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Special Session proposal

Title: Carpooling for Daily Trips

Convenors:

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Congestion and greenhouse gas emission are major negative externalities in most of cities in the world. To reduce these effects, local authorities try to moderate the intensity of transport, especially the road traffic.

Current car occupancy rates are very low (around 1.1 individuals/car during peaks in Lyon), and most of the available seats are empty. This available capacity is to be used. Therefore reducing car-solo and promoting carpool seems to be a promising way to decrease road traffic intensity.

There are several ways to promote carpooling. The emergence of intermediation platforms to instantly connect drivers and passengers allows to develop dynamic carpooling and to address the needs of mobility in real-time. Local authorities may also implement high-occupancy vehicle (HOV) lane. These lanes are reserved for the exclusive use of vehicles with a driver and one or more passengers. HOV lanes are expected to provide an incentive to carpool where there is a large difference between speeds on HOV and general purpose lanes.

This special session aims at review several research questions arising when promoting carpooling. The list below is not exhaustive:

- How do the timetable constraints restrict the possibilities of matching between drivers and passengers? Do this effect depend on the area? on the type of trip?
- How large are the drivers reluctance to share their vehicles with unknown passengers? Does an intermediation platform mitigate this aversion?
- Is a travel time reduction or a better travel time reliability sufficient to offset the aversion mentioned above?
- Which other incentives (monetary, fiscal…) could be used?
- In which conditions is the social acceptability of HOV lane secured?