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Transport infrastructure beyond the crisis

by Jack Short, International Transport Forum

For years the transport sector has complained of a lack of spending in infrastructure. The current economic crisis has awakened governments' willingness to run deficits for infrastructure investments, and now it seems that the biggest challenge in some countries is to spend the money fast enough. However, stimulus funding will inevitably be short-lived and bring consequences in terms of future public funding limitations. The crisis also has implications for private investment. Innovative approaches will be required to ensure the sustained provision of required infrastructure into the future.

The impact of stimulus funding

It is impossible to generalise the effects of stimulus funding across countries. To begin with, stimulus investments as a percentage of GDP have varied enormously, from 0% to 3% in OECD countries alone.

Transport infrastructure has been a main beneficiary in some countries, but not all. For example, the American Recovery and Reinvestment Act, 2009 includes the largest increase in funding for roads, bridges and public transport since the 1950s, as well as US$8bn specifically dedicated to high-speed rail. China has a US$586bn plan, which includes new rail links and other transport elements. Japan's package will include a focus on high-speed rail. Some countries have also chosen to focus particularly on the demand side, such as by subsidising the trade-in of older vehicles.

The circumstances that existed prior to the crisis were very different, meaning that there is no reason to assume that each country's response should have been the same. The International Transport Forum has recommended capital investment in infrastructure of about 1.5% per year, with corresponding investment in maintenance. But experiences across our members have varied greatly in terms of amounts and focus of investment, meaning that the overall condition of infrastructure stock is also different. The result is that the transport infrastructure needs in every country are distinct.

In general, investment tends to be sporadic, subject to sudden spurts when capital is available, as well as quick reductions. Maintenance is never as politically expedient an investment as new projects, and tends to be left behind, increasing the eventual cost of infrastructure refurbishment. Among Forum members, recent, pre-crisis growth in inland transport infrastructure spending has been greatest in Russia and Eastern Europe, followed by Western Europe, and then by the US.

Modal share of infrastructure investment has also varied by time and region. In Western Europe, the proportion of investment in rail versus road infrastructure increased, albeit marginally, since the mid-nineties, although roads still took over 65% in recent years. In Eastern Europe the opposite was true, with the share of investment in roads increasing rapidly from 1995 through 2006, consuming close to 85% of the total.

The short, sharp jolt of infrastructure stimulus funding following the crisis will not have fundamentally altered the need to expand, improve and maintain transport infrastructure on an ongoing and sustained basis. In many instances, such as creating new high-speed rail systems, money available through stimulus packages may be just a beginning of what is needed. Also, growth in transport has previously shown itself to be greater than economic growth, meaning that economic recovery will result in increased demand for transport services and infrastructure. Analysis by the International Transport Forum has shown that investment in transport infrastructure bears significant returns, but spending must be sustained, and balance new capital with maintenance. Furthermore, there is great pressure on the transport system to increase its sustainability, but improving environmental standards – while necessary – will not come cheaply and will require important investments to upgrade infrastructure.

The post-crisis paradigm

By the time the current stimulus funding is finished, the context for the provision of transport infrastructure will have been altered in ways that are yet to be fully understood, although some trends appear inevitable:

- Current deficits will necessarily mean future scarcity of public capital.
- The crisis will also have taken its toll on private investors, leading them to demand higher risk premiums, or simply to avoid riskier projects.

For example, negotiations on the 100km section of the A2 Motorway in Poland, part of the pan-European Berlin-Warsaw-Moscow corridor, recently had to be abandoned because potential investors demanded that the major burden of risk be shifted towards the state.

The overall result could be even greater challenges in sourcing funding for transport infrastructure. This may be particularly the case for certain types of investments. For example, public private partnerships (PPPs) involving high levels of demand risk, or those in emerging markets with relatively weak legislative frameworks for concessions, may become particularly difficult to sell.

While this may sound like a gloomy prognostic, these circumstances may also present opportunities for new and welcome policy initiatives, and innovations in the provision of infrastructure.

Optimising investments

To begin with, greater scarcity of public funding should result in even more vigilance in terms of demanding the highest possible socio-economic rates of return from projects. Already, meeting at the International Transport Forum in Leipzig in May 2009, transport ministers emphasised the importance of sound analysis and rigorous evaluation in choosing stimulus projects that contribute to sustainability objectives.

Pricing right

In addition, the International Transport Forum – and its predecessor the European Conference of Ministers of Transport – has long argued for the pricing of transport infrastructure based on sound policy principles, including the incorporation of externalities into the cost of using the system. A major reason for this is to increase the sustainability and efficiency of the transport system by providing users with appropriate pricing signals. There is no time like the present – the crisis provides even greater incentives for rational pricing and a reduction of direct or indirect subsidies.

Given expected funding limitations, the future development of transport infrastructure and services will likely require greater contributions from users themselves. Furthermore, the lack of available capital will not just be the result of paying down stimulus funding debt – the world over, researchers and governments are recognising the need to wean ourselves off our dependence on hydrocarbons, which would also result in a major reduction in transport-related government revenues. Ultimately, there are two primary sources of funding for infrastructure – users and taxpayers – so future infrastructure funding, including PPPs, will likely need to rely on increased user charging, given the expected scarcity of public funding.

In short, greater use of direct user-charging is a desirable inevitability. Of course, getting there will not be easy – great innovations are required in terms of policies, pricing, financing mechanisms, tolling technology, and in other areas, as well as consultation and communication to make transport system users understand and prepare for this eventuality.

Expanding sources of investment

A second point concerns the sources of transport infrastructure funding. Discussion at the 2009 International Transport Forum revealed that there remains much room for innovation with regard to the engagement of private resources in transport.

There are many transport infrastructure assets that remain under direct public control, and where greater private engagement would be appropriate and add value in terms of management expertise and innovation. Examples include publicly controlled airports, ports and railways, where demand patterns and investment needs are clearly understood.

Furthermore, considerable capital remains available in the form of insurance and pension funds. However, the transport sector typically has not been as successful as others in attracting investment from these sources, although there are notable exceptions, such as investment by the Ontario Teachers' Pension Plan in port infrastructure. A selective increase in such private engagement in some assets could create a mutually beneficial situation that provides steady returns on one hand, and a reliable source of investment for expansion and improvement on the other. However, this does not imply the availability of new funding for more high-risk projects.

Focusing on innovation

Thirdly, we need to better prioritise our investment. We know that we cannot continue to build our way out of congestion, and that the time is ripe for investments that optimise the systems we have, focusing on key bottlenecks. In other words, bricks and mortar should not be our only priority, although this has been the primary focus in much stimulus funding.

Rather, in the future, with a view to improving efficiency and sustainability, we need to look at investments in other areas, including a wide range of technologies, in areas such as telematics, smart infrastructure, satellite navigation, intelligent transportation systems, and the like. Many non-transport investments will have an essential impact on the system, such as smart electrical grids that increase the effectiveness of electric vehicles and rail systems. The key issue of transport and innovation will be the theme of the 2010 International Transport Forum in Leipzig.

Where transport infrastructure funding is concerned, we must look beyond the current paradigm, and prepare ourselves to optimise the next. The underlying characteristics of the future will likely include less available public capital, more expensive private capital, efforts to decrease reliance on oil, and limited options with regard to the expansion of infrastructure. This will call for innovative thinking, implementing rational pricing mechanisms, selectively incorporating private know-how and resources, and focusing on investments that optimise the systems that we have available.

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