

BEST ROADS: TAXI TRANSPORTATION

“The Africa Scientifique 3-day Workshop and six-month post-Workshop mentoring impacted my self-confidence and career progression.”

One of the biggest challenges facing South Africa’s taxi industry is traffic congestion. This has been a serious issue for the taxi managers and drivers in Mandini - a small town in KwaZulu Natal. To combat these challenges, **Cebolenkosi Ngema** developed a science communication project - **Best Roads for Taxi Transportation** - to educate taxi managers and drivers in Mandini on how to identify the best routes that they could use in order to minimize costs, time, distance to travel and expenses in their daily operations. Cebo delivered his activity through a poster presentation to 10 taxi drivers at Mandini taxi rank in isiZulu on the 6th of February 2020. During his presentation, Cebo highlighted using a user-friendly algorithm based on mathematics (Graph Theory) that he developed based on the data he collected to identify the best routes.

Cebolenkosi pointed out that his presentation was a success. The participants were amazed at how Mathematics can be used to improve their profits: “I thought only applications like Google Maps had the capacity to determine optimal routes; I did not think that...for a person [could] to do such an analysis manually and that this was something that can only be done using technology.” Taxi Driver - Mr Ncobo

Best Roads: Taxi Transportation
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Leadership, Knowledge & Skills
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Mathematical Method
We draw a graph showing the routes from Mandini to other towns with costs

Real Problem
There are many road routes from Mandini in KwaZulu-Natal to neighbouring cities

Solution
Routes with low-cost that can be used to travel from Mandini

AIMS African Institute for Mathematical Sciences SOUTH AFRICA

AFRICAN GONG The Pan-African Network for the Popularization of Science & Technology and Science Communication



Cebolenkosi Ngema delivering his science communication project.