Construction Maeconomics Conference 2019

Strategic planning of investments in the development of the motorways and first class roads

Pavel Krupík\*1

1CTU Prague, Faculty of Civil Engineering, Department of Construction Management and Economics, Thákurova 2077/7, 166 29 Praha 6, pavel.krupik@fsv.cvut.cz

Abstract

The article deals with the strategic planning of investments in the development of the motorways and first class roads from the point of view of the competent authorities in the Czech Republic. It describes and analyzes the current situation and, after a critical evaluation, proposes partial adjustments to this process.

Keywords

Strategic planning, motorways, first class roads

Introduction

When planning new routes and increasing the capacity of existing highways and first-class roads, the economic evaluation of the project is carried out as a priority. If the project shows values ​​of economic indicators above the level of economic efficiency, it is approved and further its preparation and further implementation continues. At present, however, the current system does not take into account the economic situation of the state and the capacity of the Czech construction industry at the time of its expected implementation. That is, whether the state will have sufficient funds for the project and whether there will be projects (whether in terms of design work, engineering or even the actual implementation) who will have the capacity to implement. So far, sufficient funds have been available for the processing of transport infrastructure projects and their subsequent implementation, but in the future, given the reduction of EU subsidies, this may not be the case. Also in the construction boom there is currently a lack of quality workforce on the labor market and it may therefore become possible that the capacities of companies will be filled and the project will have no one to implement. The timeliness of the topic is therefore quite obvious. The construction of new and capacity-building of existing highways and first-class roads and their preparation is now a topical issue due to the shortcomings of the existing road network (especially quality, capacity and safety) and historically suspended preparation in the Czech Republic. In particular, there is a lack of detailed long-term planning - for more than three years. For a longer period, there is a “general” ministry concept of the Ministry of Transport.

Methodology

There are a number of binding instruments that govern the process of planning and preparing highways and first class roads. These include:

* Guideline no. V-2/2012 Change No. 4, Směrnice upravující postupy Ministerstva dopravy, investorských organizací a Státního fondu dopravní infrastruktury v průběhu přípravy investičních a neinvestičních akcí dopravní infrastruktury, financovaných bez účasti státního rozpočtu. Furthermore, it “*regulates the procedure for processing, submitting and approving all project intentions, formerly investment intentions, transport and non-investment transport infrastructure submitted to the Ministry of Transport for approval and financing without the participation of the state budget”*. [1]
* Guideline no. V-1/2012, Směrnice pro rozpis globálních položek na přípravu staveb, which “defines the procedure for compiling, using and adjusting the breakdown of expenditures from the global budget items of the State Fund for Transport Infrastructure, of which the preparation of transport infrastructure constructions carried out by individual departmental investor organizations is covered.”I n the case of motorways and first-class roads, this is the Road and Motorway Directorate of the Czech Republic. [2]
* The document, Dopravní sektorová strategie – aktualizace 2017, contains “*principles for prioritizing development projects under preparation for a specific level of the financial framework.*” This departmental concept of the Ministry of Transport formulates objectives and priorities in the field of transport in the medium term (by 2020) and also in the long term (by 2050). [3]
* The evaluation of the economic efficiency of transport infrastructure projects is dealt with Rezortní metodika pro hodnocení ekonomické efektivnosti projektů dopravních staveb [4] and Prováděcí pokyny pro hodnocení efektivnosti projektů dopravní infrastruktury. [5]
* Each year, the Chamber of Deputies of the Parliament of the Czech Republic approves by its resolution the budget of the State Fund for Transport Infrastructure for the next year and the medium-term outlook for the next two years. It also approves the expenditure framework of the State Fund for Transport Infrastructure under the State Budget Act for the following year.

The whole process of strategic investment planning for the development of the motorway and first-class road network can be summarized in a simplified way in Figure 1 below, based on [3].

Economic assessment

Projects, programs

Fulfillment of goals

Requirements

Needs

Posibilities

Figure 1: Project diagram (source: author)

Results

After a detailed search, areas that need to be addressed have been identified in order to improve and refine strategic investment planning for the development of a network of motorways and first class roads.

Transport sector strategy

In terms of strategic investment planning for the development of the motorway and first-class road network, it is necessary to consider not only the cost of developing the road network, but also its maintenance and operation. From the Ministry of Transport's point of view, it is recommended to follow the currently valid strategies in the area of ​​strategic planning:

* *Adhere to recommendations of prepared and approved strategy documents and ensure their regular and professional updating;*
* *Set priorities and objectives for individual areas of transport infrastructure development and monitor and evaluate them in the long term;*
* *Construction preparation should be in accordance with the adopted concept,*
* *Compliance of the adopted strategy with land-use planning processes must be ensured. [3]*

Dopravní sektorová strategie – aktualizace 2017 further states that “*following the strategic documents, further methodological materials should be developed aimed at fulfilling the set objectives for an effective process of preparation and implementation of individual measures.*” [3] The Ministry of Transport itself therefore acknowledges that work it out.

Breakdown of global items for preparation

Following the V-1/2012 Guidelines V-1/2012, Směrnice pro rozpis globálních položek na přípravu staveb, meetings of representatives of the Ministry of Transport (Strategy Department), State Fund for Transport Infrastructure and relevant investors (in the case of Road and Motorway - Road and Motorway Directorate of the Czech Republic) are convened three times a year, where the submitted items of global items for the preparation of buildings are discussed and subsequently approved. [2]

This directive, effective from 1 December 2012, refers to the now invalid directive of the Ministry of Transport No. 1/2011. Reference is also made to global item number 5001510001 - Conservation and security of buildings under construction, which has been abolished. It is therefore necessary to update the Directive.

The breakdowns of global road infrastructure items are broken down into:

* 5001510002 first class roads
* 5001550003 motorways.

They contain: registration number, draft designation, name of the event, information whether the construction is assessed according to the Act on Environmental Impact Assessment (No. 100/2001 Coll.) And, if applicable, at what stage of the assessment, further planned activities for the current year and for the year the following, the allocation from the budget of the State Fund for Transport Infrastructure and contractual obligations for the current year and the following year, the region as the organizational unit of the Road and Motorway Directorate of the Czech Republic.

If these tables were to be supplemented with other known information - expected date of planning permission, building permit, realization and related costs - for planning permit and building permit documentation, implementation documentation, engineering costs and purchase of necessary land, implementation, operation, maintenance and others, it could be made a strategic financial plan of individual buildings throughout their life cycle. It would then be clear that if everything goes as expected, such a time horizon will need such and so much money.

Revenues of the State Fund for Transport Infrastructure

As stated by the Dopravní sektorová strategie – aktualizace 2017, the problem of strategic planning is not only the issue of investment but also income. This is due to the instability of the funding system and its difficult predictability in the longer term. [3]

The revenues of the State Fund for Transport Infrastructure (SDFI) include deliveries from the state budget, which is approved every year. Furthermore, it represents 9.1% of the nationwide gross excise duty on mineral oils, the nationwide revenue of the road tax, highway tolls and tolls. Revenue in 2018 is clearly shown in Figure 2. [6] Another source of income are subsidies from the European Union.

Figure 2: Structure of SFDI revenue in 2018 (source: author)

Figure 2 shows the biggest problem, which is the current system of allocating subsidies from the state budget, which are set on an annual basis and therefore very difficult to predict. Strategic planning could help link the volume of subsidies, for example, to a certain percentage of gross domestic product.

Conclusion and discussion

The article dealt with the strategic planning of investments into the development of the network of motorways and first class roads from the point of view of the competent authorities in the Czech Republic. The current situation was analyzed and, following a critical assessment, partial steps were proposed to help refine the planning.

It is mainly about compliance with the Dopravní sektorová strategie – aktualizace 2017 and other binding regulations, which is important to keep up to date. Furthermore, create a detailed database of upcoming projects and capture the cost of them over time. On the other hand, it is also necessary to stabilize the other side, namely financing. Only then can it be strategically planned even in the long run.

The possibilities for continuing research on this topic are considerable. As mentioned in the introduction, the strategic planning must also take into account the capacities of construction companies. There is also a legal regulation of building permits. Currently, an amendment to the Building Act is under preparation, which should generally speed up the process of preparation and authorization of not only road infrastructure constructions.

Acknowledgement

This work was supported by the Grant Agency of the Czech Technical University in Prague, grant No. SGS19/010/OHK1/1T/11.

References

1. CZECH REPUBLIC. Ministry of Transport of the Czech Republic. Guideline no. V-2/2012 Change No. 4, Směrnice upravující postupy Ministerstva dopravy, investorských organizací a Státního fondu dopravní infrastruktury v průběhu přípravy investičních a neinvestičních akcí dopravní infrastruktury, financovaných bez účasti státního rozpočtu Available online at: https://www.mdcr.cz/getattachment/Dokumenty/Ministerstvo/Vnitrorezortni-predpisy-(1)/Vnitrorezortni-predpisy/Smernice-V-2-2012,-zmena-c-4-dopravni-infrastruktura.pdf.aspx
2. CZECH REPUBLIC. Ministry of Transport of the Czech Republic. Guideline no. V-1/2012, Směrnice pro rozpis globálních položek na přípravu staveb Available online at: https://www.mdcr.cz/getattachment/Dokumenty/Ministerstvo/Vnitrorezortni-predpisy-(1)/Vnitrorezortni-predpisy/Smernice-V-1-2012-pro-rozpisy-globalnich-polozek.pdf.aspx
3. CZECH REPUBLIC. Ministry of Transport of the Czech Republic. Dopravní sektorová strategie – aktualizace 2017, Střednědobý plan rozvoje dopravní infrastruktury s dlouhodobým výhledem Available online at: http://www.dopravnistrategie.cz/images/projekt/ke-stazeni/Aktualizace2017/III\_DSS-Aktualizace2017\_Materil\_PoZZ.pdf
4. CZECH REPUBLIC. Ministry of Transport of the Czech Republic. Departmental Guideline for the evaluation of economic effectiveness of transport construction projects Available online at: https://www.sfdi.cz/soubory/obrazky-clanky/metodiky/2017\_03\_departmental-methodology-full.pdf
5. CZECH REPUBLIC. Ministry of Transport of the Czech Republic. Prováděcí pokyny pro hodnocení efektivnosti projektů dopravní infrastruktury Available online at: https://www.sfdi.cz/soubory/obrazky-clanky/metodiky/2017\_provadeci\_pokyny\_efektivnost.pdf
6. Výroční zpráva o činnosti a účetní závěrka Státního fondu dopravní infrastruktury za rok 2018. *VÝROČNÍ ZPRÁVY A ÚČETNÍ ZÁVĚRKY* [online]. [cit. 2019-10-29]. Available online at: https://www.sfdi.cz/rozpocet/vyrocni-zpravy-a-ucetni-zaverky/