

Implementation of Top-Supported, Cable-Propelled Transit Systems in an Urban Context:
Transfer of Experience from Colombia to the Stuttgart Traffic Demand Model

The goal of this research is to evaluate, among three preselected Cable Propelled Transit (CPT) Systems alignments proposed by Stuttgart City, which is the best alternative to be implemented as potential solution to overcome the current challenges of congestion and pollution in Stuttgart.



Figure 3: Transmicable Gondola. Bogota, Colombia
Source: Thomson Reuters Foundations News Research

The alignments were modelled for the year 2025 using different operating conditions (i.e. changes in maximum speed, headway and cabin size) in the macroscopic software VISUM. The results of the model were analysed from different approaches: the line route, the station, the network and society. Special emphasis is placed upon the limitations of macroscopic models to properly assess the effects of vehicles size and

proposes an alternative approach to estimating additional waiting time at the station due to queuing. For the analysis from the society perspective, an economic evaluation of the cost-benefit difference was undertaken for six operating conditions and two technologies, Monodetachable Gondola (MDG) and Triplet detachable Gondola (TDG) for each preselected alignment.

According to the results, one of the alignments yielded positive benefits in all modelled operating conditions, while the other two were always negative results. In conclusion, under certain conditions, CPT systems could become a potential alternative for Stuttgart to enhance the quality of its public transport network.

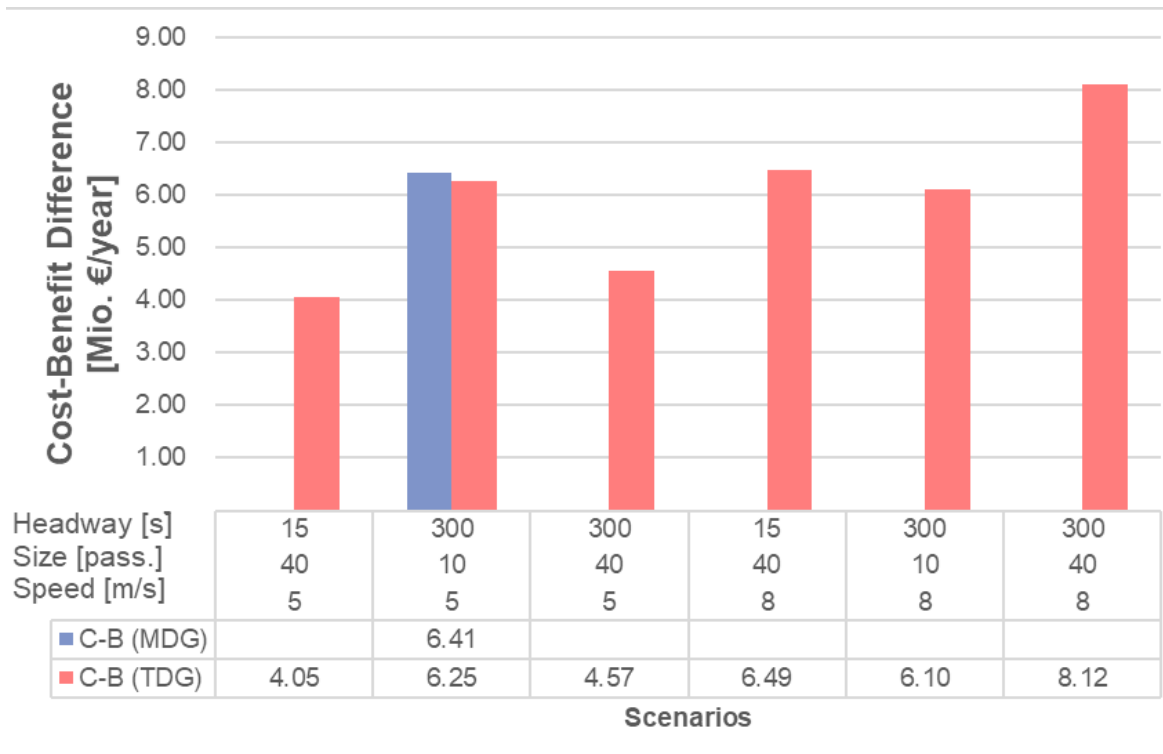


Figure 2: Results of Cost-Benefit Difference for Alignment L1



Foto: Laura Martinez

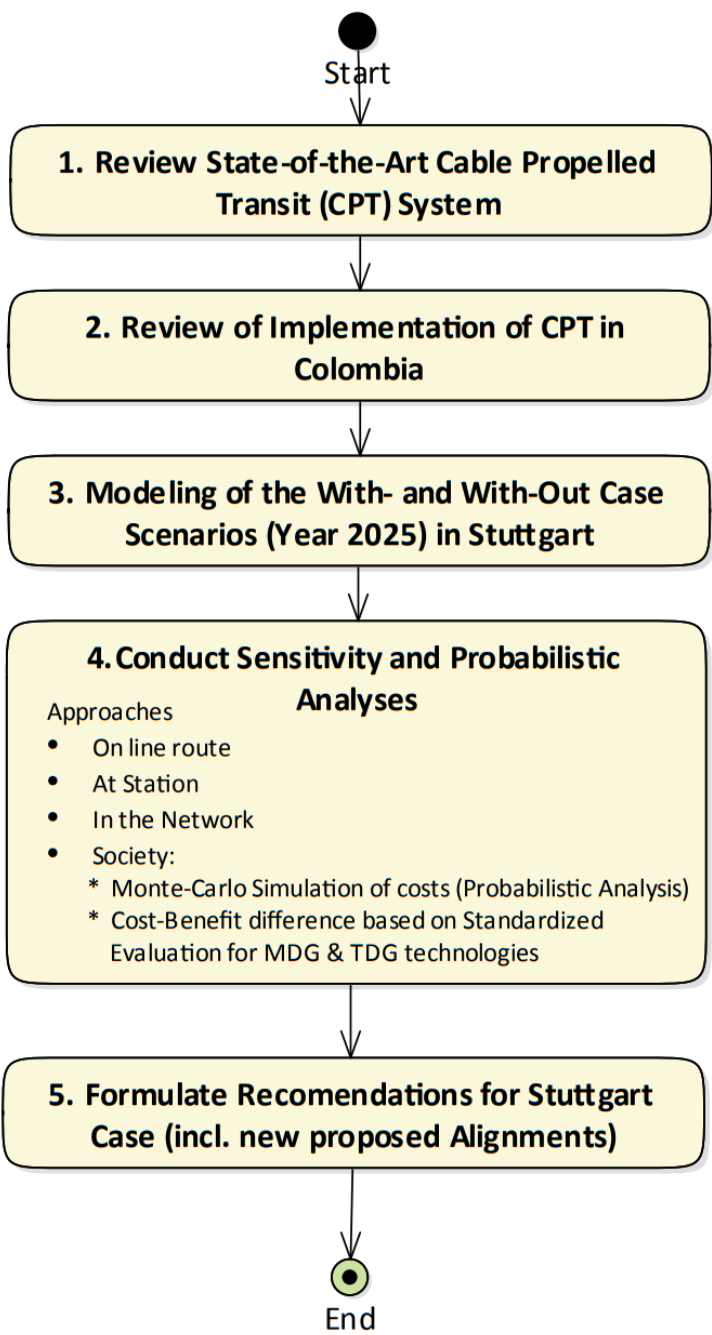


Figure 1: Research Methodology

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