LUT
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Modeling and analyzing sustainability effects of various modes of transportation in Finland

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INTRODUCTION

- Road transport contributes to about a fifth of the EU's total emissions of CO2.
- Adaptation to climate change is the process of making the buildings and infrastructure "future-proof" by designing them to be able to withstand the changed climate of the future.
- Specifically, smooth, well maintained road pavements will lead to the best performance of vehicles with regard to CO2 emissions.
- One alternative to greater reductions in CO2 emissions from road transport is currently not being exploited: **the influence the road infrastructure itself has on vehicle emissions.**

GOALS AND OBJECTIVE

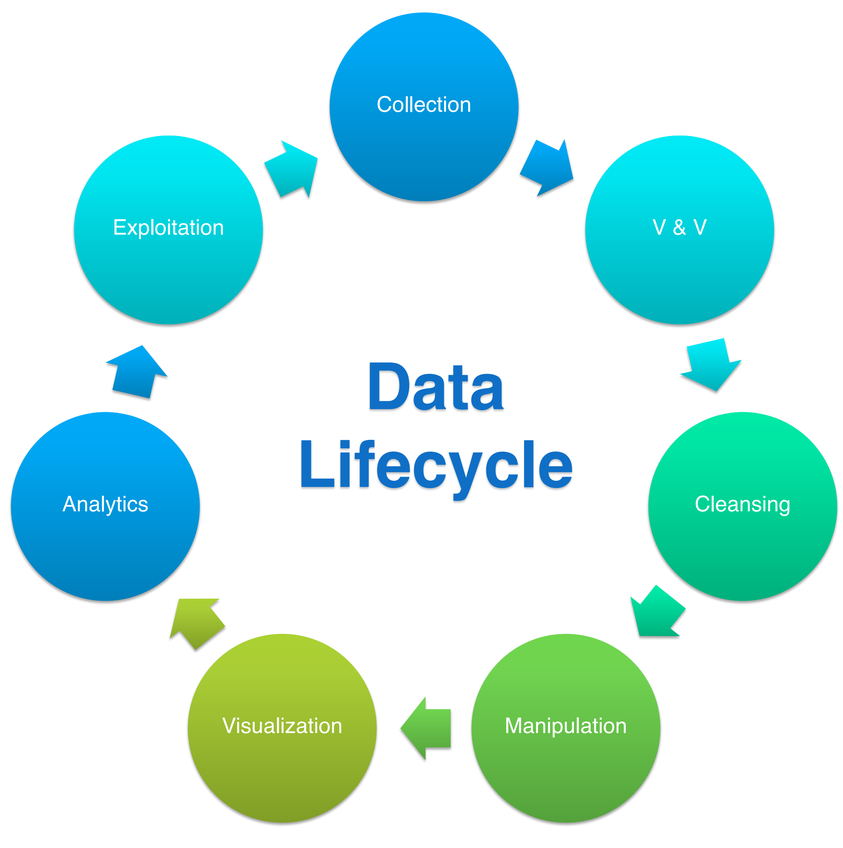
- The objective is to investigate, design and develop innovative data analytics models that help cities to improve Sustainable transportation planning.
- The goals are to implement, validate and evaluate the proposed models in the context of Lappeenranta city.

Figure 1. Lappeenranta

RESEARCH QUESTIONS

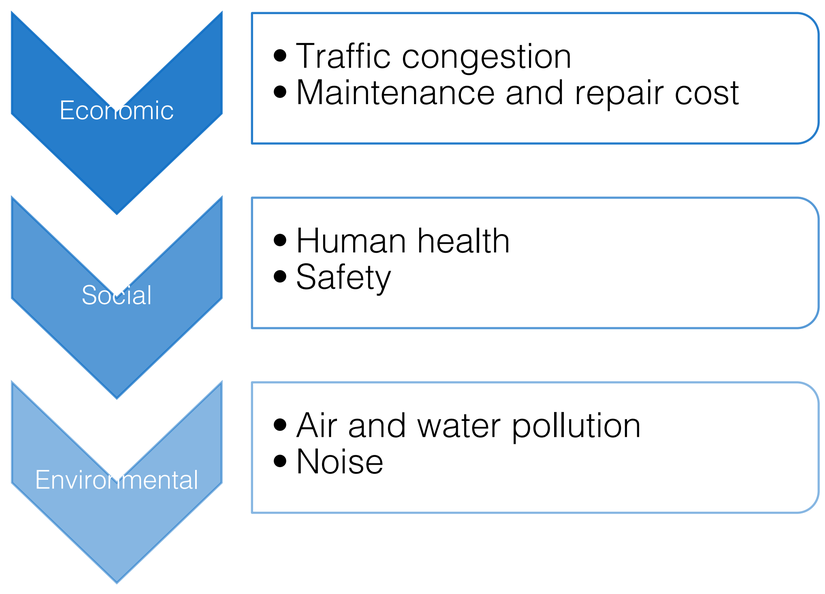
- How road pavements influence CO2 emissions?
- What is connection between transport infrastructure management and actual traffic and how significant this connection is?

METHODOLOGY



NEXT STEP

- Define and analyze with the data provided a set of indicators on every aspect of sustainability to be evaluate.



EXPECTED OUTCOME

- The present research aims to build a model based on a data set given to show different scenarios of the main modes of transportation in relation with the sustainability indicators. A simulation will be executed tweaking the parameters to provide a better decision support system.

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REFERENCES