

Tanzania Study Protocol *Funguka!*

Historical Accident Rates

Between 2013-2015, there were approximately 300 accidents per year in involving mid-size and large buses.

Sample Size

Our sample size is 3,598 buses across Tanzania. Tanzania's Surface and Marine Transport Regulatory Authority's (SUMATRA) classification system is used to select the type of vehicles. SUMATRA recognizes three classes of buses:

- (1) large buses (46-65 passengers)
- (2) mid-buses (26-45 passengers)
- (3) small buses (less than 26 passengers).

Recruitment was conducted from the large and mid-bus categories. The study sample contains 1,960 large buses and 1,638 mid buses. It is estimated that there are approximately 2,900 large buses in the country. Estimates for the total number of mid-buses in the country are not available.

Recruitment Strategy

Vehicle recruitment takes place in the bus stations across six regions in Tanzania (Arusha, Dar es Salaam, Dodoma, Mbeya, Mwanza, and Tabora). Enumerators recruit buses systematically within these bus stations as they await passengers.

Buses are recruited according to three primary criteria:

- (1) they must carry more than 25 passengers
- (2) they must travel long distances (more than 100 km)
- (3) they must reach highway speeds (80 km/h)

The randomization mechanism is the license plate of the vehicle.

Control group: license plate ending in an even number

Treatment group: license plate ending in an odd number

At the point of recruitment a short survey is administered to the drivers, in which information about the vehicle, the driver, and the route is collected.

Recruitment was phased in across geographical regions over a period of two weeks. Either the project manager or project assistant, as well as the field supervisor for the region, were present during enrollment to ensure protocols were being followed and to supervise recruitment. Recruitment was conducted across the six study regions between February and April 2016.

Treatment

Enumerators placed six stickers in each vehicle at the time of enrollment.

Image	Message in Swahili	Translation in English
Man pointing at passenger	Ni wajibu wako kulinda maisha yako na ya abiria mwenzako.	It's your responsibility to protect your life and the lives of fellow passengers.
Crashed bus	Usimuache dereva asiejali apoteze uhai wako.	Don't allow a reckless driver to make you lose your life.
Woman wounded in a wheelchair	Usiishi kwa kujuta. Ongea sasa kuhusu madereva wanao endesha mabasi bila ya kujali.	Don't live with regret. Speak now about drivers who are driving carelessly.
Dead body in a road	Usimuache dereva asiejali atekeleze mauaji ya abiria na atoroke bila hatia.	Don't allow a reckless driver to get away with murdering passengers.
Two people yelling into megaphones	Sauti yako, maisha yako. Ongea sasa kuzuia uendeshaji mbaya wa mabasi.	Your voice, your life. Speak now to prevent bad bus driving.
Newspaper with headline describing a fatal accident	Ajali inauwa! Jali maisha yako, tetea maisha yako.	Accidents kill! Worry about your life, protect your life.

Treatment cost per vehicle is approximately \$4. Six stickers at a cost of \$0.55 each are placed in envelopes costing \$0.75 each. (This price does not include the one-time cost of design and photography.) Total cost for stickers in study sample is \$14,392 USD.

Lottery Protocol

A weekly lottery is conducted on Fridays. Ten buses are drawn at random from a database of recruited vehicles. These buses are contacted and inspected by project staff. The vehicle passes inspection if all six stickers are in place and undamaged. If a vehicle passes inspection, 100,000 Tanzanian Shillings (approximately \$45 USD) each is transferred to the bus driver and the bus owner.

Assuming four draws per month and 100% compliance, the lottery costs 8,000,000 TSH (\$3,600 USD) per month. A quarterly lottery license is also maintained at a cost of 6% of the project operating budget (approximately \$700 USD).

Source of Accident Data

Accident data is collected from the police at the regional level across the 26 mainland regions of Tanzania. Project enumerators take a data collection template to the regional police station. This template is completed by the police with the following information for each accident:

- region
- date
- vehicle registration number
- vehicle company name
- route
- location of accident
- cause of accident
- number of deaths
- number of injuries
- measures taken against driver

Quality Control

A random selection of 20 accident reports was drawn from across the data collected from the regional police stations. Project staff traveled to each station to independently check the accuracy of the transcribed reports. Additional quality checks are planned.