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INCLUSION OF SOCIAL AND ECONOMIC BENEFITS IN TRANSPORT INFRASTRUCTURE PLANNING

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Abstract. Concluding that the inadequate usage of public resources for the formation and development of highway infrastructure may have negative consequences on the dynamics and tendencies of the development of other economic sectors, the question of an adequate, socially and economically reasonable assessment of development is raised. Because social impacts are likely to be a key benefit (or dis-benefit) of transport infastructure development, it is evident that account of these effects must be included in an assessment of any proposed transport intervention. This paper consists of these targeted objectives: to conceptualize, operationalize economic social benefits of transport infrastructure development, conduct exploratory analysis to identify rates of daily activity participation, areas indicative of a risk of transport-related social exclusion, determine, how might these more effectively integrated in transport infrastructure planning. The method of research – survey of academic literature.

Keywords: transport; infrastructure, social, economic benefits.

INTRODUCTION

As far back as the beginning of the 20th century, transport was started to be treated not only as a catalyst of harmonious economic, cultural and social development but as a tool to manage the mentioned processes as well. The establishment and management of the strategic rates and priorities of transport sector development related to the issues of infrastructure upgrowth became the object of scientific and political discussions in many countries beginnings of the analysis into the impact of transport infrastructure on public welfare are considered to be an academic discussion on the quantitative assessment of the impact initiated by USA scientists in 1950s. The pioneers in analyzing the impact are Samuleson (1954), Hirschman (1958) and Mohring (1961), individual aspects of the issue were also investigated by Rosenstein-Rodan (1961) (Bazaras, Miceviciene, 2010. p. 283). Until the beginning of 1970's the problem under other economic and managerial topics was researched narrowly and in more generalized way. The link between transport infrastructure and economic development was to play a significant role in the development of transport network plans in any country. In fact, the relationship between investment in transport infrastructure and economic development has been the subject of investigation for quite some time. Despite this, the subject remains mired in controversy. The discussion about the relationship between transport and economy arises as soon as one considers the exact significance of transport for economic development. The difficulty of establishing the relationship between transport and economy is that numerous other factors influence this relationship. Therefore, the process of economic development, where besides transport other factors play a part, must have a central place in a consideration of transport and economy. Furthermore, most of studies do not take into consideration the playback between the elements analysed. While social benefits are more difficult to quantify than economic and environmental benefits, they are nonetheless every bit as important. However, it was only towards the end of the 1970s that the impact of investment in roads in developing countries on a broad range of social aspects – including access to education, health and other welfare facilities – started to be considered. The notion of social benefits was incorporated by the World Bank into its first proposals for the economic analysis of rural roads (Transport notes, 2001). Among the first comprehensive descriptions of what were explicitly termed social benefits associated with investments in rural roads resulted from an evaluation of experience undertaken by the United States Agency for International Development in the early 1980s. The formulation of scenarios for developing transport infrastructure requires decisions mainly based on the intuition of experts in transport and highly influenced by public interest groups, business entities and political opinions. Social benefits are increasingly becoming an important objective in transport planning and project evaluation (Manaugh *et al,* 2015, p. 167). However, the reached decisions sometimes fail to be the most efficient (Dumbliauskas *et al,* 2018, p 1046), because the social benefits are incommensurable, and they affect different groups differentially, are hardly to define and measure. For the reason, specifically, this *paper consists of these targeted objectives*: to conceptualize, operationalize economic social benefits of transport infrastructure development, conduct exploratory analysis to identify rates of daily activity participation, areas indicative of a risk of transport-related social exclusion, determine, how might these

more effectively integrated in transport infrastructure planning. The *method of research* – survey of academic literature.

RELATIONS BETWEEN TRANSPORT INFRSTRUCTURE AND ECONOMY

Keynes was one of the first to consider public works including investment in infrastructure for transport as a means to trigger economic development (Blaug, 1997). Keynes was especially concerned with the short period, where the influence of investment on effective demand is essential, and its significance for the capital stock may be neglected. In this article, there will be focussed on the interaction between transport infrastructure development and economy in the long run in more empyrical context., for by now theory more than empirical evidence explains the renewed belief (especially in North America) that investments in transportation are capable to stimulate economic growth.

Soon after the Maastricht Treaty had become effective in November 1993, the Commission adopted in April 1994 a very comprehensive proposal for TEN guidelines, which consisted of several outline plans. The plans have been influenced by 1993 White Paper on "Growth Competitiveness and Employment" (In the long term, the improvements in accessibility resulting from the projects strengthen the competitiveness of business locations in Europe, thereby help to create or preserve further jobs in sectors other than transport.

In order to stimulate the development of the network by implementing projects, the European Parliament and of the Council on 23 July, 1996 adopted the Community Guidelines for the Development of the trans-European Transport Network. It was expected the European transport network would: accelerate the internal market, improve territorial cohesion and, as a result, boost the competitiveness and growth potential of regions, help making enlargement a success and provide a new opportunity to reduce congestion on the major routes and encourage intermodality in the enlarged Europe (Sichelschmidt H.,1998).

The infrastructure utilized is identified with the mobility for productive ends, expressed in terms of the number of passengers and the number of tons of goods that have been moved through this infrastructure. Transport of goods and business traffic relate to productive mobility (expressed in the number of tons or passengers between two points in space). If the moving motive refers to shopping, attending of education courses, paying of visits/staying, recreation/sport and driving/walking, it is a matter of consumptive mobility (expressed in the number of passengers between two points in space). The nature of commuter traffic is more complicated to establish. Commuter traffic is the consequence of a productive performance outside the residence; for that reason it is a matter of productive mobility. On the other hand, it can be assumed that commuter traffic is the consequence of the consumptive wish of living in a more attractive environment than the one is working; in this view commuter traffic should be counted as consumptive mobility.

Accordingly effects of the large infrastructure are classified into direct and indirect ones. *Direct network effects* (reduced travel times, improved capacity of network, improved connectivity, increased activity of network users) relate to changes in demand over links and/or modes that arise on the network following project implementation as part of that network. Improved capacity or connectivity in a network, reduced travel times and perceived distance between locations, is likely to increase the activity span of new users of the improved network. *The indirect network effects* (sustainable transport, regional development) are connected to strategic policy objectives on regional development, land-use and sustainable transport are also referred to as spill over effects. A crucial consideration regarding transport policies that are developed and implemented to improve the relative position of peripheral regions is that from the outset, it is no clear whether this spill over effects will be positive or negative (Polyzos, Tsiotas, 2020, p.10). However, the main task of transport network is attributed firstly to the economic objectives - improvement of the competitive position of the regional businesses. Secondly, the programme is considered to serve as one of the main preconditions of regional convergence in social, cultural and political terms. The benefits associated with improved infrastructure accrue not only to persons and businesses that directly use transportation facilities, but also those consumers of goods and services having transportation inputs and those associated with the generation of such products.

The fundamental underlying question for this review is whether, or not, transport infrastructure's development provides a key input to the process of economic development indeed - business competitiveness.. This seems to be something of a literature gap. Transportation systems not only facilitate the movement of people and goods, but also have potentially wide-ranging impacts on land use, economic growth and quality of life. Planners and urban designers can, and do, use expansion of transport infrastructure as a policy instrument to guide growth firstly, through the improved competitiveness of

business in the regions, crossed by these arteries. Much of the literature on transport development planning looks at this narrow aspect; considering what impact new transport investment is likely to have on the surrounding area, in terms of land value and potential regeneration effect. Little research goes further – improves transportation conditions due to the network expansion is conventionally perceived as a second order variable, in that transport infrastructure has to be present for development, but it is not as important as other considerations relating to location. These include the availability of high quality labor, government incentives and grants, suitable site locations, complementary businesses in the local area, and access to markets. Transport infrastructure is not a *sufficient* condition for growing competitiveness of businesses, yet if transport is not present, then it is seen as a constraining factor on economic development in general. There appears to be a widespread belief amongst decision-makers and transport planners that transport infrastructure development plays a vital role in enhancing economic growth and business competition by: a) lowering production and distribution costs, b) improving labor productivity, c) stimulating private investments and finally technological innovations.

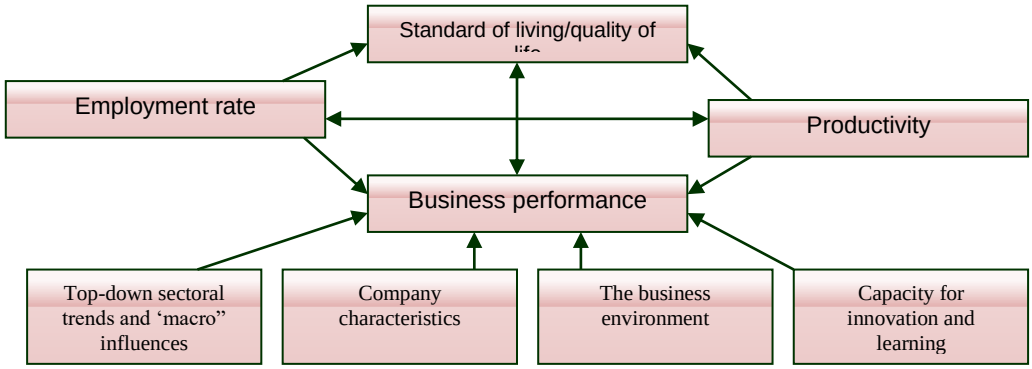

Figure 1. **Transport infrastructure development as the factor of economic development**

Reliable and affordable transport has historically been the building block around which businesses have developed and flourished. The ability to move people and goods easily and economically is still used to explain the relative economic advantage of regions and states. Summarizing the mentioned above, it is correct to stay, that despite the second-handed position of the transport infrastructure's expansion in the process of acceleration the process of competitiveness of businesses declared in the literature observed, the role of improved conditions of accessibility can not be neglected. The main theoretical approaches concerning the topic presented are projected into the Lithuanian economic space and investigated as the working instrument of crucial importance for the successful integration of Lithuanian companies into the EU market.

RELATIONS BETWEEN TRANSPORT INFRSTRUCTURE AND SOCIAL CHANGE

A basic function of transportation is to enable participation in daily activities. Nevertheless, transportation planning has historically focused on increasing mobility, alleviating congestion, and reducing environmental impacts; often without consideration of whether policies directly foster widespread and equitable participation in a broad range of daily activities (Allen, Farber, 2020). Investments in transport infrastructure must yield important community and social benefits. They can increase mobility and access, provide a greater choice of travel modes, improve safety, enhance the visual appearance of communities, cities, and natural landscapes, and increase community cohesion. In short, transportation investments can improve the quality of life. While social benefits are more difficult to quantify than economic and environmental benefits, they are nonetheless every bit as important. Social Impact Assessment (SIA) facilitates sustainable and equitable consideration of social issues in transport infrastructure planning. However, SIA practitioners face significant constraints in practice: good SIA is effective in contributing to institutional mechanisms for holding political, bureaucratic and commercial processes accountable for social outcomes (Mottee, 2021, p. This paper concludes that for good practice SIA to be realised as intended, systemic adjustments are needed in the planning transport infrastructure, to address constraints and ensure that social impacts are considered in strategic stages and prioritised equally against other project.

Among the first comprehensive descriptions of what were explicitly termed social benefits associated with investments in transport infrastructure resulted from an evaluation of experience undertaken by the United States Agency for International Development: both lists mix relatively short-term (1-2 year)

changes, or effects, and longer-term (5-10 year) changes, or impacts (Impact of Transport Infrastructure Investment on Regional Development, 2012). Some can readily be identified (e.g. increased usage of health facilities or school enrolment) while others (e.g. increased national identity or suffering for minority groups, and the undermining of traditional society) are more contentious. Identification of the positive and negative social impacts given in Figure.1, respectively.

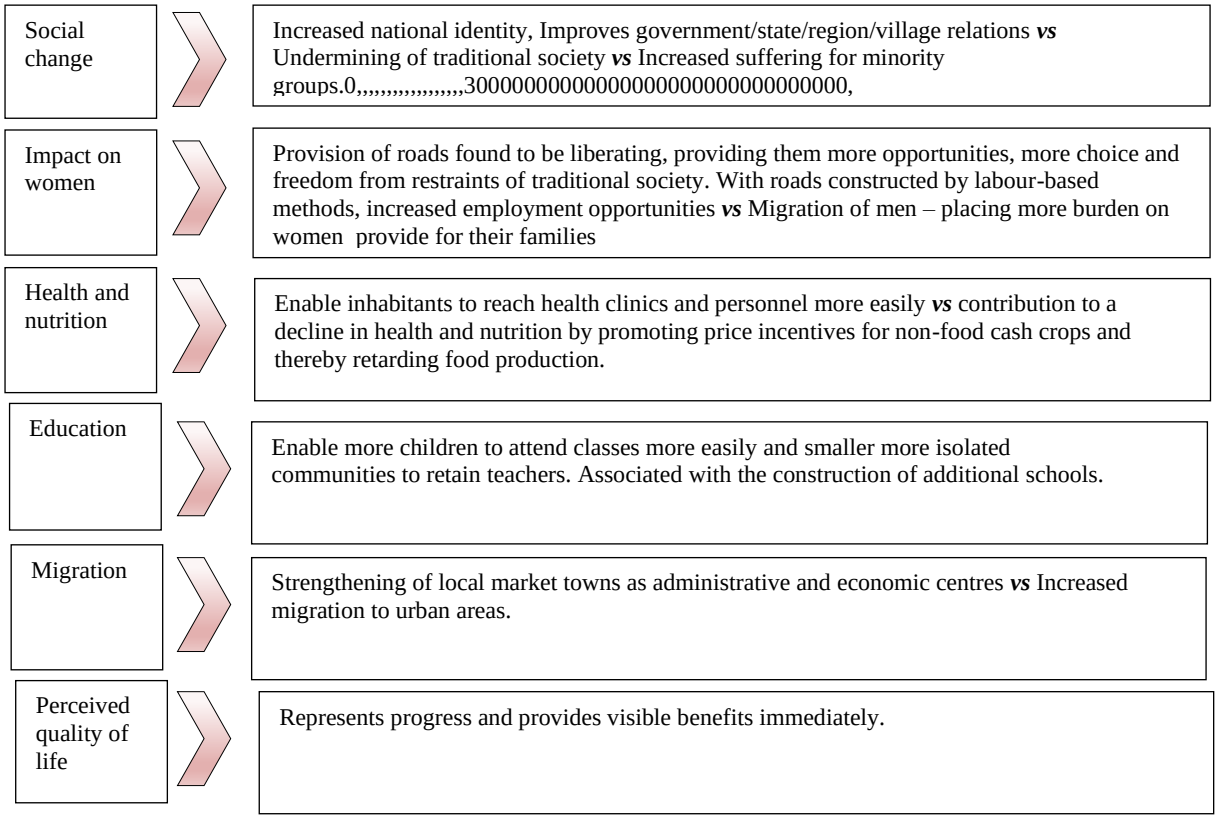

Figure 2**. Positive and negative social impacts of transport infrastructure development**

The existence of these unplanned social impacts creates a concern about how the scales of analysis and measures of success that were used masked important local social considerations (Matee et al, 2020 p. 185). It is recommended that SIA or ESIA (Environmental and Social Impact Assessment) would be seen as an integral part of the general project development cycle. Mottee & R Howitt (2018), Motee *et al* (2020), Chamseddine, Z. & Boubkr (2020) emphasize that during project identification ESIA will screen out those projects which are subject to indirect, limited or neutral social effects, and which consequently would not necessitate detailed further social appraisal in understanding the social implications of an infrastructure project.

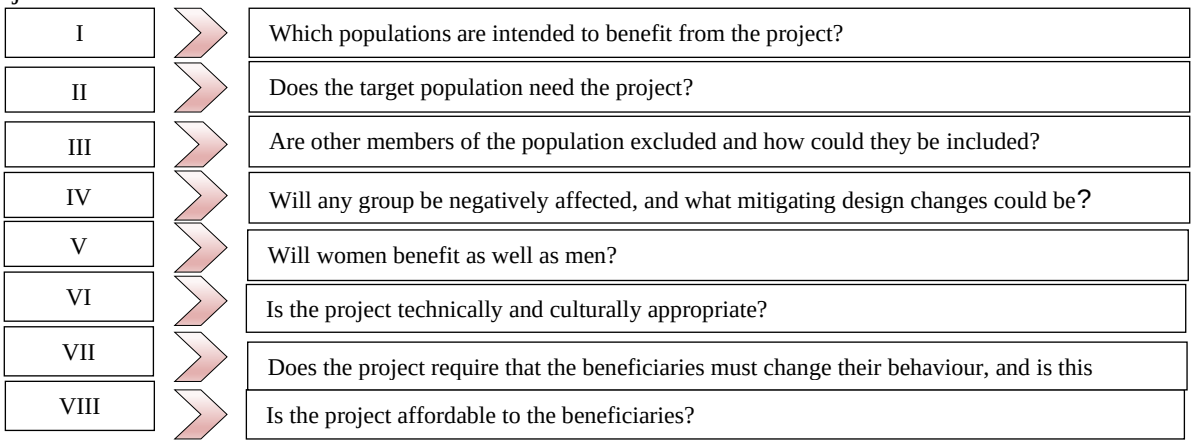

Figure 3**. Understanding the social implications of a project (adopted from P. Fouracre, 2001, p. 3)**

Foreign, Common wealth & Development Office (Former Department for International Development, United Kingdom) (has identified a suitable checklist of questions which would guide the analysts (see Figure 3).

According to the organization, in defining the target population, it should become clear how project benefits are expected to flow, and what constraints might impede the benefits reaching the target beneficiaries.

Many projects are identified with little or no reference to the supposed beneficiaries. If the project has a low priority amongst the target population, then its justification is questionable, the experts emphasize. Transport projects may rarely be 'poverty focussed' but their social benefits could possibly be increased, or the beneficiary population extended (to the socially excluded), by marginal changes in project design. This partly relates to whether the target population need the project. It is also evident that projects can be more effective when designed and administered at the local level with active community participation.

Project design must relate to existing land tenure rights, divisions of labour and society, cultural traditions, etc. Strategies to optimise 'take-up' (demonstrations, trials, incentives, training, etc.) should be designed at an early stage, if behavioural change is a necessary condition for success. There are likely to be differential impacts on different groups within the community, with some inequity in the distribution of costs and access to benefits. The *danger* of a purely economic analysis is that it may 'miss' the distributional impact on beneficiaries, where perhaps only the affluent may benefit from a high-return project.

CONCLUSIONS

1. These research results suggest that the main objective of the development transport infrastructure network is attributed firstly to the economic purposes: a development of transport infrastructure plays just one part in providing for 'the right business environment but a vital role in enhancing economic growth and business competition by lowering production and distribution costs, improving labour productivity, stimulating private investments and finally technological innovations.

2. Thus the infrastructure utilized is identified with the mobility for productive ends, expressed in terms of the number of passengers and the number of tons of goods, many projects are still identified with little or no reference to the supposed beneficiaries in the light of social benefits. The existence of these unplanned social impacts creates a concern about how the scales of analysis and measures of success that were used masked important local social considerations. These include social change, impact on women, health and nutrition, education, migration, perceived quality of life. These challenges and barriers influence the planning and management of the impacts of integrated urban development and transport infrastructure development.

3. In summary, thes reaeach results show that to assessment of outcomes against policy objectives and stakeholder interests, however, is rare and tools to facilitate public accountability through project phases are lacking. The danger of a purely economic analysis is that it may 'miss' the distributional impact on beneficiaries, For the reason, Foreign, Common wealth & Development Office suggest the checklist of questions which would guide the analysts determining the extent of social benefits of investment in transport infrastructure, that allows to determine whether infrastructure projects affect any population group negatively, if women benefit as well as men, if a project requires beneficiaries to change their behaviour and is this feasible, what mitigating design changes could be and etc.

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