

## How can we use open data to reduce cable theft in Tshwane?

**Enter:** [challenge.responsivecities.org.za](http://challenge.responsivecities.org.za) | **Deadline:** 21 October 2016

**Local partner:** The Innovation Hub | Phone: 012 844 0000 | **Email:** [openix@theinnovationhub.com](mailto:openix@theinnovationhub.com)



**Opportunity:** Top 3 entries for Tshwane will win cash award between R1,000 and R10,000, and will be eligible for national award of R50,000 along with further pilot/ PoC funding up to R300,000 with The Innovation Hub.

**Maturity:** Concepts, wireframes, prototypes and near commercial proposals.

**Eligibility:** Startups, designers, journalists, small enterprises, researchers and individuals based in South Africa looking to implement a solution in Tshwane.

### Challenge Question

How can we use open data to find a sustainable and cost-effective solution to reduce copper theft in one or more areas of Tshwane:

- Mountainous terrain of the Tshwane area;
- In townships where thieves' target house connections; and
- In the city centre and surrounding metropolis.

### Process

- Meetup will be taking place on 14 October 2016 at The Innovation Hub. Register by 11 October: <http://bit.ly/RCCTshwaneMeetup>
- Submit initial proposal online by 21 October
- Finalist workshop 7-13 November
- Winners announced by 25 November

### Data Links

Core data set(s):

- City of Tshwane cable theft data: <http://bit.ly/TshwaneCTExampleAggData>

Possible related data set(s) and tools:

- Wazimap: <https://wazimap.co.za>
- Gauteng waste service providers: <http://www.gwis.gpg.gov.za/activities/search/page:1>

- City of Tshwane Maps and GIS:  
[http://www.tshwane.gov.za/sites/about\\_tshwane/MapsAndGIS/Pages/Maps-And-GIS.aspx](http://www.tshwane.gov.za/sites/about_tshwane/MapsAndGIS/Pages/Maps-And-GIS.aspx)

## Background

Electricity cable theft is disrupting local business activity and putting lives in danger. It is also a significant cost for the City of Tshwane Metropolitan Municipality. Cable theft in the City of Tshwane is dominated by thieves who target specific vulnerable areas (e.g. cables in secluded mountains) and steal large quantities (often large HV cables). The vulnerable areas are hit more often, sometimes 10 times more often than other areas. The mountainous terrain of the Tshwane area is often targeted because mountains make patrolling by vehicle on some of the lines difficult. Some areas can only be patrolled on foot and require more armed security guards. The thieves plan their action carefully and carry weapons in preparation for a possible armed reaction to a cable theft alarm. The Tshwane Metropolitan Municipality infrastructure (cables, transformers, etc) are targeted by these syndicate thieves.

The Tshwane Electricity 132 kV infrastructure has been targeted many times. At times they attack a supply point (substation) and then go to a faraway cable point to take a large amount of cable: knowing that the danger of electrocution is removed. The response team will react to the initial site only to find no one there. They realise later that the cables had been stolen at other points during the power failure.

There has been an increase recently in some townships where the thieves target house connections to sustain their addiction to drugs. This increase is linked to the increased use of the 'Nyaope' concoction (drug) by many youngsters in some townships. There are no alarms or warning systems on house connections other than the sudden failure of power supply to the house. Community members often assume that it is a normal outage or a maintenance switch-off. As most of the theft activity takes place late at night, residents come to realise – only the next morning – that cables have been stolen.

The City of Tshwane has adopted several strategies to combat cable theft, such as patrolling of 132kV lines, conductor marking on new installations on the 132kV network with a UV-detectable paint substance to assist in the identification of stolen conductors, keeping all lines (including installed unused lines) live to enable detection of tampering, installing alarm systems at substations in targeted areas monitored by the Metro Police, and the setup of external and internal multistakeholder forums/ workgroups to address the issue jointly.

**TO RESPOND TO THIS CHALLENGE, PLEASE ENTER ONLINE**

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