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UNECE STANDARD ON PPPs IN ROADS

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Contents

I.	Introduction.....	3
II.	Objectives of the Standard	3
III.	Scope of the Standard	3
IV.	Roads Sector Models	4
	A. Project Types and Examples of Road Transportation PPPs	5
	B. Pros and cons of PPPs in the Road Sector	8
	C. PPPs Meeting People First Objectives	11
V.	PPP Delivery.....	12
	A. Project Selection and Baseline Requirements.....	12
	A1 Prepare an evidence-based delivery plan	12
	A2 Project Prioritization.....	13
	B. Financing requirements.....	15
	B1. Sources of finance and governance structures	15
	B2 Market Consultation, Assessment and Engagement.....	18
	C. Legal Requirements for the Roads Sector	19
	C1 Establish a regulatory framework.....	19
	C2 Establish a suite of standard procurement protocols and documentation	19
	C3 Standardize the procurement process and procedures.....	19
	C4 Evaluate tenders transparently and publish formal evidence of value for money	20
	C5 Promote Zero Tolerance to Corruption.....	20
	C6 Promote achievement of gender equality and empowerment of all women and girls	21
	D. Feasibility for low and middle-income countries	21
	D1 Project Management.....	24
	D2 Engagement with Stakeholders.....	24
	E. Other Issues related to the Roads Sector.....	24
	E1 Regulation.....	24
	E2 Patronage	24
	E3 Cost Overruns	24
	E4 Early Termination Arrangements	24
VI.	Indicators of Compliance.....	25
VII.	Credits and References.....	25

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1 I. Introduction

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

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

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

16

17 II. Objectives of the Standard

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

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

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

34

35 III. Scope of the Standard

36 This UNECE Standard offers guidance on best practice in relation to the development and implementation
37 of PPP programmes in the roads transportation sector. PPPs in roads is capital investment in road
38 infrastructure and related systems such as information / communication technology (ICT) that are funded

39 using commercial finance, repaid over a long-term period, and through a PPP contract or concession style
40 arrangement. Projects delivered in this way range from greenfield projects for the realization and
41 operation of new highways, to brownfield projects for upgrading of existing roads into highways, to
42 bridges, tunnels, parking or other equivalent infrastructure realization, operation and maintenance. The
43 Standard does not apply to partnerships to deliver general public transportation services, real estate
44 transactions, or leasing arrangements, although these can sometimes occur in conjunction with, are added
45 to, or can be extensions of PPP projects and programmes.

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

57

58 IV. Roads Sector Models

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

62 The following SDGs are considered relevant in this context.

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

64 *Road safety targets included in the global development agenda*

65 3.6 By 2020, halve the number of global deaths and injuries from road traffic accidents

66 3.9 By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air,
67 water and soil pollution and contamination

68 **SDG 5 Achieve gender equality and empower all women and girls**

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

71 5.1 End all forms of discrimination against all women and girls everywhere

72 5.5 Ensure women's full and effective participation and equal opportunities for leadership at all levels of
73 decision-making in political, economic and public life

74 **SDG 8 Promote sustained, inclusive and sustainable economic growth, full and productive employment 75 and decent work for all**

76 *Transport by road is an important element in encouraging economic growth and development*

77 8.1 Sustain per capita economic growth in accordance with national circumstances and, in particular, at
78 least 7 per cent gross domestic product growth per annum in the least developed countries

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

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

83 9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border
84 infrastructure, to support economic development and human well-being, with a focus on affordable and
85 equitable access for all

86 9.2 Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry’s share of
87 employment and gross domestic product, in line with national circumstances, and double its share in least
88 developed countries

89 9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased
90 resource-use efficiency and greater adoption of clean and environmentally sound technologies and
91 industrial processes, with all countries taking action in accordance with their respective capabilities

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

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

96 11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all,
97 improving road safety, notably by expanding public transport, with special attention to the needs of those
98 in vulnerable situations, women, children, persons with disabilities and older persons

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

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

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

105 17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the
106 experience and resourcing strategies of partnerships

107

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

109 There are many project types and examples of road PPPs worldwide. Virtually all exhibit some combination
110 of Designing, Building, Operating and / or Maintaining the road with specific provisions for Ownership of
111 the road (and/or Transfer back to the public entity at a specified moment). The nature of road public-
112 private partnerships (PPPs) also varies considerably from project to project and is driven by the local,
113 national and even international factors that make the project a necessity in the first place. Historically, the
114 most common road PPPs have been brownfield concessions. However, since 2000 greenfield projects have
115 become increasingly more popular.

116 Road PPPs are to be distinguished from Design - Build contracts (DB) which transfer some of the
117 constructability risk to the private partner due to the combined designing and building responsibility, but in
118 many countries, are considered simply a traditional public procurement contract because they do not rise
119 to the level of a PPP in terms of risk transfer, inclusion of financing components, etc. The same is true for
120 'O&M' contracts where the private partner operates the publicly owned road, maintains it in proper
121 technical condition, and perhaps even creates an automated road management system or develops an
122 electronic toll collection system, yet such contracts are mostly classified as service contracts.

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

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

128 • **Toll concession:**

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

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

140 • **Toll and traffic guarantee concession:**

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

147 • **Direct payment models: shadow tolls and availability payments:**

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

156 • **Output- and Performance-based contracts:**

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

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

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

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

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

- 180 - A direct toll mechanism where users are charged directly for use of the road facilities:
 - 181 • Used in large-scope B(R)(O)OT projects as well in some DBFO projects;
 - 182 • Combined with revenue-sharing schemes and Minimum Revenue Guarantee (“MRG”).
- 183 - Availability payments (“APs”) where the public entity pays a fee for the ‘availability’ of the private
184 sector road infrastructure and/or service:
 - 185 • Often used both in free and toll DBFO(M) projects in case when the public partner bears a
186 significant share of demand (traffic) risks.
- 187 - Annuity payments where the private entity is paid for the provision of road infrastructure and/or
188 services in increments and over a fixed period of time:
 - 189 • Used mainly in free BOT projects in case when the public partner bears the demand (traffic)
190 risks and the private partner’s fee is equal to fixed annuities and is not necessarily
191 calculated on key performance indicators formula.
- 192 - Shadow Toll mechanism, where the public entity pays the private sector partner directly on a per
193 vehicle or per user basis:
 - 194 • Used instead of (or in addition to) direct toll mechanism when Direct Tolls (“DTs”) are
195 inappropriate or insufficient due to social or political risks (*i.e.*, road should be free for
196 users or toll should be kept at acceptable levels for users).
- 197 - Performance-based payments (“PBPs”), where the private entity is paid based on certain defined,
198 measurable performance criteria that is to be met, rather than paid strictly on usage of the
199 infrastructure or services:
 - 200 • There is a recent trend to use PBPs in road PPP projects in order to create incentives for the
201 private partner to improve performance and safety.

202 Combinations of the above referred mechanisms can also be used (such as DTs + PBPs; DTs + APs) in
203 individual projects when a mix of risk allocation and payment mechanism is desired. See a case example in
204 the box below.

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

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

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

224 For example:

- 225 - the development of new road infrastructure in urban environments is often a regional or urban ring
226 road and/or bypass to enhance connectivity. Such projects are based on concession agreements of
227 on average 25/30 years length, with balanced risk allocation except for payment mechanism,
228 blended direct toll and shadow toll payment mechanism, supported by strong current usage data,
229 with minimum usage typically in the range of 50,000 / 100,000 vehicles per day, and agreement
230 provides for road improvements and certain IT infrastructure for monitoring usage and tracking
231 tolls; and
232
- 233 - the development of new national highways in developing countries is aimed at creating a reliable
234 and efficient infrastructure network. Such projects are based on concession agreements of on
235 average 20/25 years length, sometimes lower term (less than 20 years) to allow governance
236 flexibility for enhanced concession in the mid-term, with performance-based payments or
237 availability payments schemes.

238

239 B. Pros and cons of PPPs in the Road Sector

240 Roads have the potential to be a significant asset to any country—both in terms of the physical investment
241 and the social and economic benefits. A well-maintained and managed road network unlocks the region's
242 productive capacity by linking agricultural areas to national or regional markets, and encourages economic
243 growth and social integration by bringing cities and villages closer together. With this in mind, governments
244 are eager to develop and manage their road networks to meet their economic, political and social needs. In

245 some jurisdictions this means building brand new roads, while in others it requires refurbishing, widening
246 and extending existing road networks.

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

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

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

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

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

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

288 Several other possible advantages of PPP are cited below, their actual occurrence and scale depending on
289 the characteristics of the particular PPP project:

- 290 • Improve level of service, especially for projects requiring road user charges (tolls or other), which
291 (does what...).
- 292 • Promotion of economic and social growth by private direct investment (which results in several
293 SDGs being met, in particular promoting inclusive and sustainable industrialization and fostering
294 innovation as per SDG no. 9).
- 295 • Transfer of modern technology to domestic public and private sectors.
- 296 • Rigorous project selection and avoidance of political "white elephants".
- 297 • Promotion of environmental and social sustainability: the private sector focuses on efficient use of
298 resources and materials over the project lifecycle.
- 299 • Extending private ownership and adopting a market-economy approach.
- 300 • Stimulating of domestic capital and debt markets.

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

- 303 • Project investment cost for road project is sufficiently large to allow PPP structure and relevant
304 financing;
- 305 • Highway projects are usually suitable for PPP while local roads upgrading and maintenance in
306 developing countries may hardly be developed under PPP, unless the government provides
307 financial guarantee and/or adequate fiscal contributions;
- 308 • Poverty reduction IS an effect of well-planned roads, because PPP take into account primarily
309 factors relevant to (i) access to/from economic centres, (ii) access to social services (health,
310 education facilities), (iii) various social aspects (gender development, etc.). In fact, addressing
311 properly these issues during project implementation features will ascertain and justify the level of
312 government support to the project.

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

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

- 329 i. lack of appropriate protection of the private party against the so-called Material Adverse
330 Government Action;
- 331 ii. poor protection of the private party against permitting risks associated with the regulatory regimes
332 like noise mitigation, reduction in property value, acquisition of land, resettlement and
333 environmental impact, poor regulatory framework for the tariff regime after commencement of the
334 project;
- 335 iii. the private party required to bear the risk of unforeseeable subsurface conditions;

336 iv. poor allocation of traffic risks.

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

340 Other challenges with road PPPs are the need to:

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

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

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

364

365 C. PPPs Meeting People First Objectives

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

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

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

377 The key challenge in using these contracting arrangements is to find ways of maintaining performance
378 incentives for the private partners. Another concern for brownfield projects is the continued employment

379 of existing employees, including their wages, benefits, pensions, working conditions and collective
380 bargaining rights. To address this, some PPP contracts have included workforce protections.

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

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

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

393

394 V. PPP Delivery

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

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

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

407

408 A. Project Selection and Baseline Requirements

409 A1 Prepare an evidence-based delivery plan

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

- 413 • Prior to the procurement of roads transportation PPP projects:
 - 414 • if local procurement laws do not allow for negotiations with selected or
415 shortlisted bidders or do provide limited or no room for quality evaluation in
416 the award of the PPP concession, carrying out a thorough market analysis of
417 technical and project's specific requirements that bidders may be able / willing
418 to satisfy;

- 419 · developing appropriate policy and legislative framework: this may be very
- 420 relevant in road PPP projects, where failure by the Contracting Authority to
- 421 enact laws should be added as an event relevant as MAGA (Material Adverse
- 422 Government Action) provisions in the PPP contract;
- 423 · preparing standard documentation and guidance; carrying out a programme-
- 424 wide feasibility assessment and value for money analysis; developing an
- 425 approval process for Project Business Cases;
- 426 · consulting with potential lenders and other stakeholders to assess the project's
- 427 and/or country's ability to attract long-terms investment / loans for PPP road
- 428 projects; in this connection, host government to develop local financial markets
- 429 so that where long-term limited-recourse finance in local currency can be
- 430 extended by local banks. The governmental financial institutions owned by the
- 431 host government are also expected to play a key role to lead such finance in co-
- 432 finance with international banks which extend loans in a hard currency;
- 433 · assessing market demand; and ensuring the right resources and training are
- 434 available. For road project, it is especially advisable that governments prepare
- 435 robust projects that ensure key project risks are transferred to the private
- 436 sector party but not fully at the expense of undermining the interest of private
- 437 parties and lenders and/or burdening users or government with excessive
- 438 fees/cost.
- 439 • During procurement, to ensure projects remain affordable, value for money, and
- 440 consistent with the overall programme, policy and development strategy; and to
- 441 ensure the procurement process is fair and transparent.
- 442 • During construction, to ensure projects are delivered on time, to the specified
- 443 standards and within budget and continue to meet their brief. As to the proper
- 444 allocation of risks between the parties, the "change of law" provision should reflect the
- 445 specific projects' "risk matrix". In fact, the definition of "Applicable Law" typically will
- 446 exclude governmental approvals, including permits, the risks of changes to which are
- 447 treated separately in the PPP Contract and are frequently allocated to the party that is
- 448 responsible for obtaining the relevant approval.
- 449 • Before and during commissioning of roads transportation infrastructure, to ensure that
- 450 the staffing plan for the new transportation infrastructure is achieved; that the
- 451 transition to the operational phase runs efficiently; that any changes that are necessary
- 452 are implemented in line with the Project Business Case.
- 453 • During the operational phase, to ensure that governance controls are in place, and that
- 454 projects are managed transparently and efficiently, and continue to deliver optimal
- 455 value for money; and that major investments, development, maintenance work and
- 456 any changes are managed efficiently and represent the best value for money.

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

459

460 A2 Project Prioritization

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

462 Within the PPP Delivery Plan, the government should develop an overall financial and economic model for
 463 the PPP (Business Case) that clearly sets out the whole life cost, the charging basis, and the objective
 464 criteria for the financial, social, environmental and economic benefits it will yield. The project should be

465 costed in outline terms prior to its commencement of procurement, and should only proceed if and when it
466 is affordable and represents the best value for money of the realistically deliverable options.

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

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

476

477 A2.2 Develop a clear planning context

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

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

482 General risks:

- 483 - Financial risks;
- 484 - Regulatory and legal risks;
- 485 - Political risks;
- 486 - Environmental risks;
- 487 - Social risks;
- 488 - Construction risks;
- 489 - Operation and maintenance risks.

490 Specific risks:

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

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

501 A2.3 Establish clear and objective approval processes

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

504 Experience suggests that popular resistance to tolling would, if not addressed, prevent use of user revenues
505 and continue reliance on public sector budgets to finance PPP through availability or shadow toll

506 arrangements. The scope of PPP to provide new financing would thus be limited to efficiency gains and the
507 advantages of off-budget financing

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

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

514

515 **B. Financing requirements**

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

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

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

524

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

533

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

542

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

- 545 - Step-in rights: prior to terminating the contract of the Project Company – the lenders have the right
546 to replace the Project Company or operate the asset themselves and collect the cashflow;
- 547 - Compensation-on-termination: lenders increasingly require compensation if the contract is finally
548 terminated. This allows some recovery of outstanding debt and exists as a way to prevent ‘hair-
549 trigger’ termination;

- 550 - Compensation Events: private parties and lenders will not accept certain risks being transferred to
551 the Project Company. Thus, compensation is contractually stipulated in certain events (e.g. acts-of-
552 god, change in law, delay caused by government). In particular PPP contracts should include
553 appropriate MAGA (Material Adverse Government Action) provisions in absence of which can be a
554 deal breaker for some private sectors entities;
- 555 - Guarantees: lenders may require certain guarantees on project revenue and other risks (e.g.
556 political risks such as nationalization);
- 557 - Collateral: lenders may also require “real” security in the event of termination of the Project
558 Company; this is often security over the project land which has a re-sale market value; in such
559 cases, the PPP contract provisions should include appropriate provisions to allow the government
560 to re-bid the project while securing the rights of the lenders. In fact, lenders may be reluctant to
561 release their security interests on road PPP Project assets until compensation payments have been
562 made in full.

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

571
572 Also, typical structures pass key project risks (e.g. construction risk and operating risks) to sub-contractors
573 on a ‘back-to-back’ basis, including the following measures:

- 574 - Liquidated Damages: a contractual promise to pay specified damages in certain events (e.g.
575 construction delay);
- 576 - Performance Bond: a liquid security that can be called by lenders in case of material breach;
- 577 - Parent Company Guarantees: a promissory that the parent company of the sub-contractor will
578 ‘wrap’ some of the obligations of the sub-contractor;
- 579 - Letters of credit: a further ‘liquid’ wrap normally secured against the balance sheet of the parent
580 company to guarantee the sub-contractor’s obligations.

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

585
586 Also, PPP contracts should make very clear whether the so called “tax gross-up” clause would apply to any
587 termination payment by the Contracting Authority, so that the private party is able to repay the full amount
588 to lenders net of any applicable tax.

589
590 B1.2 Develop a standardised ‘shadow’ cost model against which to compare value

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

595 B1.3 Offer robust payment security that guarantees debt repayment

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

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

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

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

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

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

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

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

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

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

636 It must be put particular attention to the mechanism triggering the consequences of any change. In fact,
637 particularly in civil law jurisdictions, usually the parties agree on procedures whereby the designated body
638 (or the court in case of controversy) “restore the economic equilibrium of the contract”. It would be

639 advisable in all jurisdictions to spell out – due to the unpredictability of outcome – the actual consequences
640 if any such change in detail in the PPP contract.

641

642 **B2 Market Consultation, Assessment and Engagement**

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

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

651 B2.2 Realistically match capacity

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

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

659 Consultees should include the following:

- 660 • Contractors;
- 661 • Designers;
- 662 • Sponsors / equity investors;
- 663 • Legal, financial, technical and insurance advisors;
- 664 • Senior lenders and, where appropriate, international financial institutions;
- 665 • Insurance and reinsurance companies;
- 666 • Stakeholders.

667 B2.3 Draw on proven experience

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

671 B2.4 Clearly set out risk transfer proposals

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

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

680 C. Legal Requirements for the Roads Sector

681 C1 Establish a regulatory framework

682 The legislative framework for a PPP in the road sector should be consistent with government’s transport
683 and environmental policy, economic and fiscal policy, and other relevant policies such as those governing
684 urban planning and land use. The framework should also be consistent with initiatives such as the SDGs.
685 The government should enact any legislation necessary to enable the PPP, which often includes PPP-
686 specific laws and public procurement regulations. This might involve amending existing regulations in areas
687 such as tax, insolvency.

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

691

692 C2 Establish a suite of standard procurement protocols and documentation

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

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

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

716 C3 Standardize the procurement process and procedures

717 The procurement process for PPP projects should be clearly set out in the PPP Delivery Plan, and its
718 governance should guarantee a high degree of objectivity and transparency in the invitation, receipt and
719 evaluation of tenders. Qualitative and quantitative evaluation criteria, and their relative weighting, should
720 be established with stakeholders prior to tenders being issued and should be made transparent to bidders
721 when they are invited to tender.

722 Similarly, the project technical requirements should be complete allowing no material change during the
723 process from feasibility study through final detailed design.

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

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

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

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

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

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

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

745 C5 Promote Zero Tolerance to Corruption

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

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

- 753 • A requirement for tenderers to comply with a general policy on conflicts of interests
754 including obligations to disclose and report potential corrupt practices, as well as
755 remedies applicable to all participants and for dispute settlement;
- 756 • A mandatory code of conduct for any potential preferred provider;
- 757 • A set list of duties required of the preferred provider to be delivered as evidence of
758 compliance with a code of conduct, aligned with public sector best interest standards
759 and fiduciary duties;
- 760 • The use of statements of compliance and integrity to be signed by the bidders,
761 subcontractors, consultants and any third party involved in the bidding process;
- 762 • Ongoing compliance guarantees by the successful tenderer, and their main contractors
763 and sub-contractor;

- 764 • Disbarment from future PPP tenders by tenderers where evidence of corrupt practices
765 is evident;
- 766 • Sanctions in the event of attempts to influence public officials or collude with other
767 tenderers (either in relation to an individual tender, or multiple tenders);
- 768 • Preventative measures to hold public officials accountable and sanctions should
769 preventive measures fail;
- 770 • Minimum and maximum preparation time for tenders at each stage;
- 771 • Internal control and audit systems; and
- 772 • Immunity for whistle-blowers.

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

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

777

778 D. Feasibility for low and middle-income countries

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

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

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

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

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

800 Good infrastructure has always played a leading role in economic development. Infrastructure investment
801 can yield big economic gains. Building highways immediately boosts output and jobs, but it also helps to
802 spur future growth, provided the money is spent wisely. Better transport helps farmers to get their produce
803 to cities, and manufacturers to export their goods overseas. Countries with the lowest transport costs tend
804 to be more open to foreign trade and so enjoy faster growth.

805 It is widely recognized that a pragmatic approach should be adopted to PPP as opposed to an approach
806 based on political dogma and the absolute virtues of the private sector. In fact, experience has shown that
807 no ready-made solution exists and that the strict duplication of a project between countries has little
808 chance of success. A PPP project can only produce efficiency gains and added value to the road sector if its
809 characteristics are designed in accordance with the constraints and bottlenecks faced by the road agency,
810 the country framework and the capacity of the private sector. In other words, a PPP project should be
811 carefully tailored to its environment, but with regard to how the environment may need to change in order
812 to maximize development gains.

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

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

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

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

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

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

847 Experience has demonstrated certain rules of thumb for initially selecting a few appropriate PPP projects.
848 These are particularly important for the initial PPP projects where public and political sensitivity may be

849 greatest and where a failure, or at least a perceived failure, may compromise the continuation of the
850 program. The following are some of the more significant criteria:

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

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

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

- 895 • If possible build-in technical support to assist contractors and consultants during the
896 early stages of implementation.

897

898 D1 Project Management

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

907 D2 Engagement with Stakeholders

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

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

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

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

917

918 E. Other Issues related to the Roads Sector

919 E1 Regulation

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

924 E2 Patronage

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

928 E3 Cost Overruns

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

933 E4 Early Termination Arrangements

934 The suite of standard forms of contract documentation developed under C2 will include provisions
935 regulating early termination, for example in the event of material failure to perform the contract. A

936 particular issue for road infrastructure is finding suitable replacement operators with the necessary
937 competence. Contracts should allow sufficient time before termination for satisfactory arrangements to be
938 put in place, including preservation of key subcontracts to ensure continuity of operation.

939

940 VI. Indicators of Compliance

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

942

943 VII. Credits and References

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

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

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

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