



European
Commission

Attracting investments

towards transport infrastructure
potential lines for action

Transport



This report includes considerations and proposals for future reflexion and potential development in line with the opinion of the authors and does not constitute an official position of the European Commission.

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EXECUTIVE SUMMARY

Introduction

Many governments across the world encounter 'infrastructure financing gaps' due to increasing investment demand for infrastructure with shrinking public finance. In Europe, investment needs for transport infrastructure are €1.5 trillion by 2030; TEN-T alone requires €500 billion by 2020. How to bridge infrastructure financing gaps?

The expectations are high but so are our capabilities. Today Europe has expressed its strong commitment and priority towards the development of transport infrastructure financing in the long run. The adoption of TEN-T and the CEF - a €26.3 billion transport budget coupled with additional large amounts from the Cohesion policy and an array of financing instruments - underpins that opportunity, gradually paving the way towards a socio-economically prosperous Europe.

Now, the clue is on how to seize this opportunity in times of constrained national budgets and challenges, and make the most of all forms of financing to attract additional public and private investment in financing transport infrastructure of high added value for Europe.

Transport Financing - Challenges and Opportunities

Identifying challenges and opportunities with scenarios underpin the making of investment decisions. Past experiences have demonstrated that public and private funding, separately and in combination, is at the heart of the delivery of critical transport infrastructures.. Be they public monies, PPPs or financial instruments - all constitute a vital toolkit for transport infrastructure financing and environment involving financing virtues and challenges alike.

The challenges are mixed and varied.

Regarding **public finance constraints**, the capital required for infrastructure investments is voluminous but raising it domestically without affecting investments in other key sectors remains a challenge. Opting for private finance is an option but the **developments of financial markets** have so far received scant attention to the detriment of the rolling out of financial instruments. The absence of conditions favourable for their evolution continues depriving projects of potential investments.

The impact of the **financial regulatory reform** on banks could still deepen the gap between the available capital and the required investments while cumbersome **procedural and administrative requirements** beg for urgent revisiting. Seen in this light, the legal certainty ensured by TEN-T and the CEF shall be embraced to its fullest by **stronger cooperation and implication** of all the relevant actors involved in the completion of the TEN-T core network corridors to the required standards.

As proponents of innovative financing solutions, we invite taking a significant leap further in **re-thinking transport infrastructure financing**. No doubt one should make the best of existing measures but that is not sufficient. We thus put forward **10 proposals** that - if acted upon - could empower Europe and gear it towards ever more resource-efficient and durable transport financing.

EXECUTIVE SUMMARY

Ten Proposals

1. **Reinforcement.** Tapping into the true potential of **financial instruments** can help create significant spill-over leverage effects. LGTT and PBI are living evidence that financial instruments generate impetus for increased investments with reduced risks.
2. **Deepening** the scope and mechanism of existing instruments to ensure their full pick-up for the projects with high EU-added value, learning from the experience and overcoming current limitations.
3. **Pooling and Blending.** Proper pooling of **EU funds** and its blending with **private** financing would help reduce the cost of private capital. Likewise, grants from ESIF could be combined with financial instruments under the CEF, thereby reducing the level of grants and increasing the leverage.
4. **Focus.** Prioritising **projects** with the highest **EU added value**, such as cross-border projects, would target investments where they are most needed, in particular for public financing.
5. **Acceleration.** Building a **mature and stable project pipeline** - at European and Member State levels - would allow concentrating resources and maximising their impact across transport networks, and would increase the much needed longterm visibility for public and private investors.
6. **Support.** Continued technical and institutional **assistance** of the EU to national administrations and project promoters dealing with complex projects guarantees the absorption of financing. Generating further awareness and expertise of the **PPPs** or other means would maximise their benefits and efficiency from an early stage.
7. **Clarity.** Harmonising the **EU rules of state aid** and reviewing the scope of EUROSTAT associated with project design and implementation would increase transparency and help exploit flexibility within the **Stability and Growth Pact**, in line with the directions of the new Commission President-Elect.
8. **Streamlining.** Optimising the **financing framework** and reducing the associated **political and regulatory risks** linked to infrastructure development would help decrease the cost of financing. Harmonisation, simplification and acceleration of permitting and procurement procedures would facilitate the implementation of projects along Corridors, in particular for cross-border projects.
9. **All-inclusivity.** Developing schemes capturing the full **infrastructure life-cycle** that secures revenues covering the costs through the life of infrastructure would generate greater predictability of revenues and costs.
10. **Generating** additional revenues through the **internalisation of external benefits**, such as GHG reduction, while simultaneously extending the scope of the **internalisation of external costs** can produce revenue stability and surplus deployable in cross-financing schemes.

Conclusion

There is no universal panacea to closing transport infrastructure financing gaps under the current macro-economic scenario; however major breakthrough can be brought about developing innovative policies that encourage it.

We believe that Europe can be invested with new vitality and pertaining challenges can be met with **new thinking and new approach** to the **existing and proposed financing measures**, thus counteracting the current situation speeding up the implementation of the Common Transport Policy, to generate the benefits it can deliver for more growth and jobs.

Accordingly, some potential lines for actions are proposed in order to develop them in the coming months to enhance the existing toolkit, to be agreed upon in a further discussion.

INFRASTRUCTURE FINANCING GAP

Infrastructure financing gap

The European Union will face huge challenges in the field of transport infrastructure in the next 20 years. It is set to embrace an unprecedented need for funding resources for completing the trans-European Transport Networks strengthening the internal market and territorial cohesion of the 28 Member States, improving connections with neighbouring countries and maintaining and upgrading existing transport infrastructures.

In total the cost of EU transport infrastructure development has been estimated at over €1.5 trillion for 2010-2030. The completion of the TEN-T network alone requires about €500 billion until 2020 out of which some €250 billion can be referred to the removal of the main bottlenecks.

The bulk of the investment in transport infrastructures has been provided traditionally by the public sector. However, in the aftermath of the financial crisis, sluggish growth and fiscal constraints in several Member States meant that government budgets – traditionally the major source of financing for infrastructure – cannot alone be expected to finance the transport infrastructure needs foreseen in the horizon of year 2020. At the same time, the volume of private participation in financing infrastructure projects in the EU remains relatively modest.

TEN-T forecasts submitted by Member States to the Commission indicate lower investment plans for 2014-2020 than estimated in the CEF at some €340 billion (in current prices) or €48 billion per year. This means that the current forecast of investment is approximately 21% lower than for the period 2007-2013. The major sources of funding will continue to be national sources representing over 70% of TEN-T investment requirement followed by EU grants and EIB standard loans.

At the same time, financial regulatory reform is expected to have a negative impact on the banking sector capacity to finance longer-term and less-liquid investments, such as transport infrastructures. The deleveraging of European banks is likely to persist into the medium term, which implies a growing mismatch between the time horizon of available capital and that of productive long-term investment projects.

That means that, without vigorous action for attracting investment resources to the transport sector, the EU can be confronted to a serious financing gap, such as to put at risk the timely completion of the TEN-T core network by 2030 and result in serious under-investment in infrastructures that are critical for the well-functioning of the economy.

Long term effects of (lack of) investment in infrastructure

The links between fit to purpose transport infrastructures and development are well established. They include the impact of infrastructure on competitiveness, market opportunities, territorial cohesion and reduced environmental impacts, adequate levels of safety and security and higher standards of living of citizens among others.

In the context of the TEN-T, first results of the transport corridor studies show the concrete, positive result of investment in infrastructure for individual Member States and regions. For example, it has been calculated that an investment of 10 billion Euros (present value 2010) in the Danube-Axis will create an GDP-effect in Austria of 23,3 billion Euros for the period 2010-2050 (+/- 15% margin), and creating 10.000 jobs. For the whole European Union (excluded Austria) the GDP-effect will be around 50 billion Euros, with a creation of 75.000 sustainable jobs. The positive impact of the Øresund Bridge on the economies of the Greater Copenhagen and the Scania region in Sweden has also been demonstrated.

Failure to provide investment resources to complete the planned works would put at risk those expected benefits. In terms of EU sustainable growth, under-investment in transport infrastructures would inevitably result in negative impacts in terms of economic activity and employment, loss of competitiveness of European industries and higher external costs (environmental degradation, accidents and loss of opportunities for all the cluster of transport-related industries).

INFRASTRUCTURE FINANCING GAP

The TEN-T and Connecting Europe Facility opportunity

The adoption in December 2013 of the dual Regulation - for the trans-European network for transport (TEN-T) and the Connecting Europe Facility (CEF) - a €26.3 billion transport budget coupled with an array of innovative financing instruments - underpins that opportunity. This is particularly so given the context of constrained national budgets with rising demand for infrastructure investments. Private sector too faces certain constraints. Seen in this light, TEN-T and the CEF are timely and targeted measures contributing towards the closing of the transport infrastructure financing gap and paving the way for the development of efficient infrastructure financing.

The objective is simple: to gradually replace the existing patchwork of fragmented projects with a genuinely efficient and sustainable pan-European network within and across borders and transport modes. To do so, the revised TEN-T Guidelines and the CEF follow a carefully crafted methodology that builds on past experiences with a view to providing a clear framework - legal inasmuch as financial - for the identification and implementation of projects with a high European added value. By setting out clear political objectives and financial tools, it provides for a long-term strategy for the implementation of TEN-T by way of a core and comprehensive networks by 2030 and 2050, respectively.

The core network corridors are amongst the primary focus of funding through the Connecting Europe Facility. The synergies they generate between infrastructure, transport and other policy actions, however, makes them also an ideal case for combining the CEF with complementary funding from other EU sources, in particular the European Structural and Investment Fund (ESIF), Horizon 2020, the Instrument for Pre-Accession (IPA) or the European Neighbourhood Instrument (ENI).

All this makes the core network corridors frontrunners of the Union's new infrastructure policy: they will become the backbone of the economy, acting as guiding instruments for the prosperity of the EU economy and society.

The challenges ahead for ensuring transport investment flows in the UE

However, the TEN-T and CEF efforts need to be actively supported. There are a number of current and emerging challenges that are expected to affect the capacity of the public sector to provide the required funds for maintenance and new construction of transport infrastructures and further undermine the attractiveness of long-term private investments in the sector, in particular:

- The need for stronger and much more enhanced cooperation between the actors in the Member States and regions involved in the completion of the core corridors. The TEN-T and CEF mechanism provide an excellent framework of cooperation, with the establishment of work plans, clear distribution of task and split of investment responsibilities and precise deadlines. All those factors are of crucial importance for providing legal certainty and creating an attractive environment for attracting financial resources in support of long-term capital investment.
- The need to tackle burdensome procedural and administrative requirements for launching investment projects that are considered as high priority in terms of the expected social, economic and environment benefits and that meet all the requirements in terms of sound technical preparation.
- The need for further financial market development, in terms of implementing innovative financial instruments and stimulating demand from long-term investors committed to support mature, sound and safe projects with a clear positive impact on sustainable development goals. Enhanced capital markets in support of the real economy are of crucial importance at a moment in time when public finances are constrained, both at the level of the EU budget and at the level of the Member States, and while infrastructure investment requires large amounts of capital which may be difficult to raise domestically without crowding out other forms of investment.

The objective of this paper is to raise awareness of the need to make financial resources available for the completion of the TEN-T, shed light on the financing of infrastructure from a system perspective and life-cycle approach and propose recommendations in view of the existing and future transport network, defined by TEN-T and the CEF.

POTENTIAL LINES FOR ACTIONS

Potential lines for actions

As shown with the interim evaluation of its pilot phase, the Europe 2020 Project Bond Initiative made European institutional investors aware of the real opportunities of investing in infrastructure. According to investors, a real market is emerging, enabling to overcome the bank lending crisis and to potentially bridge the infrastructure financing gap.

In today's financial markets, the conditions for making transport infrastructure projects in Europe an attractive option for private investors seem to be met:

- Long-term interest rates are at historical low; negative interest rates by central banks is an option;
- The transport sector represents a long-term growth sector, in all transport modes
- Transport infrastructures are long-term assets that generate direct and indirect revenues; in many cases, governments can guarantee minimum returns and ensure markets about the quality of the projects.
- Investment in transport infrastructures that support sustainable development is a socially responsible investment, i.e. the kind of non-speculative finance that many institutional investors (pension and sovereign wealth funds) are keen to support.

Therefore, the potential for attracting investments into transport infrastructure financing exists. However, this potential is still largely untapped, for a number of reasons. A variety of actions, partly stemming from a comprehensive EU funding strategy, has to be undertaken in order to allow transport infrastructure benefiting from this financing potential, notably for projects implementing the trans-European transport network, as they will improve the long-term competitiveness of the Union.

The lines of actions recommended here are first to make the best of the existing EU instruments with more flexibility and coordination, second to create a better environment for investors and finally to secure long-term revenue streams for infrastructure projects.

Making the best of existing instrument

Enhancing innovative financial instruments

A strong way of enhancing the leverage effect of EU contributions on other sources of financing are Innovative Financial Instruments (IFI). They may mobilise investment volumes which range between the six fold (for equity investment) and the fifteen fold (for risk sharing instruments such as project bonds) of the relevant contribution; the leverage effect can be higher with a portfolio approach, whereby the risks are spread over several projects. Experience has shown that a combination of different actions appears necessary to stimulate the broader use of IFIs. It includes the need to remove regulatory and administrative obstacles, which may persist at national level, as well as favouring the emergence of a solid project pipeline. Those points are discussed further in the document. Beyond those crucial points, the use of already existing instruments, i.e. the Project Bond Initiative and the LGTT, should be enhanced by widening their scope.

For the Projects Bonds, besides issuing bonds on a single project basis, **bonds might also be considered for clusters of projects**. This could mutualise their risks and enhance credit worthiness. This could in particular be possible for projects which are functionally interdependent like those located along a core network corridor (Corridor Bonds). In order to make it work, however, the risk should be diversified by including a sufficient number and different types of projects.

POTENTIAL LINES FOR ACTIONS

Beyond the existing project bond mechanism by which the EU and the EIB simply offer a guarantee to cover the issuance of a bond, an option could be to **allow the European Union, for instance, but not necessarily, through the European Investment Bank, to raise directly funds on capital markets (in the form of bonds) to finance high EU added value pan-European infrastructure projects (for example SESAR)**. From a financial point of view, the subscription of the EU and the backing of the Member States should ensure access to the best possible conditions. From an operational point of view, in order to have a successful deployment of pan-European infrastructure projects and systems, a clear and irreversible plan to roll them out with the strong backing of all Member States is needed.

Regarding the **Loan Guarantee Instrument for the TEN-T (LGTT)**, past experience under the TEN-T programme has proved that it can work, but only a reduced number of projects have been carried out. To overcome the short-comings, several improvements could be envisaged:

- **extending the risk coverage beyond traffic risks**, in line with the risks covered by the Project Bond instrument
- **increasing the maximum level of the guarantee** from 20% up to 30% of the total senior debt issued, as foreseen for the Project bond instrument.
- **reducing the expected cost** for the use of the instrument from 10% to 5% to be paid up-front or, alternatively, up-front payment of a rate of 5% and the remainder in equal instalments throughout the year duration of the warranty.

Pooling and concentrating the EU funding instruments

With the financial instruments and grants from the Connecting Europe Facility and the European Structural and Investment funds, with the loans from the European Investment Bank and the national development Banks, there are several opportunities available to complement national co-funding for the financing of infrastructure projects. In order to ensure the accelerated development of the TEN-T, and in particular for the key EU projects with high added value, **a proper pooling and focusing of these funds must be ensured and must also be blended when possible with private financing from development banks (EIB, national development banks), institutional investors, and private financing in general.**

EU contribution should be channelled to projects and programmes with the highest EU added-value to generate the maximum impact across the network. This EU added-value should focus on initiatives which have important net economic and social EU benefits (i.e. which benefit the Union as such) and which will not likely be implemented without a strong EU support. Typically this would mainly concern cross-border projects, the railways, the inland waterways and the maritime transportation, as well as horizontal measures aiming at strengthening the efficiency of the network (interoperability, safety, traffic management and intelligent transport systems, research and innovation...). Emphasis should also be given to the promotion of profitable projects in line with the TEN-T policy in order to accelerate the completion of the network. **The EU instruments dedicated to transport infrastructure financing should concentrate on such projects.**

Grants from the EU budget can also be combined with private financing schemes, themselves benefitting from EU financial instruments. For instance, grants from the European Structural and Investment Funds (ESIF) could be combined with financial instruments from the Connecting Europe Facility, thereby reducing the level of grants and increasing the leverage. ESIF could also contribute more widely to financial instruments, including those established under the CEF, to increase their leverage. These financial instruments could be used for the development of airports, ports but also for the development of the motorway network in Cohesion Member States.

Potentially, a mix of public debt and guarantees can cover part of both construction and operational costs – where public debt is ideally to be minimised and limited to buffering peaks of investments. In such deals, the blending of EU grants with PPPs can represent an effective way to reduce the cost of private capital.

POTENTIAL LINES FOR ACTIONS

Create a better environment for institutional investors

For obtaining private financing for transport infrastructure projects, projects have to be able to produce a stream of revenues paying back investment costs plus an adequate return (interest) within a reasonable period of time. Moreover, private investors require legal certainty for their investments and acceptable levels of risks.

In that regard, it is important to make a distinction between the risks associated to the public debt of a Member State ("country risk") from the risk associated to a particular project ("project risk"). There can be low risk, high quality projects guaranteeing solid revenues in countries with excessive deficit in public finances. Moreover, corporate finance (including cases of companies owners of airports, ports or rail infrastructure managers among others), is a major source of private finance for infrastructure. In the EU, companies in the transport sector are important owners of infrastructure assets and providers of infrastructure services. Those companies are in position to develop projects of interest for the TEN-T, even if those projects offer low long-term returns.

As stated recently by the OECD/ITF (2013) "The long-term investment horizon and appetite for inflation-protected cash flows of institutional investors theoretically make for an ideal investment pairing with the long-term, low risk nature of transport infrastructure assets"¹. But in fact, although growing rapidly, institutional investment in infrastructure is still limited. In fact, currently pension fund investment in this more direct form of infrastructure investment represents around 1% of total assets on average across the OECD. A number of barriers and risks are limiting the level of investments and have to be lifted to unlock the full potential from institutional investors.

Building a long-term solid project pipeline

The lack of a solid project pipeline has been identified in the course of the pilot phase of the Project Bond initiative has one of the major obstacles to the development of infrastructure financing by capital market investors. **A supply of a stable pipeline of infrastructure projects of common interest is crucial for the delivery of the TEN-T financing framework.** While some Member States have a robust and regularly updated pipeline of projects, there is only a limited number of mature and stable projects pipelines at the European level, notably as regards projects adapted to the use of private finance schemes.

Without a proper, mature and stable pipeline, long-term investments cannot be increased. Building investor confidence in transaction flows, so that investors remain willing to commit their funds as well as invest in building new capabilities is required. Successful Infrastructure development requires a greater degree of transparency in the pipeline of projects at both national and supranational levels, as well as long-term planning and commitment on the part of tendering authorities.

Action is there required at several levels. First of all, most of the **Member States administrations do not have the experience and the administrative capacity to deal with complex projects involving private financing**, and to develop them from early stages. **The existing expertise, for instance in the European PPP Expertise Centre, but also in the National Development Banks, should be pooled and made available to those administrations.** It should notably address the needs of adapted, clear and simple procurement procedures, but also increase the capacity of the administrations in understanding the requirements for private financing and the mechanisms of risks transfers. As regards the financial structuring of the projects, technical assistance to assist the financial advisors of projects should also be made available, notably by the European investment Bank, in order to facilitate the use of the EU financial instruments.

PPPs need to be better understood by administration and project promoters. PPPs should be partnerships, not "privately funded government projects": in other words reasons for PPPs should not primarily be budgetary constraints, but efficiency gain based on performance indicators, also thanks to more efficient procurement mechanism.

1. Della Croce, R. Yermo, J. (2013), *Institutional investors and infrastructure financing*, OECD Working Papers on Finance, Insurance and Private Pensions, No. 36, OECD Publishing.

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Secondly, a long-term vision of the network, and therefore of the projects that should be financed as a priority ought to be developed based on fine-tuned TEN-T and national planning, in order to ensure political stability and prioritisation on the projects to be financed, thereby mitigating the **political and regulatory risks** for infrastructure development. It requires fine-tuned EU, national and regional planning, clear concentration and prioritisation and shared mechanisms for identification of priority projects. The TEN-T guidelines – via the corridor work plan – provide a long list of projects to be constructed. If Member States of the European Union agree on these work plans, then this long list could be regarded as a stable project pipelines.

At the level of projects, or pool of projects along Corridors, **a coordinated management for a swift, efficient and fast development of the project from early stages would reassure investors as regards implementation & construction risks, notably for cross-border projects.** Successful large scale project implementation requires proper management instruments to avoid cost increases and the need of additional financial resources.

Clarifying the rules for project preparation and implementation

Infrastructure has been in general increasingly subject to state aid court inquiries and decisions, with a risk to hamper or delay investments, especially of the private sector. In this context there has been a consistent and growing demand from Member States and stakeholders for improved consistency and clarification of the rules applying to infrastructure projects' development and financing.

TEN-T projects, notably when they are cross-border, call for clear, **simplified and harmonised EU rules in order to appraise projects and issuing permits** (including EIA, Nature 2000 impact), tendering and contracting and implementation. A simplification and acceleration of permitting procedures, in the respect of EU legislation, but with a streamlining of the different national or local rules, would facilitate the implementation of a set of projects along Corridors, in particular for cross-border projects.

In addition, homogeneous management systems starting from the preparation phase (accounting and controlling systems) could be designed by the EU for the Member States to manage the expenses of the TEN-Projects and enhance transparency in the usage of the EU-funds. General accounting and control tools can be developed together with the Member States. Based on the individual structure of the TEN-Projects and the administrative systems of each country these tools can vary. An example of such a management tool is the financial management system (FMS) of the VIFG (Verkehrsinfrastrukturfinanzierungsgesellschaft mbH) in Germany.

State-aid is another issue on which project promoters ask for clarification and consistency of the rules (including as regards project approval procedures). Member States are and will remain responsible to carry out the assessment of their TEN-T projects and, if they consider that they might imply state aid, to notify them to the Commission. However, **the Commission could take a more active role in future in order to optimize and accelerate the state aid assessment of TEN-T projects.** It could consist in putting in place a **preliminary screening system at the level of the Commission services during the selection process of a TEN-T project**, and to signal to the Member States concerned the projects which may involve state aid. In this way, the project promoters can be warned at an early stage about the possible need to (pre-)notify their projects to the Commission under the state aid rules.

The Commission could assure/assess whether certain categories of infrastructure projects should be included in the "Group Block Exemption Regulation". Projects covered by the block exemption regulation shall not be notified to the Commission for State aid assessment.

Finally, the Commission **should look at the potential scope to review the guidance and standard clause on the current EUROSTAT rules (ESA95) and risk transfer mechanism, in synergies with rolling-out of innovative financial instruments**, in order not to penalise concessions and PPPs for project implementation. This should be done in the context of the rules of the Stability and Growth Pact, while fully exploiting the existing flexibility of the Pact.

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Securing long-term revenue streams

When it comes to infrastructure funding, resources have always been drawn from either the taxpayers (should they be national or European) or the users, and at times a combination of them. However national taxation has been and remains a traditional way to raise funds in Europe, which is to say that the Member States generally prefer to appeal to public finance/deficit in order to deliver their assets. Investment in transport infrastructure is mainly financed with public funds, which often also cover around 50% of operating costs of public transport services. As stated in Chapter 1, the current crisis has severely hampered the capacity of the Member States to contract debt. A possible direction could be a shift from the taxpayer to user pay schemes.

As exposed in the 2011 White Paper on Transport², the Commission believes that the “user pays” and “polluter pays” principles should be more widely applied. A more wide-spread pricing of infrastructure use, including incentives to improve the sustainability of transport use and of logistics chains, could in parallel ensure a predictable stream of revenues efficient to secure funding of the infrastructure, both for the construction costs and for the maintenance and the operation costs.

The “user pays” principle has its limits. In the case of inland waterways, for instance along the Rhine, the use of infrastructure is free of charge. The burden here remains on the tax payers.

Integrating externalities in the pricing of infrastructure use

The polluter pays principle, or “internalisation of external costs”, is often perceived negatively. Therefore, **the case of positive externalities could also be further developed.** With the perspective of trading schemes, positive externalities induced by eco-friendly transport systems could be monetized and sold on the market (provided that the energy produced is CO₂ efficient). More generally, the external benefits of sustainable infrastructure should be further identified and potentially rewarded. It would be a way of eliminating distortion induced by asymmetric and inefficient taxations across transport modes, so as to promote more energy-efficient modes and their development.

In Spain, research has been done on the external benefits of several infrastructural projects combined. In this research, a table with all effects – varying from passenger increase to avoided costs of noise per year – reveals in a coherent way the externalities of the investments. The impact on six different indicators of an investment portfolio of 11 Billion Euros is shown in the table below.

Table 1: Effects of investment portfolio in Spain, as an example

Passenger increase by 2025	14.000.000
Passengers*km increase by 2025	4.000.000.000
Saving GHG in Tonne CO₂/year (not monetized)	350.000
External avoided costs – accidents (€)/year	57.976.000
External avoided costs – noise (€)/year	2.020.000
External avoided costs – other environmental costs (€)/year (local pollution)	39.712.000

The macro economic effects, like increase in jobs and the growth of gross domestic product, could also be taken into account. The internalisation of external benefits is also linked to the concept of negative taxes. The award-winning congestion charge in Milan, which was introduced a few years ago, provided exceptions for non-polluting vehicles, as electric and hybrid cars. By rewarding non-polluting vehicles, this system internalised the external benefits as a positive compensation.

2. Transport White Paper (EC, 2011)

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In general, **developing schemes for embedding a full life-cycle of infrastructures in a way to secure revenues covering costs through the life of infrastructure should be further explored.**

The sustainability of transport infrastructure calls not only for a prioritisation of the key infrastructures, addressing the current bottlenecks between member states and their core nodes. It also requires a sound, life-cycle approach, embedding all the revenues and costs, from financing to operations.

Better earmarking of transport infrastructure revenues

The earmarking of revenues to finance transportation is seen as critical; the de-coupling between State budget and infrastructure financing seems to be of paramount importance in order to remedy the traditional incoherence between political priorities (by nature short/mid-term) and transport investment needs (long-term) which is not likely to enable appropriate long-term budget planning for the latter. In addition, earmarking should facilitate the social acceptability of pricing the use of the infrastructure in so far as the user pays to improve the quality of service being rendered.

Generating more revenues from transport activities, and ensuring that these revenues remain to a great extent in the transport sector, would significantly relieve national budgets by covering at least the maintenance costs and the operating costs. Moreover it would give more certainty to the private investors when considering financing transport assets since the investment would rely on a stable revenue stream.

EARMARKING: CASE OF MAINTENANCE BACKLOG IN GERMANY

In the report of the German Committee³, the maintenance problem in Germany is clear: considerably too little has been done in the past to maintain roads, railways and inland waterways in a sustainably good condition. A significant renovation backlog has built up here over the years. This must now be tackled without delay and gradually worked off. The national Conference of Länder Transport Ministers therefore called upon the Federation to provide an extra EUR 2.7 billion per year to catch up with the renovation of the transport infrastructure and to secure it in a 'Catch-up with renovation' special fund. The urgently needed security of planning and financing will be achieved as a result of the availability of earmarked, multi-annual funds administered in this way.

Furthermore, **earmarking used in combination with the internalisation of externalities (positive and negative) can generate a surplus which can be used in cross-financing schemes.** Cross-financing schemes could be a financing instrument in order to complement, in some cases, the funding of infrastructure. A consideration could be that cross-financing should be used on the basis of corridors/projects - but not at a general pattern.

The projects which should be considered are the ones with net social benefits which have difficulty in being financed because of the high investment costs, or because of their cross-border nature. The financing of Brenner Base Tunnel (in progress) or of the Øresund fixed link (completed), as well as the AlpTransit scheme can provide useful examples.

3. Bodewig, K. et al. (2013), Strategy for the Future of Sustainable Transport Infrastructure, Final report of Commission "Sustainable Transport Infrastructure Financing", October 2013

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CASE OF BRENNER BASE TUNNEL

The Brenner Base Tunnel is a successful example of Cross-financing applied to Large infrastructure development, thanks to charges borne by users, similarly with the AlpTransit scheme.

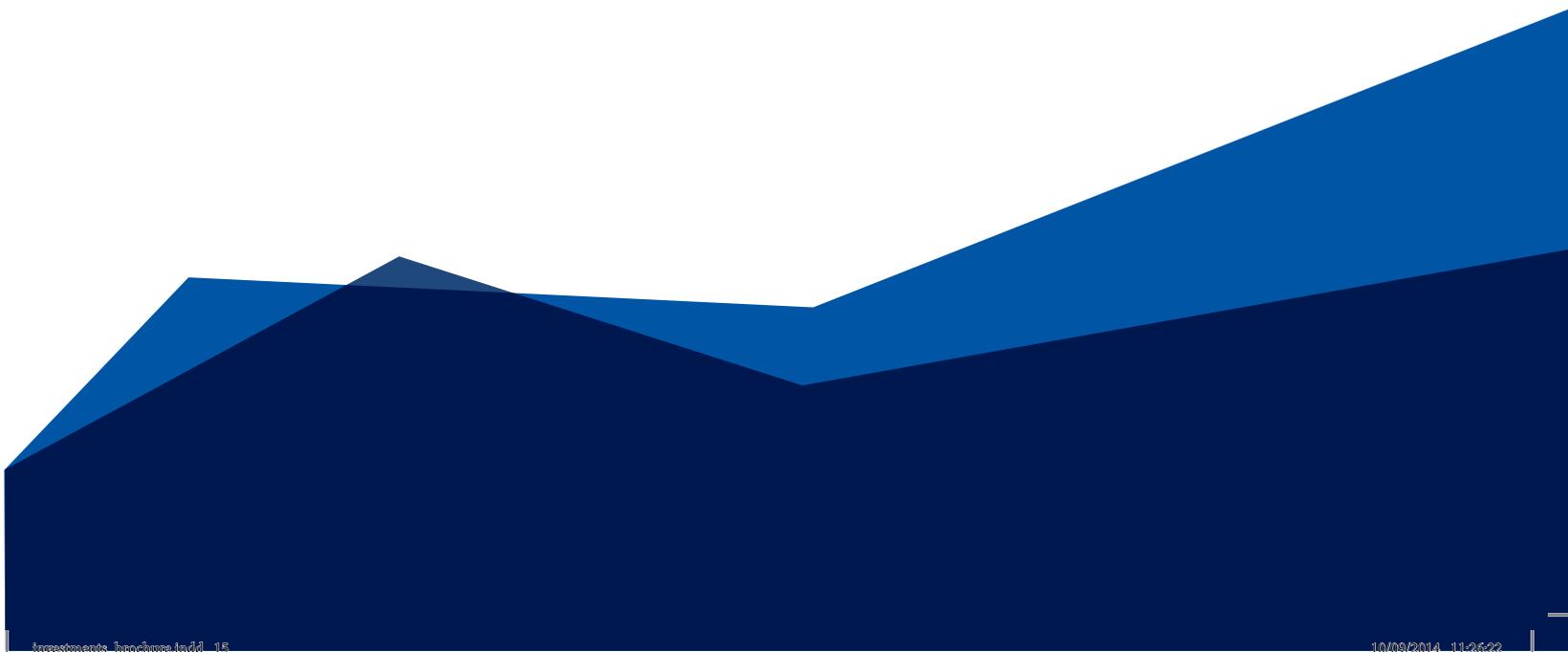
The as the agreement reached on 18 April 2011 by Austria and Italy on the total cost for the project of €7,460 million (1 January 2010 prices) was a key milestone facilitated by the above-mentioned funding.. This agreement paved the way for main construction works on the base tunnel, the so-called Phase III, to be carried out by the project promoter BBT SE. Since 2010 BBT SE provides updated expected costs for the entire project on an annual basis. The expected costs as per 1 January 2013 prices amount to €8,756 million, including a €500 million contingency for non-identifiable risks. The tunnel will be completed in 2025 and become operational in 2026. The review made clear that the measures taken by the EU, including the appointment of European Coordinators, the increased programme resources and the increased co-funding rates, in particular for cross-border sections, have had a stimulating effect on the implementation of the trans-European Transport network.

Another way of earmarking the revenues streaming from transport infrastructures is **to create user funds type of structure**. In the final report of the German committee "Future of Transport Infrastructure Funding"⁴, the authors also mention the creation of a user-fund. By setting up the user-funded fund, requirements planning and financial planning can be combined and comprehensive earmarking secured to guarantee requirements-oriented, sustainable funding in the long-term. In this system, PPP solutions can also help achieve further efficiencies in the management process by pooling private management competences. The reason is that a user fund structure is appropriate for guaranteeing the earmarking of funds for maintaining the existing network, multi-annual funding and greater flexibility in fund management ('breathing-space funding'). It also creates a long-term, sustainable connection between the service, cost and funding aspects. This can be achieved through contractual funding agreements and other entrustment acts between the government, the other contracting authorities and the transport fund.

Apart from future infrastructure, a user fund could also be an instrument to extract value from existing infrastructure. Future revenues from Infrastructure, like ports, airport and toll highways could contribute to such a fund. This implies action needs on concessions and it will generate a cross-financing approach.

Finally, user fund structures could also be used for the rolling-out of new technologies for clean transport or traffic-management systems, by providing stable revenues that can be used to reimburse the high cost of the investments in the new technologies, in particular for the first comers. This type of structure is maximising its benefits in a context of stable regulatory and political frameworks.

⁴ Daehre (2012), Future of Transport Infrastructure Funding, Committee report, December 2012





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