

Tshwane University Innovation Challenge #3

Public Transport

**Deadline for Submission
27 April 2020**

Challenge overview

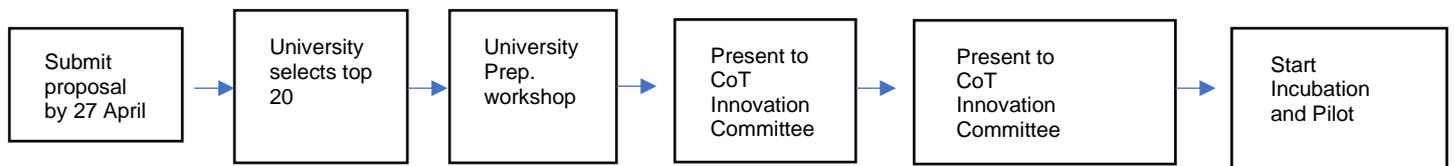
South African cities, including the City of Tshwane, are in urgent need of workable and sustainable public transport networks. There are several public and private operators providing services in the public transport space. However, much of this service is fragmented and not well coordinated, which means that many residents are not able to access public transport services near their home or work, they find it difficult to plan travel times or routes and often wait in long queues during peak times.

What we are interested in

The City of Tshwane Department of Transport and Roads is interested in innovative ideas related to:

- Practical approaches for improving the efficiency of current taxi operations.
- Different ways of including private entities in the public transport sector.
- Ideas around the financial provision on road and transport interventions directed to addressing relevant needs (what the communities really need)
- Communicating real-time information to commuters to reduce travel time in case of obstructions and congestion.
- Managing the allocation of the taxi fleet on operated routes.
- Evolution of the City transport system towards decarbonisation (within the context of a just energy transition)

Challenge process



Evaluation Criteria

Novelty Is it something we haven't seen before?	Feasibility Can it be implemented within reasonable time and cost?	Team Do you and your team have the right mix of skills to do this?	Impact What is the potential impact on City service delivery or revenue?
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What's in it for you?

Up to 12 projects will share R1.2 million in funding and receive technical assistance for piloting of solutions in the City of Tshwane. Your university will provide top-up seed funding and/ or incubation support as needed.

Who may apply?

As of 1 March 2020, at least one team member must be registered as a student (not staff member e.g. post-doc) at Tshwane University of Technology, University of South Africa (national) or University of Pretoria. Teams do not (do) need to be formally registered as a business with CIPC.

Submissions will be received and reviewed by the project partners and your university, and will not be shared with other organisations or individuals.

Appendix A: Challenge Background

The City of Tshwane Department of Transport and Roads aims to “provide world-class roads and transport infrastructure networks and systems which facilitate seamless mobility of goods and people within Gauteng”. This is achieved by developing and maintaining road infrastructure and through the provision of public transport services. The City also regulates transport-related activity guided by relevant By-Laws and national legislation. The City's approach to transport management is outlined in a Comprehensive Integrated Transport Plan (CMIP)² and addresses a range of topics such as demand/ need assessment, transport infrastructure, parking, non-motorised transport (NMT) (e.g. bicycles), demand management, road safety, intelligent transport system (ITS), and a public transport operational strategy (PTOS). The intention is that residents can access an integrated system of transport comprising rail, bus, taxi, and NMT to get to their destinations. This will be supported by an ITS, enabling tracking and scheduling of buses, starting with A Re Yeng BRT³ but with plans to extend to the Tshwane Bus Services.

What is the situation?

There are a number of critical routes for which the City would like to improve public transport services. A key priority is the R80, a provincial route that connects the Pretoria CBD with Soshanguve. It is a dual carriageway freeway, with 2 or 3 lanes in each direction at different points. It passes through the Theo

Martins Gateway, a mountain pass over the Magaliesberg Mountains, and the northbound carriageway has a rising hairpin bend, approaching the pass, as the freeway abruptly switches from east-west to a south-north direction. An interchange has been constructed that links the road with the N4 Route (Northern Pretoria Bypass), which is part of the Platinum Highway. The R80 freeway is plagued by a variety of traffic-related incidents such as high traffic congestion, which often leads to both minor and major accidents because of the number of vehicles using that route. There is an urgent need to address both the levels of congestion as well as related issues, such as traffic accidents on this route. In addition, on this route and in other areas, there is a need to enhance the availability and reliability of public transport in all its forms (bus, taxi, etc.), so that residents have better travel experience.

What has been tried here and in other regions?

Formalising and integrating minibus taxis and city transport services: Several cities have sought to formalise and integrate minibus taxi services with municipal public transport services, such as BRTs. This typically involves taxis providing local connections to municipality 'trunk' services as part of integrated transport plans. The interface between the municipality and taxi operators may be through co-operative business structures, which potentially also enables operators to access government subsidies. In other cases, this may even involve taxi owners exchanging taxis for shareholding in a new bus company.