Making Bologna's public transport and mobility services smarter and more sustainable

Mauro Borioni - Metropolitan City of Bologna

BOLOGNA in European transport & mobility

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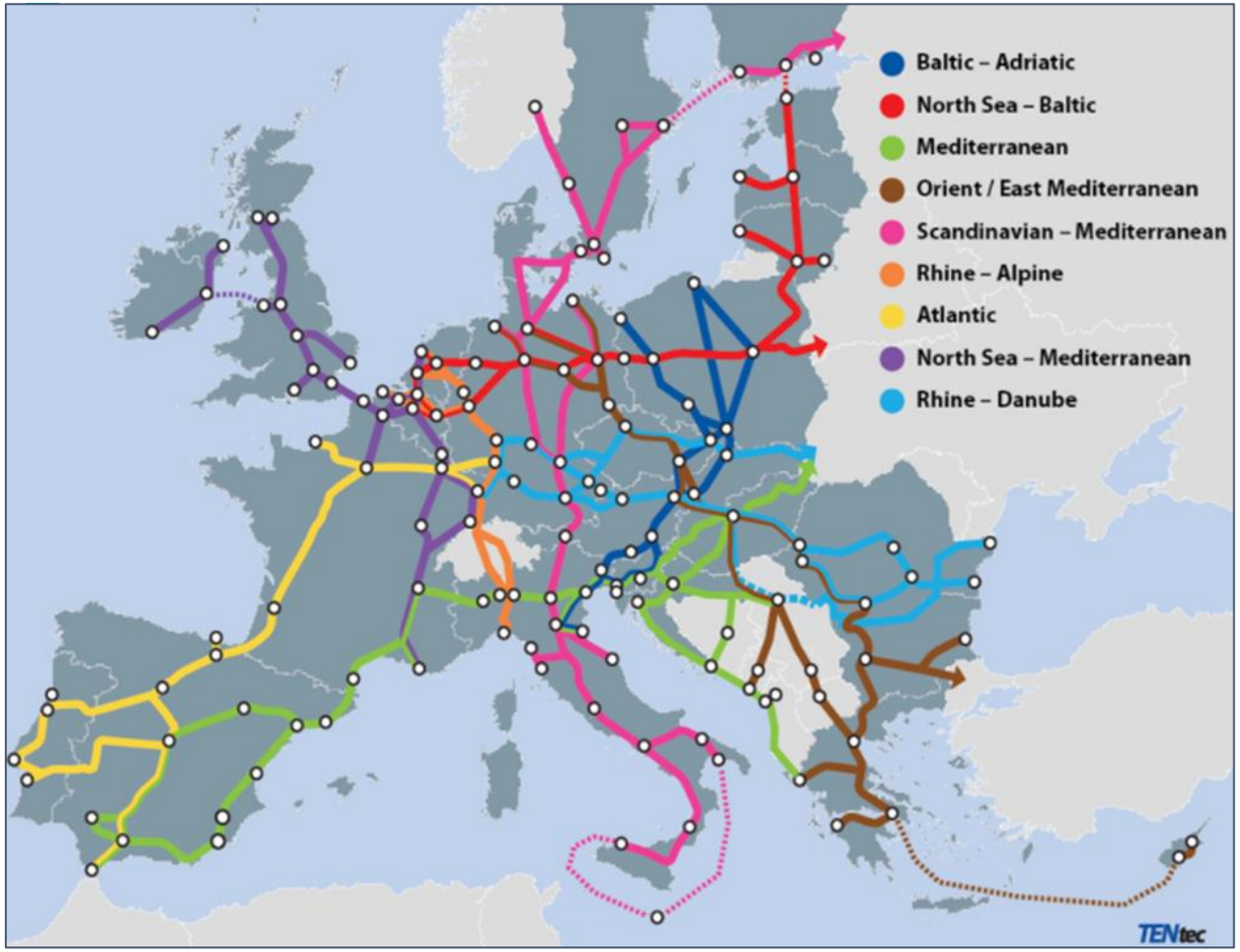
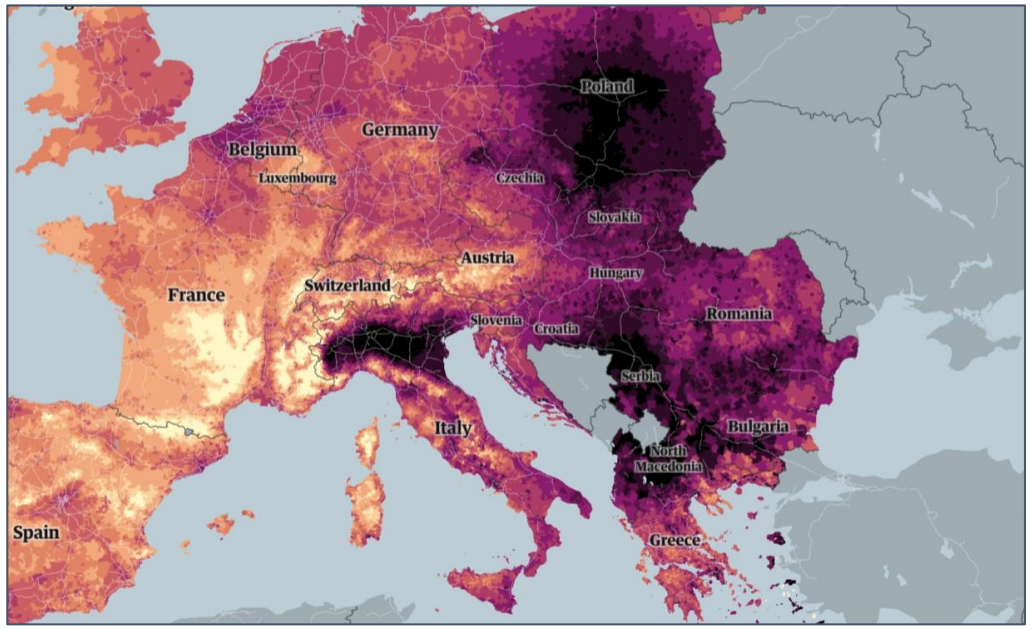


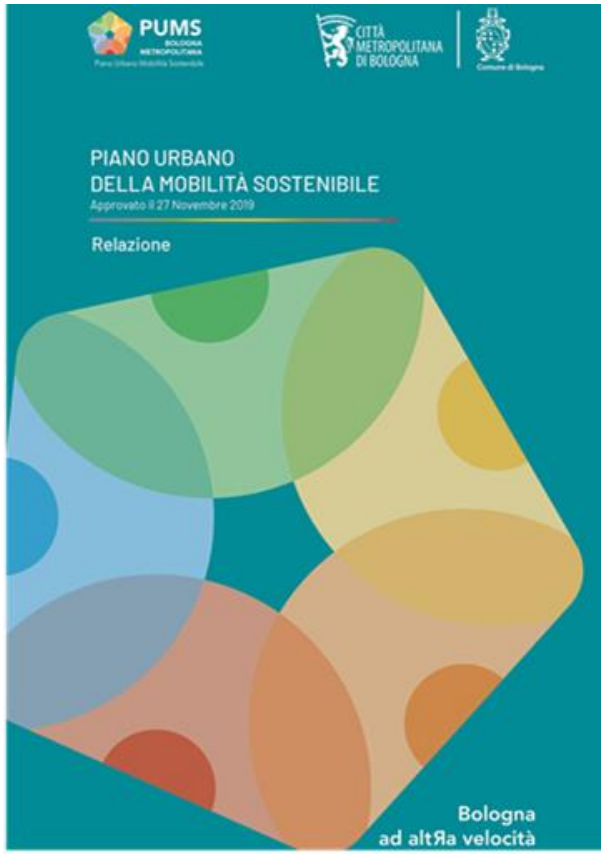
Bologna - Node for 3 corridors of the TEN-T network:

- Baltic-Adriatic
- Mediterranean
- Scandinavian-Mediterranean



PM2.5 in Europe
source: The Guardian (2023)

SUMP Bologna - Metropolitan Public Transport



Sustainable Urban Mobility Plan - approved in Nov2019 both by the Metropolitan city and the Municipality of Bologna

MAIN TOPICS:

Urban&Territorial planning, and sustainable mobility

Main network system of the Metropolitan Public Transport →

- Unique ticket
- Metropolitan railway network
- Metropolitan tramway network
- Metrobus
- Suburban bus network
- Mobility hubs

Cycling Mobility - Metropolitan Bike network

Pedestrian mobility and shared space

Innovative mobility and incentive policies

Road network

Sustainable Logistics –SULP (dedicated section)

The planned Metropolitan Public Transport overcomes the concept of (extra)urban network: all the systems are integrated and connected in the planned 30 Mobility Hubs

SUMP Bologna - Metropolitan Public Transport ...and Guidelines for designing Mobility Hubs

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The **SUMP** of Bologna Metropolitan City

Protocol of understanding RFI-CMBO to develop Guidelines

Formal constitution of interistitutional work group for drafting

Main technical structure *Guidelines*

- **Goals setting**
- **State of art**
- **Design principles**
- **Preliminary analysis**
- **Measures and actions**
- **Functions and services**
- **Design levels**
- **Summary Design Table**

Guidelines for designing Mobility Hubs - drafted and approved in 2021 by a interinstitutional work group: Public Administrations, local Transport Agency, national railway company

Regione Emilia-Romagna

Città Metropolitana di Bologna

Comune di Bologna

SRM Reti e Mobilità

RFI Rete Ferroviaria Italiana
Gruppo Ferrovie dello Stato Italiane

SUMP Bologna - Metropolitan Public Transport ...and Guidelines for designing Mobility Hubs

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Mobility Hubs design are meant to reach high quality design levels for: Mobility, Urban quality, Community, Environment. In a multi disciplinary approach.

DESIGNING MOBILITY HUB...

250 m

- Shared spaces for cyclists and pedestrians (with priority)
- Bike parking (Velostation, covered racks)
- Sharing Mobility
- PT stops and Terminal
- Green Car Parking (Street or multi-level)
- Charging points (cars, bikes)
- Mobility services (tickets, informations, bike repair and shop ...)

500 m

MOBILITY HUB

- Community local services (shops, offices ...)
- PT priority for an easier and quicker access to MH
- Cyclists and pedestrians paths secured and qualified

oltre 500 m

- Transition from MH to territorial context
- Shared itinerary between all the mobility categories

Mobility Hubs: innovative concept in Bologna

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The innovative concept outlined in Guidelines for designing Mobility Hubs, applied at Urban and Regional levels

URBAN AREA

SPINE

Smart Public transport Initiatives for climate-Neutral cities in Europe

SPINE - Smart Public transport Initiatives for climate-Neutral cities in Europe

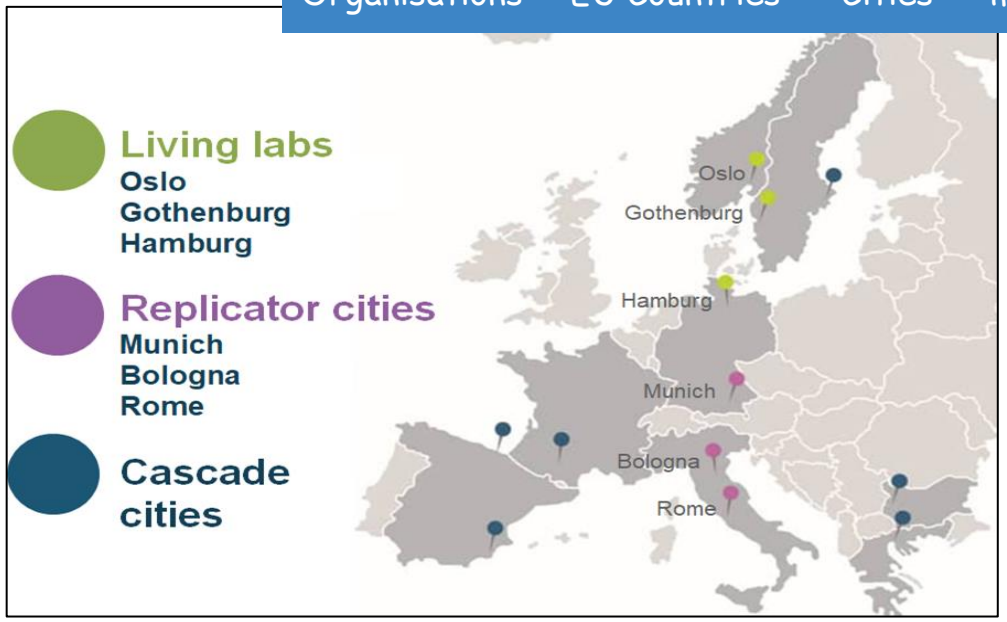
39	16	11	17
Organisations	EU Countries	Cities	millions €

METROPOLITAN Regional AREA

MOVE21

MOVE21 - Multimodal and interconnected hubs for freight and passenger transport contributing to a zero emission 21st century

24	7	6	9
Organisations	EU Countries	Cities	millions €



SPINE - Smart Public transport Initiatives for climate-Neutral cities in Europe

SPINE
Smart Public transport Initiatives for climate-Neutral cities in Europe

VISION - Accelerate the progress towards climate neutrality and foster the transition towards more inclusive, accessible, resilient and sustainable Public Transportation services.
By reinforcing PT systems through their smart integration with new mobility services, connected and automated mobility, sharing schemes, active transport modes and micro-mobility.

BOLOGNA SPINE ECOSYSTEM

Local partners

Comune di Bologna

SRM RETI E MOBILITÀ

supported by Fondazione Innovazione Urbana

Local stakeholders

Local and regional institutions, Bologna airport, National Railways, local transport operators, sharing mobility services, parking management operators .

OBJECTIVES & EXPECTED RESULTS (in Bologna)

- increase **PT ridership** by 30%
- improve **user satisfaction** by more than 25%
- **reduce n. of most polluting cars** in city area by 100%
- **reduce CO2 emissions** more than 20%

SPINE - Bologna Living Lab: Mobility solutions

SPINE
Smart Public transport Initiatives for climate-Neutral cities in Europe

Upgrading of 3 Multi-Modal Hubs for intermodal transfer (e.g., EV Charging Stations and new inclusive services - infomobility, accessible information, colour markings, etc.)

users & stakeholders
engagement
co-creation
collaboration
shared objectives
inclusivity
accessibility
mobility for all

Integrated multimodal travel planner

users & stakeholders
engagement
co-creation
collaboration
integrated mobility services
shared objectives
accessibility
technological advancement

Micro-incentives programme campaign via a dedicated Citizen Mobility App to increase PT ridership

Citizen engagement activities, for co-creation and awareness-raising campaigns

users engagement
co-creation
collaboration
shared objectives
inclusivity
accessibility
mobility for all
awareness raising

Supporting the implementation of a Limited Emission Zone (LEZ), combined with City 30 traffic plan

active mobility
inclusivity
accessibility
mobility for all
emissions reduction
awareness raising

Exploring innovative logistic solutions supporting polluting vehicles and the reduction of CO_2 emissions

Smart City platform integrating different data sources to improve the sustainable mobility environment

stakeholders and operators
engagement
co-creation
collaboration
shared objectives
planning mobility for all
technological advancement

MOVE21 - Multimodal and interconnected hubs for freight and passenger transport contributing to a zero emission 21st century

VISION - Develop solutions for connected, smart and clean mobility and logistics in European cities.
Transform European cities and functional urban areas, and accelerate the pace of decarbonisation of the transport sector and the green transition in Europe.
Helps cities to transform into climate neutral and connected multimodal urban nodes for mobility and logistics.

OBJECTIVES & EXPECTED RESULTS

- 15 innovations tested
- 12 innovations upscaled and replicated
- 6 new policy solutions implemented
- 15% reduction in climate emissions by 2025 – 30% target by 2030
- Increased TEN-T related cross-border collaboration, with integration at different levels (corridor, regional and urban scale), establishing a Scan-Med Cities Observatory and Urban Nodes Forum for improved coordination, data and knowledge sharing

Leading Cities - Living Labs

OSLO

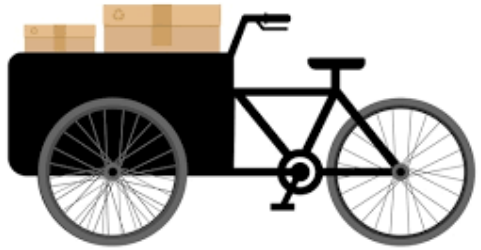
GOTHENBURG

HAMBURG

MOVE21 - Replication measures in Bologna

COMBINED RAW/WASTE MATERIAL SHIPMENT

Concept - Improve material flows within the realm of bicycle repair.
Problem - Inefficient disposal of waste materials coming by bicycle repairs and replacement of parts.
Action - Test a circular approach: shared and structured solution to manage waste materials disposal - with shared procurement of raw materials needed by cycle workshops.
Service provided by a cargo-bike based in a Mobility Hub.



(Sample image coming from FreePik)

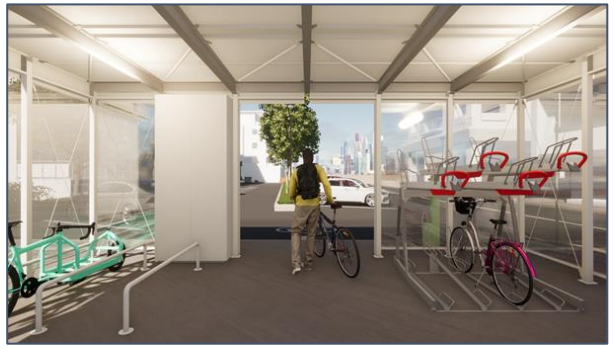
TEMPORARY HUB FOR MICRO-MOBILITY SUPPORTING MAJOR EVENTS

Concept - Foster sustainable mobility in occasion of major events in the city.
Problem - Public (and logistics) at major events causes traffic congestion and increase in pollution.
Action - Test temporary and monitored parking area for bicycles and cargo bikes (general public and logistic suppliers).
During the event, bike can benefit from dedicated services.

MOVE21 - Replication measures in Bologna

MICRO-HUB AND MULTIMODALITY

Concept - Increase sustainable mobility among commuters, favouring intermodality in metropolitan Mobility Hubs.
Problem - More than 60% of commuters use cars and pollutant vehicles to reach the capital city of Bologna.
Action - Provide technological solution for the operations related to new bike stations under construction in the premises of the railway stations (and related Mobility Hubs) of two villages in the metropolitan region area.
Enhance user experience: wayfinding, signage, and markings aimed at bolstering multimodal travel and establishing a sense of place identity.



Issues (impacting timing):

- Right to use the (private) areas - and rental fees
- Administrative and political issues internal to local Municipalities

THANK YOU

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LinkedIn\MOVE21: Zero Emission 21st Century

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