

**CALL FOR PROPOSALS:**

**EMBEDDED DOCTORAL RESEARCHERS IN THE CITY OF CAPE TOWN'S  
TRANSPORT AND URBAN DEVELOPMENT AUTHORITY**

Issued by the Centre for Transport Studies (University of Cape Town) in collaboration with the  
Transport and Urban Development Authority (TDA)

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**TDA**  
**CAPE TOWN**

*The City of Cape Town's Transport  
and Urban Development Authority*



## 1 THE EMBEDDED DOCTORAL RESEARCHER INITIATIVE

The embedded doctoral researcher initiative is a collaboration between the University of Cape Town's Centre for Transport Studies (CfTS) and City of Cape Town's Transport and Urban Development Authority (TDA). The research conducted by two successful PhD scholarship applicants will be of mutual interest to TDA and the CfTS, where the outputs of this research are useful to the TDA in developing and implementing improvements to Cape Town's public transport system, while at the same time enable the candidate to meet the scholarly requirements of a doctoral degree.

Given the mismatch between the long term outcome of a doctoral thesis, and the shorter term decision-making requirements of TDA, for the PhD candidates' research to be useful to TDA, milestone deliverables will be identified, which enable useful components of the research to be fed into TDA project processes timeously. This will be considered when planning PhD research work programmes: literature reviews and data analysis steps could, for instance, take the form of these interim deliverables.

The PhD researchers will spend approximately 50% of their time at TDA, and 50% of their time at UCT. There will be flexibility in how this time is allocated, subject to the needs of TDA, and the research progression of the PhD researcher. UCT will provide staff to supervise the PhD candidates, and will take responsibility for the academic requirements of the research. TDA will nominate a mentor, who will manage and protect the PhD researchers' time at TDA, insert him or her into the applicable TDA project teams, and seek synergies in data collection and analysis processes.

## 2 TARGETED RESEARCH FIELDS

To increase the prospects of attracting high quality candidates, applicants are asked to propose their own research topic that is broadly in line with the themes identified in this call. The following research themes and questions have been identified by the CfTS and TDA as the fields within which doctoral research proposals are sought:

- Theme 1: *Hybridity*<sup>1</sup>
  - What form(s) should public transport network hybridity take in different parts of Cape Town? What are the operational challenges, and how might they be addressed?
  - What regulatory framework is required, and what implications, if any, does this have for current policy and legislation?
  - Why do some scheduled feeder routes operate relatively viably, and others at a heavy loss? What are the implications for scheduled-unscheduled service hybridity, and what are the lessons for later phases of improvement implementation?
  - What network type (i.e. direct/branched vs. trunk-feeder) is optimal in different parts of Cape Town? What implications does this have for hybridity?
- Theme 2: *Cashless fare collection*
  - What is the potential for cashless fare collection in the minibus-taxi (i.e. paratransit) sector, both as a means of reform, and as a means of multi-modal/hybrid integration?
  - What forms can cashless fare collection take, and which are best suited to the Cape Town context?
  - What are the challenges facing the implementation of cashless fare collection technologies (e.g. driver resistance), and how might they be overcome?

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<sup>1</sup> The term 'hybridity' is used here to refer to public transport networks comprised of both scheduled services (i.e. Metrorail, GABS and MyCiTi services in the case of Cape Town) and unscheduled minibus-taxi services. For policy background, see <http://www.capetown.gov.za/Media-and-news/Modernised%20minibus-taxi%20industry%20to%20provide%20feeder%20services%20in%20future%20MyCiTi%20route%20roll-outs>

- Theme 3: *Equitable access*
  - What are the distributional equity benefits of public transport service plans and improvements? Who benefits and where do they live?
  - How can hybridity, and other public transport service improvements, improve accessibility across spatial, financial and temporal dimensions?
  - How might the spaces and times not served by current public transport services, be served by new forms of demand responsive service supply?
- Theme 4: *Behaviour change*
  - Why do public transport passengers choose the modes they do (and why do passengers continue using minibus-taxis when new scheduled and branded services are introduced in particular)?
  - What service attributes do passengers value most?
  - What are the prospects of mobile phone application data collection methods as a means of providing new insights into passenger choice?
- Theme 5: *Paratransit e-hailing*
  - What are the prospects of minibus-taxis adopting e-hailing technologies, and how might this improve quality of service, and extend the minibus-taxi passenger market into new passenger income bands?
  - How should such e-hailing type minibus-taxi services be regulated?
  - How would they complement a hybrid public transport network?
- Theme 6: *Free or discounted fares*
  - What are the prospects of free or discounted fares as a means of spreading peak public transport passenger demand, and of improving social welfare and redress?
  - What are the financial and operational (dis)advantages of such a scheme?
  - Who should benefit, and why?

### **3 THE NATURE OF THE SCHOLARSHIP**

The value of the scholarship is R225,000 per annum, for a maximum period of three years. This scholarship amount includes the annual cost of registration (R17,850 in 2017). Continued funding will be approved on an annual basis, subject to satisfactory progress.

The Volvo Research and Educational Foundations (VREF) are the sponsors of the research. During the course of their studies, successful candidates may benefit from international study visit opportunities facilitated by the global network of researchers supported by the VREF.

### **4 CANDIDATE AND RESEARCH TOPIC SELECTION**

Two candidates will be selected by a committee comprised of CfTS academics and TDA officials, on the basis of the merits of their research proposal, and on the strength of their academic performance in prior degrees. Successful candidates will need to meet the general admission requirements of the University of Cape Town (for more information, see [http://www.students.uct.ac.za/usr/downloads/uct.ac.za/apply/handbooks/Handbook3\\_2017.pdf](http://www.students.uct.ac.za/usr/downloads/uct.ac.za/apply/handbooks/Handbook3_2017.pdf)).

Shortlisted candidates will be interviewed (in person or via skype) by the selection committee.

## 5 HOW TO APPLY

Applicants should submit a covering letter of motivation, a curriculum vitae and a research proposal, via email, to [roger.behrens@uct.ac.za](mailto:roger.behrens@uct.ac.za).

The deadline for proposal submissions is **20 November 2017**.

Research proposals should not exceed ~3,500 words, and should cover the following topics:

- the aims of the research and the research questions (or hypothesis) to be investigated;
- the method of investigation, and associated theoretical frameworks; and
- the implications the method of investigation has for data collection resources.