Remote access

Efficient strategies for rural transport infrastructure

Government & Public Sector Insights
Rural transport infrastructure is often a lower priority for public investment. With populations and productivity centered in urban areas, the focus for economic development policies and public infrastructure investment is concentrated accordingly. However, broad-based rural infrastructure spending is important for sustainable economic growth and should not be neglected.

For governments, the challenge is to balance these competing initiatives as efficiently as possible. Once the decision has been made to invest in rural projects, the focus should be on cost-effective execution within fiscal constraints. Administrations can make rural projects effective and leverage what public funds they do have available for investment growth through financial innovation, competition and appropriate private sector engagement.

Rural transport infrastructure is the “missing last mile”

Many rural areas have inadequate transport infrastructure,\(^1\) with roads and other public infrastructure significantly less developed than what can be found in urban areas.\(^2\) Rural areas typically make much smaller contributions to GDP than urban areas,\(^3\) so it is hardly surprising to see capital allocated to dominant urban areas. This issue is also more than just a shortfall of total transport capital available. Poor quality and inefficient existing infrastructure also plays a part because not enough funds are devoted to maintenance, further limiting productivity.\(^4\) The disparity in investment is associated with big differences in economic performance and well-being between urban and rural areas.

Economic performance and well-being are often weaker in rural areas

The economic impact of additional investment to improve rural transport infrastructure can be significant. More developed transport infrastructure increases connectivity and mobility, lowers transaction costs, raises non-farm earnings and helps reduce distributional inequalities between urban and rural areas.\(^5\) A lack of rural infrastructure can often be the “missing last mile”\(^6\) in broader infrastructure systems, impeding the transfer of people and goods to their final destinations.

Improvements in rural areas can therefore support more holistic and diversified growth.

What’s more, the failure of current policies around rural transport infrastructure development has a number of implications. First, utilizing limited government resources for an ineffective return is an inefficient use of public finances. Second, national productivity, beyond just in urban centers, is important to self-sustaining economic performance – especially as growth in the workforce slows in advanced economies and productivity growth decelerates in emerging markets. Third, weak growth in rural areas is associated with poor competitiveness, which is particularly detrimental in an increasingly global marketplace and can exacerbate economic performance over the longer term.\(^8\) And finally, over time an ineffective policy can result in inequity and substantial remediation costs.

In OECD economies, real GDP per capita is lower in rural areas

![Graph showing Median metro GDP per capita and Median regional GDP per capita from 2000 to 2010.](image)

Well-being indicators are also often weaker outside of cities

![Bar chart showing percentage point difference in major metro area vs country for access to services, education, and employment.](image)


### The sustainable development goals and sustainable transport

The advent of the sustainable development goals (SDGs) makes this an important time to review the role of sustainable transport, particularly rural transport. The SDGs set the agenda for economic growth and development strategies in the coming decades, and they put sustainable transport in the spotlight. Sustainable and efficient transport helps citizens access services and participate in economic opportunities. These are critical elements of sustainable and inclusive economic development. As a result, the United Nations secretary-general has tasked a high-level advisory group with finding viable solutions to promote public safety, health, environmental protection and economic growth through sustainable transport.

Improved transport systems in rural areas, urban-rural linkages and improved productivity in rural areas are expected to be a focus for global policy recommendations. For governments, this suggests that cost-effective investment in rural assets is good policy for the future, not only from an efficiency standpoint but also from a social and sustainability one.

---


Mobilizing transport investment in the “missing last mile” drives clear policy challenges

Governments cannot overlook the importance of rural transport infrastructure, for a number of economic and social reasons. The focus then for administrators is to execute on these projects as efficiently as possible, preserve capital for high-priority projects and achieve the benefits of the selected rural projects quickly. To do so, governments need to address some key challenges.

Challenge #1: high capital costs for rural projects

High initial capital costs for physical infrastructure and fiscal constraints for state and local governments combine to present significant funding challenges for rural transport projects. Funding allocation to regional infrastructure investment can also often be inefficient.11 At the same time, rural projects compete with urban projects for public funding and can be designated as lower-priority based on a traditional cost-benefit analysis, relative to those in high-density areas.

Challenge #2: project delivery can be challenging

Rural transport infrastructure initiatives also face significant project delivery challenges. These projects can involve disproportionately high transaction costs, lack economies of scale and/or effective contractor competition, lack project development capacity, and experience cost recovery challenges.12 The project development cycle can also be protracted, as projects are often phased to match funding availability. Accordingly, the realization of economic benefits arising from investment can be deferred even further for rural projects. For example, phasing to match budget availability can create partial “roads to nowhere” with limited independent utility.

How EY approaches infrastructure advisory projects

In advising clients on the optimal approach for delivering key transportation projects, whether rural or urban, EY applies consistent principles:

- **Focus on the end goal** — We recognize that it is important to undertake analysis to support decision-making. But governments also must advance key projects efficiently. EY uses senior people and prioritizes key areas of financial analysis to quickly identify and consider different financial structures and provide critical insights on drivers for success, avoiding “over-study.”

- **Candor** — EY is recognized for its candor and rewards this ethos in its people. By identifying financial and other delivery challenges early and directly, governments often have time to avoid later embarrassment, cost overruns, fallouts between stakeholders or transaction failure, and instead can identify new and alternative strategies. As a result, projects EY advises on have typically attracted significant competitive interest because private sector parties develop a higher level of confidence that the project will be structured appropriately and be delivered in a timely manner.

- **Independence and balance** — Our reputation and approach is to provide independent advice based on client goals. For example, while many advisors may be perceived as advocates of specific financial structures (e.g., public-private partnerships or traditional public finance), our only bias is toward successful delivery in a manner that maximizes value to our clients.

- **Letting the project dictate the transaction structure** — For each major assignment, our analysis typically starts by listening to clients and understanding the end users of the project. We focus in on the distinct characteristics of the project (including global and local lessons learned, stakeholders’ constraints and legal framework) and an understanding of our client’s broader policy goals and constraints. From these perspectives, the project should define the path forward – there is not a “one size fits all” solution for complex infrastructure projects.

Appropriate private sector participation in rural infrastructure will be crucial

The bottom line for rural transport infrastructure projects is that it can be difficult for the public sector to go it alone. Private sector participation can present opportunities to expand access to available funding sources and free up public capital and borrowing capacity to focus on other projects, including those in urban areas. Private sector participation can also reduce project management inefficiencies, provided that incentives, risks and responsibilities are allocated under a sound legal and institutional framework.13

---

Southern Ohio Veterans Memorial Highway

Southern Ohio Veterans Memorial Highway (formerly known as Portsmouth Bypass) is an example of how private capital can be used to advance a rural project in a cost-effective and efficient manner. The project is for a new 16-mile, four-lane limited access highway, located in Scioto County, an economically underserved region. It forms the final Ohio link in the Appalachian Development Highway System (ADHS), a 3,000-mile highway network stretching from New York State to Mississippi. The ADHS historically received dedicated funding allocated through the Appalachian Regional Commission (ARC), designed to generate economic development in previously isolated areas, connect Appalachia to the interstate system, and provide access within the region and the rest of the nation.

Ohio Department of Transport (ODOT) had originally planned to develop the project in three distinct phases over 13 years, as the annual dedicated ARC funding became available. While the phased approach was driven by budgetary necessity, it also deferred the majority of the benefits from the project until all three phases of the highway were operational.

Following the passing of Ohio’s enabling legislation, ODOT decided to pursue a public-private partnership (P3) approach for all three phases of the highway as a single design-build-finance-operate-maintain project, seeking private capital from a developer and a loan from USDOT’s Transportation Infrastructure Finance and Innovation Act (TIFIA) program.

By using a P3 delivery rather than a more traditional approach, ODOT realized a number of benefits:

- By using private capital to initially construct the road, the P3 approach allowed the project to be accelerated and avoid an interim “road to nowhere.” The benefits to users and the region and economy of acceleration were not formally quantified, but they were clear in a region with high unemployment.
- The P3 model allowed ODOT to pay over time for a long-life asset (subject to performance), without impacting existing debt.
- ODOT was able to transfer a substantial amount of risk and gain performance guarantees and a long-term warranty without a significant price premium. The project was ultimately able to access a 33-year, US$207m federal TIFIA loan at an interest rate half of the Treasury rate and significantly cheaper than ODOT could borrow itself.
- The approach provided opportunities for economies of scale and scope from combined project phases.
- Contractor competition was promoted in a region where paving contracts often received only one bid.

EY advised ODOT on the planning and procurement of the project, which resulted in the Portsmouth Gateway Group (ACS, InfraRed and Star Infrastructure) being selected as developer for the 39-year term. Delivering the project as a single-phase P3 project attracted intense competition, in a region where it has historically been limited. Three world-class consortia submitted compliant, competitive proposals significantly below ODOT estimates and faster than anticipated, driving value for Ohio taxpayers in several ways:

- Extremely competitive pricing - there was only 1.1% separating the prices of the three proposals.
- The winning construction cost was approximately 13% below federal cost estimate, and this bid accelerated delivery of the complete project by seven years.
- Increased potential to create jobs in Scioto County, taking advantage of historically low interest rates and competitive construction prices.

Additionally, the P3 structure was beneficial to ODOT in the context of its wider, capital-constrained work program. The P3 approach enabled Ohio to access the federal TIFIA financing program (through the developer) without using state debt capacity, and the long-term TIFIA loan at a rural interest rate of 1.27% compared favorably to the cost of a 15-year state debt. By using private capital to finance construction, the P3 model frees up substantial budget capacity in the near to medium term for ODOT’s other work program priorities, while reducing the risk to the state through a competitive, fixed-price, fixed-date construction contract and a de facto 39-year warranty.
Best practice for rural transport infrastructure development

1. Use financing to accelerate project delivery

Best-practice projects accelerate the economic impact of rural infrastructure investment, including the activity boost from construction and job creation in the short term and wider economic development impact over the longer term. Faster delivery of these projects also accelerates the value of their social impact.

This can be achieved through the use of private and public financing, particularly where a short-term lack of public funds would otherwise result in a project being deferred. The Southern Ohio Veterans Memorial Highway project (outlined above) is one such example. Leveraging private capital, a federal government loan, Appalachian Development Highway System grants and state funding contributions in a public-private partnership (P3) accelerated delivery of the project by approximately seven years compared to traditional, public-funded construction.\(^\text{14}\)

Initially planned as a three-phase design-bid-build project, it was consolidated into a single four-year construction phase under a design-build-finance-operate-maintain model. This enabled the delivery of a complete project, rather than single phases with limited independent utility.

2. Bundle projects to increase cost and efficiency gains

Cost reduction and greater efficiencies are also evident in best-practice rural transport infrastructure projects. These can be achieved by bundling multiple projects or phases, driving scale and efficiency gains, and attracting competition. For example, in the case of the Southern Ohio Veterans Memorial Highway, EY assisted the ODOT in identifying the potential benefits that could be realized by grouping together three segments of the highway into a single project. Alone, these segments were unlikely to attract private investment and would be less cost effective.

Rural market access programs also offer best-practice examples of rural transport initiatives that achieve scale advantages. For example, the United States Department of Agriculture (USDA) US Food Hubs Program focuses on driving economies of scale and expanded market access for small-scale producers.\(^\text{15}\)

This business model offers aggregation and distribution services for small and midsize producers across the US and particularly focuses on revitalizing critical infrastructure. Multi-stakeholder partnerships are another example of the use of federal resources to support economies of scale in rural projects. The Investing in Manufacturing Communities Partnership program in the US involves multi-stakeholder partnerships, including communities and municipal and federal organizations, working to develop and coordinate public services, such as transport networks, to support small-scale producers. As part of the program, the USDA also awards planning grants to assist stakeholders in producing comprehensive economic development plans, which cover transport investment.\(^\text{16}\)

---


To drive efficient investment in rural transport infrastructure projects, governments can follow several steps. The approach should be tailored to the specific circumstances of a certain rural area, with local competencies, resources and other assets playing an important role. However, there are four fundamental states to an effective rural transport investment strategy.

1. Prepare
Administrations should consider the policy guidelines for advancing rural projects and ensure there is a clear and transparent framework. For example, whether the municipality or state is legally permitted to use P3 (or even design-build in less mature markets) is a critical first consideration. Second, the financial capacity of the administration needs to be assessed, including the level of debt capacity and public funding available, any limitations within a state constitution, or other policy guidance that may apply. Third, at a programmatic level, policymakers need to develop specific guidance on matters such as the relative priority of any P3 payment obligations and other commitments, as well as developing government capability to support delivery.

Administrations also need to ensure they are creating an enabling environment sufficient for investment at a broader level. This could vary greatly depending on the maturity of the market. However, a clear commitment to develop essential infrastructure, a stable regulatory and legal framework, and clarity regarding funding sources are critical preparatory steps.

2. Identify
The next stage is to evaluate transport infrastructure projects. This includes considering whether bundling or phasing may be appropriate to create economies of scale or advance projects. Key factors could include the scale of capital investment required, the profile of available public funds, the benefits generated, the level of environmental permitting obtained and required, and the impact on other capital projects.
Administrators can then consider the relative costs and benefits of each project and prioritize potential projects. Given the importance of the social payoff of these projects, this priority assessment should also consider timing. With this in mind, projects that can be delivered sooner may be more attractive.

3. Analyze

It is important for program leaders to evaluate different delivery approaches for priority projects. Best practice involves developing a clear and transparent business case for the project, including identifying the possible alternative options for project delivery, which may include publicly funded design-build, design-build-finance or privately financed design-build-finance-operate-maintain models. Thorough analysis also means undertaking detailed comparative analysis of the quantitative and qualitative merits of different delivery options, identifying key project risks and methods to mitigate these risks, and establishing an implementation plan for the preferred delivery model.

4. Execute

With a priority project pipeline established, delivery options identified and analyzed, and a robust business case established for the project, administrations can proceed with a structured procurement. For rural projects in particular, a well-executed procurement will include:

Industry engagement – Competition ultimately drives value for government, and it is important to ensure that industry is aware of the project and is mobilized to pursue it. This may be particularly key in rural areas, which by their very nature are less likely to have significant industry presence available and instead need to attract non-local contractors.

Clear procurement documents, with effective allocation of risks – RFQ, RFP and contract documentation should be as clear and concise as possible, regardless of the specific delivery model used. Excessively complex procurement documents increase the time and effort required to bid, adversely impact upon industry appetite to pursue the project, and ultimately limit the competition and value realizable by the procuring authority.

Realistic schedule – There can be a temptation to seek to accelerate procurement by shortening the procurement schedule as far as possible. Maintaining a realistic procurement schedule, with sufficient periods for ongoing industry dialogue and adequate time for development of detailed proposals, is important in allowing proposers to develop innovative and best-value proposals.

Competitive and efficient rural infrastructure investments can provide remote access to prosperity

Solid rural economic performance is critical for sustainable economic growth, in developed and emerging economies alike. With its importance to socioeconomic objectives well-accepted, and fiscal constraints an ongoing reality, the key issue for administrations is to achieve cost-effective investment in rural transport infrastructure assets.

Importantly, administrations do not have to go it alone and can tap into private sector resources and skill sets to bridge funding gaps and accelerate benefits. With careful structuring and management, access to financial innovation and maximizing competition can successfully lay the “missing last mile” in rural transport infrastructure networks.
Transportation infrastructure at EY

Transportation infrastructure is a critical enabler for economic growth and competitiveness. At EY, we have worked with some of the largest and most complex projects around the globe, for the public and private sector, with experience throughout the whole project life cycle, from planning and procurement to delivery, operations and exit.

Our experience is reflected in our industry rankings. EY won the P3 Awards Gold award, Best Financial Advisor (Americas) for the second consecutive year in 2015. We were also recognized for the John Hart Generating Station Replacement project in Canada which was awarded the Grand Prix as Best Overall Project of 2015, where we were lead advisor. In 2014, Project Finance International ranked EY as first in the Financial Advisor category in terms of global infrastructure advisory mandates closed and first in terms of global mandates won.

EY is the most globally integrated professional services organization — in our mind-set, actions and structure. We are building a practice that will support the efficient, effective and economic delivery of transport infrastructure around the world.

<table>
<thead>
<tr>
<th>Planning</th>
<th>Economic feasibility studies</th>
<th>Financial advisory</th>
</tr>
</thead>
<tbody>
<tr>
<td>For government clients considering major expansions, significant renewal work and/or PPP initiatives, EY’s Infrastructure Advisory business can help develop long-term investment plans, as well as agency-wide programs and policy frameworks, including project management. This supports a clear and transparent pipeline of projects.</td>
<td>EY can develop economic feasibility assessments for transport infrastructure, including delivery model analysis, CBA and private-public comparator models. Such analyses give policymakers a clear picture on the net economic benefits of proposed projects.</td>
<td>EY can advise governments and private sponsors on financing projects, including the financial structure and sources of financing, private finance, public funds or PPPs. We can help in the procurement and delivery phase, including market sounding, funding option analysis, risk allocation, commercial and financial structuring, payment mechanism structuring, contract negotiations, and financial close.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Policymaking and regulatory advisory</th>
<th>Capital project management and assurance</th>
<th>Transaction Advisory Services for infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>EY can assist governments across a range of sub-sectors in providing regulatory and policy advice. In particular, solutions could range from regulatory analysis and framework development, pricing modeling and review, regulatory impact statements, regulatory due diligence, business impact assessments, competition policy reviews, business and strategic planning, market analysis, and governance advice.</td>
<td>Capital project management and assurance on project progress are critical to a project’s success. EY services include regular monitoring and evaluation throughout the project, driving accountability and transparency for investors and citizens. Designing a project integrity plan is part of this effort.</td>
<td>EY Transaction Advisory Services (TAS) provides advisory services around the client’s capital agenda, whether this means preserving, optimizing, raising or investing capital. In particular, TAS can assist governments and private sponsors with secondary market operations, including divesting or acquiring assets, restructuring project companies, and performing due diligence and working capital analysis.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tax services</th>
<th>IT transformation services</th>
<th>Climate Change and Sustainability Services for legacy programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>EY’s global tax teams have the broad capabilities to match the spectrum of tax issues. The teams can support transport infrastructure projects on tax challenges, including human capital management and tax regulatory changes.</td>
<td>The EY Advisory Performance Technology Services teams help clients rethink how to architect, deploy and manage technology. The teams can work with governments to accelerate business performance through technology transformation, enterprise intelligence, enabling technology, and technology risk and security.</td>
<td>Climate Change and Sustainability (CCaSS) teams at EY can monitor the delivery of the project and support the transition to sustainable legacy. CCaSS can offer deep skills in social impact assessments and reporting.</td>
</tr>
</tbody>
</table>
About EY
EY is a global leader in assurance, tax, transaction and advisory services. The insights and quality services we deliver help build trust and confidence in the capital markets and in economies the world over. We develop outstanding leaders who team to deliver on our promises to all of our stakeholders. In so doing, we play a critical role in building a better working world for our people, for our clients and for our communities.

EY refers to the global organization, and may refer to one or more, of the member firms of Ernst & Young Global Limited, each of which is a separate legal entity. Ernst & Young Global Limited, a UK company limited by guarantee, does not provide services to clients. For more information about our organization, please visit ey.com.

How EY’s Global Government & Public Sector can help your organization

Governments and not-for-profit organizations are continually seeking innovative answers to complex challenges. They are striving to provide better services at lower costs and to create sustainable economic development, a safe environment, more transparency and increased accountability. EY combines private sector leading practices with an understanding of the public sector’s diverse needs, focusing on building organizations’ capabilities to deliver improved public services. Drawing on many years of experience, we can work with you to help strengthen your organization and achieve lasting improvements. Our Global Government & Public Sector brings together teams of highly skilled professionals from our assurance, tax, transaction and advisory services. We are inspired by a deep commitment to help you meet your goals and enhance public value, for today and tomorrow.

© 2015 EYGM Limited.
All Rights Reserved.

EYG no. FK0116

BMC Agency
BACS 1002827

ED None

In line with EY's commitment to minimize its impact on the environment, this document has been printed on paper with a high-recycled content.

This material has been prepared for general informational purposes only and is not intended to be relied upon as accounting, tax, or other professional advice. Please refer to your advisors for specific advice.

ey.com/government

@EY_GovtPublic