A project team led by Mr. Alfredo Lucente prepared a draft standard on PPPs in roads, which the secretariat is circulating as received from the project team leader for information only. The next step is for the draft to go to public review, where stakeholders, including the expert networks in the UNECE Transport Division, are encouraged to provide their comments and feedback for consideration and inclusion in a revised version for consideration by the Bureau of the Working Party on PPPs.

The Working Party is requested to take note of the draft standard, which is subject to change. Participants are encouraged to provide comments on the draft directly to the secretariat at: ppp@unece.org.
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I Introduction

The aim of this Standard is to provide a balanced, neutral depiction of both the pros and cons of Road Projects undertaken through Public Private Partnerships (“PPPs”), including an accurate portrayal of the spectrum of risk and return associated with Roads PPPs.

Road infrastructure is crucial for achieving most of the United Nations’ Sustainable Development Goals (“SDGs”), from their role in providing interconnectivity to boosting economic trade and development, roads assist in the eradication of poverty to increasing access to education, water supply and industrial and commercial opportunities, to combating climate change by using low impact materials, improving more efficient travel and reducing fossil fuel usage. In fact, high quality, well planned, efficient roads can alleviate climate change and mitigate the fact that “climate change presents the single biggest threat to development, and its widespread, unprecedented impacts disproportionately burden the poorest and most vulnerable.”

UNECE supports the use of partnerships for sustainable development and has produced this Standard to provide guidance to governments considering the use of PPPs to deliver investment in roads infrastructure as a way of meeting the SDGs and achieving People First Public Private Partnerships (PfPPPs).

II Objectives of the Standard

If managed well, PPPs in Roads can help governments tackle development needs by bringing sustainable investment, replicable processes and expertise to complex roads transportation networks. This Standard is intended to assist governments in the successful use of PPPs in Roads projects and as a step towards universal implementation of the SDGs and achievement of PfPPPs.

There are many different models of PPPs in the roads sector worldwide. The challenge for governments developing Road PPPs is to ensure consistency between a country’s road project strategy and program and the achievement of the SDGs and PfPPPs.

Ensuring value for money (“VfM”) should be at the core of the public sector’s decision to engage in a Road PPP, however improving people’s lives is also equally important. A Road PPP would therefore be considered a VfM transaction if it generates a net economic benefit for the public in terms of quantity, quality of the service or facility, cost and risk transfer over the project life, and achievement of the various transportation related SDGs relative to a traditionally procured public alternative. Hence, the VfM assessment of a PPP should be based on traditional notions of VfM in PPPs, but also outcome based performance that brings the greatest benefit to the people the project aims serve. As a result, both value for money and value for people should play a fundamental role in the decision of whether a public institution should enter into PPP agreement.

III Scope of the Standard

This UNECE Standard offers guidance on best practice in relation to the development and implementation of PPP programmes in the roads transportation sector. PPPs in roads is capital investment in road infrastructure and related systems such as information / communication technology (ICT) that are funded
using commercial finance, repaid over a long-term period, and through a PPP contract or concession style
arrangement. Projects delivered in this way range from greenfield projects for the realization and
operation of new highways, to brownfield projects for upgrading of existing roads into highways, to
bridges, tunnels, parking or other equivalent infrastructure realization, operation and maintenance. The
Standard does not apply to partnerships to deliver general public transportation services, real estate
transactions, or leasing arrangements, although these can sometimes occur in conjunction with, are added
to, or can be extensions of PPP projects and programmes.

For the purpose of this Standard, the term PPP programme is defined as a framework and/or series of
projects under which a public authority grants long term contracts (with a duration typically exceeding 20
years) to a private sector partner for the design, financing, construction or refurbishment, operation, and
maintenance of roads networks or infrastructure. The term ‘public authority’ may include a national or
local governmental department, a regulator, or other public entity tasked with implementing road
infrastructure. The operation of these road networks and/or infrastructure often includes the provision of
operation and maintenance services and other associated services such as retail, fuel, repair and cleaning.
Under most PPP arrangements for roads, the private sector partner will raise private capital to pay for the
new infrastructure, which will be repaid typically by a lease, rental fee, users payments or a service
concession from the public authority so long as the facilities and services meet specified outcomes
specified in the agreement.

IV. Roads Sector Models

To achieve the SDGs, significant investment in the improvement of roads infrastructure is required. In fact,
much of the 2030 Agenda will benefit from governments undertaking successful PPPs programmes in roads
systems and infrastructure.

The following SDGs are considered relevant in this context.

SDG 3 Ensure healthy lives and promote well-being for all at all ages

Road safety targets included in the global development agenda

3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents
3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air,
water and soil pollution and contamination

SDG 5 Achieve gender equality and empower all women and girls

Use of the PPP model in road projects provides an opportunity to seek and achieve greater gender equality
through the tendering process

5.1 End all forms of discrimination against all women and girls everywhere
5.5 Ensure women’s full and effective participation and equal opportunities for leadership at all levels of
decision-making in political, economic and public life

SDG 8 Promote sustained, inclusive and sustainable economic growth, full and productive employment
and decent work for all

Transport by road is an important element in encouraging economic growth and development
8.1 Sustain per capita economic growth in accordance with national circumstances and, in particular, at least 7 per cent gross domestic product growth per annum in the least developed countries

**SDG 9 Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation**

*Investment in roads infrastructure is generally for the long term and is designed to provide high quality, resilient, infrastructure that will last for years to come.*

9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all

9.2 Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry’s share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries

9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities

**SDG 11 Make cities and human settlements inclusive, safe, resilient and sustainable**

*Improved road infrastructure through PPPs can facilitate high quality, long lasting infrastructure, that is safer and more affordable, and improves interconnectedness and cross-border traffic while expanding access to economic opportunities for citizens*

11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

11.a Support positive economic, social and environmental links between urban, per-urban and rural areas by strengthening national and regional development planning

**SDG 17 Strengthen the means of implementation and revitalize the global partnership for sustainable development**

*PPPs in road infrastructure provide opportunities for public and private alignment and win-win situations where both public and private interests are served through a mutually beneficial long-term relationship*

17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships

A  **Project Types and Examples of Road Transportation PPPs**

There are many project types and examples of road PPPs worldwide. Virtually all exhibit some combination of Designing, Building, Operating and / or Maintaining the road with specific provisions for Ownership of the road (and/or Transfer back to the public entity at a specified moment). The nature of road public-private partnerships (PPPs) also varies considerably from project to project and is driven by the local, national and even international factors that make the project a necessity in the first place. Historically, the most common road PPPs have been brownfield concessions. However, since 2000 greenfield projects have become increasingly more popular.
Road PPPs are to be distinguished from Design - Build contracts (DB) which transfer some of the constructability risk to the private partner due to the combined designing and building responsibility, but in many countries, are considered simply a traditional public procurement contract because they do not rise to the level of a PPP in terms of risk transfer, inclusion of financing components, etc. The same is true for ‘O&M’ contracts where the private partner operates the publicly owned road, maintains it in proper technical condition, and perhaps even creates an automated road management system or develops an electronic toll collection system, yet such contracts are mostly classified as service contracts.

PPP projects in the road sector may, however, include use of “institutional PPP” frameworks, where the establishment of an entity held jointly by the public partner and the private partner, i.e. the “joint” PPP Project Vehicle, is created. These mixed ownership arrangements are typically seen as PPPs and have been considered herein.

Some of the most common PPP contracting approaches are the following:

- **Toll concession:** In a road concession the government grants the private sector the right to exploit a right-of-way for a fixed period. Typically, the traffic and toll collection risks are with the private sector and it is a purely private effort, with minimal to no government contribution. There have been some cases, as with the M6 Highway PPP Project in UK, where the concessionaire has even been permitted the freedom to set tolls and apply time-of-day adjustments. More frequently, however, the government will set up tariffs, linking them to an index or composite index of some form. In this scenario, the concession ends either when a contractually agreed amount has been recovered or a fixed expiry date occurs.

  A primary concern in toll concessions is accurate demand estimates as a number of projects have ended prematurely or required restructuring because demand forecasts were inaccurate or overestimated. These experiences have influenced current thinking on demand risk and highlighted the need for careful, and even conservative, assessments of demand when structuring toll concessions.

- **Toll and traffic guarantee concession:** In a toll concession that includes traffic guarantees, the private party takes some but not all of the demand risk of the project. Under this model, the concessionaire will get a minimum usage guarantee from the government. Traffic guarantees are an approach to mitigating inaccuracies in traffic forecasting and can hedge against the optimism issue noted previously. An alternative to the traffic guarantee is the so-called “cap-and-collar” whereby a cash payment is made to the private operator if usage falls below a stated level and the public sector takes in full (or in part) the excess revenue over a stated percentage.

- **Direct payment models: shadow tolls and availability payments:** In direct payment models, the private partner is not paid by the users of the road, instead the private partner is paid by the public partner. The two most popular direct payment models are shadow tolls and availability payments. The former is a demand based model, wherein the government pays the fees for the users. Availability payment models are based on output standards rather than demand. For example, the contractor has to meet certain output standards set out in detail in the PPP agreement and, so long as the terms are met, the contractor receives payment of a pre-agree sum for making the assets ‘available’. If it fails to do so, then pre-agreed deductions are made on an accumulated points basis. The effect of these approaches is to insulate the private partner from the demand risk associated with the project.

- **Output- and Performance-based contracts:**
Output- and performance-based PPP contracts for roads (OPRCs), which became popular in the 1980s with Argentina’s widely known CREMA (Performance-based Road Rehabilitation and Maintenance) contracts, have evolved in recent years and focus mostly on routine and periodic maintenance tasks. OPRC contracts may cover either individual assets, like traffic signs or bridges, or all road assets within a road corridor or network, but the rehabilitation and improvement requirements are typically measured on overall performance-based metrics.

OPRC projects today often follow the design-build-operate-maintain-transfer methodology, where the contractor designs and completes the required rehabilitation and/or improvements to deliver a certain level of service and thereafter operates and maintains the road for term of years.

As the name stipulates, OPRC projects are based on output as opposed to input. For example, under a traditional input-based road contract the private contractor gets paid for each repaired pothole, whereas under an OPRC the contractor gets paid for each length of road it maintains at the required condition. In return for achieving this standard, the government will periodically pay a fixed amount to the contractor or allow the firm to collect user fees (e.g., toll fees).

In general, road projects are aiming at addressing key transportation needs for the relevant communities, increasing mobility, improving people lives, enhancing economic activity and creating jobs, for example road project between two urban centres to accommodate increased freight traffic and/or access to the recently enlarged port, or urban ring road concept designed to facilitate sub-urban movement of vehicles, but in particular to increase access to impoverished communities to and from the job centres within the city.

Within the above-mentioned approaches, road PPPs can provide for various payments mechanisms to support the private sector investment and activity contemplated under a PPP arrangement. The payment mechanisms can vary, but often include:

- A direct toll mechanism where users are charged directly for use of the road facilities:
  - Used in large-scale B(R)(O)OT projects as well in some DBFO projects;
  - Combined with revenue-sharing schemes and Minimum Revenue Guarantee (“MRG”).

- Availability payments (“APs”) where the public entity pays a fee for the ‘availability’ of the private sector road infrastructure and/or service:
  - Often used both in free and toll DBFO(M) projects in case when the public partner bears a significant share of demand (traffic) risks.

- Annuity payments where the private entity is paid for the provision of road infrastructure and/or services in increments and over a fixed period of time:
  - Used mainly in free BOT projects in case when the public partner bears the demand (traffic) risks and the private partner’s fee is equal to fixed annuities and is not necessarily calculated on key performance indicators formula.

- Shadow Toll mechanism, where the public entity pays the private sector partner directly on a per vehicle or per user basis:
  - Used instead of (or in addition to) direct toll mechanism when Direct Tolls (“DTs”) are inappropriate or insufficient due to social or political risks (i.e., road should be free for users or toll should be kept at acceptable levels for users).

- Performance-based payments (“PBPs”), where the private entity is paid based on certain defined, measurable performance criteria that is to be met, rather than paid strictly on usage of the infrastructure or services:
  - There is a recent trend to use PBPs in road PPP projects in order to create incentives for the private partner to improve performance and safety.
Combinations of the above referred mechanisms can also be used (such as DTs + PBPs; DTs + APs) in individual projects when a mix of risk allocation and payment mechanism is desired. See a case example in the box below.

Recent years have seen an expansion in the use of electronic tolling technology, including the introduction of automated technology and operational schemes in PPPs. For example, the use of free-flow tolling equipment has increased dramatically and allowed PPPs to be implemented in scenarios facing complex urban environments. With limited space and high traffic volumes, urban environments are not conducive to the implementation of toll booths as they are both undesirable because they tend to cause increases in journey time but also the very difficult and often costly land acquisition that is necessary to install those systems. Current technology is available that allows users to pass through toll locations without the need for substantial toll barriers, but rather overhead gantries. Congestion tolling, or urban tolls, have also been introduced in some major cities. However, such tolling schemes cannot be assimilated to PPP schemes per se as their application is intended to reduce congestion in city centres and their revenues are often received by municipalities to fund improvements in public services. They nevertheless highlight some of the new solutions available to governments when efficient, modern technology from the private sector is used.

Annex 1 lists the many different contract combinations and includes relevant case studies. Also, a few country summaries for PPPs in the road sector are set out in Annex 2.

There are a number of examples of PPPs in the road sector that show how the PPP model has been adapted to suit the circumstances of a particular project or a particular political / socio-economic context and the benefits that can be achieved by flexible application of the model and the risks triggered by some project-specific arrangements.

For example:

- the development of new road infrastructure in urban environments is often a regional or urban ring road and/or bypass to enhance connectivity. Such projects are based on concession agreements of on average 25/30 years length, with balanced risk allocation except for payment mechanism, blended direct toll and shadow toll payment mechanism, supported by strong current usage data, with minimum usage typically in the range of 50,000 / 100,000 vehicles per day, and agreement provides for road improvements and certain IT infrastructure for monitoring usage and tracking tolls; and

- the development of new national highways in developing countries is aimed at creating a reliable and efficient infrastructure network. Such projects are based on concession agreements of on average 20/25 years length, sometimes lower term (less than 20 years) to allow governance flexibility for enhanced concession in the mid-term, with performance-based payments or availability payments schemes.

B Pros and cons of PPPs in the Road Sector

Roads have the potential to be a significant asset to any country—both in terms of the physical investment and the social and economic benefits. A well-maintained and managed road network unlocks the region’s productive capacity by linking agricultural areas to national or regional markets, and encourages economic growth and social integration by bringing cities and villages closer together. With this in mind, governments are eager to develop and manage their road networks to meet their economic, political and social needs. In
some jurisdictions this means building brand new roads, while in others it requires refurbishing, widening and extending existing road networks.

While the public sector is ultimately responsible for roads, the private sector has a potential role to play in the project lifecycle, whether it be in road construction, operation, financing or maintenance. Partnerships between the public and private sector in roads are by no means a new phenomenon and, when done right in the appropriate circumstances, can improve project quality and increase efficiencies.

Private sector participation can also alleviate some of the challenges of road projects. Roads are amongst the most complex and socially sensitive infrastructure initiatives that governments can undertake for their citizens. They require sophisticated technical resources, extensive permitting, consistent and efficient operations and maintenance, and usually have huge environmental, social and financial impacts. An experienced, well qualified private partner can help overcome all of these challenges and is one of the reasons PPPs can be attractive to governments.

There is wide acceptance that the role of PPP is to complement rather than replace conventional public-sector procurement. Conventional procurement should be preferred, among other cases, if the quality of the infrastructure can be clearly specified, there are sufficient budgets, the technological requirements are low, and/or there are robust public sector operational and maintenance capabilities. In contrast, PPP is better if the quality of the service is struggling, maintenance has been deferred and/or long term care has been neglected, new or innovative technological solutions are needed, or the quality of the infrastructure or service is paramount.

**Advantages:** the advantages of a PPP Programme in the roads transportation sector is the availability of well-developed sets of documentation for Road PPP projects planning and deployment both in developed and developing countries, as well as a large platform of experienced entities playing key roles in roads infrastructure projects. This makes road PPPs very replicable as a number of successful projects have been undertaken and the of private partners, focusing on the tasks typically under the responsibility of the public party.

Government, while selecting the most appropriate models to achieve people first objectives and meet the SDGs approach for specific road projects, should consider the following advantages connected with PPP models in the road sector:

- Private sector financing and above referred roads projects bring expertise and skills to bear on the operations of public roads. This can significantly increase users efficiency due to shortened travel times and improved economic interconnectedness, which in turn can improve the government’s ability to pay for such endeavours. This circle of benefits is a win-win for government, users, and the private sector operator;
- Private sector not only as supplier or service provider, and taking project’s specific risks, can result in significant benefits for the outcome of the project, both in terms of reduced burdens for the public sector and enhanced quality standards for users;
- Ability to attract private funding to the project can allow government to appropriate public funds more effectively to address other fundamental people needs;
- Public administrators to concentrate on planning, policy and regulation and therefore to better and more effectively leverage on own expertise and skills;
- A PPP program can serve as a catalyst for public-sector reform, e.g. transparency and accountability, procurement skills, etc.;
- Reducing risk for the public sector.

Several other possible advantages of PPP are cited below, their actual occurrence and scale depending on the characteristics of the particular PPP project:
• Improve level of service, especially for projects requiring road user charges (tolls or other), which (does what...).

• Promotion of economic and social growth by private direct investment (which results in several SDGs being met, in particular promoting inclusive and sustainable industrialization and fostering innovation as per SDG no. 9).

• Transfer of modern technology to domestic public and private sectors.

• Rigorous project selection and avoidance of political "white elephants".

• Promotion of environmental and social sustainability: the private sector focuses on efficient use of resources and materials over the project lifecycle.

• Extending private ownership and adopting a market-economy approach.

• Stimulating of domestic capital and debt markets.

PPP approach on the road sector can be / is better than a traditional public procurement approach, particularly when the following aspects are in place:

• Project investment cost for road project is sufficiently large to allow PPP structure and relevant financing;

• Highway projects are usually suitable for PPP while local roads upgrading and maintenance in developing countries may hardly be developed under PPP, unless the government provides financial guarantee and/or adequate fiscal contributions;

• Poverty reduction IS an effect of well-planned roads, because PPP take into account primarily factors relevant to (i) access to/from economic centres, (ii) access to social services (health, education facilities), (iii) various social aspects (gender development, etc.). In fact, addressing properly these issues during project implementation features will ascertain and justify the level of government support to the project.

Disadvantages: in general, PPPs are complex structures and complexity normally means higher costs. The public commitment shall need to maintain the costs of the initiation process to implement PPP framework and strategy in the face of competition with other more immediate needs on the public budget, notably for highway maintenance and investment. The disadvantages of a PPP Programme in roads generally result either from lack of adequate requirements to implement a specific project under a PPP structure or from inappropriately selected PPP types. In fact, a lack of proper market analysis and financial modelling, such as overly optimistic or inflated user data which in turn inflates revenues, often causes road PPP projects to fail, or, expose the public partner to significant obligations to make up the shortfall. Similarly, a lack of a project specific contractual framework addressing the project specific requirements and anticipating possible outcomes emerging at any step during the life of the project often result in unbalanced consequences and additional unforeseen costs for the public party. The advantage of PPP contracts for the public sector may be reduced as a result of renegotiation, which is becoming a more common feature of public-private partnerships. In those circumstances, the private party can bargain favourable contract terms that would have never been obtained under competitive conditions.

As with all PPPs, inappropriate and/or poor allocation of risks can lead to higher costs and poor value for money in a road PPP. Among typical examples of such inappropriate and/or poor allocation of risk:

i. lack of appropriate protection of the private party against the so-called Material Adverse Government Action;

ii. poor protection of the private party against permitting risks associated with the regulatory regimes like noise mitigation, reduction in property value, acquisition of land, resettlement and environmental impact, poor regulatory framework for the tariff regime after commencement of the project;

iii. the private party required to bear the risk of unforeseeable subsurface conditions;
iv. poor allocation of traffic risks.

Lastly, governments achieve increased funding for infrastructures only if additional sources of revenues (principally user charges) are mobilized or if PPP investment is considered off-budget for the purposes of public accounting.

Other challenges with road PPPs are the need to:

- In case of brownfield road projects, it is hard to ask a concessionaire to take risks relating to work done by the original contractor. In such cases governments should reduce the risks for private partners, for example, by providing capital grants or financing guarantees in toll projects, and/or reducing demand risk by using shadow tolls or guaranteeing part of the revenue through minimum traffic assurances;
- Careful craft the maintenance requirements when designing the project in order to keep the road in good condition throughout the duration of the concession, yet allow changes to occur as technology evolves and the road ages, and/or the long-term usage changes;
- Build in the evolution of toll collection technology, e.g., toll booths have given way to toll plazas and free flow systems where there is no plaza or physical barrier;
- Plan for changes in law, in particular with safety requirements, which may require new capital expenditures many years into the life of the road.

Furthermore, it is worth mentioning that a number of additional factors make highway infrastructure less amenable to PPPs than other types of infrastructure.

- For some types of infrastructure, such as local or urban roads, the physical difficulties of excluding users who do not pay, or the high transaction costs of implementing direct user charges, make it difficult to achieve a competitive market;
- Where there are substantial externalities (such as road congestion and air pollution effects) that cannot easily be addressed by market-based instruments, there is greater likelihood of government intervention;
- When traffic flows are low, profitability from user charges is also likely to be low. Finally, some highway infrastructure is so intertwined with spatial planning that governments are not willing to leave it entirely to the private sector.

**C. PPPs Meeting People First Objectives**

Based on the foregoing examples and project approaches, the preferable PPP model for SDG driven and People first development of new road infrastructure is DBFOM which allows costs to be spread over the long term and important elements such as whole life costing to be fully maximized for the benefit of the project.

Governments should consider use of a road network developed as DBFOM PPP to link major urban centers to the suburban and rural areas. This enhances overall economic activity by increasing access to goods and services, but also improves employment opportunities, and from a project development viewpoint allows the government to bundle viable roads (in terms of revenue) with those that are less viable but increase access to opportunities and the mobility of the poor and underserved.

The preferable PPP model for development/redevelopment of existing road infrastructure (“brownfield projects”) as well as new infrastructures (“greenfield projects”) is DBFOM.

The key challenge in using these contracting arrangements is to find ways of maintaining performance incentives for the private partners. Another concern for brownfield projects is the continued employment
of existing employees, including their wages, benefits, pensions, working conditions and collective bargaining rights. To address this, some PPP contracts have included workforce protections.

Section D below on low and middle-income countries develop further how DBFOM models can be enhanced/used to achieve PfPPPs and the SDGs.

PfPPPs are seen as synonymous with the purposes of the SDGs. They have the following characteristics:

- **Availability:** they increase access of essential services – water and sanitation, energy etc. - to people especially the socially and economically vulnerable;
- **Replicability:** they can be scaled up and achieve the transformational impact required by the SDGs;
- **Equity:** they promote social justice and make essential services accessible and without restriction on any grounds to all;
- **Efficiency:** they improve the productivity of existing assets and make savings, for example, that can be used by governments for projects that eradicate poverty;
- **Sustainability:** they cut Co2 emissions and foster green growth;
- **Effectiveness demonstrated:** the projects work and deliver defined objectives.

V PPP Delivery

The recommendations on the following pages represent a concise statement of matters that should be considered when determining whether to implement a project using a PPP as a means of delivering investment in road infrastructure sector. They provide guidance in the selection of suitable projects, which can be supported by advice from the specialist Centre of Excellence.

In addition to the items that follow, it is important that governments assess and build market capacity as necessary to ensure the appropriate allocation of risks to the party best able to manage them. In particular, market capacity is mainly related to the ability of local banks, and not only international banks, to provide support and funding to PPP projects in the road sector.

It is also essential that any PPP has popular support and governments considering the use of PPPs should first consult broadly with consumers and civil society to ensure that the PPP will meet their needs in the best possible way. Environmental issues are to be always considered as well as the level of tolls which is a key element driving the road usage and therefore the success of each project.

A. Project Selection and Baseline Requirements

A1 Prepare an evidence-based delivery plan

In preparing for the roads transportation PPP programme, governments should draw upon experience from other jurisdictions to develop a robust and evidence-based plan for delivering the PPP (PPP Delivery Plan). The plan should set out the process to be followed in subsequent stages of the programme’s life:

- Prior to the procurement of roads transportation PPP projects:
  - if local procurement laws do not allow for negotiations with selected or shortlisted bidders or do provide limited or no room for quality evaluation in the award of the PPP concession, carrying out a thorough market analysis of technical and project’s specific requirements that bidders may be able / willing to satisfy;
developing appropriate policy and legislative framework: this may be very relevant in road PPP projects, where failure by the Contracting Authority to enact laws should be added as an event relevant as MAGA (Material Adverse Government Action) provisions in the PPP contract;

- preparing standard documentation and guidance; carrying out a programme-wide feasibility assessment and value for money analysis; developing an approval process for Project Business Cases;
- consulting with potential lenders and other stakeholders to assess the project’s and/or country’s ability to attract long-terms investment / loans for PPP road projects; in this connection, host government to develop local financial markets so that where long-term limited-recourse finance in local currency can be extended by local banks. The governmental financial institutions owned by the host government are also expected to play a key role to lead such finance in co-finance with international banks which extend loans in a hard currency;
- assessing market demand; and ensuring the right resources and training are available. For road project, it is especially advisable that governments prepare robust projects that ensure key project risks are transferred to the private sector party but not fully at the expense of undermining the interest of private parties and lenders and/or burdening users or government with excessive fees/cost.

During procurement, to ensure projects remain affordable, value for money, and consistent with the overall programme, policy and development strategy; and to ensure the procurement process is fair and transparent.

During construction, to ensure projects are delivered on time, to the specified standards and within budget and continue to meet their brief. As to the proper allocation of risks between the parties, the “change of law” provision should reflect the specific projects’ “risk matrix”. In fact, the definition of “Applicable Law” typically will exclude governmental approvals, including permits, the risks of changes to which are treated separately in the PPP Contract and are frequently allocated to the party that is responsible for obtaining the relevant approval.

Before and during commissioning of roads transportation infrastructure, to ensure that the staffing plan for the new transportation infrastructure is achieved; that the transition to the operational phase runs efficiently; that any changes that are necessary are implemented in line with the Project Business Case.

During the operational phase, to ensure that governance controls are in place, and that projects are managed transparently and efficiently, and continue to deliver optimal value for money; and that major investments, development, maintenance work and any changes are managed efficiently and represent the best value for money.

The Transportation PPP Delivery Plan should be considered a ‘live’ document, and be subject to strategic review at routine intervals aligned with the periodic review of Transportation Strategy.

A2 Project Prioritization

A2.1 Carry out transparent business case assessments for each project

Within the PPP Delivery Plan, the government should develop an overall financial and economic model for the PPP (Business Case) that clearly sets out the whole life cost, the charging basis, and the objective criteria for the financial, social, environmental and economic benefits it will yield. The project should be
costed in outline terms prior to its commencement of procurement, and should only proceed if and when it is affordable and represents the best value for money of the realistically deliverable options.

Prioritization plans for road planning must take into consideration the costs and time necessary to deploy the relevant projects and will depend on the actual availability of relevant government financial support, in the context of the applicable budget requirements. Road Authorities are expected to provide adequate support in a transparent manner to government and private parties in order to facilitate the prioritization plan finalization and deployment.

In general, experience suggests that “ad hoc projects”, rather than a properly developed pipeline of projects, may result in difficult projects which either fail to be implemented or take years to be developed. 'Difficult' projects are generally those that require large subsidies, are risky, often not ready and have too many negative impacts.

A2.2 Develop a clear planning context

Before starting a PPP, governments should develop traffic forecasts to fully assess current and future supply and demand for roads infrastructures and systems in the project demographic area, and taking into account possible competition from other modes of transport.

Risks specific to Roads PPP Projects are divided in (i) general risks, and (ii) specific risks.

General risks:
- Financial risks;
- Regulatory and legal risks;
- Political risks;
- Environmental risks;
- Social risks;
- Construction risks;
- Operation and maintenance risks.

Specific risks:
- Traffic risks (e.g., risk of increase / decrease of demand on the road use in comparison with forecasted demand, risk of wrong traffic forecast, risk of provision of free alternative route, risk of termination or restriction of vehicle traffic on the toll road);
- Road safety risks (e.g., increase of the amount of traffic accidents);
- Tariff risks (e.g., risk of decrease / increase of toll rates, risk of expansion of the preferential categories of persons and/or vehicles with right of free passage or at reduced prices, etc.).

Most of the analysed cases show that the demand / usage risk has a severe impact on the project and remains one of the major issues driving the renegotiation process.

A2.3 Establish clear and objective approval processes

The PPP Delivery Plan should include a process for stakeholder engagement and formal government approval of the PPP at key stages in its development.

Experience suggests that popular resistance to tolling would, if not addressed, prevent use of user revenues and continue reliance on public sector budgets to finance PPP through availability or shadow toll
arrangements. The scope of PPP to provide new financing would thus be limited to efficiency gains and the advantages of off-budget financing

**A2.4 Use clear and objective output-based specifications**

By the time a project is approved and is ready to begin procurement, the Business Case should feature output-based specifications that set the performance standards for the project. These should be directly related to any national standards for roads infrastructures. They should be capable of objective measurement, with clear and realistic contractual sanctions on the private sector partner if the partner fails to achieve the contractual standard.

**B. Financing requirements**

**B1. Sources of finance and governance structures**

**B1.1 Ensure the programme will enable competitive project financing**

In planning the PPP, governments should carry out a formal assessment of potential sources of finance including local and international commercial debt, international financial institutions (including Development Finance Institutions and Export Credit Agencies), government debt and the local and international capital markets. Specific issues to be considered include the capacity and sophistication of local contractors, the ability of local banks to lend money for road PPP projects, the capacity and quality of the insurance market, and the robustness of the contract structure and legal framework underpinning it.

Road PPP Project typically require the involvement and support of international financial institutions. Usually, revenues in local currency should be converted into hard currencies under the PPP Contract. Depending on, among other things, creditworthiness of the country, the track record of PPP projects in the country and matureness of the local financial market, and thereby, willingness of local banks to provide long-term limited-recourse finance to PPP projects, PPP Contracts may include a portion of revenues which are not linked to exchange rate movements against hard currencies: this sort of arrangement is also of course subject to the willingness of the private investors (in particular international investors) to receive their returns partially in the local currency.

Also, lenders financing a road PPP projects on a limited recourse basis typically require security interests over all the rights and interests of the project company. This comprises land for the project site, physical assets and equipment, contractual rights and receivables, bank accounts, insurances and the shares in the project company. In certain jurisdictions the law relating to the granting of security may be underdeveloped or may not allow for assets such as land to be secured in favour of foreign lenders. Contracting Authorities should consider whether, in developing a road PPP program, specific legislation or exemptions could be passed to enable PPP project lenders to benefit from the protections and enforcement remedies that lenders customarily enjoy.

As a result of the many PPP experiences worldwide in the road sector, the baseline requirements for a successful PPP project in the road sector can be summarized as follows:

- **Step-in rights:** prior to terminating the contract of the Project Company – the lenders have the right to replace the Project Company or operate the asset themselves and collect the cashflow;
- **Compensation-on-termination:** lenders increasingly require compensation if the contract is finally terminated. This allows some recovery of outstanding debt and exists as a way to prevent ‘hair-trigger’ termination;
- Compensation Events: private parties and lenders will not accept certain risks being transferred to the Project Company. Thus, compensation is contractually stipulated in certain events (e.g. acts-of-god, change in law, delay caused by government). In particular PPP contracts should include appropriate MAGA (Material Adverse Government Action) provisions in absence of which can be a deal breaker for some private sectors entities;

- Guarantees: lenders may require certain guarantees on project revenue and other risks (e.g. political risks such as nationalization);

- Collateral: lenders may also require “real” security in the event of termination of the Project Company; this is often security over the project land which has a re-sale market value; in such cases, the PPP contract provisions should include appropriate provisions to allow the government to re-bid the project while securing the rights of the lenders. In fact, lenders may be reluctant to release their security interests on road PPP Project assets until compensation payments have been made in full.

As to “Step-in rights” in road PPP project, they typically include cure rights (without step-in), step-in rights (with the option to step-out) and full substitution, where either a new private party is designated by the lenders under the existing PPP Contract or the PPP Contract is replaced in its entirety with an agreement on substantially similar terms entered into between the lenders’ designee/assignee and the Contracting Authority. Also, as to the relevant financing aspect of road PPP projects, lenders usually require direct agreements with contractors and/or subcontractors, as they wish to ensure that any rights that the Contracting Authority has vis-a-vis the relevant contractor and/or subcontractor to step in under a PPP Project Agreement are subject to the prior exercise of the rights of the lenders to do the same.

Also, typical structures pass key project risks (e.g. construction risk and operating risks) to sub-contractors on a ‘back-to-back’ basis, including the following measures:

- Liquidated Damages: a contractual promise to pay specified damages in certain events (e.g. construction delay);

- Performance Bond: a liquid security that can be called by lenders in case of material breach;

- Parent Company Guarantees: a promissory that the parent company of the sub-contractor will ‘wrap’ some of the obligations of the sub-contractor;

- Letters of credit: a further ‘liquid’ wrap normally secured against the balance sheet of the parent company to guarantee the sub-contractor’s obligations.

Please note that financing requirements for road PPP projects may include very special provisions, such as termination due to private party’s default to be compensated by the Contracting Authority for bankability reasons. Sometimes, such termination fee is sourced from other private-sector parties who bid to take over the project.

Also, PPP contracts should make very clear whether the so called “tax gross-up” clause would apply to any termination payment by the Contracting Authority, so that the private party is able to repay the full amount to lenders net of any applicable tax.

**B1.2 Develop a standardised ‘shadow’ cost model against which to compare value**

Government should develop a robust and locally relevant system of capital and operating cost benchmarks. This system should be used to establish transparent evidence that the PPP represents the best possible Value for Money as compared to alternative ways of achieving its objectives – particularly the direct delivery of the same projects by the public sector.

**B1.3 Offer robust payment security that guarantees debt repayment**
A PPP represents a long term public sector commitment. A framework should be established to manage government commitments arising from the PPP, including fiscal commitments such as ongoing subsidies and payments, and contingent liabilities such as guarantees. Governments should maximise Value for Money by offering bidders and investors formal instruments that provide certainty that payments will be made and/or that certain risks will not be passed to the private parties (such as the risk of change of laws, costs for land acquisition, etc.), as this should reduce the cost of finance, and that a consistent approach will be taken to concession management via an output based performance contract.

Toll road mechanism may prove to lower the government financial commitment to the extent they are based on robust traffic estimates certified by recognized international entities.

**B1.4 Establish robust long-term governance structures and processes**

As part of the development of the PPP Delivery Plan, the government should ensure that long term budget provision is made for the governance and management of the project, as well as the necessary skills and resources are available and aligned with government objectives.

PPP projects in the road sectors often show results during the project performances different from initial estimates, sometimes showing better performances. It may be worth including provisions to the effect that contracting authorities have the right to either make a lump-sum payment or continue to pay the senior debt as scheduled.

**B1.5 Incorporate robust business case risk allocation and value for money assessment**

Business Cases should include a Value for Money analysis that compares the PPP model against the cost of delivering and operating the facility using alternative means. These should include an objective comparison with the likely cost and risk (including costs) of delivery using public sector resources, which is externally audited or reviewed. The process for doing so should draw on experience from other jurisdictions and should be supported by suitably experienced advisors under the oversight of the appropriate government units.

PPP contracts should specifically feature a simple and efficient process for making changes during the life of the concession. Standardised documents should include a change process which makes the adaptation of PPP roads infrastructures projects no more expensive in whole-life terms than equivalent traditionally procured infrastructure which is managed to the same standards. Business Cases should specifically consider the cost and operational implications of adapting infrastructure and facilities to changing and developing technology and market needs.

The most balanced risk allocation should consider the following principles, drawn by experience on many road PPP projects worldwide:

- Political risks are to be borne by the public party;
- Construction, technological risks are mainly borne and managed by the private party; land acquisition should at least be shared between the parties;
- Ecological and social risks are also often shared by the parties, as mitigation of those risks are under the control of both parties;
- Financial risks are mostly borne by the private party; international practice demonstrated the efficacy of financial government support of PPP projects in the form of government guarantees, direct agreement with financial institutions, budget subsidies, tax exemptions and others.

It must be put particular attention to the mechanism trigging the consequences of any change. In fact, particularly in civil law jurisdictions, usually the parties agree on procedures whereby the designated body (or the court in case of controversy) “restore the economic equilibrium of the contract”. It would be
advisable in all jurisdictions to spell out – due to the unpredictability of outcome – the actual consequences if any such change in detail in the PPP contract.

B2 Market Consultation, Assessment and Engagement

B2.1 Obtain formal support for the structure and policy from potential lenders

Having developed the PPP Delivery Plan but before the proposed legislation and governance is implemented, governments should seek formal feedback on their proposals from a representative range of potential funders with experience in the successful project financing of completed projects with similar characteristics to the proposed PPP. Where investment is likely to be needed from international financial institutions, commercial lenders and institutional debt from other jurisdictions, they should be consulted on the proposed policy, legislation, standard documentation and guidance, structure and counterparties, governance and risk transfer.

B2.2 Realistically match capacity

In developing the PPP, governments should formally consult with private sector contractors, service providers, investors and advisors, to:

- Assess market capacity to deliver the project, and develop a programme of capacity building if necessary;
- Ensure that there is capacity and capability to accurately assess and accept the risks proposed to be transferred to the private sector; and
- Test in advance areas of risk allocation that are innovative or unprecedented.

Consultees should include the following:

- Contractors;
- Designers;
- Sponsors / equity investors;
- Legal, financial, technical and insurance advisors;
- Senior lenders and, where appropriate, international financial institutions;
- Insurance and reinsurance companies;
- Stakeholders.

B2.3 Draw on proven experience

In developing the PPP Delivery Plan, governments should carry out a systematic analysis of best practice as it applies to their own needs in both the road sector and other relevant sectors, and ensure that the scope of the programme and the transfer of risks is consistent with realistic market capacity.

B2.4 Clearly set out risk transfer proposals

A formal schedule of risks and their allocation should be produced for the PPP as part of the PPP Delivery Plan. The schedule should clearly set out how risks will be allocated between parties.

The actions described in this section are very relevant for road projects in countries where little evaluation of bids regarding their technical merits or quality is allowed and award criteria linked only to price are in place. It may be worth stating that, for such markets, consultation with the potential market may need to be carried out during the pre-bid phase as part of a market-sounding exercise that could include early consultations on the PPP Contract documentation, including Specifications, to assess the likely bidders and their appetite for taking on certain risks.
C. Legal Requirements for the Roads Sector

C1 Establish a regulatory framework

The legislative framework for a PPP in the road sector should be consistent with government’s transport and environmental policy, economic and fiscal policy, and other relevant policies such as those governing urban planning and land use. The framework should also be consistent with initiatives such as the SDGs.

The government should enact any legislation necessary to enable the PPP, which often includes PPP-specific laws and public procurement regulations. This might involve amending existing regulations in areas such as tax, insolvency.

[Legislation should comply with the UNCITRAL Legislative Guide on Privately Financed Infrastructure Projects, and Model Legislative Provisions on Privately Financed Infrastructure Projects and should be permissive rather than restrictive]

C2 Establish a suite of standard procurement protocols and documentation

A process framework, built on proven precedent, should be established within the PPP Delivery Plan for the scoping, approval, procurement, delivery and management of the PPP programme. This framework should include:

- Clear terms of reference for the governance and approval of the project at each stage, including clear criteria against which approval will be granted; for instance, several PPP projects in the road sector include the principle of “deemed construction completion” which is very common for any type of private construction projects around the world;
- Standard forms of Project Business Case, objectively setting out the scope, objectives and compliance with predetermined approval criteria;
- Standard processes for the management of procurement including standard forms of procurement documentation, procurement timescales and evaluation criteria and the scope for negotiation following selection of a preferred private partner;
- Standard processes for contract management and monitoring throughout the delivery and operational phase; and
- Standard contract documentation including clear guidelines for its use and the extent to which it can be varied to suit project-specific issues. Use of FIDIC model contracts, adapted to the specific project, or equivalent set of contractual documents, may constitute a useful tool to ensure attention by international players, both contractors and lenders experienced in PPP projects internationally.

“Insurability” should always be an essential driver for designing the project specific PPP contract framework. For instance, lenders’ ability to obtain breach of contract or sovereign non-honouring insurance from development agencies or private insurances is affected by the certain jurisdictions / arbitration provisions not being “insurable”.

C3 Standardize the procurement process and procedures

The procurement process for PPP projects should be clearly set out in the PPP Delivery Plan, and its governance should guarantee a high degree of objectivity and transparency in the invitation, receipt and evaluation of tenders. Qualitative and quantitative evaluation criteria, and their relative weighting, should be established with stakeholders prior to tenders being issued and should be made transparent to bidders when they are invited to tender.
Similarly, the project technical requirements should be complete allowing no material change during the
process from feasibility study through final detailed design.

The procurement process should allow for interaction between the project team and tenderers, to the
extent permitted by applicable regulations, to allow tenderers to tailor their solution to offer the best
possible Value for Money to the public sector.

The extent of dialogue during the procurement process and subsequent re-submission of refined proposals
should be appropriate to the scope, type and complexity of the technical and commercial solutions and
service delivery requirements. Sufficient time should be provided in the procurement process to allow
detailed solutions to be submitted by tenderers.

C4 Evaluate tenders transparently and publish formal evidence of value for money

As part of its review and approval of the Business Case prior to signature of contracts, the government
should conduct a Value for Money assessment. This assessment should be published to give the public
evidence that delivering the project as a PPP represents the best possible Value for Money.

Innovation and alternative solutions should be encouraged during the tender stage but their scope and any
consequential reallocation of risk should be clearly defined before a preferred partner is appointed.

Certain objective criteria should be established before procurement begins which represent a pass/fail test
in the suitability of a potential partner to deliver projects. The published evaluation criteria should make
clear which aspects of tenders are pass/fail and which will be judged against weighted qualitative and
quantitative criteria.

An evaluation report should be produced for each tender, objectively scoring tenders against the objective
published criteria. The tender evaluation committee should have proven experience and expertise in
evaluate similarly complex tenders and feature technical, commercial, financial and legal skills. Their
conclusions should be subject to independent review by a specialist audit office or independent agency.

C5 Promote Zero Tolerance to Corruption

Governments should develop standard definitions of corrupt practices in public procurement and
management, and ensure they are applied to the PPP. They should be published as a matter of policy, and
the PPP Delivery Plan should set out how they will be incorporated in the PPP. Tenderers for each project
should be required to confirm their willingness to comply with anti-corruption policies and should be
eliminated from a tender if they are unable to do so, or if there is evidence that they have exhibited corrupt
practice. Acceptance of this principle should be a pass/fail tender requirement.

The following measures should be considered to minimise the risk of corruption:

- A requirement for tenderers to comply with a general policy on conflicts of interests
  including obligations to disclose and report potential corrupt practices, as well as
  remedies applicable to all participants and for dispute settlement;
- A mandatory code of conduct for any potential preferred provider;
- A set list of duties required of the preferred provider to be delivered as evidence of
  compliance with a code of conduct, aligned with public sector best interest standards
  and fiduciary duties;
- The use of statements of compliance and integrity to be signed by the bidders,
  subcontractors, consultants and any third party involved in the bidding process;
- Ongoing compliance guarantees by the successful tenderer, and their main contractors
  and sub-contractor;
Disbarment from future PPP tenders by tenderers where evidence of corrupt practices is evident;
Sanctions in the event of attempts to influence public officials or collude with other tenderers (either in relation to an individual tender, or multiple tenders);
Preventative measures to hold public officials accountable and sanctions should preventive measures fail;
Minimum and maximum preparation time for tenders at each stage;
Internal control and audit systems; and
Immunity for whistle-blowers.

C6 Promote achievement of gender equality and empowerment of all women and girls

Promoting gender equality and empowering women and girls is crucial to the delivery of the SDGs. Use of a PPP can help achieve this goal by ensuring that project teams have equal numbers of male and female representatives, and by requiring tenderers to take account of this goal when selecting their bid teams.

D. Feasibility for low and middle-income countries

The projects highlighted in Section IV A are examples of Roads PPPs, some of which have been implemented in developed countries and be capable of adaptation for low and middle-income countries. Governments can study the lessons learned from all these projects and hopefully avoid having to undertake their own research initiatives that can be costly both in terms of time, money and resources.

In addition to the recommendations in Sections V A, B and C a common feature of successful PPPs in the road sector is good project management coupled with unequivocal government support and meaningful consultation with stakeholders.

Faced with an increasing investment gap and a requirement for funds, many public authorities in low and middle-income countries do not have the luxury to choose between public and private funds options for the development of their infrastructure. In such circumstances, private finance may allow economically justified projects to be implemented which would otherwise have been delayed or cancelled through lack of funds.

Many countries are uncomfortable with fully private owned or free-market operation of transport infrastructure. In some countries, there is also a public perception that transport infrastructure is an inherent part of the public patrimony and should be run for the public good rather than for commercial gain. Public ownership of transport infrastructure is a legitimate public policy choice. The public sector is the owner and usually the "manager" of nearly all the world's roads, inland waterways, navigable airspace and shipping channels, as well as most of the basic port, airport and navigation infrastructure, most metro and tram networks and most national railway infrastructure.

However, there are often ways for governments, as custodian of such assets, to seek the benefits of greater private sector participation in their financing, management and operation.

Good infrastructure has always played a leading role in economic development. Infrastructure investment can yield big economic gains. Building highways immediately boosts output and jobs, but it also helps to spur future growth, provided the money is spent wisely. Better transport helps farmers to get their produce to cities, and manufacturers to export their goods overseas. Countries with the lowest transport costs tend to be more open to foreign trade and so enjoy faster growth.
It is widely recognized that a pragmatic approach should be adopted to PPP as opposed to an approach based on political dogma and the absolute virtues of the private sector. In fact, experience has shown that no ready-made solution exists and that the strict duplication of a project between countries has little chance of success. A PPP project can only produce efficiency gains and added value to the road sector if its characteristics are designed in accordance with the constraints and bottlenecks faced by the road agency, the country framework and the capacity of the private sector. In other words, a PPP project should be carefully tailored to its environment, but with regard to how the environment may need to change in order to maximize development gains.

PPP road projects in emerging markets proved to be more effective where governments considered making capital payments, which can prove better value for money for the authority and can demonstrate the relevant public commitment to the project.

Typically, road PPP projects may hardly be promoted and financed solely by domestic parties and it would be necessary or strategically important to seek the participation of international players. Accordingly, an appropriate mechanism addressing currency exposure (availability, convertibility and transferability) needs to be developed in the case of PPP projects where revenues (under both “government pay” and “user pay” models) are denominated in local currency. It would be beneficial to include a discussion on this issue and the mechanisms that need to be put in place to ensure that international investors and lenders are assured the contracted net return and are protected against adverse currency movements. We would advocate that PPP Contracts recognize and address this risk as it is one of the most fundamental bankability issues relating to PPP in the emerging markets.

Governments should consider whether, in developing a road PPP program, specific legislation or exemptions could be passed to enable PPP project lenders to benefit from the protections usually available in mature markets, particularly as to the ability to effectively enforce security interests over all the right and interests of the project company. Perceived inadequacies in the security package afforded to lenders leads to increases in the pricing of debt and in some cases, may require direct contractual commitments from the Contracting Authorities to compensate the lenders for any shortcomings in their expected remedies. However, inconsistent laws and regulations can be worse than limited or no laws, where regulation by contract can operate at least initially.

In addition, in order to provide incentives for investment in emerging markets, where the tax regime may be perceived as unpredictable or burdensome, it may be necessary for the government to provide certain tax incentives to promote an attractive basis for the investment and for a stable tax regime to be established for the ongoing economic viability of a project.

Moreover, many countries impose strict requirements for the procurement of local goods and services. Although the promotion and development of local industry may be an admirable cause, imposing strict requirements can have an adverse impact on cost as well as risk potential delay. Requiring a private partner to assume burdensome local content requirements could therefore hamper the Contracting Authority’s objective of achieving the best value for money. Therefore, road PPP Contracts should provide for adequate benefits for private parties’ procurement of local goods and services over certain thresholds.

The low incomes in developing countries substantially reduce the surplus between acceptable and actual toll levels and may exclude several social groups from using the road infrastructure unless associated social measures are adopted. Thus, DBFOM projects structures in such countries should be based on a blend of Availability payments and/or Performance-based payments, less frequently shadow toll systems.

Experience has demonstrated certain rules of thumb for initially selecting a few appropriate PPP projects. These are particularly important for the initial PPP projects where public and political sensitivity may be
The greatest and where a failure, or at least a perceived failure, may compromise the continuation of the program. The following are some of the more significant criteria:

- The project must be one for which there is plainly a social and economic need and the delivery of which is recognized as important to most political opinions. However, it is best to avoid grandiose politically sponsored schemes as they rarely meet other criteria;
- The project(s) should have only moderate risks, be reasonably well-developed (e.g. have an economic or preliminary study) and be ready in the sense of not having too many constraints to be overcome such as obvious and severe socio-environmental issues;
- The project should be one that involves known and tested technologies and for which there is a market place of potential suppliers with whom to enter partnership (i.e., not too complex and risky and technologically wise);
- The project should be one that is on the main priority list (e.g. the 5-year development program) of the sponsoring Ministry or Agency (there has been a tendency for sceptical Ministries to offer up their lower priority schemes for PPP procurement);
- Financially, the best projects are those that need little or no government financial support. However, if support is needed, the project payment stream must be clearly affordable by the sponsoring Ministry or Agency (and/or supported by Ministry of Finance issued guarantees);
- The project should be of a sufficient size to interest international financiers and concession companies;
- Ideally, the initial pilot schemes should represent a range across the key public service sectors and be representative of likely future schemes. From the Public Sector's point of view, it is very important from the outset to be aiming to develop methods and methodologies, which will be replicable.

The lessons learned from the years of experience in several low-income countries for maintenance of both paved and unpaved roads under DBFOM or equivalent structures are applicable to many similar countries:

- Introduction of new ways of working requires high level commitment and belief to get through the early parts of the learning curve;
- The performance based approach works best when it is homegrown and funded from local resources. The role of local Road National Agency is critical;
- It can take several years for Road National Agencies to adapt to new working practices and accept performance-criteria as a robust payment mechanism;
- Performance contracts require closer supervision than might be expected and Road Agencies should not underestimate supervision requirements;
- Monitoring and evaluation frameworks need to be developed to assist contractors and consultants in contract supervision and management;
- Design responsibility should only be passed to Contractors for more straightforward backlog maintenance works. Other more substantial interventions should be specified in the tender documents to simplify bid evaluation and contract supervision;
- Local contractors have very limited pre-financing capacity so transfer of risk and financing needs for the performance-based part of the services needs to be carefully assessed to minimise the possibility of default by Contractors;
- Performance contracts offer interesting opportunities for local consulting firms, joining with Contractors to help plan and manage the maintenance services;
If possible build-in technical support to assist contractors and consultants during the early stages of implementation.

D1 Project Management

Ministries and central agencies should be prepared for the PPP, and the governance structure setting out their role and mandate in relation to the delivery of the PPP should be agreed upon before implementation of the PPP. Prior to the implementation of a PPP, governments should develop a resource plan setting out the skills and costs that will be needed to implement it successfully on behalf of the public sector. The timing and key skills needed for each role should be clearly identified, and suitable funding made available for the recruitment and continuing professional development of those staff. The resource plan should cover the development of PPP legislation and policy, the production of Business Cases, the procurement of projects, their delivery and commissioning, and their operation in the steady state.

D2 Engagement with Stakeholders

D2.1 Ensure that there is political and civil service support

Before implementing the PPP, the government should conduct a formal assessment of political and public sector/ civil service support for the programme. The PPP should be sponsored at a senior level within the government and civil service, with key individuals identified to act as promoters of the programme across the public and private sectors.

D2.2 Ensure that the model and process is clearly understood by stakeholders

Before the PPP is implemented, a formal advocacy plan setting out how politicians, public/civil servants, road staff and any other stakeholders to be consulted in the development of the project should be developed and discussed with those stakeholders.

E. Other Issues related to the Roads Sector

E1 Regulation

In developing the legislative framework under C1, governments may consider establishing a regulatory framework applicable to road infrastructure, with particular respect to the manner in which its maintenance and operation is remunerated. Governments may also consider establishing an independent regulator to take responsibility for monitoring safety of the road infrastructure.

E2 Patronage

The traffic forecasts prepared when developing the planning context for the PPP under A2.2 should be considered in conjunction with the assessment of potential sources of finance under B1.1 and the need for subsidies, payments or guarantees under B1.3.

E3 Cost Overruns

A major issue in the development of new road infrastructure can be the allocation of liability for cost overruns due to the size and complexity of road schemes compared to other types of infrastructure. It will be important to provide a credible strategy for addressing this issue when assessing potential sources of finance under B1.1.
E4 Early Termination Arrangements

The suite of standard forms of contract documentation developed under C2 will include provisions regulating early termination, for example in the event of material failure to perform the contract. A particular issue for road infrastructure is finding suitable replacement operators with the necessary competence. Contracts should allow sufficient time before termination for satisfactory arrangements to be put in place, including preservation of key subcontracts to ensure continuity of operation.

VI. Indicators of Compliance

The Indicators of Compliance for a Road PPP programme relate directly to the SDGs.

VII. Credits and References

The recommendations of the standard are based on a UNECE project which took place between April 2015 and November 2017, managed by an international, multidisciplinary team of experts with experience of PPPs in the road sector and sustainable development. The project comprised a review of published information, and responses to detailed questionnaires from public and private sector organisations with experience of programmes of this kind, whose contribution is gratefully acknowledged. Recommendations are aimed at national and provincial governments considering the development and implementation of PPPs in the road sector.

We are very grateful for the active contribution of agencies and organizations in the countries listed in Annex 1 who contributed to the development of the standard by making available published guidance, project case studies and/or responding to detailed questions on their own experience.

Annex 2 includes the list of projects of more direct reference for the standard. The full list of projects and programmes from which lessons and experience were considered based on published information in the development of the Standard is available on the project team website at https://www2.unece.org/wiki/display/pppp/Roads for governments seeking more detailed advice, experience and lessons learned from the delivery of PPP. The Standard will be maintained by UNECE and the Road PPP Centre of Excellence.