RAIL4CITIES

Living Labs Operational Report

Deliverable 3.2

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List of Abbreviations

Abbreviations / acronyms	Description
AC	Alternating Current
AG Real Estate	Real Estate Company
AREP	Architecture, Engineering, and Planning Company
BPI Real Estate	Real Estate Company
DB	Deutsche Bahn (German Railway)
DB S&S	DB Station&Service Aktiengesellschaft
DC	Direct Current
Don Cicleto	Bike Rental Company
EFFIA	Parking Management Company
ENEL	Italian Multinational Energy Company
Enjoy	Car Sharing Operator
EV	Electric Vehicle
FS Park	Previously Metropark
IAB	International Advisory Board
IBDIM	Instytut Badawczy Dróg i Mostów (Road and Bridge Research Institute)
Infrabel	Belgian Railway Infrastructure Manager
IP	Infraestruturas de Portugal (Portuguese Infrastructure)
KPI	Key Performance Indicator
Leasys	Mobility Company
LL	Living Lab
LLN	Louvain-la-Neuve
Neômatabiau	Toulouse Matabiau Station Redevelopment Project

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NGOs	Non-Governmental Organizations
PKP	Polskie Koleje Państwowe Spółka Akcyjna (Polish State Railways Joint Stock Company)
PV	Photovoltaic
Powy	Electric Vehicle Charging Company
RFI	Rete Ferroviaria Italiana (Italian Railway Network)
Samaya	Sustainable District in Ottignies-Louvain-la-Neuve
SCP	Sustainable City Promoter
SKY	European Media and Telecommunications Company
SNCB	Société Nationale des Chemins de Fer Belges (National Railway Company of Belgium)
SNCF	Société Nationale des Chemins de Fer Français (French National Railway Company)
STIB	Brussels Intercommunal Transport Company
STMB	Bayerisches Staatsministerium für Wohnen, Bau und Verkehr (Bavarian State Ministry of Housing, Building and Transport)
S-train	Suburban Train
TEC	Walloon Public Transport Operator
TER	Transport Express Régional (Regional Express Transport)
TGV	Train à Grande Vitesse (High-Speed Train)
TOD	Transit-Oriented Development
TUM	Technische Universität München (Technical University of Munich)
UIC	Union Internationale des Chemins de Fer (International Union of Railways)
WtE	Waste-to-Energy

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1 Executive summary

This report details the results generated from the operations of five living labs conducted under Work Package 3 (WP3) of the project, following the innovative RAIL4CITIES methodology outlined in Deliverable 3.1. The living labs were rolled out through a series of structured stakeholder and ideation workshops, as well as fieldwork and placemaking activities, designed to foster local engagement and gather insights essential for refining the new station model developed in WP2. FACTUAL and Bable Smart Cities (Deliverable 3.1 lead) played a central role in supporting this process operationally and organizationally, while each railway company conducted localised workshops, gathering context-specific data—including station infrastructure, local policies, and governance frameworks—and invaluable information on station user and neighbour needs through a unique human-centred approach. After each step of the methodology, railway companies compiled reports to support the consolidation and completion of this deliverable.

Spread across five European cities, the living labs focused on core themes such as energy, mobility, urban design, user behaviour and participation to validate and optimise the draft station model. In addition, placemaking was introduced to encourage community-driven ideas, mini-experiments, and activities. The workshops succeeded in identifying key challenges and urban needs, outlining actionable strategies for sustainable growth. These insights informed the development of targeted challenges that participants could address through innovative ideas and experimental projects, fostering community involvement in sustainable station design.

The main topics addressed in each Living Lab are as follows:

- Italian Living Lab (Milano Rogoredo Station): Focus on the circular economy, with the station serving as a hub for sustainable energy and resource management.
- French Living Lab (Toulouse Matabiau Station): Exploration of the station as an intermodal mobility hub, with a specific focus on cycling.
- Belgian Living Lab (Ottignies Station): Development of a 24/7 "15-minute city" concept around the station, emphasizing accessibility and liveability
- Polish Living Lab (Tomaszów Mazowiecki Station): The station is positioned as a socially inclusive hub connected to green and blue infrastructure, integrating the natural environment with urban services.
- German Living Lab (Dorfen station) focused on sustainable urban development with a Transit-Oriented Development (TOD) approach under the RAIL4CITIES model.

The following executive summaries for each Living Lab reflect the results generated by applying the methodology developed in Deliverable 3.1 to their local contexts.

Milano Rogoredo

Milano Rogoredo serves as a prominent intermodal hub in Milan, with extensive connections for regional and suburban rail services as well as metro and bus networks. The upcoming redevelopment, aligned with the Milano Santa Giulia Masterplan, aims to transform the station into a vibrant mixed-use district with residential, commercial, and entertainment facilities. An emphasis on sustainability will enhance green transport and pedestrian areas, creating a more environmentally friendly and accessible station. Rogoredo's circular economy objectives focus on innovative waste and water reuse,

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and renewable energy opportunities, though logistical challenges, such as user habits and waste management constraints, present obstacles.

The living lab activities highlighted the need for improved renewable energy solutions and scalability of waste-to-energy initiatives, exploring options such as composting and waste-to-fuel generation. Fieldwork identified four main user profiles, with public transport and micromobility users prioritising reliability and efficiency, while private car users—often tourists or business travellers—seek convenience. These insights reinforce Milano Rogoredo's strategy to meet diverse user needs through a sustainable and accessible station model, with particular attention to waste management improvements and green transport integration.

Furthermore, the Rogoredo station placemaking took place in Milan intending to transform the transit space into a vibrant community hub, from August to September 2024. Using methodologies like participatory design and tactical urbanism, the project involved local stakeholders, including residents, associations, and cultural groups, in activities like workshops, neighbourhood walks, interactive stands, and a collaborative building session with sustainable materials. These events encouraged community participation, fostered local partnerships, and promoted the principles of the circular economy. As a result, the initiative not only created a lasting network of local relationships and ideas but also left behind physical structures, like the collaboratively constructed seats, to continue engaging the community in station-based activities.

Ottignies

Ottignies acts as a key regional transit hub with a strong local focus, aiming to integrate commuter and community needs through a “15-minute city” concept. Plans to redesign the station forecourt, add bicycle facilities, and enhance green spaces align with the Samaya sustainable district, emphasising eco-friendly transport and biodiversity. However, current challenges include congestion and limited commercial or social spaces, which limit pedestrian engagement and deter residents. Proposed upgrades will transform Ottignies into a cohesive neighbourhood with cultural, social, and mixed-use zones to foster a livelier, more inclusive community.

Living lab insights revealed that Ottignies users—ranging from local neighbours to students and car-dependent commuters—value family-friendly and affordable services. Improvements like pedestrian bridges, co-working spaces, and cycling infrastructure align with their needs, supporting a vision of Ottignies as an accessible, community-centred station. By strengthening local mobility options and enhancing neighbourhood connectivity, Ottignies is positioned to become a sustainable, inclusive, and secure transport hub for both commuters and residents.

Tomaszów-Mazowiecki

Located near natural reserves, Tomaszów-Mazowiecki prioritises social inclusivity and environmental sustainability as core components of its development strategy. Modest upgrades, such as a new car park and improved ticketing services, will enhance accessibility, while the surrounding green spaces offer potential for nature-based solutions, like green walls or gardens. The living lab revealed opportunities to better engage the local community through partnerships and conservation-focused events, creating a more inviting space that resonates with the station’s natural surroundings and tourist appeal.

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Fieldwork identified key user profiles, including daily commuters, local retirees, and students, each with distinct needs. Retirees, for instance, highlighted accessibility challenges, while students expressed interest in seasonal bike use. Tomaszów's plans to incorporate nature-oriented leisure spaces and informative displays on local attractions aim to foster environmental awareness and enhance the station's relevance to diverse user groups, promoting Tomaszów-Mazowiecki as a valuable regional hub with strong community ties.

In July-August 2024, placemaking activities in Tomaszów Mazowiecki aimed to attract community interest in the local railway station as a social and urban hub. This initiative included community engagement via observation, dialogue, and a photo competition named "Tomaszów Mazowiecki Station Closer to Us," encouraging residents and tourists to envision diverse uses for the station. The project culminated in a final event on August 25 during the "Local Unconventional" festival, where photos were showcased and discussions were held on transforming the station's role within the city. The results showed increased public awareness and interest in integrating the station into the city's social landscape, fostering ideas for future cultural and communal activities at the site.

Toulouse Matabiau

Toulouse Matabiau, a historic station in central Toulouse, is undertaking the Neômatabiau project to accommodate significant passenger growth while preserving architectural heritage. Aiming to become a green mobility hub, the station will expand secure bike parking, increase bike-sharing options, and develop self-service bike stations to support rising cycling demand. These enhancements align with Toulouse's goals to improve intermodal connectivity and reduce car dependency, with local partnerships expected to reinforce parking and multi-modal space management.

The living lab identified user profiles such as public transport and bicycle commuters, car users, students, and bike tourists, each supporting the station's focus on intermodal sustainability. The popularity of cycling in Toulouse underscores the need for infrastructure improvements, as bike-train users seek safer, more practical commuting options. By focusing on sustainable commuting, Toulouse Matabiau strengthens its role as a key mobility hub, balancing historical preservation with modern transport needs to support its projected visitor growth.

On June 27, 2024, the Toulouse Living Lab organized an all-day interactive placemaking event at Toulouse Matabiau station to raise awareness of bicycle services and promote intermodal travel combining bike and train. Following extensive observation and stakeholder collaboration, the event involved a visible stand with maps, flyers, and a cargo bike, as well as mobile outreach to engage users in high-traffic areas. The activities effectively highlighted three key services—La Vélo station, Vélo Toulouse, and La Maison du Vélo—reaching over 300 participants. This led to increased awareness of bike services, a better understanding of barriers to cycling, and insights that signage and improved bike paths could encourage more cycling commuters.

Dorfen

The Dorfen Summer School, acting as the German living lab, focused on sustainable urban development with a Transit-Oriented Development (TOD) approach under the RAIL4CITIES model. Situated on a strategic regional rail line in Munich's metropolitan area, Dorfen provided an ideal context for exploring public transit-centred solutions. In collaboration with the Bavarian State Ministry of Housing, Building, and Transport (STMB), the municipality of Dorfen, Deutsche Bahn (DB), and private landowners, the program brought together 27 students from multiple disciplines to tackle real-

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world urban transformation issues. The project centred on two primary objectives: designing Dorfen's future train station as a sustainable mobility hub and reimagining the surrounding urban landscape to enhance connections to nearby districts.

With the planned relocation of the station eastward, students addressed critical aspects of sustainable mobility, including intermodal connections, active transit options, and integration of green-blue infrastructure. Students explored two growth scenarios for Dorfen's future: one risking fragmented satellite centres, while the preferred plan envisioned a cohesive urban structure anchored by a multifunctional station hub. Proposals for the new station area included gradual development approaches like the "Step by Step" plan, which would enhance accessibility and integrate mixed-use spaces around a community square. Mobility concepts focused on minimising car reliance, with expanded cycling infrastructure, active transit networks, and on-demand transport solutions. The "Dorfen on display" design envisioned an inclusive public space as the core of a multimodal hub which at the same time links the areas north and south of the tracks through an underpass, while the "Small Green Station" concept prioritised sustainable, green infrastructure to harmonise with Dorfen's historical landscape. Lastly, students introduced a framework for citizen participation, enabling residents to contribute to each phase of planning, from initial urban design competitions to final design decisions, ensuring that Dorfen's transformation reflects community priorities.

Portugues case studies

Infraestruturas de Portugal (IP) recognises significant alignment between its approach to high-speed rail station redevelopment and the RAIL4CITIES methodology, particularly in engaging cities as partners rather than mere stakeholders. IP emphasises early collaboration with municipalities to integrate urban development considerations, accessibility, and intermodality into station designs. While IP's stakeholder engagement focused primarily on cities, public entities, and key operators, it acknowledges the RAIL4CITIES methodology's broader inclusion of users, contractors, and private investors. However, IP cautions against overcomplicating projects with excessive stakeholder input, advocating for a structured hierarchy to prioritise municipal and infrastructural objectives. IP also sees value in leveraging living lab methodologies and user profiling for passenger-centric designs but stresses the importance of managing stakeholder expectations to avoid eroding trust due to unrealised aspirations.

IP highlights the importance of aligning station projects with broader urban transformation initiatives, citing examples from Belgium and other European projects where integrated planning with private and public investments led to socio-economic benefits. The organisation recommends incorporating a decision point into the RAIL4CITIES methodology to evaluate whether to extend project scopes to include urban regeneration efforts. Municipalities play a critical role in such discussions due to their authority in urban planning and their ability to negotiate with developers. IP also stresses the need for a clear organisational framework to manage complex, long-term projects across various municipal departments and to ensure continuity through political cycles. Sustainability remains a cornerstone of IP's approach, with investments in cycling infrastructure, rainwater reuse, and urban integration around stations. Drawing on international best practices, IP envisions adapting RAIL4CITIES principles to metropolitan-scale transport planning, focusing on seamless connectivity across modes to enhance mobility and passenger experience.

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We have made significant progress in our field, and we are eager to showcase these developments to interested parties. However, due to the proprietary nature of this information, we are unable to disclose the details publicly at this time.

We invite you to contact us directly if you would like to learn more about our advancements. We would be happy to discuss how these innovations might be beneficial to you or your organization.

Please let us know your thoughts at your earliest convenience.

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