

Sri Lanka Institute of Information Technology



Geographic Information Systems (GIS)

**Topic 10 - Use QGIS and create a catchment area for travel
distance / time for Malabe area**

Group ID: 5

Group Members

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Objective

Creating a catchment area for travel distance for Malabe area

Methodology

Find corresponding data for Malabe area

We downloaded corresponding shape files from Sri Lanka survey department and open street mapping.

Import data into QGIS

Then we imported corresponding shape files and relevant files into QGIS and gathered data for whole Sri Lanka. Then we cut shape files according to the Malabe area size.

Create a database using POSTgreSQL and POSTGIS server

We imported shape files into POSTgreSQL using SPIT plugin and loaded attribute data into corresponding tables in the database

Querying data

Then we queried data for travel distances (100m, 200m, 500m, 1km) considering the Malabe town as the center point.

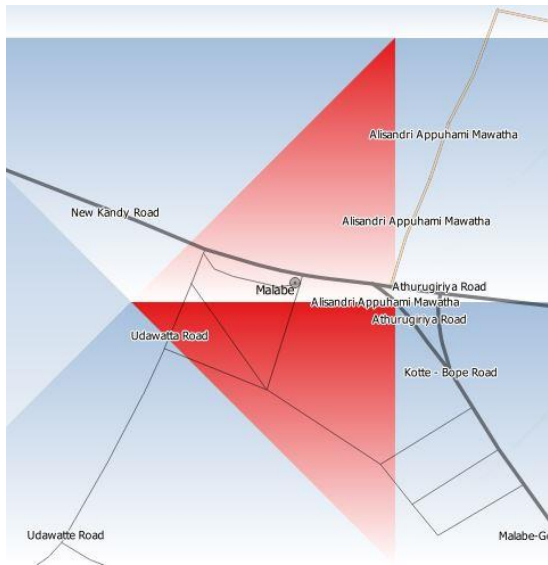
Reload queried data

Then we loaded queried data into tables in the database and imported corresponding tables into QGIS by add PostGIS layers tool.

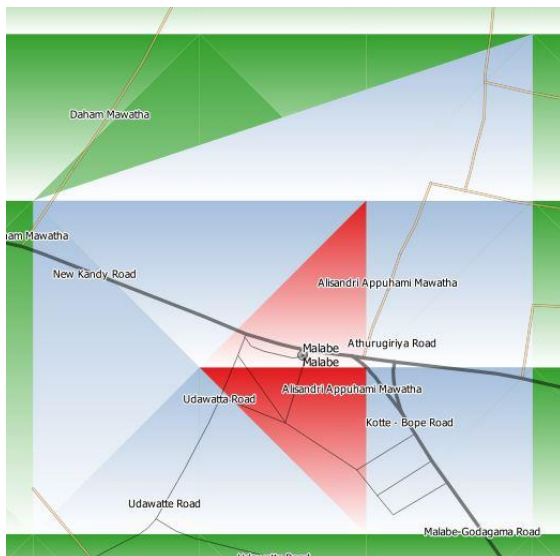
Creating catchment areas

Designed separate layers for different catchment areas in QGIS. Malabe city polygon data is used as the base data and loaded each and every separate layer according to travel distance from the Malabe town.

Travel Distance: 100m

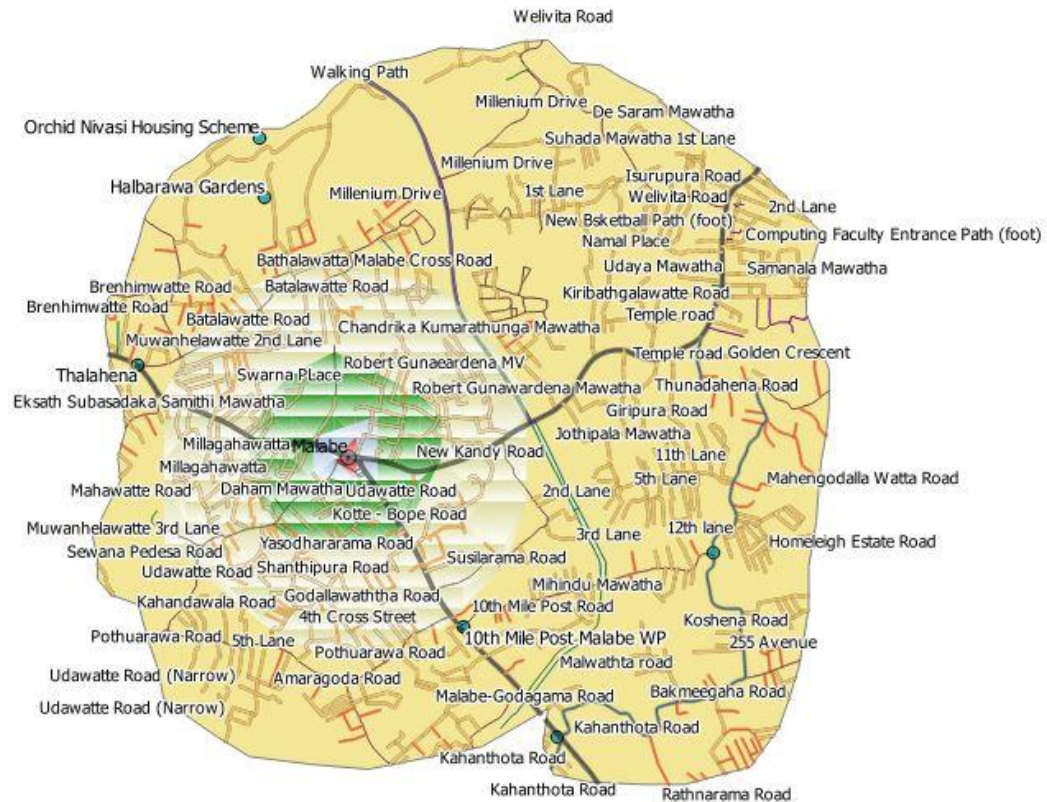


Travel Distance: 200m



The map displays a complex road network in the Malabe area. Key roads include Batalawatte Road, Dambughawatta Road, Udawatte Road, and Godallawaththa Road. A green-shaded region covers a significant portion of the central and northern parts of the map. A red triangle is located near the center, pointing towards the south. The map also shows surrounding areas like Welsiri Uyana and Lake Road. The map is labeled with various road names and locations, including Batalawatte Road, Dambughawatta Road, Udawatte Road, Godallawaththa Road, and others.

Final Map



Git Hub Repository

- <https://github.com/dkharshanath/GIS-Assignment.git>

References

- <http://download.geofabrik.de/asia/sri-lanka.html>
- http://wiki.openstreetmap.org/wiki/Sri_Lanka
- <http://www.diva-gis.org/>
- <http://www.survey.gov.lk/surveyweb/Home%20English/index.php>