

Fachbereich:	Verkehrsplanung
Leiter/in der Seminararbeit:	Kay Axhausen
Betreuer/in der Seminararbeit:	Allister Loder, Raphael Fuhrer
Titel der Seminararbeit:	Flow, density and speed: Exploiting fundamental transport network properties to estimate the real marginal costs of added capacity
Beschrieb:	<p>Increasing the capacity of a transport network is not only a question of what it costs but also what benefits it serves. One can expect that with investments the performance of the transport network improves. However, the Braess paradox neatly shows that increasing (decreasing) the capacity can sometimes worsen (improve) traffic flow and congestion. Thus, the question at hand is, what are the costs for (additional) capacity and how are they related to the transport network performance, e.g. speed and flow?</p> <p>The expected work in this term paper is, first, that the student summarizes relevant findings from the theoretical and empirical literature. Second, the student should try to give first empirical insights into the Swiss costs for capacity, the investments and the benefits. In this exploratory fashion, the starting point is a qualitative analysis but as time and data allow the analysis will be advanced to a quantitative analysis.</p> <p>The data for capacity, costs and system outcome might be obtained from official statistics by the BfS, public transport operators, Swiss Norms, VISUM Model of the Canton Zürich, 3D macroscopic fundamental diagram Data from a VISSIM simulation run for the city centre of Zürich.</p> <p>The focus in this work is: estimation of real marginal costs and benefits of added capacity.</p>
Empfohlene Lehrveranstaltungen:	Praktikum Siedlung und Verkehr; Transport Simulation (Simulation des Verkehrssystems); Simulation of Traffic Operations; Traffic Engineering
Besonderes: (z. B. Gruppenarbeit?)	Diese Arbeit ist verwandt mit Flow, density and speed: Exploiting fundamental transport network properties to estimate the real areal coverage of different transport modes und kann entweder alleine mit diesem Fokus bearbeitet werden oder zu zweit mit beiden Schwerpunkten.