

THE REVISION OF THE TEN-T GUIDELINES

PROPOSED AMENDMENTS TO THE TEN-T REGULATION (No 1315/2013)

*STRENGTHENING URBAN NODES AND INNOVATION TO ENHANCE
THE CAPACITY, SUSTAINABILITY, AND COMPETITIVENESS OF THE
EUROPEAN TRANSPORT SYSTEM*

May 2021

EXECUTIVE SUMMARY: REFLECTING ERRIN’S AND POLIS’ KEY POLICY MESSAGES ON URBAN NODES IN THE REVISED TEN-T GUIDELINES	3
1. POLICY CONTEXT	4
1.1. EU LEVEL POLICIES.....	4
1.2. LOCAL CHALLENGES	5
2. REDEFINING AND REVALUING URBAN NODES IN TEN-T POLICY	6
2.1. THE IMPORTANCE OF URBAN NODES IN TEN-T POLICY.....	6
2.2. GIVE EQUAL PRIORITY TO URBAN NODES AS OTHER PRIORITIES IN THE REGULATION	6
2.3. A MORE COMPLETE DEFINITION OF URBAN NODES.....	8
3. INCREASING THE CONTRIBUTION OF URBAN NODES TO INNOVATION AND TEN-T PERFORMANCE	9
3.1. TRANSCENDING THE CURRENT CRITERIA FORMAL CRITERIA FOR URBAN NODES.....	9
3.2. STRENGTHEN INNOVATION IN URBAN NODES TO ACHIEVE A MORE SEAMLESS, SUSTAINABLE, AND EFFICIENT TEN-T NETWORK	9
3.3. INCREASED EMPHASIS ON INTERMODALITY AND ACHIEVING A MODAL SHIFT	11
4. IMPLEMENTATION	12
4.1. ENSURING BETTER SUPPORT FOR URBAN MOBILITY IN THE CONNECTING EUROPE FACILITY	12
4.2. EXAMPLE OF PROJECTS COULD BE CO-FINANCED BY THE CEF2.0 UNDER THE NEW TEN-T GUIDELINES	13
4.2.1. CLEAN INLAND SHIPPING ALTERNATIVE FUELS INFRASTRUCTURE CONNECTED TO URBAN NODES’ CLUSTERS ON HYDROGEN AND E-CHARGING	13
4.2.2. PASSENGER TRAIN CONNECTIONS – CONNECTING URBAN NODES INTERNATIONAL PASSENGERS	13
4.2.3. EXPANDING THE DEFINITION OF URBAN NODES – POSSIBILITIES FOR CLEAN, SMART, AND EFFICIENT PROJECTS FOR BETTER INTERCONNECTIVITY	14
4.2.4. INVESTING IN THE MODAL SHIFT: NEW LONG-DISTANCE RAIL TUNNEL FRANKFURT	14
4.2.5. MULTIMODAL EXCHANGE HUB OF LA DÉFENSE.....	15
5. OVERVIEW PROPOSED AMENDMENTS	16

EXECUTIVE SUMMARY: REFLECTING ERRIN'S AND POLIS' KEY POLICY MESSAGES ON URBAN NODES IN THE REVISED TEN-T GUIDELINES

In June 2020 ERRIN and POLIS published an opinion paper – [*“Strengthening urban nodes and innovation to enhance the capacity, sustainability, and competitiveness of the European transport system”*](#) – on the revision of the TEN-T guidelines based on our experiences as regional and local actors with the TEN-T implementation. The opinion set out key messages for the common provisions on urban nodes, research, and innovation.

This document translates the policy messages brought forward in the opinion into concrete proposals for amendments as a response to the spring 2021 consultation on the TEN-T regulation (No 1315/2013) revision with a specific focus on urban nodes. It also mentions the relation between the regulation, deployment, and financing.

This document has been established in co-creation between ERRIN and POLIS members.

The proposed amendments are structured around two main messages:

- **Redefining and revaluing urban nodes in TEN-T policy**

This section includes proposals to giving the same importance to urban nodes as other TEN-T components and aspects, the importance of urban nodes in TEN-T deployment – especially in this phase of completing the network – and a new definition of urban nodes that gives substance to their aspired priority and importance.

- **Increasing the contribution of urban nodes to innovation and TEN-T performance**

A functionality-driven approach to include urban nodes in the network is essential in order to increase their contribution both regarding innovation and the overall TEN-T performance. The importance of intermodality of infrastructures, connectivity, and services is also underlined.

About ERRIN

Established in 2001, [*ERRIN*](#) promotes the regional and local dimension in European research and innovation policies and programmes. The network gathers over 120 members who primarily collaborate through 13 Working Groups, covering both thematic areas and overarching policy issues. ERRIN supports project development and knowledge exchange between members to enhance regional and local research and innovation capacities, with the aim to foster sustainable and inclusive growth in all regions.

About POLIS

[*POLIS*](#) is the leading European network of cities and regions focusing on urban transport innovation. We cooperate to develop sustainable urban mobility solutions for the city of today and tomorrow. POLIS draws its expertise from a network of decision makers, researchers, managers, and practitioners working in authorities at local and regional level across the European Union. Building on results developed in European projects and in thematic working groups that touch upon key transport challenges, we link innovation and public policy orientations on urban and regional mobility with European policy development.

1. POLICY CONTEXT

1.1. EU LEVEL POLICIES

The 2020 [Sustainable and Smart Mobility Strategy](#) states that “the Commission will further engage with cities and Member States to ensure that all large and medium-sized cities that are urban nodes on the TEN-T network put in place their own sustainable urban mobility plans by 2030. The plans should include new goals, for example on having zero emissions and zero road fatalities. Active transport modes, such as cycling, have seen growth with cities announcing over 2300 km of extra cycling infrastructure. This should be doubled in the next decade towards 5000 km in safe bike lanes. The Commission is also considering developing a mission in the area of Climate-neutral and Smart Cities as a strategic priority for joint action to accomplish decarbonisation within a large number of European cities by 2030.” (p.9)

Over the years, the TEN-T regulation has been instrumental in transforming the existing patchwork of EU transport modes into a more integrated network encompassing all Member States, regions, and cities. **The current guidelines recognise and formalise the role of urban nodes in these transport networks as important hubs that facilitate the flow of people and goods.** As the number of journeys has increased – in Europe and elsewhere – transport has become a major contributor to climate change. Unless action is taken, transport risks becoming an even larger source of GHG emissions, jeopardising the EU’s ability to meet its **overall emission reduction goals and the objectives set out in the Green Deal.** Transport in urban nodes constitutes a large part of this (80%, Eurostat) and as such a renewed TEN-T policy is crucial to achieve the EU’s climate goals.

Economic growth needs to be decoupled from rising emission levels. The EU Industrial Strategy intends to transform the industry to become greener, more circular, and more digital to support our SMEs to keep Europe sustainable and competitive. The resulting job creation must also be taken into account as a factor increasing the pressure on the transportation system in urban nodes. In the same vein, the first lessons learned from the COVID-19 pandemic by the national and regional authorities will include the relocation of key industrial production to the EU. A greater pursuit of onshoring critical supply chains in Europe has the potential to increase transport pressure in urban areas. This is because it will lead to more goods and people movement, especially in urban nodes, to support those supply chains within the EU’s borders. Similarly, **we need a transport system that is prepared for future force majeure and develop a new vision of the European transport system that goes beyond article 5 of the current regulation.**

Hence, ensuring resilient and sustainable transport in urban nodes is essential and must be prepared for as soon as possible. **The current revision is an opportunity to develop this work even further under the framework of the Sustainable and Smart Mobility Strategy which lays the foundation for how the EU transport system can achieve its green and digital transformation and become more resilient to future crises.** To achieve these goals, the strategy identifies a total of 82 initiatives in 10 key areas for action (“flagships”), each with concrete measures such as the revision of the ITS Directive, the Alternative Fuels Infrastructure Directive (AFID), the Urban Mobility Initiative etc. All these legislative and “soft-power” proposals must be developed in a coherent way.

Reinforcing the urban nodes priority and innovation in the TEN-T regulation will ensure that we can deliver on the goals set out in the Climate Pact and the mission on climate neutral and smart cities. This reinforcement will create synergies between funding programmes and financial instrument, for example between Horizon Europe and CEF – with a special emphasis on the cluster climate, energy and mobility and the European Partnerships with a link to transport i.e., CCAM and 2ZERO, but also the European Partnership for transforming Europe's rail system and the European Partnership on zero-emission waterborne transport. This would also be applicable to green financing in the InvestEU.

Strengthening the urban nodes priority will also increase the visibility of European policies towards citizens since it will have a clear impact on their everyday life, for example developing projects in urban nodes would also contribute to increase the safety on European roads and contribute to implement the vision zero. The European Year of Rail 2021 is an excellent opportunity to reflect the messages of this action year in the TEN-T revision, especially shedding light on supporting the modal shift in urban nodes.

1.2. LOCAL CHALLENGES

Several EU and national projects have looked at urban nodal development. A recent study in the framework of the BSR-ACCESS project on Interoperability of Urban Nodes¹ lists challenges from the project's urban nodes, which can be extrapolated to the broader network:

- Limited capacities of transport infrastructure resulting in growing investment needs that cannot be met with limited public resources;
- High interdependence between long-distance and urban transport since both are using same infrastructure resulting in conflicts;
- Slow change in mobility patterns with a still high proportion of individual cars and a growing number of light duty vehicles due to increased e-commerce; and
- Lack of formal planning and/or governance instruments allowing for an integrated spatial and transport planning across administrative borders.

In addition, both POLIS and ERRIN members raised the challenge of urban-rural connections in the conceptualisation and implementation of urban nodes functionalities. Transport infrastructures in the peri-urban area often form a star-like pattern centred on the urban core and thereby structurally add “unnecessary” journeys to the nodes core infrastructures through the lack of regional tangential connections. Given the dual use of nodal infrastructures by local and long-distance transport, such peri-urban structural patterns have a direct impact on the TEN-T node's efficiency and long-distance mobility.

The TEN-T guidelines and urban nodes concept should help to overcome these challenges.

¹ [BSR-ACCESS Key Point Paper on the Integration of Urban Nodes in the Baltic Sea Region into the Trans-European Transport Network \(TEN-T\)](#)

2. REDEFINING AND REVALUING URBAN NODES IN TEN-T POLICY

2.1. THE IMPORTANCE OF URBAN NODES IN TEN-T POLICY

Currently, 80 % of journeys in Europe take place in urban nodes (source: Eurostat) meaning urban nodes are at the heart of the decarbonisation and pollution efforts that need to happen to meet our climate and environment targets. Similarly, according to European Commission data, congestion is to a large extent concentrated in urban nodes and the related costs amount to approximately €100 billion annually. **Seeing that mobility issues are increasingly concentrated in urban areas, the priority of urban nodes must be strengthened and clean, efficient, and sustainable transport projects in urban nodes need to be accelerated.**

Taking the 2013-vision of the TEN-T as one common European transport network with multimodal corridors surpassing national boundaries seriously means putting the overall “functioning” and efficiency of such a coherent system first. Therefore, urban nodes are as vital for the overall systemic performance as the bridging of missing links or cross-border projects. A new priority and enhanced focus on these central connection points are necessary to prevent urban nodes from becoming the bottlenecks of the future. Or to put it differently: perceiving the TEN-T as a body, we do not only need strong veins but also strong hearts.

Proposal

Amending Articles 4 (Objectives of the trans-European transport network) and 6 (Dual-layer trans-European transport network structure):

- Amend art. 4a (on cohesion) point (iii) by adding “**in urban nodes**” at the end.
- Amend art. 4b (on efficiency) point (ii) as follows: “**the interconnection and interoperability of national, regional and local transport networks**” and art. 4b point (iii) by adding “**especially in urban nodes**” at the end.
- Add in art. 4c (on sustainability), a new point (iv): **optimal synergy between long-distance and regional and local traffic flows in urban nodes to reduce the external costs of mobility**
- Add in art. 4d (on benefits for users), a new point (iii): **sufficient exit and entry points for seamless mobility with all transport modes through densely populated (urban) areas**
- Add in art 6, paragraph 1 the following text: **with urban nodes as connecting points between the different transport modes and between long distance traffic and the regional and local transport networks.**

2.2. GIVE EQUAL PRIORITY TO URBAN NODES AS OTHER PRIORITIES IN THE REGULATION

As outlined previously, urban nodes are key in achieving both the Green Deal objectives and in facilitating the onshoring of key industrial value chains in Europe related to the economic recovery from the COVID-19 pandemic.

As the completion of the TEN-T network is advancing, it becomes clear that how the network fulfils its purpose depends on the functioning of urban nodes. One of the aims of the *Smart and Sustainable Mobility Strategy* is to increase the capacity of railways for both passengers and goods, which means that the cross-links with other modalities in urban nodes becomes even more important. For instance, the regional mobility system interlinks in urban nodes and the surrounding agglomeration with the long-distance system, for passengers as well as freight. Urban nodes facilitate the intermodality, for example they can enhance the role of the inland waterways to contribute to green, sustainable, and smart transport of goods. In addition, urban nodes and the cooperation within the core network corridors strengthen the cooperation between different regional and local authorities to develop the corridors and vice versa.

The 2013 “revolution” of introducing comprehensive and core network with multimodal transport corridors has proven a good way to provide a focused structural basis for implementing the TEN-T. Nevertheless, practical experience has also shown, that urban nodes are a crucial part of this structure and should thus be integrated in the revised description of the TEN-T set-up. Using this already for a first description of urban nodes systemic core-functions, will make the overall TEN-T logic and the relation of its components much clearer.

Proposal

Amending Articles 4 (Objectives of the trans-European transport network), 6 (Dual-layer trans-European transport network structure on aims and the structure of the TEN-T) and 30 (Urban nodes)

- *Proposal for Amend art. 4a point (i) add “**and urban nodes**” at the end and art. 4a point (iii) add “in urban nodes” at the end.*
- *Amend art. 4b point (ii) as follows: “the interconnection and interoperability of national, **regional and local** transport networks” and art. 4b point (iii) by adding “especially in urban nodes” at the end.*
- *Add in art. 4c, a new point (iv): **optimal synergy between long-distance and regional and local traffic flows in urban nodes to reduce the external costs of mobility***
- *Add in art. 4d, a new point (iii): **sufficient exit and entry points for seamless mobility with all transport modes through densely populated (urban) areas***
- *Add in art 6, paragraph 1 the following text: **with urban nodes as connecting points between the different transport modes and between long distance traffic and the regional and local transport networks.***
- *Amending the first sentence in Article 30: “When developing the comprehensive network in urban nodes **in accordance with article 6**, Member States shall, where feasible, aim to ensure:”)*
- *Amending paragraph d) e.g., “seamless connection between the infrastructure of the comprehensive network and the infrastructure for regional and local traffic and urban freight delivery, including logistic consolidation and distribution centres, **also supporting smart mobility systems and services;**”*

2.3. A MORE COMPLETE DEFINITION OF URBAN NODES

The current definition of urban nodes needs to be strengthened to increase awareness across the EU of what they are and what they could be. In practice, urban nodes can be cities, industrial areas, agglomerations, or metropolitan areas – so what is described by this term also needs to mirror the transport-related interdependencies of their respective Functional Urban Areas (FUA). Urban nodes are the territories where urban, regional, national, and European networks interconnect to offer an integrated, clean, smart, and sustainable transport network. Urban nodes are thus by definition innovative.

Challenging issues in the field of freight and logistics, passenger flows, sustainability, liveability, and especially integration of urban nodes in the TEN-T network require an integrated policy answer, which often go beyond the city level since such challenging issues also comprise the peri-urban and regional areas surrounding cities. The concept of an integrated transport system for each urban node, especially journeys from the city centre to the peri-urban areas where many of the daily commutes take place, play a key role in the urban area's planning. **Therefore, the scope of an urban node should zoom out on the urban-regional or the FUA as well. Doing so would lead to a better integrated and decarbonised transport system.**

Using the Eurostat definition of functional urban area as a definition is a step in the right direction as the functional urban area is an important link between urban nodes and policies such as the SUMP guidelines. However, it does not fully satisfy what an expanded definition should achieve in terms of addressing issues that require an integrated policy answer that goes beyond the city level to also include the peri-urban and regional area's surrounding cities. The functional urban area also does not take into account polycentric regions with more than one densely populated area. Urban nodes also comprise "main port" functions in its territory: airports, ports (inland and maritime), dry ports), which needs to be considered. We invite Eurostat/OECD/EU to expand the definition framework.

Proposal for a new definition (to be updated in Article 3 - Definitions (p)):

'urban node' means a functional area that encompasses one or more core cities, as well as the peri-urban and regional areas surrounding cities or polycentric city-systems. In this functional area, the TEN - T infrastructure, such as ports including passenger terminals, airports, railway stations, logistic platforms and freight terminals, is interconnected between the different modal hubs and connected with the regional and local transport and traffic infrastructure. The definition applies to urban nodes of the core and comprehensive network alike.

Proposal

Amending Article 6 (Dual-layer trans-European transport network structure)

- Amending Paragraph (1) as follows: "The gradual development of the trans-European transport network shall be achieved, in particular, by implementing a dual-layer structure for that network with

a coherent and transparent methodological approach, comprising a comprehensive network and a core network ***with urban nodes as connecting points between the different transport modes and between long distance traffic and the regional and local transport networks.***”

- Amending Paragraph (2) e.g. “The comprehensive network shall consist of all existing and planned transport infrastructures of the trans-European transport network as well as measures promoting the efficient and socially and environmentally sustainable use of such infrastructure ***through connectivity and services.***”

3. INCREASING THE CONTRIBUTION OF URBAN NODES TO INNOVATION AND TEN-T PERFORMANCE

3.1. TRANSCENDING THE CURRENT CRITERIA FORMAL CRITERIA FOR URBAN NODES

Similar to the definition of urban nodes, the criteria for the selection of urban nodes should be expanded to not ignore any valuable nodes and hence accelerate the progress towards the 2030 and 2050 objectives to complete the core and the comprehensive network. In this sense, the key strength of the node is its function, not its size.

These new criteria should be based on the geographical location (making abstraction of national and regional borders) on the core and comprehensive network (connector function) as a foundation and could be extended by having a regional economic or commuter hub function (for more detailed information on this, please see the [ERRIN-POLIS opinion on the TEN-T guidelines](#)).

The urban nodes would commit to:

- establishment or revision of strategic and operational planning frameworks in view of urban nodes functionalities;
- advancing energy, digital, local economic growth and mobility objectives in line with EU legislation, ambitions and plan horizons (2030/2050); and
- monitor the mobility status using the SUMI indicators.

3.2. STRENGTHEN INNOVATION IN URBAN NODES TO ACHIEVE A MORE SEAMLESS, SUSTAINABLE, AND EFFICIENT TEN-T NETWORK

The future of mobility where the whole chain of the transport system is connected, including first and last mile journeys, would also benefit from strengthening innovation in urban nodes. Similarly, it would contribute to the decarbonisation of the transport system by addressing alternative fuel infrastructure and vehicles (taking into account the AFID as well as the Clean Vehicle Directive) and new energy sources. Accelerating the deployment of alternative fuel infrastructures would also increase the resilience of the transport system, making it less dependent on a single mode or fuel.

The revisions of the TEN-T Regulation and of the AFID can also be an enabler for MaaS deployment. To allow public authorities to develop MaaS services, there is a need to firstly develop the physical infrastructure before being able to deploy the “connectivity layer”, also specifically in peri-urban and rural areas. Several gaps still exist, in particular regarding the interconnection between different transport modes, the need to develop solutions for first and last mile, and the need to invest in urban nodes, which have an important role to play by connecting TEN-T with the regional and local mobility networks. The AFID will enable the deployment of sustainable transport services in rural areas, which, properly integrated into the public transport system can represent a real alternative to private cars.

Proposal

Amending the Article 33 (New technologies and innovation)

- (a) support and promote the decarbonisation of transport through transition to innovative and **sustainable innovative mobility solutions** and transport technologies; **for all modes**
- (b) make possible the decarbonisation of all transport modes by stimulating energy efficiency, introduce alternative propulsion systems, **as defined in the AFID** including electricity **and hydrogen** supply systems, and provide corresponding infrastructure. Such infrastructure may include grids and other facilities necessary for the energy supply, may take account of the infrastructure-vehicle interface and may encompass telematic applications **which will allow for the development of services for the end-user;**
- (c) improve the safety and sustainability of the movement of persons and of the transport of goods **with the development of cooperative, connected and automated mobility with the 5G as an enabler**
- (d) improve the operation, management, accessibility, interoperability, multimodality and efficiency of the network, including through multimodal ticketing and coordination of travel timetables **under the governance of the PTA's;**
- (e) promote efficient ways to provide accessible and comprehensible information to all citizens regarding interconnections, interoperability and multimodality;
- (f) promote measures to reduce external costs, such as congestion, damage to health and pollution (**focus on specific urban nodes pollutants such as NOx**) of any kind including noise and emissions;
- (g) introduce security technology and compatible identification standards on the networks;
- (h) improve resilience to climate change;

(i) further advance the development and deployment of telematic **CCAM** applications within and between modes of transport.

3.3. INCREASED EMPHASIS ON INTERMODALITY AND ACHIEVING A MODAL SHIFT

Intermodality will boost the modal shift from private and more pollutant modes to those that are more likely to contribute to the goals of the European Green Deal. These modes must be the key to increase transport efficiency.

The new definition of urban nodes would enable a better integration of urban nodes in the TEN-T network. Creating cohesion between long-distance, regional, and local traffic requires efficiency, which can be achieved through connecting nodes and stimulating new innovative technologies, and sustainability that would lower emissions (pollutant and GHG) and minimising external costs.

To achieve this integration, three layers need to come together: infrastructure, connectivity, and services. Upgrading the infrastructure to the same level across Europe will allow for interoperability/connectivity of the systems which in turn will allow public authorities to develop and implement new services, ultimately offering a seamless user experience for passengers and seamless logistic chains for goods from the first to last mile.

Integrated ticketing systems between local and regional networks will boost the modal shift and the use of public transport. Cooperative-ITS will also play an important role: they can provoke new mobility behaviours, which are more seamless and multimodal. They can also help a multimodal management of traffic and favour "virtuous" vehicles (bicycles, car-sharing). The ITS directive will enable the data sharing and connectivity layer.

The current TEN-T regulation lists a multitude of "sectoral nodes" in the core network (Article 41), where the relation with the concept of the general urban nodes is not fully clear today. The proposed new definition as functional area will solve this insofar, as the urban node comprises the territory where the interconnection and integration of the different transport modes including their respective sectoral hubs take place. In light of the EU Year of Rail, the new transport targets in the EU's *Sustainable and Smart Mobility Strategy*, and the strong pledge to finally making the modal shift a reality, rail nodes must also become part of those sectoral nodes. The EU's *Sustainable and Smart Mobility Strategy* also emphasises the green transition in ports and the shift of goods to inland waterways, also making ports important as sustainable logistics hubs. Finally, airports situated in the urban nodes functional area play an important role in the intermodal mobility system – facing severe challenges to "green" themselves in the next decades.

The transition to more sustainable mobility would be accelerated by revising Article 30 to include it concretely as an aim for the function of urban nodes and explicitly link it with the territories of urban nodes.

Proposal

Amending Article 30 (Urban nodes)

- Amending Paragraph a) and b) at the end e.g. “...supporting the shift to sustainable modes of transport and digitalisation of mobility”.
- Update Paragraph f) e.g. “promotion of efficient low-noise and low-emission mobility for passengers and goods and mirroring the SUMP principles, as well as supporting system integration (ICT, energy and transport)”.

Amending Article 41 (The instrument of core network corridors) and Annex II.2

- Incorporate rail, air travel, and maritime nodes and especially important rail passenger hubs, airports and ports as logistics hubs, e.g., paragraph 1) (a) “urban nodes, including their ports, rail hubs and airports” and new extra provision “(f) main railway stations for passenger transport”.

4. IMPLEMENTATION

4.1. ENSURING BETTER SUPPORT FOR URBAN MOBILITY IN THE CONNECTING EUROPE FACILITY

In the [Special report 06/2020: Sustainable Urban Mobility in the EU](#), the European Court of Auditors stated that the total funds for the TEN-T under the CEF were €24 billion in 2014-2020. For the current period, the CEF is being used to target urban nodes – including the 88 cities around the EU which constitute entry points to the core TEN-T network. At the time of the audit, the amount of CEF funding for urban nodes corresponded to €214 million, which equals 1 % of the total budget.

Meeting the objectives of decarbonising and increasing the efficacy of the European transport system requires a stronger integration of urban nodes and ITS in the Connecting Europe Facility (CEF).

A guiding principle should be to evaluate projects based on the work carried out before quasi-automatically plan to prolong them.

In addition, funding should be directed towards projects where there is a clear public benefit and return on investment. As such, funding strategic projects that would allow regional and local authorities to develop a sustainable mobility system should be prioritised, especially seeing that 98% of journeys take place while less 2% of the current CEF budget is allocated to these kinds of projects.

If we are to strategically address everyday mobility in with the core transport infrastructure network, projects carried out by and in urban nodes should have a funding rate of at least 20%. This would be possible – within the current CEF budget – by redirecting grants and redirecting funding that currently goes towards projects without a clear societal impact or European added-value.

With a stronger presence of urban mobility and urban nodes in the CEF, Europe would increase its legitimacy with its citizens by focusing on projects with an impact on their everyday life.

Furthermore, though frequently referenced by the EU institutions the new Recovery and Resilience Facility does not substantially alter the picture: some Member States do not put an explicit focus on mobility measures and use the budget exclusively for co-financing their already existing national stimulus packages. Unless the EU institutions can convince national governments to reconsider their priorities, the added value for sustainable mobility through the Recovery and Resilience Facility will be rather limited. It is also worth noting, that a real consultation on the Recovery and Resilience Facility with regional and local stakeholders did not take place – as documented by the Committee of the Regions in the opinion [“Recovery plan for Europe in response to the COVID-19 pandemic: Recovery and Resilience Facility and Technical Support Instrument”](#).

We see a broad variety of cooperation models both formal and informal for the inclusion and involvement of urban nodes in the governance of the TEN-T implementation. To improve future corridor activity in combination with local (urban nodes) TEN-T projects, we recommend that the European Commission and the CINEA create room in its current TEN-T processes for regular structured exchange between corridor communities on this topic. This would serve to understand which approaches exist to make urban nodes part of the planning, implementation, and continued operation of the TEN-T as there is no one-size-fits-all approach.

4.2. EXAMPLE OF PROJECTS COULD BE CO-FINANCED BY THE CEF2.0 UNDER THE NEW TEN-T GUIDELINES

4.2.1. CLEAN INLAND SHIPPING ALTERNATIVE FUELS INFRASTRUCTURE CONNECTED TO URBAN NODES' CLUSTERS ON HYDROGEN AND E-CHARGING

On the Rhine-Alpine corridor, possibly within the RH2INE initiative, we work on specific projects (currently LIFE and EFRD) promoting alternative fuels infrastructure and support mechanisms for shippers to change to clean fuels. However, this needs a corridor approach. This project would:

- improve EU transport
- decarbonise inland shipping
- improve air quality in urban nodes
- support economic development in urban nodes in line with the Green Deal (hydrogen, e-mobility, and shipping clusters).

4.2.2. PASSENGER TRAIN CONNECTIONS – CONNECTING URBAN NODES INTERNATIONAL PASSENGERS

The Amsterdam-Arnheim-Berlin ICE connection, in addition to the current IC connection, would improve international accessibility for Europe’s urban nodes, thereby averting short flights. In addition, Europe’s core corridors would be interconnected more strongly, as the connection would benefit both Rhine-Alpine and North Sea – Baltic.

4.2.3. EXPANDING THE DEFINITION OF URBAN NODES – POSSIBILITIES FOR CLEAN, SMART, AND EFFICIENT PROJECTS FOR BETTER INTERCONNECTIVITY

The metropolis of Bordeaux counts more than one million inhabitants and a high number of commuters from Arcachon, Langon, Libourne, etc. This situation leads to serious problems at local level: a high congestion on the road network and an increase of greenhouse gas and pollutants emissions. The creation of new tramway lines and a ring road have not reversed the trend. The rail mode is the only solution which could improve significantly mass transit in the urban area, thanks to a network of 20 stations.

It is against that background that the Nouvelle-Aquitaine Region and Bordeaux Metropolis enrolled in the "Metropolitan RER" project. A strategy has been defined at the end of 2018 to gradually and progressively set up a transport service within 10 years. The objective is to improve and increase services for passengers and to make the rail offer more reliable (frequency, number of passengers) and consistent with the urban public transport offer. A road map with a 2025-2028 timeline has been prepared for the rail infrastructure in order to answer the everyday mobility needs of passengers and decrease significantly road congestion.

Part of the project, the operation of the railway central station of Bordeaux will be optimised. The station will not be managed anymore as a last stop but in an East/West and North/South perspective. Furthermore, the project plans to reopen several rail stations to improve the connection with the urban network and with the main areas of employment in the metropolis. Finally, urban and regional rail ticketing systems will be combined in the geographical area of the Metropolitan RER to ease behavioural changes.

The TEN-T High-Speed Rail Line projects between Bordeaux and Toulouse and between Bordeaux and Spain will bring territories and urban areas closer. The works planned on the existing line South of Bordeaux (AFSB project) will indeed increase the frequency of suburban services, for example on the busy line between Bordeaux and Arcachon, thanks to the creation of a third line between Bordeaux central station and Saint Médard d'Eyrans (12 km South of Bordeaux).

4.2.4. INVESTING IN THE MODAL SHIFT: NEW LONG-DISTANCE RAIL TUNNEL FRANKFURT

It is a bold vision that the federal government, Deutsche Bahn, and the regional actors in FrankfurtRheinMain share: a new tunnel with an additional underground central station for the long-distance trains underneath the Frankfurt city centre. Today many high-speed trains rush through the TEN-T – but then have to wait before entering their final destination in Germany's most important rail hub. This shall change by 2040. The €3,5 billion investment will not only shorten travel times and make the trains more reliable, but – as the already existing infrastructures on ground shall be maintained – raise capacities by an estimated 20%. This makes the project a prerequisite for a modal shift from road and aviation to rail, necessary to fulfil the Green Deal objectives in transport of passengers and goods.

4.2.5. MULTIMODAL EXCHANGE HUB OF LA DÉFENSE

La Défense is the EU's largest business district. It comprises around 180,000 jobs and is served by a multimodal hub used by several train, metro, tram and bus lines, as well as 12 parking lots – traffic originates from two motorways and the local road network centred around the area.

La Défense currently faces many issues, all linked to oversaturation. Roads are heavily congested, tram and metro stations receive more passengers than they can safely handle, bus terminals cannot accommodate electric and NG vehicles, among other issues. A new train line and a new metro line are expected in 2022 and 2030, respectively. A 2015 study conducted by the French government has revealed that the necessary renovation of the hub would require investments totalling more than €800 million – 700 million more than the usual maximum cost of renovation projects in Île-de-France transport hubs.

Increasing the priority given to urban nodes in the TEN-T Regulation could:

- Significantly increase the funding received by projects such as La Défense and would thus allow a quicker path towards decarbonisation goals.
- Improve connectivity of regional hubs to European corridors (Atlantic and North Sea-Mediterranean corridors) – therefore achieving TEN-T objectives.
- First and last mile solutions in the area could be considerably improved, which would have a direct impact on congestion and pollution. Relation with other funding instruments

5. OVERVIEW PROPOSED AMENDMENTS

Table 1. Overview of proposed amendments organised according to article

Article	Proposed amendment	Explanation
Article 3 - definitions	<i>Urban node' means a functional area that encompasses one or more core cities, as well as the peri-urban and regional areas surrounding cities or polycentric city-systems. In this functional area, the TEN - T infrastructure, such as ports including passenger terminals, airports, railway stations, logistic platforms and freight terminals, is interconnected between the different modal hubs and connected with the regional and local transport and traffic infrastructure. The definition applies to urban nodes of the core and comprehensive network alike.</i>	A more complete definition of urban nodes
Article 4 - Objectives of the trans-European transport network	<i>Amend art. 4a point (i) add "and urban nodes" at the end</i>	Give equal priority to urban nodes as other priorities in the regulation
	<i>Amend art. 4a (on cohesion) point (iii) by adding "in urban nodes" at the end</i>	To strengthen the importance of Urban Nodes in the TEN-T Policy Give equal priority to urban nodes as other priorities in the regulation
	<i>Amend art. 4b (on efficiency) point (ii) as follows: "the interconnection and interoperability of national, regional and local transport networks" and art. 4b point (iii) by adding "especially in urban nodes" at the end.</i>	To strengthen the importance of Urban Nodes in the TEN-T Policy Give equal priority to urban nodes as other priorities in the regulation
	<i>Add in art. 4c (on sustainability), a new point (iv): optimal synergy between long-distance and regional and local</i>	To strengthen the importance of Urban Nodes in the TEN-T Policy

	traffic flows in urban nodes to reduce the external costs of mobility	Give equal priority to urban nodes as other priorities in the regulation
	Add in art. 4d (on benefits for users), a new point (iii): sufficient exit and entry points for seamless mobility with all transport modes through densely populated (urban) areas	To strengthen the importance of Urban Nodes in the TEN-T Policy Give equal priority to urban nodes as other priorities in the regulation
Article 6 – Dual-layer trans-European transport network structure	Add in art 6, paragraph 1 the following text: with urban nodes as connecting points between the different transport modes and between long distance traffic and the regional and local transport networks.	To strengthen the importance of Urban Nodes in the TEN-T Policy Give equal priority to urban nodes as other priorities in the regulation
	Amending Paragraph (2) e.g. “The comprehensive network shall consist of all existing and planned transport infrastructures of the trans-European transport network as well as measures promoting the efficient and socially and environmentally sustainable use of such infrastructure through connectivity and services. ”	A more complete definition of urban nodes
Article 30 – Urban Nodes	Amending the first sentence in Article 30: “When developing the comprehensive network in urban nodes in accordance with article 6, Member States shall, where feasible, aim to ensure:”	Strengthen innovation in urban nodes to achieve a more seamless, sustainable, and efficient TEN-T network
	Amending Paragraph d) e.g. “seamless connection between the infrastructure of the comprehensive network and the infrastructure for regional and local traffic and urban freight delivery, including logistic consolidation and distribution centres, also supporting smart mobility systems and services;”	Strengthen innovation in urban nodes to achieve a more seamless, sustainable, and efficient TEN-T network
Article 33 - New technologies and innovation	(a) support and promote the decarbonisation of transport through transition to innovative and	Strengthen innovation in urban nodes to achieve a more seamless, sustainable, and efficient TEN-T network

<p>sustainable innovative mobility solutions transport technologies; for all modes</p>	
(a) at the end e.g. “... supporting the shift to sustainable modes of transport and digitalisation of mobility ”.	Increased emphasis on intermodality and achieving a modal shift
(b) make possible the decarbonisation of all transport modes by stimulating energy efficiency, introduce alternative propulsion systems, as defined in the AFID including electricity and hydrogen supply systems, and provide corresponding infrastructure. Such infrastructure may include grids and other facilities necessary for the energy supply, may take account of the infrastructure-vehicle interface and may encompass telematic applications which will allow for the development of services for the end-user	Strengthen innovation in urban nodes to achieve a more seamless, sustainable, and efficient TEN-T network
(b) at the end e.g. “... supporting the shift to sustainable modes of transport and digitalisation of mobility ”	Increased emphasis on intermodality and achieving a modal shift
(c) improve the safety and sustainability of the movement of persons and of the transport of goods with the development of cooperative, connected and automated mobility with the 5G as an enabler	Strengthen innovation in urban nodes to achieve a more seamless, sustainable, and efficient TEN-T network
(d) improve the operation, management, accessibility, interoperability, multimodality and efficiency of the network, including through multimodal ticketing and coordination of travel timetables under the governance of the PTA's ;	Strengthen innovation in urban nodes to achieve a more seamless, sustainable, and efficient TEN-T network
(e) promote efficient ways to provide accessible and comprehensible information to all citizens regarding interconnections, interoperability and multimodality;	Strengthen innovation in urban nodes to achieve a more seamless, sustainable, and efficient TEN-T network
(f) promote measures to reduce external costs, such as congestion, damage to health and pollution (focus on	Strengthen innovation in urban nodes to achieve a more seamless, sustainable, and efficient TEN-T network

	specific urban nodes pollutants such as NOx) of any kind including noise and emissions;	
	(f) e.g. “promotion of efficient low-noise and low-emission mobility for passengers and goods and mirroring the SUMP principles, as well as supporting system integration (ICT, energy and transport)” .	Increased emphasis on intermodality and achieving a modal shift
	(g) introduce security technology and compatible identification standards on the networks;	Strengthen innovation in urban nodes to achieve a more seamless, sustainable, and efficient TEN-T network
	(h) improve resilience to climate change;	Strengthen innovation in urban nodes to achieve a more seamless, sustainable, and efficient TEN-T network
	(i) further advance the development and deployment of telematic CCAM applications within and between modes of transport.	Strengthen innovation in urban nodes to achieve a more seamless, sustainable, and efficient TEN-T network
Article 41 - The instrument of core network corridors and Annex II.2	Incorporate rail, air travel, and maritime nodes and especially important rail passenger hubs, airports and ports as logistics hubs; e.g. paragraph 1) (a) “urban nodes, including their ports, rail hubs and airports” and new extra provision “(f) main railway stations for passenger transport”	Increased emphasis on intermodality and achieving a modal shift