

Winner case study

Bridges to Prosperity, global



Children cross Butare footbridge to get to school, Rwanda



Log bridge and ford in use while the new Gaseke footbridge is built, Rwanda

2016 Eurostar Ashden Award for Sustainable Travel

Award supported by



218

footbridges in use and under construction



65,000

return trips made each day



US\$60,000

typical cost of a footbridge

“Bridges to Prosperity gets to the heart of sustainable travel. It’s amazing the difference that footbridges are making to so many people in rural communities.”

Ashden judging panel

The context

Walking is the primary means of travel in most rural parts of the developing world. Crossing rivers on foot to get to schools, clinics, jobs and markets is often hazardous, and communities can be isolated for weeks by a flooded river. Despite the fact that globally, one in seven people travels entirely on foot, most government transportation planning focuses on infrastructure for motor vehicles, and not pedestrians.

The Bridges to Prosperity approach

Ken Frantz, the founder of Bridges to Prosperity (B2P), saw huge potential for footbridges to improve access to education, healthcare and markets in rural areas. The organisation developed an innovative approach, partnering with governments and communities to provide footbridges at sites where there is local demand and the potential for significant social impact.

“Our children now get three more years of education, because they don’t have to wait until they are big enough to cross the river on a log bridge before they start school.”

Philomene Mukavumera, Rutenderi and Rwamawha footbridge user, Rwanda.

Suspended and suspension footbridges are built to B2P’s standard designs by teams of local volunteers and labourers, who work with professional volunteers from world-class engineering companies. Local materials are used for the foundations and bridge deck, and repurposed steel for the structural components. A group of community members is trained to maintain the bridge.

Impact

By May 2016, 203 footbridges had been built in 20 countries, with a further 15 under construction. Around 65,000 return trips are made each day.

Because of these trips, more children

regularly attend school and have shorter and safer journeys. People can travel more easily to hospitals and clinics, and community health workers can reach more homes. Opportunities for employment expand when travel is more reliable, and farmers increase their income with year-round access to markets.

B2P bridges are designed to accommodate bicycles, animals and motorbikes as well as pedestrians. This increases the opportunity to transport goods and creates even greater economic opportunity.

The total direct cost of providing a footbridge is usually less than US\$60,000, only a fraction of the cost of a vehicular bridge. B2P achieves this low cost by leveraging local government investment and in-kind support, as well as through supply-chain and design efficiencies.

Bridges to Prosperity profile

US NGO, founded in 2001
US\$3.7m income 2015, from grants & donations
33 employees, 42% female

How the programme works

B2P identifies sites for footbridges in partnership with a district or national government, and will work only where there is clear demand from the local community and a commitment to help with construction and long-term maintenance. When possible, bridges are built at existing crossing points, and in a manner that does not impact on the natural flow of the river. Each site is surveyed to assess the technical feasibility and cost of a bridge, as well as its potential social impact. Priority is given to sites which offer the greatest social impact (for example where a river crossing currently prevents students from reaching school).

B2P has developed standard designs for both suspended and suspension footbridges, with the type chosen depending on the topology of the site. All bridges are strong enough to carry a full load of pedestrians, along with bicycles, animals and motorbikes.

Direct funding for bridges is mainly provided through grants and donations from the USA and UK, with contributions in both materials and labour from local governments. A number of engineering and construction companies from the USA and UK work in partnership with B2P, providing funding as well as professional volunteers to work with local teams on bridge projects.

Bridge construction and maintenance

Sites are excavated and bridge foundations built by local labourers using rock, gravel and sand from the immediate vicinity where suitable. Wood for the bridge deck is also sourced locally unless deforestation is a major concern. Steel for structural components is often unavailable locally, or prohibitively expensive. B2P has therefore developed a global supply chain of reused and repurposed steel from port authorities and construction sites. Each footbridge has a cable handrail on each side, with safety fencing between the handrail and the deck.

B2P staff oversee the construction team of community members and international volunteers, using each site to train local masons and superintendents and, where possible, local engineering students. It takes about two months to construct a footbridge.

Each bridge is maintained by a local committee, with professional structural checks every few years. Bridges have a design life of 25 to 30 years without major repair, and should last for 70 years or more with proper maintenance.

Impact

The 203 footbridges constructed to date by B2P serve rural communities totalling nearly one million people and about 65,000 return trips are made each day.

The impact of a footbridge on individuals and communities can be enormous. Multi-year monitoring of footbridge programmes in Nepal found that, among the population served by a new footbridge, 12% more children enrol in school and there is a 24% increase in healthcare treatment, an 18% increase in women employed, and a 15% increase in local business.

Anecdotal feedback from B2P sites is equally positive. For example, the Chameau Bridge in Haiti enables 18,000 children to reach school without a 10 km walk to the nearest crossing point, and 20,000 adults to access employment and markets year-round. At Rancheria, Nicaragua, dairy farmers no longer have to swim with their milk churns across a flooded river to get to the milk collection truck.

Each bridge's construction provides paid employment for local labourers and builds the local skill base. Partnerships with universities in Rwanda, Zambia and Haiti are bringing footbridge construction into formal education and training curricula.

The future

Globally, there are around 100,000 more communities that could benefit from the footbridges that Bridges to Prosperity builds. B2P has ambitious plans to grow its work, with a target to build 100 bridges per year by 2020. All footbridge designs are open source, so that others can use them to achieve greater impact.



Philomene Mukavumera, bridge labourer and healthcare worker, Rutenderi and Rwamawha, Rwanda

“Before the footbridge was built about 70% of women were able to get to the hospital to give birth, but now nearly everyone gets there. And antenatal care is better, because pregnant women get to more healthcare appointments, and seek help when it is needed. The villagers on either side of the bridge have better relationships too now. They can do more things together.”



Vincent Maniraguha, bridge labourer and trader, Butare, Rwanda

“I take goods across the river and travel on a bicycle to sell them on the other side. Before the bridge I managed three small loads each day, because I had to carry the goods across the river and then carry the bicycle. Now I can cross the bridge six times a day with a full load, and my income has doubled.”



Farmers take their sheep across the Chaqui Cocha suspended footbridge, Bolivia

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