

## **STRC abstract 2018**

### **Microsimulation of Time Variant Road Pricing for Kanton Zug using MATSim**

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#### **Abstract**

Despite the theoretical capabilities of road pricing to reduce congestion and environmental externalities, real world adoption has been limited to a small number of cities worldwide due to both political and technical difficulties. In the pursuit of a political feasible scheme, we explore the effectiveness of 'revenue neutral' mobility pricing for Zug, Switzerland. In such a scheme, the current federal fuel tax and cantonal taxes are either partially or fully replaced by a time-variant road pricing scheme that raises no more money than what was previously collected from the replaced fuel taxes. To provide a more accurate estimate of fuel tax revenue, a household car type ownership model is integrated into a MATSim scenario for Zug to capture the heterogeneity in fuel efficiency. Previous stated preference results on mode choice behavior under pricing conditions are incorporated to better capture agents' responses to pricing. The results explore whether there is enough monetary capacity in the fuel tax revenue to dictate changes in behavior when time variant tolls are implemented. Different tolling methods namely per km charges and cordons are compared, and the sociodemographic influences of different pricing schemes discussed.