FORUM VIES MOBILES

CONTROVERSIES

02/27/2014

Is transport infrastructure responsible for economic development?

27 February 2014

Put in this way, the answer seems fairly obvious. And yet, it is an important debate that continues – even today. Indeed, in local political milieus it is still common to hear talk of the need to build highways to improve access to regions, thus allowing for their development. From where does this stance originate?

Introduction, by Emmanuel Ravalet

Put in this way, the answer seems fairly obvious. And yet, it is an important debate that continues – even today. Indeed, in local political milieus it is still common to hear talk of the need to build highways to improve access to regions, thus allowing for their development.

From where does this stance originate? There is a kind of link between economic development and increased transport flows (goods and people) that is recognized at the global level, and whose existence has not, as yet, been disproven at the local level. Hence, it is logical to say that transport infrastructure facilitates flows between territories as well as generating new ones, and thus contributes to development. However, the literature provides no conclusive evidence of this link. What evidence we do have, on the other hand, proves that this link is not inherent, and can sometimes even have negative consequences.

The debate intensifies when we add to it the highly political issue of limiting transportation flows (especially on roads) in the battle against environmental damage. Unfortunately, given that the latter goes hand in hand with the economic crisis, the impact on local development raises questions. The tenants of the New Economic Geography contend that building transport infrastructure promotes the development of network - or agglomeration - externalities (indirect economic gains by economic actors because of the proximity of other actors and various services aimed at them), and therefore supports competitiveness and innovation. We also find many defenders of transport infrastructure among economists and chambers of commerce and industry that have studied the costs of traffic congestion. On the other hand, the approaches inspired by the work of F. Plassard1 defend the idea that transport is only one part of the economic system, and that changing the transportation supply does not necessarily determine a locality's economic future.

Emmanuel Ravalet
Ecole Polytechnique Fédérale de Lausanne

JEAN-MARC OFFNER

Jean-Marc Offner

Urban planner

An urban planner and policy expert, Jean-Marc Offner is the managing director of a-urba, the urban development agency of Bordeaux Aquitaine metropolitan council. He was previously the director of the Technical, Territorial and Societies Laboratory (LATTS) and, prior to this, was head of the Urban Development-Transport-Environment Department at France's École des Ponts et Chaussées.

When L'espace géographique published my article entitled "The 'structuring effects' of transport: political myth, scientific hoax"1 in 1993, it was still a time of shared belief in the benefits of any increase in the transport offering. A mix of benevolent neo-Keynesianism ("when construction is doing well, all else will do well"), technological euphoria (ever faster) and staunch Europeanness (the virtues of a single market) gave road and rail structures almost magical properties as economic levers.

Twenty years later, thinking has evolved somewhat. We concede that there is no inherent impact, but rather a potential to exploit, and therefore strategies to be developed. The harsh reality has been imposed. And although office buildings have not necessarily sprouted up near train stations, nor have business parks appeared around highway interchanges, the lexicon has not changed. We continue to look for "socio-economic" "effects" the same way we look for environmental "impact" studies assessing the implications of human activities on ecosystems. Unconsciously, the cause and effect relationship persists.

Above all, a veil has been cast over those situations where new infrastructure plays a negative role in territorial changes, although such secrets should have been aired long ago. But myths die hard. What is a statistical argument on the actual role of the arrival of the railroad in France in the 19th century versus the founding histories of cities whose destinies were shattered by the blind refusal to allow a station in the city center? And yet, geographers have proven that the arrival of the train amplifies and accelerates preexisting demographic and economic trends, meaning more growth for dynamic cities and greater recession for the sleepy ones. With the train - like with cars - "development" can be for better or for worse!

The theoretical proof is, however, simple and solid. New transport offerings expand market areas. With a subway (which is faster than the bus) I can "take my business elsewhere," or swap my room on the university campus for a house share downtown. With

the train, I can find a new consultant in Lyon for my business in Paris who can make the roundtrip journey on the same day. With the highway, I can do my shopping at the superstore in the valley, to the detriment of the butcher in my mountain village. Isolation protects against competition. When accessibility improves, competition increases. Those who sell more original, higher-quality or less expensive products win new markets. The less dynamic lose them, as their clients choose to go further afield.

Transportation infrastructure is therefore not synonymous with local economic development. Each area must first predict and then determine which sectors (real estate, tourism, business, services, university, industry, etc.) are likely to benefit or suffer from the extension of their catchment areas and those of their new "neighbors."

But, does infrastructure benefit the global economy? This is another matter entirely —one that does not legitimately concern the urban planner or local representative.

What happens to these arguments when confronted with the environmental "imperative" of reducing the consumption of scarce resources (i.e. fossil fuels and space) and greenhouse gas emissions? Two complementary paths are proposed:

- Reducing the percentage of mobility in the overall volume of interactions in favor of two other systems of interaction mankind has invented: 1) "long-distance" interaction (telecommunications, teleworking, etc.) and 2) co-presence (the immediate proximity permitted by density or integrated locations). This is the decoupling principle between economic growth and growth of transport flows.
- Reducing pressures on the environment linked to transportation by organizing a more responsible mobility overall and focusing on congestion linked to economic activities.

As regards "sustainable" mobility, we know everything— or almost. Measures aimed at giving priority to transport (of goods and people) for economic activity - including home to work trips, deliveries and business travel - are the most daring and involve "controlling" flows.

Regarding the "decarbonization" of production systems (via proximity and short channels), the courses of action must still be stabilized. The geographical dispersion of production devices remains highly effective overall. The spectacular 9,000 kilometers traveled by the famous carton of strawberry yogurt obscures economies of scale linked to the division of labor and the productivity gains in transport associated with higher flow volumes.

Short distribution channels nonetheless have their arena of economic validity, not to mention other advantages. Just-in-time (JIT) will lose its justification proportionally relative to increased transportation costs in the future. The idea that spatial proximity is a good tool for creating organizational proximity is gaining ground in this era of the quest for links between higher education, research, industry, large companies and SMEs.

Ultimately, the ecological transition did not change things very much. Collectively legitimized, improvements in transport conditions clash with the local conditions of its implementation. In France, local residents and the expropriated had to put aside their petty private interests long ago, to unflinchingly accommodate the "public good" of a new infrastructure. The "public interest" being no longer enough to convince them of the merits of such rights of way, it was necessary to invent a local (development) interest capable of tipping the balance of advantages and disadvantages. However, one must simply remember that "local public interest" does not necessarily tip the scales positively. Hence, it can be equitable to make investments as a form of compensation.

RÉMY PRUD'HOMME

Rémy Prud'Homme

Economist

Professor Emeritus of economics of the University Paris XIII, he also is the former Deputy Director for Environment of OECD, visiting professor at MIT, and a regular World Bank consultant. He worked on public finances and transport issues. For further details please see: www.rprudhomme.com

Is transport infrastructure responsible for economic development? To this question, the answer is No. "Responsible for" is a strong expression, suggesting a kind of infallible, categorical determinism. Such determinism does not exist. Everyone knows of an infrastructure that did not bring about any development. A classic example is Montchanin, a small French city ideally located on the Paris-Lyon high speed train line, which has seen almost no development in the past thirty years. Another example: in Europe, the countries that invested the most in transportation in the 2000-2004 period relative to their 2002 GDP were (in order) Portugal, Greece, Spain and Italy— those countries that are now experiencing the worst difficulties. It is clear that transport infrastructure in no way guarantees economic development. Beyond the observation that this link is not inherent lies the issue of knowing if, when, how and under what conditions infrastructure can contribute to development.

A theoretical link between infrastructure and development was established two and a half centuries ago by Adam Smith. Transport infrastructure encourages transport (of people and goods), which, in turn, facilitates exchanges, thus contributing to development:

Infra –> Transport –> Exchange –> Development

Each of the three relationships is true, but incomplete. Monocausal explanations are the bane of economic and social analysis. Of course transportation is facilitated by infrastructure. Without infrastructure, there would be no transport. But transport is also affected by technology, regulations, prices, information, etc., and each of these factors – including infrastructure – is seeing diminishing returns. Imagine a four-lane highway

that is never congested. Expanding it six lanes – in other words, improving the infrastructure – will do nothing to promote transport.

We can say similar things for each of the other two relations. No transport, no exchange. But trade also - and sometimes especially - depends on a variety of other factors (capacities of production in different areas, production costs, price and/or regulatory barriers, the specifics of the demand, information, etc.). Similarly, no exchange means no (or little) development. But exchange is obviously not the only or even the main factor for development; the latter likewise depends on education, capital, institutions, incentives, etc.

This analysis leads to three general conclusions: 1) the presence of a minimum of transport infrastructure is necessary for development; 2) beyond a certain threshold, the marginal utility of infrastructure declines and approaches zero; 3) transport infrastructure alone is never a sufficient precondition for economic development.

The introduction to the debate raises a second issue, different from that of infrastructure—that of the implications of limiting transport flows. This limiting can be accomplished in various ways: through an increase in specific taxes on transportation, increased regulations or an increase in traffic caused by a decrease (or a non-increase) in infrastructural stock. Limiting flows - that is to say, exchanges - has a negative impact on development, which can be counterbalanced here and there by the positive role played by other factors of development. But it is always present. Limiting flows can have environmental advantages but, all things being equal, it inevitably has a social and economic cost.

The answer to the question in the last lines of the introduction to the debate ("Can we limit transport flows and the pollution associated with them without putting further strain on the economic health of the territories in question?") is, unfortunately, No – at least as regards transport flows. We will note, however, that the scope of the damage depends on the method of limitation used. Generally speaking, the damage is greatest with administrative regulations, high with congestion and minimal with taxes.

However, the answer is more nuanced when it comes to the "pollution associated." The wording of the question presupposes a fixed link between transportation and pollution — a link that, in reality, does not exist. Nor is the ratio between the amount of CO2 or NOx per ton/kilometer or per passenger/kilometer a fixed figure; it can decrease and, in fact, is doing so before our very eyes, to a considerable extent. Limiting transport flows is neither the sole, nor the most effective way to decrease pollution from transport.

Our final point is undoubtedly the most important: in the topic analyzed, one must avoid generalities like the proverbial plague. It is ridiculous to be "for" or "against" infrastructure, or trams, or canals, or tolls, or high-speed train lines. What is true for one country is not for another. What is true in one epoch is not in another. What is true for one infrastructure is not for another. Ready-made, sweeping generalizations cannot replace intelligent case studies. We must put our preconceived ideas aside and commit to making detailed analyses that will inform the choice of the path to take for each and every transport

infrastructure project here and now. If Aristotle was right in saying that "in science, there is only the general and in life only the specific," then analyzing infrastructure originates more from existence than from science.

Keywords : Planning, Public Policy, Economic development, Collective representations

Disciplines : Humanities, Social sciences, Urban studies

Transport mode(s) : All modes of transport

Rémy Prud'Homme

Economist

Professor Emeritus of economics of the University Paris XIII, he also is the former Deputy Director for Environment of OECD, visiting professor at MIT, and a regular World Bank consultant. He worked on public finances and transport issues. For further details please see: www.rprudhomme.com

Jean-Marc Offner

Urban planner

An urban planner and policy expert, Jean-Marc Offner is the managing director of a-urba, the urban development agency of Bordeaux Aquitaine metropolitan council. He was previously the director of the Technical, Territorial and Societies Laboratory (LATTS) and, prior to this, was head of the Urban Development-Transport-Environment Department at France's École des Ponts et Chaussées.

From same author - See all publications

"Limiting the carbon footprint of mobility: what are the right policies for France?"

Forum Meetings by Jean-Baptiste Frétigny, Christophe Gay, Sylvie Landriève, Jean-Marc Offner

Emmanuel Ravalet

Socioeconomist

Emmanuel Ravalet is an engineer and a doctor in Economics, and had PhD in Urban Studies. He works at the Institute of Geography and Sustainability of Lausanne University and at Mobil'Homme, where he is a founding partner. His research focuses on work-related mobility, energy consumption, new mobility services and local economic development.

From same author - See all publications

Highly mobile or highly sedentary?

Video by Emmanuel Ravalet

To quote this publication:

Rémy Prud'Homme, Jean-Marc Offner, Emmanuel Ravalet (2014, 27th of February), « Is transport infrastructure responsible for economic development? », Mobile Lives Forum. Connnexion on 29th of November 2020, URL: https://en.forumviesmobiles.org/arguing/2014/02/27/transport-infrastructure-responsible-economic-development-2200

---

[1] http://www.rprudhomme.com
[2] https://en.forumviesmobiles.org/mots-cles/amenagement
[3] https://en.forumviesmobiles.org/mots-cles/politiques-publiques
[4] https://en.forumviesmobiles.org/mots-cles/developpement-economique
[5] https://en.forumviesmobiles.org/mots-cles/representations
[6] https://en.forumviesmobiles.org/disciplines/sciences-humaines
[7] https://en.forumviesmobiles.org/disciplines/sciences-sociales
[8] https://en.forumviesmobiles.org/disciplines/urbanisme-architecture-et-paysagisme

[9] https://en.forumviesmobiles.org/modes-transports/tous-modes-transport

[10] https://en.forumviesmobiles.org/directory/people/2014/02/27/remy-prudhomme-economiste-2199

[11] https://en.forumviesmobiles.org/directory/people/2014/02/27/remy-prudhomme-economiste-2199

[12] https://en.forumviesmobiles.org/directory/people/2013/03/21/jean-marc-offner-urbaniste-669

[13] https://en.forumviesmobiles.org/directory/people/2013/03/21/jean-marc-offner-urbaniste-669

[14] https://en.forumviesmobiles.org/directory/people/2013/03/21/jean-marc-offner-urbaniste-669

[15] https://en.forumviesmobiles.org/meeting/conference-forum/2020/10/19/limiting-carbon-footprint-mobility-what-are-right-policies-france-13493

[16] https://en.forumviesmobiles.org/meeting/conference-forum/2020/10/19/limiting-carbon-footprint-mobility-what-are-right-policies-france-13493

[17] https://en.forumviesmobiles.org/directory/people/2012/12/10/emmanuel-ravalet-socio-economiste-433

[18] https://en.forumviesmobiles.org/directory/people/2012/12/10/emmanuel-ravalet-socio-economiste-433

[19] https://en.forumviesmobiles.org/directory/people/2012/12/10/emmanuel-ravalet-socio-economiste-433

[20] https://en.forumviesmobiles.org/video/2014/02/18/highly-mobile-or-highly-sedentary-2176

[21] https://en.forumviesmobiles.org/video/2014/02/18/highly-mobile-or-highly-sedentary-2176

[22] http://creativecommons.org/licenses/by-nc-sa/3.0/fr/deed.en

[23] https://en.forumviesmobiles.org/www.forumviesmobiles.org

[24] http://creativecommons.org/licenses/by-nc-sa/3.0/fr/deed.en

[25] https://en.forumviesmobiles.org/contact