



THE CIVITAS INITIATIVE
IS CO-FINANCED BY THE
EUROPEAN UNION

INTEGRATED DECISION SUPPORT TOOL

“INNOVATIVE PROCUREMENT PROCESSES, INNOVATIVE FINANCING MECHANISMS AND
NEW BANKABLE PROJECTS”.

BODY MATTER OF SUITS GUIDELINES

Contents

About SUITS

Supporting Urban Integrated Transport Systems: Transferable tools for authorities



Image by Kirk Fisher from Pixabay



increase the capacity of local authorities to develop and implement sustainable, inclusive, integrated and accessible transport strategies, policies, technologies, practices, procedures, tools, measures and intelligent transport systems that recognize the end-to-end travel experiences of all users and freight

The SUITS project is a four-year research and innovation action, intending to increase the capacity building of Local Authorities and transport stakeholders and to transfer learning to smaller sized cities, making them more effective and resilient to change in the judicious implementation of sustainable transport measures. SUITS is one of the three projects of the EU's CIVITAS 2020 initiative focusing on sustainable urban mobility plans.

The project will produce and provide to small and medium-sized cities a set of tools on planing, financing and implementing sustainable transport measures and will support the enhancement of the capacity of nine cities in seven EU countries to address efficiently the new challenges of urban mobility and to foster investments in sustainable transport.

SUITS is one of three CIVITAS SUMP-related projects, alongside CIVITAS PROSPERITY and CIVITAS SUMP-UP. The three projects bring together more than 80 actors working towards a common goal: to support cities across Europe to develop and implement Sustainable Urban Mobility Plans.

By enhancing cooperation among the Member States, the CIVITAS SUMP projects makes it possible to lower the barriers to the implementation of more energy-efficient and sustainable urban mobility planning in an integrated way that would not be possible within one country alone.



Under SUITS Work Package 4 (WP4), three separate Guidance documents were developed to help local authorities in S-M cities to implement innovative practices for sustainable transport and mobility

Under SUITS Work Package 4 (WP4), three separate Guidance documents were developed to help local authorities in S-M cities to implement innovative practices for sustainable transport and mobility. The Guidance documents are:

1. Guidelines to applying innovative and sustainable financing approaches;
2. Guidelines to innovative procurement; and
3. Guidelines to developing bankable projects, new business models and partnerships.

These three reports have the overarching objectives of:

- Identifying how different transport and mobility measures are currently financed, procured, and operated
- Assimilating published data on innovative funding, procurement, and business models
- Evaluating the applicability of mechanisms in relation to the requirements of transport and mobility stakeholders, and
- Presenting best practices in the form of a decision support tool



The three Guidelines are complementary to each other and make up a package, so that, together, they may enhance the capacity of Local Authorities to implement sustainable urban mobility measures.

In order to test the applicability and viability of the decision support tools, a Pilot Application will be conducted within the Municipality of Alba Iulia, with the assistance of WP4 leaders. A Pilot Application Report will be then produced to relay the results of the pilot project and to reflect upon the suitability tools that were developed under WP4. Upgrades and recommendations for improvement will be made and acted on accordingly.

The three Guidelines are complementary to each other and make up a package to be transposed in Task 4.5, 'Integration of Support Tools Methodology and Planning', so that, together, they may enhance the capacity of Local Authorities to implement sustainable urban mobility measures.

Following the completion of all work packages and the pilot study, the eight partner cities (Stuttgart, Erfurt, Palanga, Rome, Valencia, Torino, Alba Iulia and Kalamaria) and the metropolitan transport authority Transport for West Midlands will apply the know-how provided by the SUITS portfolio. This will help the partners grow administrative capacity and to implement innovative financing mechanisms for sustainable transport and mobility.

At the end of the Pilot Application and the Project implementation period, activities and results from the nine partner cities will be evaluated. In July 2020, a workshop will take place to present the activities and achievements in the nine participating cities.

ABOUT THE TOOL

Integrated decision support tool for innovative procurement processes, innovative financing mechanisms and new bankable projects



Image by Steve Buisinne from Pixabay

The SUITS project team has developed the Integrated Decision Support Tool as part of the activities of Work Package 4 - Innovative and sustainable financing, procurement and business innovation.

The Tool integrates the research results from 3 guidelines prepared to support professionals in Local Authorities in their processes to prepare public procurement procedures, to attract financial resources to implement the projects and to prepare bankable projects.



keywords and key phrases are linked to one another to allow the reader discover more facets of the same process

The Tool facilitates the access to information in an interactive way. Keywords and key phrases are linked to external sources to provide additional information to the reader.

Links to external sources are provided by clicking the green buttons that accompany the text or clicking the active yellow quote boxes.

Hidden boxes with extra information are activated by rolling over the underlined keywords.

INNOVATIVE PROCUREMENT PROCEDURES

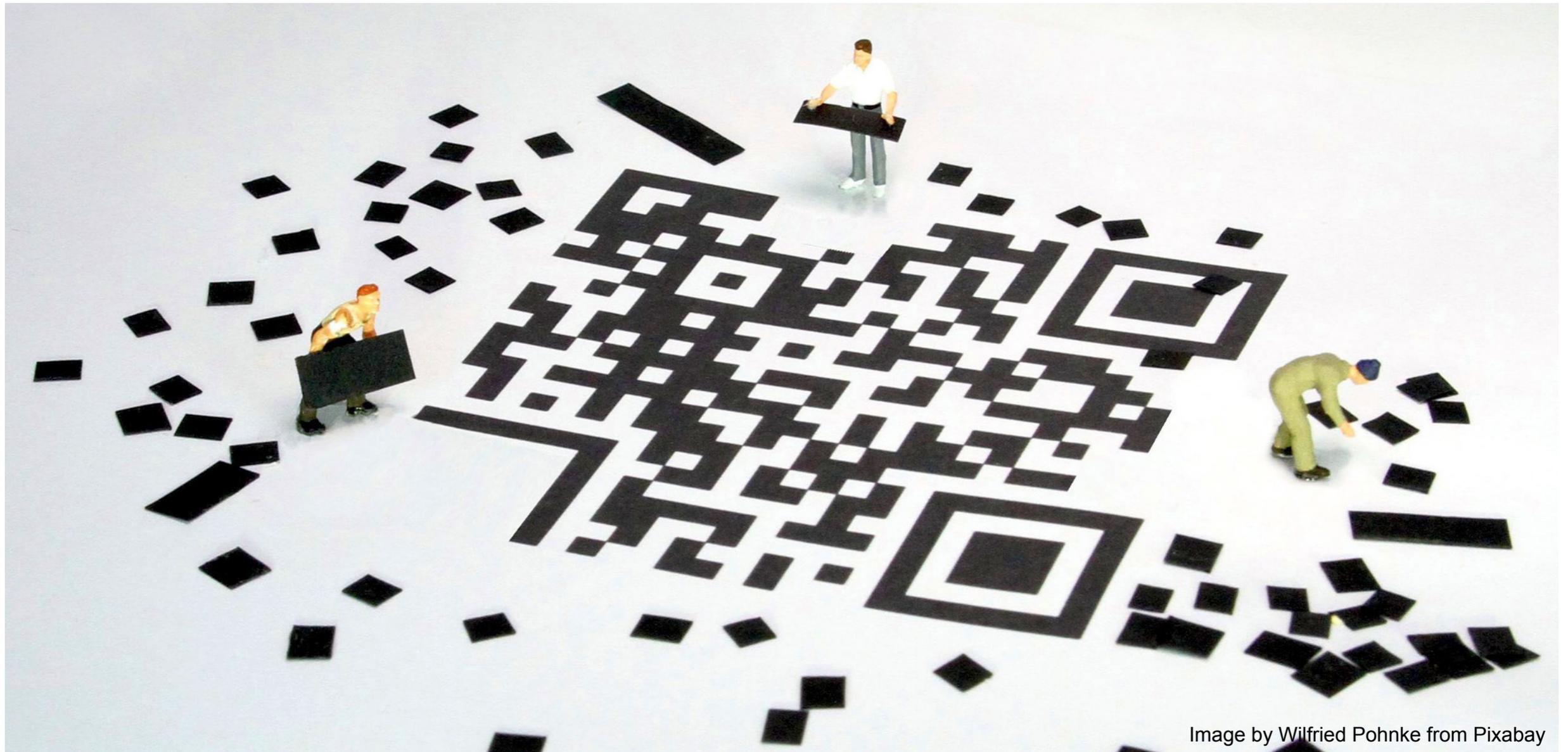


Image by Wilfried Pohnke from Pixabay

European cities are faced with a series of common challenges regarding transport and mobility, with a negative effect on the European economy and on the quality of life of European citizens. Among them:

- Traffic congestion;
- Quality of transport services;
- Accessibility;
- Urban sprawl;
- Energy consumption;
- Safety and security;
- Land use;
- ◆ Population ageing;
 - Health problems;
 - Climate changes;
- ◆ Increase in mobility costs, both for municipalities and citizens.

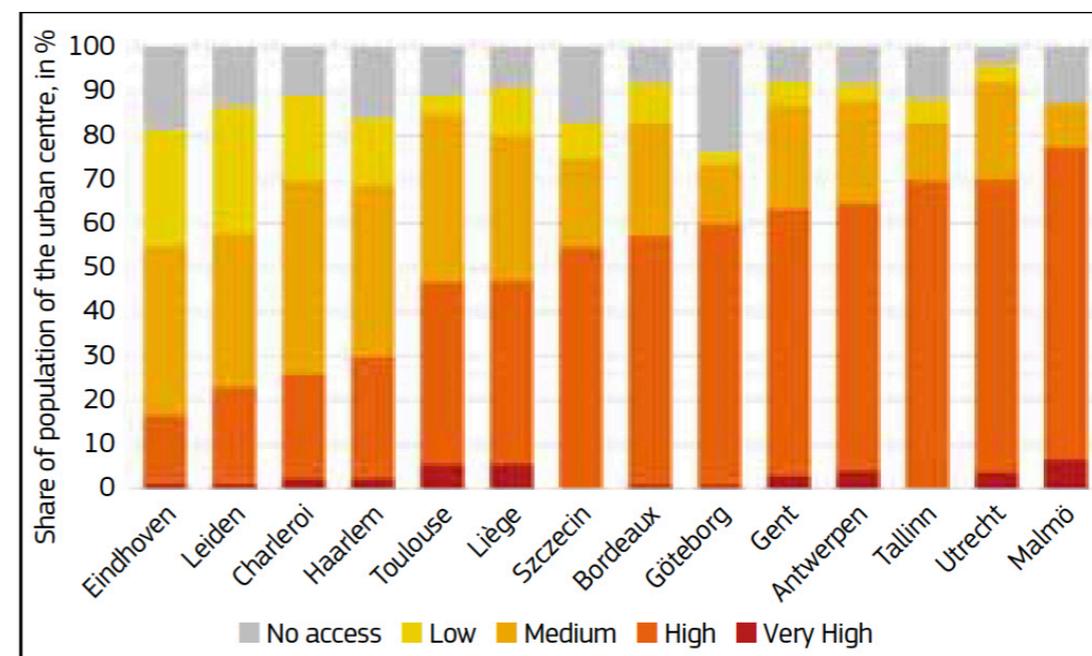
Importance of innovative improvements in procurement strategy and procedures

The Transport White Paper - 2011 proposes strategic objectives to be met by 2050 and calls for cities to follow a mixed strategy involving land-use planning, pricing schemes, efficient public transport services and infrastructure for non-motorised modes and charging of clean vehicles to reduce congestion and emissions. It specifically encourages cities to develop SUMP's bringing all these elements together.

To rise to these challenges, joint actions of local authorities, transport operators, local business, logistic suppliers, landlords, estate developers, stakeholders and citizens are called for at the scale of each city. There is a wide range of available tools to put this effort into practice and conduct efficient interventions to benefit communities.

External link:

- [Transport White Paper - 2011](#)



TYPOLOGY OF SERVICE FREQUENCIES IN MEDIUM-SIZED URBAN CENTRES / ACCESS TO PUBLIC TRANSPORT IN MID-SIZED EUROPEAN CITIES (SOURCE: HUGO POELMAN AND LEWIS DIJKSTRA, MEASURING ACCESS TO PUBLIC TRANSPORT IN EUROPEAN CITIES, 2015)

Importance of innovative improvements in procurement strategy and procedures

The public procurement reform plays a very important role in reaching these objectives.



Importance of innovative improvements in procurement strategy and procedures

The principles and legal framework of public procurement within the EU are mainly defined under Directives 2014/24/EU, 2014/25/EU, 2014/23/EU which enhance the efficiency of the public procurement system in Europe and foresee more intelligent norms and electronic procedures. At the same time, these new norms allow the authorities to use public procurement to try to reach more far-reaching political objectives, such as the social, environmental-, innovation objectives. Based on these Directives, each member state has implemented a legislative package and methodologies providing a legal framework through which public procurement procedures must be conducted.

External links:

- Directive 2014/24/EU
- Directive 2014/25/EU
- Directive 2014/23/EU

Since 18 April 2016 (the deadline set by EC for transposing Directives 23, 24, 25/2014 in the legislations of the Member States), the three directives on public procurement and concessions adopted in 2014 have profoundly changed the way the Member States and public authorities spend money on European public procurement every year.

Public Procurement in Urban Mobility Area

The European Commission has promoted and developed the SUMP concept and has provided the necessary tools and guidance in to support European cities implementing their mobility plans. The SUMP concept has been developed /disseminated in a series of EU documents, such as:

- COM(2013) 913 final, 'Together towards competitive and resource-efficient urban mobility';
- COM(2011) 144 final , White Paper 'Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system';
- COM(2010) 2020 final , 'Europe 2020: A strategy for smart, sustainable and inclusive growth';
- COM(2009) 490 final 'Action Plan on Urban Mobility';
- CIVITAS Initiatives.
- On line platform 'Urban Mobility Observatory' (Eltis)

Public Procurement in Urban Mobility Area

These Guidelines aim to explain the procurement reform and provide recommendations so that innovative public procurement (together with innovative financing and business models) may become drivers in enhancing LAs capacity to apply the measures foreseen in the SUMP.

As part of Action 1 of the EC Action Plan on Urban Mobility to accelerate the large scale take-up of SUMP by local and regional authorities in Europe, a standardised methodological framework for drawing up the SUMP, created a framework of collaboration and know-how exchange among the cities elaborating and implementing the SUMP (ELTIS platform, CIVITAS initiatives), as well as of twinning / collaboration of various Horizon 2020 research projects (e.g. SUITS) with CIVITAS and other projects with a view to making efforts more efficient, training and disseminating the results etc.

The initiatives and projects financed under EU programmes bring together the parties concerned and experts from various cities to analyse the current approaches, discuss different local or regional issues, identify the best practice to plan and efficiently use public funds within the public procurement process, as well as to enhance the capacity of the authorities and stakeholders to apply them innovatively and efficiently.

External links:

- Action Plan on Urban Mobility
- SUMP
- ELTIS platform
- CIVITAS
- Horizon 2020
- SUITS

In 2004 the European Directives (17/2004/CE and 18/2004/CE) were developed as the first European regulatory step taken regarding procurement procedures. Research projects financed under European programmes after 2004, pointed out innovative aspects with a view to a new approach to the public procurement and about criteria like energy consumption, environmental impact, Life cycle costs etc. Among these projects, the following are noteworthy:

- Project EcoRailS;
- Project PROSPER;
- Railenergy Project;
- RAVEL project, 2001;
- REPID project;
- EVENT project;
- IEE Project TRAINER.

Other external links:

- Directive 17/2004/CE
- Directive 18/2004/CE

Public Procurement in Urban Mobility Area

EU procurement legal and regulatory framework.

This fuelled the need for reform in public procurement, which was seen as essential in domains of public interest, for instance Transport, Mobility, Energy, Innovation. In these areas of long term development evolution is rapid, and supplies and services have a determining role in sustainable development and in enhancing life quality. As a result of the EC undertakings, as well as of the aspects pointed out through such research works, the following materials were produced:

- Directive 2009/33/CE;
- Regulation (EC) no 1370/2007;
- Directive 2014/24/EU;
- Directive 2014/25/EU;
- Directive 2014/23/EU.

These Directives are new or change and amend the provisions in the previous European legislation (Directives 2004/17 and 2004/18). The effect of applying these legal changes is the public procurement reform as it is briefly described in the Guidelines and in reference.

Other external links:

- Directive 17/2004/CE
- Directive 18/2004/CE

Public Procurement in Urban Mobility Area

EU procurement legal and regulatory framework.

In line with the Article referring to the Transposition and transitional provisions under the Directives Member States were asked to introduce into force the laws, regulations and administrative provisions necessary to comply with these Directives by 18 April 2016. The new legal framework contributes to enhancing the efficiency of the public procurement system in Europe and foresees more intelligent norms and a larger number of electronic procedures.

The new legal framework will make it easier for SMEs to participate, in the tenders for contract awarding under public procurements, whilst also allowing for the EU- promoted principles of transparency and competition to be complied with. The facilities for SMEs refer to: the fact that contracts are divided into several parts, a lower threshold of the turnover admitted in the tender, less documentation required, compulsory utilisation of online procurement, having the benefit of the Digital Single Market.

This new legal framework makes it possible for a strategic use of public procurement to follow important political objectives, whether societal, or related to the environment, or promoting innovation in the European economy.

Public Procurement in Urban Mobility Area

EU procurement legal and regulatory framework.

As Elżbieta Bieńkowska, Commissioner for Internal market, Industry, Entrepreneurship and SMEs (2016) puts it:



Bearing in mind that EU Directives and the national legislation are periodically subject to review and amendment, the aim of WP4 was to use the know-how and experience developed under the SUITS project in Alba-Iulia pilot application, and by the other partner Municipalities and stakeholders, respectively, may actively contribute to these upgrades.

Public Procurement in Urban Mobility Area

Public procurement strategies

The new regulations in public procurement, and accompanying documents published at EU level, as well as the diversity of approaches are instrumental to developing competitive strategies in the field of sustainable urban mobility. That can support decision makers at the level of municipalities to identify the range of possible actions and steps necessary to implement the most adequate mobility related measures.



These tools should be part of an adequate and significant strategy in order to conduct high- performance innovative activities at the municipality scale.

Having in view the specific character of the reform in procurement and in the modernisation of public services, the role of (long-term) strategies and procurement plans becomes a first priority in order to be able to initiate, develop and optimise the new procedures of innovative procurement, financing, and innovative partnerships.

Public Procurement in Urban Mobility Area

Public procurement strategies

Institutional and governance frameworks and their related networks are critical for urban transport infrastructure and services (planning, delivery, operation etc.).

Governance in urban mobility area is faced with major difficulties among which are the lack of financing and multi-annual long-range budgets, frequent modifications in leadership (elections), the lack of knowledge / acceptance of certain measures by the population etc.

The new public procurement paradigm at the EU level allows public administrations to become more efficient and flexible in relation to the communities' needs. The new directives are aimed at ensuring a fair and innovative competition framework, as well as at efficiently promoting a good governance in public procurement.

Improving governance, reducing bureaucracy, transparency, simplifying procedures, training personnel to high professional standards, and using e-tools in public procurement are relevant elements in fighting fraud and corruption.

Both public authorities and the stakeholders in the field of procurement shall enlarge their sets of skills in order to be able to rise to the complex challenges posed by the market.

A specific research area must provide the necessary know-how to assist governance in urban mobility for an optimum administrative organisation with competent and creative personnel.

Sustainable urban mobility development depends on several components to be best enhanced and correlated. These components can fall under the scope of the procurement of:

- Supplies;
- Services;
- Works.

The innovative aspects in procurement procedures refer to the means by which the reform and its objectives can be best and most efficiently reached. The innovative solutions for public services need to play an essential role in providing better services with a long-term value for money. Without neglecting the importance of financial resources in procurement, innovation depends on the creativity and competence of human capital as well as on management strategy.



Innovative approach to public procurement procedures in urban mobility

Public procurement reform



the reform must be understood and applied in terms of its innovative character

In keeping with EU documents on public procurement, the new European Directives (Directives 23, 24 and 25) from 2014, which made void or amended the old Directives (from 2004), emphasise the extremely important role of public procurement and propose the basic reform in this field, so that its objectives may be reached.

Transposing in each state theoretically means developing a national legislation and strategy in keeping with the provisions under the European directives. Of course, even if this stage has been officially reached, the actual reform must take place within each public procurement procedure and within each central, regional and local authority, or at the level of other parties concerned, stakeholders launching public procurement procedures.

In all cases, these authorities/ the parties concerned must apply the new national legislations in line with the public procurement reform as imposed by EU directives. Even if these legislations are already in force, the reform must be understood and applied in terms of its innovative character.

To this end in view, all the personnel in charge of public procurement must be reorganised, selected and trained to understand the gist of the reform, to apply it creatively in the context of the new legislation, to take inherent risks.

There will be new procedures which can be challenged or modified – particularly those in which the complementary legislation and application are not elaborated yet, or do not cover all the aspects etc.

External links:

- Directive 2014/24/EU;
- Directive 2014/25/EU;
- Directive 2014/23/EU.

Innovative approach to public procurement procedures in urban mobility

Public procurement reform

The main innovative elements of the Reform in public procurement refer to:

- e-Procurement, increasing efficiency
- Encourage SMEs participation in public procurement
- Creating culture of integrity and fair play
- Addressing societal challenges
- The new rules promote single market and boost jobs, growth and investment

External link:

- Reform in public procurement.



	Old rules	New rules
Financial situation of bidders	<p>No strict limits for turnover requirements</p>	<p>Annual turnover of bidders must not be higher than twice the contract value.</p> <p>Deviation from this rule requires explanations</p>
Awarding contracts in small portions (lots)	<p>Free choice for contracting authorities whether to split contracts into lots or not</p>	<p>Splitting into lots becomes the rule</p> <p>Deviation from this rule requires an explanation</p>

ESPD: SIMPLIFICATION AND ADMINISTRATIVE BURDEN REDUCTION (SOURCE: EUROPEAN COMMISSION, NEW OPPORTUNITIES FOR SMEs UNDER THE REFORM OF PUBLIC PROCUREMENT LEGISLATION, 08.03.2016, [HTTPS://EC.EUROPA.EU/GROWTH/CONTENT/8707-NEW-OPPORTUNITIES-SMES-UNDER-REFORM-PUBLIC-PROCUREMENT-LEGISLATION_EN](https://ec.europa.eu/growth/content/8707-new-opportunities-smes-under-reform-public-procurement-legislation_en))

Innovative approach to public procurement procedures in urban mobility

Public procurement reform

E-PROCUREMENT, INCREASING EFFICIENCY (1/2)

The new approach to public procurement regulations is based on introducing e-procurement compulsory utilisation in the public sector.

The e-tools for procurements include e-tender platforms, e-tenders, e-catalogues, dynamic electronic- procurement and -billing systems.

Modalities through which EC supports digitisation in the field of public procurement:

- the European Single Procurement Document (ESPD).
- documents checking
- E-Certis

Innovative approach to public procurement procedures in urban mobility

Public procurement reform



Electronic public procurement supports reducing bureaucracy and enhancing the efficiency of administrative expenses

E-PROCUREMENT, INCREASING EFFICIENCY (2/2)

Public procurement digitising will lead, among others, to a more transparent and more efficient information flow, a wider access to information, inclusively for SMEs, while also simplifying the approach to cross-border tendering opportunities. Electronic public procurement supports reducing bureaucracy and enhancing the efficiency of administrative expenses, as well as contributes to economic development by providing more open and fairer access to public procurement markets.



	Old rules	New rules
<u>At the start</u> of a procurement procedure	<p>All bidders: full documentary evidence</p> <p>Overall burden: high</p> 	<p>All bidders: European Single Procurement document (standard self-declaration form)</p> <p>Overall burden: low</p> 
<u>At the end</u> of a procurement procedure	---	<p>Winning bidder: full documentary evidence or link to national databases</p> <p>Overall burden: low</p> 

ESPD: SIMPLIFICATION AND ADMINISTRATIVE BURDEN REDUCTION (SOURCE: EUROPEAN COMMISSION, NEW OPPORTUNITIES FOR SMEs UNDER THE REFORM OF PUBLIC PROCUREMENT LEGISLATION, 08.03.2016, [HTTPS://EC.EUROPA.EU/GROWTH/CONTENT/8707-NEW-OPPORTUNITIES-SMES-UNDER-REFORM-PUBLIC-PROCUREMENT-LEGISLATION_EN](https://ec.europa.eu/growth/content/8707-new-opportunities-smes-under-reform-public-procurement-legislation_en))

Innovative approach to public procurement procedures in urban mobility

Public procurement reform



the turnover requirement should not exceed twice the estimated contract value

ENCOURAGE SMES PARTICIPATION IN PUBLIC PROCUREMENT

SMEs are considered the EU's economy backbone, as they have a huge potential of job creation, growth and innovation. Easier access to public procurement markets for SMEs has a positive impact on economy. The simplification of the requirements referring to the procurement procedures- related documentation, as well as the compulsory utilisation of e-procurement will facilitate SME access to public procurement and make their activity more efficient.

Directive 2014/24/UE foresees under art. 46 the member states' right to introduce the division of contracts into lots. The contract could be divided into separate lots, both in terms of quantity, so that the dimension of an individual contract may better suit the SME capacity, and in terms of quality, so that stand-alone lots can adjust to the SME specialisations. A contract can be divided into lots for various stages, to assist SMEs to better manage their workload.

The new regulations promote the relevant and proportionate financial capacity, the turnover and the security level, so as to facilitate SME participation in public procurement. The turnover necessary for the participation in a tendering procedure will be limited, allowing for the participation of a larger number of SMEs and newly set-up companies. For the first time, the turnover requirement should not exceed twice the estimated contract value.

Innovative approach to public procurement procedures in urban mobility

Public procurement reform



Procurement digitalisation will foster a non-discriminating competition environment, as public expenses should become more transparent



Innovative approach to public procurement procedures in urban mobility

Public procurement reform



The new EU directives provide a better framework for social and environmental criteria in public procurement

ADDRESSING SOCIETAL CHALLENGES

Addressing societal challenges, particularly social and environmental issues in the process of public procurement is a modality to provide solutions to fighting them off.

The new EU directives provide a better framework for social and environmental criteria in public procurement.

Contracting authorities can introduce social measures and environmental considerations throughout the procurement process, as long as they fall under the contract scope. When awarding procurement contracts based on the best value for money, they can select those offers providing more social advantages.

Compliance with the environmental-, social- and labour liabilities, collective labour agreements included, is now stipulated as mandatory through the principles of this law, and the tenderers can be excluded on failing to comply.

Innovative approach to public procurement procedures in urban mobility

Public procurement reform



By applying criteria laying greater stress on environmental issues, public authorities can foster eco-innovation

ADDRESSING SOCIETAL CHALLENGES

Public authorities can make a difference between what they purchase based on the production process and methods which are not visible in the final product. This will allow public purchasers to lend priority to those tenderers providing better working conditions, and favouring disabled and disadvantaged workers' integration. Contracting authorities can limit some tender procedures to social enterprises, if at least 30% of the employees are disadvantaged people.

By applying criteria laying greater stress on environmental issues, public authorities can foster eco-innovation. They can require tenderers not only to meet environmental liabilities, but also to deliver goods by complying with the requirements of ecological labels. They can require the tenderers to integrate the environmental costs into a tender based on a Life Cycle Cost (LCC) approach, or to enhance environmental factors when producing goods.

By means of the new directives, it will be simpler to purchase social-, cultural-, health services and of other types, for instance in the legal domain, in hospitality, catering- and canteen services.

Innovative approach to public procurement procedures in urban mobility

Public procurement reform



the norms regarding contract modification throughout their mandate were cleared up and simplified

THE NEW RULES PROMOTE SINGLE MARKET AND BOOST JOBS, GROWTH AND INVESTMENT

The public procurement reform has extended the set of tools available for the contracting authorities willing to get involved in joint public procurement activities, particularly under cross-border collaboration.

The new regulations facilitate cross-border procurement by supporting free travel of goods and services, as well as by promoting a healthy business milieu in the EU, and a deeper and fairer single market.

The existence of more transparent, fairer and more competitive regulations will lead to greater business opportunities, a higher and more efficient competition in awarding public procurement contracts, while providing better value for money and boosting jobs and investments.

Innovative approach to public procurement procedures in urban mobility

Modernisation of public services and of public procurement procedures



The national authorities must submit a report to the EC every three years, including the most frequent sources of wrong application or legal uncertainty including possible structural or recurring problems in the application of the rules

The new public procurement regulations are aimed mainly at simplifying the public procurement process and making it more flexible, as contract authorities have available a set of useful tools, able to allow each procedure to be tailored to concrete conditions, as well as an access to a simpler and more flexible procedural regime.

The procurement reform will allow public authorities to conduct procurement faster (reduced deadlines for participation and submission) with less bureaucracy and a greater stress on getting the right supplier and the best offer.

The main innovative elements of the Reform in public procurement refer to:

1. Simplifying the rules for contracting authorities to modernise public administrations
2. Innovation partnerships keep public services up-to-date
3. More competition with new rules on concessions
4. Facilitating procurement cooperation among public authorities
5. Lighter rules for the utilities sector including transport

Innovative approach to public procurement procedures in urban mobility

Modernisation of public services and of public procurement procedures



Introducing ESPD considerably facilitates the access to the tendering opportunities, fosters cross-border procurement and SME participation in public procurements

SIMPLIFYING THE RULES FOR CONTRACTING AUTHORITIES TO MODERNISE PUBLIC ADMINISTRATIONS (1/2)

The most important news (1/2):

- Flexible procedures of competitive dialogue and negotiation.
- The competitive procedure with negotiation (with at least three candidates invited) can be used when it is impossible to draw up a complete specification from the very beginning, or a specification to allow the evaluation of all the solutions offered by the market. This procedure can be used for awarding a particularly complex contract, or if the product or service searched for cannot be bought as such off the shelf. Competitive dialogue can be used for goods, services and works.
- Simplified process of participating in procurement procedure.
- Introducing ESPD considerably facilitates the access to the tendering opportunities, fosters cross-border procurement and SME participation in public procurements.
- Contracting authorities can require a label for the works, services or supplies.
- It is a specific label to prove that the supplies meet the standards related to the environment, social, or others set for procurement.
- Within open procedures, contracting authorities can decide on the order they want to proceed in.

Innovative approach to public procurement procedures in urban mobility

Modernisation of public services and of public procurement procedures



Contracting authorities have the obligation to exclude from the procedures the bidders who has a background of significant drawbacks while running a public procurement contract

SIMPLIFYING THE RULES FOR CONTRACTING AUTHORITIES TO MODERNISE PUBLIC ADMINISTRATIONS (2/2)

The most important news (2/2):

- They can decide first on admitting the tenderers, before evaluating the offers and making the awarding decision, or they can decide to first examine the offers, before checking whether there are reasons for exclusion, and whether the eligibility criteria are met.
- Contracting authorities have the obligation to exclude from the procedures the bidders who has a background of significant drawbacks while running a public procurement contract.
- Municipalities, regional authorities or public law bodies can publish only a prior note specifying that the contract will be awarded without any further notice published, and the tenderers can express their interest in the contract.
- Contracting authorities can use joint procurement procedures, or by means of a central body.

Innovative approach to public procurement procedures in urban mobility

Modernisation of public services and of public procurement procedures



innovation development is a must in order to solve out major societal challenges

INNOVATION PARTNERSHIPS KEEP PUBLIC SERVICES UP-TO-DATE (1/2)

Research and innovation trigger the scientific and technological progress that is necessary for a sustainable development of urban mobility, as well as for enhancing life quality. Research and innovation got first priority under

- **Europe 2020 Strategy for smart, sustainable and inclusive growth** and
- COM (2011) 21 final - **A resource-efficient Europe – Flagship initiative under the Europe 2020 Strategy**,

as well as under other EU documents:

- COM (2005) 24 final – **Working together for growth and jobs. A new start for Lisbon Strategy**,
- COM (2007) 161 final – **European Research Space, new perspectives**,
- COM (2009) 490 final – **Action Plan on urban mobility**,
- COM (2015) 913 final – **Together towards competitive and resource-efficient urban mobility** etc.

The conclusion to these documents is that innovation development is a must in order to solve out major societal challenges.

Innovative approach to public procurement procedures in urban mobility

Modernisation of public services and of public procurement procedures



innovation development is a must in order to solve out major societal challenges

INNOVATION PARTNERSHIPS KEEP PUBLIC SERVICES UP-TO-DATE (2/2)

Research and innovations highly benefit society's long-term harmonious development, but they are costly and need support. The new EU Regulations opened up new vistas to foster innovation without affecting competition and transparency.

Public procurement strategies must spot out the innovative domains and objectives, and generate in good time procurement strategies to support achievement.

The new regulations regarding public procurement are in favour of this approach, mainly by the following innovative procedures types:

- Innovation Partnership procedure.
- Public Procurement of Innovation (PPI) solutions.
- Pre-Commercial Procurement -PCP.

Innovative approach to public procurement procedures in urban mobility

Modernisation of public services and of public procurement procedures



The procedure is aimed at initiating a partnership along several stages, with well-defined objectives and staggered financings

INNOVATION PARTNERSHIP PROCEDURE

Regulation 31 (SI 2015/102) (PCR 2015) introduced the new procurement procedure 'innovation partnership' intended to facilitate innovation in order to develop certain innovative supplies / services necessary under the sustainable development desiderata, yet missing in the offers available on the market. The contracting authority must identify and define quite accurately the nature and aim of the expected solutions.

The procedure is aimed at initiating a partnership along several stages, with well-defined objectives and staggered financings. The partnership can be initiated with a group of partners.

External link:

- Regulation 31 (SI 2015/102) (PCR 2015)

Innovative approach to public procurement procedures in urban mobility

Modernisation of public services and of public procurement procedures



According to the number of partners and of the degree of complexity, the stage can involve several sub-stages in which the number of partners can be gradually reduced, as various pre-set criteria are met

PUBLIC PROCUREMENT OF INNOVATION (PPI) SOLUTIONS (1/2)

It takes place mainly over three distinct stages:

- **Competitive stage.** Based on certain requirements to mirror what society wants to achieve by means of innovative supplies / services, the most suitable and credible partners will be selected considering their skills and abilities.
- **Research and development stage** – the selected partners will develop new solutions in collaboration with the contracting authority. According to the number of partners and of the degree of complexity, the stage can involve several sub-stages in which the number of partners can be gradually reduced, as various pre-set criteria are met.
- **Public procurement stage** through which innovative supplies / works / services can be purchased. This stage can be also achieved through innovative procurement procedures (e.g. open / negotiated procedure, competitive dialogue, applying LCC, joint procurement for a larger group of users, inclusively cross-border procurement etc.).
- By means of these procedures there can be purchased goods of higher purchase cost, yet with multiple long-term economic and social advantages.

Innovative approach to public procurement procedures in urban mobility

Modernisation of public services and of public procurement procedures



companies are stimulated to invest in research and / or draw further research- supporting funds so that they can deliver competitive innovative supplies / works / services and contribute to their long-term monitoring and improving

PUBLIC PROCUREMENT OF INNOVATION (PPI) SOLUTIONS (2/2)

Although this procedure does not provide direct funding for the research-development activities, it will nevertheless benefit innovative supplies and continuous innovative development over life cycle or longer periods.

Based on such procedures, the companies are stimulated to invest in research and / or draw further research- supporting funds so that they can deliver competitive innovative supplies / works / services and contribute to their long-term monitoring and improving. Such procedures should be initiated in good time, based on the development strategies, to allow for the above stages to be properly covered.

Capital Improvement Programme (CIP) and the EU Research Programmes, such as H2020, the European Structural and Investment Funds (ESIF), in cooperation with European Investment Bank (EIB) and European Investment Fund (EIF), as well as the European Assistance for Innovation Procurement Initiative (Eafip), provide technical, legal and financial support to such PPI procedures.

Innovative approach to public procurement procedures in urban mobility

Modernisation of public services and of public procurement procedures



an investor or a group of investors / SMEs can invest in developing innovative solutions through which certain supplies / services can be upgraded

PRE-COMMERCIAL PROCUREMENT (PCP)

This is a competitive procedure to purchase research and development services.

The concept was introduced through Communication COM/2007/799 final and the working document SEC/2007/1668, as a new approach to support R&D activities, so that an investor or a group of investors / SMEs can invest in developing innovative solutions through which certain supplies / services can be upgraded.

PCP and PCI are two distinctive procedures, yet they can be jointly applied, as complementary procedures, even featuring certain advantages as compared to Innovation Partnership.

A thorough understanding of these procedures, correlated with a long-term strategy to define the innovative objectives necessary for some new supplies / services to be purchased, will allow for the most efficient approaches in the public procurement policy as well as innovative financing mechanisms.

External links:

- [COM/2007/799 final](#)
- [Working document SEC/2007/1668](#)

Innovative approach to public procurement procedures in urban mobility

Modernisation of public services and of public procurement procedures



A concession contract should be limited in time

MORE COMPETITION WITH NEW RULES ON CONCESSIONS

The new regulations will be applied to concessions of both works and services. The contracts including both work elements and services will be classified according to the element accounting for the bigger share in the contract. A concession contract can appear when a contracting authority awards a contract of works or services to a third party ('the licensee'). It comes down to the right to operate the work or service.

Directive 2014/23/EU applies with concessions whose value amounts to at least EUR 5,186, 000. A concession contract should be limited in time. For concessions longer than 5 years, the time period should not exceed the duration in which a grantee is reasonably expected to recuperate their investment.

Innovative approach to public procurement procedures in urban mobility

Modernisation of public services and of public procurement procedures



contracting authorities should perform less than 20% of the activities targeted by the cooperation on the open market, and exclude direct private capital participation in controlled entities.

FACILITATING PROCUREMENT COOPERATION AMONG PUBLIC AUTHORITIES

The new directives clear up the terms in which the cooperation between public entities is exempted from the application of the directives, without affecting competition with private economic operators.

When contracting authorities conclude contracts between one another, contracts can be awarded between contracting authorities without private parties participating, provided such a cooperation is stipulated in the contract.

Market business besides cooperation should be strictly limited – the participating contracting authorities should perform less than 20% of the activities targeted by the cooperation on the open market, and exclude direct private capital participation in controlled entities.

Innovative approach to public procurement procedures in urban mobility

Modernisation of public services and of public procurement procedures



Specific utilities markets can award contracts directly, without any tender, when a competitive environment is secured

LIGHTER RULES FOR THE UTILITIES SECTOR INCLUDING TRANSPORT

The entities in the utilities sector need not comply with the whole set of EU regulations referring to public procurement. The utilities sectors fall under separate and more flexible rules regarding public procurement.

Specific utilities markets can award contracts directly, without any tender, when a competitive environment is secured.

The new directive regarding public utilities allows the contracting authorities to apply the competitive dialogue- and innovative partnership procedures.

Innovative Procurement Procedures

Until recently the minimum price criterion was the main used in public procurement. This criterion was recommended by previous EU Directives and national legislation, and preferred by most contracting authorities. It was easy to understand, perceived to be objective and difficult to challenge.

The procurement reform is based on the necessity to use other criteria during the evaluation, in order to promote, through public procurement, a higher living standard and continuous innovation.

These innovative procedures require selection and training of the personnel in charge, so that they understand the gist of the reform and apply it in the context of the new legislation, and take – where merited – inherent risks (new procedures may be challenged, particularly those in which the legislation and the complementary application methodologies are not elaborated or do not cover all the concrete aspects, and in the near future personnel may lack necessary experience).



use other criteria during the evaluation, in order to promote, through public procurement, a higher living standard and continuous innovation

Innovative Procurement Procedures

Innovative Criteria for Transport and Mobility



the lack of quantification and fair payment of external costs favour transport by private cars – currently the most polluting, the most expensive and accountable for the highest number of accidents.

Transport is vital for society's mobility and economic growth, yet its development (per transport modes) is still chaotic and subject to various conjunctures.

It does not comply with the Transport White Paper, 2011 (nor with other documents, studies etc.), particularly because the external costs are not sufficiently quantified, and no agreement has been reached regarding their internalization. External costs (e.g. gas emissions, noise pollution, costs of accidents, traffic congestion and stops) are not included in the travel fare, yet they are paid for by the whole society.

There is a huge difference in terms of the share and value of these criteria according to transport type. The lack of quantification and fair payment of external costs favour transport by private cars – currently the most polluting, the most expensive and accountable for the highest number of accidents.

Prioritising these criteria, as well as the modalities of formulating, quantifying and evaluating them under a public procurement procedure are difficult actions to carry out, as there are no well-defined norms yet.

Each team publishing a public procurement plan or procedure should be familiar with these trends and consider and creatively and in full, even if that means taking on additional tasks and risks.

External link:

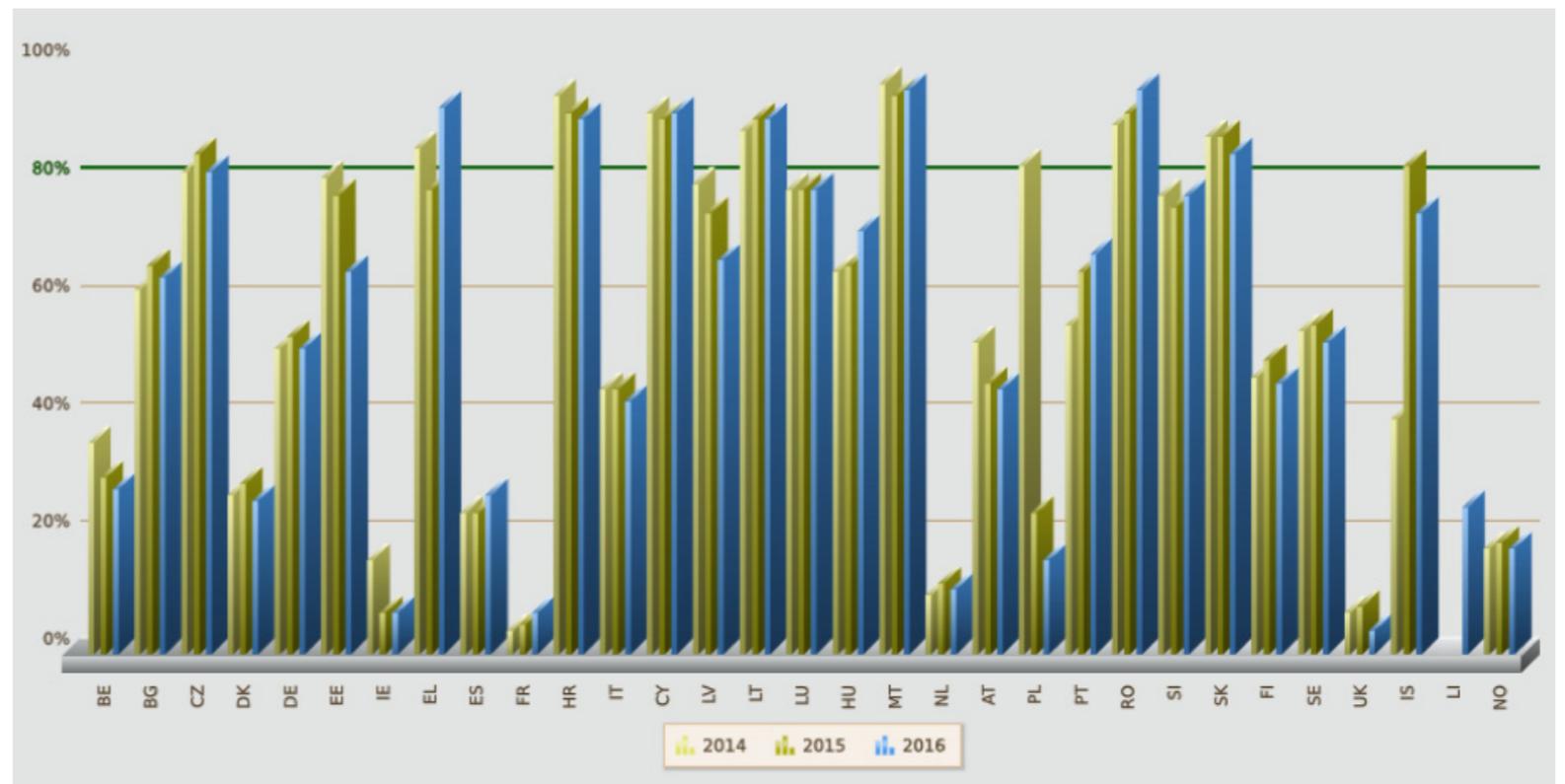
- Transport White Paper, 2011

Innovative Procurement Procedures

Innovative Criteria for Transport and Mobility



since 18 April 2016, as per the EU Directives (2014), significant decreases in lowest price indicator should be noticed in all countries after this date



AWARD CRITERIA IN EU COUNTRIES (2014-2016). THE 'AWARD CRITERIA' INDICATOR MEASURES THE PROPORTION OF PROCEDURES WHICH WERE AWARDED ONLY BASED ON LOWEST PRICE. (SOURCE: EC, SINGLE MARKET SCOREBOARD. PERFORMANCE PER POLICY AREA. PUBLIC PROCUREMENT. (REPORTING PERIOD: 01/2016 - 12/2016), [HTTP://EC.EUROPA.EU/INTERNAL_MARKET/SCOREBOARD/_DOCS/2017/PUBLIC-PROCUREMENT/2017-SCOREBOARD-PUBLIC-PROCUREMENT_EN.PDF](http://ec.europa.eu/internal_market/scoreboard/_docs/2017/public-procurement/2017-scoreboard-public-procurement_en.pdf))

The figure above shows the changes in 'Award Criteria' (an indicator that measures the proportion of procedures which were awarded only on the basis of lowest price) over the period 2014-2016. As the reform has been promoted since 18 April 2016, as per the EU Directives (2014), significant decreases in this indicator should be noticed in all countries after this date, thus accounting for the degree to which the procurement reform is actually applied.

Innovative Procurement Procedures

Innovative Criteria for Transport and Mobility



The procurement reform aims at decreasing the influence of the lowest price criterion

The graph on Award Criteria shows that:

1. The main big differences in the value of this indicator across various countries (year 2016)
 - from over 90% (Lithuania, Croatia, Cyprus, Greece, Malta, Romania) to (4-10%) in United Kingdom, France, Ireland
2. The procurement reform aims at decreasing the influence of the lowest price criterion (among others)
 - For the period 2014-2016 there are a few countries in which significant decreases are noticed: Poland (80 – 15%), Estonia (78 – 62%), Ireland (15 – 5%), Latvia (77 – 65%).
 - Decreases in the percentage of ‘lowest priced’ procurement in other countries are generally lower, yet noticeable, particularly in those countries which featured low percentages in 2014. Such countries have been proponents of using more full economic costs even before 2014.
 - some countries have featured increases during this period, for instance Romania (88-95%), Greece (83-76-92%) and Portugal (54-65%)

Innovative Procurement Procedures

Innovative Criteria for Transport and Mobility



Life Cycle Costs can be evaluated based on the statistic and probabilistic data, as well as on the mathematical models

LIFE CYCLE COSTS (LCC; 1/7)

Life Cycle Costs can be evaluated based on the statistic and probabilistic data, as well as on the mathematical models considering LCC components:

- procurement price,
- energy costs,
- operation and maintenance costs (labour, consumables, spares, repair, modernisations, trainings, logistic expenditures etc.),
- decommission at the end of the time period, opportunity costs (enhancing operation safety, reduction in consumption and emissions etc.),
- evolution of inflation,
- labour costs,
- fuel costs,
- rate of exchange,
- penalties resulted from unavailability and accidents etc.

There is a large amount of literature and software that could be used to define and calculate LCC, including a package of European Norms (EN) among which we recommend:

- EN 60300-3-3: 2017, 3rd edition – Application Guidelines – Life Cycle Cost Evaluation.

Innovative Procurement Procedures

Innovative Criteria for Transport and Mobility



The LCC criterion is considered to be an empowering factor which stimulates technological innovations enabling new products to be brought to market quicker

LIFE CYCLE COSTS (LCC; 2/7)

With supplies and services of long life cycle and which have a major impact on the environment, costs and life quality, LCC criterion is more suitable than the purchase price.

Various sources and analyses for a locomotive for public transport (comparable to rolling stock in public transport) show a cost structure as per next Table:

Costs	Locomotive for passenger service*
Purchase	22,7 %
Energy consumption	46,2 %
Maintenance	31,0 %

Source: * Trümpi 1998

The LCC criterion is considered to be an empowering factor which stimulates technological innovations in the enhanced design, fabrication, operation and maintenance of products, enabling new products to be brought to market quicker. Even if the denomination LCC seems to refer only to costs, their optimisation will also result in a reduction in emissions, higher performances and social effects.

Innovative Procurement Procedures

Innovative Criteria for Transport and Mobility



Possibility to lend public support for purchasing non-polluting energy-efficient transport vehicles

LIFE CYCLE COSTS (LCC; 3/7)

Given the importance of this criterion, the procurement reform advocated through the 2014 Directives, was foreshadowed by Directive 2009/33/CE, stipulating as follows:

Art. 16 - 'The biggest impact on the market, together with the best cost / benefit result is obtained through mandatory inclusion of lifetime costs for energy consumption, CO2 emissions and pollutant emissions as award criteria in the procurement of vehicles for public transport services.'
Art. 20. Including the above costs as selection criteria 'does not impose higher total costs but rather anticipates operational lifetime costs in the procurement decision'

The Directive also specifies the possibility to lend public support for purchasing non-polluting energy-efficient transport vehicles, in line with EC policies in the field of environment, climate and energy, European funds, national and regional operational programmes, certain community programmes such as CIVITAS and IEE.

The importance of the topic range is also demonstrated by the proposal for a Directive of the European Parliament and of the Council COM (2017) 653 final of 8.11.2017 amending Directive 2009/33/EU.

External links:

- Directive 2009/33/CE;
- COM (2017) 653 final of 8.11.2017

Innovative Procurement Procedures

Innovative Criteria for Transport and Mobility



The share of zero emission buses by year 2030 will reach 75% of the overall public procurements in half of the EU Member States

LIFE CYCLE COSTS (LCC; 4/7)

Among the most important provisions under the proposal for a Directive of the European Parliament and of the Council COM (2017) 653 final of 8.11.2017 amending Directive 2009/33/EU, the following is noteworthy:

'The member states will have to submit reports regarding the directive application, every three years (starting from 2023)'

'The directive application range is extended to other forms of public procurement namely vehicle leasing or hiring, public services contracts for road mass transport services, renting services etc.'

'In the European strategy regarding low emission mobility, it is maintained that the commitments under the UNO Framework Convention (CCONUSC) Paris 2015 can be met through various political initiatives, inclusively through public procurement of non-polluting vehicles'

'Public Authorities, can set up and support goods- and innovative services markets, through their public procurement- related policy'

'LCC calculation is an important tool for the contracting authorities in order to cover the energy- and environmental costs'

'A greater support in spreading non-polluting vehicles on the market can be achieved by providing public support measures at a national and at the Union scale'

'Annex 1 to Directive COM(2017)653 final foresees the share of zero emission buses by year 2030 at the scale of EU Member States. This share will reach 75% of the overall public procurements in half of the EU Member States (Table 5)'

Innovative Procurement Procedures

Innovative Criteria for Transport and Mobility



companies are stimulated to invest in research and develop innovative solutions to reduce LCCs and emissions, to enhance safety in operation and others

LIFE CYCLE COSTS (LCC; 5/7)

The calculations for LCC estimate can be complex and laborious, but making them need not be the purchaser's concern and objective.

Procurement procedure must include analysis and decision making on the best solutions, most suitable for each procurement, namely (part 1/3):

- The possibility that several authorities enter a partnership so that the procurement of public transport vehicles (for instance) may be tailored to the regional / national / cross-border necessities, thus making the procurement more attractive for the most prestigious and innovative tenderers in the field
- Apply procurement procedures which favour innovation (Innovation Partnership, Procurement of Innovative solutions - PPI, Pre-Commercial Procurement – PCP). Based on such procedures, the companies are stimulated to invest in research and develop innovative solutions to reduce LCCs and emissions, to enhance safety in operation and others.
- The possibility that the procurement should (?) refer to both rolling stock and maintenance services throughout service life.

Innovative Procurement Procedures

Innovative Criteria for Transport and Mobility



One of the requirements in the procurement documentation refers to the necessity of setting a single form to present LCC related data

LIFE CYCLE COSTS (LCC; 6/7)

The calculations for LCC estimate can be complex and laborious, but making them need not be the purchaser's concern and objective.

Procurement procedure must include analysis and decision making on the best solutions, most suitable for each procurement, namely (part 2/3):

- Adopting LCC as the main criterion in procurement means that the procurement documentation provided by tenderers should include an annex specifying and guaranteeing the respective expenditures. Major tenderers have long shown such interests and awareness and have the necessary data for these calculations, as well as the innovative potential to upgrade them.
- One of the requirements in the procurement documentation refers to the necessity of setting a single form to present LCC related data, specifying the structure of the main components, the costs for labour and energy, and their expected evolution etc. as well as the single procedure to check these data (upon acceptance and periodically, throughout the life cycle).

Innovative Procurement Procedures

Innovative Criteria for Transport and Mobility



LCC permanent monitoring and optimising is a challenge for the management of the operation and maintenance of the purchased supplies

LIFE CYCLE COSTS (LCC; 7/7)

The calculations for LCC estimate can be complex and laborious, but making them need not be the purchaser's concern and objective.

Procurement procedure must include analysis and decision making on the best solutions, most suitable for each procurement, namely (part 3/3):

- Thus, based on the statistical data and on their own calculations referring to the object of their offer, the tenderers can submit their data in a documented, transparent and comparable format, so that tenders may be evaluated against each other
- The contract pattern will foresee sanctions and penalties for failure to comply with the data in the offer, and a modality of bonus / malus according to the actual data accomplished.
- LCC permanent monitoring and optimising is a challenge for the management of the operation and maintenance of the purchased supplies, and calls for both political will and a scientific and modern organisation of the activities, but the results – quantified in savings, reduction of emissions, personnel training and incentivisation, high quality transport services also – will be spectacular, as proven by the experience of those who decided to get involved and to make these efforts in procurement policy and in LCC monitoring.

Innovative Procurement Procedures

Innovative Criteria for Transport and Mobility



Costs to society for local pollution are still very high – at about 0.4% of GDP

POLLUTION REDUCTION CRITERION

Urban mobility accounts for a considerable source of polluting emissions:

- Chemical Pollution
- Greenhouse effect gases
- Noise Pollution

Even if these are problems at a local level, their impact is felt at a continental scale through, for example climate change and more serious health problems

[COM (2007) 551 final – Green Paper 'Towards a new culture for urban mobility']

Costs to society for local pollution are still very high – at about 0.4% of GDP, according to a study by CE Delft, and new evidence from the Organisation for Economic Co-operation and Development (OECD) provides even higher estimates (up to 6 times higher). Consequently, air quality in cities remains a fundamental challenge for public health.

External links:

- Green Paper 'Towards a new culture for urban mobility'
- 'External Costs of Transport in Europe. Update Study for 2008', CE Delft
- air quality in cities challenges

Innovative Procurement Procedures

Innovative Criteria for Transport and Mobility



emissions spread over the whole surface of the localities, the differences in concentration depending on traffic intensity

POLLUTION REDUCTION CRITERION

Chemical Pollution:

- Polluting exhaust gases, carbon monoxide (CO), hydrocarbons (CH_x), sulphur dioxide (SO₂), nitrogen oxide (NO_x), volatile organic compounds, particulate matters (PM), etc.

Vehicle emissions feature two noteworthy particularities:

- exhaust is very close to the ground, which cause high concentrations at very low heights, even for low density gases with high capacity of diffusion in the atmosphere (so effect pedestrians and cyclists).
- emissions spread over the whole surface of the localities, the differences in concentration depending on traffic intensity.

Innovative Procurement Procedures

Innovative Criteria for Transport and Mobility



Transport represents almost a quarter of Europe's greenhouse gas emissions and is the main cause of air pollution in cities

POLLUTION REDUCTION CRITERION

Greenhouse effect gases

Global warming currently involves two major problems:

1. on the one hand, the necessity to drastically reduce greenhouse effect gases, and
2. on the other hand, the necessity to adjust to climatic change effects.

Transport represents almost a quarter of Europe's greenhouse gas emissions and is the main cause of air pollution in cities.

The main pollutants causing the greenhouse effect, and which are mainly produced as exhaust gases by car vehicles are carbon dioxide (CO₂), nitrous oxide (N₂O), methane (NH₄), alongside other chemical compounds from other sources, particularly from industry.

Main regulations referring to gas emissions:

- Directive 2008/50/EC regarding air quality.
- Directive 2004/26/EC regarding mandatory conditions (NRMM stage IIIB for new internal combustion motors, or spares after 2012
- Directive 2009/33/EC on the promotion of non-polluting energy-efficient vehicles through procurement with the completions in Directive COM(2017)653 final
- Directive 2009/28/EC on the promotion of the use of energy from renewable sources

Innovative Procurement Procedures

Innovative Criteria for Transport and Mobility



City inhabitants are faced with stress, modifications in the sleep stages and clinical symptoms, such as hypertension and cardiovascular condition, premature death rate

POLLUTION REDUCTION CRITERION

Noise Pollution (1/2)

Prolonged exposure to high noise pollution levels may seriously affect human health.

City inhabitants are faced with stress, modifications in the sleep stages and clinical symptoms, such as hypertension and cardiovascular condition, premature death rate – all caused, among others, by noise.

Noise-related relevant regulations:

- Directive 2002/49/CE - evaluation and monitoring of ambient noise
- Commission Regulation (EU) No 1304/2014 of 26 November 2014 on the technical specification for interoperability relating to the subsystem ‘rolling stock – noise’ amending Decision 2008/232/EC and repealing Decision 2011/229/EU Text with EEA relevance

National or local regulations:

- The requirements regarding the admitted emission level should be included into the Technical Specifications and the procurement documentation, in order to comply with the limits allowed for under the norms, or under additional local requirements (mandatory eliminatory requirements), with a possibility to score higher innovative ecological tenders featuring better performance.

Innovative Procurement Procedures

Innovative Criteria for Transport and Mobility



The requirements regarding the emission level should determine the decisions on the vehicle types to be purchased through public tenders

POLLUTION REDUCTION CRITERION

Noise Pollution (2/2)

The procurement documentation should include the conditions and the modality to check emissions, both upon acceptance and periodically, to prove compliance with the limits allowed for upon contracting.

The requirements regarding the emission level should also determine the decisions on the vehicle types to be purchased through public tenders, selecting non-polluting vehicle types (electric traction, rolling stock, regenerative electrical braking, alternative fuel use etc.)

Directive 2009/33/EC requires the contracting authorities and operators carrying out public service duties under a public services contract, to consider, as selection criteria:

- the energy consumption
- CO₂ emissions
- polluting emissions.

These should also be applied in the strategies and decisions aimed at improving public transport, namely a rise in the share of public transport, pedestrians, bike riding etc. and at reducing individual transport by cars.

External link:

- [Directive 2009/33/EC](#)

Innovative Procurement Procedures

Innovative Criteria for Transport and Mobility



Bidders coming up with innovative solutions to reducing consumptions should be awarded with higher scores

ENERGY CONSUMPTION

Energy consumption is an important criterion during the procurement for transport and other energy consuming equipment which causes pollution.

Procurement documentation needs to set out maximum allowed limits of energy consumption, while bidders coming up with innovative solutions to reducing consumptions should be awarded with higher scores.

These criteria can be separated or included into LCC criterion.

The analysis of energy consumptions should be exhaustive, considering the innovative solutions through which other consumptions besides standard ones of the traction equipment (consumption at braking, consumptions with parking / maintenance, consumption related to providing comfort conditions, solutions to reducing and optimising consumptions).

Innovative Procurement Procedures

Innovative Criteria for Transport and Mobility

EXTERNAL TRANSPORT COSTS

Transport activities have a major impact on sustainable development and life quality through their effects on the environment, casualties, traffic congestions and delays, infrastructure wear, areas occupied by transport infrastructure.

Most of the costs of these negative effects – named 'External costs' – are incurred by the whole society, and not only by transport services suppliers and users (these costs are not included into transport costs). Thus, transport service suppliers and users benefit by unfair incentives, to the detriment of the entire society that actually incurs these costs. These costs significant, and are distributed in a very different way among the various modes of transport.

According to 'External Costs of Transport in Europe, Update Study for 2008', CE Delft, November, 2011 the overall amount of external costs of transports in EU + Norway + Switzerland:

- EUR500 billion / year, accounting for 4% of EU annual GDP;
- The share of road transport external costs:
- EUR465 billion/year, accounting for 93% of the total external costs;
- The share of railway transport external costs:
- EUR10 billion/year, accounting for below 2% of the total external costs.

External link:

- 'External Costs of Transport in Europe, Update Study for 2008'



Bidders coming up with innovative solutions to reducing consumptions should be awarded with higher scores

Innovative Procurement Procedures

Innovative Criteria for Transport and Mobility



External costs internalisation by procurement procedures is a complex and difficult undertaking, which has long been of interest with EU politicians

EXTERNAL TRANSPORT COSTS

Mention should be made that, however impressing these figures may be, they cannot totally cover the external costs effects: casualties in transport accidents, the effect of chemical emissions, greenhouse gases, noise, time wasted in traffic congestions etc.

External costs internalisation means integrating these costs into transport ones so that the decisions made by the society and transport users take them into account.

External costs internalisation, by using market tools, by procurement procedures, by political actions etc. is a complex and difficult undertaking, which has long been of interest with EU politicians, as it also results from:

- Modification of Directive 1999/62/EC – the legislator required the European Commission to submit a transparent applicable model for the evaluation of all the external costs.
- Transport White Paper, 2011 – through which the strategies and guiding lines aimed at developing transports and transport modes are elaborated considering external costs.

Innovative Procurement Procedures

Innovative Criteria for Transport and Mobility



if nothing is done in the next few years, the environmental costs (air pollution, CO2 emissions) could reach 210 billion by 2020

EXTERNAL TRANSPORT COSTS

Following these undertakings, the Commission issued a Communication COM(2008) 435 final – Strategy for the internalization of external costs with annexes {SEC(2008) 2207}, {SEC(2008) 2208}, {SEC(2008) 2209} and proposals for further revision of this directive (Directive 2006/38/EC).

According to the results of the impact analysis of the internalisation of external costs, if nothing is done in the next few years, the environmental costs (air pollution, CO2 emissions) could reach €210 billion by 2020. Individuals and businesses would also face traffic congestion on more than a quarter of Europe's roads.

The technical Annex {SEC(2008) 2207} proposes a common workframe for calculating the external costs regarding traffic congestion, air pollution, noise and climate changes as a result of identifying joint principles and methodologies. Road traffic accidents are not explicitly dealt with in this document; instead, special mechanisms will be used to take into consideration the nature of risks and correction modalities.

The elaboration and interpretation of the Sustainable Urban Mobility Plans (SUMP) as well as the policies of including certain criteria into the procurement of transport / works / transport services, considering the volume and share of external costs are necessary and can have major effects on enhancing life quality.

External links:

- COM(2008) 435 final
- Directive 2006/38/EC

Innovative Procurement Procedures

Innovative procedures in public procurement



The directives impose the legality and liabilities of public bodies regarding advertising and using objective calls for tenders

GENERAL

The reform in public procurement refers to applying not only certain innovative criteria, but also innovative procedures in procurement.

The principles underlying public procurement contract award and the organisation of solution contests are:

- non-discrimination;
- equal treatment;
- mutual recognition;
- transparency;
- proportionality;
- taking on responsibility.

The directives impose the legality and liabilities of public bodies regarding advertising and using objective calls for tenders, compliance with the procedures for those contracts exceeding certain value thresholds etc.

EU Directives fostering reform in procurement emphasise these basic principles.

The reform widens the range of possibilities of applying innovative procedures and criteria, however, they must be conducted honestly and fairly, so as to best capitalise on public money.

Innovative Procurement Procedures

Innovative procedures
in public procurement



EU Directives set up the priority domains (services and related supplies / materials) for public procurement

GENERAL

The following types of contracts fall within the scope of EU Directives referring to public procurement:

- Works – constructions and civil engineering
- Supplies – procurement of machinery, materials and goods
- Services.

EU Directives set up the priority domains (services and related supplies / materials) for public procurement. Out of them, the following can be counted in the field of sustainable mobility development:

- Services and necessary means for public- or freight transport
- Services related to maintenance and repairs
- Telecommunication services
- Informatics and related services
- Certain research and development related services
- Architecture, engineering, urbanism, scientific consultancy and joint technique- related services
- Testing and technical analysis related services
- Management consultancy and related services
- Market research and opinion surveys related services
- Advertising- related services
- Financial, insurance, banking and investments related services.

Innovative Procurement Procedures

Innovative procedures in public procurement



Research development has become a priority, being the only way to promote an intelligent and sustainable enhancement favourable to inclusion

GENERAL

Both SUMP's and the 'SMART City'- related concepts emphasise that the purchase of these services / supplies / works must be approached through an integrated outlook, able to bring about an accelerated, sustainable and harmonious development of the components contributing to sustainable mobility and life quality.

The EU Documents regarding the procurement reform, as well as other elements fundamental to EU development strategy (Europe 2020 Strategy, Lisbon Strategy, HORIZON 2020 Framework Programme) emphasise the fact that research development has become a priority, being the only way to promote an intelligent and sustainable enhancement favourable to inclusion. The procurement strategy and the multiannual procurement plans will foresee the objectives and requirements necessary to meet the above desiderata, and to enhance the efficiency of the procurement results.

In the procurement strategy there are also named the major objectives for the local population in the following years (a reduction in energy consumptions, emissions and life cycle costs, economy / tourist promotion, upgrading life quality etc. The multiannual procurement plan will include the procurement of products and services necessary to develop sustainable mobility. These products and services will have to best meet the major objectives for the local population. To this end, it is necessary to involve the entities able to develop innovative solutions under innovative partnerships. These partnerships should be developed in good time, so that products / services with already feasible innovative solutions / performances can be required at the tenders. Related financing solutions can be found under innovative partnerships.

Innovative Procurement Procedures

Innovative procedures
in public procurement

PROCUREMENT PROCEDURES

- **Open procedure.** One single compulsory stage. Any economic operator has the right to submit a tender in response to a call for competition.
- **Restricted procedure.** The call for competition is two-stage:
 1. The first stage includes notification and expression of interest in order to invite potential competitors. A detailed questionnaire (referring to the level of requirements referring to professional, technical and financial expertise, and to capacity), as well as the qualification and selection criteria for the potential competitors is published. The contracting authority will specify in the participation notice the minimum number, and – if need be – the maximum number of candidates to be selected for the second stage.
 2. In the second stage, only the tenderers having met the eligibility requirements are invited to participate. Alongside the invitation, the tender documents required to be completed will be included as well as a copy of the contract to be signed by the tender winner.

Innovative Procurement Procedures

Innovative procedures
in public procurement

PROCUREMENT PROCEDURES

- **Competitive Dialogue.** This procedure provides more flexibility in the procurement process. It is used in complex contracts, for instance Public – Private Partnerships (PPPs). The procedure is conducted in three stages:
 1. Submission of requests to participate and selection of candidates in keeping with the qualification and selection criteria
 2. A dialogue with the selected candidates, in order to identify the optimum solution/s to meet the contracting authority's needs, on which the final tenders will be submitted.

The dialogue can include several successive stages, thus reducing the number of solutions and issues under discussion. When the best solutions have been adopted, a minimum number of candidates (at least three) will be notified and invited to submit their final tenders.
 3. Final tender submission by the remaining candidates following the dialogue and the evaluation according to the award criterion and the set evaluation factors.

Innovative Procurement Procedures

Innovative procedures
in public procurement

PROCUREMENT PROCEDURES

- **Competitive Negotiation.** The procedure usually includes two compulsory stages:
 1. Publication of a participation notice and of the criteria regarding the qualification and the selection of the candidates.
 2. Invitation of at least three candidates, selected in the former stage to submit initial tenders to meet the minimum set conditions. Negotiations with a view to upgrading the initial tenders and submission of final tenders to be evaluated in keeping with the evaluation criteria and factors.
- **Negotiation without prior notice.** This is an exceptional procedure for use only under exceptional circumstances, determined in keeping with legal provisions.

The authority negotiates the contract terms with one or several partners, without notice.

Innovative Procurement Procedures

Innovative procedures
in public procurement

PROCUREMENT PROCEDURES

- **Competition of solutions.** This can be organised:
 1. within a procedure of awarding a public procurement contract of services
 2. as a distinct award procedure, with awards or payments to the participants.

This is initiated by the publication by the contracting authority of a notice of competition through which the economic operators concerned are invited to submit projects.

If the contracting authority intends to limit the number of participants, clear, objective and non-discriminatory qualification and selection criteria will be set, which will be specified in the procurement documents.

In order to evaluate the projects submitted, the contracting authority assigns a suitably qualified jury independent from the participants in the competition. The jury is autonomous in the decisions and opinions they put forward. The detailed regulations regarding the organisation of the competition of solutions are set through methodological norms of applying legal provisions.

Innovative Procurement Procedures

Innovative procedures
in public procurement



Objectiveness and transparency should be ensured by a clear formulation of the criteria, and the utilisation of the evaluation form

PROCUREMENT PROCEDURES

Issues applying to all procurement processes (1/2):

- Under all circumstances of dialogue and negotiation, the Contracting Authority must ensure fair treatment and compliance with the copyright regulations for all the dialogue partners.
- Objectiveness and transparency should be ensured by a clear formulation of the criteria, and the utilisation of the evaluation form – in which there will be specified the scores awarded to each criterion and the modality of their evaluation / calculation.
- Evaluations of the budget / effective costs / economic advantages are usual modalities with a view to a clear and non-discriminating evaluation. It is necessary that the calculation- or evaluation values in the tenders should be in line with a clear, unitary and verifiable methodology, specified by the Contracting Authority, so that the tenders may be genuinely comparable, without distortions.

Innovative Procurement Procedures

Innovative procedures
in public procurement



For the utilities sectors and certain public services there are special regulations in keeping with Directive 2014/25/CE, Regulation (CE) No. 1370/2007

PROCUREMENT PROCEDURES

Issues applying to all procurement processes (2/2):

- In the case of two-stage tenders, it is considered that, after the former stage, the evaluation requirements were met, and do not then have to be included in the final evaluation criteria and sheet.
- If, after the former stage, the minimum number of candidates foreseen for the latter stage could not be achieved, the Contracting Authority has the right to choose between either to continue the procedure with only that candidate / those candidates meeting the requirements, or to cancel the awarding procedure.
- For the utilities sectors and certain public services there are special regulations in keeping with Directive 2014/25/CE, Regulation (CE) No. 1370/2007.

The above are summaries necessary to understand these procedures, in keeping with the object of the current Guidelines. Selecting and applying the procedures, setting up the tender timeline, writing the documentation and organising the award procedures should be conducted in strict compliance with the legal provisions for each procedure type.

External links:

- Directive 2014/25/CE
- Regulation (CE) No. 1370/2007

Innovative Procurement Procedures

Innovative procedures
in public procurement



The Authority is liable to take the necessary measures so that, following the consultancy, competitiveness may not be distorted

PROCUREMENT PROCEDURES

Besides these award procedures, there are further ones for specific situations, or combinations / upgradings specific to certain procurement types, among which we mention as follows (1/2):

- **Market consultancy**

The new legislations regulate the possibility of the Contracting Authority conducting market consultancies with a view to preparing the procurement, by means of the electronic public procurement system, as well as through any other means.

The Authority is entitled:

- to invite independent experts, public authorities, economic operators within the consultancies
- to apply or implement the opinions, suggestions or recommendations received within consultancies, to prepare the procurement documentation and to organise the award procedure.

The Authority is liable to take the necessary measures so that, following the consultancy, competitiveness may not be distorted, and non-discrimination and transparency principles may not be infringed on, either.

Innovative Procurement Procedures

Innovative procedures
in public procurement

PROCUREMENT PROCEDURES

Besides these award procedures, there are further ones for specific situations, or combinations / upgradings specific to certain procurement types, among which we mention as follows (2/2):

- **Partnership for innovation.** The procedure involves three stages:
 1. The competitive stage – submission of the requests for participation and selection of the most adequate candidates based on their expertise and skills, in keeping with the qualification and selection criteria.
 2. Submission of initial tenders by the candidates selected within the former stage, and evaluation of their compliance with the requirements set by the Contracting Authority.
 3. Negotiations with a view to upgrading the initial tenders. This stage can be further subdivided into several stages along which the number of partners may be gradually reduced, according to the compliance with the preset criteria.

Submission of final tenders and evaluation by applying the award criterion and the evaluation factors.

- **Other types of innovative procurement**

Innovative Procurement Procedures

Innovative procedures
in public procurement



*support sustainable mobility
development in line with global
developments and strategies to
increase quality of life*

PROCUREMENT PROCEDURES

The concepts introduced through SUMP, the concepts 'SMART City', 'Green Procurement' / Green Public Procurement - GPP (based on EU Clean Vehicle Directive – CVD, 2009/33/CE), ECO-Innovation, SRPP- Socially Responsible Public Procurement, SPP - Sustainable Public Procurement, aimed to support sustainable mobility development in line with global developments and strategies to increase quality of life etc.

In numerous countries, in which there is genuine awareness to the importance of such concepts, there are programmes and initiatives developed at the Government and regional level, as well as by organisations / institutes (for instance the Institute for Sustainable Development - IISD) through which strategies, studies, and regulations are elaborated in support of implementing the innovative concepts into the public procurement procedures.

External link:

- [Directive 2009/33/CE](#)

Innovative Procurement Procedures

Innovative procedures
in public procurement



The procurement strategies of the local authorities should foresee complex procurements for several products or services, correlated and coordinated in a unitary way

PROCUREMENT PROCEDURES

The procurement strategies of the regional / local authorities should foresee complex procurements for several products or services, correlated and coordinated in a unitary way, to best achieve these global objectives.

For instance, highly specialised and costly consultancy services are currently purchased in order to elaborate a SUMP. It would be very useful if the same team, or a similar highly-skilled team coordinated the implementation programme as well, in order to prove SUMP viability and implementation feasibility, with a view to building the Local Authority's capacity, and to evaluating the results periodically and after a representative period of time (for instance 5 years), based on holistic measurable performance indicators. The major benefits achieved as a result of the SUMP and its efficient implementation, through modern procurement methods, would account for the expenditures of such a specialised consultancy.

Specialised consultancy means additional costs for LAs, but it will set up the technical requirements necessary for the purchased product to feature lower LCC, lower emissions etc. The costs and benefits thus gained will be greater than the expenditures for specialised consultancy. The LA personnel must specialise in procurement, but they cannot specialise in the technical aspects specific to each complex product.

Innovative Procurement Procedures

Innovative procedures in public procurement

Further details regarding the funds for Innovation Procurement, Guidelines for participants:

- Innovation Procurement - The power of the public purse
- European Assistance for Innovation Procurement (Eafip)
- Guide on the synergies between H2020 and the ESIF
- H2020 participant portal

FINANCING TOOLS IN SUPPORT OF INNOVATIVE PUBLIC PROCUREMENTS

The financing tools to support of innovative public procurements were developed (particularly through HORIZON 2020 research – development programme) in order to foster innovative solutions in domains of high interest, as such solutions that are difficult to purchase through a classical public procurement procedure when considering research related risks, long duration and costs (1/3).

- **Pre-Commercial Procurement (PCP)**

PCP refers to public procurement of research- and development services, not including their implementation into the final commercial products. PCP can be used when the market fails to provide solutions able to meet the purchasers' requirements. The procurement is conducted in order to get new solutions, developed and tested so as to meet the procurement needs. PCP allows for a comparison across alternative approaches to solutions, by designing the solutions, developing and testing the model / prototype.

PCP actions target consortia of procurers with similar procurement needs who want to procure together the development of innovative ICT based solutions to modernize public services whilst creating growth opportunities for industry and researchers in Europe in new markets. This topic is open to proposals for PCP actions in all areas of public sector interest requiring innovative ICT based solutions

The maximum funding rate for eligible costs for PCP actions is of 90% of the procurement costs.

Innovative Procurement Procedures

Innovative procedures
in public procurement

Further details regarding
the funds for Innovation
Procurement, Guidelines for
participants:

- Innovation Procurement
- The power of the public
purchase
- European Assistance for
Innovation Procurement
(Eafip)
- Guide on the synergies
between H2020 and the
ESIF
- H2020 participant portal

FINANCING TOOLS IN SUPPORT OF INNOVATIVE PUBLIC PROCUREMENTS

The financing tools to support of innovative public procurements (2/3):

- **Procurement of Innovative Solutions (PPI)**

PPI can be used when challenges of public interest can be approached through innovative solutions which are almost finalised, and do not require the funding of research to develop new solutions. In this case, suppliers can purchase the existing solutions in order to test and deliver them at the set deadlines, alongside the products / services they can provide.

Considering the large volume of public spending (19% of EU GDP, or roughly EUR 2,200 billion in 2009), the public sector constitutes an important driver to stimulate market transformation towards more sustainable energy-related products and services.

Actions enabling a group of procurers (buyers group) to undertake a PPI procurement for innovative solutions for, products, services buildings (e.g. NZEB, renovation) which are not yet available on a large-scale commercial basis, and which have energy performance levels that are better than the best levels available on the market. The innovative solutions procured by all procurers in the buyers group must have the same core functionality and performance characteristics, but may have additional 'local' functionality due to differences in the local context of each individual procurer.

PPI allows for refunding 35% of the direct expenses and 25% of the overhead expenses.

Innovative Procurement Procedures

Innovative procedures
in public procurement

Further details regarding the funds for Innovation Procurement, Guidelines for participants:

- Innovation Procurement - The power of the public purse
- European Assistance for Innovation Procurement (Eafip)
- Guide on the synergies between H2020 and the ESIF
- H2020 participant portal

FINANCING TOOLS IN SUPPORT OF INNOVATIVE PUBLIC PROCUREMENTS

The financing tools to support of innovative public procurements (3/3):

- **Coordination and Support Actions (CSA).**

Financing rate: 100%.

There are financed coordination activities, for instance preparing a PCP or PPI by a group of purchasers (identification of common challenges, consultancy between the open market and the industry, before initiating an actual PCP or PPI etc.).

A Specific Challenge of the Horizon 2020 call is to promote excellent collaborative research and innovation on future and emerging technologies to secure and renew the basis for future European competitiveness and growth, and that will make a difference for society in the decades to come .

The three financing tools are not mutually exclusive; on the contrary, it is recommended they should be applied in a complementary way.

In the period 2018-2019 HORIZON 2020 Programme has a budget of €124 million for innovative procurement.

Innovative Procurement Procedures

Innovative procedures
in public procurement

SPECIFIC TOOLS AND TECHNIQUES FOR PUBLIC PROCUREMENT CONTRACT AWARD

- **Framework agreement.**
Duration: maximum 4 years, apart from exceptional cases.
- **Dynamic procurement system.**
It is the procurement procedure organised through electronic means and open throughout the validity period to any economic operator meeting the qualification- and selection criteria for current use procurement. The legal framework does no longer restrict the maximum duration of the procurement dynamic system; however, the duration should be specified in the participation notice.
- **Electronic Tender**

Innovative Procurement Procedures

Innovative procedures in public procurement



Innovative public procurement means making the best choice of the procedure, the criteria and of the evaluation modality

PUBLIC PROCUREMENT INNOVATIVE ASPECT

In this case innovation does not mean applying a new procedure, not currently existing in the legal provisions.

Innovative public procurement means making the best choice of the procedure, the criteria (of qualification, selection and awarding) and of the evaluation modality, sustainably fostering innovation, setting up long-term partnerships with the providers of innovative solutions, supplies or services, organising enlarged procurements for several users (in an area / at national- crossborder scale), using ESPD, organising procurement-, award- and contracting procedures.

An innovative procurement procedure, in the spirit of the Procurement Reform should be:

1. optimised to the procurement's specific character
2. optimised to society's requirements / needs,
3. well organised in terms of the observance of the basic principles and the procurement legislation,
4. aimed at optimum long-term advantages for society, make up (in force after 18.04.2016).

Innovative Procurement Procedures

Innovative procedures
in public procurement



*The best capitalisation
of public money includes the
purchase price, as well as the
long-term advantages
for society*

CONCLUSIONS

Innovative procedures and criteria should be applied in a creative and well grounded way, considering that the best way of capitalising on public money is through at maximising the long-term advantages to society as a whole.

The best capitalisation of public money includes the purchase price, as well as the long-term advantages for society, namely conditions for mobility sustainable development (emissions- free environment, reduction of the number of accidents, lower energy consumption, lower LCCs, accessibility, congestion reduction, boost of economic, social and cultural development, higher life quality etc.).

As such the selection of evaluation procedures and criteria becomes difficult , calling for thorough training and organisation in order to define and reach the objective of each tender, in strict compliance with the legislation and the basic principles.

Considerations specific to certain procurement types

Supply contracts can be awarded through the full range of procurement procedures and through framework agreements. A framework agreement is reasonable, if there is a continuous demand for specific goods over a long term.

What is specific about supplies (as compared to services and works) is the ability to provide a precise technical specification. When specifying a supply tender, it is important to distinguish between mandatory and optional specifications. It is important that no reference is made to any make or model of any supplier when tendering for a supply contract.

No contract for a given quantity of supplies may be split up with the intention of avoiding application of the threshold value. Splitting the procurement in smaller lots can be a support to SMEs but should be avoided if it is not necessary in order to avoid non transparent procurement procedures.

Several procurements of supplies of the same type that are to be made at the same time need to be regarded by the contracting authority as one single procurement for the calculation of the estimated value.



*no reference is made
to any product or model of any
supplier when tendering for a
supply contract*

Considerations specific to certain procurement types

Procurement of public transport means



clear bonus / malus terms will be foreseen according to meeting the conditions and parameters of the contract

RECOMMENDATIONS REFERRING TO THE SELECTION OF THE TYPE OF PROCUREMENT / PARTNERSHIP

- Transport vehicles, particularly rail ones, feature a longer service life during which maintenance, revisions, repairs, modernisations and spares are necessary. Material and labour costs of these activities are much higher than the vehicle procurement cost. Consequently, it is preferable to set up a collaboration with the vehicle manufacturer tenderer with a view to a long-term partnership in which to provide all the above-mentioned works, or at least active technical assistance over a long time. For these activities, clear bonus / malus terms will be foreseen according to meeting the conditions and parameters of the contract. The supplier is thus propelled to provide innovative, high viability solutions at as low LCC as possible to ensure the good partnership continuity.
- For complex long cycle life supplies / services, it is recommended to use a competitive procedure with negotiation (inviting at least three candidates), particularly if setting up a long-term mutually advantageous partnership is envisaged.
- Applying the procedures of Innovation partnerships (Chapter 4.2.2.) to stimulate innovation and select partners according to the modality in which certain pre-set criteria are met.
- Should these acquisitions be considered for regulated public transport markets, incompatible state-aid measures should be avoided through clear public service obligations that include the foreseen level of technology.

Considerations specific to certain procurement types

Procurement of
public transport means



Specifications should not include or enforce exhaustive descriptions of technical solutions

RECOMMENDATIONS REFERRING TO DRAFTING THE TECHNICAL SPECIFICATIONS

- As a result of their characteristic activity, the manufacturing companies of (public / passenger / freight / road / railway etc.) /transport vehicles are technically better prepared than the customer. Consequently, the Specifications should not include or enforce exhaustive descriptions of technical solutions. The specific, basic, mandatory technical conditions will be specified, and for the rest, the tenderer can be required to provide descriptions and technical data, with reference to the Technical- and Interoperability Standards and Norms the product complies with.
- The Technical Specification should refer not only to the existing standards, but also require offers with the best solutions achievable, thus fostering innovation and research with a view to finding efficient solutions in the fields of interest to sustainable development.
- Besides the technical descriptions and justifications, the technical data underlying the evaluation will be required on standardised forms so as to make it easy to check the compliance with mandatory conditions, and to allow for a justified, verifiable and non-discriminatory tiebreak according to the evaluation criteria and scores.
- The Technical Specifications should define the technical conditions of utilisation (by specifying that the tenderer is invited to conduct on site findings) and the minimum mandatory performances, particularly from the user's point of view.

Considerations specific to certain procurement types

Procurement of public transport means



The Technical Specifications should specify the mandatory requirements and conditions, as well as the evaluation criteria differentiating the qualified offers

RECOMMENDATIONS REFERRING TO DRAFTING THE TECHNICAL SPECIFICATIONS

- Among the necessary requirements and performances, it is recommended that the following characteristics (specific to the conditions or requirements) should be specified:
 - Maximum number of passengers to be carried at maximum / average speed of ... km/h, along a route of set conditions (along which the acceptance test will be performed)
 - Maximum allowed overall dimensions, maximum allowed weight (kg / load, wheel)
 - Comfort- and facilities- related requirements
 - Availability in service
 - Maximum allowed noise level in various operation regimes
 - Maximum allowed exhaust gas level
 - Conditions ensuring passengers' safety and security
 - Interoperability conditions
 - Traction type (energy source)
- The Technical Specifications should specify the mandatory requirements and conditions, as well as the evaluation criteria differentiating the qualified offers (meeting the mandatory conditions).

Considerations specific to certain procurement types

Procurement of public transport means



required standard forms and specifications so that all the tenderers may refer to the same modality of quantifying, measuring, verifying etc.

RECOMMENDATIONS REFERRING TO SPECIFIC INNOVATIVE CRITERIA AND TO THE EVALUATION MODALITY

These criteria and the evaluation modality should be in favour of tenders which promote mobility sustainable development, to the benefit of the region and the population.

- The evaluation criteria should best reflect the client's and the public supplier's requirements in the long run.
- The evaluation criteria should be quantifiable and verifiable
- Recommended innovative evaluation criteria:
 - Direct indicators for energy consumption (e.g.: kWh / loc. km, kWh / day)
 - Exhaust gas emission
 - Life Cycle Costs (LCC).
- For each evaluation criterion, the minimum / maximum allowed level and the modality of quantification and evaluation should be specified. There will be required standard forms and specifications so that all the tenderers may refer to the same modality of quantifying, measuring, verifying etc.
- The values declared through the tender should be accounted for by the tenderer (certificates, test bulletins, calculations), and should be checked at acceptance (in actual pre-set operation conditions) and periodically, throughout operation.
- The procurement and contracting documentation should foresee sanctions and malus / bonus terms according to the deviations from the declared values.

Considerations specific to certain procurement types

Procurement of public transport means



The procurement documentation should specify the mandatory (eliminatory) requirements, the evaluation criteria and the evaluation modality

RECOMMENDATIONS REFERRING TO DRAFTING THE PROCUREMENT DOCUMENTATION. UTILISATION OF E-PROCUREMENT PROCEDURE

- The documentation should include a calendar of the activities with deadlines for stages, for submitting the tenderers' questions / remarks, for reply / clarifications, possibly modifications, after which no further comments on the documentation wording will be allowed for any longer, and it will be accepted as such by all the tenderers.
- The procurement documentation should specify the mandatory (eliminatory) requirements, the evaluation criteria and the evaluation modality (scoring).
- The procurement documentation should also include the Contract Form.
- The procurement documentation and the Contract should include clear provisions referring to verifications / tests, penalties / gratifications according to the compliance with the data specified in the tender, for various stages (upon acceptance, - e.g. 1 year, upon expiry of the guarantee term, over the whole life cycle etc.)

Considerations specific to certain procurement types

Procurement of
public transport means



The contracts should foresee sanctions for failure to comply with the obligations undertaken under the tenders, as well as bonus / malus policies

RECOMMENDATIONS REFERRING TO CERTAIN CONTRACT PROVISIONS

The contracts, to be provided alongside the release of the procurement procedure, should foresee sanctions for failure to comply with the obligations undertaken under the tenders, as well as bonus / malus policies according to the degree of meeting certain criteria throughout certain time periods, specified under the contract.

The new EU / national provisions allow for modifications of certain contract provisions (upon negotiation and / or throughout the contract duration), by complying with the limits / situations foreseen under the regulations.

Considerations specific to certain procurement types

Procurements for public services



services tend to be less tangible than supplies and therefore more difficult to define within a specification

Service contracts include public transport obligations, advertising, property management, cleaning, management consultancy, training, financial and IT related services.

There are several features specifically related to the procurement of services.

Defining the Outcome - services tend to be less tangible than supplies and therefore more difficult to define within a specification.

Most service contracts are awarded based on the Most Economically Advantageous Tender and through a series of relevant and appropriate evaluation criteria. It is important with service contracts that part of the selection criteria relates to reliability of the supplier and the expertise and ability of the personnel involved.

In estimating the value of a public contract, the value of material and equipment needed to carry out the services to be supplied by the contracting entity and which are required for the provision of the services shall be considered.

Considerations specific to certain procurement types

Procurements for public services



*contracting authorities
set out minimum requirements
for the skills and expertise
of the personnel
in the specification*

Where a contract is one of a series of similar contracts, the value of each must be aggregated to determine the estimated value of the overall project. As with supply contracts, if the aggregated estimated value of a contract exceeds the threshold, each contract must be advertised in the Official Journal of the European Union (OJEU), even if the estimated value of the individual contract is below the EU thresholds.

As the quality of service delivery is usually dictated by the skills and expertise of the personnel involved it is important that contracting authorities set out minimum requirements for the skills and expertise of the personnel in the specification.

Works are defined as capital development projects such as building and engineering contracts. Contracting authorities are required to estimate the value of the whole works project even though it may be made up of several separate contracts for different activities. For example, if the construction of a new building requires site clearance, construction and fitting out, the threshold must be applied to all three phases (total value) even though the activities are different and may involve different contractors.

Related services, for example architectural services may be purchased under separate contracts, in which case their value need not be counted against the whole works project value.

Considerations specific to certain procurement types

Procurements for public services



ensure, public passenger transport safety, efficiency, high quality and performance, considering the social and regional, as well as the environmental factors

PUBLIC TRANSPORT SERVICES

Competition on urban and regional public transport markets are regulated through Regulation (EC) No 1370/2007 and Regulation (EC) No. 2338/2016.

Regulation (EC) no. 1370 is compulsory as of 3.12.2009; however, there is a transition period until 3.12.2019.

The main provisions of Regulation (EC) no. 1370 refer to (1/3):

1. Regulated competition for liabilities in public transport service.

The Regulation is aimed to ensure, public passenger transport safety, efficiency, high quality and performance, considering the social and regional, as well as the environmental factors.

This is achieved by setting up competitiveness rules for public passenger transport, linking the public procurement legislation to state aid laws (since public transport services cannot survive without financial compensations).

2. Types of public contracts awarding procedures:

- Direct award;
- Competitive award;
- The Public Services Contracts concluded as per the general public procurement legal framework.

External links:

- Regulation (EC) No 1370/2007
- Regulation (EC) No. 2338/2016

Considerations specific to certain procurement types

Procurements
for public services



The competent authority appealing to a third party, different from the internal operator, will award the PSCs based on a competitive award procedure

PUBLIC TRANSPORT SERVICES

The main provisions of Regulation (EC) no. 1370 refer to (2/3):

3. The advantages of Regulation (EC) no. 1370 as amended by Regulation (EC) no. 2338 as compared to the old procurement-related legislation (EC Directives CE 2004/17, 2004/18) and legal provisions in public service obligations sector (Regulation (EEC) no. 1191/1969) (1/2):
 - Competitive tender procedures, with tender standards in order to determine the best way of meeting specific or complex requirements;
 - The competent authority appealing to a third party, different from the internal operator, will award the Public Service Contracts based on a competitive award procedure (with the exceptions mentioned in the Directives);
 - The local markets are open to European competition;
 - Possibility of direct award under certain circumstances, inclusively for contracts with SMEs;
 - Emergency measures are covered by mandatory transparent Public Service Contracts;

External link:

- [Regulation \(EC\) No 1370/2007](#)

Considerations specific to certain procurement types

Procurements for public services



specifications should be consistent with the policy objectives as stated in public transport policy documents in the Member States

PUBLIC TRANSPORT SERVICES

The main provisions of Regulation (EC) no. 1370 refer to (3/3):

3. The advantages of Regulation (EC) no. 1370 as amended by Regulation (EC) no. 2338 (2/2):
 - Sub-contracting activities are allowed in certain conditions;
 - Requirements regarding quality- and social standards – ‘Competent authorities should define specifications of public service obligations in public passenger transport. Such specifications should be consistent with the policy objectives as stated in public transport policy documents in the Member States’ .
 - Regulating public service contracts duration.
 - Examples of quality standards. They refer to new vehicles and service life, operational safety, sanitation and maintenance, continuous professional- and human resource development training programmes, protection against assault and vandalism, clear definition of the compensatory parties, protection of transport employees’ rights.

External link:

- [Regulation \(EC\) No 1370/2007](#)

Considerations specific to certain procurement types

Procurements for public services



Regulation 1370 could be considered as the first major step in regulating urban public transport services on commercial basis

PUBLIC TRANSPORT SERVICES

Taking into consideration the different traditions in organising the market of public transport services, the European law accepts in this process of liberalisation both private and public capital in the ownership of public transport operators, but asks from the part of the competent authorities contracts with a limited life of maximum 10 years, for road services, and maximum 15 years for rail services, in order not to block the market.

As the European text of law asks for a commercial competition between investors at the moment of awarding the contracts, but accepts monopolies during the contracting period, the rights of employees are also covered in order to avoid social disturbances.

Regulation 1370 could be considered as the first major step in regulating urban public transport services on commercial basis between public authorities and Public Transport Operators (PTOs). The document covers a lot of contractual issues, and sets out rights and obligations for both sides.

The European legislators, first, define the players and new concepts that are present on the market and, second, touch the issue of quality standards, subcontracting options as ‘subcontracting can contribute to more efficient public passenger transport and makes it possible for undertakings to participate, other than the public service operator which was granted the public service contract’, contract definition and awarding procedures and legal protection.

Considerations specific to certain procurement types

Procurements for public services



European legislators ask the competent authorities to define clear public service obligations

PUBLIC TRANSPORT SERVICES

As the competent authorities are allowed to work with in-house PTOs and with third parties, Regulation 1370 sets the rules for tendering procedures (including the post-tender negotiation procedures or exceptions related to the ‘modest amounts or distances’), for direct awarding ones (related to an increased transparency or emergency situations) and has foreseen a transition period.

These rules include references to advertising the awarding process in order ‘to enable potential public service operators to react’. Besides regulating the railway passenger transport open access services, the Fourth Railway Package adopted in December 2016 brings new clarifications and directions in opening the public service market to competition.

A market controlled through contracts asked in the Regulation 1370 is to be further opened to tendered competition through the provisions of the new Regulation (EU) 2016/2338.

Following the principles of a free commercial market and to avoid an unclear business environment, the European legislators ask the competent authorities to define clear public service obligations, alongside the parameters of calculation the compensation payment and the nature of exclusive rights. On the other side, they have included some social responsibilities at the level of railway undertakings as regards the protection of employees in case of market transfer.

External links:

- Regulation (EC) No 1370/2007
- Regulation (EC) No. 2338/2016

Considerations specific to certain procurement types

Procurements for public services



The new procedures envisaged in Regulation 2338 are meant to build a competitive European market of public service contracts

PUBLIC TRANSPORT SERVICES

At the same time the new Regulation accepts the right of competent authorities to work with in-house PTOs through directly awarded contracts and with third parties through tendered contracts. In following any of these paths the competent authority should provide an increased level of transparency around setting up the contract and awarding procedure when we talk about directly awarded contracts and commercial confidentiality around tendered contracts.

The tendering procedures should be open to all operators and can be replaced by direct negotiations should only one operator express interest in the service.

In order to protect the interests of small and medium enterprises, the competent authority is allowed (unless prohibited by national law) to award public service contracts directly where the average annual value is less than EUR 7.5 million or less than 500,000 km.

The new procedures envisaged in Regulation 2338 are meant to build a competitive European market of public service contracts. To achieve this goal, the European legislators ask for common rules in this sector, a limited number of contracts awarded to one PTO and non-discriminatory access to suitable rolling stock (i.e. railway rolling stock).

External link:

- [Regulation \(EC\) No. 2338/2016](#)

Considerations specific to certain procurement types

Procurements for public services



performance requirements shall cover punctuality of services, frequency of operations, quality of rolling stock and transport capacity for passengers

PUBLIC TRANSPORT SERVICES

Some of the rules are stipulated in the Art. 1, par. 5: 'Where the competent authority decides to award a public service contract directly, it shall lay down measurable, transparent and verifiable performance requirements. Such requirements shall be included in the contract.

The performance requirements shall cover punctuality of services, frequency of operations, quality of rolling stock and transport capacity for passengers.

The contract shall include specific performance indicators enabling the competent authority to carry out periodic assessments. The contract shall also include effective and deterrent measures to be imposed in case the PTO fails to meet the performance requirements'.

Through the provisions of Regulation 2338, the main European legal framework is updated to ease the access to public service contracts of new market entrants based on European-wide tendering procedures and, at the same time, preserves the rights of competent authority to work through their own PTOs if this procedure helps increasing the quality of services and drop of costs for public service contracts.

The transition period is foreseen up to 3 December 2019.

Considerations specific to certain procurement types

Procurements for public services



a requirement for a team of experts on the procurement team with a wide knowledge and specific expertise

COMPLEX WORK PROJECTS

Works contracts are generally complex in nature and occur over a longer timeframe. Large construction projects, such as the building of a new trolleybus line, tramway line, a workshop and depot area etc., require expert project management and the input of several key stakeholders.

In many works contracts, there is a requirement for a team of experts on the procurement team with a wide knowledge and specific expertise. The contracting authority may have this expertise in-house or may have to recruit one or more external advisors.

With large scale construction works it is advisable that contracting authorities play close attention to warranties and liabilities with contractors since it is common to have additional works and complications that arise during the construction that were not necessarily planned for from the outset.

As a rule, in traditional construction projects, a percentage of the contract (normally 20%) is withheld from the supplier until a final warranty is received which may be some time after the completion of the construction itself. However, in design, build and operating contracts, payment will be directly linked to performance.

The evaluation of tenders for work contracts often show significant variations in quality and price between different bidders. The evaluation committees of contracting authorities may wish to use formal clarification meetings with bidders to establish these differences and therefore make direct comparisons more manageable. All clarification should be copied to all bidders in the competition.

Enhancing Local Authorities' capacity to develop sustainable mobility through public procurement reform

Procurement requires expertise, especially in the procurement of innovation solutions. However, many public buyers still do not have the necessary business skills, technical knowledge or procedural understanding.

This can lead to a lack of compliance with rules and has negative consequences for both businesses and taxpayers. Tackling the resulting inefficiencies is essential – the cost saving potential is estimated at billions of euros every year.

Building local authorities' capacity to actually carry through a public procurement reform as an efficient tool to implement the urban mobility sustainable development measures is an important objective rather difficult to reach, too.

Enhancing Local Authorities' capacity to develop sustainable mobility through public procurement reform

Enhancing Local Authorities' capacity in order to meet the 'Objective' above requires taking on the following challenges (1/2):

- Professionalize the staff in charge of public procurement: select, employ, train, educate the whole cross-disciplinary- and management team contributing to reaching this objective. Set up the team, their responsibilities, and modality of collaborating;
- Legal framework: a good knowledge of the legal framework, of the legislative changes, introducing specific regulations for various situations and procedures;
- Understand and raise awareness of the importance of innovative procurement and prepare their application;
- Financing – increase and optimise the resources allocated, innovative procedures for financing, business models and innovative partnerships;
- Develop a long-term procurement strategy;
- Develop an annual and multi-annual procurement plan intended for mobility sustainable development;
- Develop an evaluation plan and performance indicators;
- Enhance the exchange of knowledge between public authority professionals and suppliers;

Enhancing Local Authorities' capacity to develop sustainable mobility through public procurement reform

Enhancing Local Authorities' capacity in order to meet the 'Objective' above requires taking on the following challenges (2/2):

- Organise centralised public procurement procedures between local / regional / cross-border public authorities having the same requirements;
- Promote public – private partnerships and the collaboration with the industry;
- Use public financing for research and innovation in a strategic way in order to improve challenge impacts of public procurement;
- Use the new 'Innovation Action' and 'Pre-Commercial Procurement' instruments to encourage cities and the innovation community to collaborate.

INNOVATIVE FINANCING MECHANISMS



Image by Alexas_Fotos from Pixabay

Executive Summary

Introduction to Innovative Financing Mechanisms

The Guidelines for Innovative Financing Mechanisms stand for a useful and efficient tool for local authorities and other stakeholders in small and medium sized cities to apply innovative financing approached for sustainable transport and mobility projects and schemes.

The Supporting Urban Integrated Transport Systems (SUITS) project is funded by the European Commission, to help deliver their objective of promoting sustainable transport and mobility across the EU. The overall objective of the SUITS project is to share best practice and develop decision-making tools which will help to increase the capacity of local authorities and other stakeholders to finance and implement sustainable transport and mobility measures in small to medium-sized cities.

These Guidelines form one of the three main outputs from SUITS Work Package 4 (WP4), of which the overarching objective is to maximise the effectiveness and sustainability of transport measures through transferable best practice, new funding models and opportunities for new business entries. Three separate guidance documents have been developed, as follows:

- Guidelines to Innovative Financing
- Guidelines to Innovative Procurement
- Guidelines to Innovative Business Model.

Executive Summary

Introduction to Innovative Financing Mechanisms



adopting new financing approaches for sustainable mobility projects

The key objectives of the Innovative Financing Guidelines are to:

- Present existing funding mechanisms and approaches to sustainable financing used for transport and mobility projects in small and medium (S-M) cities, including capital, revenue and maintenance funding, where appropriate.
- Expose any gaps in current knowledge and organisational capacity that prevent S-M cities from identifying, trialling, or adopting new financing approaches for sustainable mobility projects.
- Present Innovative Financing Mechanisms and strategies that are scalable and transferable to sustainable mobility projects in S-M cities.
- Present international best practice through a decision-making tool in the form of a matrix of financing mechanisms.
- Enhance the administrative and organisational capacity of Local Authorities in S-M cities to use Innovative Financing Mechanisms.

Executive Summary

Introduction to Innovative Financing Mechanisms



key beneficiaries of the Guidelines will be small and medium European urban municipalities

The key outputs of the Innovative Financing Guidelines are:

- A collection of Innovative Financing Mechanism briefs, including selected case studies and implementation steps for S-M cities;
- A Matrix of Financing Mechanisms to show users of the Guidelines which innovative financing mechanisms are best suited to specific types of sustainable transport and mobility projects.

It is envisaged that the key beneficiaries of the Guidelines will be small and medium European urban municipalities, who currently do not have the capacity to identify and implement new financing approaches.

Stakeholder	Involvement in Development of Guidelines
Arcadis	Management of tasks associated with the development of the Guidelines, the development of the final Guidelines, the preparation of a number of Innovative Financing Mechanism briefs, and review and update of innovative financing mechanism briefs prepared by Task 4.1 Partners.
SUITS Partners	Partners with assigned contribution to Task 4.1 were responsible for preparing briefs of innovative financing mechanisms and providing feedback on the Guidelines.
SUITS Partner Cities	Partner cities identified gaps in financing capacity, provided feedback on the format of the Guidelines, and provided information regarding present-day financing mechanisms which they use for sustainable transport and mobility measures.

Table 1 Stakeholder Involvement

Executive Summary

Regulatory Environment, Strategy, and Governance



CEF, a financing tool for funding transport and mobility in the EU, where are only eligible for funding projects that promote a low-carbon economy and increased sustainable modes of transport

Promoting sustainable transport and mobility is important at the EU level, and although there is little legislation regarding the financing of sustainable transport and mobility in particular, there is much legislation which focuses on the finance of transport and focuses heavily on increasing sustainability of transport.

For example, there is a Regulation which sets out rules for using the Connecting Europe Facility, a financing tool for funding transport and mobility in the EU, which states that projects are only eligible for funding if they promote a low-carbon economy and increased sustainable modes of transport.

In comparison, at the EU Member State level, there is little legislation and regulation regarding the financing of transport and mobility projects in particular, especially those that are sustainable. However, country specific examples from Germany, Greece, Italy, the United Kingdom, and Romania, highlight that there is a large amount of legal and regulatory frameworks regarding general finance and investment in EU Member States, as well as various authoritative bodies which control how finance and funding are distributed for transport and mobility projects. In addition, most financing is regulated in accordance with national investment plans, so despite few legal frameworks, there are rules on how different types of funds can be spent, which includes those spent on transport and mobility projects

Executive Summary

Present-Day Financing Trends in the S-M EU Cities

Present-day financing systems for sustainable urban transport and mobility vary widely from city-to-city, and include public and private financing systems, as well as Public-Private Partnerships (PPPs).

Most cities receive some level of national and EU funding, although S-M cities tend to receive much less funding compared to large cities.

This builds the case for helping S-M cities to increase their capacity to take advantage of innovative financing mechanisms that are available to advance their sustainable urban transport and mobility.



Most cities receive some level of national and EU funding, although S-M cities tend to receive much less funding compared to large cities

Executive Summary

Innovative Financing Approaches

For the purpose of these Guidelines, ‘innovative financing’ refers to financing mechanisms that are creative in thinking, that mobilise, govern, or distribute funds in ways that go beyond traditional funding processes. Innovative financing also includes financing practices that have not previously been applied to sustainable transport and mobility, as well as mechanisms that may be well-established in some cities, but not widely applied in S-M European cities.

Innovative approaches to the financing of sustainable transport and mobility in S-M European cities is important, due to increased pressure on traditional sources of financing caused by the reduction of national and local government budgets, and increased population growth and urbanisation.

In addition, there is a reluctance from traditional transport and mobility investors to invest in sustainable transport and mobility projects, as they do not expect a high enough financial return, as benefits tend to be more diffuse (such as increased city competitiveness, economic growth, or the efficient use of a scarce resource).



Innovative approaches to the financing of sustainable transport and mobility in S-M European cities is important, due to increased pressure on traditional sources of financing

Executive Summary

Innovative Financing Approaches

The innovative financing mechanisms chosen and assessed in these Guidelines are:

- Congestion Charge
- Municipal Green Bonds
- Crowdsourcing
- Stamp Duty Land Tax (SDLT)
- Lottery Funding
- Voluntary Capture
- HGV Charging Schemes
- Work Place Parking Levy (WPL)
- Community Infrastructure Levy (CIL)
- Advertising, Sponsorship and Naming Rights
- Collaborating with other cities, research consortia and private companies
- Citizen Cooperatives
- Emission Trading
- Planning Obligations / Developer Contributions
- Tax Increment Financing
- Sales Tax
- Toll Roads
- Selling Expertise and Technical Know-how
- Sale of Land and Property
- Donations as Part of Consumer Purchases
- Grants from Private Foundations and Trusts

Regulatory Environment, Strategy, and Governance

Legal and Regulatory Framework: the EU



In order to gain funding for transport and mobility projects, criteria regarding a project's environmental sustainability has been heightened

Following the recent economic crisis, the EU adopted over 40 new pieces of financial legislation to help restore financial stability and market confidence (European Commission, 2016). Financial legislation and regulations give the European Parliament the power to prevent spending on projects which do not meet the rules that were set out within these frameworks (European Union, 2017). With regards to transport and mobility, there are various legislative and regulatory frameworks in place which detail how these EU funds can be spent.

Since the EU's pledge in 2013 to encourage sustainable transport and mobility initiatives, a greater number of corresponding legislation and regulatory frameworks have also been put in place. In order to gain funding for transport and mobility projects, criteria regarding a project's environmental sustainability has been heightened.

A range of funding and financing options exist for transport and mobility projects, such as:

- the European Structural and Investment Fund (ESIF),
- the Connecting Europe Facility (CEF), and
- European Fund for Strategic Investment.

Regulatory Environment, Strategy, and Governance

Legal and Regulatory Framework: the EU



The Regional Policy targets all the regions and cities within the EU and supports economic growth, sustainable development, and quality of life

GENERAL FINANCE REGULATION

Regulation (EU, EURATOM) No 966/2012 is the central legislative document that sets out the financial rules that are applicable to the EU's general budget. Funding and financing for all operations in the EU must comply with these rules.

The Regional Policy (also known as the Cohesion Policy) and the Investment Plan for Europe are the EU's main investment policies, where a third of the EU's budget is spent. The Regional Policy targets all the regions and cities within the EU and supports economic growth, sustainable development, and quality of life. One of the Regional Policy's key priorities for 2014-2020 is transport and energy networks, with a particular focus on 'smart mobility, multi-modal transport, clean transport, and urban mobility' (European Commission, 2017c).

External links:

- Regulation (EU, EURATOM) No 966/2012
- Regional Policy
- Investment Plan for Europe
- European Commission, 2017c

Regulatory Environment, Strategy, and Governance

Legal and Regulatory Framework: the EU



remove obstacles to investment; provide visibility and technical assistance to investment projects; and make smarter use of financial resources

GENERAL FINANCE REGULATION

The Investment Plan for Europe, also known as the Juncker Plan, is an ambitious infrastructure investment plan, set out in 2013, that aims to unlock additional public and private investment for infrastructure by providing guarantees and technical support.

The Plan's key objectives are to “remove obstacles to investment; provide visibility and technical assistance to investment projects; and make smarter use of financial resources”.

There are three central pillars to the Plan:

1. the European Fund for Strategic Investment (EFSI), which is the core of the investment plan for Europe;
2. the European Investment Project Portal / Investment Advisory Hub, which offer technical assistance to investment projects; and
3. removing national and EU regulatory barriers to improve the business environment (European Commission, 2017c).

External links:

- European Fund for Strategic Investment
- European Investment Project Portal / Investment Advisory Hub
- European Commission, 2017c

Regulatory Environment, Strategy, and Governance

Legal and Regulatory Framework: the EU

GENERAL FINANCE REGULATION

Regulation (EU) 2015/17 sets out rules related to the European Fund for Strategic Investments (EFSI), the European Investment Project Portal and the European Investment Advisory Hub. The regulation highlights that EFSI funding should only support strategic investments into projects which are of common interest to the Union objectives.

As an example, the EFSI supported the municipality of Las Palmas, Gran Canaria, to secure a EUR 50 million loan from the EIB to finance a high-capacity bus network in Las Palmas, Gran Canaria. The project includes a new 11.7 km high-capacity bus route with new cycling lanes and widening of pavements, as well as 17 new hybrid and electro energy buses. This loan would not have been possible without the guarantee from the EFSI and the support services from the Investment Advisory Hub that helped to get the project off the ground.

External links:

- Regulation (EU) 2015/17

Regulatory Environment, Strategy, and Governance

Legal and Regulatory Framework: the EU



in 2013, the EU pledged that a minimum of 20 percent of the one trillion euro EU budget for 2014-2020 would be spend on climate adaption and protection goals

TRANSPORT AND MOBILITY RELATED FINANCE REGULATION

Much of the recent EU-level transport and mobility legislation emphasises the importance of sustainability. The latest EU legislation regarding transport and mobility, which provides details of how the new EU budget should be spent, was adopted in 2013.

Prior to this time, legislation for EU funding for transport and mobility projects did little to encourage ‘greener’ mobility, and generally failed to consider impacts of air pollutants, land use, and greenhouse gases caused by transport.

However, in 2013, the EU pledged that a minimum of 20 percent of the one trillion euro EU budget for 2014-2020 would be spend on climate adaption and protection goals, with one hundred billion euros of this to be used for sustainable transport and mobility projects (Transport and Environment, 2017).

Since then, the EU transport and mobility financing and funding legislation has focused more heavily on sustainable transport and mobility.

External links:

- [Transport and Environment, 2017](#)

Regulatory Environment, Strategy, and Governance

Legal and Regulatory Framework: the EU



There is a legal requirement for socio- economic cost-benefit assessments which needs to be carried out for all projects that apply to use this fund.

TRANSPORT AND MOBILITY RELATED FINANCE REGULATION

The Connecting Europe Facility (CEF) is the main financing tool for funding transport and mobility projects at the EU level. The CEF was first launched in 2014 and has provided funds for European transport, energy, and digital infrastructures.

The majority of this funding, over twenty-four billion euros for the period between 2014 and 2020, was allocated to European transport (Trans-European Transport Network), of which approximately eleven billion euros will be made available only for projects in the Member States which are eligible for the Cohesion Fund.

Regulation (EU) No 1316/2013 sets out the rules for using the CEF. The regulation has a strong focus on sustainable mobility and transport, and transport and mobility projects are eligible for the CEF financing only if they meet the criteria of increased sustainable modes of transport and promote a low-carbon economy.

There is also a legal requirement for socio- economic cost-benefit assessments which needs to be carried out for all projects that apply to use this fund. This is to demonstrate that the project is planned in line with all national and EU environmental legislation, and in a resource-efficient way.

External links:

- [Connecting Europe Facility](#)
- [Regulation \(EU\) No 1316/2013](#)

Regulatory Environment, Strategy, and Governance

Legal and Regulatory Framework: the EU



Every two years the European Commission has to publish a progress report covering where financial assistance for TEN-T was spent

TRANSPORT AND MOBILITY RELATED FINANCE REGULATION

Regulation (EU) 1315/2013 covers rules for financing Trans-European Transport Network (TEN-T), including the type of TEN-T projects which the EU can invest in. Projects that meet the EU objectives, and which contribute to the TEN-T guidelines, are eligible for Union financial assistance.

The regulation specifies that every two years the European Commission has to publish a progress report covering where financial assistance for TEN-T was spent. As well as this, the European Commission has to outline how spending for each project coherently supports the EU guidelines, in line with their objectives and priorities.

Although there is little legislation regarding the financing and funding of sustainable transport and mobility specifically, there is much legislation which covers the financing of transport and focuses heavily on increasing sustainability of this transport.

The provided selected examples of legislation for the EU financing and funding at a general and transport-specific level, were chosen to demonstrate the wide range and importance of the EU financing and funding legislation and its focus on promoting sustainable mobility and transport.

External link:

- Regulation (EU) 1315/2013

Regulatory Environment, Strategy, and Governance

Legal and Regulatory Framework: EU Member States



All EU Member States are required to incorporate the EU-level finance directives into national laws and adopt measures that are communicated by the European Commission.

All EU Member States are required to incorporate the EU-level finance directives into national laws and adopt measures that are communicated by the European Commission.

In some cases, in order for these laws to be fully effective, the adoption of implementation measures at national level in the EU Member States is required (European Commission, 2017b).

This chapter highlights regulatory and legal frameworks that have been implemented in various EU Member States, firstly by a review of the legal and regulatory frameworks for general investment that have been made in these countries, followed by a discussion of legal and regulatory frameworks which are more specific to investment in the transport and mobility sector, notably, in sustainable transport and mobility.

External link:

- [European Commission, 2017b](#)

Regulatory Environment, Strategy, and Governance

Legal and Regulatory Framework:
EU Member States

GENERAL FINANCE REGULATION

Within the Member States, there are several types of legal and regulatory frameworks, which govern finance and investment by national, regional, and local authorities, as well as by private organisations. In addition to laws regarding finance, some Member States have specific regulatory bodies that regulate these laws.

Details regarding country specific examples of finance regulation in EU member states can be found in Appendix A.

External link:

- Appendix A

Regulatory Environment, Strategy, and Governance

Legal and Regulatory Framework: EU Member States



For most sustainable transport and mobility projects, funding is received from any organisation willing to invest in the project

TRANSPORT AND MOBILITY RELATED FINANCE REGULATION

Laws and regulations that govern investment in and financing of transport and mobility projects vary significantly from country to country. In some of the EU Member States such as Greece, there appears to be a lack of laws and regulations related directly to transport and mobility finance, especially with regard to sustainable transport and mobility finance. On the other hand, some EU Member States with strong focus on sustainability do have laws and regulations in place regarding the financing of sustainable transport and mobility schemes.

In many EU Member States, there are authoritative bodies who regulate transport and mobility including how it is financed.

National laws and regulatory frameworks in relation to transport often set measures regarding finance and investment. However, even if there are regulations to govern investments in transport and mobility, they could be outdated and not always fit to the task posed by the need for investment in sustainable transport and mobility.

Overall, despite various laws regarding the financing of transport and mobility in the EU Member States, it appears that a substantial proportion of funding and finance in sustainable transport and mobility is not controlled by legal and regulatory frameworks. For most sustainable transport and mobility projects, funding is received from any organisation willing to invest in the project, and there are few laws that are associated with where funding can come from, and how it is distributed.

External link:

- Transport regulatory bodies

Regulatory Environment, Strategy, and Governance

Legal and Regulatory Framework: EU Member States



Most funding and finance sources for sustainable transport and mobility are regulated in accordance with national investment plans

TRANSPORT AND MOBILITY RELATED FINANCE REGULATION

In most Member States, national funds for transport and mobility are spent in accordance with national investment strategies that set out the priorities for investment in this area. More recently, national investment strategies have focused more heavily on sustainable transport and mobility.

Overall, although there is little legislation and regulations regarding the financing of funding of transport and mobility projects, in particular, those that are sustainable, there is a large amount of legal and regulatory frameworks regarding the general finance and investment in the EU Member States.

In addition, there are various authoritative bodies which control and regulate how finance and funding are accepted and distributed for transport and mobility projects in the EU Member States. Furthermore, most funding and finance sources for sustainable transport and mobility are regulated in accordance with national investment plans, and therefore, despite few legal frameworks, there are rules on how different types of funding can be spent.

Details regarding country specific examples of transport and mobility finance regulations in EU member states can be found in Appendix A.

External link:

- Appendix A

Regulatory Environment, Strategy, and Governance

Present-Day Financing Trends in the S-M EU Cities



increased public debt-to-GDP ratios, misallocations of resources due to political interferences, and public deficits have led to a strong reduction in public funding at national level

This chapter discusses how small to medium-sized cities currently finance sustainable transport and mobility systems by giving a general overview of the literature on the topic. Details regarding examples of present-day trends in the financing of sustainable transport and mobility in cities can be found in Appendix B. The information presented in this Appendix was derived from City Partner survey results (collected in SUITS Work Package 2), as well as interviews carried out with City Partners as part of WP 4.

Traditionally, financing systems in cities were almost completely dependent on funding from the national level through taxation. Infrastructure and city operations tended to be covered by a property tax. However, more recently, increased public debt-to-GDP ratios, misallocations of resources due to political interferences, and public deficits have led to a strong reduction in public funding at national level (OECD, 2014; Pagano & Perry, 2008). As a result, municipal and local governments have witnessed diminishing streams of funding from national governments and have increasingly been seeking funding from a wider range of mechanisms, both public and private.

Present-day financing systems for sustainable urban transport and mobility vary widely from city-to-city. This chapter highlights the most common trends in present-day financing systems used to fund sustainable urban transport and mobility schemes in cities.

External links:

- Appendix B
- OECD, 2014
- Pagano & Perry, 2008

Regulatory Environment, Strategy, and Governance

Present-Day Financing Trends in the S-M EU Cities



there is a dominant structure of transport and mobility finance for municipalities which includes a combination of public and private funding from different political scales

FUNDING FOR URBAN TRANSPORT AND MOBILITY IN CITIES

The array of funding streams used to fund municipal transport and mobility systems is complex, due to the numerous actors and modalities involved in the planning, delivery and operation of the infrastructure.

However, there is a dominant structure of transport and mobility finance for municipalities which includes a combination of public and private funding from different political scales (national, regional, municipal, local etc).

This section gives a brief overview of the types of public and private financing mechanisms used to fund sustainable transport and mobility schemes within cities:

1. Public Financing Systems
2. Private Financing Systems
3. Public-Private Partnerships (PPPs)

Regulatory Environment, Strategy, and Governance

Present-Day Financing Trends in the S-M EU Cities



The various levels of public authority within a country's political hierarchy play distinct roles in the financing of transport and mobility

FUNDING FOR URBAN TRANSPORT AND MOBILITY IN CITIES

Public Financing Systems

Public finance is controlled and allocated by the national, regional, or local government. Despite a reduction in public finance over the last century, public authorities are still one of the main players involved in the financing of urban transport and mobility schemes.

The various levels of public authority within a country's political hierarchy play distinct roles in the financing of transport and mobility. Compared to other cities, the largest and capital cities tend to receive a larger proportion of finance from the central government due to political attention.

Finance for urban transport and mobility in most other cities is often the responsibility of regional or municipal governments, with only some degree of funding from the central government, although this varies between countries and their geopolitical structures (World Bank, n.d.).

Public finance tends to be derived from multiple sources, as follows:

- Taxation (national, regional, municipal, or local level)
- Value capture (VC)
- User fees and charges
- EU funding

Regulatory Environment, Strategy, and Governance

Present-Day Financing Trends in the S-M EU Cities



Private investment in transport and mobility schemes and infrastructure has increased over the past decade in response to the reduction of public spending.

FUNDING FOR URBAN TRANSPORT AND MOBILITY IN CITIES

Private Financing Systems

Private financing is funding that is made available by the private sector, where private firms are contracted to complete or manage public projects, or where capital is mobilised from financial institutions. Private investment in transport and mobility schemes and infrastructure has increased over the past decade in response to the reduction of public spending. Generally, when a public transport service is franchised to the private sector, the financing of the vehicles and their supporting infrastructure tends to become the responsibility of the franchise (World Bank, n.d.).

Private finance tends to be derived from multiple sources, with the majority of private financing for sustainable transport and mobility schemes in cities tending to come from banks and institutions. Banks and institutions provide upfront capital investment (loans) to finance the projects that a city needs, but require predictable revenue streams in return of supporting these projects (BBA, 2015).

External link:

- BBA, 2015

Regulatory Environment, Strategy, and Governance

Present-Day Financing Trends in the S-M EU Cities



Private firms see PPPs as a lower-risk option compared to full-private investment, and public organisations benefit from capital investment.

FUNDING FOR URBAN TRANSPORT AND MOBILITY IN CITIES

Public-Private Partnerships (PPPs)

Public-Private Partnerships (PPPs) are contractual arrangements between a public agency (either federal, state or local), and a private sector entity. Through this agreement, both entities agree to share their skills and assets to deliver a service of facility for the use of the general public. Private firms see PPPs as a lower-risk option compared to full-private investment, and public organisations benefit from capital investment.

The PPP approach is increasingly being adopted to deliver new investment in the transport sector and is well established across Europe. International financial institutions are also increasingly promoting this approach to development finance. For example, the World Bank's Maximizing Finance for Development (MFD) effort seeks to leverage the private sector and optimise the use of scarce public resources to finance development projects targeting sustainable urban mobility.

Regulatory Environment, Strategy, and Governance

Present-Day Financing Trends in the S-M EU Cities

SUMMARY

Present-day financing systems in cities, which used to finance sustainable transport and mobility, tend to comprise public and private finance, although the types of public and private finance tend to vary from city to city. Existing literature suggests that most cities receive some level of national funding, although small to medium-sized cities tend to receive much less national funding compared to larger cities.

However, as shown in Appendix B, the survey answers received in WP2 show that funding in the partner cities comes from national, regional or EU sources.

The additional questions posed to the City Partners as part of Task 4.1 further highlighted where this national, regional and EU funding comes from specifically.

For example, Alba Iulia tends to rely heavily on EU funding to finance sustainable transport and mobility by applying for various grants and EU programmes, whereas Stuttgart, which is a much larger city, tends to rely more on local level funding from the municipal budget.

External link:

- Appendix B

Innovative Approaches

Innovative Finance Principles

For the purpose of these Guidelines, ‘innovative financing’ refers to financing mechanisms that are creative in thinking, that mobilise, govern, or distribute funds in ways that go beyond traditional funding processes. Innovative financing includes financing practices that have not been applied to sustainable transport and mobility previously. It also includes mechanisms that may be well-established and traditional in some cities but have not been widely applied in other S-M European cities.

The principles used to assess suitability and applicability of the identified Innovative Financing Mechanisms are as follows:

- Environmental Sustainability – the mechanisms could be used to support investment towards low-carbon, climate-resilient transport and mobility options
- Financial sustainability – the mechanisms do not have a negative impact on the ability of S-M cities to cooperate with other public bodies and private organisations, or to attract funding from other sources
- Complementarity – the mechanisms could be used with other financing mechanisms, including traditional funding sources and government revenue
- Scalability – the mechanisms could be replicated and scaled up in other cities in the EU
- Efficacy – the mechanisms have ability to bridge funding shortfalls and/or to create new funding streams
- Innovation – the mechanisms feature new methods that are advanced and original



‘innovative financing’ refers to financing mechanisms that are creative in thinking, that mobilise, govern, or distribute funds in ways that go beyond traditional funding processes

Innovative Approaches

Importance of Innovative Financing Approaches



as a result of the Great Recession and the subsequent policies to reduce national government deficits, local governments have seen their budgets reduced over the past decade

The vision of the European ‘City of Tomorrow’ is a place of environmental, ecological, and green regeneration, which requires a new balance between public and private modes of transport and mobility. To meet this balance, small to medium-sized cities are actively encouraged by the EU to promote inclusive, sustainable, and healthy mobility, and work towards integrating multi-modal transport systems (European Union, 2011; AFD & MEDDE, 2014).

However, largely as a result of the Great Recession and the subsequent policies to reduce national government deficits, local governments have seen their budgets reduced over the past decade. The increased levels of uncertainty in the market have significantly reduced the availability of both public and private finance (OECD, 2014).

As a result, current investment flows have been largely insufficient to meet transportation and mobility infrastructure needs to support the EU’s environmental objectives, economic growth, and social goals. In addition, across Europe, the responsibilities associated with funding and operating transport and mobility infrastructure are increasingly being devolved to local and regional governments. Meanwhile, cities are facing increasing pressure on their services due to population growth and urbanisation, whilst experiencing cutbacks in traditional funding sources. Innovative finance measures and instruments are key in overcoming this funding gap by helping local authorities diversify their income streams.

External links:

- European Union, 2011
- OECD, 2014

Innovative Approaches

Importance of Innovative Financing Approaches



‘innovative financing’ refers to financing mechanisms that are creative in thinking, that mobilise, govern, or distribute funds in ways that go beyond traditional funding processes

In addition, investors who may have previously invested in transport and mobility schemes are reluctant to invest in sustainable transport and mobility projects as they do not expect a high enough financial return. Investors are good at understanding a single asset such as a power plant or a toll road, however, when benefits are diffuse, such as increased city competitiveness, economic growth, or the efficient use of a scarce resource, the potential monetary benefits are less clear and, therefore, less attractive for an investor.

This perception tends to be formed from various factors such as uncertainty about future energy prices, long-term delays before a project reaches maturity and profitability, and large volumes of required investment (European Commission, 2013). As such, sustainable transport and mobility schemes tend to fall into the category of risky, ‘non-bankable’ projects.

That is why innovative financing approaches are important and could be used to fill in the gap of funds caused by the reduced funding from investors. Innovative financing can lessen the perceived risk-factor associated with sustainable transport and mobility projects, and can provide more sufficient, effective, and stable funds compared to traditional fiscal investment (European Union, 2011; Sun, Li & Xie, 2014; European Commission, 2013).

External links:

- [European Commission, 2013](#)
- [European Union, 2011](#)

Innovative Financing Mechanisms

This section summarises the Innovative Financing Mechanisms that were analysed during this study, with full briefs being contained in Appendix C. Tables 3 - 23 provide an overview of all the Financing Mechanisms along with a brief set of guidelines for implementation.

The Matrix of Financing Mechanisms that is presented in Figure 1, which innovative financing mechanisms are best suited to specific types of sustainable transport and mobility projects.

The matrix was compiled using professional judgement and available information and is intended for indicative purposes only. It should be noted, that it does not cover all sustainable transport and mobility projects that can be financed using the identified financing mechanisms.

Some of the identified financing mechanisms could also be potentially used for other sustainable transport and mobility projects different from the ones indicated in the table. The applicability of the identified financing mechanisms would depend on local context and would be determined by existing legislation and policy, national and local sustainable mobility plans, as well as political will within the S-M city administration.

External links:

- Appendix C



Some of the identified financing mechanisms could also be potentially used for other sustainable transport and mobility projects different from the ones indicated in the table

Innovative Financing Mechanisms



A congestion tax or charge is a financing mechanism and mobility management strategy that surcharges users of public services as a result of excess demand

Innovative Financing Mechanisms



Green Bonds differ from other bonds because they can only be used to finance projects that work towards climate change mitigation and resiliency, which includes sustainable mobility initiatives and projects

Innovative Financing Mechanisms



Crowdfunding is well suited for small-scale projects that have a social purpose and have short-duration periods where impacts can be realised relatively quickly

Innovative Financing Mechanisms



Proven ability to provide significant finance to reduce the burden on funding for infrastructure from other sources, such as greater public income taxation

Innovative Financing Mechanisms



Lottery funding is funding mobilised through profits generated from lotteries, which are a form of gambling, involving the drawing of lots for prizes, including lotto, electronic terminals, and instant games.

Innovative Financing Mechanisms



a deal or partnership between developers or property owners and a local authority, where the developers or property owners offer a voluntary contribution towards the costs of a public infrastructure project

Innovative Financing Mechanisms



Three different nationwide HGV charging mechanisms are currently used within the EU

Innovative Financing Mechanisms



The WPL is a charge on employers, posed by local authorities, who provide parking spaces for their employees and could be seen as a type of a congestion charging scheme

Innovative Financing Mechanisms



The levy is placed on new building developers in the local area, as it is expected that the new infrastructure will increase the value of new developments

Innovative Financing Mechanisms



The sale of naming rights for public physical capital may be a viable alternative for raising revenue, especially to fund highly visible infrastructure

Innovative Financing Mechanisms



Partnering with research organisations and private companies can help cities to become more efficient, reduce spending, and maximise potential revenue from innovative technology

Innovative Financing Mechanisms



The sale of naming rights for public physical capital may be a viable alternative for raising revenue, especially to fund highly visible infrastructure

Innovative Financing Mechanisms



Emissions trading has been a central pillar of the EU's efforts to slow climate change and a policy instrument of choice among many other governments.

Innovative Financing Mechanisms



Partnering with research organisations and private companies can help cities to become more efficient, reduce spending, and maximise potential revenue from innovative technology

Innovative Financing Mechanisms



The additional revenue gained from taxes is used to pay off loans taken out to finance such improvements

Innovative Financing Mechanisms



Planning obligations are the result of individual, scheme-based negotiations that have proved to be a practical way for local authorities to cover infrastructure costs, as well as capturing some development value

Innovative Financing Mechanisms



Revenue generated through urban toll roads can be used to finance both construction and maintenance of roads infrastructure, as well as new sustainable transport and mobility projects.

Innovative Financing Mechanisms



A local transport authority or public administration can sell its expertise and technical know-how regarding transport and mobility, as well as regarding other aspects of their operation, in order to obtain revenue.

Innovative Financing Mechanisms



government land and property can be used productively to raise funds for sustainable transport projects

Innovative Financing Mechanisms



The administrative costs associated with this financing mechanism are low (around 3 to 10%) as donations are collected using existing infrastructure.

Innovative Financing Mechanisms



*Grants from Private
Foundations and Trusts can be
used to fund innovative
projects which would otherwise
not be able to receive funding.*

Recommendations

S-M cities face certain constraints with implementing innovative financing approaches, such as:

- Existing culture which reinforces the status quo, rather than encouraging innovation
- National and local policy and regulation constraints
- Absence of relevant know-how and capacity constraints
- Lack of awareness regarding innovative financing mechanisms
- Lack of guidance from national governments
- Risk averse and fear of perceived and/or real risks
- Lacking political champion to take ownership of innovative initiatives



Local authorities can provide support to innovation through initiatives and actions aimed at providing financial support to R&D Programmes, cooperation between its staff and other national and international local authorities

Local authorities can address these cultural and administrative shortcomings by creating framework conditions that favour innovation and allow bringing ideas to practice. They can provide support to innovation through initiatives and actions aimed at providing financial support to R&D Programmes, cooperation between its staff and other national and international local authorities. They can also dedicate staff resources for innovation and to adopting best practices in innovation policy-making.

Recommendations

S-M city local authorities should allocate resources to training and human development, including to:

- Working together with national and local political appointees as well as other stakeholders and supporting agencies on increasing their awareness of local policy goals and sustainable mobility strategy
- Appointing a champion to take ownership of innovative initiatives and trying out new approaches
- Developing multi-sector technical skills for transport infrastructure planning
- Working together with private investors' on reducing their capability gap, and
- Transforming local authority into a learning organisation



S-M city local authorities should allocate resources to developing multi-sector technical skills for transport infrastructure planning

Recommendations

Additional Recommendations



Municipalities and national governments can use innovation centres to target sustainable transportation and mobility initiatives and to entice businesses to explore new and emerging technologies

ESTABLISHING URBAN INNOVATION CENTRES OR 'CATAPULTS'

Urban innovation centres (also known as 'catapults' or 'incubators') can help connect academics, city leaders, entrepreneurs and businesses to inspire new smart city solutions.

Innovation centres normally receive their core funding from national governments but can also undertake collaborative research and receive private funding from businesses. The centres can lead events, networking sessions, training, and help oversee innovative projects by providing technical support.

Municipalities and national governments can use innovation centres to target sustainable transportation and mobility initiatives and to entice businesses to explore new and emerging technologies (e.g. blockchain, IoT, and artificial intelligence).

Recommendations

Additional Recommendations



Smartcards create valuable data about how and where people are travelling, which can be used and processed to feedback into improving the existing transportation network

TECHNOLOGY-FIRST APPROACH TO INVESTMENT

S-M cities should prioritise investment which improves digital customer services and information provision for transportation services.

This will help to optimise existing networks and resources, and to improve conditions for passengers by providing them with live journey and routing information. Investment should start with creating multi-modal smartcard or contactless ticketing systems to increase ease of use, as they make interchanges between modes far simpler.

Smartcards create valuable data about how and where people are travelling, which can be used and processed to feedback into improving the existing transportation network.

In addition to smartcards, making use of technologies such as IoT and wireless tracking on mobile devices can help provide more detailed information about how people use transit stations, transit lines, and even trains. This can help municipalities target investment where it is most needed (World Bank, 2015).

External link:

- World Bank, 2015

Recommendations

Additional Recommendations



Open data is an initiative which is being encouraged throughout the EU, and the amount of open data available is expected to increase.

OPEN DATA AND TRANSPARENCY

Open data can help to enhance product development, allowing developers to build creative and useful tools that help passengers make more informed travel decisions. For example, non-personal data could be made freely available to the public, which could help tech entrepreneurs to develop smart solutions to increase ease of use for existing public transport network within a city.

Using data from the public requires careful consideration as to how the data is used, and this should be communicated with passengers. If approached in an ethical and effective way, open data could help save money by encouraging the private sector to make use of the data. Open data is an initiative which is being encouraged throughout the EU, and the amount of open data available is expected to increase. By 2020, the use of open data is expected to reduce public administration costs across the EU.

The effective use of open data could also help to save millions of hours of unnecessary waiting time on EU roads and help to reduce energy consumption by 16% (Carrara, Vollers, & Berends, 2017). For example, Transport for London claims that by releasing transport data to be used by global leaders, such as Citymapper, they are generating employment and wealth for London and beyond.

External link:

- Carrara, Vollers, & Berends, 2017

Recommendations

Additional Recommendations



MaaS will help prepare cities for the arrival of autonomous vehicles and to coordinate different mobility services so that there is no shift away from sustainable transportation modes

MOBILITY AS A SERVICE

Mobility as a Service (MaaS) is a mobility distribution model that is bringing about digital innovation in the built environment. If designed correctly, it will play a huge role in driving positive change in the mobility industry. MaaS brings all modes of travel together, combining options for different transport providers into a single mobile service.

It is an ‘access over ownership model’ that aims to unlock all transport modalities with the overarching goal to decrease the need for car ownership and increase public transport usage (Catapult Transport Systems, 2016). Perhaps most importantly, it will help prepare cities for the arrival of autonomous vehicles and to coordinate different mobility services so that there is no shift away from sustainable transportation modes.

Municipalities should start coordinating efforts to implement or trial Mobility as a Service (MaaS) in their cities in order to stay ahead of the curve and to maintain greater control over the future of mobility services. Municipalities across Europe, including larger cities like Helsinki and Amsterdam, as well as smaller cities like Milton Keynes, are beginning to lead MaaS initiatives.

By implementing MaaS in S-M cities, it is expected that the use of existing public transport networks will increase, improving overall performance and efficiency, which will help to save money by reducing the need to invest in other sustainable transport and mobility solutions.

Conclusion

Many European S-M city local authorities are looking for ways to fund their sustainable mobility agenda in the context of reduced funding from national government and budget cuts. In this light, innovative financing approaches become increasingly important, as they offer new exiting opportunities to finance specific projects and schemes.

This guidance to innovating financing approaches was designed to helps European S-M city local authorities to finance and implement sustainable transport and mobility measures and Sustainable Urban Mobility Plans (SUMP) that support mobility transformation.

Individual innovative financing mechanism briefs (Appendix C) and the Matrix (Section 5.3) are tools which local authorities in S-M cities can use in their decision-making process of identifying the most appropriate financing approaches to achieve sustainable urban mobility objectives.

Conclusion

This guidance is supported by two other reports prepared for SUITS WP4:

1. Innovative Procurement, which recommends innovative procurement schemes for the procurement of transport and mobility products and services and presents innovative models to draw up the documentations and procedures for public procurements for transport means, public transport services and other mobility related services; and
2. a New Business Models Related to Transport which explains how to design, refine and apply new business models that are related to transport and mobility to optimise the opportunities to get financing.

Outputs from this report, as well as from Guidance for Innovative Procurement and Guidance for New Business Models Related to Transport, will be aggregated into a decision-support framework for partnering local authorities who are currently lacking knowledge and expertise in innovative approaches to finance, procurement and business models.

This decision-support framework will be designed to help S-M authorities to improve administrative capability, increase financial sustainability, and optimise opportunities, such as accessing regional development funds, developing partnerships and applying new financing approaches.

NEW BANKABLE PROJECTS



Executive Summary

The capacity of developing or reshaping organisational business models requires organisational know-how and tools. Only well-developed business strategy enables the transportation and mobility organisations to receive the investments and well-chosen partners may only reinforce the chance of success.

The Guidelines to Developing bankable projects, new business models and partnerships are one of three decision-making supporting tools for local authorities and other mobility stakeholders, provided under SUITS Work Package 4 (WP).

Other two supporting tools, namely, Guidelines to Innovative procurement and Guidelines to Innovative financing will incorporate the innovative mechanisms to enhance the capacity building of local authorities to sustain the urban mobility sector.



provide urban mobility organisations of small and medium-sized cities with innovative business models in the mobility service paradigm giving the insight to new forms of partnership

The Guidelines to Developing bankable projects, new business models and partnerships aims to provide urban mobility organisations of small and medium-sized cities with innovative business models in the mobility service paradigm giving the insight to new forms of partnership. The Guidelines also contribute on how to create a bankable project by providing suggestions on the project's feasibility analysis.

Executive Summary

The Guidelines start with brief introduction of the SUITS project its goal and objectives by identifying the role of different stakeholders that are contributed to the document. Then the research methodology is described underlying the limits of the study.

The present situation in the urban mobility is then described, by providing examples of the modern urban mobility trends such as Mobility as a Service, Integrated mobility and Shared mobility.

The specific chapter is dedicated to innovative forms of partnerships in the transportation and mobility sector paying special attention to the Public Private Partnership (PPP) as the most strategic form of alliance in this domain and its possible collaboration with other forms of organisations.

The last two chapters of the document present the innovative business models and how to develop a bankable project.

The Guidelines also provide the recommendations that were elaborated after providing an in-depth research on three main topics of this document.



The present situation in the urban mobility is then described, by providing examples of the modern urban mobility trends such as Mobility as a Service, Integrated mobility and Shared mobility

Introduction

The situation in European cities regarding the urban environment has reached a critical level. A changing mobility paradigm that properly tackles today's challenges and accommodates current and emerging societal trends will clearly require research into new mobility scenarios, technological innovations, additional mobility services and solutions as well as a new partnership schemes.

Over 70 % of the EU population lives in the cities (including small and medium-sized cities) and account approximately 85 % of the Union's GDP (EC, Urban Mobility Package). The present mobility situation has created unsustainable conditions for living: severe congestion, poor air quality, noise emissions as well as a high level of CO₂.

The increase of private vehicle brought to increased urban sprawl and commuting, however, the expansion of public transport networks has not reached the same development level. The need for sustainable mobility regarding three dimensions: economic, social and environmental attracts attention of all Member States.

European cities have common challenges that regard the enhancement of urban mobility, accessibility improvement, and creation of high quality and sustainable transport systems while reducing congestion, pollution and accidents.



The present mobility situation has created unsustainable conditions for living: severe congestion, poor air quality, noise emissions as well as a high level of CO₂.

Introduction

The European Commission is committed to improve the efficiency of urban transport by significantly changing the urban mobility situation and helping to reach the objectives in many policy areas.

The European Commission supports the mobility sector by providing policies and papers, investing in the research programmes in the domain and creating the supporting tools. One of the examples of such programme is Urban Mobility Package that provides supporting measures in the area of urban transport by:

- Sharing experiences, show-casing best practices, and fostering cooperation
- Providing targeted financial support,
- Focusing research and innovation on delivering solutions for urban mobility challenges,
- Member States' involvement and international cooperation enhancement.



Big European cities are well-known for their critical urban mobility situation, while S-M cities are left behind with respect to basic services

Big European cities are well-known for their critical urban mobility situation, while S-M cities are left behind with respect to basic services and lack the necessary institutional capacity to manage their rapidly growing populations and as a consequence the mobility situation (Cohen, 2006).

External link:

[Urban Mobility Package](#)

Introduction

The European Commission has identified this problem and is searching to provide measures to solve the mobility issues in the S-M cities.

SUITS (Supporting Urban Integrated Transport Systems: Transferable Tools for Authorities), which is financed under the umbrella of the HORIZON 2020 programme aims at increasing the capacity of local authorities in S-M cities to develop and implement sustainable, integrated and accessible transport strategies and technologies.

Following the project scopes this report aims to provide the examples of innovative business models and partnerships in urban mobility to increase the capacity building of S-M cities' local authorities.

The Guidelines provide the insight to the modern mobility trends identifying the most successful mobility services and their business models in the sector. The document also provides the examples of best practices regarding new business models in the mobility domain.



The Guidelines provide the insight to the modern mobility trends identifying the most successful mobility services and their business models in the sector.

External link:

[SUITS \(Supporting Urban Integrated Transport Systems: Transferable Tools for Authorities\)](#)

Introduction

Goals & Objectives

The goal of these Guidelines is to provide an efficient decision-making tool that enables private and public mobility authorities/ stakeholders to organise/modify/consult or compare their business ideas in order to improve them or obtain funding for their development. The framework defined in these Guidelines covers the latest innovation in the urban mobility business models, new partnership schemes and aims at providing the guidance to prepare a project proposal for the investment.

Taking into consideration the goal of the Guidelines, the main objectives of this document are to:

- Provide the knowledge of innovative business models in urban mobility services including sharing mobility, integrated mobility and MaaS.
- Address the main partnership schemes in the field and introduce the new ones.
- Enhance the capacity of creating fundable projects providing the guidance for feasibility analysis.
- Identify the evolving commercially viable business strategies and the associated risks and benefits.
- Improve the administrative and organizational capacity of the urban mobility authorities of S-M cities.



The framework defined in these Guidelines covers the latest innovation in the urban mobility business models, new partnership schemes and aims at providing the guidance to prepare a project proposal for the investment.

Present situation of transport and urban mobility

The European urban areas are facing the accessibility issues. The current objectives of transportation and mobility are to gain access to destinations, activities, services and goods as well as reducing CO₂ emissions and the level of traffic congestion.

Sustainable urban mobility, however, should put its effort on improving the efficiency and effectiveness of transport systems to cover demand-orientated measures, such as promoting walking, cycling, and the reduction of the need to take own vehicles.

Addressing congestion issues and tackling urban mobility are, however, not only about improving urban transport's efficiency but also about shifting away from traditional transport scenarios.

The EU's response to these issues can be delivered by several EU policies and instruments. These vary from the adoption of legislation to creating Guidelines and recommendations, applying in particular to the urban level and/or urban transport, or funding of urban mobility projects.

External link:

[Urban Mobility Package](#)



Sustainable urban mobility, however, should put its effort on improving the efficiency and effectiveness of transport systems

Present situation of transport and urban mobility

While urban transport systems entering into the scope of European transport policy, several other EU policies such as the Cohesion Policy, the Trans-European Networks policy, environmental policy, health policy, and research policy in the urban dimension have to be taken into account, including mobility.

The most recent European strategy in the area of transport - the 2011 White Paper - specifically stated that urban mobility should apply a mixed strategy addressing land-use planning, pricing schemes, efficient public transport services and infrastructures for non-motorized modes, charging/refuelling of clean vehicles and the cities should be encouraged to develop urban mobility plans. In December 2013, the EC adopted an Urban Mobility Package.

With this measure, the EC strives to intensify its support and to encourage Member States to create the good framework conditions for local authorities to develop and implement comprehensive and integrated urban mobility strategies.



urban mobility should apply a mixed strategy addressing land-use planning, pricing schemes, efficient public transport services and infrastructures

External links:

- Cohesion Policy
- Trans-European Networks policy
- 2011 White Paper
- Urban Mobility Package

Present situation of transport and urban mobility

The EC intends to support the urban mobility in the Member States by:

- Facilitating best-practice exchange. Dissemination of experiences and best practices (studies, web portals): Urban Mobility Portal (Eltis); Platform on Sustainable Urban Mobility Plans; Member States Expert Group.
- Providing platforms for collaboration: Civitas Forum and URBACT.
- Fostering local engagement of citizens and stakeholders European Mobility Week.
- Providing data and statistics on mobility situation in Europe.

Ultimately, new ways to invest in thriving, inclusive and liveable cities appears, for instance, non-motorized and electric vehicles are improving local air quality and citizen health; transit-oriented mobility is optimizing land use and reduce traffic congestion and urban sprawl etc. New mobility trends arising and new business models appear to improve the transport sector situation and make it more sustainable.

Some of these ways of approaching urban mobility problems will be discussed in the next paragraphs.

External links:

Urban Mobility Portal (Eltis)

Civitas Forum

URBACT



New mobility trends arising and new business models appear to improve the transport sector situation and make it more sustainable

Present situation of transport and urban mobility

Urban mobility trends



Despite this worrying facts the transport and mobility community is trying to find solutions to current situation. Different innovative approaches appear to solve transport problems.

These days automobile sales are predicted to increase from about 70 million a year in 2010 to 125 million by 2025, more than half are foreseen to be purchased in cities. Some automotive analysts predicted that today's 1.2 billion strong global car fleet could double by 2030 (Dargay, 2007).

The existing urban infrastructure cannot support such amount of vehicles on the road. Congestion has already reached unbearable conditions and can cause such problems as time waste, wasted fuel, and increased cost of doing business.

Despite this worrying facts the transport and mobility community is trying to find solutions to current situation. Different innovative approaches appear to solve transport problems. Many of them are due to the rapidly evolving technologies and digitalization. The technological revolution has changed the way the mobility and transport sector operate.

New business models emerged changing the way the transport organisations run their businesses revolutionizing the way of providing services, introducing new value propositions and types of partnerships.

External links:

McKinsey&Company, ***Urban mobility at a tipping point***

Present situation of transport and urban mobility

Urban mobility trends



An example of innovative way of improving the urban journeys is new “multimodal” services that facilitate everyday journeys combining walking, cars, buses, bikes, and trains etc.

An example of innovative way of improving the urban journeys is new “multimodal” services that facilitate everyday journeys combining walking, cars, buses, bikes, and trains etc. as well as shared transportation services and Mobility as a Service.

These services not only enable to innovate the way commuters move but also help to solve such mobility problems as time wasting, congestion etc. In this case the technologic development plays an important role.

Moreover, the European market of Intelligent Transport Systems (ITS) is growing fast. According to a Swedish study, the market value of ITS in public transport vehicles such as buses and trams is expected to rise from €1.03bn in 2014 to €1.46bn by 2019.

Developing apps for smartphones or other digital devices is an emerging economic sector especially regarding urban mobility. The largest platforms for apps for digital and devices, iTunes and Google Play, have more than 23450 and 17750 apps in the categories of health and fitness respectively, including pedometer tools encouraging walking.

New mobility services paradigm taken place also for individual-based mobility changing the business models in this sector.

External link:

Berg Insight, ***ITS in Public Transport***

Present situation of transport and urban mobility

Urban mobility trends

Table 1 – Traditional mobility schemes vs new mobility trends

Traditional mobility strategy	New mobility solutions
Individual car ownership as a main form of transport	Individual car ownership as one form of multimodal, on-demand and shared transport
Limited consumer choice and poor variety of services	Bigger variety of services and service providers
Government-funded public transit	Public and private partnership
Unconnected, suboptimal transportation system	On-demand, connected systems

The following shifts can be noticed:

- from private car ownership to car sharing;
- from taxi services to e-hailing (process of ordering a taxi or car via on-demand application. App matches a client and a driver).

Group-based mobility is also facing new tendencies:

- from public transit to on-demand private shuttles (more convenient than public transport and cheaper than a taxi) and carpooling.

A shift toward new urban business strategies can provide such benefits as a major savings in public budgets including health, environment or energy by providing more safety transport, less congestion and the higher rate of employment.

The examples of new mobility trends that changing the mobility reality are presented below.

External link:

[new urban business strategies](#)

Present situation of transport and urban mobility

Urban mobility trends



The emerging travel services will have a positive impact on urban mobility, as they permit to reduce the number of private cars and traffic congestion in dense urban areas.

MOBILITY AS A SERVICE

Together with technological development the new expectations related to people and goods transportation are emerging. The concept of “transportation” based on a modal approach is evolving into the wider concept of mobility based on a service approach, for instance, Mobility as a Service (MaaS).

Nowadays, society gives preference to the customer experience more than vehicle ownership recognizing the use of various transport modes. Moreover, shared or collaborative economy is gaining more attention, following this statement, for many people the ownership of a private car is no longer a primary objective for travelling, especially in urban areas.

This conceptual change will completely modify the mobility offer, as well as the payment of mobility services. It will also allow easier implementation of strategies for the internalization of external costs in transport related domains, which means new business models are about to enter in the fast changing urban mobility sector.

The emerging travel services (such as car- and bike-sharing, ridesharing etc.) will have a positive impact on urban mobility, as they permit to reduce the number of private cars and traffic congestion in dense urban areas. MaaS objectives are to put the users, at the core of mobility services, offering them personalised mobility solutions based on their individual needs with an easy access to the most appropriate transport mode or service.

Present situation of transport and urban mobility

Urban mobility trends



how to do travel and logistics patterns change (e.g. for older commuters), what is the potential modal shift?

MOBILITY AS A SERVICE

MaaS has three dimensions that should take place when planning the innovation activities and developing new business models:

1. The technological dimension: data sharing, interoperability, standardization as well as connectivity and built-in sensors of smart devices supporting MaaS.
2. The behavioural impact: how to do travel and logistics patterns change (e.g. for older commuters), what is the potential modal shift?
3. Economic and policy dimension, including organizational and regulatory aspects. This might involve a change of roles of different players involved.

Present situation of transport and urban mobility

Urban mobility trends



the service relies on a digital platform or web page through which the end user can access to all the services (trip planning, booking, ticketing, payment)

MOBILITY AS A SERVICE

According to Jittrapirom et al, a MaaS has the following core characteristics:

- Integration of transport modes: the use of public transport services, by bringing together multi-modal transportation enabling users to facilitate their trips.
- Tariff option: MaaS offers users two types of tariffs in accessing its mobility services – “mobility package” and “pay-as-you-go”.
- One platform: the service relies on a digital platform or web page through which the end user can access to all the services (trip planning, booking, ticketing, payment)
- Multiple actors: actors using the digital platform: mobility demanders (private or business customers), mobility suppliers (public or private) etc.
- Use of technologies: different technologies are combined to provide MaaS: devices, mobile/internet network, e-payment, e-ticketing, database management system, etc.
- Personalisation: permits to meet users’ needs and expectations with unique personal solution regarding the travel planning
- Customisation: users can modify the offered service according to their preferences.

External link:

Jittrapirom et al

Present situation of transport and urban mobility

Urban mobility trends



Every traveller has her/his own travel behaviour that differs from person to person including the travel purpose, final destination and time

INTEGRATED MOBILITY

Integrated mobility enables connecting commuters from trip origin to their final destination using all transportation modes through the integration of barrier-free planning, design, infrastructure, technology solutions and personalisation.

The concept behind integrated mobility is that passengers typically use more than one mode of transportation. Travellers have different trip needs and often switch modes to suit their travel needs.

The benefits that integrated mobility can provide are:

- **Combined mobility.** Create a seamless travel experience for the door-to-door journey by integrating public and private transport modes in one single service, guided by an intermodal journey planner.
- **One-stop-shop.** Provide easier travel by combining journey planning, mobile ticketing and fare collection in one single application and perform one single transaction for the whole trip.
- **Personalized solutions.** Every traveller has her/his own travel behaviour that differs from person to person including the travel purpose, final destination and time. Therefore each traveller needs the flexibility to choose and adapt her/his individual subscription package.

Present situation of transport and urban mobility

Urban mobility trends



The next evolution of travel planning apps should make an increased focus on integrated mobility, providing more information on travel modes

INTEGRATED MOBILITY

A good example of integrated mobility can be a Google Trip Planner that enables to identify the best route and make smarter decisions of traveling time. The addition of alternative modes (transit, cycling and walking) to trip planning apps provide traveller with essential information to compare travel times, identify different travel routes and better navigate through the transit network.

The next evolution of travel planning apps should make an increased focus on integrated mobility, providing more information on travel modes by allowing commuters to adapt in real time.

Technology plays an important role in providing valuable information that allows travellers to make smarter travel choices and should be an essential part of integrated mobility.

Present situation of transport and urban mobility



Urban mobility trends

SHARED MOBILITY

Shared mobility, makes part of the wider “collaborative economy” or “sharing economy”, defined in the European agenda for the collaborative economy as “[a variety of] innovative business models where activities are facilitated by collaborative platforms that create an open marketplace for the temporary usage of goods or services often provided by private individuals”.

External link:

[Shared mobility](#)

Present situation of transport and urban mobility

Urban mobility trends

SHARED MOBILITY

Service providers offer their goods, assets, or skills to a variety of users via a platform provided by intermediaries. “Sharing” has also become an urban mobility reality. Shared mobility prioritizes the importance of reaching destinations, often at a smaller individual and societal cost than by using a private vehicle. As shared mobility serves a greater proportion of local transportation needs, multivehicle households can begin reducing the number of cars they own while others may abandon ownership reducing future demand.



In order to develop a sustainable business model of the project it is crucial to choose the suitable form of partnership that will transform the project innovation into successful story

Innovative forms of partnership

Innovative Public Private Partnerships



Public-private alliances are vital for the formulation and implementation of strategies in a mobility sector.

In order to develop a sustainable business model of the project it is crucial to choose the suitable form of partnership that will transform the project innovation into successful story.

The well-organised partnership enables to obtain the investment for the project as different partners can contribute to the project by providing different inputs to ensure financial viability to the investors.

This Chapter provides an insight to the innovative forms of partnerships that local mobility authorities may take into consideration when organizing their business with a view on sustainable and long-term strategy.

Public-private partnerships are well known to be powerful tools in carrying out transport and mobility projects. Public-private alliances are vital for the formulation and implementation of strategies in a mobility sector. Before introducing the Innovative Public Private Partnership (IPPP) it is necessary to present the PPP form explaining its benefits and challenges for mobility organisations.

Innovative forms of partnership

Innovative Public Private Partnerships



Some cities have PPP-specific departments to manage the role of the private sector in municipal service delivery, which tend to vary from city to city.

PPP

Most EU member states and the European Commission regard the PPP as an important tool to attract additional financial resources for high priority investments such as transport.

The public sector plays an important role in building urban transport infrastructure. However, the resources needed are much more than the public sector can provide and public investment, however, have to be supplemented by private sector investments. In order to address this gap, this sub Chapter is focusing on providing the insight to the combination of public and private partnership and how this partnership can create a benefit for both urban mobility stakeholders.

PPP is an important part of the urban investment package (set of the presentation material and documents needed to obtain an investment). Some cities have PPP-specific departments to manage the role of the private sector in municipal service delivery, which tend to vary from city to city.

PPPs can vary from basic service contracts with limited asset ownership, to mature fee-based build-operate-transfer (BOT) projects where the private sector has full responsibility for a project's operations and investment.

Innovative forms of partnership

Innovative Public Private Partnerships



PPPs enable the public sector to transfer upfront capital expenses into on-going service payments.

PPP

Benefits of using the PPP models

What are the benefits of using the PPP model according to the EC?

There is a growing realization that cooperation with the private sector, in PPP projects, is able to offer a number of advantages, including (1/2):

- **Acceleration of infrastructure provision** - PPPs enable the public sector to transfer upfront capital expenses into on-going service payments. This ensures projects to conduct the activities even when the availability of public investment may be restricted, nevertheless, bringing forward much needed investment.
- **Faster implementation** - the allocation of design and construction responsibility to the private sector, joint with payments connected to the availability of a service, provides essential incentives for the private partner to deliver capital projects within shorter timeframes.
- **Reduced entire life costs** - PPP projects that require operational and maintenance service provision provide the private sector with strong incentives to minimise costs over the whole project life cycle, that can be difficult to reach within the restrictions of public sector budgeting.
- **Better risk allocation** – one of the main characteristics of PPP is the allocation of risks. The scope is to optimise risk transfer, in order to be sure that best value is achieved.

External link:

[benefits of using the PPP](#)

Innovative forms of partnership

Innovative Public Private Partnerships



the private sector partner may help to obtain additional revenues from third parties by reducing the cost by hiring a third party service provider

PPP

Benefits of using the PPP models

There is a growing realization that cooperation with the private sector, in PPP projects, is able to offer a number of advantages, including (2/2):

- **Better incentives to perform** – the allocation of project risk make the private sector partner to improve its management and performance. The private partner will be paid only if the required service standards were met.
- **Improved quality of service** – it is argued that the involvement of a private sector partner improves the quality of service due to the better integration of services with supporting assets, improved economies of scale, the introduction of innovation in service delivery etc.
- **Generation of additional revenues** – the private sector partner may help to obtain additional revenues from third parties by reducing the cost by hiring a third party service provider.
- **Enhanced public management** – by imposing responsibility for providing public services to private sector partner the public officials will concentrate on service planning and performance monitoring instead of executing the delivery of public services.

A very common PPP structure is Design, Build, Finance and Operate for transport and mobility projects. PPPs cover a large spectrum of projects where the private sector build, operate and finance assets providing public services. PPPs are known for long-term and complex contractual arrangements for risk transfer between the public and private sectors.

Innovative forms of partnership

Innovative Public Private Partnerships



PPP contracts are generally more complicated than conventional procurement contracts

PPP

Possible disadvantages to PPP implementation

It is important to provide some risks that the future partnership may face. Possible disadvantages are described below (1/2):

- **Large tendering and contracting costs** - PPP contracts are generally more complicated than conventional procurement contracts. This is principally because of the need to anticipate all possible contingencies that may emerge long-term contractual relationships. Moreover, there are typically very significant legal costs in contract negotiation. PPP projects request more highly specialized resources and attention by the government.
- **High government cost** – the division of involved project risk between public and private partnership means that private sector partner expects to be rewarded for accepting those risks. This can increase governmental costs. The government may also have a higher cost on project quality performance monitoring. However, this higher cost is included in the price of a more reliable quality of service.

Innovative forms of partnership

Innovative Public Private Partnerships



Long-term commitment – this aspect may cause constraints for the public authority, which need to be considered carefully

PPP

Possible disadvantages to PPP implementation

It is important to provide some risks that the future partnership may face. Possible disadvantages are described below (2/2):

- **Project profitability** - this aspect may vary depending on the assumed risk, competitive level, complexity, and the volume of the project being performed. PPP may be criticised for permitting private sector to gain the profit from the provided services, which could have been provided by the public sector.
- **Long-term commitment** – this aspect may cause constraints for the public authority, which need to be considered carefully.
 - **Political commitment:** political mandates last less, normally, then the duration of PPP project.
 - **Planning constraints:** PPPs demand a stable long-term planning and any non-compete provision may cause problems.
- **Frequent contract renegotiation** – contract renegotiation become more common PPP feature. It may also cost extra costs.

Innovative forms of partnership

Innovative Public Private Partnerships

PPP

Key barriers to PPP implementation in urban mobility infrastructure

Several barriers can be identified while creating PPP. The main observation of such problems can be seen in the following table.

Table 2 – Challenges of the PPP development

Challenges	Description
Policy and Institutional issues	Fragmented institutional framework, combined with poor organizational capacity and the absence of comprehensive guidelines are the key policy and institutional barriers.
Business planning and Design	Lack of integrated planning with other transport modes, and the absence of business model planning are the key design and planning barriers. The lack of dedicated investment and an uncertain revenue stream make the investors doubt about the viability of the project.
Contractual framework	Lack of a comprehensive and well-organised contractual framework is a barrier to successful PPPs. If the contracts do not cover all project possibilities comprehensively it may provoke the subjectivity and ambiguity.
Project Implementation	Absence of competent private partners who can provide good set of services emerges as an implementation barrier. Lack of revenue safeguards and delays in asset delivery may arise as significant barriers.

Innovative forms of partnership

Innovative Public Private Partnerships



In the IPPPs public organisations are defined as an important actor who not only has a key roles of supervising, creating incentives and regulatory frameworks, but also developing new opportunities and governance mechanisms

IPPP

IPPP is a new form of partnership where the main actors are public and private organisations and may also include other type of organisations like civil society organizations (CSOs), non-governmental organisation (NGO) or communities. These new forms of collaboration enable to identify the opportunities for the design and implementation of the long-term strategies for partnership. Each actor of the iPPPs has its important role in the alliance.

For instance, the state organisations are in charge of the drawing up, financing and implementation of policies and programmes. In the IPPPs public organisations are defined as an important actor who not only has a key roles of supervising, creating incentives and regulatory frameworks, but also developing new opportunities and governance mechanisms to enable the sustainable long-lasting collaboration with the private sector and other forms of organization, in order to optimize outcomes, impact and sustainability.

The private sector has a significant role in the partnership. It contributes to bring the investment and expertise in the alliance having its business for-profit orientation.

Innovative forms of partnership

Innovative Public Private Partnerships



Establishing an iPPP requires strengthening the capacities of all the actors involved

IPPP

Finally, other important actors in this type of partnership such as NGOs, CSOs or communities may bring their expertise and vision of transport and mobility sector. Establishing an iPPP requires strengthening the capacities of all the actors involved.

Transport and mobility sector can benefit from this new form of partnership by having on board not only the professionals of the mobility sectors like public and private organisations that are striving to solve mobility problems, but also other important actors that may be more familiar with the transport sector issues and needs. The last ones could provide their attitude on the situation and help to develop more effective measures to address mobility issues. The logic of iPPPs is that the transport and mobility issues should be analysed jointly, rather than separately, by governments, public and private sector and communities using a complementary approach and long-term common vision.

There is a growing number of positive factors of establishing such alliance: opportunity to enhance dialogue, foster collaborative approaches and identify innovative solutions in terms of design and implementation of their interventions between governments, private sector and other types of organisations.

Innovative forms of partnership

Innovative Public Private Partnerships



The innovative PPP may provide the S-M cities local authorities with a new way of organising business

IPPP

Benefits of iPPP for mobility local authorities

The innovative PPP may provide the S-M cities local authorities with a new way of organising business due to the involvement of other type of organisations providing such additional value as:

- Addressing market needs and tendencies.
- Transferring localized institutional knowledge to the public and private organisations.
- Creation a collective awareness of the innovative solutions created by the alliance.
- Elaboration of the social standards and clarification schemes.
- Enhancement of the possibility of the project to obtain the investments by involving the mobility communities in the consortium.
- If the project addresses green or climate finance, mobility communities' participation may bring innovation and an ethical approach to investments.
- The CSOs or NGOs may gain the social relevance and influence and builds capacity for policy monitoring.

External link:

involving the mobility communities in the consortium

Innovative forms of partnership

Innovative Public Private Partnerships

IPPP

Practical recommendations for developing successful collaboration between mobility communities and PPP

- **Create an identity and solidarity:** choose the CSO/NGO that is well-known and relevant in transport and mobility sector. Its reputation and credibility should be undoubted. CSO/NGO should have a sphere of influence that sped to the relevant mobility networks and communities.
- **Resources and mapping:** CSO/NGO should find the resources to provide and effective work. The resources could be finances, collaborator, information etc. The activities in its turn are networking, effective communication, and creation of the communities.



The innovative PPP may provide the S-M cities local authorities with a new way of organising business



Innovative forms of partnership

Innovative Public Private Partnerships



the CSO/NGO should manage its activities and plan the interventions in order to achieve the desired outcomes.

IPPP

Practical recommendations for developing successful collaboration between mobility communities and PPP

- **Awareness-raising campaigns:** the CSO/NGO should be skilled in lobbying and campaigning to address the relevant people for promoting the innovative solutions created by the iPPP through the certain actions. The skills required: role modelling, relationship building, and negotiation.
- **Management and planning:** the CSO/NGO should manage its activities and plan the interventions in order to achieve the desired outcomes. It should have a realistic understanding of the socio and political situation of the mobility sector.
- **Monitoring and assessment:** the CSO/NGO should elaborate the mechanisms for monitoring and assessing the governmental decisions, actions and plan in the mobility domain.

Innovative forms of partnership

Innovative Public Private Partnerships



The organisation may benefit from R&D collaboration by coordination from competent R&D partners, sharing of risks, resources and expertise and the building of new knowledge

R&D PARTNERSHIPS

R&D partnerships are strategic partnerships between businesses and organizations capable to develop a new product or service (or improve an old one) and other actors who are economically interested in the development of such innovations.

The resource-based view highlights that in order to exploit existing resources and to develop a long-term competitive advantage, organisations need to obtain the external knowledge (Hottenrott, and Lopes-Bento, 2014). The organisation may benefit from R&D collaboration by coordination from competent R&D partners, sharing of risks, resources and expertise and the building of new knowledge (Caloghirou et al. 2003).

Depending on the actors involved in the R&D partnership this form of collaboration can include the following types:

- R&D-Public partnership.
- R&D-Private partnership.
- R&D-PPP.

Innovative forms of partnership

Innovative Public Private Partnerships



Research and development costs and the risks sharing associated with the investment of time, money and other resources

R&D PARTNERSHIPS

Benefits of the R&D partnerships for mobility local authorities

- R&D partner may help to develop new product or service, improve the current one or to innovate operations. R&D partnerships also enable mobility organizations to remain on the market by monitoring the market requires and trends.
- Help public or private organisations to advance their business.
- Research and development costs and the risks sharing associated with the investment of time, money and other resources.
- R&D partner may help to assess the market or test the prototype.
- R&D partner provides monitoring of the project results.
- The involvement of the R&D partner may provide an added value in searching of investments due to the expertise that this partner can provide.

Innovative forms of partnership



Innovative Public Private
Partnerships

Innovative forms of partnership

Innovative Public Private Partnerships



Intellectual property rights (IPR) should be established in the contractual form and include all the interested parties and their rights on the innovation

R&D PARTNERSHIPS

Practical recommendations for developing successful collaboration between R&D and other mobility partners

- R&D organisation should be a leading organisation in the sector with a reliable reputation and strong experiences in the domain.
- The technical equipment of the R&D should respond to the current tendencies in order to ensure that the innovation that will be developed is aligned with the market and technological trends.
- Intellectual property rights (IPR) should be established in the contractual form and include all the interested parties and their rights on the innovation.
- Each partner responsibility should be clearly specified in order to avoid the risk of having high costs.

Innovative business models

S-M-sized cities operate in the situation where the mobility sector faces a great competitiveness, rapidly changing and uncertain economic environment that make local authorities to take complex and difficult business decisions.

Transport and mobility organisations run their businesses in a digital era where new technologies innovate business models enabling to solve current mobility problems. Many factors should be taken into consideration while starting a new business such as mobility business environment, strategic partnerships, technological innovation, market tendencies, revenue streams etc.

Well-elaborated business model will enable the transport and mobility organisation to obtain the funds for its innovation exploitation and well-prepared feasibility study will prove the project financial viability.

This Chapter introduces new mobility services and their business models (BM). Annex 1 will provide the mobility local authorities with the business strategic tool that enables S-M-sized cities to create their innovative business models.



Well-elaborated business model will enable the transport and mobility organisation to obtain the funds for its innovation exploitation

Innovative business models

Business Model Canvas approach

This Chapter aims to introduce the approach that we chose to apply for describing the innovative BM presented in Annex1, namely Business Model Canvas (BMC).

A business model addresses the logic and provides the information on how a business creates and delivers value to customers (Teece, 2010). Moreover, it explains the architecture of revenues, costs, and profits associated with the business organisation.

BM represents the combination of the organizational and financial “architecture” of a business (Chesbrough and Rosenbloom, 2002). For urban mobility projects, it is crucial to choose the right business model, as it will set up the overall business development.



BM represents the combination of the organizational and financial “architecture” of a business

Business Model Canvas, developed by Österwalder and Pigneur (2010) and Österwalder et al. (2005), is a conceptual tool that enables to develop a BM in easy and creative way.

Innovative business models

Business Model Canvas approach



The business model canvas is structured in nine building blocks

Specifically, it comprises the objects, concepts and their relationships, expressing the underlying business logic.

The business model canvas is structured in nine building blocks:

1. customer segments,
2. value proposition,
3. channels,
4. customer relationships,
5. revenue streams,
6. key resources,
7. key activities,
8. key partnerships, and
9. cost structure.

Each block includes a set of questions to assess the model and support the user in its creation.

To simplify the comprehension and analysis of all the business' pillars, the nine blocks introduced by developers can be grouped by the area of ontology, namely: product, customer, infrastructure and finance.

Innovative business models

Business Model Canvas approach

Product (block 2) presents the value proposition of the business, namely, the products and services that company deliver to the market.

Blocks 1, 3 and 4 describe customer engagement, identifying the targeted audience, the demands, how customers perceive the value, and what type of relationship the company establishing with each segment of clients.

Block 6 and 8 present the infrastructure management describing the functions of logistics and production, and define the relationships between key partners and the organisation.

Lastly, financial area (blocks 5 and 9) considers information regarding the sustainability of the company, cost structure, and how the company will earn revenues.



Blocks 1, 3 and 4 describe customer engagement, identifying the targeted audience, the demands, how customers perceive the value, and what type of relationship the company establishing with each segment of clients

Innovative business models

Business Model Canvas approach

According to Hulme (2011a), the use of canvas is essential for the learning cycle of a project. BMC enable to:

- Involve entrepreneurs to exercise the constant reflection. Develop the BM with a help of a graphical tool where all the elements are linked to each other.
- Understand how the business deals with its different components. Moreover, BMC simplify the dialogue with the different stakeholders, opening the discussion about new business opportunities, how to link the activities with the mission of the company.
- Consider each business elements individually and as a whole.
- Enhance business creativity and innovation by using graphical tool. BMC incorporates the design thinking methodology.



BMC simplify the dialogue with the different stakeholders, opening the discussion about new business opportunities,

Innovative business models

Innovative Business Models in mobility sector.



Technological breakthrough permits to enhance the improvements and technological advancements in many areas of transport and mobility

“Technology innovations and business model innovations are strongly linked to each other. A business model denoted the way how companies can make money out of a technology. No matter how the technology is innovative and sophisticated, it will fail, if it is not possible for market players to make profits from it”- Abdelkafi et al., (2013).

Some researchers in the transport and mobility sector argue that the traditional organizational structure and BMs are no longer viable (Wells, 2013; Abdelkafi et. al., 2013). Increasing challenges in the mobility sector such as market saturation, environmental issues (bad air conditions), congestion, accelerated urbanisation changing customers demand and needs forcing the mobility organisation to change their BM in order to address these issues.

Changing market characteristics and fast evolving new technologies make local authorities to reorganize or even innovate their BM (Holweg, 2008). The evolution of new technologies enables to solve some mobility problems and transport organisations are already implementing them when developing new services.

Technological breakthrough permits to enhance the improvements and technological advancements in many areas of transport and mobility, e.g. alternative power trains, digitalization, automotive software and hardware, connectivity and smart devices technologies that are further influencing the growth of innovative BM in the transport sector.

Innovative business models

Innovative Business Models in mobility sector.



new mobility paradigm is changing the urban mobility sector providing new BM and the ways transport authorities deliver services

Following this statement it can be argued that emerging technological innovation of the transport industry should be accompanied by BM innovation.

As it was already mentioned in Chapter 3 new mobility paradigm is changing the urban mobility sector providing new BM and the ways transport authorities deliver services.

New BMs regard MaaS, Sharing and Integrated mobility services.

This Chapter introduces the innovative business models and partnerships representing innovative mobility trends. The BM examples presented in this chapter can be used as a cognitive model for mobility stakeholders who want to deliver these kind of services in their cities.

Annex 1 includes the best practice of the services illustrated in the following paragraphs.

Innovative business models

Innovative Business Models in mobility sector.



an effective mobility alternative to car ownership, lower vehicle congestion in urban areas, may reduce vehicle miles travelled (VMT) through increased ride-sharing

CAR ON-DEMAND

Brief description

On-demand mobility is the integration of ridesharing and ride-hailing services with transit operations. Car on-demand is an innovative, user-focused approach which leverages emerging mobility services, integrated transit networks and operations, real-time data, connected travellers, and cooperative Intelligent Transportation Systems to allow more traveller-centric transportation system, providing improved mobility options to all travellers and users of the system in an efficient and safe manner.

Impact of car on-demand

- Impact on environment: decrease GHG emissions and air pollution by reducing the vehicle.
- Impact on society: an effective mobility alternative to car ownership, lower vehicle congestion in urban areas, may reduce vehicle miles travelled (VMT) through increased ride-sharing but if it displaces mass transit usage then it may bring to an increase.
- Impact on urban land use: parking space saving.
- Impact on transportation: may complement other shared-use modes such as mass transit (trains, subways and buses) by helping to resolve the “last-mile” problem

External link:

Impact on transportation

Innovative business models

Innovative Business Models in mobility sector.



an effective mobility alternative to car ownership, lower vehicle congestion in urban areas, may reduce vehicle miles travelled (VMT) through increased ride-sharing

CAR ON-DEMAND

Car on-demand models

Car on-demand offers several models, including:

- Taxi e-hailing
- Transportation Network Companies (TNC)
- Shuttle busses
- Car on-demand BMs regarding these types of modes are described in Annex 1.

Business idea

On-demand mobility is the use of shared vehicles accessed on-demand. Travellers typically reserve a vehicle or ride via a smartphone application (app) shortly before the trip is made. On-demand service requires the registration on a platform. Vehicles are normally available 24/7 and can be found with a real-time tracking application within the city. Users book a car with a driver through an app. Fares are set by the mobility provider and must be shown to passengers and paid through the online dispatch application.

Business Models

The recent and on-going exponential growth of on-demand mobility and last-mile delivery services is a global shift from personal vehicle ownership to a shared, on-demand model.

Innovative business models

Innovative Business Models
in mobility sector.



Local authorities may support private sector by providing a consultancy for a transportation service providers also by regulating the vehicle numbers, suggesting fares and providing taxi spaces.

Innovative business models

Innovative Business Models
in mobility sector.



TNCs develop smartphone apps using which the passengers can book a vehicle from a private driver, which is usually a non-commercially licensed driver.

Innovative business models

Innovative Business Models
in mobility sector.



Shuttle buses provide services to transport passengers to regional or hub airports or provide the transportation to customers' business organisations, hospitals, educational centres, hotels etc

Innovative business models

Innovative Business Models in mobility sector.



Several types of micro mobility vehicles exist: personal transportation solutions, such as scooters/E-scooters etc. and small electric cars with one or two seats, electric vehicle (EV).

MICRO MOBILITY

Brief description

The local authorities, especially in urban areas, support the development of the micro mobility devices and micro cars industry. Micro mobility refers to a new category of vehicles that can become an alternative to traditional modes of transportation. Several types of micro mobility vehicles exist: personal transportation solutions, such as scooters/E-scooters etc. and small electric cars with one or two seats, electric vehicle (EV).

Micro mobility industry is developing rapidly. Consumer preferences are changing and BM are striving to analyse and meet the new needs of the modern customers. For instance, young generation purchases its first cars later than previous ones.

Impact of micro mobility

- Impact on environment: decrease CO2 emissions and air pollution by the reduction of the transportation and introduction of EVs.
- Impact on society: an effective mobility alternative to car ownership, lower vehicle congestion in urban areas, easy to find a parking space.
- Impact on urban land use: parking space saving.
- Impact on transportation: may complement other shared-use modes such as mass transit (trains, subways and buses) by helping to resolve the “last-mile” problem.

Innovative business models

Innovative Business Models in mobility sector.

MICRO MOBILITY

Micro mobility models

- Scootersharing.
- Dedicated micro concepts (small electric cars with one or two seats, EV, electric kick scooters).

Micro mobility BMs regarding these modes are described in Annex 1.



Image by Mircea Iancu from Pixabay

Innovative business models

Innovative Business Models
in mobility sector.



Local authorities should provide the scooter sharing companies with the parking permission that enables scooter sharing members to leave the vehicles anywhere.

Innovative business models

Innovative Business Models in mobility sector.



Electric kick scooter sharing offers generally dockless electric kick scooter sharing services, which means that the user may pick up and drop off the scooters anywhere in the provider service area

MICRO MOBILITY

Dedicated micro mobility (electric kick scooter sharing)

Electric kick scooter sharing offers generally dockless electric kick scooter sharing services, which means that the user may pick up and drop off the scooters anywhere in the provider service area.

The business model consists of the providing flexible e-kick-scooter to the users that get an access to a e-kick-scooter service when becoming a member of a scootersharing program that requires the registration on a platform via a smartphone app. Scooters are normally available 24/7, and can be found with a real-time tracking application within service provider area. Users find a scooter by using GPS system, unblock it by the means of entering a PIN code that he/she receives when booking the scooter or scanning a QR code.

Innovative business models

Innovative Business Models
in mobility sector.

Innovative business models

Innovative Business Models in mobility sector.



Carsharing provides some benefits of a personal vehicle without the costs of owning a private one.

CARSHARING

Brief description

Carsharing provides commuters with access to the cars for short-term use. The vehicles are distributed across a network of carsharing spaces within a metropolitan area. Commuters can access the vehicles 24/7 with a reservation and are charged by time or by mile. Carsharing provides some benefits of a personal vehicle without the costs of owning a private one.

Impact of carsharing

- *Impact on environment:* decrease GHG emissions and air pollution due to the transport reduction (Shaheen and Cohen, 2013).
- *Impact on society:* cheap and effective mobility alternative for households (Nenseth et al., 2012); lower vehicle congestion in urban areas, encourage residents to use other forms of transportation (Carsharing Association, 2011).
- *Impact on urban land use:* parking space saving.

Carsharing models

Carsharing offers several models, including:

- Round-trip (membership services, business or institutional fleet, non-membership (e.g vacation)).
- Free floating.
- Station-based.
- Peer-to-peer (fractional ownership, P2P Hybrid, P2P marketplace).

Innovative business models

Innovative Business Models in mobility sector.



carsharing enables mobility companies to sell miles, rather than products

CARSHARING

Business model

Customer gets an access to a carsharing service when becoming a member of a carsharing program that normally requires registration and a membership fee. Carsharing fee normally includes insurance, fuel, and maintenance and often free of reduced cost parking (Shaheen and Cohen, 2013). Cars are normally available 24/7, and can be found with a real-time tracking app within an urban area. Users get an access to the car by using key, smartcard, or a smartphone app (ZipCar, 2016).

Carsharing BMs enable to provide the advantages in mature markets, and can be used as an example for sustainable mobility BMs. Moreover, carsharing enables mobility companies to sell miles, rather than products (Kessler & Stephan, 2013).

The most common carsharing BMs are round-trip that requires traveller to borrow and return a car at the same place and free floating, which permit customers to pick up a vehicle at one location and leave it at another.

Peer-to-peer carsharing, is when a car owners make a profit by enrolling his/her vehicle in carsharing programs.

Innovative business models

Innovative Business Models
in mobility sector.

Innovative business models

Innovative Business Models in mobility sector.



Ridesharing initially has a scope to fill empty seats in car, which enables better use vehicle occupancy potential and reduces the number of vehicles on the roadway.

RIDESHARING

Brief description

Traditionally ridesharing comprises carpooling (travellers share a privately owned vehicle, for commuting), vanpooling (sharing a van by traveling to/from a work place) and real-time ridesharing services (matching drivers and passengers according to destination they should achieve, through a mobile app before the trip starts and through which the passenger pays a share of the trip cost).

Ridesharing initially has a scope to fill empty seats in car, which enables better use vehicle occupancy potential and reduces the number of vehicles on the roadway.

Impact of ridesharing

- Impact on environment: reduction of GHG emissions.
- Impact on society: shared travel costs, travel-time savings from high occupancy vehicle lanes, alternative way of travelling, reduce congestion.
- Impact on urban land use: parking space saving.
- Impact on transportation: alternative way of travelling

Innovative business models

Innovative Business Models
in mobility sector.



ridesharing BM consist of sharing the privately owned car with other passengers that are travelling to the same or similar destination that the vehicle owner

Innovative business models

Innovative Business Models in mobility sector.



The goal of public bikesharing is to expand and integrate cycling into transportation systems, so that it can become a daily transportation mode for commuting

BIKESHARING

Brief description

Bikesharing presents in multiple forms, including public, closed community and peer-to-peer systems. Bikesharing enables users to take short point-to-point trips using a fleet of public bikes distributed throughout a community.

Bikesharing has the potential to play an important role in bridging some of the gaps in existing transportation networks, as well as encouraging individuals to use multiple transportation modes. The goal of public bikesharing is to expand and integrate cycling into transportation systems, so that it can become a daily transportation mode for commuting.

Impact of bikesharing

- Impact on environment: reduction of GHG emissions.
- Impact on society: increase the mobility and connectivity, health benefits due to physical exercise while riding a bicycle.
- Impact on urban land use: save parking spaces.
- Impact on transportation: reduction of personal vehicle use, lower transportation costs.

Innovative business models

Innovative Business Models
in mobility sector.



In a dockless bikesharing BM, commuters may take a bicycle and leave it at any location within a predefined geographic area.

BIKESHARING

Bikesharing models

- Station-based bikesharing.
- Dockless (or free-floating bikesharing).
- Hybrid bikesharing systems.
- P2P

Bikesharing BMs regarding some of these modes are described in Annex 1.

Business models

In station-based bikesharing BM, riders access bicycles via unattended kiosks providing one-way service (i.e., bicycles can be returned to any kiosk), the bicycle should be return to the station. In a dockless bikesharing BM, commuters may take a bicycle and leave it at any location within a predefined geographic area.

In a hybrid bikesharing BM, travellers take a bicycle from a kiosk and may return it to the station or leave it at any place within the predefined area. The bicycles can be found via smartphone app. The bicycle can be unblocked by scanning or typing a code.

Innovative business models

Innovative Business Models in mobility sector.

BIKESHARING

Competing modes

Scootersharing, Transportation Network Companies, Carsharing, Ridesharing.

Key aspects for implementation of Bikesharing:

Costs implications

Stakeholders involved

Types of investment

Guidelines for implementation



Choose an IT developer for bikesharing software production and maintenance.

Innovative business models

Innovative Business Models in mobility sector.



Innovations in this sector may improve the mobility situation regarding parking especially in S-M-sized cities, where due to the lack of several different modes of transport, citizens must take their private cars for transportation.

SMART PARKING

Brief description

In urban areas, parking management impacts drivers search time and cost for parking spaces, parking revenue, and traffic congestion. The use of smart parking system that includes of wireless parking meters, sensors allows the parking authority to control the state of each parking lot in real time and improve the parking management.

Innovations in this sector may improve the mobility situation regarding parking especially in S-M-sized cities, where due to the lack of several different modes of transport, citizens must take their private cars for transportation.

Impact of parking

- Impact on society: encourage the use of alternative modes of transportation, improve user convenience and safety.
- Impact on urban land use: efficient citywide parking space utilization.

Innovative business models

Innovative Business Models in mobility sector.



The parking slots are provided with sensors that detect the park slot status (free or occupied) and transmit this data to the user in a real time

SMART PARKING

Smart parking models

- Parking Guidance and Information Systems
- Transit Based Information Systems
- Parking app.
- Parking smart payment system.
- E-parking systems
- Automated Parking Systems

Some smart parking BMs regarding these modes are described in Annex 1.

Business models

Parking Guidance and Information System

These are new services that help a driver to find a free parking spot. User registers at the platform and download the app that enable the user to see free parking space in the near distance from him/her. The app allows the driver to book the parking space and provide other user with the information of the vehicle that booked it. The parking slots in its turn are provided with sensors that detect the park slot status (free or occupied) and transmit this data to the user in a real time.

Some of the apps also provide drivers with the option to pay for the parking fostering the time and avoiding the cash.

Innovative business models

Innovative Business Models
in mobility sector.



*Create parking database,
development of the real/time
parking information.*

Innovative business models

Innovative Business Models in mobility sector.



There is a huge potential for public transport agencies to integrate or offer shared modes to enhance the access to the transport and decrease costs.

PUBLIC TRANSPORT

Brief description

This type of transit is publicly owned and comprises buses, trains, ferries, facilities etc., with fixed local routes and express services. It is a core service of shared urban mobility. There is a huge potential for public transport agencies to integrate or offer shared modes to enhance the access to the transport and decrease costs. The IT companies and emerging app entrepreneurs are collaborating to elaborate the platforms that can integrate these modes.

Impact of public transport

- Impact on environment: reduction of GHG emissions.
- Impact on society: increase the mobility connectivity, reduce the congestion.
- Impact on urban land use: save parking spaces.
- Impact on transportation: reduction of private vehicle use.

Public transport modes

- Metro
- Trams
- Trains
- Bus (Bus Rapid Transit (BRT))

The BRT BM is described in Annex1.

Innovative business models

Innovative Business Models
in mobility sector.



*The high-end BRT services are
equipped with Automated
Vehicle Location (AVL).*

Innovative business models

Innovative Business Models in mobility sector.



increase the mobility and connectivity using the multimodal transportation; reduce the congestion, more satisfied travellers

INTEGRATED MOBILITY

Brief description

Integrated mobility is a technology-enabled strategic service to ensure that travellers have the most convenient possible transportation journey. Integrated mobility aims at connecting people and places.

Impact of integrated mobility

- Impact on environment: reduction of GHG emissions.
- Impact on society: increase the mobility and connectivity using the multimodal transportation; reduce the congestion, more satisfied travellers.
- Impact on urban land use: save parking spaces.
- Impact on transportation: reduction of personal vehicle use, optimal transfers selection.

Integrated mobility models

- Multi-Modal journey planning.
- Aggregated booking.
- Smart payment and ticketing.

The BMs of some of these services are described in Annex 1.

Innovative business models

Innovative Business Models
in mobility sector.



The user has the option to choose best suitable alternative combining different ways of transport depending on the situation of transit and availability.

Innovative business models

Innovative Business Models in mobility sector.



E-ticketing systems could contribute to the overall improvement of the public transport networks' level of services, image, accessibility, with the main aim to facilitate and/or increase the use of public transport

INTEGRATED MOBILITY

Business Models

Smart payment and e-ticketing (1/2)

E-ticketing (or Electronic Ticketing, or Automated Fare Collection, or Smart Ticketing) means, in general, new technologies and integration of services that the user may pay by the means of app, smart card. The main issues of e-ticketing are:

- Propose complementary services to users in relation with their mobility when buying e-ticket;
- Modify relationship between public/private transport user and public/private transport operator regarding new way of payment;
- Improve overall efficiency and image of public transport network.

E-ticketing systems could contribute to the overall improvement of the public transport networks' level of services, image, accessibility, with the main aim to facilitate and/or increase the use of public transport and so contribute to the overall political goal of developing a sustainable transport policy.

E-ticketing systems are not necessarily about having one ticket for a journey but having one wallet for several tickets.

Innovative business models

Innovative Business Models
in mobility sector.



Provide an Integrated Project Plan for the entire project that covers detailed tasks, which will be performed, by the project

Making a project bankable

Numerous funding mechanisms are now available for urban mobility and transportation project development (national and international funds, grants etc.) (see Guideline to Innovative Financing).

However, transportation organisations and national mobility authorities often lack the capacity, knowledge and resources to prepare bankable project proposals. Initially, it is required to verify the project's key components, make sure each of them is properly evaluated and that the plan is effectively managed and that all project requisites are comprehensive.

Each aspect has a risk factor, and each risk factor has a price. When a transport and mobility project is studied by a bank or other potential investor, the objective is to know the level of risk through an assessment process. There is no common approach to cover all urban mobility projects of whatever type, size or category they are. Moreover, consideration of, different aspects may change from project to project.

For most transportation projects, however, the broad format described in these Guidelines is of general application and has a scope to support the mobility management in preparation of the bankable project.



There is no common approach to cover all urban mobility projects of whatever type, size or category they are.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



Feasibility analysis should provide all necessary information for an investment decision.

The feasibility analysis is considered as an important step for the project in different development phases in order to get the funding or to make sure that their mission is officially feasible, gainful for the organization and beneficial for society.

After elaborating the business model and choosing the strategic project partners it is crucial to provide a business feasibility analysis, in order to obtain the investments.

A business feasibility analysis can be defined as a controlled procedure for identifying problems and opportunities, determining objectives, defining the successful outcomes and evaluating the range of benefits associated with alternative scenarios for solving problems.

A feasibility study is an analytical tool that supports potential investors in the decision-making process. It is used to analyse the viability of the project, such as ensuring that a project is legally and technically feasible and economically justifiable. Feasibility analysis should provide all necessary information for an investment decision.

A bankable project should provide commercial, technical, financial, economic and environmental etc. prerequisites in order to be invested in. The main components of feasibility analysis are provided below.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



it outlines the amount and type of investment / financing being requested, how the investment will be used, what possible exit strategies will be proposed for external investors, and what critical next steps are to realize the project

EXECUTIVE SUMMARY

A feasibility study document starts with an Executive summary. This section of feasibility studies summaries the document. Executive summary introduces the project with regards to its scope, its location, who is involved and the commercial rationale for implementing the project.

In this section it is important to highlight the market opportunity and the benefits of the proposed technological business idea. Executive summary provides a brief history of the project, including a timeline of activities undertaken or completed to-date.

Furthermore, it outlines the amount and type of investment / financing being requested, how the investment will be used, what possible exit strategies will be proposed for external investors, and what critical next steps are to realize the project.

After providing the Executive summary the document starts to describe different feasibility fields that have a scope to convince the future investor that the project is viable and worth to invest in.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



Product/service feasibility describes the key vehicles, technologies and services outsourced etc. that will be used for providing the project services

PROJECT FEASIBILITY FIELDS

This section discusses different areas of the project feasibility, which may be considered during its assessment. Feasibility evaluation mainly classify in the following sections.

1 Product/ Service feasibility

This section describes the company's product or service. It gives product mix if the company will initially be focusing on more than one product or services. It should be explained how customers would use and buy the mobility product or service and should be given enough details to help the investor to judge the effectiveness of the project marketing and positioning plans.

Product/service feasibility describes the key vehicles, technologies and services outsourced etc. that will be used for providing the project services, how the organisation will source technologies or vehicles or external services and how available they are. This section also introduces plans to test the product/service to ensure it works as planned and is sufficiently durable, secure, etc.(i.e. consumer product/service test, beta test with major company, etc.). At the end of this section a description of plans to upgrade product/services or expand product/ service line should be provided.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



The project may be considered technically/technologically feasible if the internal technical/technological capability inside the consortium is sufficient to support the project requirements

PROJECT FEASIBILITY FIELDS

2 Technical/ Technological feasibility (1/2)

This feasibility mainly addresses technological evaluation of the project. This feasibility study is generally conducted by engineers and IT expert, which assess the project from technical/technological aspects.

The technical/technological requirements are considered in this phase of assessment. These requirements are compared to the technical/technological capability of the company.

The project may be considered technically/technologically feasible if the internal technical/technological capability inside the consortium is sufficient to support the project requirements.

The company should answer the following questions in order to provide this type of analysis:

- How practical the proposed technology or solution?
- Do the company currently possess the necessary technology?
- Do the company have the required technical expertise?
- Do the company possess enough technical resources to develop a service/product?
- Can resources be upgraded to provide the level of technology required?
- Can the company purchase the technology if it is not available?
- Can the technology be easily applied?

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



Contractual agreements with contractors addressing know-how, engineering, procurement, development, financial soundness and experience of contractors.

PROJECT FEASIBILITY FIELDS

2 Technical/ Technological feasibility (1/2)

This feasibility analysis foresees the following steps:

- Technology and development process: existent or new technology, basis of selection of technology, competing technologies, details of licensor of technology.
- Software and hardware: List of software and hardware and equipment, details of suppliers, competitive quotations, technical and commercial evaluation of major equipment.
- Manpower analysis: basis of manpower estimates, manpower details, for example, managerial, supervisory, skilled/unskilled, training required.
- Contracts: Contractual agreements with contractors addressing know-how, engineering, procurement, development, financial soundness and experience of contractors.
- Project control and implementation: way of implementation, details of monitoring team, detailed schedule of implementation.

This stage of feasibility analysis demonstrates if the project can be realised technically.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



The analysis starts with the industry description

PROJECT FEASIBILITY FIELDS

3 Industry/Market feasibility (1/3)

This feasibility section provides market and domain analysis. It describes the current market for the project product or service.

The analysis starts with the industry description:

- The size and scope of the industry market and/or market segment(s).
- Estimation of the future direction of the industry, market and/or market segment(s).
- Identification of the industry nature, market and/or market segment(s). Is it stable or going through rapid change?
- Analysis of the industry life cycle, market and/or market segment(s). Is it emerging, growing, mature etc.?

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



it outlines the amount and type of investment / financing being requested, how the investment will be used, what possible exit strategies will be proposed for external investors, and what critical next steps are to realize the project

PROJECT FEASIBILITY FIELDS

3 Industry/Market feasibility (2/3)

After providing the description of industry, the industry competitiveness study is following. The following information should be addressed:

- Identification of the industry concentration. Are there just a few large mobility service providers or many small providers?
- Definition of the main competitors. Are they direct competitors of the project?
- Examine the barriers to entry of new competitors into the market or industry. Can new competitors enter easily?
- Analysis of the concentration and competitiveness of input suppliers and product/service buyers.
- Analysis of the price competitiveness of the project product/service.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



After the description of the domain competitors, the project proceeds with a market potential analysis

PROJECT FEASIBILITY FIELDS

3 Industry/Market feasibility (3/3)

After the description of the domain competitors, the project proceeds with a market potential analysis.

In order to provide market potential analysis the following steps should be taken:

- Identification whether the product will be sold into a transportation and mobility market or a differentiated product/service market.
- Analysis of the demand and usage trends of the transportation and mobility market or market segment in which the product or service will participate.
- Analysis of the potential emerging, niche or segmented market opportunities.
- Evaluation of the project potential share of the market or market segment.
- Definition of the potential customers and the associated marketing costs.
- Identification of the project output's distribution system and its costs.
- Sales projection analysis:
- Estimation of the sales or usage of the product/service.
- Assessment of the possibility to face the underlying assumptions in the sales projection.
- Different scenarios of project sales if these assumptions occur (i.e. selling prices of the mobility service, services provided, etc.).

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



this analysis is considered to enhance project credibility, helping decision-makers identify the positive economic benefits of the project

PROJECT FEASIBILITY FIELDS

4 Economic feasibility (1/8)

Economic feasibility analysis assesses the economic conditions, identifies a business plan, and evaluates costs and revenues of foreseen operations. Feasibility analysis enables to assess opportunities and risks, and attract investors. Conducting an economic feasibility analysis is an important step in evaluating the costs, benefits, risks and rewards of a new venture.

At this stage of analysis feasibility study should answer the question: is it worth doing?

Economic feasibility analysis provides the information whether it worth to invest in the project. As soon as specific requirements and solutions have been defined, the analyst can assess the costs and benefits of each alternative solution. This analysis normally includes a Cost Benefits Analysis (CBA) of the project, enabling companies to determine the viability, cost, and benefits associated with a project before the investments are provided. Moreover, this analysis is considered to enhance project credibility, helping decision-makers identify the positive economic benefits of the project.

CBA are widely used to analyse transport and mobility projects, especially large-scale infrastructure projects.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



The difficulty of providing CBA is to identify and assess costs and benefits. They might be intangible, hidden and/or hard to estimate

PROJECT FEASIBILITY FIELDS

4 Economic feasibility (2/8)

Since 2000, the EU Cohesion Policy requires project to provide CBA in order to attract the investors. The EC provided funds to CIVITAS projects giving an opportunity to gain experience on CBAs for urban transport projects.

CBA are aimed to answer the following questions:

- Is the project viable (if benefits overcome costs)?
- Can the project be implemented, within provided cost constraints?
- What is the minimal project cost?
- What are the alternatives, among predefined solutions?

The difficulty of providing CBA is to identify and assess costs and benefits. They might be intangible, hidden and/or hard to estimate.

External link:

[EU Cohesion Policy](#)

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



the reference scenario is usually a 'do-minimum' scenario, rather than a 'do-nothing' scenario

PROJECT FEASIBILITY FIELDS

4 Economic feasibility (3/8)

Steps to provide a Cost Benefit Analysis: (1/4)

- **Identify objectives and criteria.** The project's objectives go along with the appraisal criteria. It is also important to define the system boundaries, for instance, is the assessment limited to local effects? To what extent are outside effects included? Indicate the time period over which costs and benefits are analysed.
- **Identify project alternatives.** The project costs and benefits are compared to those of a reference: 'do nothing'/baseline, 'do minimum' or 'do something', scenarios. The baseline scenario demonstrates a no-investment approach that involves identified operational and maintenance costs within the present situation. The 'do minimum' scenario describes the conditions when minimum effort and cost are required. This scenario may need some extra investments that go beyond the existing operational and maintenance costs. For instance, the improvement of an existing transportation infrastructure may need the additional funding resources. The 'do something' scenario requires the greater amount of investment that should be defined on the basis of technical, regulatory, compliance, and demand opportunities and constraints. However, the reference scenario is usually a 'do-minimum' scenario, rather than a 'do-nothing' scenario.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



Defining the CBA's geographic scale is another sensitive issue. A too narrow CBA might fail to include adverse effects of a project outside the implementation area

PROJECT FEASIBILITY FIELDS

4 Economic feasibility (4/8)

Steps to provide a Cost Benefit Analysis: (2/4)

- Identify project impacts.** All types of costs and benefits regarding the project's implementation should be identified. It is important to understand the relationship between the measure and its various impacts (positive and negative). Also, the CBA's perspective must be defined. A CBA from the perspective of a private organisation usually considers only the company's own costs and benefits. A social CBA, as completed for public investments, will include the impacts on society as a whole. Defining the CBA's geographic scale is another sensitive issue. A too narrow CBA might fail to include adverse effects of a project outside the implementation area (for instance, congestion charge leading to increase traffic levels outside the charging zone). In contrast, a CBA extended across the administrative boundaries will become more complex and data-intensive. In general, the geographic scale needs to suit the measure and the municipality's objectives.
- Quantification of relevant impacts.** For each impact included in the CBA, a method to measure and quantify is identified. For example, estimating the effect on local air pollution may use average vehicle emission factors with correction factors to account for specific local conditions, if necessary. Some impacts might have been not quantifiable and/or difficult to measure. In a traditional CBA these impacts are often simply excluded.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



As monetisation is an elaborated process, often guideline values are used.

PROJECT FEASIBILITY FIELDS

4 Economic feasibility (5/8)

Steps to provide a Cost Benefit Analysis: (3/4)

- **Monetary valuation of impacts.** Monetary values are defined and applied to non-market effects. Different ways to monetise non-market effects are available. The monetisation of non-monetary effects is difficult. As monetisation is an elaborated process, often guideline values are used. A sensitivity analysis is recommended for those effects whose values are not so reliable. Sensitivity analysis addresses the factors/combinations of factors that may lead to unfavourable consequences. These factors would be identified in the project framework as “project risks”.
- **Discount rates.** Future costs and benefits are discounted to their present value, allowing comparison of costs or benefits that occur at different times. However, discount rates vary significantly between countries, significantly affecting the results ‘comparability. High discount rates are likely to overrate current benefits (and costs) and undervalue future benefits.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



Sensitivity analysis assesses the effect of reaching project objectives if certain assumptions do not, or only partly, occur

PROJECT FEASIBILITY FIELDS

4 Economic feasibility (6/8)

Steps to provide a Cost Benefit Analysis: (4/4)

- **Presentation of the results according to one or more indicators.** Depending on the purpose of the CBA, different indicators Net Present Value (NPV), the Internal Rate of Return (IRR) and the Benefit Cost Ratio (BCR) can be used. Often the NPV (net present value) is used to justify adopting or rejecting a project. The BCR is often used to rank different projects in order of benefits per unit of invested capital as it allows comparisons across different project sizes.
- **Sensitivity analysis.** Impact-values (e.g. discount rate, project lifetime) may be associated with uncertainties. In this case a sensitivity analysis is normally requested to identify the impact of each parameter on the overall results. Sensitivity analysis assesses the effect of reaching project objectives if certain assumptions do not, or only partly, occur.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



The project can provide long-term non-monetary benefits and have a positive impact on society in terms of mobility, impact on environment, impact on urban landscape

PROJECT FEASIBILITY FIELDS

4 Economic feasibility (7/8)

Types of benefits

Benefits may be classified into one of the following categories:

- Monetary - when values can be calculated;
- Tangible (Quantified) - when benefits can be quantified, but values can't be calculated.
- Intangible - when neither of the above applies.

The project can provide long-term non-monetary benefits and have a positive impact on society in terms of mobility (accessibility, reduction of congestion, urban mobility improvement, reduction of vehicle ownership etc.), impact on environment (GHG reduction, less air pollution), impact on urban landscape (better land use, increase parking space availability) etc.

The benefits can be identified by organizational level (operational, lower/middle/higher management) or by department (development, purchasing, sales etc.).

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



Fixed cost together with variable costs composes total cost of conducting a business.

PROJECT FEASIBILITY FIELDS

4 Economic feasibility (8/8)

Types of costs

- Direct costs

A direct cost is a price that can be totally allocated to the development of specific goods/services. A direct cost can be identified as a variable cost if it is inconsistent.

- Indirect costs

Indirect cost is an expense that is not directly related to producing a product or service. An indirect cost cannot be easily allocated to a product, department, activity or project.

- Fixed cost

It is a cost that does not change even if the amount of goods or services produced or sold increase or decrease. A company pays fixed costs, independently from business activity. Fixed cost together with variable costs composes total cost of conducting a business.

- Variable costs

Contrary to a fixed cost, a variable cost depends on a changes at production level output. This type of cost varies according to the number of products a project produces. A variable cost increases as the production volume increases, and contrary decreases if the production volume decreases.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management

PROJECT FEASIBILITY FIELDS

5 Financial feasibility (1/7)

Financial feasibility provides the information about proposed investment and financing structure. The Investment proposal regards funds for a commercial investment which provides a return on capital to the investor and / or which pays a rate of interest to a lender on a debt, which is repayable on agreed terms. The proposal may include grant or subsidised components, but the investment opportunity should be structured as a commercial proposition.

This is a key section of the proposal, which elaborates the nature and amount of investment that the project is requesting. It is important that this section is clear and explicit.



The proposal may include grant or subsidised components, but the investment opportunity should be structured as a commercial proposition.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



Financial feasibility analysis should provide the details on how much investment the entrepreneur will invest from his own funds

PROJECT FEASIBILITY FIELDS

5 Financial feasibility (2/7)

Financial feasibility analysis should provide the details on:

- Total investment amount required from the investor / bank.
- Total amount of investment cost of the entire project;
- Type of investment required: equity or debt (or other instrument); Project proposal may comprise both equity and debt components;
- How much investment the entrepreneur will invest from his own funds (both amounts already invested and amounts to be invested).
- What other sources of investment will be applied and their terms and conditions: e.g. debt finance / banks / development finance/ equity providers / grants / equipment finance / leasing / hire purchase). It is important to specify whether the funds have already been applied / are committed / requested / identified as possible;
- Projected returns for equity holders (as appropriate);
- Projected rates of interest and anticipated repayment schedules for debt holders;
- Identify period of investment and payback periods;
- Estimated project execution timelines and costs during development period including rolled-up interest costs.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



Investor share in business: what share in business will the investor receive for his/her investment? How it was calculated?

PROJECT FEASIBILITY FIELDS

5 Financial feasibility (3/7)

Below can be found a further elaboration of key aspects and considerations of this section from the perspective of an Equity Ask and a Debt Ask.

Equity request (1/2)

- *Investment vehicle*: to whom the investor provides the financing corporate structure/ entity. This information available in the Business Model / Project structure;
- *Investment (Ask) Amount*: how much investments the project asks. How much investment the project partners provide?
- *Investor share in business*: what share in business will the investor receive for his/her investment? How it was calculated?
- *Financing Leverage*: what is the relation of total equity to total debt? How will the debt be raised? Is it already committed? From which institutions? What is the rate of interest and on what repayment terms?
- *Use of funds*: what purposes will the investor's investment funds be used for? Estimation of capital and operational expenditure, and assumed timings of financing requirements should be provided. Provision of a source and application of funds table / schedule is recommended.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



Exit strategy: the proposed timeframe of the investment is important information for investors.

PROJECT FEASIBILITY FIELDS

5 Financial feasibility (4/7)

Equity request (1/2)

- *Returns*: what returns can the investor expect and what is the time frame for it? It will be helpful to express these returns as Equity IRRs, Return of Investment (RoI), Return on Capital (RoC) or other similar indicators. Equity cash flows should also be presented in the financial scheme to reflect the investment flows from the investor's perspective.
- *Investment terms and expectations*: The project participants' expectations / requirements of investors' obligations, rights and benefits, in terms of board and management representation, burden of time, dividend rights, payout options, preferential treatment etc. should be clearly identified.
- *Exit strategy*: the proposed timeframe of the investment is important information for investors. The exit strategy for the investor should be clearly outlined. To enhance the flexibility of the proposal, different multiple exit points can be announced and may comprise, industry sale, buy back by developer, etc.
- *Investor*: what type of investor is being selected and why? Institutional investor, private equity, venture capital, industrial investor etc.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



Borrowing amount: provide the information about the amount of debt requested

PROJECT FEASIBILITY FIELDS

5 Financial feasibility (5/7)

Debt request

- *Borrower*: provide the information about the borrower (corporate structure or entity) to whom the investor will lend the money. This information should be described in BM/project structure.
- *Borrowing amount*: provide the information about the amount of debt requested.
- *Financing leverage*: what is the ratio of total debt to total equity? How will the equity be raised? From which investors? Are the equity providers already committed? If yes, what are the conditions of their investment?
- *Funds use*: what the investors' funds will be used for? Provide the schedules of capital expenditure and operational expenditure, and assumed timings of financing requirements. It is recommended to provide a table of a source and application of funds.
- *Returns*: provide the information and timeline about the returns that investor can expect. It can be done by expressing these returns as Equity IRRs, RoI, RoC or other similar indicators. Equity cash flows should also be provided in the financial model to reflect the investment flows from the investor's perspective.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



Investor: describe the type of investors are being selected and why.

PROJECT FEASIBILITY FIELDS

5 Financial feasibility (6/7)

Debt request

- *Investment terms and expectations*: the project developers' expectations / requirements of potential investors' obligations, rights and benefits, in terms of board and management representation, burden of time, other commitments, dividend rights, payout options, preferential treatment etc. should be provided.
- *Exit strategy*: it is important to provide the investor with the proposed timeline of the business investment. Moreover, the exit strategy for the investor should be clearly described. To make the proposal more flexible, possible multiple exit solutions can be suggested and may include, industry sale, buy back by developer etc.
- *Investor*: describe the type of investors are being selected and why. Development fund, institutional investor, private equity, venture capital, strategic investor, industrial investor etc.
- *Terms and conditions*: what is the requested / proposed rate of interest and period of borrowing, proposed repayment terms? What security / collateral is being offered? Debt cash flows should also be described in the financial scheme.
- *Financing institution*: what lending institution is being selected and why? Development bank, commercial bank, other.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



Project contribution in the form of equity and interest-free unsecured loans, if any, is ascertained in view of commitment to the project.

PROJECT FEASIBILITY FIELDS

5 Financial feasibility (7/7)

In order to provide a feasibility appraisal the following actions should be taken:

- *Project' cost*: the project should provide accurate estimates and justified costs that will be assessed with regards to different aspects, for instance, implementation period, inflation, different agreements, quotations etc.
- *Means of financing*: this part of financial feasibility study should correspond to proper combination of share capital and debt. This comprises share capital, unsecured loans, internal accruals, term loans, and Government investment. Project contribution in the form of equity and interest-free unsecured loans, if any, is ascertained in view of commitment to the project.
- *Profitability estimation*: the company will be examined regarding the past financial performance. The company is required to submit profitability estimates, cash flow and projected balance sheet for the project and for the organisation in general.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



Operational feasibility assesses the capability of the organization to support the proposed business model.

PROJECT FEASIBILITY FIELDS

6 Operational feasibility

This assessment determines whether and how well the organization's needs can be met by completing the project.

Operational feasibility assesses the capability of the organization to support the proposed business model. At this point of the feasibility study it is important to determine the management commitment to the proposed project.

To evaluate the operational feasibility the project should take into consideration the following aspects:

- *Performance*: The operational team should provide the adequate performance and response time.
- *Information*: The information provided by operational team to the management and also to end-user should be adequate accurate and useful.
- *Economy*: The project should be sure that current mode of operation provides cost-effective information services. Is it possible to increase benefits and/or reduce the costs?
- *Control*: Does current way of operation provide effective controls to protection system and guarantee accuracy and security of data and information?
- *Efficiency*: Does current way of operation ensure maximum use of available resources, including people, time etc.?
- *Services*: Is the provided service reliable? Is it flexible and expandable?

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



Management expertise: it is important to provide profiles of key management and team contributed to the project development and implementation.

PROJECT FEASIBILITY FIELDS

7 Organizational feasibility

Organisational feasibility introduces the proposed management / project team, their backgrounds and what they bring to the project. The structure of the management team should also reflect the scale and complexity of the project or business. Important issues to consider:

- *Organisational structure*: the project management and organisational structure must be clearly identified, providing, if possible, the names of team selected and their allocated positions.
- *Management roles and responsibilities*: outline the responsibilities of each senior manager that will be involved in the project development, implementation and operations.
- *Management expertise*: it is important to provide profiles of key management and team contributed to the project development and implementation. It can be presented in form of brief CVs. The CVs may include information on relevant work experience, contributions and skill sets that will be needed for successful project implementation.
- *Manpower distribution scheme*: manpower distribution should be well thought and presented in a comprehensive short form. It is important to ensure that assumptions for this section are realistic and achievable.
- *Partnerships*: provide and describe the roles of each key partners that may be companies and institutions involved in the development and implementation of the project. As it was described in Section 4 partners may be of different kinds: public and private companies, NGOs, CSOs, R&D institutions, consortium members, equipment suppliers, technology suppliers, etc. It is crucial that partners' relationships to the project are clearly presented and explained.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



Intellectual property section should include all the names that have rights on patents; summarize results of patent searches.

PROJECT FEASIBILITY FIELDS

8 Intellectual property

This section provides a brief description of patents, copyrights, and trademarks obtained and under development. Intellectual property section should include all the names that have rights on patents; summarize results of patent searches.

If project will operate under a licensing agreement or patent assignment, all the names of licensor/assignor and key conditions should be provided (i.e. exclusivity, rights, and responsibilities).

It is important to provide an intellectual property planning in advance, if possible before the business concept being developed and validated so that the ownership of the findings can be assured and identified.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



Legislation on urban mobility development therefore remains the responsibility of local administrations (towns, cities and regions).

PROJECT FEASIBILITY FIELDS

9 Legal feasibility

Legal feasibility study analyses whether any aspect of the proposed project conflicts with legal national or international requirements. Legal feasibility study assesses if the proposed project correspond to the legal and ethical requirement of the country and region in particular.

It is important that the project conform the requirements needed to start a business comprising business licenses, certificates, copyrights, business insurance, fiscal norms, health and safety measures etc.

Legislation on urban mobility development therefore remains the responsibility of local administrations (towns, cities and regions).

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



It is considered using graphs or diagrams to show the sensitivities of the financial model.

PROJECT FEASIBILITY FIELDS

10 Risk Analysis

The proposal should include a risk assessment identifying the key risks involved in developing, implementing and operating the project / business. This catalogue should identify the nature of the risk, the likelihood of it occurring, the potential impact and possible mitigation measures. Typically these risks include but are not limited to:

- *Business Specific Risks*: execution and completion risk, counterparty risks, performance risks. These risks will seriously affect the project and if they occur may threaten the its whole development;
- *Financial and Economic Risks*: cost and revenue risks; interest rate risks; currency rate fluctuation these will affect the economics of the project but may be mitigated.
- *Technology Risks*: depending on the project this will impact on project economics and may as well be project threatening.
- *Country Specific (Political and Regulatory Risk)*: it is important to identify and focus on the key risks connected with the particular business model or industry which really imperil the project and threaten to put it out of business rather than more general or less threatening risks.

This section should additionally provide a scenario analysis. It is considered using graphs or diagrams to show the sensitivities of the financial model.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management

PROJECT FEASIBILITY FIELDS

11 Schedule feasibility

A very significant part of feasibility study is scheduling. It also plays an important role to complete the project in its schedule time. All the project development phases should be scheduled.

For these purposes project managers use different scheduling approaches such as Gantt charts, PERT diagrams etc.



project managers use different scheduling approaches such as Gantt charts, PERT diagrams etc.

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



Identify and describe impacts on technology and skills transfer, employment, health, female empowerment, education, poverty reduction, rural electrification, energy access, water and sanitation.

PROJECT FEASIBILITY FIELDS

12 Non-financial Impacts

It is important to summarise and quantify, if possible, the non-financial impacts and benefits of the project:

- *Environmental Impacts*: assessment of the project's impacts on the environment – both negative and positive. Identification and description of possible environmental impacts: waste collection and treatment, water supply and sewage treatment, pollution, emissions reductions, neighbouring eco-systems etc.
- *Development and Social Impacts*: assessment of the project's impact in terms of the sustainable development goals. Identify and describe impacts on technology and skills transfer, employment, health, female empowerment, education, poverty reduction, rural electrification, energy access, water and sanitation. Quantification of the assessment results (for instance, in terms of jobs created, people / households reached).

Making a project bankable

Feasibility Studies and Important Aspects of Project Management



in general a feasibility study includes from 10 to 20 A4 pages plus annexes. This should be enough to summarise the business plan of the project.

IMPORTANT NOTES

These Guidelines provide the sections that investors will examine and expect to receive in order to assess a project feasibility. However, deviations and additional sections are allowed and encouraged if a project developer considers them appropriate and useful.

There are no restrictions on the document length. Nevertheless, in general a feasibility study includes from 10 to 20 A4 pages plus annexes. This should be enough to summarise the business plan of the project. Generally, shorter documents are more appreciated than longer ones.

The document organisation that includes: font size, spacing, etc. depends on developers' preferences. The important issue that the document should be reader friendly.

Recommendations

The mobility and transportation sectors are presented by three main components: the mobility services for end-users, the infrastructure that enables integration and the stakeholders that provide such services. The rapid development of the technologies have changed the way the mobility services are provided in this sector identifying the benefits of integrating, sharing mobility and MaaS. The real value lies in integrating these new technological solutions to the mobility ecosystem applying them to the innovative business models.

New mobility services can have an enormous potential for economic development of S-M cities, not just through direct contributions, but also by being a catalyst for innovation in domains beyond transportation, such as technology, communication, procurement, etc.

Even if the use of new mobility services is still limited to small and medium urban areas, the concepts that are at the core of new mobility services will serve as an inspiration to improve transportation policy in general and public transit in particular creating new business models and partnerships. New mobility services are an innovative solution for the entire transportation sector and S-M cities in particular.

Many transportation and mobility companies applied new modes of providing mobility services to make their services more attractive to customers and as a consequence to solve nowadays mobility problems by creating more sustainable sector.



New mobility services are an innovative solution for the entire transportation sector and S-M cities in particular.

Recommendations

Table below illustrates some changes happened in the new mobility business models.

Table 3 - Changes in the mobility paradigm

Mobility characteristic	Changes in the mobility service development
Consumers mobility needs	Shift from vehicle ownership to mobility access (affordability, flexibility, convenience, time saving)
	Real-time mobility information and planning
	One single payment interface
	Intermodality of transportation
Mobility integration infrastructure	Connectivity (external environment interaction)
	Data management
	Technology and interface system integration
	E-commerce, account management and on-line payment
	Parking management and rapid transit stations
Stakeholders	Infrastructure providers (Telecomm companies, IT and payment systems, parking operators etc.)
	City administrators (Civil transport authorities, urban development boards)
	Transport modes operators (Public and private providers)

Recommendations

In order to create bankable projects and introduce new business ideas to S-M cities the local authorities should foresee the following actions:

- Allocate the investment and human resources for R&D activities for searching new mobility services and business opportunities.
- Establishment of new forms of partnerships such as mentioned in the document that includes iPPP. These forms of partnerships may include besides public and private sector R&D institutions, CSOs, NGOs and local communities.
- Allocate the human resources for the research of new investment opportunities.
- Improvement of local infrastructure if needed for new mobility services implementation.
- Consult the national and regional policy documents on transport and mobility services in order to create a sustainable and innovative mobility ecosystem.
- Create a knowledge transfer network between the departments who providing the research in the mobility sector, local authorities and other mobility and transportation stakeholders. Moreover, participation at the training and workshops in order to develop business modelling and strategy skills.



forms of partnerships may include besides public and private sector R&D institutions, CSOs, NGOs and local communities.

Recommendations

New forms of partnership



New forms of partnership could also increase the probability to obtain the investment.

New mobility services also represent an opportunity for public agencies of S-M cities to bring innovation to their transportation systems, in terms of public transit, parking policy, traffic management, etc. Moreover, an increasing number of municipalities and transportation agencies lack of establishing suitable forms of partnerships to develop new mobility services.

From the analysis provided in this document emerged that urban transport and mobility system needs to create new partnerships such as iPPP in order to maximize the efforts and share risks involved in transportation projects. New forms of partnership could also increase the probability to obtain the investment.

After analysing and addressing the PPP issues these Guidelines provide the recommendations that should be taken into consideration in order to overcome the main partnership barriers in the field and create a sustainable and successful partnership.

- Creation of solid institutional mechanism addressing specific sector policies.
- Integrated approach of financial, technical and business planning.
- Development of efficient project management regarding the business idea and contractual forms.
- Successful implementation depends on recognition of partner's objectives.
- iPPPs require careful consideration of control and management systems through project agreements.

Recommendations

New forms of partnership

It emerges that the suitability of PPP models will depend on several factors such as the authority's financial strength, the city-specific context, maturity of private players in the sector and the level of control that the authority wishes to maintain in the system.

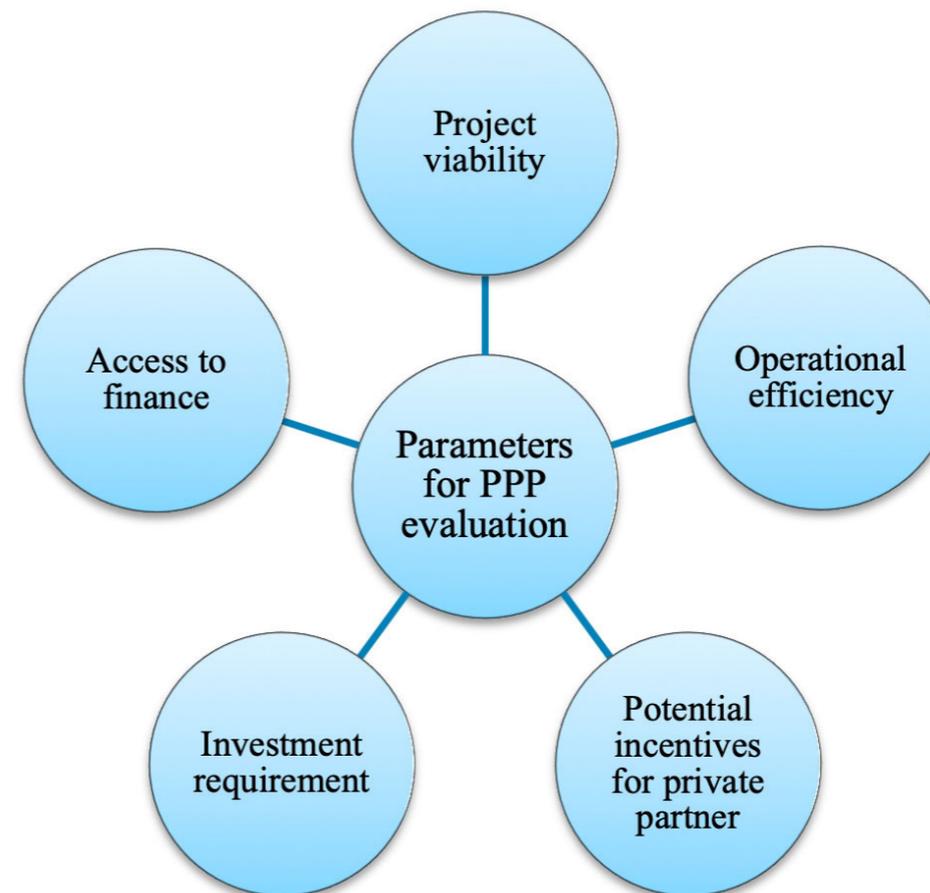


Figure 3 – Assessment of the PPP models



the suitability of PPP models will depend on several factors such as the authority's financial strength, the city-specific context, maturity of private players in the sector and the level of control that the authority wishes to maintain

In order to provide a successful partnership both private and public sectors must be transparent about the fundamental principles and objectives that lies in the basis of PPP.

Recommendations

New forms of partnership

By arranging PPP, private sector partner becomes long term service provider rather than simply upfront asset builders, taking the responsibilities of designing, building, operating and moreover, providing the investments to deliver the services required by the public sector.

In this case local government authorities become the regulators that provide their resources for service planning, performance monitoring and contract management rather than on the direct management and services delivery.

An additional value can be provided by including to the consortium the R&D companies as well as the local communities, CSOs, NGOs. The partnership may benefit from their knowledge, reputation and influence on the service consumers.



An additional value can be provided by including to the consortium the R&D companies as well as the local communities, CSOs, NGOs.

Recommendations

Innovative business models



The development and application of a new business model requires creation of new organizational capabilities and structures.

In order to provide sustainable mobility services and innovate the existed mobility ecosystem the local authorities should consider the following actions:

- The business model innovation foresees the top-down approach. The top management should support and provide the resources for new business opportunity research, design and implementation. It should strongly support the team in all stages of new business model development;
- Constant monitoring of the business environment analysing the new business models in the transport and mobility sector and the market tendencies.
- Monitoring of the technological innovation in the sector regarding MaaS, sharing and integrated mobility.
- Creation of new organizational capabilities and structures. The development and application of a new business model requires creation of new organizational capabilities and structures. Moreover, it requires the establishment of new relationships with suppliers, customers and new business partners;
- Adoption of the business idea to a local mobility situation considering the national and local legislation.
- Consulting the business model analogies and learning from best practices.
- Searching for new investment opportunities for project development.

Recommendations

Make project bankable

An important step in order to implement the mobility project is to find the investor who is interested to benefit from it. In this case the financiers will require the “bankable document” to decide if the project is worth to invest.

Local authorities and interested parties should foresee the following actions:

- Provide the research on different investment programs and financial opportunities.
- Allocate the human resources to develop the bankable documents.
- Prepare the bankable documents that will confirm the project viability. These documents include the feasibility reports (such as market feasibility study, technical feasibility analysis, financial and economic feasibility study etc. See chapter 6)
- Provide risks analysis.



Prepare the bankable documents that will confirm the project viability. These documents include the feasibility reports

Conclusions

Local authorities of S-M cities are striving to create a sustainable mobility and transportation system. European S-M cities are looking for new mobility solutions that suit the proper city reality and needs and can bring to it sustainable development enabling to save time and resources reduce emission and congestion, promote efficient land use, improve safety etc.

Promising urban mobility service innovations that already exist in big cities still need to scale up to their full potential for S-M cities to fully realize the benefits of sustainable urban development. A successful implementation of investment programs requires shifts in traditional business models that bring public and private interests into alignment. New approaches to developing sound project pipelines are needed to smooth and accelerate the early stage investment process where important knowledge, capacity and interest gaps can exist.



New approaches to developing sound project pipelines are needed to smooth and accelerate the early stage investment process where important knowledge, capacity and interest gaps can exist.

These Guidelines enable to provide the European S-M cities' local authorities with useful instrument that will help to establish innovative forms of partnerships as well as to develop new mobility services and create bankable projects. Business Model briefs presented in Annex 1 describe the innovative mobility services that S-M city local authorities may consult in order to implement the similar services in their cities.

Conclusions

Developing new business models, like those mentioned in these Guidelines, to accelerate and scale up investment in sustainable urban mobility will depend on answering following key questions: what to invest in, how to pay for it, how to mobilize investment capital and how to structure implementation. To best answer these questions, the following key stakeholders need to develop sustainable solutions together: city decision makers, mobility service providers and investors should build a shared understanding of the challenges and opportunities of different business model choices.

These Guidelines were developed together with other two Guidelines: Innovative Procurement and Innovative Financing that will give to S-M cities an innovative toolset to address the mobility and transport issues and increase the capacity building of local authorities.



city decision makers, mobility service providers and investors should build a shared understanding of the challenges and opportunities of different business model choices

All three Guidelines will be implemented in the Pilot Application that will take place in Alba Iulia that will enable to integrate the know-how delivered by SUITS project. At the end of the project the city partners will be provided with the decision-making tool that will include three Guidelines, the Pilot Application Report and the integrated tools that will permit the city partners to enhance their administrative capacity in applying new financing schemes, mobility procurement and implementing new business models.

Limitations



In keeping with the aim and objectives specified, the present Tool should be used in conjunction with current legal regulations.

With complex public procurement procedures, financing and funding mechanisms and developing new projects procedures, the recommendations must be adjusted to / correlated / completed in accordance with specific technical requirements, as well as with the specific legal norms and provisions.

The status of the Integrated Decision Support Tool is to support and provide guidance to the people in charge of public procurement. The Tool does not replace nor modify the provisions of the legislation in force.

The present document is not an instruction manual.

The present document does not stand for a legal interpretation of the EU legislation.

“the recommendations must be adjusted to / correlated / completed in accordance with specific technical requirements, as well as with the specific legal norms and provisions



THE CIVITAS INITIATIVE
IS CO-FINANCED BY THE
EUROPEAN UNION

@SUITS_PROJECT #SUITS.CIVITAS.PROJECT