

Technology's crucial role in developing economic transport hubs

 By [Harry van Huyssteen](#)

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Through technology, public transport systems has the potential to become more than just a way for people to get from the proverbial 'A to B'. With innovations like high-speed connectivity, sensors, big data, geolocation and mobile services, transit routes can become the connective tissue that creates stronger communities and flourishing local economic development.



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These various forms of technology can help stimulate ecosystems of trade and development alongside important commuter routes – uplifting local communities and improving the lives of millions of South Africans.

Using transport routes as a catalyst for economic development, a concept known as Transit Oriented Development (TOD), has a few clear benefits:

- Access to economic opportunity: employment and entrepreneurship opportunities from businesses that operate at public transport nodes – like bus stations, train terminals, and taxi ranks.
- Social spaces: where people can connect, network, and share knowledge. Just by creating a safe environment for people to interact, a myriad of opportunities can emerge.

- Easier movement of labour: integrated and efficient transport routes reduce wasted time (such as waiting time, and walking between a train and a taxi station, for instance) – meaning that people can be more productive, and get home to their families in the evening with less hassle.

Data-driven transport

For TOD to be possible, gathering and intelligently using masses of commuter data is a critical starting point. Data-driven transport planning can ensure public services infrastructure – like schools, parks, hospitals and police services – are integrated into the major nodes of a region's public transport infrastructure.

If we are to implement a new bus network in Soweto, for example, data collected from millions of daily commuters would reveal the ideal bus routes, times, and frequencies, to serve the maximum number of passengers.

Considering the local and cultural context

But in developing economies, TOD strategies often have to be creative, fitting within the existing informal transit services and considering local culture, geography, and practices. Case-studies from first-world countries don't always work everywhere in the world.

The remarkable Gondola-style cable cars in Columbia's sprawling mountain city of Medellin is a great example of this. Wi-Fi-equipped capsules transport residents between the upper- to the lower-regions of the city, connecting them with bus networks at ground level. At all of the major nodes, you'll find locally-owned restaurants and shops selling a variety of products to both locals and tourists alike.



Image Source: [Design Other 90 Network](#) - Metrocable, Medellín, Colombia

In South Africa, we have a unique blend of formal and informal transit mechanisms. Considering local context means using technology to augment and incrementally improve the existing systems, rather than to outright replace them.

Communication a clear way to improve public transport

Even the most simple technology, like free Wi-Fi, could make a massive difference to commuters in our cities – giving access to those currently on the wrong side of the ‘digital divide’, helping to stimulate local business, and making communication far easier for travellers.

In fact, better communication is one of the clearest ways that we could improve our public transport. Commuters would be able to enquire about schedules and routes through mobile apps, or USSD sessions, or web portals. Operators could communicate relevant information to passengers likely to be affected by, for instance, a late train (instead of bulk groups of travellers all receiving the same alerts).

Comprehensive systems

Public transport operators could dramatically improve efficiencies with modern transport management systems – which link everything from ticketing to customer counting, from predictive maintenance to driver management and weather alerts. These comprehensive systems enable the optimal resource allocation, and the ability to respond in near real-time to isolated events, such as large entertainment events, unusual weather, strikes, or accidents.

Serving communities and applying technology in a way that benefits all requires deep partnerships between local government and specialist IT partners – to not only improve the levels of mobility and accessibility for commuters, but also stimulate new commerce, services, and tourism opportunities in the districts surrounding the transport hubs.

ABOUT HARRY VAN HUYSTEEN

Harry van Huyssteen has a diverse background with experience in training, in senior management, strategic business development and management consulting. His experience spans the private and public sectors mainly in education, broadcasting, IT management, health and transport. He started the Transport Forum almost 11 years ago as a business development initiative for the state-owned arvia.com. This initiative soon became an asset for networking and content provision in the South African transport sector: www.transportsig.com

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