regional transport authority).
- **Interchange management schemes** ***(Presence of Interchange facility management agreements identifying interfaces and responsibilities between all the parties involved in managing and serving the interchange facility):*** Regional authorities (eg City of Göttingen, Northeim, Einbeck) transport companies.

Quality of the Interchange Environment

- **Urban realm** ***(Presence of facilities that add value to the user experience, especially during the waiting time):*** No. As the Night Owl is part of a public transport night service there are rare offers for shops, restaurants in the late evening hours. Public services – e.g. toilets – are available.
- **Permeability** ***(High interchange permeability from all directions to pedestrians):*** Yes.
- **Perception** ***(Built and urban design solutions ensuring: direct sightlines among different parts of transport interchanges, Using the same architectural style to reinforce legibility, clear relationship with the urban realm):*** Yes.
- **Comfort** ***(High standards of cleanliness and comfort):*** Partially. ZVSN guidelines for stops.
- **Safety and security** ***(Urban design ensures high levels of safety, especially in road crossing and security):*** No. Will be part of common challenges with the local authorities.

Accessibility

- **Universal design** ***(Interchange spaces are designed for all passengers, particularly those with reduced mobility):*** Partially.
- **Close proximity of modes** ***(Design solutions that reduce both actual and perceived interchange distance among means of transport):*** Partially.
- **Accessible pedestrian routes** ***(Ensure routes in the wider area are of the same accessibility standards as within the interchange facility):*** Partially.
- **Parking facilities** ***(Presence of cycle parking areas, cycle/e-car hiring spots as well as kiss and ride for cars and taxis near the interchange node):*** Partially.
- **Wayfinding** ***(Design solutions to ensure consistent, clear and comprehensible signage, to help passengers to navigate the interchange):*** Partially. Special sign "Night Owl" in the bus"Nachteule" als Name am Bus.

Service Information

- **Basic components of service information** ***(Presence of timetables, maps and real-time information):*** Partially. Information about timetables are provided via internet, brochures and specific marketing campaigns for bars, Pubs, cinemas, museums at the bus service line.
- **On line information** ***(Presence of apps/websites allowing passengers to access information in advance or while travelling. Information delivered in accessible formats):*** Partially. VSN-App.

Changing Behaviors

- **Changing perspectives** ***(Measures that help users discovering benefits of a multimodal, interconnected transport):*** Partially. Intensive Marketing campaigns, see above!

Policy, Norms and Regulations

- **Joint governance and initiatives** ***(Presence of targeted policy actions, framework conditions, recommendations, norms, etc.):*** The night owl is a first step of the ZVSN in the county of Northeim to develop an alternative to private car usage in the late evening. It's part of a road safety concept to reduce accidents and to promote public transport as an alternative.
- **Coordination and cooperation** ***(Presence of win co-operation schemes among key stakeholders, fostering modal interchange and seamless mobility):*** County of Norheim, Bus provider´s, Regional Transport Authority (ZVSN), Transport Authority (VSN).
- **Coordination and cooperation** ***(Presence of win co-operation schemes among key stakeholders, fostering modal interchange and seamless mobility):*** County of Norheim, Bus provider´s, Regional Transport Authority (ZVSN), Transport Authority (VSN).

Main results and evidences of the practice success

At the starting point of the project 35 people per night use the offer of the night owl (on average). Otherwise those people would have been driven by car. This leads to CO2 savings that can't be quantified yet. But this is just the beginning, other cities in the region have expressed interest in starting their own night owl offer.

In addition, the users of the night owl can act as multipliers by sharing their positive experiences with others especially with their friends (positive persuasion).

Going in depth into the Practice

Comments from Stakeholders and Project Partners interested in the practice

PP4 and PP5's stakeholders expressed interest in this practice. In particular the Portuguese public transport operator had already tried to develop something similar that provided a service on a regular basis during night hours. The difficulties in maintaining the service due to additional expenses (driver, technical maintenance) and low usefulness forced them to supress the service. Currently, this service only operates mostly during the day and is essentially served to commuters.

Also for the Romanian case, at the moment there is no regular night bus service in Timisoara, not even during the weekend when there are plenty of cultural and sporting events.

So, stakeholders were interested in gathering more information to see how this practice was handled, even if in a different urban environment.

Eco Bus

Extent of the practice

The "EcoBus" is a research project by Max Planck Institute for Dynamics and Self-Organization (MPIDS) in cooperation with Zweckverband Verkehrsverbund Süd-Niedersachsen (ZVSN, regional public transport authority) and Regionalverband Großraum Braunschweig (regional association wider area Brunswick). The EcoBus concept takes up the idea of the call bus and combines the advantages of taxi and bus travel by using modern network algorithms for optimized bundling of travel wishes in real time. This will allow EcoBus to offer a door-to-door transportation on demand. Passengers can book their travel wishes before they travel by app, internet or telephone. The project consists of a pilot phase, that will be placed in two different regions:

- The pilot phase in the first region takes place in the city of Bad Gandersheim and the community Kalefeld and runs over two months (June/July 2018). In this region, five on-demand minibuses (EcoBus - Mercedes Sprinter) are in use.
- The second region in the pilot phase includes the Harz region (e.g. Clausthal-Zellerfeld, Osterode am Harz).The project in the second region will start in August 2018 and runs for 6 months. In this project region will be eight on-demand minibuses in use. After completion of the pilot phase an evaluation shall be conducted.

Region/country where the practice takes place

Region 1:

Bad Gandersheim and the municipality Kalefeld are a part of the district Northeim. Both are located in the north-east of Northeim and are surrounded by agriculture, meadows and woodland. The city of Bad Gandersheim has a population of approx. 11,000 inhabitants and the municipality Kalefeld of approx. 6,600 inhabitants. The nearest major cities are Göttingen (population 134,000, distance approx. 35 km) and Brunswick (population 248,500, distance approx. 55 km).

Region 2:

The city of Osterode am Harz belongs to the county of Göttingen while the city of Clausthal-Zellerfeld belongs to the county of Goslar. Both cities are located in the south-east of Lower Saxony, a region which is called "Harz". The Harz region is popular as a tourist area and offers many opportunities, such as hiking or skiing. Another well-known city in this region is the city of Goslar. The population reaches from 15,500 in Clausthal-Zellerfeld over 22,000 in Osterode am Harz up to 51,500 in Goslar. This entire area is also characterized by its rural structures.

Website

http://ecobus.fokos.info

Promoter(s) (owners/in charge) of the practice

Name of the organization	Contact person	Role and responsibilities against the practice
MPIDS	Prof Stephan Herminghaus	head of the project
ZVSN	Mr Michael Frömming	

Type of Funding

Ministry of Science, State of Lower Saxony Zweckverband Verkehrsverbund Süd-Niedersachsen (ZVSN), regional public transport authority Regionalverband Großraum Braunschweig (regional public transport authority).

Year of introduction

June 2018

Description of the practice

In rural areas, public transport is rarely used by adults because the bus stops are too far away and the bus timetables do not fit to their own time planning. Mostly, the departure time of the bus is too early or too late to arrive at the right time. The solution of that problem is very often: “I use my own car!”.

With this new offer (EcoBus), users can choose their departure point and their destination point by themselves. The departure time can also be set by the users themselves, just the drive request has to be announced or booked with some lead time (approx. 30 minutes in advance). That makes the use of public transport much easier and more flexible. This can bring people to change their mobility behaviour and switch from their own car to the public transport.

Low-carbon means of transport touched by the practice

Key factors

Efficiency of the Interchange

- **Efficient vehicle movements** ***(Presence of sufficient space for interchange together with passenger waiting and transit facilities):*** No. The EcoBus has used the entire public road space and has served all approachable addresses and points in the operating area. As required, certain bus stops were also shared (e.g. at Kreiensen and Bad Gandersheim railway stations and at the Domänenhof in Bad Gandersheim).
- **Efficient fare payment and validation** ***(Presence of in convenient locations and devices to purchase or validate a ticket, near the interchange nodes):*** Here was used the same procedure as for regular buses: The tickets are sold on the bus by the bus driver or at the ticket agencies.

- **Flexibility in time and use** ***(Ease of Interchange node design that eases the accommodation of new modes of transport):*** No. Since the EcoBus runs everywhere, no explicit connection points had to be set up. Most relevant, however, was the station Kreiensen, where the existing bus stop was used directly at the station.

Service Coordination

- **Timetable coordination** ***(Coordinated timetables of different means of transport to reduce transfer time and improve customer convenience):*** No. The EcoBus operated without a timetable. It was up to the passenger to book their travel times of the EcoBus' coordinated with the times of other means regular transport.
- **Delay management** ***(Presence of procedures connecting services wait for each other in the event of minor delays, especially when frequencies are low):*** No. Unfortunately, there was no organized delay management, especially if the EcoBus was delayed; so it had to be calculated with sufficient time buffer. However, the passenger could simply cancel the EcoBus free of charge at the original departure time in case of delay of the regular mode and re-book easily to a new departure time. This was especially relevant at the station Kreiensen, if the trains were late.
- **Ticket coordination** ***(Presence of a comprehensive multi-modal ticketing system):*** The fair of the EcoBus was completely included in the tariff of the Verkehrsverbund Süd-Niedersachsen (VSN). Does mean that the EcoBus has the same prices as the regular service and you could easily change from the bus and train to the EcoBus (or vice versa) with the same ticket. In addition, the EcoBus, the Schöne Weekend. Ticket and especially the Niedersachsenticket recognized (the latter even sold on the bus).
- **Standardisation** ***(Presence of uniform technical, service and design specifications):*** The technology of selling tickets was exactly the same as the bus - the cash payment by the driver, who was able to generate a normal VSN paper ticket with the on-board computer. The relevant bus stop timetable also referred to the EcoBus.

Quality of the Interchange Environment

- **Permeability** ***(High interchange permeability from all directions to pedestrians):*** The EcoBus was available everywhere in the service area, where a publicly accessible road was available. It was a door-to -door service.
- **Comfort** ***(High standards of cleanliness and comfort):*** No. The EcoBus was available everywhere in the service area, where a publicly accessible road was available. It was a door-to -door service.

Accessibility

- **Universal design** ***(Interchange spaces are designed for all passengers, particularly those with reduced mobility):*** All EcoBuses were equipped with a multi-purpose storage area for larger luggage, rollators, lightweight wheelchairs (which had to be carried in the EcoBus without a passenger, the passenger had to be able to sit in a normal place), stroller and - if there was room was available - also equipped for up to 2 bicycles. The entrainment was free. For easier entry, there was an additional step and handrails. In addition, the driver was instructed to help when needed when entering and exiting.

- **Close proximity of modes** ***(Design solutions that reduce both actual and perceived interchange distance among means of transport):*** The EcoBus has held at the existing bus stops of the regular service at the connection points to the regular service the EcoBus was held directly at the.
- **Parking facilities** ***(Presence of cycle parking areas, cycle/e-car hiring spots as well as kiss and ride for cars and taxis near the interchange node):*** No. At the connection points to the regular service the EcoBus was held directly at the existing bus stops of the regular service.
- **Wayfinding** ***(Design solutions to ensure consistent, clear and comprehensible signage, to help passengers to navigate the interchange):*** Normally, there were no identifiers visible in the street image for the breakpoint of the EcoBus. Only in the app could you see exactly on a map at which point the EcoBus stops.

  If you ordered an EcoBus to a bus stop, the bus stopped there too. The local timetable notice also referred to the EcoBus.

  Only at the central stop at the Domänenhof in Bad Gandersheim near the cathedral festival, we have set up a well-visible wooden house in EcoBus design, which also marks the departure point there.

Service Information

- **Basic components of service information** ***(Presence of timetables, maps and real-time information):*** All information necessary for traveling on the EcoBus was communicated via the EcoBus app or on the booking website. The exact arrival time was sent to the passenger via SMS or push message directly to the mobile phone. Otherwise, there was only a billboard at all bus stops.
- **On line information** ***(Presence of apps/websites allowing passengers to access information in advance or while travelling. Information delivered in accessible formats):*** There was an EcoBus app and a website with a booking portal, and with information about the operating area, the service times and prices.

  An integrated route planning with other means of transport was not yet possible at that time (this feature will be available only from autumn 2019). Barrier-free EcoBus bookings were only possible with the availability of the low-floor buses in the fall of 2018 in the Harz.

Changing Behaviors

- **Changing perspectives** ***(Measures that help users discovering benefits of a multimodal, interconnected transport):*** We have informed about the project by means of posters, flyers, print advertising, household throwing programs and our own project homepage. The local and supra-local press accompanied the project sympathetically and in detail.
- We also participated in several competitions and were able to win the Special Award Environment of the Innovation Award of the district of Göttingen.

Policy, Norms and Regulations

- **Joint governance and initiatives** ***(Presence of targeted policy actions, framework conditions, recommendations, norms, etc.):*** No. The district of Northeim ympathetically supported the EcoBus pilot experiment.

- **Coordination and cooperation** ***(Presence of win co-operation schemes among key stakeholders, fostering modal interchange and seamless mobility):*** The EcoBus team of the Max Planck Institute has worked on the project together with the Regional Transport Authority (ZVSN), with the Transport Association (VSN), with the operator Regionalbus Braunschweig GmbH and with taxi provider from Bad Gandersheim. The customers could call a taxi via the EcoBus app if no EcoBus was available at the time of the request.

Main results and evidences of the practice success

The Ecobus offer makes public transport more attractive. Its operating concept makes public transport easier, faster and more flexible than the normal public transport. This creates a real alternative to the car, at least for certain start-finish combinations. As a result, people could change their behavior and switch from car use to public transport. An evaluation will be carried out after the pilot phases of the project.

Low-carbon economy

Citizens Bus Bodenfelde

MATCH-UP Interreg Europe

Extent of the practice

Municipality Bodenfelde.

Region/country where the practice takes place

Municipality Bodenfelde.

Website

http://www.bodenfelde.de/staticsite/staticsite.php?menuid=92&topmenu=4

Promoter(s) (owners/in charge) of the practice

Name of the organization	Contact person	Role and responsibilities against the practice
Municipality Bodenfelde	Mirko von Pietrowski	supporter

Type of Funding

LEADER programme: Sport and social foundation of the county of Northeim.

Year of introduction

2014

Description of the practice

The citizens bus Bodenfelde is a project of the "Initiative für Bodenfelde". This project addresses only those citizens who find it difficult to participate normally in social life in Bodenfelde due to health and financial constraints. So it cannot be understood as a competitor to existing commercial or public transport.

The passengers are picked up from their homes flexibly and cost-effectively to get to the station, to the supermarket, to the doctor or to the town hall.

Volunteer drivers of the initiative will pick up the passengers from home by telephone request to carry them to their matters within the municipality area and later bring them back home. The bus required for these trips is provided by the DLRG Ortsgruppe Bodenfelde e.V.. A team of the initiative staff will be redeploying the telephone service to coordinate the drivers and the interested person.

In the meantime the minibus drives electrically.

Low-carbon means of transport touched by the practice

Key factors

Efficiency of the Interchange

- **Efficient vehicle movements** ***(Presence of sufficient space for interchange together with passenger waiting and transit facilities):*** Enough space for interchange.

Service Coordination

- **Timetable coordination** ***(Coordinated timetables of different means of transport to reduce transfer time and improve customer convenience):*** No. Passengers have to coordinate their timetables their selves as they order the bus to get to the next train station.
- **Standardisation** ***(Presence of uniform technical, service and design specifications):*** Not applicable because the bus is divided is not really connected with other transport means via timetables, ticket purchasing etc.
- **Interchange management schemes** ***(Presence of Interchange facility management agreements identifying interfaces and responsibilities between all the parties involved in managing and serving the interchange facility):*** Not applicable because the bus is divided is not really connected with other transport means via timetables, ticket purchasing etc.

Quality of the Interchange Environment

- **Urban realm** ***(Presence of facilities that add value to the user experience, especially during the waiting time):*** There are no waiting times because the bus is picking you up at home and brings you back there.

Accessibility

- **Universal design** ***(Interchange spaces are designed for all passengers, particularly those with reduced mobility):*** Partially.

Service Information

- **Basic components of service information** ***(Presence of timetables, maps and real-time information):*** Partially.

Policy, Norms and Regulations

- **Coordination and cooperation** ***(Presence of win co-operation schemes among key stakeholders, fostering modal interchange and seamless mobility):*** Yes. Volunteers, major work together to implement the bus.

Main strengths of the practice

Joint governance and coordination

Volunteer drivers are supported by the municipality.

Municipality of Funchal

Portugal


FUNCHAL
BABOSAS

PP4: Municipality of Funchal

State of the play

The island of Madeira concentrates an enormous diversity of landscapes, vegetation, microclimates and traditions. Therefore, it has become a tourist destination of excellence thanks to the amenity of its climate and the wide variety of events promoted.

The Municipality of Funchal occupies an area of 76,15 Km2, distributed in ten parishes, in which 111.892 inhabitants, representing 41,8% of the population of the Autonomous Region of Madeira, lives in Funchal city making it the most densely populated municipality of the Region. This high population density is aggravated by an inhomogeneous occupation of the territory where the settlement of the population is mostly concentrated below 700 m. This is due to the geographical conditions, such as heightened slopes that makes it unfeasible to deploy, in most areas, building and road infrastructures. These spatial constraints often represent an additional challenge for the mobility and urban development.

The city of Funchal is the main destination for a large number of individuals residing in neighbouring municipalities. According to the latest Census, most of Funchal's commuters already lives within the Municipality´s boundaries, meanwhile only a small fraction enters daily in the city to work and/or study from the nearby ones.

Private car is the dominant mode of transportation (58,8%). Public transport represents 26,1% while pedestrian mobility represents only 13,3%. The student population have a similar trend in their home-school mobility, although in this case there is a lower percentage of individuals moving by car (46%) and a greater one traveling on public transport (30,9%), and by foot (17,9%).

According to the traffic counts carried on Funchal in 2015, more than 50.000 vehicles enters daily in the city core. A survey showed the great dependence on individual motorized transport: about 80% of households have at least 1 car, and about 30% have 2 or more cars. Surveys also revealed that travels are more frequent during the morning (from 7:00 to 9:00) and late afternoon (from 18:00 to 20:00), aggravating the road constraints. The surveys also revealed that public transport users only take buses because of lack of alternatives. This shows that citizens are indeed not inclined to switch to public transport, and is still an indicator of some dissatisfaction with the service provided.

Despite the reduction of cars number, the dominance of their use in the last decades in relation to the other modes of travel appeared to aggravate several problems in the urban system of Funchal.

Local authorities that manages the city, such as the Municipality of Funchal, are making efforts in establishing a strategic vision that is more consistent with the mobility European guidelines. This vision, materialized in the SUMP (Sustainable Urban Mobility Action Plan), outlines the most important axis to revert, in the coming years, the modal split towards intermodality embodied on interventions to boost walkability, cycling and public transport, bridged with ITS. Despite the territorial specificities and spatial impairments that greatly limits the implementation of actions to foster soft modes, the Municipality of Funchal is pursuing innovative measures that are becoming cornerstones and good practices in terms of mobility. These includes the autonomous crosswalks that bridges energetic efficiency with road safety, the Kiss & Ride approach, an action that is aimed at improving the accessibility conditions near schools, and the traffic restriction policies in the city core that also includes the introduction of pavement tailored for disabled people.

Strenghts

Following current European guidelines on mobility, the Municipality of Funchal have been developing a set of territorial instruments that guide the definition of actions leading to the promotion of multimodality in a medium-term time horizon. These mobility management support instruments, embodied in SUMP, should ensure that all citizens travel safely, comfortably, with acceptable times, affordable costs, in a context of energy efficiency and low environmental impacts. This instrument is also articulated with other urban management instruments to converge and integrate actions maximizing the impact of the same. For example, the SULP (Sustainable Urban Logistic Plan) that helps to optimize the freight operations and reduce the constraints.

The Municipality of Funchal is applying for several funding sources, namely through specific European projects, growing a technical staff to develop actions framed in intermodality improving pedestrian mobility and encouraging public transport use and shared means of transport.

Portuguese cities also have modal distribution patterns that show a dependence on fossil-fueled road transport. In order to tackle this trend, the Municipality of Funchal is pursuing a strategy comprised of frequent communication campaigns to involve the population in order to change behaviours and a consequent reversal of modal split patterns to the so-called active modes.

The strategies developed in Funchal are listed below:

- Elaboration of Mobility Plans preferably in articulation with the other territorial instruments.
- Technical reinforcement of teams to prepare applications for European projects to unlock additional funding.
- Participation in exchange and experience sharing programs with other European cities with a view to acquiring knowledge and potential transferability and adapting good practice to local reality.
- Focus on electric mobility through the implementation of charging networks for electric vehicles and renewal of municipal fleets.
- Development of technological actions within the “smart city” paradigm with implementation of sustained data collection devices that support decision making.
- Implementation of communication and awareness campaigns aimed at the various target audiences (student population, seniors, logistics agents, etc.).

Opportunities to catch

The policy instrument (SUMP) identified a vast array of issues that are common in most city centres in European cities. In the case of Funchal the following challenges are those that the Municipality intends to tackle:

- Congestion/volume of traffic in the historical centre of Funchal (mainly at peak times, taking and leaving passengers).

- Structure of the road network (dimension, slope, paving).
- Lack of information for accessibility to different areas.
- Lack of connectivity of the pedestrian network.
- Insufficiency of the public passenger transport system (urban and interurban).
- Excessive concentration of passenger transport vehicles on specific roads.
- Poor freight transport system in the city center.
- Excessive street parking in the center of the city.
- Irregular parking in charging areas (non-payment and / or parking in an inappropriate place).
- Absence of an effective and efficient system for monitoring and monitoring the transport system and mobility.

To overcome these issues, the SUMP has outlined several intervention axes that deals with parking management, freight logistics, electric mobility, bike lane expansion, public transport terminal, awareness actions and others related to walkability and increase of urban attractiveness in the city core.

Intelligent crosswalks

Extent of the practice

City of Funchal.

Region/country where the practice takes place

Funchal, Madeira Island.

Promoter(s) (owners/in charge) of the practice

Name of the organization	Contact person	Role and responsibilities against the practice
Municipality of Funchal	Lívia Silva	Head of Traffic and Mobility Division
Eyssa Tesis	João Bento	Programmer
Siemens Mobility	Liviu Ambru	Programmer

Type of Funding

CIVITAS Destinations.

The Intelligent Crosswalks was developed by a partnership between Omniflow (https://www.omniflow.pt/) and Siemens (https://new.siemens.com), with a full cost of 75.000,00 € plus VAT.

Year of introduction

2018 and 2019

Description of the practice

The practice consists of deploying LED strips into the ground at a pedestrian crossing in Funchal, close to the public transport interface as well as being near to a sought area by pedestrians and tourists. The measure aims to reinforce road safety especially for pedestrians who are too distracted by their smartphones to bother looking at the road, telling them when to cross and when not to cross by either glowing green or red, depending on the traffic light signals. It also allows a safe and smooth access to the downtown. Also, another system was deployed on a sought touristic area that bridges energetic efficiency with road safety. An impact study was made before implementing the intelligent crosswalks. An urban renovation plan was carried out to assess road safety using local authorities data (accidents, runovers) and energetic efficiency (type of public lighting, intensity of luminosity). The diagnostic revealed the areas where act in terms of reinforcing road safety near crosswalks and improve the public lighting. A GIS processing tool was crucial in this process using buffer analysis for lighting coverage area as well as to further identify spatial patterns with regard to accidents.

This system relies on a renewable and solar energy generation and storage solution (solar and wind) that powers energy production systems that are intended to be used for residential purposes, commercial, telecommunications and lighting systems. Using solar panels and a wind turbine, on a typical day, the system is able to produce 9 Kwh. It gathers and recharges, during the day, the energy collected from wind and solar panel and uses it to enable the crosswalk during the night. This means that the system does not use local energy. The system is programmed to enable the crosswalk during specific period of time and accordingly to season (during winter, it is activated later whilst, during summer, it is activated early). The system integrates several modules, namely video capture, energy performance optimizer, Wi-Fi network, among others that can be integrated in the future as automobile traffic counters, charging for electric vehicles, etc..

The system is fully autonomous; so it needs very limited maintenance costs. It might be necessary to clean periodically the motion detectors that are deployed on the traffic signs. The lights (led) have quite an extensive lifespan (+10 years) and, in this case, are only activated during nighttime.

The Intelligent Crosswalks also collect a vast array of variables (66), for example the following indicators:

- light intensity applied to the LEDs;
- turbine rotation speed (assess wind);
- solar panel voltage (PV) on MPPT solar charger;
- historical data of production;
- battery voltage;
- LEDs mode operating.

Although, in some cases, a CCTV is attached to the system, the Intelligent Crosswalks cannot count the number of pedestrians using crosswalk. To do this it would be necessary to develop a video analysis software in order to collect data related to traffic flow.

To measure the reduction of accidents thanks the implementation of intelligent crosswalks implemented, local authorities of Funchal refers to indicators used to assess the impact of the measure. But the full data will only be made available by January 2020.

The system was introduced next to a few pedestrian crossings, allowing also the reinforcement of the pedestrian safety in the crossing by incorporating intelligent lighting, that is, when detecting a pedestrian that intends to cross, the light on the floor and the upper illumination are automatically activated, increasing the visibility of pedestrian crossing for drivers.

Nevertheless, the first positive results are:

- According to newspaper clipping related to road accidents, zero accidents were reported since the system was deployed.
- Reduction of energy consumption as that the lighting is fully powered by renewable energy sources (wind and solar).
- Potential cooperation with other municipalities to replicate the measure.

The intelligent crosswalks have been quite well received by local traders as well as tourists as being an innovative and visually attractive measure.

Low-carbon means of transport touched by the practice

Key factors

Efficiency of the Interchange

- **Clear pedestrian routes** ***(Presence of clear and direct routes for pedestrians connecting walking routes, facilities and destinations, as well as helping to select shortest-distance 'desire lines' within the interchange space):*** The smart cross in particular leads in a safer way, pedestrians to the public transport interface.

Quality of the Interchange Environment

- **Urban realm** ***(Presence of facilities that add value to the user experience, especially during the waiting time):*** The solution allows bypassers to access internet through wifi.
- **Safety and security** ***(Urban design ensures high levels of safety, especially in road crossing and security):*** Road crossing was improved with the implementation of motion sensors on the pavement. Also, CCTV was deployed, along with usb chargers and wi-fi.

Main strengths of the practice

Urban design features for interchange friendly urban spaces

Redesign of crosswalks combining traffic design with ITS and innovative technology.

Urban and transport planning integration

Transferability of this solution to other crosswalks that are marked by a considerable volume of road traffic.

Technological support for intermodality

The measure has a very strong emphasis on technology.

Other

The innovative traits of the implemented solution may promote the city of Funchal as a site with good mobility practices.

Main results and evidences of the practice success

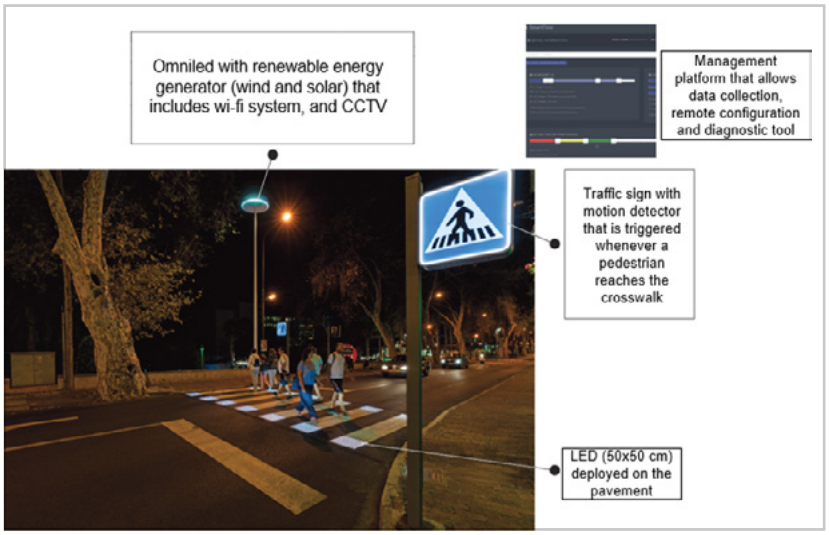
Although there are no indicators available, due to the fact that the measure was implemented very recently, traffic accidents will be monitored, to evaluate if the solution contributed effectively to improve road safety near the crosswalk. Also, it's important to stress on the improved energetic performance and less energetic consumption.

Going in depth into the Practice

Comments from Stakeholders and Project Partners interested in the practice

PP2 and PP5's stakeholders were very interested in this practice. The Irish partner would like to incorporate Intelligent Crosswalks into on-going projects adapting and choosing which attributes are best suited in the context of Ireland.

Also for the Romanian partner considered the action a very useful tool for increasing pedestrian safety in busy towns and cities, a great solution that will definitely lead to the decrease of road accidents in the city.



Kiss & Ride

Improving Pedestrian Access near schools

Extent of the practice

City of Funchal.

Region/country where the practice takes place

Funchal, Madeira Island.

Promoter(s) (owners/in charge) of the practice

Name of the organization	Contact person	Role and responsibilities against the practice
Municipality of Funchal	Lívia Silva	Head of Traffic and Mobility Division
Eyssa Tesis	João Bento	Programmer
School		Administration

Type of Funding

Municipal budget.

Year of introduction

2018

Description of the practice

The practice consists of reinforcing road safety near schools through the implementation of traffic signs and road markings. The kiss and ride concept aims to ensure that parents can leave their children in a safe, efficient way near schools without creating traffic constraints in the surrounding area. It also serves as a measure to promote pedestrian mobility. It should be noted that the intervention also implies improving the accessibilities around the public transport dedicated stops.

Low-carbon means of transport touched by the practice

Key factors

Efficiency of the Interchange

- **Efficient vehicle movements** *(Presence of sufficient space for interchange together with passenger waiting and transit facilities):* One major advantage relies on the possibility of

drivers to temporarily park their vehicle near the sidewalk, on a dedicated parking spot, without creating constraints for other drivers, while allowing their children to leave the vehicles in a safe way.

- **Clear pedestrian routes** ***(Presence of clear and direct routes for pedestrians connecting walking routes, facilities and destinations, as well as helping to select shortest-distance 'desire lines' within the interchange space):*** The intervention allows a clear route from the leave and pick off area to the school.
- **Flexibility in time and use** ***(Ease of Interchange node design that eases the accommodation of new modes of transport):*** The intervention allowed intermodality since it contributed to increase the accessibility conditions for school for pedestrians and public transport users.

Quality of the Interchange Environment

- **Perception** ***(Built and urban design solutions ensuring: direct sightlines among different parts of transport interchanges, using the same architectural style to reinforce legibility, clear relationship with the urban realm):*** The actions were comprised of road markings dedicated for temporary parking, introduction of urban furniture to allow a safer pedestrian mobility and reinforcement of sidewalks.
- **Comfort** ***(High standards of cleanliness and comfort):*** Creation of waiting and leaving area for drivers to leave their children near schools.
- **Safety and security** ***(Urban design ensures high levels of safety, especially in road crossing and security):*** Reinforcement of traffic signs (reduced speed) and introduction of traffic calming measures such as road markings.

Changing Behaviors

- **Changing perspectives** ***(Measures that help users discovering benefits of a multimodal, interconnected transport):*** The intervention showcases the importance of fostering defensive driving as well as the importance of leaving children safely near schools.

Policy, Norms and Regulations

- **Coordination and cooperation** ***(Presence of win co-operation schemes among key stakeholders, fostering modal interchange and seamless mobility):*** Schools are beginning to request this measure.

Main strengths of the practice

Urban design features for interchange friendly urban spaces

The measure leads to sustainability due to the fact that relieves traffic pressure and makes space for implementing several traffic calming measures. The redesign is mostly comprised of geometrical adjustments upon the pavement, road markings and traffic signs in the area surrounding the school.

Urban and transport planning integration

The measure balances pedestrian mobility and public transport since it improves the structural conditions for walking and the public transport accessibilities.

Interoperability of the transport services

Foster the establishment of partnerships with schools.

Joint governance and coordination

Foster the establishment of partnerships with schools.

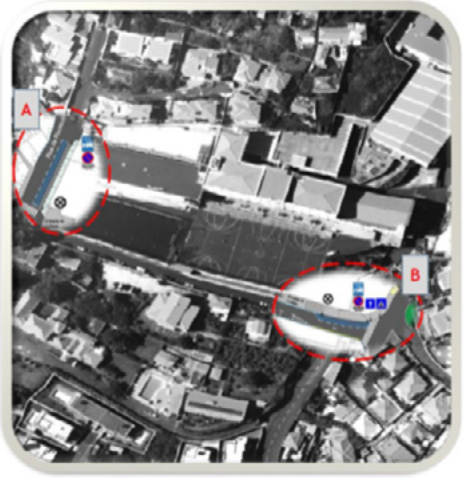
Other

Transferability of the good practice (6 schools have already requested the implementation of a Kiss and Ride corridor).

Main results and evidences of the practice success

Although we can´t monitor the impact of the measure, it is expected that the solution, as well as with the other sites in which the kiss & ride was implemented, will contribute for the following:

- Road safety improvement;
- Reduction of traffic constraints (illegal parking, less car occupancy);
- Improvement in pedestrian (students) accessibility.



Low-carbon economy

Pedestrianization and road restriction policies to foster walking

MATCH-UP Interreg Europe

Extent of the practice

City of Funchal.

Region/country where the practice takes place

Funchal, Madeira Island.

Promoter(s) (owners/in charge) of the practice

Name of the organization	Contact person	Role and responsibilities against the practice
Municipality of Funchal	Lívia Silva	Coordinator/organizer

Type of Funding

National funding (Operational Programme Madeira 14-20).

Year of introduction

2019

Description of the practice

Within the various strategic axes, pedestrianization has particularly contributed to increase urban attractiveness within the area: relying on implementing restrictions to car access, it has allowed only load and unload operations and emergency vehicles in the pedestrian area. In terms of pedestrian mobility, the enlargement of pedestrian lanes and the implementation of urban furniture and road markings to facilitate the circulation for people with sensorial disabilities have been extremely valuable. As for the traffic flow, the road network in the surrounding area was adjusted to reduce the traffic in the area, thus discouraging drivers to enter the city core. These measures were monitored through the gather of several key indicators, as well as a qualitative approach geared at local traders to further assess the receptiveness of the measures as well as their impact following the implementation. The adjustment of the traffic in the area is an example of how Funchal has identified an issue in its pedestrian operation and therefore had to implement corrective measures.

Low-carbon means of transport touched by the practice

Key factors

Efficiency of the Interchange

- **Clear pedestrian routes** ***(Presence of clear and direct routes for pedestrians connecting walking routes, facilities and destinations, as well as helping to select shortest-distance 'desire lines' within the interchange space):***

  - the intervention contributed to suppress the irregularities regarding the national accessibility law;
  - the urban rehabilitation took place in one of the most important streets in the city core;
  - local traders are shown to be receptive towards the measure, since it allowed to reduce car traffic and boost economic sales (will be assessed in the next semester);
  - the intervention proved to increase attractiveness.

Quality of the Interchange Environment

- **Urban realm** ***(Presence of facilities that add value to the user experience, especially during the waiting time):*** The intervention also aims to improve urban attractiveness within the area, namely through urban furniture to increase comfort and safety.
- **Perception** ***(Built and urban design solutions ensuring: direct sightlines among different parts of transport interchanges, using the same architectural style to reinforce legibility, clear relationship with the urban realm):*** In terms of urban design, the same actions are being applied, namely the deployment of road markings for people with sensorial disabilities and pavement tailored for pedestrian use.
- **Comfort** ***(High standards of cleanliness and comfort):*** Furniture will be deployed within these areas, namely waiting areas, benches, public lighting (increase).
- **Safety and security** ***(Urban design ensures high levels of safety, especially in road crossing and security):*** Traffic calming measures were deployed to prevent the entrance of vehicles (bollards). Also, it includes changing the traffic circulation in the surrounding area to reduce the traffic volume.

Accessibility

- **Universal design** ***(Interchange spaces are designed for all passengers, particularly those with reduced mobility):***

  The practice introduced measures for people with sensorial disabilities that includes the suppression of urban obstacles, introduction of elevated crosswalks and reduction of slope height between the sidewalk and the lane for a more efficient mobility for wheelchairs, following the national law for accessibility. The idea is to progressively create an even more accessible network that will covers the city center.

  In particular lanes with special pavement have been gradually introduced to lead people with sensorial disabilities, through auxiliary canes, to crosswalks and other areas in the city.

  The material for this kind of surface should be distinct from the pavement that is normally used and it was also discussed with a group of visually impaired pedestrians (users) in order to obtain the best system selection.

  Furthermore, for the SUMP, an exhaustive accessibility audit was carried out in which the difficult areas for pedestrian mobility were highlighted. This accessory tool is actually the

blueprint to plan additional interventions to improve accessibility in the city core.

Changing Behaviors

- **Changing perspectives** ***(Measures that help users discovering benefits of a multimodal, interconnected transport):*** The intervention will demonstrate the benefits of closing down streets to traffic, in terms of local development, sustainability and urban attractiveness.

Policy, Norms and Regulations

- **Joint governance and initiatives** ***(Presence of targeted policy actions, framework conditions, recommendations, norms, etc.):*** Despite some resistance, local traders are expected to gradually accept the measure.
- **Coordination and cooperation** ***(Presence of win co-operation schemes among key stakeholders, fostering modal interchange and seamless mobility):*** Despite some resistance, local traders are expected to gradually accept the measure.

Main strengths of the practice

Urban design features for interchange friendly urban spaces

Pedestrianization including also road markings tailored for disabled people.

Urban and transport planning integration

Connection between pedestrian and public transport modes.

Joint governance and coordination

Establishment of partnerships in order to enhance the impact of the measure (local traders, local authorities).

Other

The innovative traits of the implemented solution may promote the city of Funchal as a site with good mobility practices.

The cost was not a factor in the decision-making process. Moreover, actually there are several funding tools that supported the implementation of the measure, since it is increasingly important developing actions related to inclusive mobility.

Main results and evidences of the practice success

Measures related to pedestrianization that imply changing mobility patterns are often met with criticisms among citizens and local traders. Therefore, a communication campaign took place in order to ensure a better receptiveness. The campaign focused on a successful case study and the gathering of key indicators such as traffic counts and estimative of pollutant emissions.

Some data was already gathered that shows the benefits of shutting down this area to car traffic. For this particular example, the street “Fernão Ornelas” was used, considering its importance.

Traffic volume in the intervention area (%)				
Street name	**Type of vehicle**	**2015 (before**	**2018 (after)**	**Difference (%)**
Dr.º Fernão de Ornelas	Light passenger vehicles	1957	346	-82,3
	Light Duty vehicles	86	30	-65,1
Total		***2043***	***376***	***-81,6***

Greenhouse pollutants annual emissions (Ton/CO2)			
Street name	**2015 (before)**	**2018 (after)**	**Difference (%)**
Dr.º Fernão de Ornelas	0,2936	0,1256	-0,57

Going in depth into the Practice

Comments from Stakeholders and Project Partners interested in the practice

PP2's stakeholders were very interested in this practice, to transfer some aspects that assisted people with sensory disabilities and mobility issue into ongoing projects

Low-carbon economy

Public transport fare reduction

MATCH-UP
Interreg Europe

Extent of the practice

Regional.

Region/country where the practice takes place

Funchal, Madeira Island.

Website

www.horariosdofunchal.pt

Promoter(s) (owners/in charge) of the practice

Name of the organization	Contact person	Role and responsibilities against the practice
Horários do Funchal	Claudio Mantero	Project Manager

Year of introduction

2019

Description of the practice

In order to increase the competitiveness of public transport, the regional government reduced the costs of public transport. The measure is expanded to all public transport operators and the improved prices are geared for students (it is free for children with ages inferior to 12), youngsters and elderly. This measure was implemented in order to tackle the dependence related to individual motorized transport and foster the use of public transport.

Low-carbon means of transport touched by the practice

Key factors

Service Coordination

- **Ticket coordination** *(Presence of a comprehensive multi-modal ticketing system):* This measure allows for an integrated ticket system encompassing public transport operator on several levels.

Service Information

- **Basic components of service information** ***(Presence of timetables, maps and real-time information):*** The features of the new fare was highlighted on the public transport operators website.
- **On line information** ***(Presence of apps/websites allowing passengers to access information in advance or while travelling. Information delivered in accessible formats):*** One of the public transport operators has already developed an app that highlights the service.

Changing Behaviors

- **Changing perspectives** ***(Measures that help users discovering benefits of a multimodal, interconnected transport):*** The intervention will demonstrate the benefits of closing down streets to traffic, in terms of local development, sustainability and urban attractiveness.

Policy, Norms and Regulations

- **Joint governance and initiatives** ***(Presence of targeted policy actions, framework conditions, recommendations, norms, etc.):*** The measure is a result of a national policy that was regionally adapted.

Main strengths of the practice

Urban design features for interchange friendly urban spaces

Pedestrianization including also road markings tailored for disabled people.

Urban and transport planning integration

Connection between pedestrian and public transport modes.

Joint governance and coordination

Establishment of partnerships in order to enhance the impact of the measure (local traders, local authorities).

Other

The innovative traits of the implemented solution may promote the city of Funchal as a site with good mobility practices.

Municipality of Timisoara

Romania

Primăria Municipiului
Timişoara


S.T.P.T.
CATEDRALA
MITROPOLITANĂ
5160

PP5: Municipality of Timisoara

State of the play

With a population of 329.003 (1 July 2018), the Timișoara is among the first four biggest cities in Romania. With more than 40.000 students studying at the big universities in the city, the city is one of the biggest university centres in the country.

Timișoara is the largest city in western Romania, the seat of the Timiș County and the biggest business, cultural and scientific centre in the Banat region. Being one of the biggest economic centres in the country, second after the capital Bucharest, Timișoara influences the west part of Romania, making it very attractive at regional, national and international level. The city is located along the Pan-European Corridor IV that connects Central Europe, the Balkans and the cities in south-east Europe. It borders Serbia and Hungary, and lies 550 km away from the capital Bucharest and 520 km away from Vienna, having a complex system of regional transportation, providing road, air and rail connections to major cities in Romania and Europe.

Timișoara polarizes most its neighbouring localities in terms of population and economical influence, being an Urban Growth Pole. the city's public transport network covers almost all areas of the city and it also connects Timișoara with some of the communes in the metropolitan area. It consists of trams (8 lines), trolleybuses (6 urban lines and 2 metropolitan lines), buses (18 urban lines, 10 metropolitan lines and 10 school lines), vaporetto (1 line), bicycles (34 stations) and e-scooters (3 stations).

Starting with 2017, the city has a traffic monitoring and management system which includes: traffic lights subsystem, traffic management and control subsystem, public transport management subsystem, video surveillance and communication subsystem, road traffic law enforcement detection subsystem, and information and mobility subsystem.

The Municipality of Timișoara follows the Sustainable Urban Mobility Plan as a policy instrument that covers the Growth Pole Timișoara (the city and 15 neighbouring communes) for the period 2016-2030. The SUMP focuses on creating a sustainable transport and the sustainable development of mobility in the metropolitan area that would meet the needs of the community by following five strategic objectives: accessibility by offering citizens various transport options, safety and security for passengers, environment by reducing pollution and energy consumption, economic efficiency of transport for people and goods, and quality of the urban environment.

Strenghts

The Municipality of Timișoara can share some good practices in the field of multimodal transportation such as:

- Extensive local public transport infrastructure and facilities: trams, trolleybuses, buses, transport on water.
- Intermodal initiatives: connecting public bike services with the other means of public transport.
- Electric e-scooters for students.
- Experience in international projects focused on environmental protection.
- Public transport for disabled persons on request.
- School buses service for pupils in an attempt to decongest traffic around schools.

Opportunities to catch

Even though Timișoara has a very good policy instrument, the Sustainable Urban Mobility Plan, a more integrated approach towards a multimodal transport strategy is actually missing. An integrated multimodal strategy should allow the city to give more consistent solutions to overall urban mobility issues and to manage the current mobility infrastructure and integrate all future projects developed and financed by both the local budget and other external funds.

What the Municipality would like to address and improve:

- Park and drive systems.
- Transport policies efficiency.
- Intermodal transport – policies and infrastructure.
- Educational dimension of public policies, which may help the further improvement of public transport mobility and strengthen the promotion of alternative modes of transport for reducing traffic congestion and CO2 emissions.
- Health and environmental issues and benefits related to public intermodal transport.

Low-carbon economy

Modernization of the intermodal public transportation stations within the Growth Pole Timisoara

MATCH-UP Interreg Europe

Extent of the practice

Timisoara Growth Pole (Timisoara and its surrounding territorial administrations).

Region/country where the practice takes place

West Region / Romania.

Website

www.velotm.ro

Promoter(s) (owners/in charge) of the practice

Name of the organization	Contact person	Role and responsibilities against the practice
Municipality of Timisoara	Dana Neacsu	Project Coordinator
Public Transportation Society of Timisoara	Nicolae Bitea	General Manager

Type of Funding

ERDF, national and local budget. The total cost of the system was approx. 619.000€.

Year of introduction

29.05.2015, still in force

Description of the practice

The main objective of the project was to contribute to the development of an intermodal travelling infrastructure using public transportation and ecological means of transportation in order to reduce the overwhelming use of private cars. The main purpose was the reduction of the greenhouse gases emissions and the improvement of the urban mobility within the region by initiating a shift in mobility behavior and providing people with a choice when opting for different travelling options and combining them within an intermodal mobility network.

The functionality of the present intermodal infrastructure targets the use of at least two means of transportation in order for someone to arrive at the destination. Therefore, people departing from the outskirts of the city will use public transportation as it may be useful to a point, then they will use the bicycle to arrive at the destination.

The following were accomplished:

- A network of 25 self-service bicycle stations all around the city, located next to tramway, trolleybus and bus stops for users to be able to easily change the means of transport towards their destination.

- The development of a coherent network of bicycle tracks within the territorial administration of Timisoara Municipality.
- The acquisition of 300 bicycles for public transport.
- The rehabilitation of over 23 km of bicycle tracks.
- Replacing 8 public transportation stops and the construction of 3 new ones, in order to facilitate the use of public transportation and to upgrade the comfort and the safety of passengers.
- A promotion campaign for the benefits of using bicycles as a means of public transportation.

The service is promoted by the Municipality of Timisoara and by the local Public Transport Society on a regular basis, usually yearly, on specific occasions such as Mobility Day or Public Transport Day, when the employees ride the bikes across the city.

The system does not provide information about the user profile. Anyway the latest data show that on 30th September 2019 there were 23.986 registered users, meanwhile between 01/06/2015 and 30/09/2019 there were on average 783 users per day.

Low-carbon means of transport touched by the practice

Key factors

Efficiency of the Interchange

- **Efficient vehicle movements** ***(Presence of sufficient space for interchange together with passenger waiting and transit facilities):*** There is enough space for interchange.
- **Clear pedestrian routes** ***(Presence of clear and direct routes for pedestrians connecting walking routes, facilities and destinations, as well as helping to select shortest-distance 'desire lines' within the interchange space):*** Many sidewalks in the city have clear/well-defined pathways for pedestrians and for bicycles.
- **Efficient fare payment and validation** ***(Presence of in convenient locations and devices to purchase or validate a ticket, near the interchange nodes):*** The Local Public Transport Company currently has 17 kiosks/points of sale spread around the city near big interchange nodes where people can purchase tickets (paper tickets and electronic wallet). Newspaper stands sell only paper tickets for public transportation. All means of transportation have validation machines mounted inside, which can be used for validation of both classic paper tickets and electronic wallets. Also, for people who want to pay the ticket by phone, there is an online app they can download and use - 24pay. Signs with the app are on every means of transportation, so all people have to do is scan a QR code and pay for the ticket.

  350 POS for easy purchase of tickets (by contactless card issued by any bank) on trams, trolleybuses, buses and vaporettos – to be installed on all means of transport by June 2019. In two- months time, the payment for tickets via sms will also be implemented.

Service Coordination

- **Timetable coordination** ***(Coordinated timetables of different means of transport to reduce transfer time and improve customer convenience):*** Timetables are coordinated for departures and arrivals, some means of transport on various routes are supplemented in order to reduce passenger waiting and transfer time. The timetable was established in such a manner so that the means of transport arrive at the stop in time regardless of traffic. There is a dispatch which is connected with the electronic panels in the stops and the GPS system on the means of transport.
- **Ticket coordination** ***(Presence of a comprehensive multi-modal ticketing system):*** The Local Public Transport Company manages an integrated ticketing system, used on all means of transport. There is an electronic wallet people use for all means of transport, and the paper tickets are valid on all means of public transport. The bikes' electronic system requires the use of the electronic wallet which is used for all other means of transport (the electronic wallet system was implemented in 2008).
- **Standardisation** ***(Presence of uniform technical, service and design specifications):*** The Public Transport Company is authorized to have repairs on their own vehicles, which is done according to the procedures in the user manual.

Quality of the Interchange Environment

- **Comfort** ***(High standards of cleanliness and comfort):*** Trash bins are placed close to bus stops. Every stop is illuminated during the night time. Stops are covered and have benches for people to use while waiting. The means of transport and the stops are cleaned on a daily basis.
- **Safety and security** ***(Urban design ensures high levels of safety, especially in road crossing and security):*** Most traffic lights in Timisoara are equipped with surveillance cameras, especially in major road junctions. All means of transport are equipped with video surveillance inside. All bikes in the VeloTM system have GPS trackers on them.

Accessibility

- **Universal design** ***(Interchange spaces are designed for all passengers, particularly those with reduced mobility):*** The rehabilitated trams, the trolleybuses and the articulated buses are equipped with boarding ramps for people with reduced mobility. There is also a green line for people with reduced mobility where they can announce the fact that they need assistance for boarding at a certain stop and a certain hour of the day.

Service Information

- **Basic components of service information** ***(Presence of timetables, maps and real-time information):*** Timetables are available in every bus, tram, and trolleybus stop. Some stops have electronic boards announcing the departure times.

  Timetables and maps are available online http://www.ratt.ro/grafice_scoala.html or http://www.stpt.ro/grafice_scoala.html.
- **On line information** ***(Presence of apps/websites allowing passengers to access information in advance or while travelling. Information delivered in accessible formats):*** There are two mobile applications that provide passengers with free direct access to real time bus information via mobile phones.

The website http://www.transporturban.ro/ro/timisoara gives passengers the opportunity to access a route planner.

Policy, Norms and Regulations

- **Sharing solutions** ***(Activation of technical planning tables, shared decision processes with citizens and users, to build solutions enabling modal interchange and seamless mobility):*** The online forums on public transport (where passengers share ideas and give feedback on various decisions, etc.) was established in 2008, when the current ticketing and fleet monitoring systems were implemented, in order to bring feedback from the users of these systems. Anyone can register on the forum, but the validation of the accounts is done manually by the administrator within 24 hours after the member's registration. This is in order to effectively eliminate spammers attracted by the possibility of posting ads on the page.

  The forum is advertised on the website homepage and also on the display panels in the stations. Administrators and moderators can be contacted by members through "personal messaging" or by email if they made it public.

  The forum (both hardware and software administration) is operated by STPT - Societatea de Transport Public Timișoara.

Main results and evidences of the practice success

The modernization and promotion of ecological transport contributes substantially to the reduction of pollutant emissions in the atmosphere, of dust, noise levels, etc, thereby implicitly increasing traffic comfort and safety.

A safer and more secure urban environment could encourage citizens to make more use of public transport, cycling and walking, which not only would reduce traffic congestion and reduce emissions but would also have positive effects on people's health and well-being.

Number of persons using public transport (trolley buses, tramways, buses) in Timisoara:

• 2016 – 159.395

• 2017 – 162.143

• 2018 – 159.211

Number of persons using VeloTm (bicycle public transport):

• 2016 – 16.500

• 2017 – 20.700

• 2018 – 22.794

There has been an increase in the use of public transport means over the past three years due to the improvements made in terms of infrastructure, the rehabilitation of bike lanes, the purchase of bicycles for the citizens to use as an alternative means of transport (citizens can use them for free for one hour to travel from their location to another location by changing with another mean of transport (i.e. tram, trolleybus, bus) in order to reach their destination. The number of bicycles users would be even higher, but the bike service is suspended during winter because of harsh weather conditions.

As for the CO2 reduction indicators, there are four monitoring stations for air quality in Timisoara. You can find the daily indicators transmited by these stations at http://www.calitateaer.ro.

Going in depth into the Practice

Comments from Stakeholders and Project Partners interested in the practice

PP3 and PP4 ‘s stakeholders were very interested in this practice.

The SUMP in Funchal has outlined as a goal for the upcoming years the promotion of bicycle use. So, the Municipality made a procurement to identify the driving factors and the barriers for this type of vehicle. Given the several hampering factors for cycling in Funchal, that ranges from heightened slopes to the narrowness of the road network, implementing mobility services related to bicycles are indeed one of the biggest challenges in Funchal within the mobility strategy. So, stakeholders are interested on what cities are doing to promote bike use, although in different environmental contexts.

Public naval transport

Extent of the practice

Timsoara / Timis / West Region / Romania.

Region/country where the practice takes place

Timis / Romania.

Website

http://stpt.ro/vaporetto

Promoter(s) (owners/in charge) of the practice

Name of the organization	Contact person	Role and responsibilities against the practice
Municipality of Timisoara	Magdalena Nicoara	Project Manager
Public Transportation Society of Timisoara	Nicolae Bitea	General Manager

Type of Funding

ERDF, national and local budget.

Year of introduction

2018, still in force.

Description of the practice

Being aware of the great potential of the Bega Canal and its banks, the Municipality of Timisoara envisaged a plan to develop the area for tourism, sports and passenger (public transport and leisure) transportation on water: making new pathways for pedestrians and lanes for bicycles along the banks of the Bega, also as an alternative to issues raised by vehicles; protecting and capitalising the green areas; modernizing the public spaces; improving leisure possibilities and the quality of urban space; creating new access ways to reach

the water; improving pedestrian/cycling traffic over the construction of new bridges and encouriging the development of a connection between residential districts and the waterfront through the creation of pedestrian/bike lanes.

The specific infrastructure which has been created on the Bega Canal will have as its main outputs:

- Adding a new mean of public transportation.
- Enlarging the public transportation infrastructure: 7 vaporetto, 50 places each and 9 ticketing/waiting stations.

- It facilitates traveling from the city's outskirts to its centre.
- It reduces the duration of travelling, avoiding rush hours.
- It connects cycling tracks with vaporetto stations, therefore adding to the intermodal means of transportation.

Low-carbon means of transport touched by the practice

Key factors

Efficiency of the Interchange

- **Efficient vehicle movements** ***(Presence of sufficient space for interchange together with passenger waiting and transit facilities):*** There is enough space for interchange.
- **Clear pedestrian routes** ***(Presence of clear and direct routes for pedestrians connecting walking routes, facilities and destinations, as well as helping to select shortest-distance 'desire lines' within the interchange space):*** There are clear/well-defined pathways for pedestrians and for bicycles along the Bega Canal.
- **Efficient fare payment and validation** ***(Presence of in convenient locations and devices to purchase or validate a ticket, near the interchange nodes):*** The Local Public Transport Company currently has 17 kiosks/points of sale spread around the city near big interchange nodes where people can purchase tickets (paper tickets and electronic wallet). Newspaper stands sell only paper tickets for public transportation. All means of transportation have validation machines mounted inside, which can be used for validation of both classic paper tickets and electronic wallets. Also, for people who want to pay the ticket by phone, there is an online app they can download and use - 24pay. Signs with the app are on every means of transportation, so all people have to do is scan a QR code and pay for the ticket.

  350 POS for easy purchase of tickets (by contactless card issued by any bank) on trams, trolleybuses, buses and vaporettos – to be installed on all means of transport by June 2019. In two-months time, the payment for tickets via SMS will also be implemented. The tickets for vaporetto (naval transport) can be purchased on board from the captain.

Service Coordination

- **Ticket coordination** ***(Presence of a comprehensive multi-modal ticketing system):*** The Local Public Transport Company manages an integrated ticketing system, used on all means of transport. There is an electronic wallet people use for all means of transport, and the paper tickets are valid on all means of public transport. The bikes' electronic system requires the use of the electronic wallet which is used for all other means of transport (the electronic wallet system was implemented in 2008).

Quality of the Interchange Environment

- **Comfort** ***(High standards of cleanliness and comfort):*** Trash bins are placed close to bus stops. Every stop is illuminated during the night time. The stops and the vaporettos are cleaned on a daily basis.

- **Safety and security** ***(Urban design ensures high levels of safety, especially in road crossing and security):*** Most of the traffic lights in Timisoara are equipped with surveillance cameras, especially in major road junctions. All bikes in the VeloTM system have GPS trackers on them.

Accessibility

- **Universal design** ***(Interchange spaces are designed for all passengers, particularly those with reduced mobility):*** The interchange spaces along the Bega Canal are designed for all passengers, including for those with reduced mobility – there are ramps that make the access to the vaporetto stops very easy.
- **Close proximity of modes** ***(Design solutions that reduce both actual and perceived interchange distance among means of transport):*** The importance of naval transport to reduce the duration of travelling, avoiding rush hours. There is a connection between cycling tracks and vaporetto stations.

Service Information

- **Basic components of service information** ***(Presence of timetables, maps and real-time information):*** Timetables and maps are available online http://www.ratt.ro/grafice_scoala.html or http://www.stpt.ro/grafice_scoala.html.
- **On line information** ***(Presence of apps/websites allowing passengers to access information in advance or while travelling. Information delivered in accessible formats):*** Schedule of vaporettos is available on http://www.ratt.ro/grafice_scoala.html or http://www.stpt.ro/grafice_scoala.html.

Policy, Norms and Regulations

- **Sharing solutions** ***(Activation of technical planning tables, shared decision processes with citizens and users, to build solutions enabling modal interchange and seamless mobility):*** There are online forums on public transport where passengers share ideas and give feedback on various decisions, etc..

Main results and evidences of the practice success

- 7 vaporettos – public transport started in 2018, and more than 5.000 people have used this means of transport as of last year.
- 9 self-service bicycle stations with 140 bicycles were added to the VeloTm bike service.

MATCH-UP

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