



Governance & Infrastructure Challenges

Winter 2016

Map & Monitor Road Infrastructure Projects

Improved road infrastructure reduces transport costs and lowers trade barriers, resulting in high social returns for local communities – assuming that construction is managed well. In three months, demonstrate proof-of-concept for a road-construction monitoring system to help engineers oversee the quality and efficiency of road infrastructure projects. The system should be piloted with one project and increase road completion rates by 25%, then begin scaling country-wide within two years. A successful model will be evidence-based, will include continuous monitoring and testing, and a commitment to change if evidence suggests your approach is not working.

The Problem: Transportation infrastructure is a necessary component of development, yet transport costs are especially high in sub-Saharan Africa.¹ Transportation on dirt roads can be two times more costly than on paved roads, and only 19 percent of roads in sub-Saharan Africa are paved. This impacts everything from the costs of goods being exported to local food prices. Poor transport infrastructure also makes intra-continental trade far more expensive – the cost of trucking a 24 ton container from Maputo, Mozambique (a major port) to the north area of the country is nearly 2.5 times higher than shipping the same container from Dubai. For Africa’s 15 landlocked countries, transport costs average about 50 percent of the value of exports, compared to 8.6 percent for all developing countries.²

Lack of funding for infrastructure projects is one bottleneck, but that funding gap is rapidly being filled. The more serious problem is quality planning and construction. For example, in 2014, only 28 percent of large-scale sub-Saharan African infrastructure projects that had funding secured had actually begun. Projects that do get off the ground often suffer long delays or are not built to standards. Oversight of the process after securing funding is a crucial issue.³

The Proven Solution: Roads are a proven building block of economic growth and enable trade and human movement within and across countries. Over the past 50 years, World Bank infrastructure projects have

¹ <http://www.csae.ox.ac.uk/conferences/2006-EOI-RPI/papers/csae/Bryceson.pdf>

² <http://www.oecd.org/investment/investmentfordevelopment/41775855.pdf>

³ [http://www.ey.com/Publication/vwLUAssets/EY-Bridging-the-Gap/\\$FILE/EY-Bridging-the-Gap.pdf](http://www.ey.com/Publication/vwLUAssets/EY-Bridging-the-Gap/$FILE/EY-Bridging-the-Gap.pdf)

generated a higher social rate of return in transport than in any other sector.⁴ Paved roads are a proven solution, particularly in Africa, where road travel is the dominant mode of transportation.

Your Challenge: We will award up to \$20,000 to a social entrepreneur who can create a simple system to map and monitor road-construction projects. Your organization should pilot the system with at least one road construction project and target a 25 percent improvement in terms of completion time and quality. A winning idea will have a plan to quickly scale nationwide within two years.

You must have a localized plan that can manage uncertainty, including:

- An evidence-based model which identifies the strongest factors limiting proper road monitoring and construction, specific to the region in which you will operate
- An evidenced-based model of how and why your intervention will boost improved monitoring and construction completion in the long run
- A plan for continuous testing and evaluation of the program
- A commitment to change the plan if the evidence suggests that the approach isn't working

Market Information:

- The monitoring system would use a small number of local engineers to a) establish target road completion calendars, b) potentially improve the procurement process, c) verify the existence and quality of road construction, and d) correct problems when discovered.
- Every year, tens of billions of dollars are spent by developing world governments and international donors on road-building. Lack of transparency about how funds are used leads to the misuse and disappearance of resources, resulting in extremely low road completion rates. Oftentimes, the companies responsible for the road construction cut corners in order to lower costs and boost profits. This results in poor road construction quality and necessitates frequent rebuilding, sometimes after as little as one year.

Ready To Apply?

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Questions? Email the D-Prize team at help@d-prize.org

⁴ Ibid.