VITAL NODES

VALIDATED POLICY RECOMMENDATIONS

FOR BETTER INTEGRATION OF URBAN NODES IN THE TEN-T NETWORK

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www.vitalnodes.eu

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INTRODUCTION

Cities are at the core of the Trans-European Transport Network (TEN-T). The TEN-T will improve goods flow across Europe. However, at the urban nodes of the network, increasing freight traffic can lead to congestion, poor air quality, noise, and road safety risks. Cities and regions need to develop sustainable freight transport systems, mitigating the negative consequences of traffic in order to benefit from the improved European interconnection.

Planning such a system requires the integration of different levels, such as the European, regional and urban scale. It also needs the involvement of all stakeholders – a.o. freight carriers and infrastructure providers – to enable sustainable policymaking.

The validated policy recommendations presented in this publication are developed on the basis of workshop results and various stakeholder consultations involving a wide range of experts, practitioners, and policy makers. For a more extensive version of the recommendations (D5.2-D5.4-D5.5) we warmly invite you to visit the project website at www.vitalnodes.eu, where you can also download the Vital Nodes Toolbox and consult the various urban nodes solutions we have identified
and documented throughout the course of the project.

On behalf of the Vital Nodes consortium,
Sjaak Van Der Werf, Rijkswaterstaat.

ABOUT VITAL NODES

Vital Nodes is a H2020 coordination and support action which aims to improve European interconnection while developing sustainable mobility within the urban nodes of the Trans-European Transport Network (TEN-T). It specifically addresses the multi- and intermodal connection between long-distance and last-mile freight logistics.

The project ran from November 2017 until October 2019 and focused on 4 key outputs including:

- The establishment of a self-sustaining network of networks consisting of experts, end-users and case owners that were gathered in the framework of various Vital Nodes workshops and events.
- A proven Vital Nodes approach consisting of an enriched and fine-tuned toolbox of methods and measures that can be applied in the urban nodes and a comprehensive fingerprint on the urban nodes.
- Validated recommendations on the integration of urban nodes in the TEN-T core network corridors.
- Representation of the urban nodes at the TEN-T days and various other professional events

The Vital Nodes approach built upon the proven Networking for Urban Vitality - NUVit methodology, a successful approach based on integrated spatial and infrastructure analysis and planning. It addressed the 88 urban nodes of the TEN-T in a stepwise approach, starting with pilot city Vienna, redefining the methodology in eight focus nodes, consolidating the concept in further nine urban nodes, and scaling up to the remaining 70 nodes.

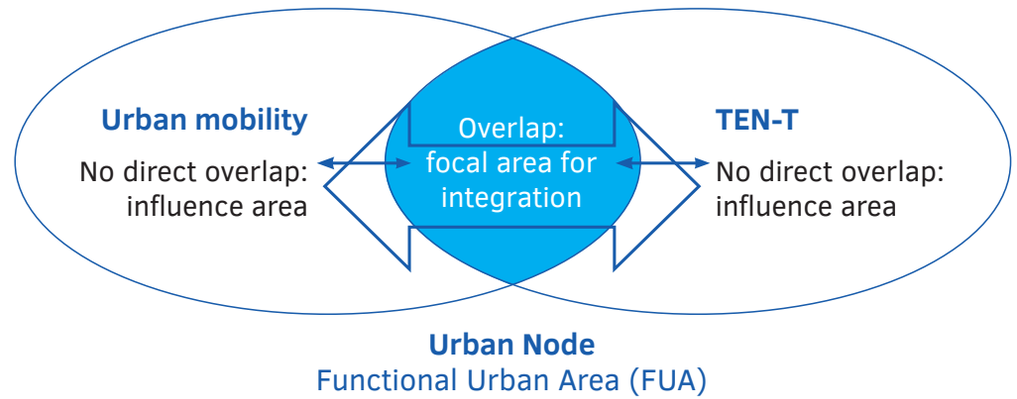
More information on the project activities and main outcomes – including the detailed policy recommendations, the Vital Nodes Toolkit and the various identified solutions and workshop reports can be found at www.vitalnodes.eu.

URBAN NODES POLICY CONTEXT

The Vital Nodes policy recommendations focus on the overlap between two important transport policy domains at European level, i.e. urban mobility policy as defined in the Urban Mobility Package (2013), which describes supporting measures in the area of urban transport complemented by the concept of SUMPs (Sustainable Urban Mobility Plans), and TEN-T policy, as set out in the TEN-T Guidelines (2013).

The TEN-T Guidelines define 'urban node' as an urban area where the transport infrastructure of the TEN-T network, such as ports, including passenger terminals, airports, railway stations, logistic platforms and freight terminals located in and around an urban area, is connected with other parts of that infrastructure and with the infrastructure for regional and local traffic". The Guidelines highlight the importance of the integration of the 88 identified urban nodes into the TEN-T network, stressing the need of providing connections at various levels, and mitigating the exposure of urban areas to negative effects of transport as a result of being an urban node on the TEN-T network.

The two policy domains overlap for example on 'last mile' solutions or – more generally – in providing connections. This is the so-called 'focal area' for integration. 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 goes beyond the city level. The Vital Nodes policy recommendations therefore also address the urban-regional or Functional Urban Area (FUA) level.



TOWARDS A COMPREHENSIVE POLICY STRATEGY FOR URBAN NODES

The Vital Nodes Toolbox describes a broad range of methods and approaches for developing a comprehensive policy strategy in a multi-actor context. These are structured around three main questions:

1. Why should one act in the current situation (what is the added value)?
2. What are (potential) synergies between the spatial and network dimension and what strategies might be chosen to obtain value?
3. How could the chosen strategy be implemented effectively?

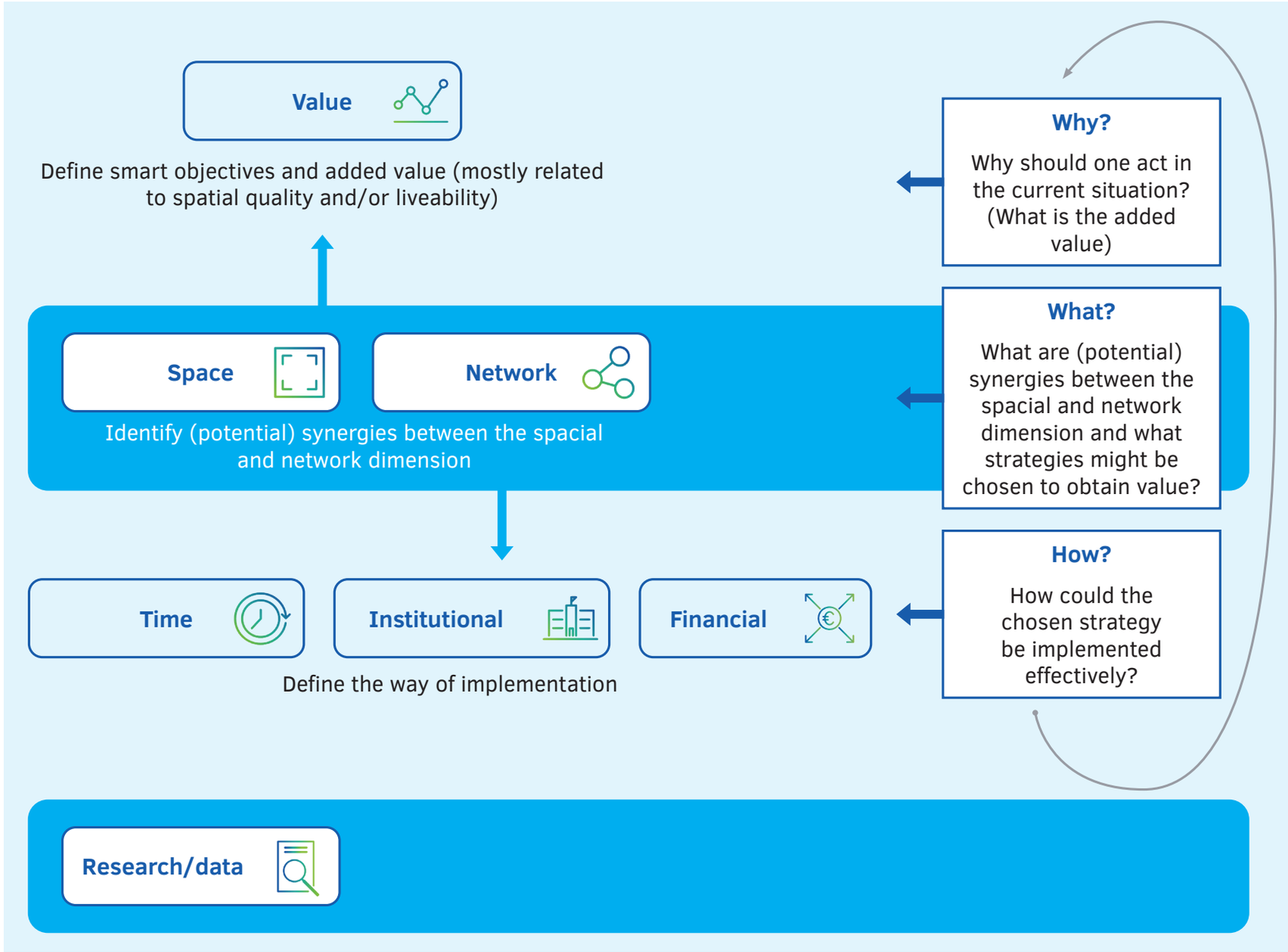
The notion of 'value' - and the related question "What is the added value of integrating the spatial and network dimensions?" - are key. That is why it is important for each actor to specify smart objectives and define the added value from an own perspective (urban nodes, region, logistics sector, infrastructure providers etc.). This brings up the 'why'-question: "Why should one act in relation to the current situation?" The added value could be either positive or negative and related to one's own smart objectives.

The link between policy objectives reflecting spatial and network challenges is reflected by the interfaces between land-use and urban/regional mobility on the one hand and transport infrastructure, freight and logistics of the broader corridor level/functional urban area (TEN-T) on the other. Answering the 'what'-question – "What are (potential) synergies between the spatial and network dimension and what strategies might be chosen to obtain value?" – leads to a required 'project' focus. When searching for challenges, linkages and synergies between the network and spatial dimensions, different geographical scales are important – the local/city level, the functional urban area level, and the corridor level. Looking for the interrelationships between these different scales is essential for Vital Nodes – multi-scalar thinking, zooming in and out – at which the Functional Urban Area (FUA) is key for the integration of urban nodes on the TEN-T network corridors.

The potential synergies must be considered by addressing the 'how'-question: "How could the chosen strategy be implemented effectively?", taking into consideration the interrelated implementation dimensions, consisting of 'time', 'institutional' (or governance) and 'financial'. E.g. the creation of socio-economic value through connecting communities of various sides of a physical barrier by overcoming this barrier, while connecting the communities resulting in increased spatial quality and liveability.

The described relation between the dimensions all starts from knowledge about the topics and the (local) context. For that reason, it has to be stressed how important it is to work together with all relevant stakeholders and actors from the field in a multi-stakeholder approach. The network and spatial dimensions issues are often related to content-based discussions in which advisors and specialists play an important role. The implementation dimensions are more evaluative and tactical and operational in nature (timing, governance and institutional issues, financial issues), often involving generalists and strategic advisors/governors, also regarding the decision-making process.

The resulting process scheme necessarily consists of a feedback loop, in which data and monitoring are vital, covering interaction with relevant stakeholders and continuously looking back and forward to the added value created for each of the related stakeholders. An important aspect of the Vital Nodes approach is the fact-based comprehensive nature, in which interaction multiple stakeholders about integration of urban nodes along corridors is fuelled with data, maps, knowledge, experience about both multi-modal infrastructure, mobility, freight/logistics and spatial developments at the urban node, FUA and corridor level.



Guiding structure for comprehensive policy strategy for integration of urban nodes and TEN-T

POLICY RECOMMENDATION CLUSTERS

The policy recommendations of the Vital Nodes project are categorized in different clusters which are corresponding to the structure of the Vital Nodes Toolbox. The cluster 'Research + Data' is added in order to take on board research recommendations which have been formulated in other activities and deliverables of the project.

Each of the numbered recommendations also indicates the target groups who can potentially act on the recommendation, including for example the European Commission, the urban nodes, terminal and logistics centres operators, European Investment Bank etc.

1. Strategy + Value

In the Vital Nodes toolbox (D3.5) examples of state-of-the-art models and approaches are collected to assess value – e.g. Social Cost-Benefit Analysis, Life-Cycle Assessment and Environmental Assessment (EIA, SEA) – to create value and capture value in combined infrastructure and spatial development projects. Regarding freight and logistics, the strategy and value dimensions relate closely to the importance of value-added logistics in urban freight transport chains. An optimized freight transport network seamlessly links the national/regional level with the urban level in transhipment points. These locations (e.g. Urban Consolidation Centres – UCC) could become viable as value is added to the products transhipped there.

2. Network + Space

For the spatial dimension critical aspects are the ability to deal with issues covering a multiplicity of scale levels, transport analyses and spatial designs. Having both strategic and technical components to achieve integrative spatial concepts (zooming in, zooming out between the three spatial scales). The freight transport sector is organized on a global scale, with international trade via ports as the most important market. This global trade boils down to national, regional and local transport services and logistics. The spatial dimension relates to linking the local and regional, (inter)national transport services in the most optimal way. With a search for spatial concepts with synergetic effects on accessibility, freight and logistics. The network dimension relates to multimodal network optimization at various geographical scales: corridors at (inter)national level, Daily Urban Systems at metropolitan level and landscaping at local level.

3. Governance + Time

Time and governance relate to linking the planning stages in a full life cycle. This asks for an examination of changes in use (new development, renewal, redevelopment), of changing lifestyles and their linkages to mobility (changing use of transport modes), of metabolic potentials (circular economy/cradle-to-cradle concepts, asset management, alternative fuels) and of linkages to mobility and accessibility (changing flows of people and goods). On the other hand, it comprises analysing different governance approaches and organizational frameworks at all institutional levels. In Vital Nodes this comes down to what institutional design is most effective for a certain case (urban node, grouping of urban nodes) to achieve integration of urban nodes in the network corridors and linking long-distance transport with last-mile freight-delivery. This entails also issues of institutional embedding, governance models as well as issues of the cultural setting, resulting in solutions for inter-governmental cooperation (public-public partnerships), market involvement (public-private partnerships), stakeholder engagement (users, citizens, interest groups), the governance of organizational networks, and smart mixes.

4. Finance + Funding

In order to further improve the sustainable integration of urban nodes at local, national and TEN-T level, we see important investment needs. In turn these investments contribute to the EU's overall transport objectives and the development of strong economic and sustainable regions. The current TEN-T guidelines recognise and formalise the role of urban nodes in these transport networks as important hubs that facilitate the flow of people and goods. In addition, the investments are related to freight and passengers transport being the major centres for production and consumption. Maximising the potential of this vital funding stream will ensure that urban nodes are able to meet current and future challenges. An integrated approach to projects and governance also requires integrated funding. Integrated projects will generally cover a variety of challenges, for example, improvement of air quality, economic growth and increasing liveability, which benefit a broad group of stakeholders. In order to increase this integrated approach, financing from different European funds would be very beneficial.

5. Research + Data

In order to develop a deeper understanding of the spatial-economic functioning of urban nodes more research and data are required. Aspects which need further investigation include for example the development of comparable data sets, performance indicators and monitoring frameworks which take into consideration the functional urban area and TEN-T corridor dimension of urban nodes. Participants of the Vital Nodes workshops also indicated that better tools are required for optimal sharing of mobility-related data between public and private partners across the logistics chain. Additional research is also needed on interfaces facilitating freight/persons, intra-/inter-urban, last-mile/long-distance transport."

STRATEGY + VALUE

RECOMMENDATION	ACTOR
1. Support the use of the Vital Nodes Toolbox as a guide for developing a fact-based comprehensive policy strategy to achieve the objectives of integrating urban nodes, Functional Urban Areas and TEN-T (e.g. by incorporating the VN Toolbox into a SUMP topic guide).	European Commission
2. Support the common understanding of the responsible actors at different policy levels (urban, Functional Urban Area (FUA)[1], national, transnational).	European Commission, Urban Nodes, Functional Urban Area
3. Support collaborative planning at different policy levels (urban, Functional Urban Area (FUA)[2], national, transnational (e.g. by incorporating the VN lessons into the new TEN-T policies and guidelines, and by revisioning the list of 88 urban nodes of the TEN-T Appendix II).	European Commission, Urban Nodes, Functional Urban Area
4. Develop a value oriented comprehensive policy (data based, using indicators, monitoring for assessment of value and focused on capturing values created).	Responsible policy actors

1. See recommendation on governance.
2. See recommendation on governance.

NETWORK + SPACE

RECOMMENDATION	ACTOR
5. Develop a multi-modal transport planning and coordinated asset management, considering its impact at local, FUA and corridor level.	Infrastructure managers at urban node, regional and national level
6. Develop additional guidelines on ITS applications at the interface between long-distance and last-mile transportation and the use of traffic management tools for information and navigation services.	Infrastructure managers at city, regional and national level
7. Invest in infrastructure interfaces at urban nodes, both in infrastructure connections, terminals, hubs and logistic centres.	Urban Nodes, infrastructure managers, terminal and logistics centres operators
8. Stimulate the coordination of freight/logistics and persons transport, e.g. by considering for (large) freight transport infrastructure also persons transport impacts and measures (vice versa).	Urban Nodes
9. Support the development of consolidation centres, which improve the link between the TEN-T and urban nodes, as they contribute to time savings for drivers and shared capacities for last-mile transport. Also employ the potential of such consolidated centres for production as well as for deployment of alternative fuels infrastructure and other innovation deployment.	European Commission, Urban Nodes
10. Utilize the strategic real estate positions of relevant land owned by infrastructure managers (such as unused railway tracks and marshalling yards) or by logistics service providers in urban areas because for developing a comprehensive policy strategy land use and real estate are vital elements.	Urban Nodes, financing institutions
11. Support the development of guidelines and standards for access restrictions in urban nodes along main transport routes on the TEN-T core network.	Urban Nodes, freight and logistic sector

GOVERNANCE + TIME

RECOMMENDATION	ACTOR
12. Stimulate a more active collaboration between stakeholders vertically across governance levels and horizontally across sectors and disciplines. Expand the geographical scope of urban nodes and focus on regional cooperation on the FUA level. Regarding this also provide incentives for public-public and public-private cooperation and for the involvement of civic society.	European Commission, Urban Nodes
13. Enable TEN-T related cross-border collaboration and solutions for urban nodes taking into account the FUA.	Urban Nodes, national transport departments, European Commission and international partners
14. Develop skills and knowledge on freight logistics and integrated planning by stimulating active capacity building in urban nodes.	Urban Nodes, European Network organisations
15. Investigate the possibility to increase the involvement of the urban nodes into the coordination of the nine TEN-T core network corridors (CNCs) by a - dedicated urban nodes working group; and - dedicated Urban Nodes European Coordinator.	European Commission
16. Create an action program, including a roadmap for implementation on how to better link their urban nodes to the respective corridor(s).	Urban Nodes
17. Facilitate institutional networking by establishing a community of urban nodes/TEN-T corridor professionals (see also WP! Deliverable VN Legacy) .	Urban Nodes

FINANCE + FUNDING

RECOMMENDATION	ACTOR
18. Provide funding for urban nodes focused on integration in the TEN-T corridors by pre-allocating budget in upcoming calls. E.g. a stepwise 5-10-20% of CEF funding for integrated investment in infrastructure, mobility, logistics, spatial and environmental measures enhancing such integration.	European Commission, financing institutions
19. The complex investment needs of urban nodes should be recognized in CEF financing – going beyond sectoral boundaries in grant decisions (e.g. similar to the climate mainstreaming objective of MFF).	European Commission, financing institutions
20. Combined funding solutions should be explored for integrating urban nodes in TEN-T corridors. e.g. by using existing urban earmarking (ERDF), or by linking up to SUMPs) Multiple funding sources can be mobilized to implement integrated strategy, which can be stimulated by defining eligibility and award criteria. Also an exchange platform with different EC services (DG MOVE, REGIO), and EIB could facilitate streamlining of procedures.	European Commission, European Investment Bank, financing institutions

RESEARCH + DATA

RECOMMENDATION	ACTOR
21. Facilitate research, innovation and implementation by mobility labs. Use urban nodes as research, innovation and implementation platforms, being the main hubs for local/regional network (FUA) and TEN-T network (e.g. regarding alternative fuels, digitalisation).	Urban Nodes, TEN-T coördinators
22. Stimulate further development on data-based policymaking and planning, including the creation of a data collection framework and applying the relevant datasets.	Urban Nodes, European Commission
23. Develop a comprehensive list of data indicators by establishing a monitoring framework to determine the functioning of urban nodes, the FUA and network	European Commission, Urban Nodes
24. Develop tools to support sharing of mobility related data in urban nodes with other public and private partners in the logistics chain at corridor level. In order to move towards multimodal Logistics as a Service.	European Commission, Urban Nodes, other public and private partners in the logistics chain
25. Promote further research on the interfaces of freight/persons, intra-/inter-urban, last-mile/ long-distance transport and on spatial-economic analysis of Functional Urban Areas, integrated assessment and business-cases as well as related multi-level governance approaches.	European Commission

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