Number	Title	Date	Start time	Duration	Authors	Presenter	Session	Abstract
	Zoom meeting opens and accepts attendants	2021-03-24	09:10					
	Welcome by Luk Knapen	2021-03-24	09:25					
ABMTRANS-2021-1	Explorative analysis of potential MaaS customers: an agent-based scenario	2021-03-24	09:30	35	Carolina Cisterna, Giulio Giorgione and Francesco Viti	Carolina Cisterna	1	<p>Mobility-as-a-Service (MaaS) is a user-centered service that combines different mobility services offered to the users by means of different packages. The users fulfil their daily mobility needs using a subscription-based smartphone application, which gives them
ABMTRANS-2021-3	Hermes: An efficient and scalable MATSim simulator	2021-03-24	10:05	35	Dan Graur, Rodrigo Bruno, Joschka Bischoff, Marcel Rieser, Wolfgang Scherr, Torsten Hoefler and Gustavo Alonso	Rodrigo Bruno	1	<p>Large scale simulations of transportation networks can yield highly valuable insights into the design decisions needed to deliver the best possible transportation service. Current technologies, however, are generally unable to provide support for large scale simulations as they
ABMTRANS-2021-4	Modeling Crossroads in MATSim: the Case of Traffic-Signaled Intersections	2021-03-24	10:40	35	Aurore Sallard and Milos Balac	Aurore Sallard	1	<p>In transportation simulation, the prediction accuracy of travel times on road segments can have substantial impacts on the simulation outcomes. The travel times are impacted, among other things, by traffic signals. Modeling traffic signals is not straightforward in
ABMTRANS-2021-5	Environmental Equity Analysis in Agent-Based Transport Simulations: A Study on Causation and Exposure	2021-03-24	11:35	35	Nico Kuehnel, Wei-Chieh Huang and Rolf Moeckel	Nico Kühnel	3	<p>This paper utilizes an agent-based transport simulation to analyze environmental equity issues for the example of road traffic noise in the greater Berlin metropolitan area. We investigate the distribution of noise exposure and causation linked to individual agents. In addition, spatial
ABMTRANS-2021-6	Methodology for Determining Charging Strategies for Freight Traffic Vehicles based on Traffic Simulation Results	2021-03-24	12:10	35	Ricardo Miranda Jahn, Anne Syré, Alexander Grahle, Kai Martins-Turner and Dietmar Göhlich	Anne Syré (?)	3	<p>The decarbonization of transport is one major challenge in the upcoming years. One possible solution is the use of battery electric vehicles (BEV). While electric passenger cars and their charging strategies are already in series production, battery electric trucks and their
ABMTRANS-2021-7	Agent-based simulation to assess the impact of electric vehicles on the power networks: Swindon Borough Case Study	2021-03-24	14:00	35	Maria Silva Pedro, Jeff Hardy and Koen van Dam	Maria Silva Pedro	4	<p>Due to air quality concerns and stricter carbon targets, surface transport electrification is quickly spreading, posing questions on the impact on national and local electrical networks. This paper proposes an agent-based model assessing the per-minute weekday and weekend impact of the uptake of Electric Vehicles (EVs) over the next decade on
ABMTRANS-2021-8	Ride-Pooling Efficiency in Large, Medium-Sized and Small Towns - Simulation Assessment in the Munich Metropolitan Region	2021-03-24	14:35	35	Felix Zwick, Nico Kuehnel, Rolf Moeckel and Kay W. Axhausen	Felix Zwick	4	<p>This study introduces an autonomous ride-pooling service to six communities with varying population sizes and trip densities in the Munich Metropolitan Region. We investigate a laissez-faire scenario without additional policies, defining the modal shift through an incremental mode
ABMTRANS-2021-10	The impact of trip density on the fleet size and pooling rate of ride-hailing services: A simulation study	2021-03-24	15:10	35	Ihab Kaddoura and Tilmann Schlenther	Ihab Kaddoura	5	<p>Several trends, such as digitalization and advancements of autonomous driving technologies, have led to large investments and a strong expansion of app-based ride-hailing services in recent years. In this study, simulation experiments are carried out for two regions in Germany: the metropolitan Berlin area and the rural area of the district
ABMTRANS-2021-11	A concept agent-based simulation model to evaluate the impacts of a shared space network	2021-03-24	16:00	35	Panagiotis G. Tzouras, Christos Karolemeas, Efthimios Bakogiannis and Konstantinos Kepaptsoglou	Panagiotis G. Tzouras	5	<p>In shared space, all road users are encouraged to legally occupy the same road space with little physical or visual separation. Complex social interactions that appear in these spaces create complicated ecosystems, which make the estimation of future impacts difficult using classic modeling techniques. This study introduces a concept Agent-Based
ABMTRANS-2021-12	Sensitivity of the urban transport system to the value of travel time savings for shared autonomous vehicles: A simulation study	2021-03-24	16:35	35	Benoit Lecureux and Ihab Kaddoura		5	<p>Shared Autonomous Vehicle (SAV) services hold potential for disruptive impacts on urban transport systems. The value of travel time savings (VTTS) for these new services is assumed to be both significantly different from that of regular services and to have a strong impact on
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ABMTRANS-2021-13	Quantifying Health & Economic Benefits of Bicycle Superhighway: Evidences from Patna	2021-03-25	09:30	35	Amit Agarwal	Amit Agarwal	6	<p>The active mode of transport is good for health as well as it is one of the most important modes of sustainable transport. In many previous studies/ reports, a cost-benefit analysis for new infrastructure is provided, however, it rarely includes the benefits due to physical activity. The
ABMTRANS-2021-14	Towards a more realistic simulation of public transit: Generating transit schedules with vehicle circulations	2021-03-25	10:05	35	Gero Marburger, Ihab Kaddoura and Kai Nagel	Gero Marburger	6	<p>In this study, two approaches are presented to account for vehicle circulations when incorporating GTFS data into the agent-based simulation framework MATSim. The first approach directly builds on an
ABMTRANS-2021-15	Integrating discrete choice models with MATSim scoring	2021-03-25	10:40	35	Sebastian Hörl	Sebastian Hörl	6	<p>Agent-based transport simulations rely on realistic representation of agents' movements in the transport system, but also on the simulation of choice making processes that resemble reality well. The MATSim
ABMTRANS-2021-16	Introducing the eqasim pipeline: From raw data to agent-based transport simulation	2021-03-25	11:35	35	Sebastian Hörl and Milos Balac		7	<p>This paper introduces the eqasim framework with the aim to provide a consistent pipeline from raw data to a final transport simulation. It therefore lays the foundation to achieve fully reproducible agent-based
ABMTRANS-2021-17	A data-driven approach to run agent-based multi-modal traffic simulations on heterogeneous CPU-GPU hardware	2021-03-25	12:10	35	Aleksandr Saprykin, Ndaona Chokani and Reza S. Abhari	Aleksandr Saprykin	7	<p>In order to keep short and acceptable run times of agent-based mobility simulators that are used for scenarios, which are of increasing complexity and scale, there is need for increased computational efficiency. While, this need may be addressed by the use of heterogeneous

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ABMTRANS-2021-19	Open-Source Web-Based Visualizer for Dynamic-Response Shared Taxi Simulations	2021-03-25	14:00	35	William Charlton, Gregor Leich, Ihab Kaddoura and Kai Nagel	William Charlton	8	<p>We describe a unique, web-based data visualization portal developed for use by researchers and public transit agencies investigating future shared-taxi fleet scenarios. Augmenting or even replacing fixed-route
ABMTRANS-2021-20	Behavioural sensitivity towards emission concepts	2021-03-25	14:35	35	Ruan J. Gräbe and Johan W. Joubert	RuaN Gräbe	8	<p>Agent-based simulation lends itself to study emergent behaviour when agents respond autonomously, based on their unique and individual attributes, to external interventions. In transport, the vehicle-specific
ABMTRANS-2021-21	A South African scenario for emissions modelling	2021-03-25	15:10	35	Johan W. Joubert and Ruan J. Gräbe	Johan Joubert	8	<p>Scenarios with high levels of diversity lend themselves to be represented imitated by disaggregate, agent-based models as the individual agents can capture the unique attributes of the constituents of
ABMTRANS-2021-22	Automatic generation of traffic signals and lanes for MATSim based on OpenStreetMap	2021-03-25	16:00	35	Theresa Ziemke and Söhnke Braun	Theresa Ziemke	9	<p>OpenStreetMap (OSM) offers many information on traffic networks like the position of intersections and streets, road categories, speed limits, the number of lanes etc. Based on this information, network input data for transport simulations, e.g. the agent-based transport simulation MATSim
ABMTRANS-2021-23	Expanding the analysis scope of a MATSim transport simulation by integrating the FEATHERS activity-based demand model	2021-03-25	16:35	35	Dominik Ziemke, Luk Knapen and Kai Nagel	Dominik Ziemke	9	<p>MATSim is an agent-based transport simulation model. In contrast to a pure dynamic traffic assignment (DTA) model, MATSim can react to more choice dimensions than route choice, which is the only

Each session has 35[min] in total : presentation (about 27[min]) and questions/discussion (approx 8[min])

ABMTrans 2021 chairs: Luk Knapen and Muhammad Adnan

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