

Flightpath 2050 door-to-door travel time goal: A comparative study on Europe and China

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Abstract— SESAR Flightpath 2050 sets several ambitious goals for European transportation in the year 2050. One of these goals concerns door-to-door travel time, which aims at having “90% of travellers complete their journey, door-to-door within four hours”. This goal, however, is missing a clear baseline, i.e., “How good is the current door-to-door accessibility?”. In order to find answers to this question, this study develops a model to assess the door-to-door accessibility for Europe and China at a high resolution. Urban center data is integrated into a radiation model for passenger travel flow estimation; a multimodal door-to-door travel framework is established, combining rail with air transportation, to estimate door-to-door travel times. Accessibility indicators are proposed to measure the satisfaction of travel demand for each urban center and the complete region/country. Results show that transport infrastructure at the current stage has already the potential to meet the ambitious four-hour goal in both regions. Contrary to intuition, large urban areas have a more urgent need to improve accessibility with respect to the given goal, induced by their large travel demand, compared to smaller urban areas.