

Master Thesis Brief Description

Thesis Title	The establishment of a pedestrian sustainable mobility index for use in urban environments
Programme of Studies	MSc in Sustainable Energy Systems
Course	SES 701 Maser Thesis I + II
Area of Study	Sustainable Built Environment
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Supervisory Committee	Dr. Constantinos Hadjiyiannis, Frederick University Dr. George Karagiorgis, Assoc. Professor, Frederick University
Semester	Fall Semester 2021
Short Description	<p>Sustainable mobility has been considered one the most important challenges in climate adaptation. It is responsible for a large amount of emissions and also has impacts on health, energy costs and CO2 emissions. This pretext that the study has fought to analyse a new type of sustainability index for urban mobility. Using remote sensing data and analysis, as it is possible to grade and therefore focus investment on specific areas of the network that may exist within a study location, adding together various different types of environmental indicators as well as network quality. Using the sustainability index it is therefore possible to alleviate the issues of public investment and also provide a walkability score for pedestrians that are travelling throughout this urban space.</p> <p>The methodology comprises of already existing algorithms within the QGIS environment, and are ready to be easily applicable for urban design processes. The combination of algorithms is novel and shows that there are in fact a very few areas within the chosen study location that adhere to these principles of sustainable mobility, but these available areas have been shown to be very detailed and provide a good example for this purpose.</p>