

The Challenge

SAMGODS is a collaboration between the Swedish road, rail and maritime authorities, led by the governmental Institute for Transport and Communications Analysis, SIKA. The goal of SAMGODS is to develop tools for transportation prognoses, specifically for infrastructure investments and policy actions.

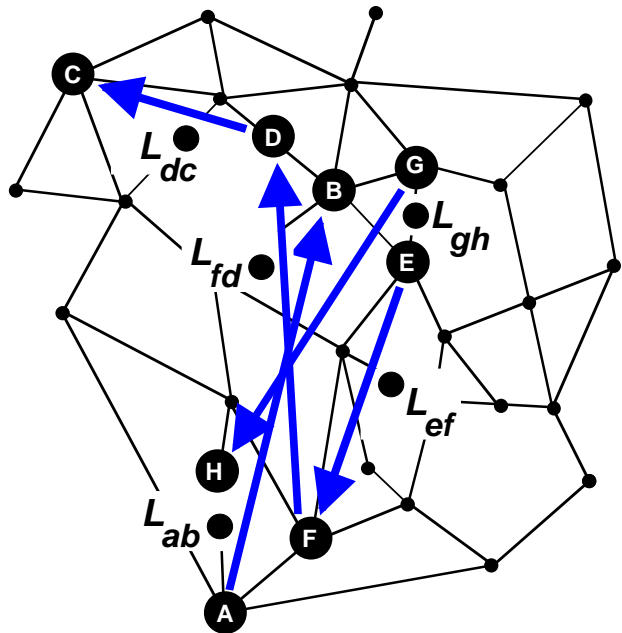
As one of many actions to improve the computers models SIKA needed a method to calculate empty and partially loaded vehicles based on national O/D (origin/destination) statistics in the forwarding direction. All three modes should be covered by the models as well export/import transport flows.

Our Solution

The basics of the TSDA (Transportation System Design and Analysis) software tool, developed by Transrail, made this system suited for the job.

TSDA can model freight transport quite in detail. A strong point is that the model takes a rather logistic approach. The basis of the model is that O/D statistics or prognoses for various types of commodities are transformed to vehicle movements within defined, but easily changeable, transport systems. Each type of commodity is linked to specific types of vehicles and unit load devices depending on its specific transport requirements. Vice versa, each type of vehicle is only suitable for transportation of specific types of commodities. This information in combination with vehicle/ULD loop (return to base) requirements specific for each mode and transport system, made TSDA suitable for the type of model requested by SIKA.

The work within this project mainly consisted in defining the vehicle loop requirements normally used in rail, road and maritime transport systems and to bring these into models that were fairly easily added to the TSDA system. Finally, the system was used to calculate empty vehicle flows based on O/D statistics for the three modes under consideration.



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