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## **Defining PPP Opportunities in the Road Sector of Ukraine**

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Public-Private Partnership (PPP) has become a popular tool for implementing public investment projects across the world. Many governments have been using PPP to realize investment projects concerning highways, railways, airports and other transport infrastructure. PPP is mutually beneficial relationship that is formed between the public and private sectors. When properly vetted and structured, PPP allocates risk to the party best suited to handle it. Furthermore, PPP is a powerful tool of public regulation in the context of investment, innovation, fiscal, and competitive policy. A considerable part of transport infrastructure in Ukraine belongs to the public property. At the same time, the state of motorways, railways, seaports and airports is unsatisfactory as for a European country. Neither state nor local budgets have necessary financial resources for the modernization of the infrastructure. Therefore, it is naturally that the government is oriented at the development of PPP and concession.

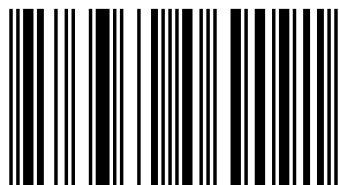


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## Defining PPP Opportunities in the Road Sector of Ukraine



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## **Defining PPP Opportunities in the Road Sector of Ukraine**

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### **Overview of the road sector in Ukraine**

The road sector is one of strategic segments of Ukrainian economy and public roads are considerable part of Ukrainian infrastructure potential. The length and the condition of roadways influence safety and quality of freight and passengers' transportation, mobility and employment level, access to education services and other services, but also effects changes in speed and flow of capital within Ukraine as well as abroad. It is a vital condition to restore competitiveness of the state economy in general.

The road network of Ukraine is relatively new by international experience. There is consensus among a range of experts around a staggering rate of construction of roads peaking at 30,000 km per annum during the 1970s, culminating at the time of the Olympic Games in 1980<sup>1</sup>. Since that time, the overall scale of the network has not changed much, although many roads have been reconstructed, upgraded, rehabilitated and repaired in the intervening period.

One important thing, changed on several occasions, has been the hierarchical functional classification of roads, most recently in 2014. There have been plans to

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<sup>1</sup> Ukraine Road Sector Diagnostic Report. Second Roads and Safety Improvement Project. High-Point Rendel in joint venture with IMC Worldwide, 2015.



decentralise the administration of parts of the road network, following the view that local authorities are better able to manage local roads. The main trunk routes are managed by a central road agency, which is equipped to ensure high and consistent standards of construction and maintenance across the network.

Public roads in Ukraine are divided into state and local roads (see *Table 1*).

Table 1

Classification of public roads<sup>2</sup>

<b>State roads</b>	International roads	International transport corridors
	National roads	National transport corridors, connecting the capital with administrative centres of oblasts, and connecting large industrial centres to international roads
	Regional roads	Roads connecting oblasts, roads between main border crossings and international or national roads
	Territorial roads	Roads connecting the administrative centres of oblasts with the administrative centres of raions etc.
<b>Local roads</b>	Oblast' roads	Roads connecting the administrative centres of raions etc.
	Rayon roads	Roads connecting settlements within a raions etc.

The length of the state road network is 52.0 thousand km, and local road network is 117.6 thousand km (see *Table 2*). Total length of hard surface roads with improved types of coverage (cement concrete, asphalt concrete, and bituminous macadam roads) is about 76.7% of the total roads length, the other are of transition types (chipping roads, gravel, and stone blocks). The Ukrainian E-road network as a part of the European road network is shown in Figure 1.

Figure 1

<sup>2</sup>Law of Ukraine 'On Motorway Roads' No. 2862-15. Revised 09.12.2015.

## E-road network of Ukraine



Table 2

Length and features of public roads in Ukraine (2015)<sup>3</sup>

Meaning of roadways	Total roads, km	Total hard surface, km	Including, types of coverage (km)					% hard surface	natural, km	Differentiation of hard surface roads by categories (km)					Weighted mean value of categories
			cement concrete	asphalt concrete	bituminous macadam road	Chipping, gravel roads	stone blocks			I	II	III	IV	V	
<b>Total in Ukraine</b>	169646,8	166082,3	2152,1	60234,4	70515,1	25129,2	7649,9	97,9	3564,4	2807,4	12858,3	27666,1	107891,1	14859,5	3,7
<i>including:</i>															
<b>State roads</b>	52009,2	51958,3	1228,9	32011,0	16807,4	102,1	786,0	99,9	50,9	2805,7	12432,3	20881,7	15453,8	384,8	3,0
<i>international</i>	8685,6	8685,6	643,8	7700,0	333,2	-	8,6	100,0	-	2050,5	4897,2	1583,7	147,6	6,6	2,0
<i>national</i>	4855,2	4855,2	111,5	4324,3	409,4	7,9	2,4	100,0	-	521,4	2840,6	1376,8	116,4	-	2,2
<i>regional</i>	10098,1	10095,1	172,2	6981,4	2814,6	58,1	62,9	100,0	3,0	174,2	2921,3	5373,9	1604,2	21,5	2,8
<i>territorial</i>	28370,3	28322,4	301,4	13005,3	13251,1	948,3	712,1	99,8	47,9	59,6	1773,2	12547,3	13585,6	356,7	3,4
<b>Local roads</b>	117638,2	114124,6	923,2	28223,4	53707,3	22567,8	6863,9	97,0	3513,5	1,7	426,0	6784,4	92437,3	14474,7	4,1
<i>oblast'</i>	48858,9	47781,3	334,3	14298,9	22197,0	6960,6	3636,7	97,8	1077,6		242,0	4589,3	40382,3	2567,1	3,9
<i>rayon</i>	68778,7	66343,4	588,9	13924,5	31510,3	15607,2	3227,2	96,5	2435,9	1,7	183,4	2195,1	52055,0	11908	4,1

<sup>3</sup> Annual Journal of Ukraine 'Length and features of public roads' / Ministry of Infrastructure of Ukraine. - [E-resource] - Available on: <http://new.mtu.gov.ua/content/inshi-vidomosti.html>

In addition to public roads, there are an estimated 86,000 km of streets in settlements and municipalities, known as communal roads, around half of which are reported to be unpaved. The total length of roads in Ukraine is estimated at near to 450,000 km, the remainder of which are the equivalent of tracks<sup>4</sup>.

Basic problems of the road sector that decrease fulfilment of the potential are as following:<sup>5,6,7</sup>

- Insufficient transporting and exploiting condition of roads;
- High level of monopoly and low level of efficiency in terms of management and services provided within the road sector;
- Insufficient level of construction, reconstruction, repair and maintenance of roads as well as budgeting of road service objects;
- Insufficient level of traffic safety;
- Fall of public roads development behind automobilization pace of the country in general;
- Low level of services provided to users of the public roads.

Economy of Ukraine falls short of almost 5.0% of GDP due to the condition of the public roads, which equals almost 70 billion UAH, while in 2001 the losses were almost 20 billion UAH per year, which equalled 3.5% of GDP. The losses are, first of all, based on overrun of fuel and total increase of transportation

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<sup>4</sup> Ukraine Road Sector Diagnostic Report. Second Roads and Safety Improvement Project. High-Point Rendel in joint venture with IMC Worldwide, 2015.

<sup>5</sup> Some issues on reforming state system of managing public roads usage / Decree of Cabinet of Ministers of Ukraine of 31 of March 2015, #432-p. [e-resource] - available on: <http://zakon4.rada.gov.ua/laws/show/432-2015-%D1%80>

<sup>6</sup> On approval of Concept of State Goal Oriented Program of Development of Public Roads for the period of 2013 - 2018 years/Decree of Cabinet of Ministers of Ukraine of 3 of September 2012 # 719-p // Official Journal of Ukraine of 05.10.2012. - 2012. - # 73. - pages 2943.

<sup>7</sup> Transporting strategy of Ukraine for the period up to 2020. Decree of Cabinet of Ministers of Ukraine of 20 October 2010. N 2174-p. - [E-resource] - Available on: [http://new.mtu.gov.ua/files/transport\\_strategy\\_ua.pdf](http://new.mtu.gov.ua/files/transport_strategy_ua.pdf)

losses caused by decrease of speed as well as raise of additional repair for vehicles.<sup>8,9</sup>

Integration of Ukraine into European economy, expansion of trading and economic relations with EU countries, and necessity of further development of sectors activate opportunities to use transit potential of Ukraine. The territory of Ukraine is crossed by three international transport corridors: PanEuropean #3 Berlin (Dresden) – Wrocław – Lviv – Kyiv, PanEuropean #5 Trieste – Lubiana – Budapest (Bratislava) – Lviv, PanEuropean #9 Helsinki – St. Petersburg (Moscow) – Kyiv – Kishinev (Odesa) – Bucharest – Dymytrovgrad – Aleksandropolis.<sup>10</sup>

Besides, the roads length has not been almost changed for the last twenty years, while the density has increased and turned to be higher than in developed countries. The actual budgeting of the road sector for the last 10 years reached 14-34% of the minimum level required to maintain and repair the road. An average speed of the roads is 2-3 times lower than if compared to European countries.<sup>11</sup> Almost 90% of public roads have not been repaired for 30 years. For such poor budgeting the required terms for maintaining and improving technical equipment of the road sector are violated.<sup>12</sup>

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<sup>8</sup> Explanation note to the Draft of Law of Ukraine “Changes to the Law of Ukraine “On Roadways”. - [E-resource] – Available on: <http://www.ukravtodor.gov.ua/uploads/files/2015-01-16-09-57-41-zapiska.pdf>.

<sup>9</sup> Mechanism of efficient usage and development of transporting and roads potential of Ukraine / [Sobkevych O.V., Mykhailychenko K.M., Yemelyanova O.Yu.]; – K.: NISD, 2014. – 60 pages

<sup>10</sup> Some issues on reforming state system of managing public roads / Decree of Cabinet of Ministers of Ukraine of 31 March 2015 # 432-p. [E-resource] – Available on:<http://zakon4.rada.gov.ua/laws/show/432-2015-%D1%80>

<sup>11</sup> Transporting strategy of Ukraine for the period to 2020 Decree of Cabinet of Ministers of Ukraine of 20 October 2010 N 2174-p [E-resource] – Available on: [http://new.mtu.gov.ua/files/transport\\_strategy\\_ua.pdf](http://new.mtu.gov.ua/files/transport_strategy_ua.pdf)

<sup>12</sup> Technical condition of public roads / Ministry of Infrastructure of Ukraine [E-resource] – Available on: <http://new.mtu.gov.ua/content/tehnichny-stan-avtomobilnih-dorig-avtomobilnih-dorig-zagalnogo-vikoristannya.html>

The low quality of services as well as insufficient condition of the roads has been also proved by international experts. In particular, according to the World Economic Forum experts the Ukrainian roads were estimated at 2.2 of 7 points in 2014-2015 and took 139<sup>th</sup> position among 148 countries in terms of roads quality.<sup>13</sup>

Modern network of roads are at high level of their physical and moral wear. Almost 75% of the existing public roads have been projected and constructed in 1960-70s and their capacity was estimated at 6,5 tons of axle load and bridges with total weight of vehicle less than 36 tons. Since that time, the load has increased sufficiently and in particular on transit directions.<sup>14</sup> The quickly destroying roads' structure, while the existing network of roads is not provided with such capacity, is caused by increase of the traffic density as well as vehicle weight load. As the result, the roads' surfaces are effected with slips, tracks, and other types of deformation, which are the reason for traffic safety.

Ukrainian roads include 14,191 bridges and overbridges of total length 383,9 thousand long meters. Most of them (almost 65%) have been constructed before 1970 and in due regards of the existing standards. Currently more than 8,7 thousand bridges do not meet modern technical requirements and actual load, while 1,861 bridges require immediate repair.<sup>15</sup> Impressive factor of insufficient transport and operation condition of the road network is a low quality of constructing and repairing works, which are reasoned by: nonfulfillment of production technologies, non-conformity with modern requirements to the

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<sup>13</sup> <http://www3.weforum.org/docs/GCR2014-15/Ukraine.pdf>

<sup>14</sup> Some issues on reforming state system of managing public roads usage / Decree of Cabinet of Ministers of Ukraine of 31 of March 2015 # 432-p. - [E-resource] - Available on:<http://zakon4.rada.gov.ua/laws/show/432-2015-%D1%80>

<sup>15</sup> Technical condition of public roads / Ministry of Infrastructure of Ukraine. - [E-resource] - Available on: <http://new.mtu.gov.ua/content/tehnichnyy-stan-avtomobilnih-dorig-avtomobilnih-dorig-zagalnogo-vikoristannya.html>

most of materials, insufficient level of technical equipment for roadworks, low qualification level as well as level of responsibility of such constructors.<sup>16</sup>

Actual need for Ukrainian road sector budgeting is much higher than current level of allocation. Every year Ukrainian roads require UAH 40 billion of capital investments. According to the standards, 35 thousand km of roads require capital or average repair annually, while only 5 thousand km of them were repaired for the last 5 years.<sup>17</sup>

Development of automobile roads network as well as provision of quality as according to the international standards means significant, incommensurate to opportunities of state budget, and financial resources. Thus, in average, the world spends 4% of GDP of a country to repair and construct road networks. In particular, in Ukraine they spend almost 5.5 thousand USD per 1 km of public roads development and maintenance, which is 2.4 times less than in Belarus, 3.1 times less than in Poland, and 8-9 times less than in leading European countries<sup>18</sup>.

Ukrainian public roads are owned by the state. The State Road Agency of Ukraine (Ukravtodor) is responsible for functioning and quality of the roads<sup>19</sup>. Ukravtodor is represented at regions with regional road services that take care of 52 thousand km of roads. Besides, local authorities provide operation and maintenance of almost 118 thousand km of roads by means of state budget subventions.

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<sup>16</sup> Dmytriev I.A. Current condition and prospects for development of public automobile road / Dmytriev I.A., Burmaka M.M. // Problems and prospects for business development. - 2013. - # 1. - pages 64-72. - [E-resource] - Available on: [http://nbuv.gov.ua/j-pdf/piprp\\_2013\\_1\\_14.pdf](http://nbuv.gov.ua/j-pdf/piprp_2013_1_14.pdf)

<sup>17</sup> Mechanism of efficient usage and development of transporting and roads potential of Ukraine / [Sobkevych O.V., Mykhailychenko K.M., Yemelyanova O.Yu.]; - K.: NISD, 2014. - 60 pages

<sup>18</sup> Ibid.

<sup>19</sup> Ukravtodor is defined as central executive body, whose activities are directed and coordinated by the Cabinet of Ministers of Ukraine via the Minister of Infrastructure of Ukraine, and which ensures the implementation of the state policy in the road sector.

For the reason of insufficient budgeting of the road network development the Ukrainian government is constantly seeking for cooperation with international financial institutions. As of beginning of 2015 total loans of Ukravtodor was almost 43 billion UAH. Most of the resources are the loans provided by international financial institutions received for renovation of few automobile roads within transnational transport corridors. Herewith, the unpaid to international financial institutions balance equals almost 22.5 billion UAH.<sup>20</sup>

The key risk for such mechanism of cooperation with international financial institutions is the high level of loan debt and 'debt hole' of road sector of Ukraine. A good example for such case is the budgeting of the sector in 2015. Thus, state budget has allocated 23.2 billion UAH for road sector, where 19 billion UAH were directed to pay external loans, and 4 billion UAH were directed to the sector itself.

In such conditions, the Ukrainian road network requires cooperation of public and private sectors, development of partnership relations between the state and business, strengthening on private investors' and operators' role, search for most rational formats of their cooperation and distribution of responsibility.

Strengthening private sector role in development of automobile road economy is caused by the budget limits, but also by insufficient state management and investment. In order to solve the task, the private investments requires integration of support at every level of government authorities, experts'

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<sup>20</sup> Report of State Agency of Automobile Roads of Ukraine on allocation of State budget of Ukraine in 2014. [E-resource] - Available on: [http://www.ukravtodor.gov.ua/diyalnist-golovnogorozporyadnika-byudzhethnikh-koshitiv-zviti-pro-vikoristannya-koshitiv/%D1%81\\_zvit-derzhavnogo-agentstva-avtomobilnikh-dorig-ukraini-pro-vikonannya-derzhavnogo-byudzhetu-ukraini-za-2014-rik.html](http://www.ukravtodor.gov.ua/diyalnist-golovnogorozporyadnika-byudzhethnikh-koshitiv-zviti-pro-vikoristannya-koshitiv/%D1%81_zvit-derzhavnogo-agentstva-avtomobilnikh-dorig-ukraini-pro-vikonannya-derzhavnogo-byudzhetu-ukraini-za-2014-rik.html)



society, financial and credit institutions, non-commercial organization, as well as mass media and local societies.

## **PPP as a tool for the road network development**

Public-Private Partnership (PPP) has become a popular instrument of implementing public investment projects across the world. Many governments have been using PPP to implement and realize investment projects concerning highways, railways, airports, and other fixed assets. Instead of paying for the asset from budgetary funding, governments engage in a contractual arrangement with private firms that will finance the design, construction, operation, and maintenance of the project. In exchange, the government makes a commitment to provide necessary funding to the firms to cover its expected costs for not only the initial design and construction of the asset but also for the subsequent operation and long-term maintenance of the project in addition to an anticipated level of profit. PPP allows governments to leverage private capital, deferring public outlays without deferring the benefits. PPP has become particularly attractive to governments with annual budget restrictions but which expect less restriction or control on incurring liabilities in the future.<sup>21,22</sup>

PPP is mutually beneficial relationship that is formed between the public and private sectors. When properly vetted and structured, PPP allocates risk to the party best suited to handle it. The public sector is often able to shift risks to the private sector. Three key factors enable PPP to stimulate a country's economic growth:<sup>23</sup> 1) the number of PPP projects under way, 2) the types of PPP contracts in use, 3) the country's political and economic policies and institutions. In fact, PPP success is entirely dependent on having the right framework in place

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<sup>21</sup> Perrot, J-Y., Chatelus, G., 2004, Financing of Major Infrastructure and Public Service Projects: Public-Private Partnership. Lessons from French Experience throughout the World. French Ministry of Public Works, Transport and Housing.

<sup>22</sup> Public-private partnerships, government guarantees, and fiscal risk / Prepared by a staff team led by Richard Hemming - Washington D.C.: International Monetary Fund. 2006.

<sup>23</sup> Shediak, R., Abouchakra, R., Hammami, M., Najjar, M., 2008, Public-Private Partnerships. A New Catalyst for Economic Growth. Booz & Company.

and knowledgeable and trusted advisors, both public and private, to assist with structuring, screening, and procuring high-value PPP projects.

Evidence suggests that the more PPP projects launched in a nation, the higher the rate of GDP growth.<sup>24</sup> Notably, countries with 70 or more PPP infrastructure projects demonstrated a 25% GDP growth rate between 1990 and 2003. This is because such projects tend to be large undertakings that bring capital into the market while creating long-term employment. Job growth drives more consumption, generating more wealth and fuelling a stronger economy. Private investment of this nature also attracts other private investors to the market, creating a sustainable model for the economic growth.

The type of PPP contract is the element that has the greatest influence on economic growth. This is because the nature of the PPP contract will determine the level of private-sector involvement. As private-sector involvement in a PPP increases, so too does the quality of the project and the transfer of knowledge and resources. The application of private-sector management principles, combined with investment in state-of-the-art technology and methods, leads to more cost-effective administration and greater access to services. This, in turn, attracts more private investment into the economy and raises the overall standard of living.

On the other hand, PPP is a powerful tool of public regulation in context of investment, innovation, fiscal, competitive, social and regulatory policy.

In terms of economic policy, PPP is considered a socio-economic institution. The common use of the term '*institution*' makes it possible to

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<sup>24</sup> Ibid.

consider PPP as an institution in five aspects: behavioural, cognitive, associative, regulatory and constitutive.<sup>25</sup>

According to the *behavioural* aspect, at the level of the national economy PPP should be regarded as an institution of strategic interaction between public and private sector to address socially significant competitive challenges for the socio-economic development. At the micro level, such a strategic interaction is manifested in the investment project implementation. The relationship that form the PPP institution can be searched in the framework of rational choice institutionalism based on the game theory as a set of equilibrium repeated outcomes in the standard cooperative game.

According to the *cognitive* aspect, PPP is directly linked to the institutions of public confidence and social responsibility, which are the integral parts of the social partnership mechanism. The development of the social partnership in Ukraine requires the formation of the partnership ideology, in which the leading role belongs to the state.

In the *associative* aspect, PPP can be seen as an institution to reconcile private and public interests based on communitarian paradigm and effective mechanisms for the involvement of business elites in the process of providing public goods.

At the same time, according to the *regulatory* aspect, PPP defines the parameters of partnership between the state, businesses and civil society expressed in the objectives, forms and results of their interaction at all levels. Instrumental PPP capabilities are fully revealed during the implementation of the national anti-crisis policy by creating jobs, introducing tax privileges,

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<sup>25</sup> Cherevykov, I., (2013), Institutional Environment for Public-Private Partnership in Ukraine: Do Institutions Really Matter? Eurasian Challenges. Partnerships with Russia and Other Issues of the Post-Soviet Area. East European Studies № 4. Research Centre for Economic and Regional Studies of the Hungarian Academy of Sciences, Institute of World Economics, Budapest.

simplifying business environment for small enterprises, providing financial support for financial institutions and so on.

*Constitutive* nature of PPP is carried out through a system of state guarantees, which serves as a key factor in ensuring fair behaviour (the behaviour that matches the promises issued) and stable partnerships, secured in the relevant regulations.

There are four different institutional levels influencing the development of PPP policies and projects: 1) international-supranational level, 2) macro-institutional country level, 3) level of policy, regulation and supporting institutions, 4) project level.<sup>26</sup> International-supranational pressures include regulatory, normative, and economic pressures for isomorphism: the EU meta-regulation on procurement, public debt, and national budget. Macro-institutional variables include five groups of factors: culture (style of governance, societal culture), political system (legislative and executive), societal-economic model (kind of welfare state model), specific economic and financial context (national economic and public finance situation), administrative history and reform trajectory (extent of liberalization/privatization). Level of policy, regulation and supporting institutions implies PPP policy (motivations for PPP; public, political and administrative support for policy strategy documents for enhancing PPPs). Project level variables include specific PPP's features, output and process performance of PPPs.

Following the PricewaterhouseCoopers forecast almost USD 78.0 billion will be spent for capital projects and infrastructure all around the world during the period to 2025<sup>27</sup>. The *USA* is the leader in terms of the number of projects for

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<sup>26</sup> COST Action TU 1001. Public Private Partnerships in Transport: Trends & Theory. 2013 Discussion Papers. Part I Country Profiles.

<sup>27</sup> Investment into world infrastructure will be increased twice to USD 9 billion in 10 years. - [E-resource] – Available on: <http://ru.reuters.com/articlePrint?articleId=RUKBNoEYoRF20140623>

transport infrastructure development as based on PPP among developed countries. Many highways in the country have been constructed and are now being operated by private companies, while they are still a community property. Thus, in 1985-2004 there were 62 PPPs implemented within the transport sector of the USA with total amount of investments of USD 42.0 billion. Most of toll roads are operated by private companies under leasing contracts of 99 years period.

European market of PPP/concession projects has a tendency to recover from the financial crisis of 2008/2009<sup>28</sup>. Number of the projects has increased to 80, if compared to 68 in 2012, while the value increased to EUR 16.3 billion if compared to 12.8 respectively. In 2015, the aggregate value of PPP transactions that reached financial close in the European market totaled EUR 15.6 billion, a 17% decrease from 2014 (EUR 18.7 billion)<sup>29</sup>. Turkey, the UK, France, Germany and the Netherlands are still the European leaders of the PPP market. They all hold 75% of the world market value. In 2013, fourteen European countries (Great Britain, Italy, France, Netherlands, Turkey, Spain, Croatia, Germany, Poland, Ireland, Austria, Belgium, Denmark, and Lithuania) have reached financial close of at least one project per each country. The same time economy sectors' leaders in terms of PPP projects are transport (value leader) and education (quantity leader), where 90% of contracts include financial participation of the state. In 2015, ten countries closed at least two deals (compared to 11 countries in 2014) and 12 countries closed at least one PPP transaction (13 in 2014). Notably, Finland closed a PPP deal for the first time since 2011. The transport sector remained by far the largest in value terms. With more than EUR 9.0 billion worth of

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<sup>28</sup> François Gaudet (2014), Panel introduction: Institutional investors' debt in PPPs: myth or reality? European PPP Expertise Centre, Vienna.

<sup>29</sup> Market Update Review of the European PPP Market in 2015. - [E-resource] - Available on: [http://www.eib.org/epcc/library/epcc\\_market\\_update\\_2015\\_en2](http://www.eib.org/epcc/library/epcc_market_update_2015_en2)

transactions, transport represented around 60% of the total market value. However, the number of deals closed in the sector decreased significantly (12 compared to 23 in 2014).<sup>30</sup>

European countries mostly use a traditional type of road concession when a private company constructs and operates the road as well as receives toll payments from users. The same time, there are such countries (for instance, *Norway*), where governments offer their existing roads for concession. There are 26 specialised companies in Norway, where more than 100 roads are being served (these are mostly bridges and tunnels). These are not a usual concession type companies that are responsible only for collecting road toll from users and directing it to the budget. Some EU countries do not have any toll roads (Luxembourg, Switzerland, and the Netherlands).

According to the World Bank Group, the annual toll rate in the EU countries varies from EUR 30 to 150. There are five basic rates in the EU used depending on a weight and type of a vehicle. European Professional Association of Operators of Toll Road Infrastructure (ASECAP) states that toll payment can differ significantly between the countries and within one country as well.<sup>31</sup>

Nowadays there are also highways or some separate concession objects (bridges, tunnels, etc.) which are paid. There are strict requirements on safety of traffic as well as environmental control. There are different schemes on payment, such as payment for one km or annual payment for usage of highways.

Despite the successful development of the concession on construction and operation of motorway roads, the failures still happens. The PPP efficiency is one of the most discussed issue among experts. The reason is that there is still no

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<sup>30</sup> Ibid.

<sup>31</sup> Official web-page of ASECAP. - [E-resource] - Available on: [http://asecap.com/index.php?option=com\\_content&view=article&id=2&Itemid=103&lang=en](http://asecap.com/index.php?option=com_content&view=article&id=2&Itemid=103&lang=en)

unified approach to evaluate the project with a life cycle of more than 30 years and complicated payment and risk distribution scheme. Currently we can clearly state that inefficient project is those being prepared for a long period and still being unimplemented. Most of unsuccessful projects have been cancelled at the stage of financial close or withdrawn because the forecasted demand happened to be overoptimistic and the actual traffic was not able to satisfy private partner requirements in terms of the cash flow. This happens not only in developing countries, but in developed countries as well<sup>32</sup>. The project efficiency also decreases dramatically, if there is a significant overrun of actual construction costs.

The field of transportation represents one of the major areas of responsibility involving public authorities in which partnership with the private sector may lead to significant added value in terms of efficiency and quality of service. Three fundamental characteristics exert a critical impact on the ways potential PPP are implemented:<sup>33</sup>

1) Magnitude of the externalities generated. The transportation system generates positive economic and social externalities as well as negative (mostly, environmental) externalities. It makes a significant distinction between socio-economic benefits of the project and its purely financial profitability;

2) High level of infrastructure consumption. Each new project requires a huge initial capital investment and the depreciation period for transportation infrastructure is very long.

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<sup>32</sup> Varnavsky V.G. Concession in transport infrastructure: the theory, practice, and prospects. M., 2002. pages 54-55

<sup>33</sup> Perrot, J-Y., Chatelus, G., 2004, Financing of Major Infrastructure and Public Service Projects: Public-Private Partnership. Lessons from French Experience throughout the World. French Ministry of Public Works, Transport and Housing.



3) Relatively weak level of captive market demand. Traffic forecasting is often difficult to perform. Forecasting errors are divided into natural errors, which are a consequence of model inaccuracy, and strategic errors, which are intentionally caused by bidders in the tender in order to be granted the concession.<sup>34</sup>

The impact of these three characteristics results in a high level of risk and it becomes necessary for the public authority to assume heavy involvement, side by side with the selected partner, in financing the infrastructure. Major motorway construction projects imply the most complex and complicated forms of PPP that linked to the huge financial risks and the involvement of the State as a public partner. The use of PPP for road infrastructure projects encompasses just the supply component and excludes all of the associated service provision.

A key point of any PPP in a road sector is a payment scheme. Within the area of roads, the revenues necessary to cover construction and operating costs, stem from two sources – public authority subsidies, and user tolls. According to Vincent Piron<sup>35</sup>, the breakdown between subsidies and toll revenue is the outcome of a dual economic/social imperative: achieving a fair equilibrium is prerequisite to the full success of all projects.

The economic benefits behind a road concession is shaped by three main principles<sup>36</sup>:

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<sup>34</sup> Why traffic forecasts in PPP contracts are often overestimated? Research Paper. 2007. EIB University Research Sponsorship Programme - [E-resource] - Available on: <http://www.transyt.upm.es/index.php/en/deliverables.html?download=21:why-traffic-forecast-in-ppp-contracts-are-often-overestimated>

<sup>35</sup> Perrot, J-Y., Chatelus, G., 2004, Financing of Major Infrastructure and Public Service Projects: Public-Private Partnership. Lessons from French Experience throughout the World. French Ministry of Public Works, Transport and Housing.

<sup>36</sup> Ibid.

- The concessionaire is responsible for both the construction and operations of the facility and is able to minimize overall construction and maintenance costs in a long-run period,
- The facility is to be sized in accordance with economic criteria,
- The project-financing procedure allows gathering the financing more quickly than by following the rules governing public sector's budgets. This acceleration in turn creates a leveraging effect as new technologies or new product development conditions are introduced.

This general rules enable considerable flexibility in drawing up concessionary contracts.

A choice between public subsidies (availability payments) and tolls from users is rather a political matter based on three key parameters: 1) the frequency with which the average customer uses the facility, 2) the degree of toll obligation imposed on potential customers, 3) the country's practices with respect to toll facilities. There is an essential difference between a toll paid on a regular basis (when crossing an entrance to an urban center as part of a daily commute) and highway tolls, which are paid only infrequently. The first one is usually assimilated as a monthly cost and hence evaluated in terms of the household's income and savings power. The second one is mostly absorbed by a more substantial expense. The degree of obligation related to a toll road can be measured as the ratio of the capacity of the toll road to the total transportation capacity available in the particular corridor, including public transit services.<sup>37</sup> Vincent Piron<sup>38</sup> determines 4 categories of facilities in terms of the degree of obligation:

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<sup>37</sup> Ibid.

<sup>38</sup> Ibid.

- Facilities whose use is both frequent and mandatory (urban bridges, urban access tolls, urban bypass roads),
- Facilities whose use is frequent, despite a low degree of obligation (tunnels, bypass roads),
- Facilities whose use is infrequent for non-reimbursed households and for which an alternative mode or even a free mode exists (high-quality toll-free roads),
- Facilities whose use is infrequent, yet which remain almost fully mandatory (some facilities for vacationers).

The country's practices with respect to toll facilities as a parameter involved in determining the political acceptability of tolls is the impression given of having to pay in addition to the normal tax amount. This psychological parameter varies considerably from one country to another and even from one road connection to another one.

## PPP in Ukraine

The potential of using PPP in Ukraine is high due to the high share of public sector in the national economy (37.0%).<sup>39</sup> Considerable part of transport, housing and communal, energy and social infrastructure belongs to the public property. At the same time, the state of motorways, railways, seaports and airports is unsatisfactory as for a European country. Neither state nor local budgets have necessary financial resources for the modernization of the infrastructure and they will unlikely appear in the nearest future. In this situation, it is naturally that the state is oriented at the development of PPP.

In Ukraine the PPP investment potential is underestimated, as evidenced by the absence of PPP motorway projects. The main reasons why the dynamics of PPP development in Ukraine does not accord with the requirements of the economy are the following: insufficient level of political and economic stability, lack of consistent policy and proper management on PPP, no effective PPP public support mechanism, complicated and inconsistent tariff regulation, low institutional capacity of government entities and the private sector in PPP implementation, poor qualification level of officials and low awareness of the private sector as regards PPP specifics and so on.

According to the Law of Ukraine on Public-Private Partnership, the PPP can be implemented on PPP agreement basis, under concession contracts, agreements on joint ventures, etc. Concession contracts as well as life circle agreements are most common for the road sector.<sup>40</sup> The Ukraine's legal framework governs the economic relations between public and private sectors through a number of laws and regulations, among them the Economic Code of

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<sup>39</sup> Zapatrina, I., 2011, Public-Private Partnership in Ukraine: Are There Any Perspectives?. Private Equity Russia & CIS Journal (PERCIS), #7.

<sup>40</sup> Regulatory Framework for Public-Private Partnerships in Roads. - [E-resource] - Available on: <http://ppp.worldbank.org/public-private-partnership/sector/transportation/roads-tolls-bridges>

Ukraine, the Civil Code of Ukraine, the Budget Code of Ukraine, the Law of Ukraine on Leasing State and Communal Property, the Law of Ukraine on the Administration of State and Communal Property, the Law of Ukraine on Local Government etc.

As to enable the descriptive analysis of institutional factors, influencing PPP development in Ukraine, can be used a special guiding framework.<sup>41</sup> This framework includes variables and indicators for the dimension political commitment to PPP, the legal and regulatory framework for PPP, and PPP-supporting institutions (Table 3).

Table 3

### Institutional factors of PPP development in Ukraine

<i>Variables</i>	<i>Indicators</i>	<i>Comments</i>
PPP policy framework	Strategic policy document which outline and explicit policy strategy on PPP	Concept of public-private partnership in Ukraine for 2013-2018 (Decree of Cabinet of Ministers of Ukraine)
	PPP as element in sectoral policy framework documents	Strategies and programming policy documents in different sectors of economy (i.e. motorway roads, transport, energy sector, regional development etc.)
	PPP program with pipeline and timetable of viable projects to which government is committed to procure	There is no unified PPP program with pipeline and timetable projects
	Main political motivations for PPP	Attraction of private financing to infrastructure projects under severe public budget restrictions.

<sup>41</sup> COST Action TU 1001. Public Private Partnerships in Transport: Trends & Theory. 2013 Discussion Papers. Part I Country Profiles.

		Use of private sector's organizational and managerial skills for infrastructure projects and economic development
Previous and current PPP experience	Number of PPP projects	There is no PPP projects list in Ukraine.  According to World Bank's PPP Knowledge Lab <sup>42</sup> , the total number of PPP projects in Ukraine is 19.  According to the Ministry of Economic Development and Trade of Ukraine <sup>43</sup> , the total number of PPP projects in Ukraine is 185 (153 concessions, 31 agreements on joint activity, 1 PPP agreement)
	Lending volume via PPP projects	N/A
	Percentage of infrastructure investment through PPP over time	N/A
Political stability	Major changes in political landscape affected political will/support regarding PPP	There are <b>21 governments</b> and <b>2 revolutions</b> during 25 years of independent Ukraine. Each government cancelled previous programs / projects and developed new ones.
Legal PPP framework	Explicit general PPP or concession law	- Law On Public-Private Partnership - Law On Concessions - Law On Concessions on Construction and Operation of Automobile Roads

<sup>42</sup> World Bank Group. PPP Knowledge Lab. - [E-resource] - Available on: <https://pppknowledgelab.org/countries/ukraine>

<sup>43</sup> Ministry of Economic Development and Trade of Ukraine. - [E-resource] - Available on: <http://www.me.gov.ua/Documents/Detail?lang=uk-UA&id=ed00a2ba-480a-4979-84eb-d610a0827a8c&title=ZagalniiOgliad>

		<ul style="list-style-type: none"> <li>- Law On Peculiarities of Lease or Concession of Communal-Owned Facilities in the Areas of Heating, Water and Sanitation</li> <li>- Law On Peculiarities of Lease or Concession of State-Owned Fuel and Energy Complex Facilities</li> </ul>
	Public procurement law	Law On Public Procurement (from 25.12.2015 № 922-VIII)
	Accordance with EU guidelines	Generally, in accordance with EU guidelines
Scope and boundaries of specific PPP law	PPP definition	<p>Public-private partnership is cooperation between the State of Ukraine, the Autonomous Republic of Crimea, local communities represented by the relevant public and local authorities (public partners) and legal entities, except state and municipal enterprises, or individuals - entrepreneurs (private partners), which based on the agreement<sup>44</sup></p> <p>Signs of PPP:</p> <ul style="list-style-type: none"> <li>- Transferring rights of management (use, operation) of partnership's object or acquisition, creation (construction, reconstruction, modernization) of partnership's object with a subsequent control (use and exploitation), on condition of adoption and implementation of investment commitments by private partner under the agreement concluded within the framework of PPP;</li> </ul>

<sup>44</sup> Law of Ukraine On Public-Private Partnership.

		<ul style="list-style-type: none"> <li>- Long-term relationships (from 5 to 50 years);</li> <li>- Transfer of certain risks to the private partner;</li> <li>- Making investment in partnership by the private partner.</li> </ul>
	Sectors and types of infrastructure/services concerned	<ul style="list-style-type: none"> <li>- Production infrastructure and high-tech manufacture (transport and transport infrastructure, energy sector, energy saving, machine building, and communications)</li> <li>- Construction and housing and communal services (development of the market of affordable housing, technical re-equipment, resource and energy efficiency improvements in the housing and communal services sector, water supply, domestic wastes disposal, outdoor improvements)</li> <li>- Social infrastructure/services and human development (healthcare, education, culture, tourism, sport, and environmental protection).</li> </ul>
	Competent contracting authorities	<ul style="list-style-type: none"> <li>- Public authorities (Cabinet of Ministers of Ukraine, Ministry of Regional Development, Construction, Housing and Communal Services of Ukraine, Ministry of Energy and Coal Industry of Ukraine, Ministry of Infrastructure of Ukraine, Ministry of Education, Youth and Sports of Ukraine, Ministry of Health of Ukraine, State Agency of Highways of Ukraine, State Road Agency of Ukraine, State Property Fund of Ukraine, etc)</li> </ul>



		<p>- Local authorities</p> <p><i>The activity of above-mentioned bodies is not systemic, not coordinated sufficiently by the PPP unit. The duties of some public bodies regarding the state property management are based on different laws and legal acts that uncoordinated and, in some cases, make it difficult to determine the public partner in the PPP and the proper way to coordinate activities between public bodies.</i></p>
	Eligible private party	Lack of PPP experience in the private sector in Ukraine
Elements provided in legal framework	Selection of private partner through competitive procedures	YES
	Non-competitive procedure in exceptional circumstances	YES
	Procedures for unsolicited proposals	NO
	Review procedures	YES
	Contract termination events	YES
	Compensation provisions	YES
	Provisions for collection of fees or payments by government	NO
	Public authorities to support and provide guarantees	<p>No special public authorities to support project's development and implementation.</p> <p>Guarantees are provided by the Cabinet of Ministers of Ukraine</p>
	Step-in rights for lenders or substitution by a new private partner	There is an option in legislation without a determined procedure in details

Acting public institutions	PPP unit	A special PPP division in the Department of Investment Attraction of the Ministry of Economic Development and Trade of Ukraine
	Tasks/responsibilities of PPP unit	<p>PPP unit is responsible for:</p> <ul style="list-style-type: none"> <li>- PPP policy development and implementation</li> <li>- monitoring of effectiveness of central and local authorities in the area of PPP</li> <li>- verification of awarded PPP contracts</li> <li>- ex ante analysis of PPP project's effectiveness</li> </ul> <p>This PPP unit does not provide any support for certain projects</p>
	Size of PPP unit	Division in the Department of Investment Attraction (3 people)
	Other PPP units	<p>PPP Management Office under the Ministry of Infrastructure of Ukraine (established in 2016).<sup>45</sup> The Management Office (3 people) is responsible for preparation and implementation of PPP/concession projects in transport.</p>
Procedures for project appraisal, role allocation	Use of standardized ex ante evaluation instruments	Methodology of the analysis of PPP effectiveness, and Form of Feasibility Study <sup>46</sup>
	Third party approval of PPP projects	<p>YES</p> <p>(the Cabinet of Ministers of Ukraine)</p>

<sup>45</sup> <http://www.mtu.gov.ua/en/timeline/Spilno.html>

<sup>46</sup> Order of the Ministry of Economic Development and Trade of Ukraine №255 from 27.02.2012

	Roles and responsibilities of public agents in project cycle	Illegible
Standardized processes and documents	Use of standardized contracts	NO
	Use of standardized project models	NO
	Use of standardized tendering procedures	NO

Therefore, the main bottlenecks of PPP institutional environment in Ukraine are as following:

- Insufficient level of interaction between public entities, central and local authorities, PPP unit and branch ministries, branch ministries and state enterprises etc.
- Lack of PPP experience and professional staff in branch ministries, and in private sector
- Political instability and military conflict at the eastern part of Ukraine
- Legal PPP framework is inconsistent and contradictory, especially regarding different PPP modes (PPP, concession, lease, joint activity). Furthermore, each mode is regulated by its own special legislation
- Ineffective official PPP unit (small inexperienced staff with limited functions)
- One year state budget planning and lack of clear procedure for public support
- No standardized project models, contracts, and tendering procedures

## **Private participation in road sector development in Ukraine**

Construction and operation of concession roads in Ukraine are regulated by laws of Ukraine, governmental resolutions, and decrees. The main legal acts are as following:

- Law on Automobile Roads
- Law on Concessions
- Law on Concessions on Construction and Operation of Automobile Roads
- Law on Source of Road Facilities Financing
- Law on Public-Private Partnership.

Laws of Ukraine include construction and operation of toll roads as based on principles of concessions and PPP. The transfer of public roads into concession format can be possible only if an alternative free of charge road is available (Law on Automobile Roads). Toll roads stay at government property and shall not be privatised. The payments shall be directed to the State Budget of Ukraine (Road Fund) and used, first of all, to pay out loans involved for repair and operation of toll roads (Law on Automobile Roads).

The government is represented by an executive body (The State Road Agency of Ukraine) respectively authorised by the Cabinet of Ministers of Ukraine, conducting such concession contracts, while a private partner is a subject (group of subjects) that conducts business activity (Law on Concessions and the Law on Concessions on Construction and Operation of Automobile Roads). The list of roads for concession is defined and approved by the Cabinet of Ministers of Ukraine in accordance with the State Program of Development of Automobile Roads on 2013-2018 and considering potential social and economic efficiency.

The Law on Concessions on Construction and Operation of Automobile Roads also defines the resources for concession operator's profit:

- Payment to drive the road paid by users;
- Payment for operational availability paid by the grantor;
- Payment for operating road service facilities paid by users;
- Subsidies and/or compensations paid by the grantor;
- Other resources of profit defined by grantor in accordance with the feasibility study.

The maximum rate of payment to drive concession roads, the order of payments and the provision of dotation, compensations, as well as the order of payments for operational availability are defined by the Cabinet of Ministers of Ukraine (the Law on Concessions on Construction and Operation of Automobile Roads).

The construction and operation of concession roads are of long-term format (5-50 years) and linked to many risks distributed between the parties of the concession contract based on principles of the most efficient risk management.

Key principles for implementation of concession projects in Ukraine are as following:

- 100% of construction financing is provided by the concessionaire;
- risk of overrun is distributed to the concessionaire;
- decision on providing concession, payment mechanism, and state guarantees are made by the government.

Advantageous regulatory environment for PPP implementation means availability of respective legislation and efficient judicial power that is able to provide definition and protection of private investments as well as right of

property in general; availability of accessible mechanisms to solve disputes; transparency and consequence of economic policy of the state in some specific sectors of economic activity. There are no direct obstacles hidden in the active laws to implement the PPP/concession in the road sector, except some procedural barriers. For example, for the implementation of each motorway concession project in Ukraine some further legislative acts should be approved (i.e. special law on toll mode for the particular road, resolution of the Cabinet of Ministers of Ukraine on the main terms of the concession tender, resolution of the Cabinet of Ministers of Ukraine about the maximum fare rate on the concession road).

Nevertheless, there are still no implemented projects in the sector. Such a situation is not caused by legislation gaps but with long-term investments' issues, lack of public institutional capacity, and clear guarantees. The main obstacles are linked to the lack of clear prospects and complicated forecast of projects' results, which are resulted with uncertainty of political and economic life of the country as well as the lack of trust to public authorities in general. Besides, another constraining factor for potential investors is a shortage of positive examples of such implemented projects in the sector.

Referring to the key parameters of the toll concession's political acceptability in Ukraine, we can see a low traffic capacity, low degree of toll obligation imposed on potential customers, and a lack of country's practice with respect to tolling.

In accordance with the Ukrdiprodor's<sup>47</sup> data, average traffic on international (M) roads in Ukraine is generally low by European standards, with only 12,000

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<sup>47</sup> State enterprise under the State Road Agency of Ukraine

vehicles per day on dual carriageways and 5,000 on single carriageways<sup>48</sup>. And only a few access roads to the largest oblast' centers (Kyiv, Dnipro, L'viv, Khmelnytsky, Odessa, Kherson) are characterized by traffic exceeding 15,000 vehicles per day. At the same time, the estimated average traffic volume, which allows making a concession project in Ukraine attractive in terms of investment, is not less than 15000 vehicles per day on dual carriageways.

The main condition to create efficient system for PPP development in the road sector is to recognize the fact that PPP has to be implemented, especially in the cases where public or private participant is not capable to implement the project alone due to the lack of resources and/or organizational potential. It is important for the parties to understand advantages and disadvantages of such projects as well as personal advantages and disadvantages of participating the PPP project.

International experience shows that the body responsible for developing PPP may be a government agency, state enterprise, private agency, etc. The activity of such entities can be financed from the state budget and by contributions from the private sector. According to the European Investment Bank, the number of PPP unit's personnel in the EU varies from one person to 45 people, and an average of 8-10 people.<sup>49</sup> The duties of such unit significantly vary between countries - from the formation and implementation of state policy on PPP to the final approval of the contract, direct supervision and control of project implementation, arrangement training on PPP.<sup>50</sup>

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<sup>48</sup> Ukraine Road Sector Diagnostic Report. Second Roads and Safety Improvement Project. High-Point Rendel in joint venture with IMC Worldwide, 2015.

<sup>49</sup> Stein, B., 2012, PPP Units and Related Institutional Frameworks. Lessons Learned. Presentation. European Investment Bank, Kyiv.

<sup>50</sup> Fitzpatrick, S., 2012, PPP units across Europe. An overview and guidance. Presentation. ForoPPP Conference, Madrid.

Authorized state body, responsible for the PPP development in Ukraine (PPP unit), is the Department of Investment and Innovation Policy in the Ministry of Economic Development and Trade of Ukraine with 3 people who are in charge of PPP policy development and projects evaluation.

At the same time, the entities of government, which can not only implement some PPPs, but also have significant influence on the development of the PPP institutional environment, include: the Cabinet of Ministers of Ukraine, the Ministry of Regional Development, Construction, Housing and Communal Services of Ukraine, the Ministry of Energy and Coal Industry of Ukraine, the Ministry of Infrastructure of Ukraine, the Ministry of Education, Youth and Sports of Ukraine, the Ministry of Health of Ukraine, the State Agency of Highways of Ukraine, the State Road Agency of Ukraine, the State Property Fund of Ukraine and others.

The activity of above-mentioned bodies is not systemic, not coordinated sufficiently by the PPP unit. The functions and duties of some public bodies regarding the state property management are based on different laws and acts that uncoordinated and in some cases make it difficult to determine the public partner in the PPPs and the proper way to coordinate the activities between public bodies.

Developing efficient system of selection, preparation, and implementation of PPP projects means compliance with the social and economic policy concerning the strategy for development in the road sector. In order to perform the goals of the road sector's development there are following objectives defined



in The Program of the Cabinet of Ministers of Ukraine 'Activity and the Strategy on Sustainable Development 'Ukraine – 2020' in particular for the road sector<sup>51</sup>:

- Transfer of municipal roads into regional state administrations as well as financial resources required to perform construction, repair, and maintenance of roads by creating regional companies based on JSC 'Automobile Roads of Ukraine', and further privatization of them;

- Development of competitive environment in the sector to perform PPP projects;

- Development of long-term performance-based operation and maintenance contracts (5-7 years);

- Provision of efficient control by the government in terms of weight load of public and municipal roads including system of automotive control and introduction of seasonal restrictions;

- Introduction of European standards for construction, repair, and maintenance of roads with highly competitive and prospective national materials and technologies, transfer into planned and preventive strategy of motorway roads maintenance;

- Implementation of toll system for heavy transport (12 tons and more) specifying mechanisms to direct attracted funds into maintenance, repair, and construction of roads.

On the way to achieve goals and directions in reforming road sector in Ukraine, there are *several obstacles* to be faced implementing PPP. All the PPP

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<sup>51</sup> Scenario for Ministry of Infrastructure of Ukraine in terms of the Cabinet of Ministers of Ukraine activity, The Strategy on Sustainable Development "Ukraine - 2020", and The Coalition Agreement of Ukraine in 2015. - [E-resource] – Available on: [http://mtu.gov.ua/uk/show/road\\_area.html](http://mtu.gov.ua/uk/show/road_area.html)

development obstacles can be divided into external and internal in relation to a project.

External obstacles are:

- Long-run pay-off period of concession projects in the context of economic and political uncertainty, which complicates significantly the achievement of the planned level of investment return;

- Low level of purchasing power of population and little interest in the services provided by the private sector, if new payments are introduced (in particular, under toll roads);

- Unbeneficial investment climate in the country, high level of dependency of concession operator on unsteady and fluctuated conditions for business activity, which cause additional risks due to frequent changes of legislation;

- Misregulated issues on land plots for concession activity on the territory of several communities, etc.

Internal obstacles are:

- Misjudgment of complexity and integrity of PPP projects by the government and public entities, who initiate and approve such projects (lack of system vision of required basis for PPP as well as true support of the initiated projects);

- Low institutional ability of Ukravtodor and local executive bodies in terms of preparing PPP projects (first of all, lack of professional staff and methodology to prepare PPP/concession at every stage of implementation);

- Low level of financing for project preparation to the concession tender;

- Lack of real investors (required investments are more than 500 million USD);

- Permanent changes in priorities of the sector development;
- No single guidance for identification, initiation, development, procurement, implementation, and monitoring PPP projects considering PPP legislation in Ukraine;
- Lack of experience and professional skills in terms of developing and managing PPP projects with both public and private sectors.

Internal weaknesses can be shown with the experience of preparing road concession projects in Ukraine. The government planned to implement 6 concession projects during 2013-2014<sup>52</sup>:

- Construction and operation of the first section of Krakovets – Lviv – Brody – Rivne road, of 258 km total length (first stage is Lviv- Krakovets road, 84.4 km);
- Construction and operation of the first section of Kyiv ring road, of 151.7 km total length;
- Construction and operation of the first section of Ulyanivka – Mykolaiv – Kherson – Krasnoperekopsk – Simferopol road, of 533 km total length;
- Reconstruction and operation of Odesa – Reni road (first stage is Odesa – Monashi, 81 km);
- Reconstruction and operation of Scherbakivka – Kharkiv – Novomoskovsk road, of 209 km total length;
- Reconstruction and operation of Dnipropetrovsk – Zaporizhya – Melitopol – Dzhankoi – Simferopol road, of 475 km total length.

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<sup>52</sup> Ukravtodor explains features of PPP/concession in road sector of Ukraine. - [E-resource] – Available on: [http://www.ukravtodor.gov.ua/novini/%D1%81\\_ukravtodor-roz%E2%80%99yasnyu%D1%94-aspekti-derzhavno-privatnogo-partnerstvakontsesii-u-dorozhni-galuzi-ukraini.html](http://www.ukravtodor.gov.ua/novini/%D1%81_ukravtodor-roz%E2%80%99yasnyu%D1%94-aspekti-derzhavno-privatnogo-partnerstvakontsesii-u-dorozhni-galuzi-ukraini.html)

Ukravtodor was not capable to prepare all the projects simultaneously. After the government changed, the Ministry of Infrastructure of Ukraine set three priority PPP projects, and finally, project Lviv-Krakovets became a focus of the government with the highest level of readiness. However, the concession tender for the project Lviv-Krakovets was cancelled due to non-compliance of applicants the financial requirements of the project.

The institutional capacity to prepare and implement PPP/concession projects on the local level is quite low as well. In fact, usually local authorities are not able to provide independent analysis of such PPP project efficiency, prepare project and tender documentation, and develop a financial model of the project due to the lack of staff, finance, and experience. The activity of local authorities to involve the private sector in the PPP implementation remains extremely low due to the institutional causes while the main potential of infrastructure development and improving the quality of public services is at the local level. In Ukraine, weak local PPPs are associated with shortcomings of current legislation, low awareness of local government entities and private business of PPP features, lack of qualified staff in local governments for the PPPs preparation and maintenance. The private sector's willingness to participate in infrastructure projects remains quite low, as evidenced by the results of the survey conducted under the auspices of USAID.<sup>53</sup> Only 3.0% of the surveyed businesses have been involved in some kind of infrastructure projects. However, only 39.0% of business respondents are interested in participating in PPPs. At the same time, such a share of local government entities totals 62.0%.

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<sup>53</sup> Besedina, E., Nizalov, D., Semko, R., 2012, Public-Private Partnership Development Program: Baseline Survey and Central Government Survey. Kyiv Economics Institute at Kyiv School of Economics. USAID. Kyiv.

The key task of developing PPPs at the local level is to ensure implementation of pilot projects via a unified algorithm of selection, examination, agreement, and by the involvement of appropriate experts. PPPs at the local level should involve financial resources both from regional and municipal budgets that are responsible for constructing, operating and maintaining local infrastructure projects. The new legislative regulation of the relationship between local government bodies and the PPP unit (Department of Investment and Innovation Policy in the Ministry of Economic Development and Trade of Ukraine) will provide the right of local government bodies to make independent decisions on PPPs expediency and implementation.

## **Conclusions**

The leading state policymaker developing the national economic policy and responsible for PPP promotion in Ukraine, the Ministry of Economic Development and Trade of Ukraine is obligated to ensure: the formation of strategic development directions of PPP in Ukraine, which requires a relevant strategy to be worked out along with legislative, regulatory, and organizing support; the methodological and consultative project support that envisages keeping a record of PPPs agreements at the central and local levels by regions, territories, and types of economic activity, approving feasibility studies for projects implemented by central executive bodies; and PPPs fulfilment monitoring and control; a mechanism of clear coordination of work of central executive bodies with regard to the PPPs projects implemented at the national level. The management function of the ministry should be reinforced with an administrative mechanism of the ministry's interaction with the said executive bodies as regards PPPs implementation issues, which mechanism is provided in the appropriate regulatory act of the Cabinet of Ministers of Ukraine that will contain a provision establishing the degree of functional subordination or mandatory requirement for central executive bodies to agree their PPP-related decisions with the Ministry of Economic Development and Trade of Ukraine; and transparency of its PPP activities, including by creating a public council under the Ministry of Economic Development and Trade of Ukraine as an instrument of coordination of the Ministry's interaction with local government bodies and representatives of business and the expert community.

In order to improve the PPP management system in Ukraine, the government should establish relations with international institutions and promote more intensively the formation of national institutions whose activities should be oriented to the priorities of innovation-based modernization of the national economy, using the modern risk management approaches. The

establishment of institutions should be carried out by observing the financial sustainability, resource diversification, investment risks minimization, administrative pressure and corruption risks elimination requirements.

The role of financial institutions (special banks, state corporations and leasing companies, innovation funds, regional development funds and agencies, etc.) will be providing financial, advisory and information support for PPPs projects. Non-financial institutions (techno parks, industrial parks, business incubators, special economic zones, research centers, centers of technology transfer, and others) will advance the development of business infrastructure within the PPP framework, improvement in the qualifications of state officials and integration of PPP issues into the academic programs for specialists prepared for state authorities and local government bodies. Training sessions, seminars and roundtables on PPP should be organized as well.

The necessity and effectiveness of cooperation between public and private sectors are determined by institutional factors associated with the level of economic freedom. Further PPP development requires an active participation of the community in the PPP projects preparation and implementation, especially at the local level. Moreover, PPP as an institution in Ukraine needs fixing its principles in national and regional strategies for socio-economic development, the creation of institutional environment, improvement of its legal framework, the introduction of public enforcement of contractual obligations by all partners.

The efforts to improve the PPPs financing should focus on improving the effectiveness of public budget financing, intensified involvement of enabling institutions in the PPPs, extending the range of instruments of long-term project financing, and so on. The PPPs public budget financing and the participation of the government in the PPPs should be based on the principles of medium- and

long-term program and targeted planning, and program and project financing. The state financial support for the PPPs envisage: the outright financial support through subsidies; reimbursement for the cost of construction, participation in tender competitions, capital repairs, and investment in authorized capital; using taxation leverage to encourage investments, introducing mechanisms of state crediting and insuring imports of investment equipment; reimbursing from the state budget for payments for the services provided to consumers; providing state guarantees for loans, reimbursing for losses from exchange rate fluctuations, assuming obligations to acquire products; using contemporary market financing instruments (securities).

On one hand, the further development of PPP/concession format for cooperation of public and private sector in Ukraine must consider post-crisis infrastructure development trends. The world financial and economic crisis caused the growth of risks for infrastructure long-run projects, projects “freezing” due to the lack of financing, changes in the structure of financing the projects in favour of increasing public share of capital costs, significant increase of interest rate, and termination of issuing securities for cash flow needs by concession operators. On the other hand, international experience proves that PPP/concession does not mean the single tool to enable the development of infrastructure in general and transport infrastructure in particular. The key factors to restrict private sector’s interest in PPPs for construction and operation of roads in Ukraine are mostly political, institutional, and commercial.

Despite all difficulties for PPP implementation in Ukraine, there are projects still being prepared to attract private sector into construction and maintenance of motorway road network including those based on the hybrid format of partnership. One of such hybrid formats is a contract based on the result (OPRC), which is conducted for the long period (7-10 years) with the private company to maintain the road on standards of safety, a prompt response for



surface imperfections, an availability of the roads marking, a prompt cleaning of waste and snow from the roads, etc. The implementation of such OPRC projects will support in optimizing costs, improving quality of works, and strengthening motivation for subcontractors to perform their activity in a more cost efficient way.

The experience on preparing concession projects on construction and operation of motorway roads in Ukraine proves the necessity to provide some preconditions for initiating such projects. The main preconditions are as following:

- Traffic volume on the analysed direction should be more than 15 thousand vehicles per day with the prospect of further growth of its amount;
- Availability of developed project documentation (the feasibility study or 'Project' documentation);
- Availability of situated land plot for the construction;
- Availability of alternative free of charge road to the same direction;
- Prioritizing international transport corridors as potential PPP/concession roads;
- Compliance of the project with the priorities of economic and social development of Ukraine (governmental program documents).



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