European Committee of the Regions

Online workshop
09 & 10 June 2020

COTER
Commission

Territorial Impact Assessment

Trans-European transport network (TEN-T)

Disclaimer

This report was produced by the European Committee of the Regions' secretariat to to support the COTER commission in its current and future work related the "Union guidelines for the development of the trans-European transport network" (TEN-T). This report will be shared with the European Commission and the European Parliament.

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This territorial impact assessment report is the outcome of an expert online workshop organised by the European Committee of the Regions and ESPON EGTC on 9 and 10 June 2020.

The ESPON TIA Tool is designed to support the quantitative assessment of potential territorial impacts according to the Better Regulation guidelines. It is an interactive web application that can be used to support policy makers and practitioners with identifying, ex-ante, potential territorial impacts of new EU Legislations, Policies and Directives (LPDs).

This report documents results of the territorial impact assessment expert workshop about the TEN-T guidelines ("Union guidelines for the development of the trans-European transport network"). It serves for information purposes only. This report and the maps represent views and experiences of the participants of the workshop. It is meant to be used for decision support only and does not necessarily reflect the opinion of the members of the ESPON 2020 Monitoring Committee.

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Workshop Agenda

Tuesday, 09 June

14:00 Introduction to the topic
Gudrun Schulze and Martin Zeitler (DG MOVE)
Helmut Adelsberger, Consultant Engineer
14:30 Explanation of the ESPON Quick Scan TIA tool
14:45 Brainstorm and mind-mapping
16:00 Selection of relevant statistical indicators
16:30 End of the first part of the workshop

Wednesday, 10 June

14:00 Discussion on the findings, results and hypothesis
15:15 Policy recommendations
16:00 End of the workshop

Acronyms and legend

CoR	European Committee of the Regions
EP	European Parliament
ESPON	European Observation Network for Territorial Development and Cohesion
LRA	Local and Regional Authority
MS	Member State(s)
NUTS	Nomenclature des unités territoriales statistiques Common classification of territorial units for statistical purposes
OIR	Austrian Institute for Spatial Planning (ÖIR)
TIA	Territorial Impact Assessment

Effects of the directives – colour code

- Positive effects
- Minor positive effects
- Neutral
- Minor negative effects
- Negative effects

Legend – direction of effects

- Increase
- Decrease

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1 Introduction

1.1 Context

The trans-European transport network (TEN-T) is governed by the "Union guidelines for the development of the trans-European transport network". They were adopted in 2013 and represent a new approach to TEN-T policy.

In addition to establishing the technical requirements for the infrastructure, the current regulation defines a strategic "core network" which links major transport nodes (urban, ports, airports, terminals, etc.) through intermodal connections. The deadline for completion is 2030.

The "core network" is complemented by a "comprehensive network" which ensures accessibility of all regions and should be completed by 2050 ("dual layer approach").

Further to the dual layer network, the pre-defined core network corridors (CNC) facilitate co-ordinated cross-border implementation of the core network through specially appointed CNC coordinators and corridor work plans. Funding should target pre-identified sections and projects in these corridors.

The bundling of previously fragmented programmes (transport, energy and digital) into one "Connecting Europe Facility" (CEF) fund aims at increasing the effectiveness and efficiency of EU funding. It should accelerate investment and leverage funding from public and private sectors. The current CEF promotes the participation of private investors and supports public-private partnerships, considering the investment constraints in the wake of the economic and financial crisis.

Apart from the changes in the network approach (dual layer TEN-T network but also transport, energy and digital combination under CEF), the regulation has substantially changed the requirement for funding by introducing common EU-wide infrastructure standards and requirements for smart, innovative and more efficient infrastructure management.

1.2 Political mandate

Mobility and transport infrastructure development are often competences of regional authorities, who are responsible for delivering mobility services as well as spatial planning, planning approval and the issuing of permits in their regions.

While planning for trans-European transport networks has been shifted to the European level, the process of obtaining planning permits for individual projects remains at national and regional level.

Completion of TEN-T is the key to ensuring territorial cohesion, improved accessibility for all regions and the economic development of peripheral and cross-border regions. Completing the TEN-T network is also a key enabler for reaching various other policy goals such as the decarbonisation of transport, renewable and secure energy and a Digital Europe. It could also lead to the creation of additional jobs and help preserve jobs for the workforce directly or indirectly employed through transport. It would, in addition, help make the EU a world leader in innovative and decarbonised transport.

1.3 Previous work of the Committee of the Regions on the topic

In the past few years several opinions by the CoR have examined this topic.

- Missing transport links in border regions - CoR 4294/2016. Rapporteur: Michiel Scheffer (NL/ALDE)

Missing links in border regions form part of a wider issue: lack of financing for the development of local and regional transport infrastructure. With a view to the upcoming budgetary review, there is a need to intensify political efforts to plug the gaps in transport links in Europe's border regions.

The own-initiative opinion handles missing links in the context of cross-border mobility and also frames it in the wider context of reinforced cooperation with the EP and the European Commission.

The opinion assesses the need for plugging the gaps in links in small-scale infrastructure in Europe and for finding ways to finance them in the future.

The objective of the opinion is to address the development of local and regional transport infrastructure in border regions.

- The future of the Connecting Europe Facility - CoR 1531/2017. Rapporteur: Ximo Puig I Ferrer (ES/PES)

The opinion stresses the need to increase infrastructure implementation in the cohesion countries and, in order to maintain complementarity between the CEF and the Cohesion Fund,

to maintain the budget allocation for cohesion countries. It also points out that regional authorities were not included in the management and implementation structure of the CEF, which limits opportunities for assessing the added value, consistency and complementarity of planned investment using different sources of funding.

- Streamlining TEN-T implementation – CoR 3592/2018. Rapporteur: Michiel Scheffer (NL/ALDE)

The opinion addresses simplification of administrative authorisation, permit granting rules and other regulatory procedures in order to facilitate TEN-T completion and points out that such procedures differ in line with the federal and administrative arrangements within Member States. It also focuses on the problems cross-border projects encounter in relation to public procurement and permit granting procedures.

- Connecting Europe Facility - CoR 3598/2018. Rapporteur: Isabelle Boudineau (FR/PES)

This opinion reflects the importance of infrastructure connections for territorial cohesion. It highlights the importance of cross-border connections and missing links and welcomes simplification of the implementation of the CEF programme. It also welcomes the fact that the proposal introduces an objective adapting TEN-T infrastructure to civilian-military dual-use; however, it is concerned that eligibility of "dual use" is not defined in enough detail. The opinion also suggests adjustments to various CEF Core network corridors.

2 Methodology: ESPON Quick Check

The concept of territorial impact assessment (TIA) aims at showing the regional differentiation of the impact of EU policies. The ESPON TIA Tool[1] is an interactive web application that can be used to support policymakers and practitioners by identifying, ex-ante, potential territorial impacts of new EU Legislations, Policies and Directives (LPDs). The 'ESPON TIA Quick Check' approach combines a workshop setting for identifying systemic relations between a policy and its territorial consequences with a set of indicators describing the sensitivity of European regions.

It helps to steer an expert discussion on the potential territorial effects of an EU policy proposal by checking all relevant indicators in a workshop setting. The results of the guided expert discussion are judgements about the potential territorial impact of an EU policy, considering different thematic fields (economy, society, environment and governance) for a range of indicators. These results are fed into the ESPON TIA Quick Check web tool.

The web tool translates the combination of the experts' judgements on exposure with the different sensitivity of regions into maps showing the potential territorial impact of EU policy on the NUTS3 level. These maps serve as a starting point for further discussions on different impacts of a specific EU policy on different regions. Consequently, the experts participating in the workshop provide important input into this quick check on the potential territorial effects of an EU policy proposal.

The workshop on the "Union guidelines for the development of the trans-European transport network" (hereafter: "TEN-T guidelines") was held on 9 and 10 June 2020 as an online workshop and brought together a number of experts representing different organisations and LRAs.

Two moderators from the OIR, provided by ESPON, prepared and guided the workshop and handled the ESPON TIA tool.

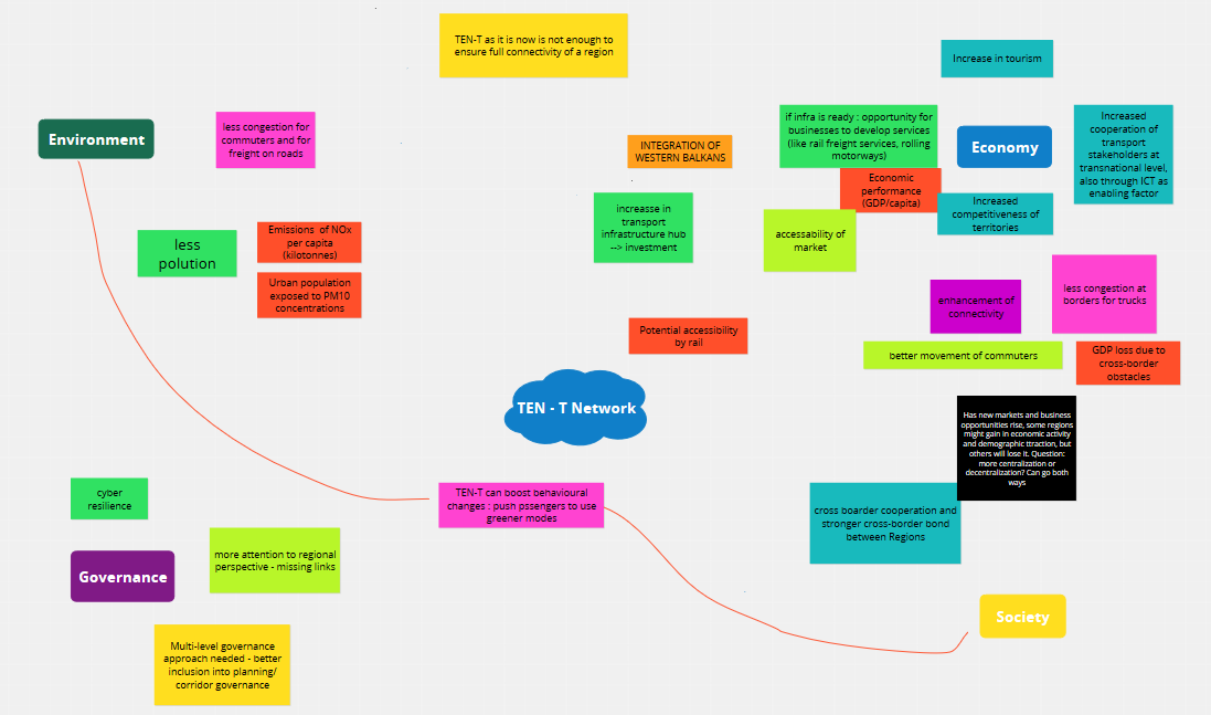
2.1 Identifying potential territorial effects, considering economic, societal, environmental and governance aspects – drafting a conceptual model

In the first step of the TIA workshop the participating experts discussed the potential effects of the TEN-T guidelines using a territorial or place-based approach.

This discussion revealed potential territorial impacts of different potential effects of the TEN-T guidelines, considering economic, societal, environmental and governance-related indicators. The participants identified potential linkages between the implementation of strategy and the effect on territories, including interdependencies and feed-back-loops between different effects (see figure below).

[1] https://www.espon.eu/main/Menu_ToolsandMaps/TIA/

Figure 2: Workshop findings: Systemic picture



Source: Territorial impact assessment expert workshop, 9th June 2020, OIR

2.2. Identifying the type of region affected

In order to picture the territorial effects of the proposed TEN-T guidelines, it was assumed that regions that are located closer to the TEN-T network would benefit more than those far away. (The TEN-T network taken into account included the Core Network as well as the Comprehensive Network.) Thus, a fuzzy typology was developed, introducing a weighting of the identified effects according to a region's distance from the TEN-T network.

The applied typology shows the distance from the midpoint of a NUTS 3 region to the next closest road, railway line, railway terminal, airport or port within the TEN-T framework (Core Network and Comprehensive Network). The computation was performed in GIS using a NUTS 3 and TEN-T layer.

2.3. Picturing the potential territorial effects through indicators

In order to assess the potential effects pictured in the conceptual model, suitable indicators need to be selected relating to the parameters that the experts discussed in the fields of economy, environment, society and governance. The availability of data for all NUTS 3 regions poses certain limitations as to the indicators that can be used. From the indicators that the ESPON TIA Quick Check web tool offers, the experts chose the following indicators to describe the identified effects.

Picturing potential territorial impacts considering economic Indicators:

- Economic performance (GDP/capita)
- GDP loss due to cross-border obstacles

- Potential accessibility by rail.

Picturing potential territorial impacts considering environmental indicators:

- Urban population exposed to PM10 concentrations
- Emissions of NOx per capita (kilotonnes).

Furthermore, the experts agreed that the following indicators, which are not included in the ESPON TIA Quick Check web tool, are also relevant to describe the identified effects:

- Health: closeness to green areas, biodiversity as a life-style aspect
- Number of "green jobs" ("green" label).

2.4. Judging the intensity of the potential effects

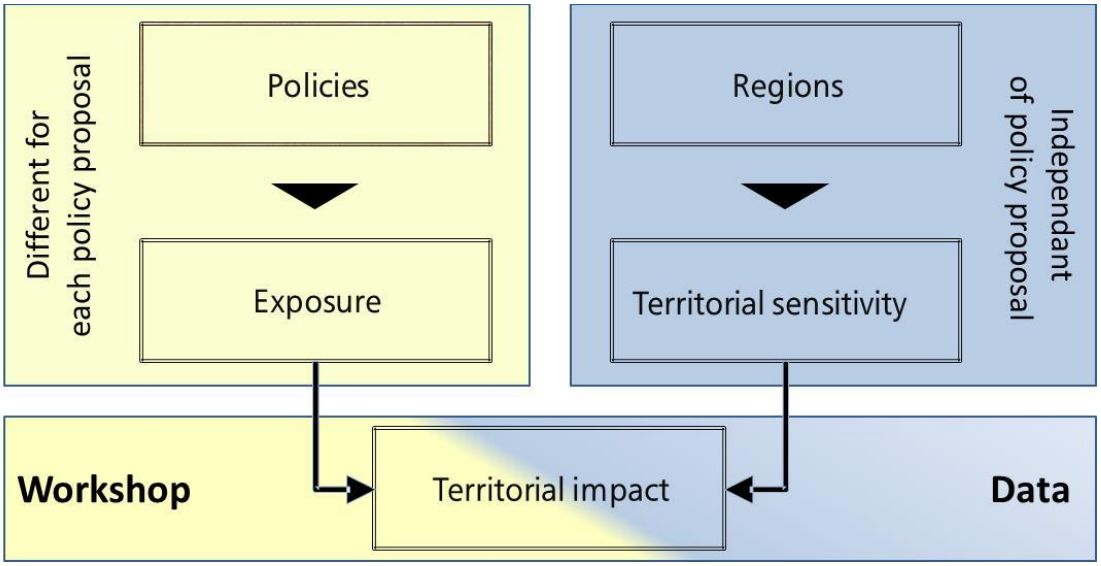
The workshop participants were asked to estimate the potential impacts deriving from the potential effects of the TEN-T guidelines. They judged the potential effect on territorial welfare using the following scores:

- ++ strong advantageous effect on territorial welfare (strong increase)
- + weak advantageous effect on territorial welfare (increase)
- o no effect/unknown effect/effect cannot be specified
- - weak disadvantageous effect on territorial welfare (decrease)
- -- strong disadvantageous effect on territorial welfare (strong decrease)

2.5. Potential 'regional impact' – combining experts' judgement and regional sensitivity

The ESPON TIA Quick Check combines the experts' judgement on the potential effect deriving from the impact of the potential effects of TEN-T guidelines (**exposure**) with indicators picturing the sensitivity of regions resulting in maps showing a territorial differentiated impact. This approach is based on the **vulnerability concept** developed by the Intergovernmental Panel on Climate Change (IPCC). In this case, the effects deriving from a particular policy measure (exposure) are combined with the characteristics of a region (**territorial sensitivity**) to produce potential territorial impacts (cf. following figure).

Figure 3: Exposure x territorial sensitivity = territorial impact



Source: OIR, 2015.

- 'Territorial Sensitivity' describes the baseline situation of a region according to its ability to cope with external effects. It is a characteristic of a region that can be described by different indicators independently of the topic analysed.
- 'Exposure' describes the intensity of the potential effect caused by the potential effects of the TEN-T guidelines on a specific indicator. Exposure illustrates the experts' judgement, i.e. the main findings of the expert discussion at the TIA workshop.

2.6. Mapping the potential territorial impact

The result of the territorial impact assessment is presented in maps. The maps displayed below show potential territorial impacts based on a combination of the experts' judgement on the exposure with the territorial sensitivity of a region, described by an indicator on the NUTS3 level. Whereas the experts' judgement is a qualitative judgement (i.e. strong advantageous effect on territorial welfare/weak advantageous effect/no effect/weak disadvantageous effect/strong disadvantageous effect), the sensitivity is a quantitative indicator based on the characteristics of a region.

3 Preliminary Debate

3.1 Description of the workshop

The European Commission will be finishing its evaluation of the TEN-T Guidelines in early 2020. This has been preceded by public consultation throughout 2019. The objective of the TIA is to indicate which elements of the TEN-T guidelines (network layout, technical requirements per transport mode) affect regions and territorial (as well as social) cohesion.

Global transport flows are changing in volume and direction, and the general transport system is undergoing a fundamental transformation through digitalisation, as well as clean, connected and autonomous mobility. Infrastructure use and efficiency, enhancing mobility concepts and new social aspects in transport will play a key role in this transition, requiring greater cooperation between Member States and a wide range of other players – both public and private ones.

The workshop investigated two main aspects of the TEN-T guidelines:

a) network aspect: how do the current TEN-T guidelines need to be adapted in order to guarantee territorial cohesion by connecting all regions and territories of the Union?

b) technical aspect: how suitable are the technical requirements defined for TEN-T for making sure all regions of the EU are well connected to a digital, seamless and low-emissions transport system? Mobility as a service (Maas) to the Union's citizens must not be limited due to geographical location or specific regional features. MaaS must also make sure that mobility services in metropolitan regions can meet the growing demand and it must ensure that peripheral areas have adequate access to the Union's internal market and services.

3.2 Initial questions

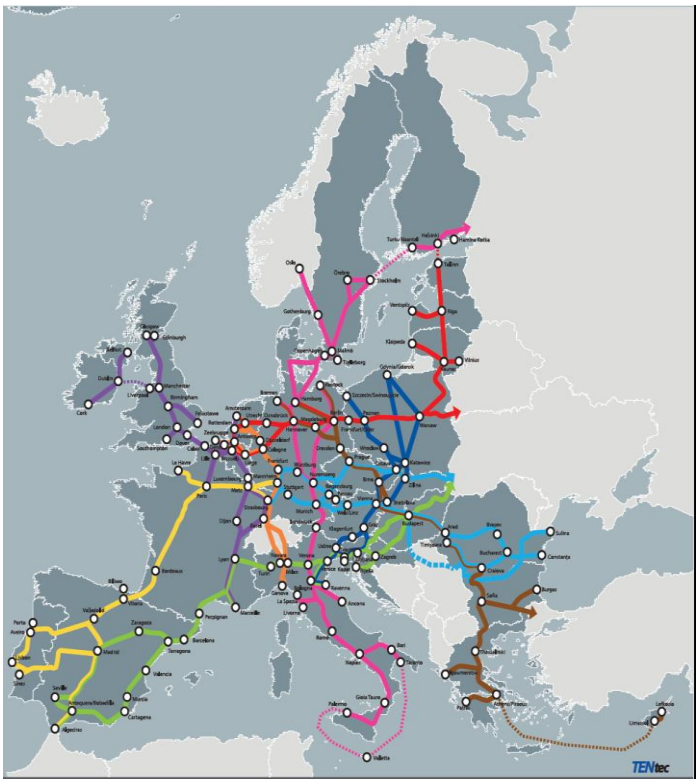
- Does the current network (core and comprehensive) ensure sufficient accessibility to all EU regions?
- Are missing cross-border links and other bottlenecks adequately addressed? Do national priorities for transport investment impede the development of cross-border connections on the national periphery?
- Are the standards and requirements for all modes of transport as defined in the TEN-T regulation adequate for responding to different regional requirements? What could be improved to best cover specific regional features (metropolitan, rural, mountainous regions)?
- Digital transport infrastructure and alternative fuels infrastructure will need to be deployed along the TEN-T. How can we make sure that demand in rural and peripheral areas, which might be too low for market-oriented supply, can be met?

- Multi-modal connections, last-mile passenger and freight connections and seamless traffic will need to be developed. How can urban nodes and cities be better integrated into the TEN-T?
- How can the TEN-T guidelines be better integrated into (or serve) the "greening of transport"?

3.3 TEN-T's revision process

The TEN-T network includes a core network (covering all regions, with the objective of completing the network by 2030) and a comprehensive network (including the most important connections within the comprehensive network linking the most important nodes, with the objective of completing the network by 2050). The comprehensive network is proposed by EU Member States, theoretically in line with specifications from the Commission: sea and inland ports, RRTs and airports to cover the entire EU territory, even peripheral areas. It consists only of links, but not of (pre-defined) nodes (unlike the Core Network).

Map 1 - TEN-T core network



Prior to the workshop discussion, a presentation by the European Commission gave participants an overview of the ongoing revision process. This includes an open public consultation concluded in July 2019, an ongoing evaluation study, targeted stakeholder consultation and an impact assessment in preparation. The revision of all the TEN-T Regulation (N° 1315/2013) provisions is a process started in 2019, and expected to end in 2021.

The focus will be on: network planning (planning methods, core and comprehensive networks); infrastructure features (standards, equipment, quality requirements); interrelation between infrastructure and its use / transport operations; and implementation instruments (core network corridors, reporting, coordinators' work plan etc.).

The end goal is to strengthen the TEN-T as an enabler for a sustainable, safe, smart and efficient transport system in the light of fundamental changes in the transport system overall, while taking account of geo-political developments. The guiding principles include: the stability in network work form (minor adjustments possible); strengthening complementarity between core and comprehensive network layers; enhancing interoperability, safety, multi-modality, disaster resilience, accessibility for all users, clean transport; integrating innovative transport solutions, e.g. digitalisation, automation; the strong link between infrastructure development and service-related requirements; and, lastly, strengthening implementation instruments.

3.4 Policy debate

The discussion was based on three hypotheses.

- The implementation of the TEN-T network will foster territorial cohesion.
- On the contrary, borders still play a role in implementation and improvement measures.
- Modes of transport show different development states and potential within the TEN-T context.

While there are often cross-border trends visible on the maps, in the case of the indicator 'emissions of NOx per capita' (see below in part 4.2) no particular trend affecting border regions is visible. For this indicator there is an equal spread across Europe. However, a link can be made between the amount of emissions and the development of the TEN-T because these regions are often more developed.

Coverage

Network coverage is generally satisfactory, with enough seaports and airports in peripheral and insular regions, but some gaps remain in several regions, both in the Comprehensive and the Core Networks. In particular, the Comprehensive Network should be planned in an analogous way to the Core Network, with new primary urban nodes, connections between primary urban nodes and relevant (potential) traffic flows and guaranteeing "last mile connections" within primary urban nodes to ports, RRTs and airports.

Geographical bottlenecks – both political and natural

The corridor approach helps address missing links and bottlenecks if they are covered by a Core Network Corridor, but only missing links reported by Member States in the Comprehensive Network can be addressed. Very often, the interest and the will to close border crossing gaps or remove bottlenecks are different on the two sides of a border. One of the main issues lies with the limited capacity of regions to influence national transport planning. In order to minimise such problems and

supplement the action of national governments in implementing a more place-based approach to transport networks, further attention needs to be given to INTERREG programmes and EGTCs. The European Cross-Border Mechanism, if approved, can also be useful tool for fostering voluntary cooperation between neighbouring countries and border regions.

Mountainous regions face a natural obstacle to territorial integration and cohesion, as mountains are an obstacle to transport and a cost factor for transport infrastructure. This should be taken into account in European funding.

Integration of urban nodes

As described in the initial presentations by Mr Helmut Adelsberger and supported by the participating experts, a better description of the role and functionalities of urban nodes in the TEN-T is needed. The Comprehensive Network should include capitals and main cities of NUTS2 areas, cities ≥ 100.000 inhabitants. All elements of the Comprehensive Network selected for the Core Network would become Core elements, in line with the planning methodology. In more detail, urban nodes contain transport nodes: railway stations, sea and inland ports, RRTs and airports, connected by "last mile" links.

Multimodality

Large cities often have several terminal railway stations, which are an obstacle to through travellers (changing stations by local means of transport). The inclusion of local public transport for station changes and, in the longer term, full network integration should be planned.

The participants asked if there should be greater differentiation between modes of transportation in the TEN-T in light of the European Green Deal. Rail and maritime transportation are the most important because road requires competences that local authorities do not have (in the case of France). In addition, the link between modes of transport and the switch from modality is important. An example from Italy was given to the effect that good multimodality plays an essential role for ports. In order to improve the competiveness of the supply chain there are two options: show the value of a multimodal hub by being a good gateway and innovate in ICT.´

Greening transport

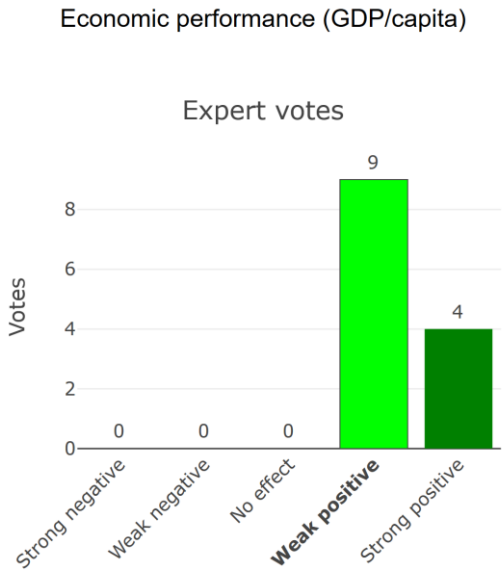
The overall goal of making TEN-T development a cornerstone of the Green Deal is not without challenges. There is potential in the electrification of railways, power supply to vessels at sea and in inland ports, and certainly in technological innovation, other European policies (such as the Cohesion Fund) can limit the impact of such measures.

4. Expected economic effects

4.1 Economic performance (GDP/capita)

The TEN-T network aims at improving accessibility by removing barriers and closing gaps to stimulate, among other things, economic development in the EU. All experts agreed that improvements to the TEN-T network would have a positive effect on the economic performance of regions. Four experts voted for a strongly positive effect and nine for a weakly positive effect.

Figure 1: Experts' judgement: Economic performance (GDP/capita) affected by the TEN-T development

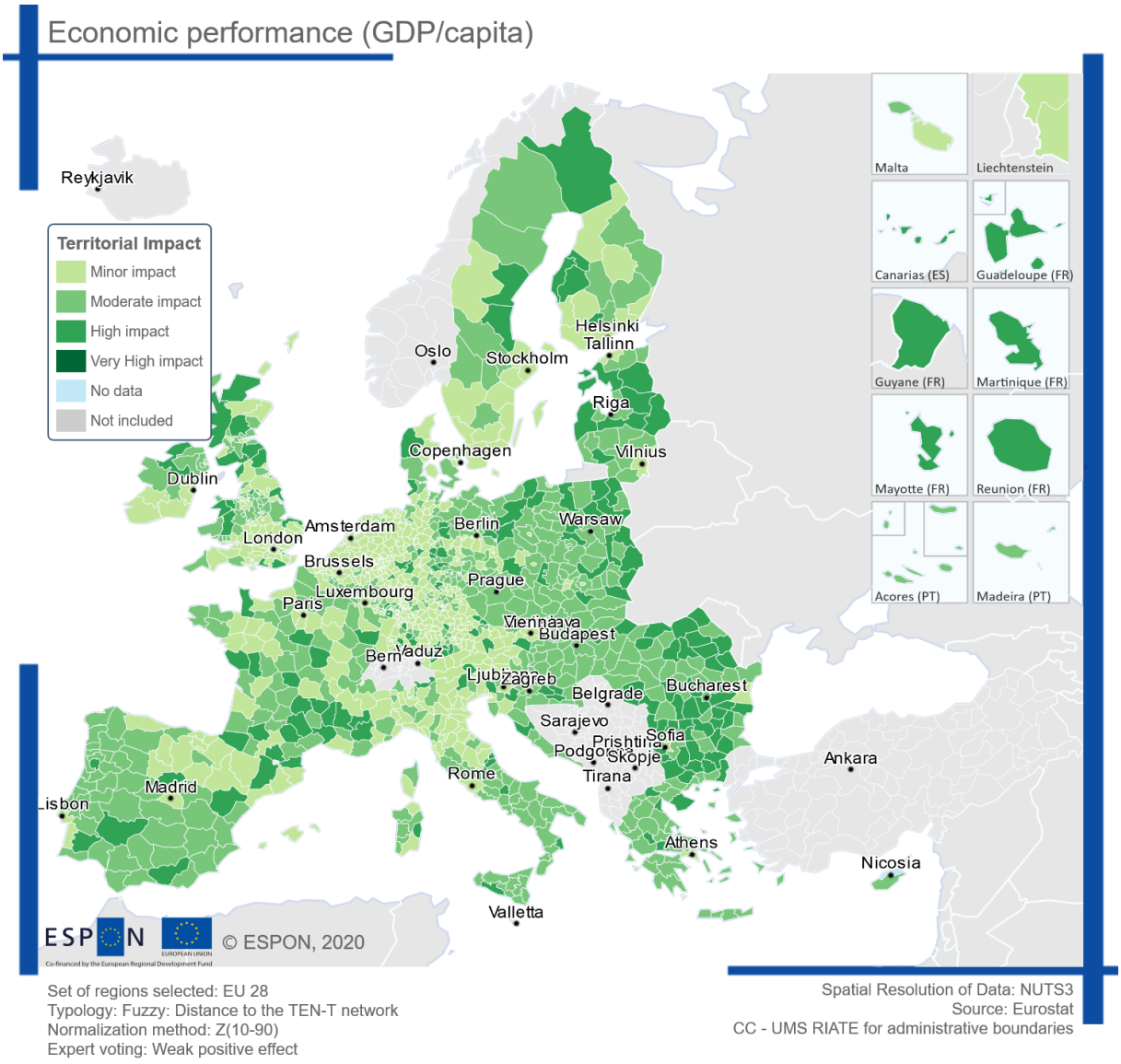


Source: Territorial impact assessment expert workshop, 9 & 10 June 2020

Economic performance is measured by gross domestic product (GDP) at current market prices (Purchasing Power Standard) per inhabitant. Regions with lower GDP per capita are expected to benefit more from TEN-T improvements. Sensitivity is thus inversely proportional to the level of GDP per capita. The following map shows the potential territorial impact of TEN-T development based on economic performance (GDP/capita). It combines the experts' judgement of a weak positive effect with the given sensitivity of regions. 15% of the regions would benefit from a highly positive impact; 37% of the regions are expected to benefit from a moderate positive impact.

The map shows that the completion and improvement of the TEN-T network would result in a catching-up effect for cohesion regions and peripheral regions, such as eastern parts of Poland, Hungary, Romania and Bulgaria, and regions of the Baltic States and the north of Sweden. Additionally, regions in the so-called inner peripheries such as the south-east of France could benefit.

Map 2: Economic performance (GDP/capita) affected by TEN-T development – experts' judgement: weakly positive effect

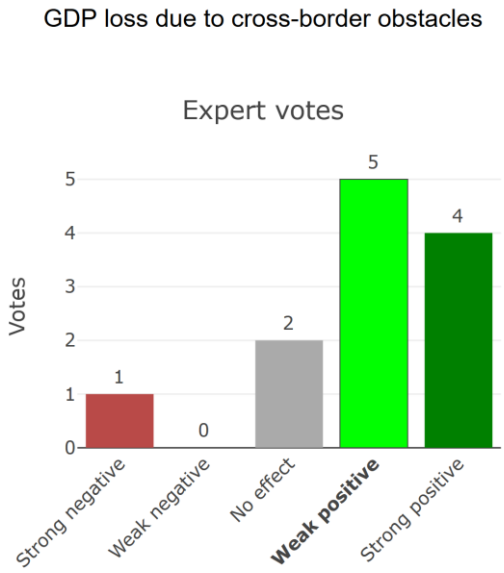


Source: Territorial impact assessment expert workshop, 9 & 10 June 2020

4.2 GDP loss due to cross-border obstacles

The experts concluded that improving the TEN-T network would help reduce cross-border obstacles. Consequently, regions which suffer GDP loss due to cross-border obstacles could particularly benefit from the TEN-T network. It facilitates accessibility between neighbouring countries which results in greater economic exchange. Four experts judged this effect to be strongly positive and five as weakly positive. One expert judged the effect as strongly negative and two experts did not see this indicator as relevant.

Figure 2: Experts' judgement: GDP loss due to cross-border obstacles affected by TEN-T development

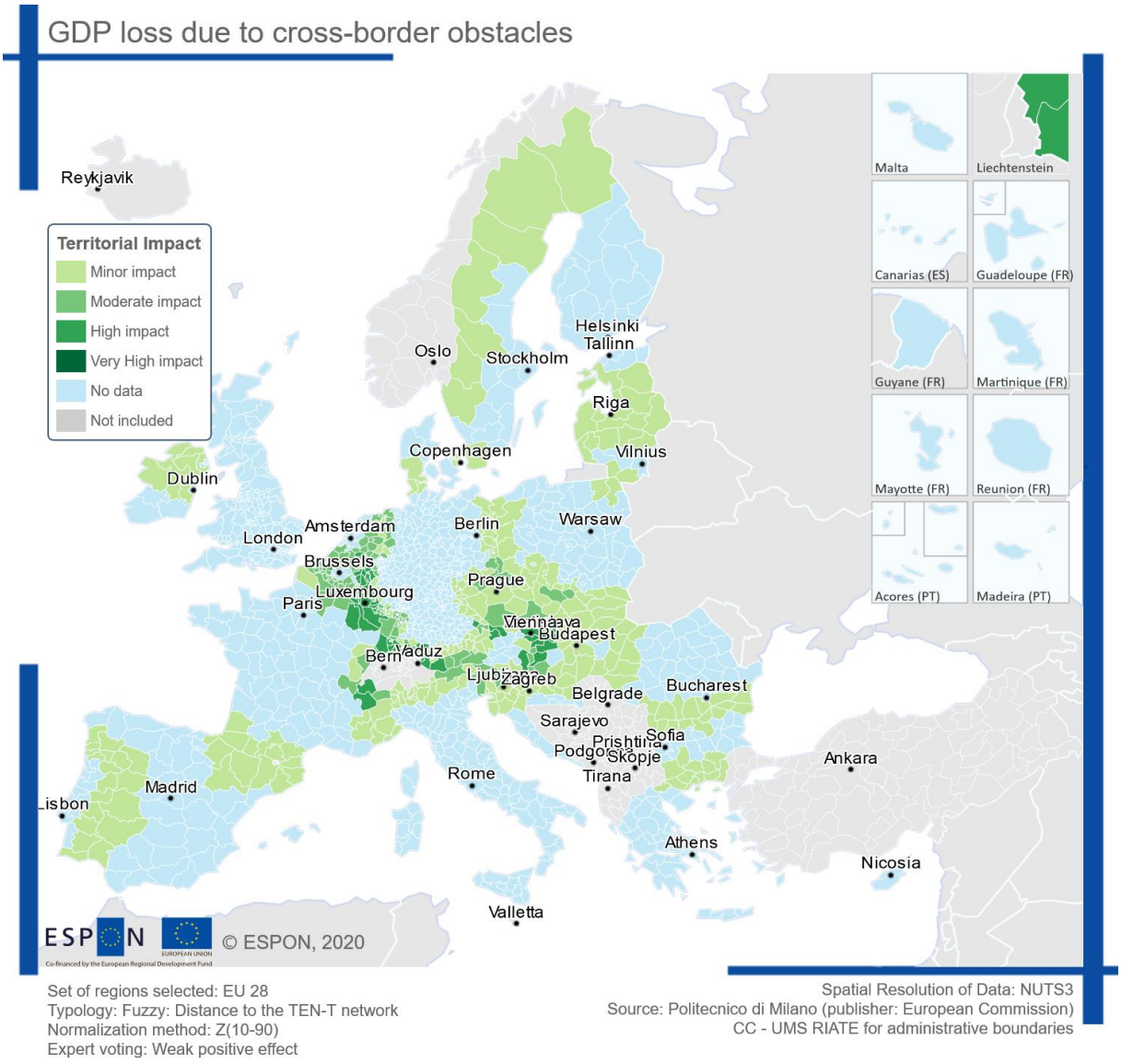


Source: Territorial impact assessment expert workshop, 9 & 10 June 2020

GDP loss due to cross-border obstacles is measured by direct and indirect economic costs due to suboptimal use of assets which are important for growth, such as urban agglomeration, productive capacity, accessibility and trust. GDP loss due to cross-border obstacles was calculated in a study based on a modelling approach. Regions with higher GDP loss due to cross-border obstacles are expected to benefit more from improvements to the TEN-T networks. Sensitivity is thus directly proportional to the level of GDP loss.

The following map shows the potential territorial impact of TEN-T development on GDP loss due to cross-border obstacles. It combines the experts' judgement of a weakly positive effect with the given sensitivity of regions. 12% of the regions could benefit from a highly positive impact. These regions can be found, for example, in cross-border regions of Germany and its western and south-western neighbouring countries and in some of cross-border regions of Austria and its neighbouring countries. 25% of the regions would benefit from a moderately positive impact and the majority are expected to benefit from a minor positive impact.

Map 3: GDP loss due to cross-border obstacles affected by TEN-T development – experts' judgement: weakly positive effect

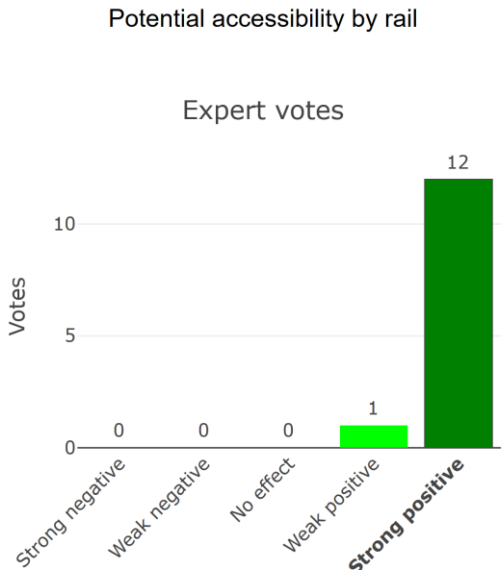


Source: Territorial impact assessment expert workshop, 9 & 10 June 2020

4.3 Potential accessibility by rail

The objective of the TEN-T network is to improve accessibility by removing barriers in the network and closing gaps. Accessibility by rail in particular is expected to be enhanced. All experts saw a positive effect of TEN-T network development on accessibility of regions by rail. Twelve experts voted for strongly positive and one for weakly positive.

Figure 3: Experts' judgement: Potential accessibility by rail affected by TEN-T development



Source: Territorial impact assessment expert workshop, 9 & 10 June 2020

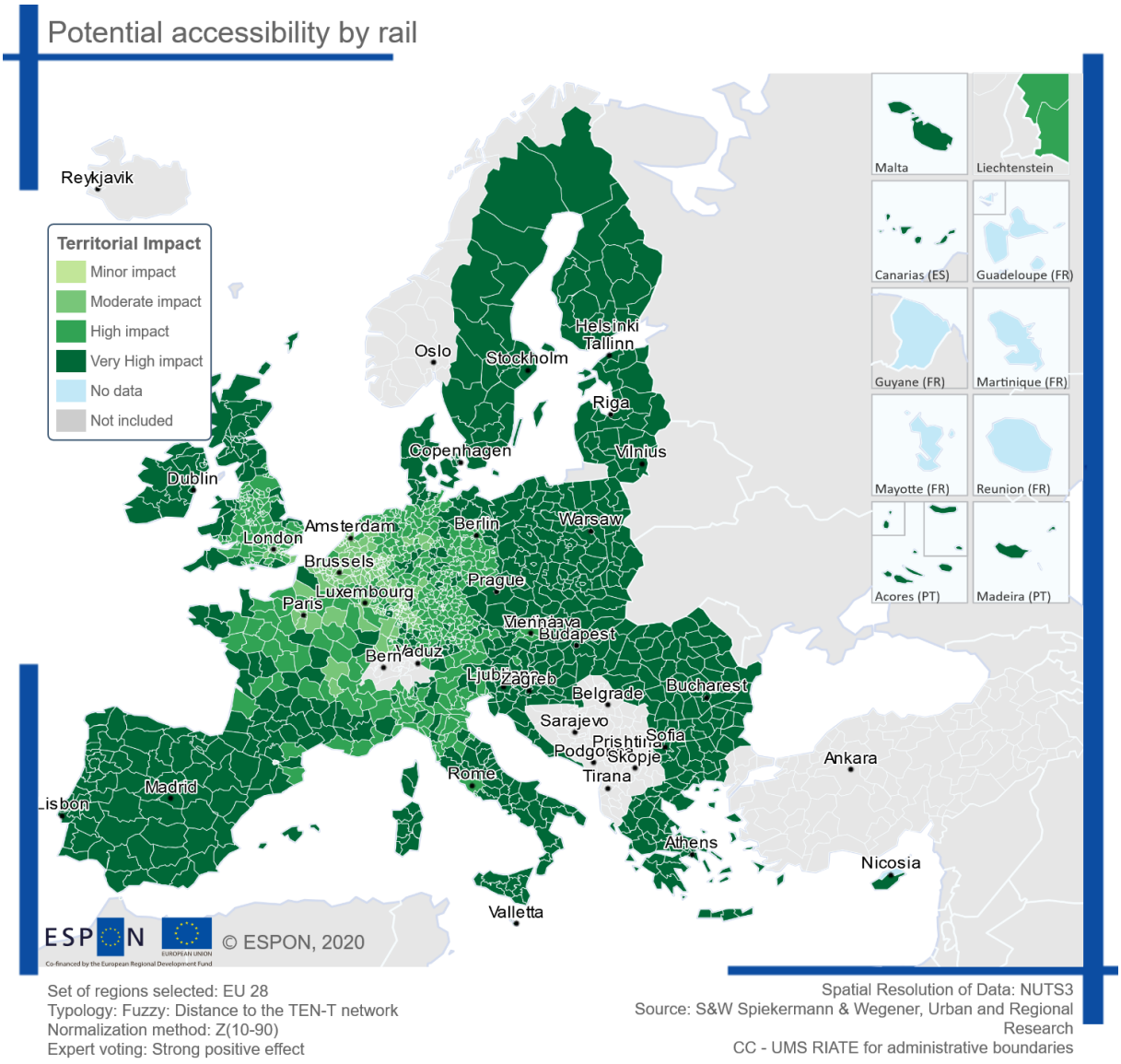
Potential accessibility by rail is calculated as follows: For each NUTS-3 region the population in all destination regions is weighted by the travel time by rail to get there. The weighted population is summed up in the indicator value for the accessibility potential of the region of origin. All indicator values are expressed as an index, i.e. related to the ESPON average. Regions with lower potential accessibility by rail will benefit more from an increase therein and be most disadvantaged by measures that lower it. Sensitivity is thus inversely proportional to potential accessibility by rail.

The following map shows the potential territorial impact of TEN-T development on potential accessibility by rail. It combines the experts' judgement of a strongly positive effect with the given sensitivity of regions.

50% of the regions could benefit from a very highly positive impact, 34% from a highly positive impact. The regional distribution of the territorial impact shows a clear European core-periphery pattern. Especially regions in the European core could potentially benefit greatly from an improvement in TEN-T networks, as the accessibility of the populations to be reached is currently lower than in the European Pentagon. (The European Pentagon covers the area defined by the cornerstones of London, Hamburg, Munich, Milano and Paris). In regions outside the Pentagon the marginal benefit of improved railway lines is expected to be greater than in the already highly accessible regions within the Pentagon.

Regions with a high positive impact on rail accessibility are located in places such as Scandinavian countries, eastern and south-eastern parts of Europe, the Iberian Peninsula, southern Italy and Ireland. Furthermore, regions on the inner periphery of Europe could be impacted positively as well; these include parts of Austria and France.

Map 4: Potential accessibility by rail affected by TEN-T development – experts' judgement: strongly positive effect



Source: Territorial impact assessment expert workshop, 9 & 10 June 2020

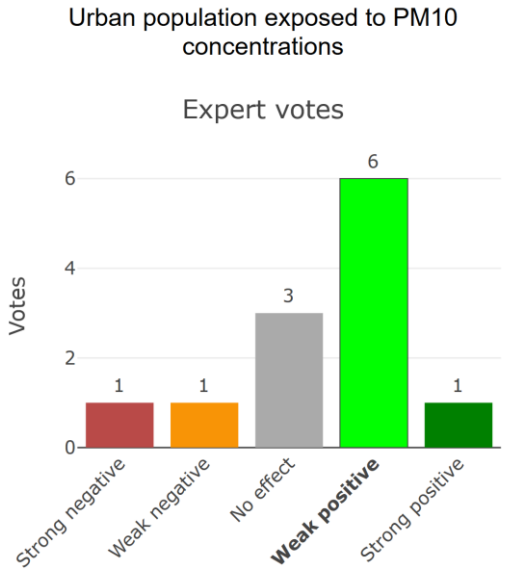
5. Expected environmental effects

5.1 Urban population exposed to PM10 concentrations

The experts supposed that improvements to the TEN-T network would improve the rail network, resulting in a shift in the modal split from car transport to rail transport. In addition, a more efficient traffic system will be established. This will reduce air pollution caused by transport and reduce PM10 concentrations. One expert judged this effect as strongly positive and six as weakly positive.

Nevertheless, two experts judged the effects negatively, meaning that the TEN-T network would increase PM10 concentrations. This was expected to be caused by a higher traffic density due to better road accessibility.

Figure 4: Experts' judgement: Urban population exposed to PM10 concentrations affected by TEN-T development



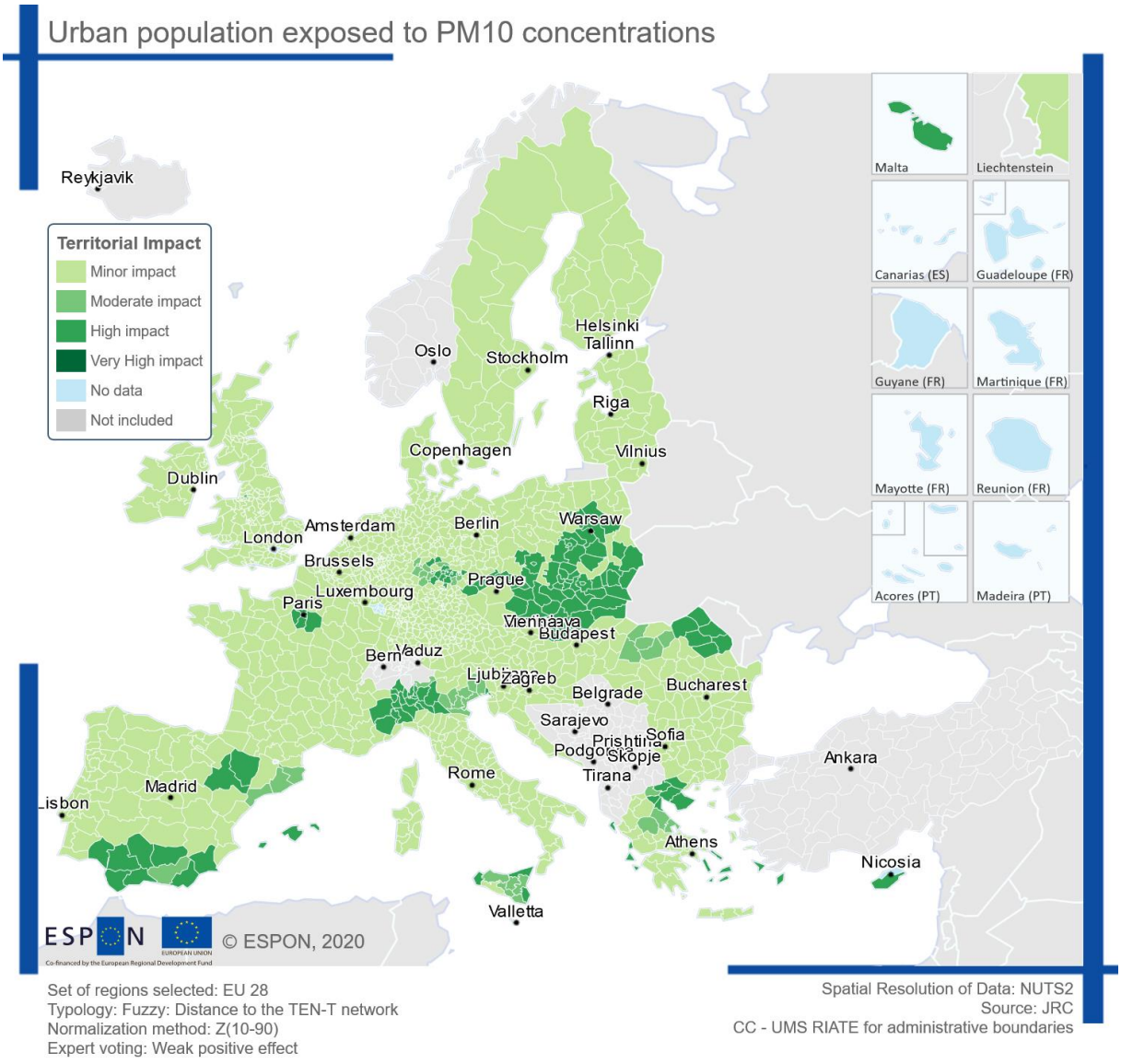
Source: Territorial impact assessment expert workshop, 9 & 10 June 2020

The "Urban population exposed to PM10 concentrations" indicator depicts the percentage of urban population exposed to PM10 concentrations exceeding the daily limit value (50 µg/m3) on more than 35 days a year. Regions showing a higher proportion of urban population exposed to high PM10 concentrations are expected to benefit more from a reduction in PM10. Sensitivity is thus directly proportional to the percentage of urban population exposed to PM10 concentrations exceeding the daily limit value.

The following map shows the potential territorial impact of TEN-T development on the urban population exposed to PM10 concentrations. It combines the experts' judgement of a weakly positive effect with the given sensitivity of regions. 11% of the regions are expected to benefit from a highly positive impact, 3% of the regions from a moderately positive impact and 86% from a minor positive impact. Especially

metropolitan regions with high air pollution would benefit, such as those around Paris and Warsaw. Furthermore, industrialised regions with existing high PM10 concentrations would benefit greatly, such as those in the north of Italy, central Germany, the east of the Czech Republic and the south of Poland.

Map 5: Urban population exposed to PM10 concentrations affected by TEN-T development – experts' judgement: weakly positive effect

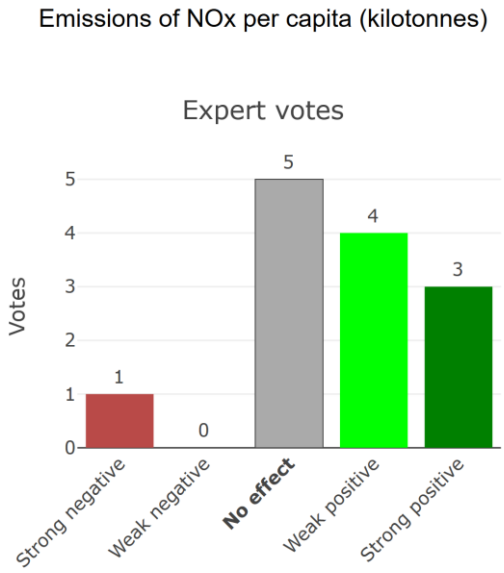


Source: Territorial impact assessment expert workshop, 9 & 10 June 2020

5.2 Emissions of NOx per capita (kilotonnes)

Another indicator for measuring the effects of TEN-T development on air pollution is NOx. Three experts judged the effect would be strongly advantageous and four judged it would be weakly advantageous. Most of the experts did not see any relevant effect.

Figure 5: Experts' judgement: Emissions of NOx per capita (kilotonnes) affected by TEN-T development



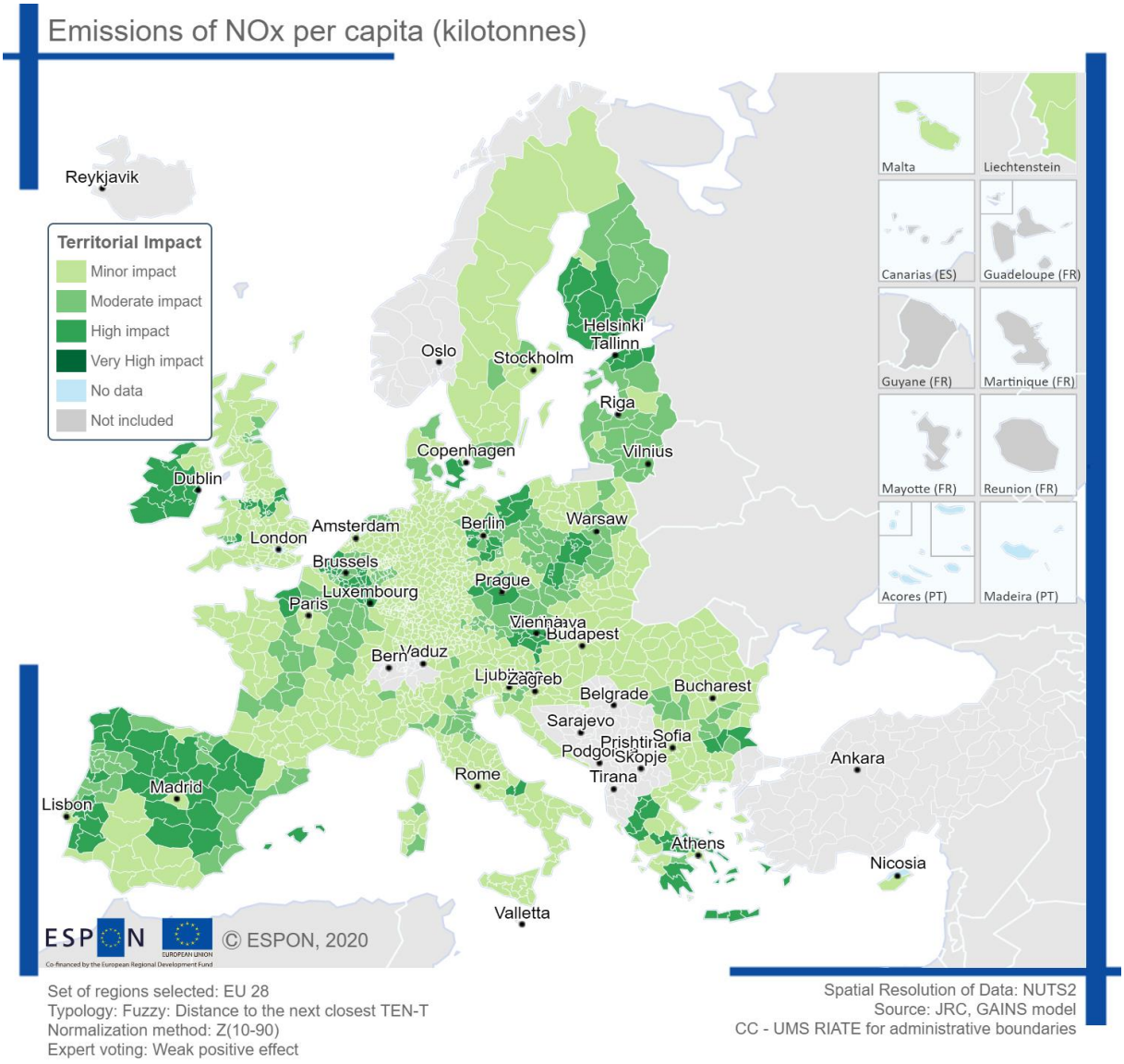
Source: Territorial impact assessment expert workshop, 9 & 10 June 2020

The indicator picturing the sensitivity of a region to NOx emissions is measured by the indicator of 'tonnes of NOx per capita'. It is assumed that regions with higher emissions of NOx per capita (tonnes) are more sensitive to the effects of an enhanced TEN-T network than others.

The following map shows the potential territorial impact of implementation of the TEN-T guidelines on NOx emissions. It combines the experts' judgement of a weak advantageous effect with the given sensitivity of regions. 11% of the regions are expected to benefit from a highly positive impact, 26% would benefit from a moderately positive impact and 63% from a minor positive impact.

The map shows quite a scattered picture. As five out of 13 participants did not see any effect, it is questionable whether this indicator really describes the effects of enhancing the TEN-T network in line with the proposed TEN-T guidelines.

Map 6: 2.2 Emissions of NOx per capita affected by the TEN-T guidelines – experts' judgement: weakly positive effect



Source: Territorial impact assessment expert workshop, 9 & 10 June 2020

6 Conclusions and policy recommendations

One basis for successful TEN-T development is the provision of alternative fuels. However, there is a major obstacle, because the transition costs money. To overcome this, a reduction in taxes on certain types of fuel would be beneficial and European support would improve the competitiveness of alternative fuels. Thus, linking the alternative fuels directive with TEN-T creates opportunities. Further, linking TEN-T to European cohesion policy could serve as a better way to tackle the objectives of the green deal.

Some experts noted the lack funds for infrastructure in the MFF. Improving the competitiveness of transportation and alternatives fuel requires funds. Within the funds, greater flexibility will have a positive impact. Aside from EU funds, private funding in all modes of transport and especially in alternative fuels stations is a viable option, but there is little incentive for private investment because the benefits go to other parties.

In a more general sense, TEN-T should be at the forefront of the transport transition and a pioneer in achieving the green deal objectives. Only looking at electric locomotives, for example, is not sufficient; other alternatives also need to be investigated and included in the TEN-T directive.

Priorities within Member States (MSs) could be changed, for example by increasing taxes on grey fuels. MSs could also support regions that want to implement transport changes towards the Green Deal. National governments should also try to prevent creating barriers for the regions as regards transport, something which is often the case now.

At the moment the best strategy is for LRAs to take the initiative and show both the public and other public authorities that their ideas are worth investing in and, through this approach, for regions that are actively developing modes of transport to be supported by the national government.

Bearing in the mind the policy discussion, the analysis of territorial sensitivities and the conclusions described above, the experts formulated the following set of policy recommendations.

6.1 Measures at European level

- Coordination between the revision of TEN-T and of the AFDI (Alternative Fuels Infrastructure Directive) – for example, with a reduction in electricity taxes for ships at European level to avoid tax competition; TEN-T in particular brings in the cross-border aspect, which is absent from AFIT.
- Coordination between the revision of TEN-T and Cohesion Policy, particularly in environmental issues.
- Coordination between TEN-T and the Green Deal (with a stronger focus on maritime and rail transport and promotion of efficient use of the network, crucial for decarbonisation).

6.2 Measures at national level

- Increased fiscal coordination, in particular concerning taxation on fuel.
- Member States should not be a barrier for regions that wish to go further in interregional cooperation, particularly when all the financial resources come from the regions themselves, without further national investment.
- In this regard, approval of the European Cross-Border Mechanism is of utmost importance in order to guarantee that, for example, missing links in border areas can be resolved through local and regional cross-border initiatives.

6.3 Measures at regional and local level

- Regions and municipalities need to express their needs and concerns in the field of transport, both at national and European level, as well as further engage in cross-border and interregional cooperation to address any barriers they might experience.