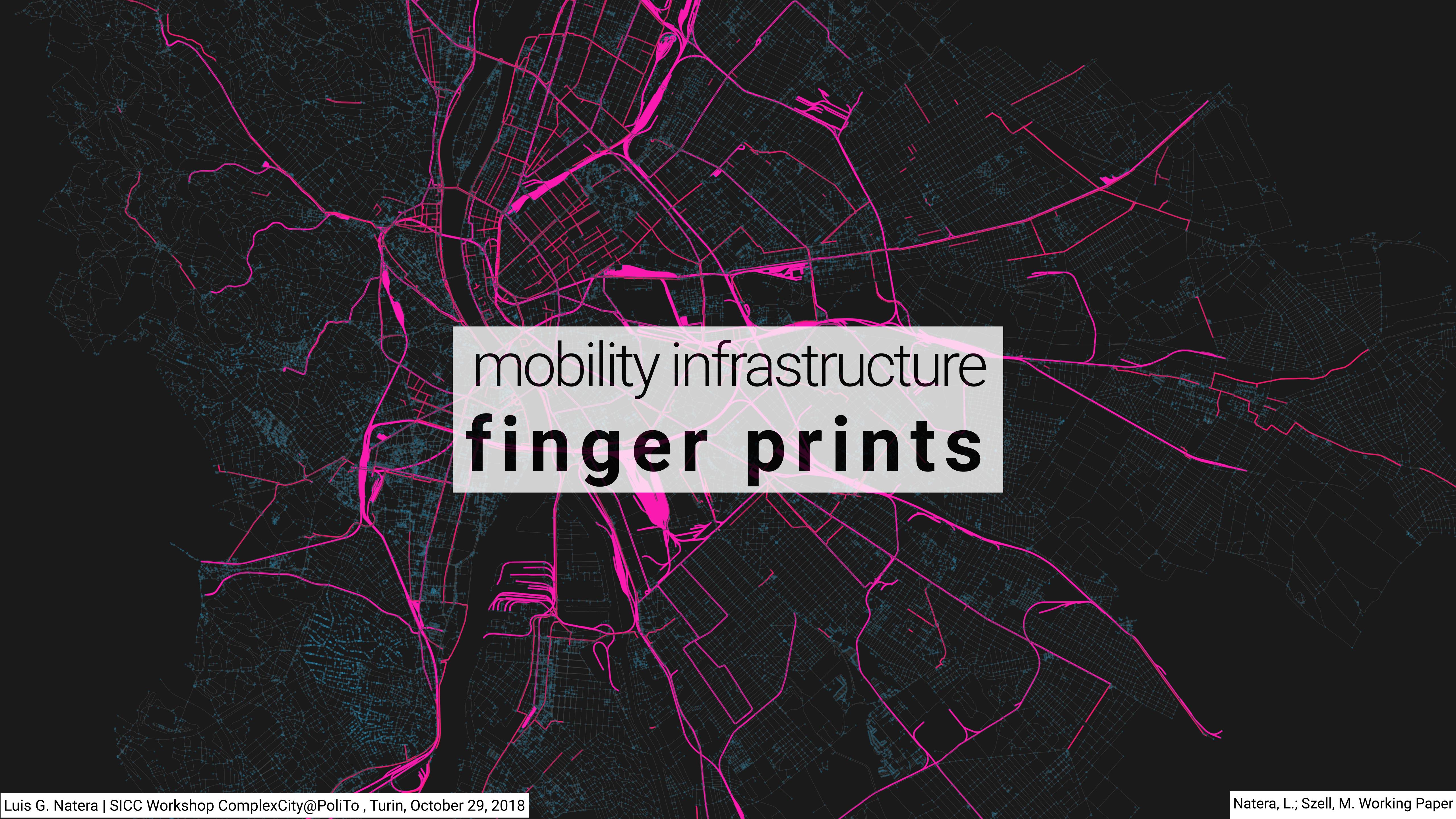


Characterizing cities from their multiplex infrastructure patterns

SICC Workshop ComplexCity@PoliTo , Turin, October 29, 2018

Luis G. Natera
@natera

with: Michael Szell



mobility infrastructure finger prints



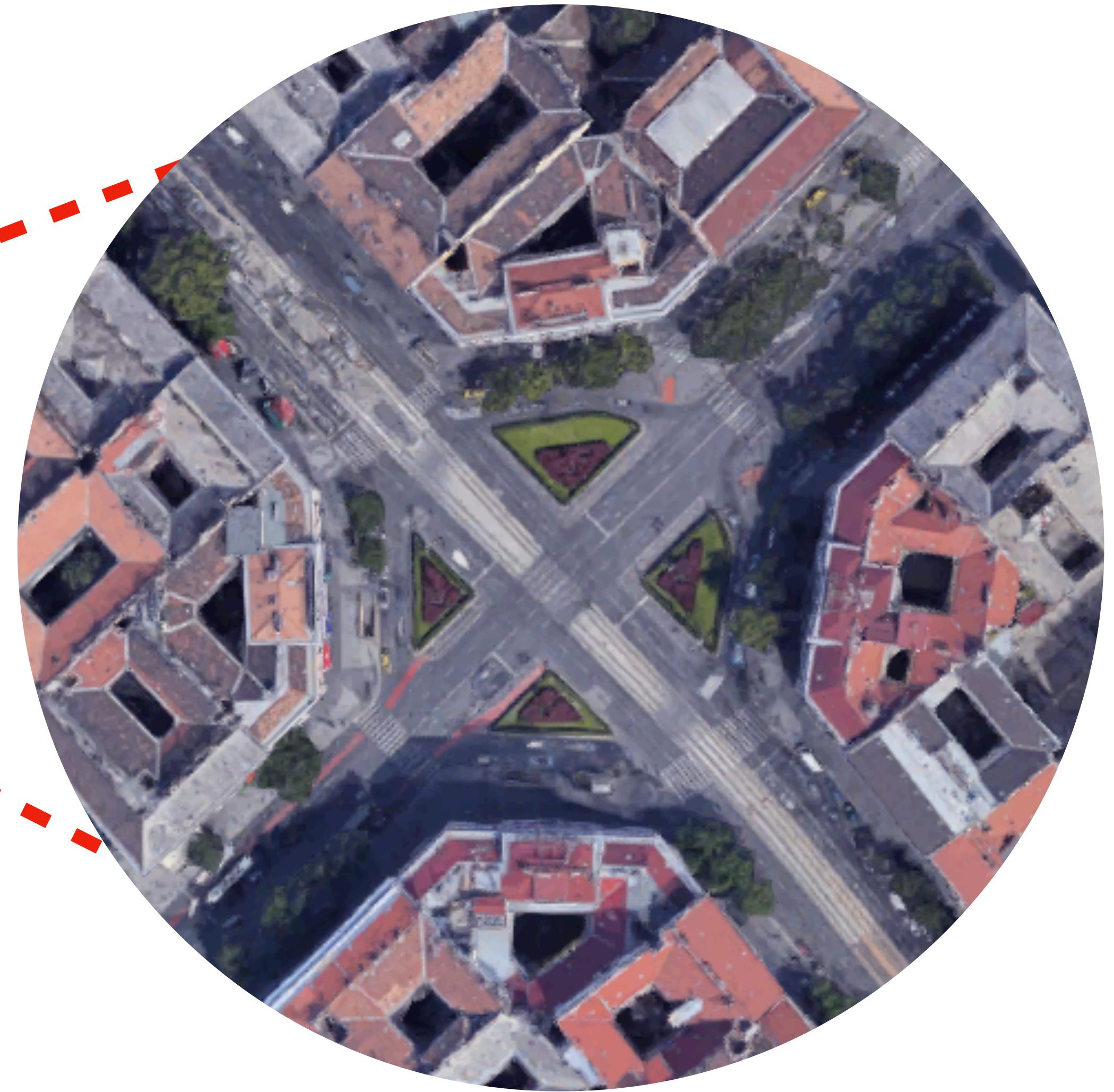
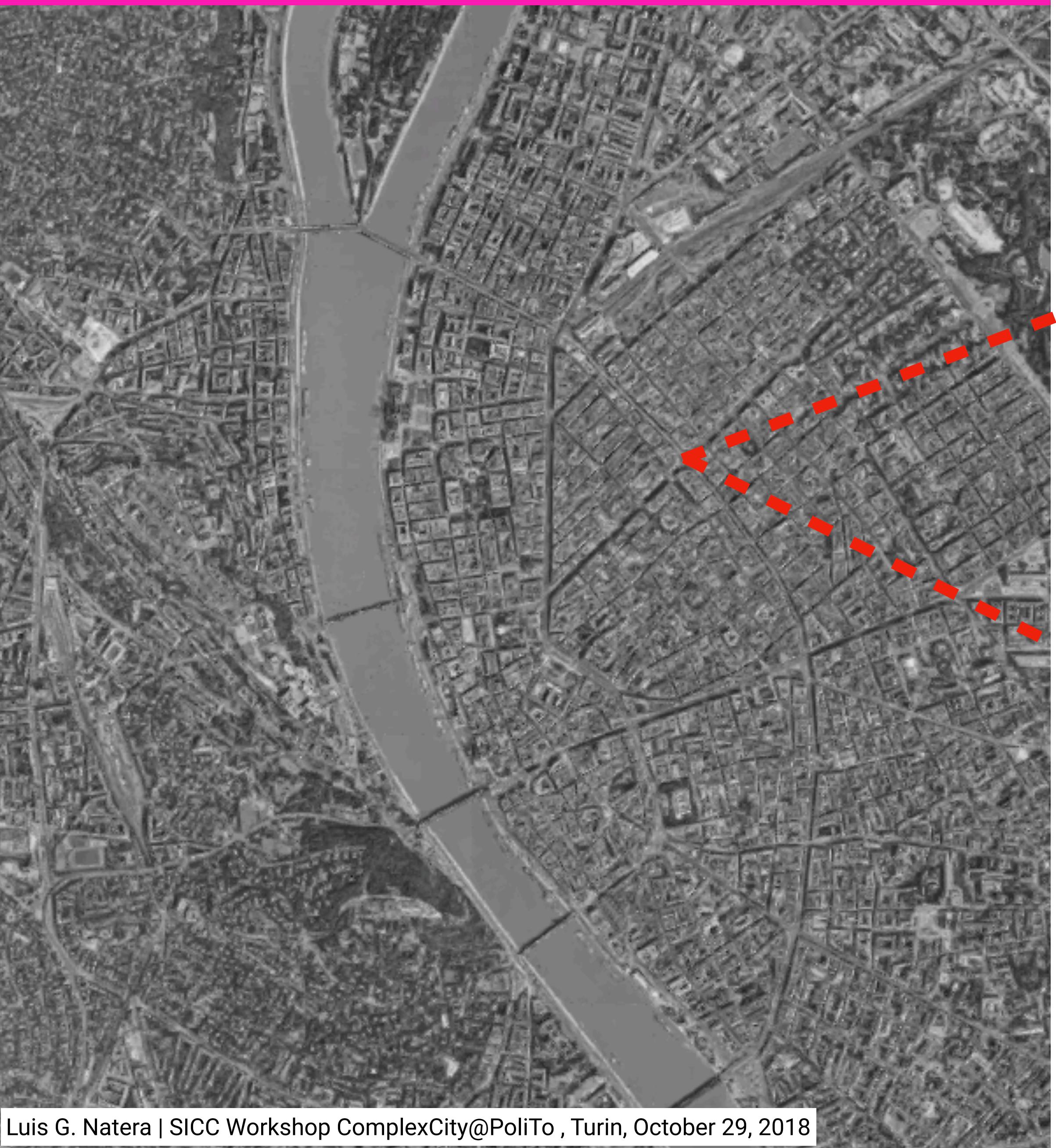


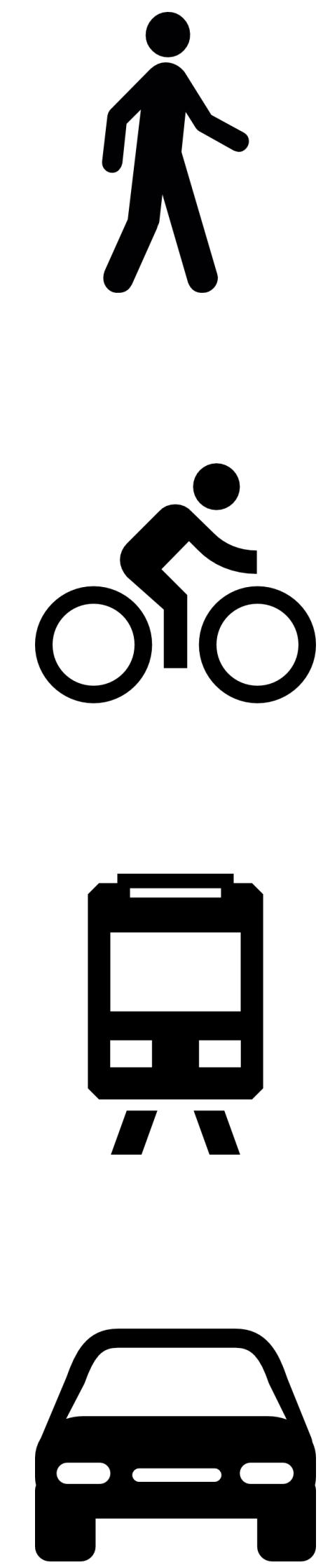
**“first we shape the cities –
then they shape us.”**

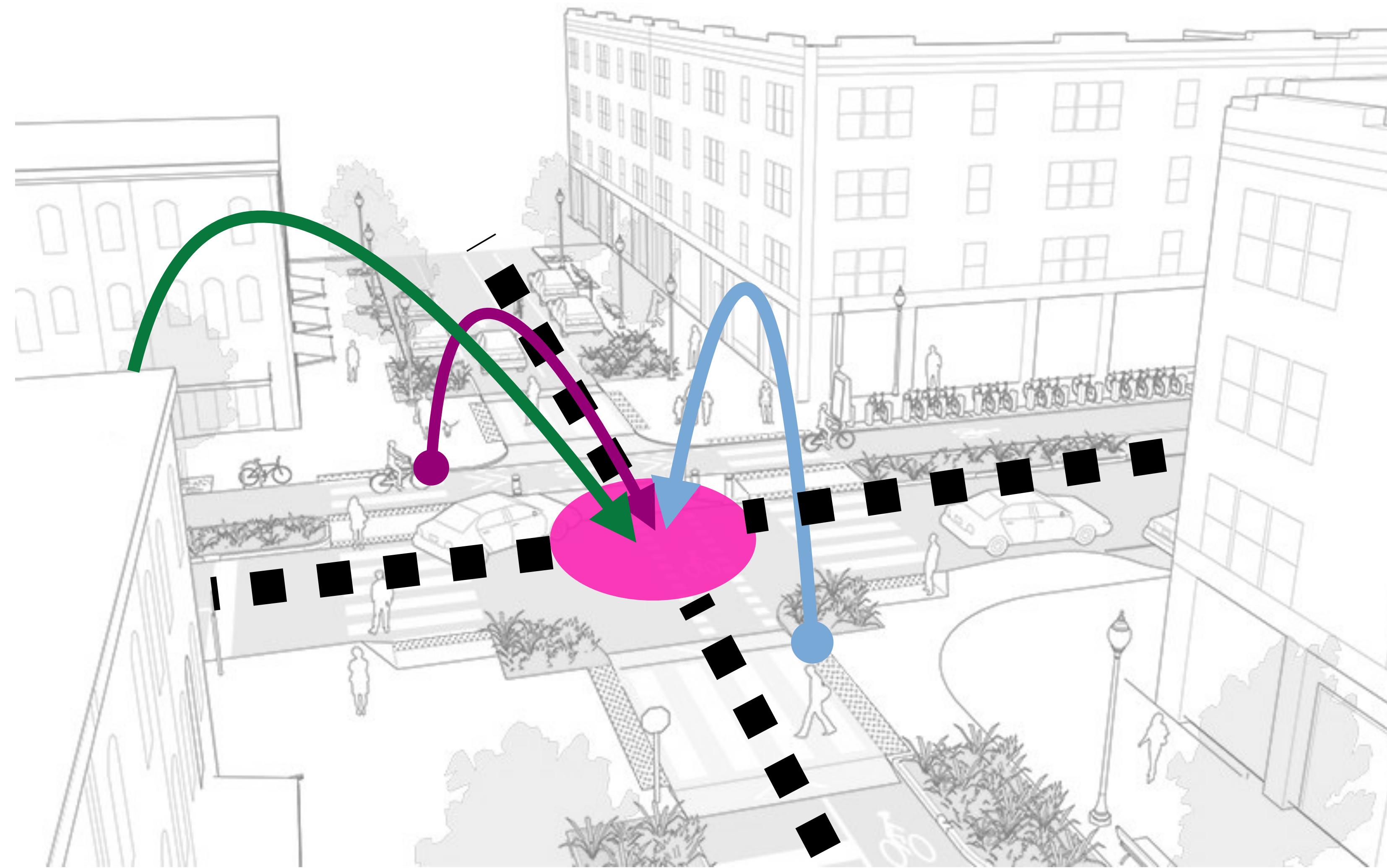
Jan Gehl

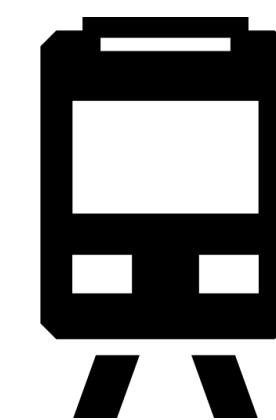
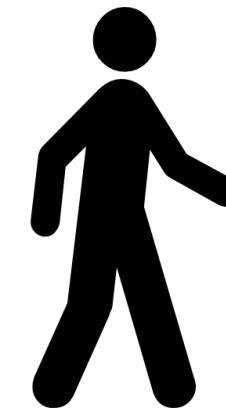
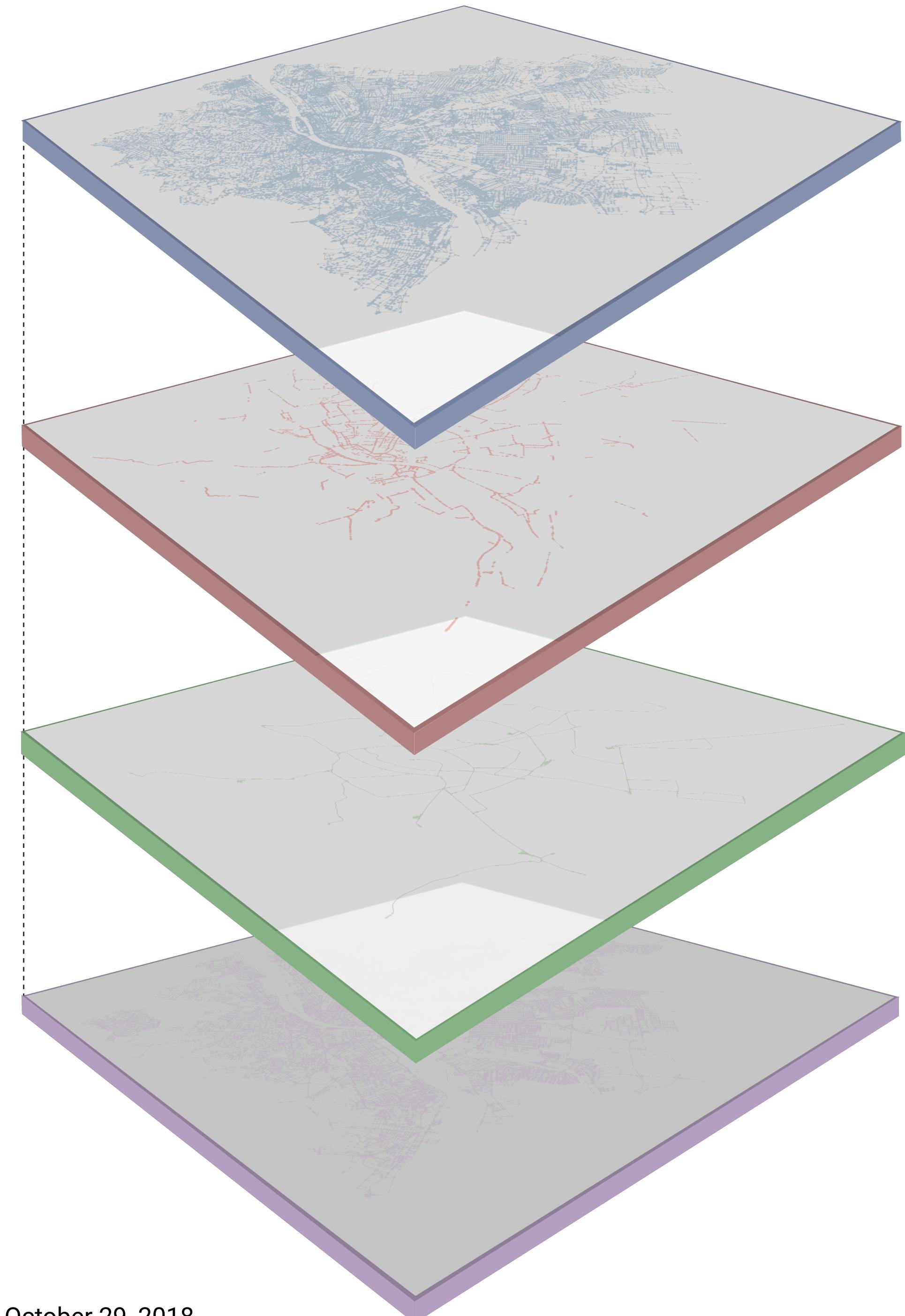


BUDAPEST | HUNGARY





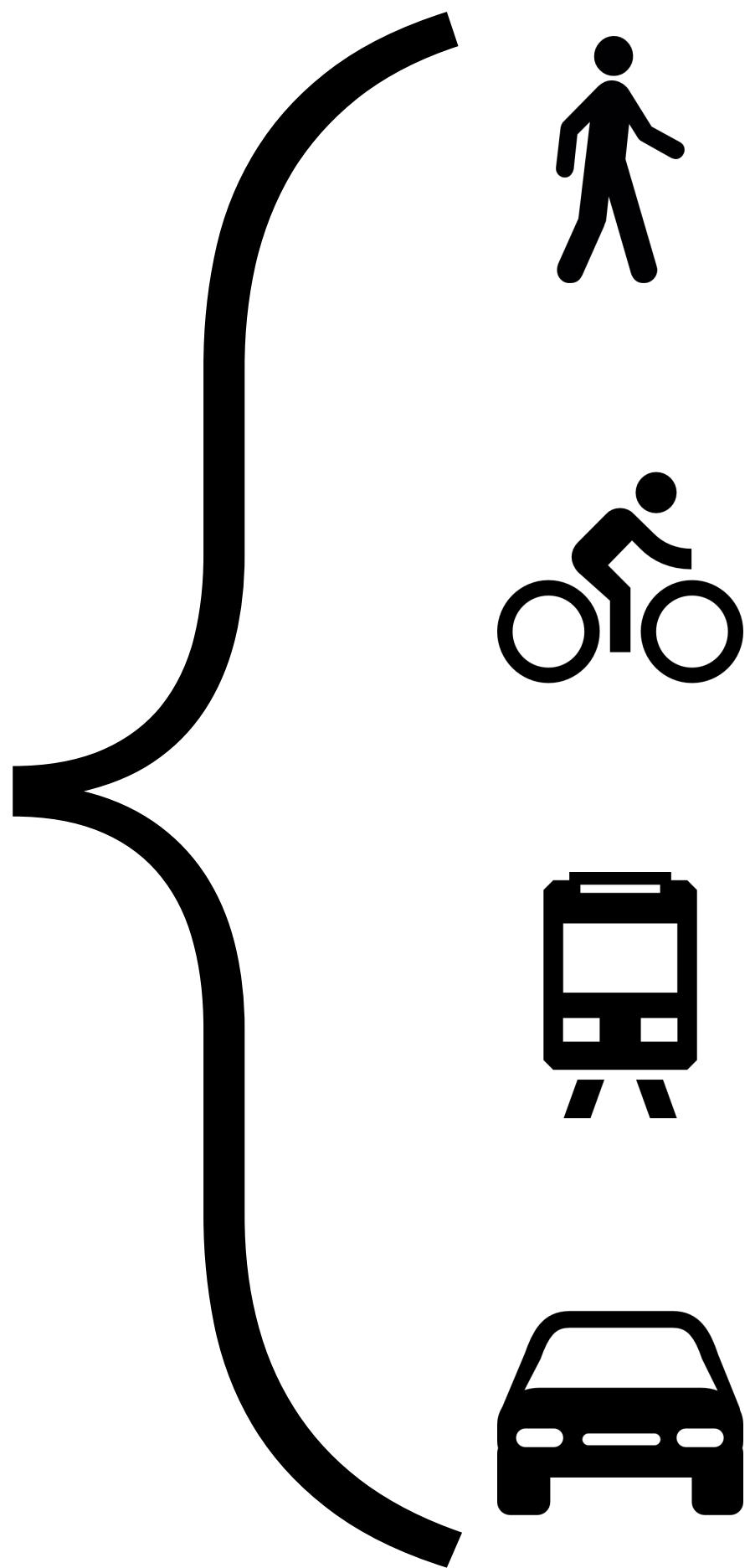




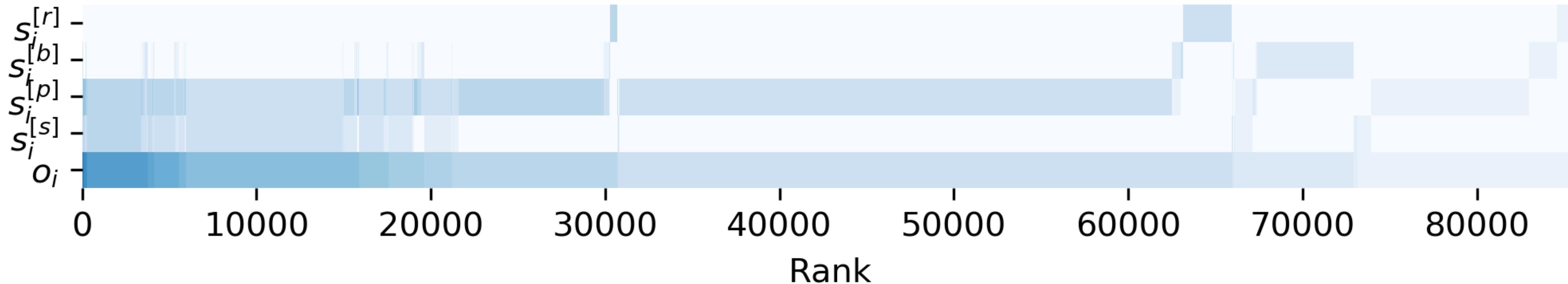
$$s_i^{[\alpha]} = \sum_j w_{ij}^{[\alpha]}$$

$$s^{[\alpha]} = (s_i^{[\alpha]}, \dots, s_n^{[\alpha]})$$

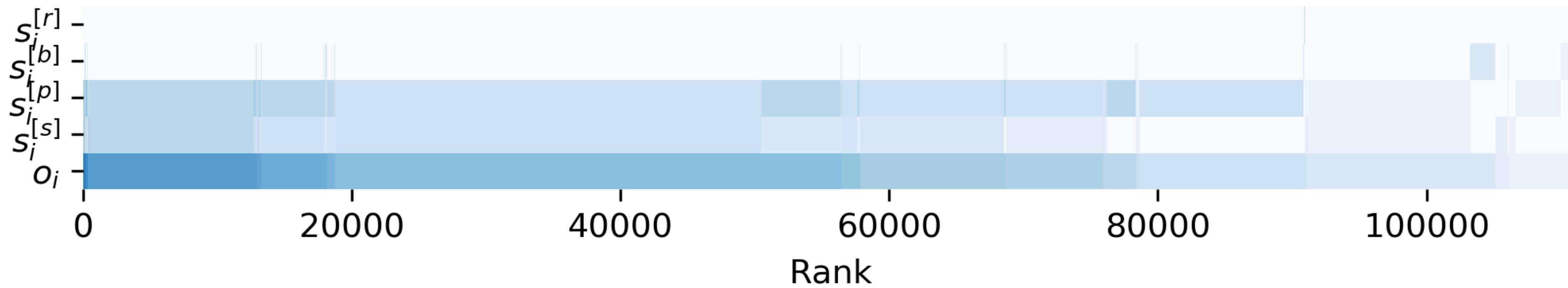
Layers:



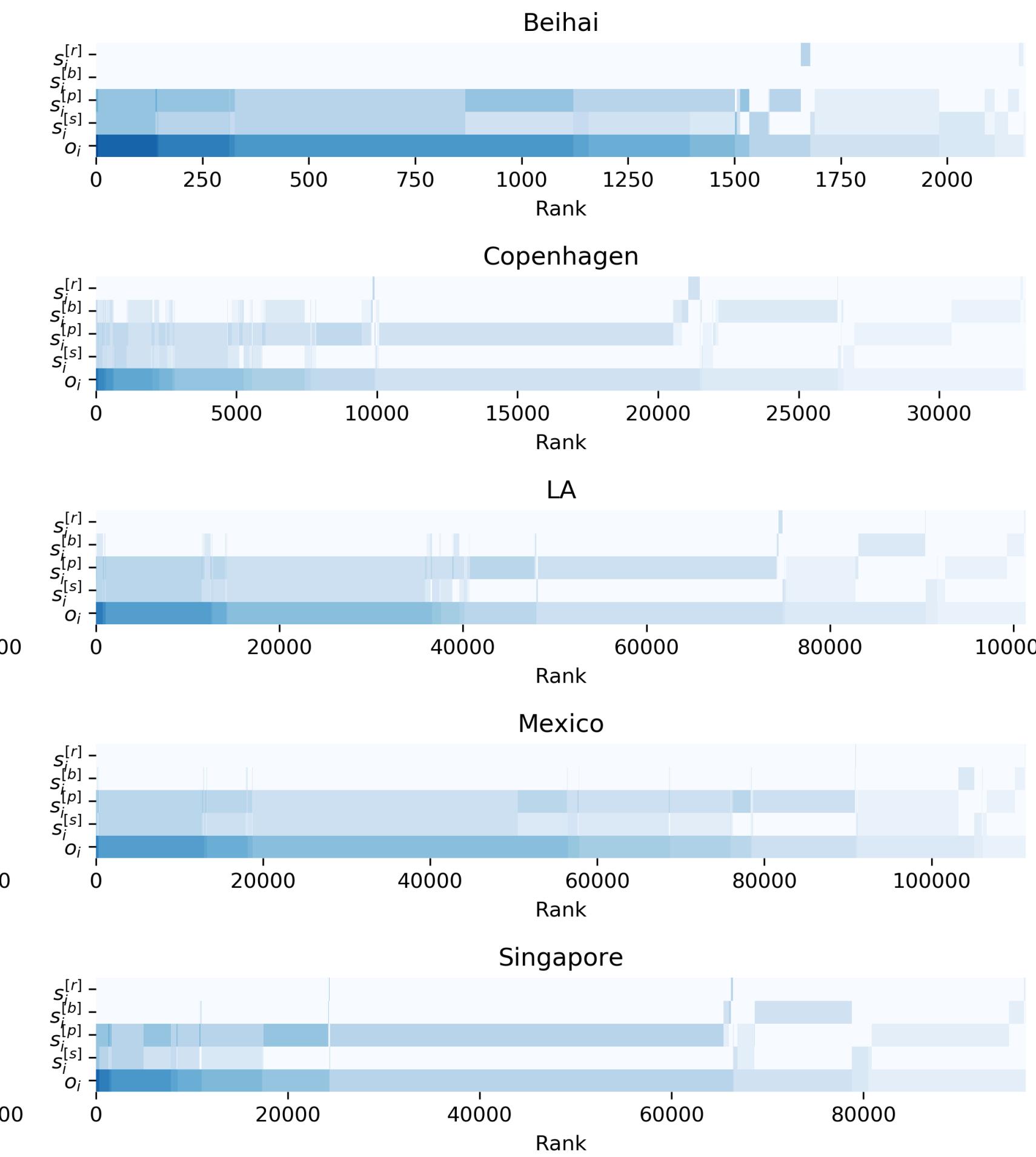
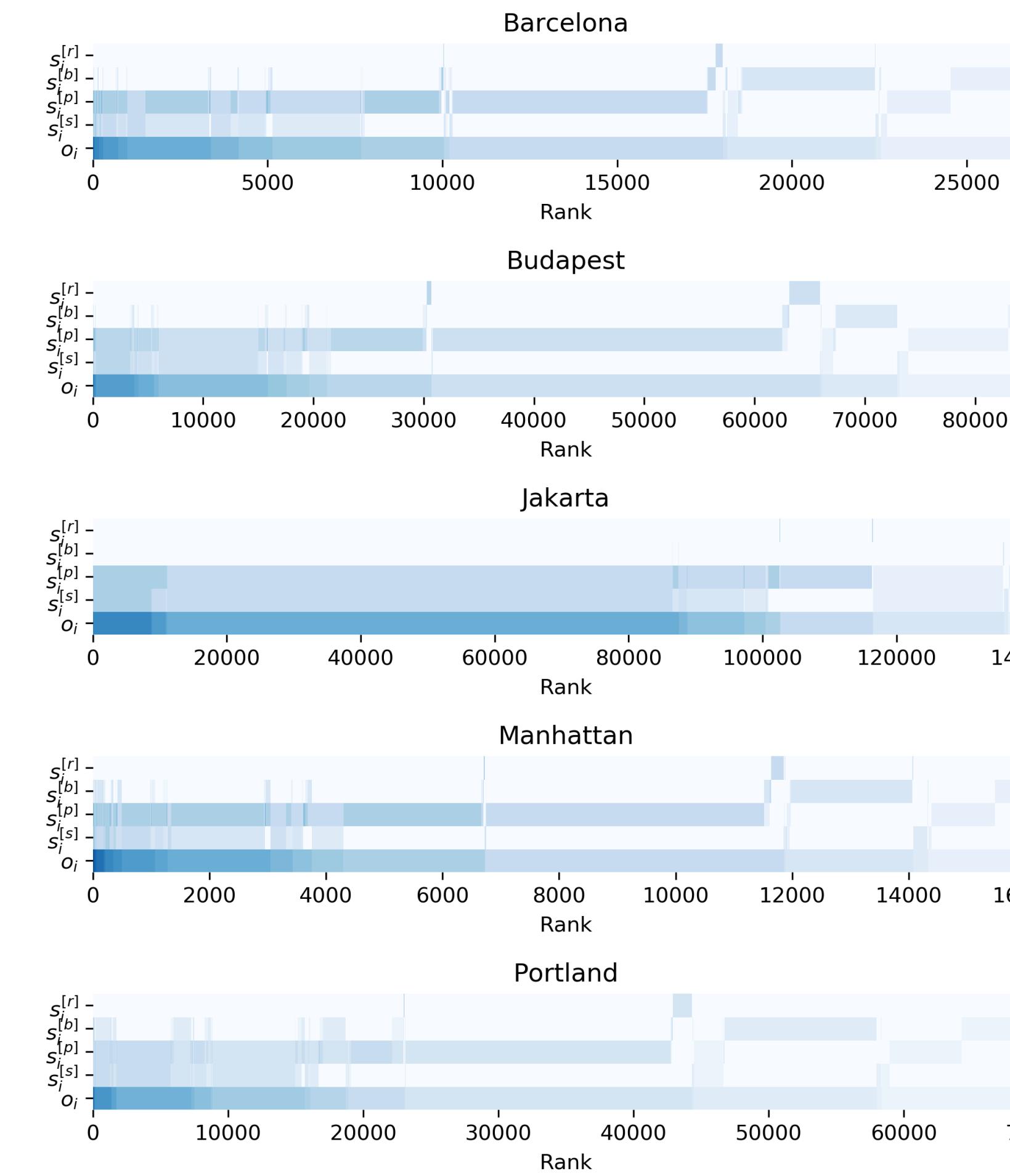
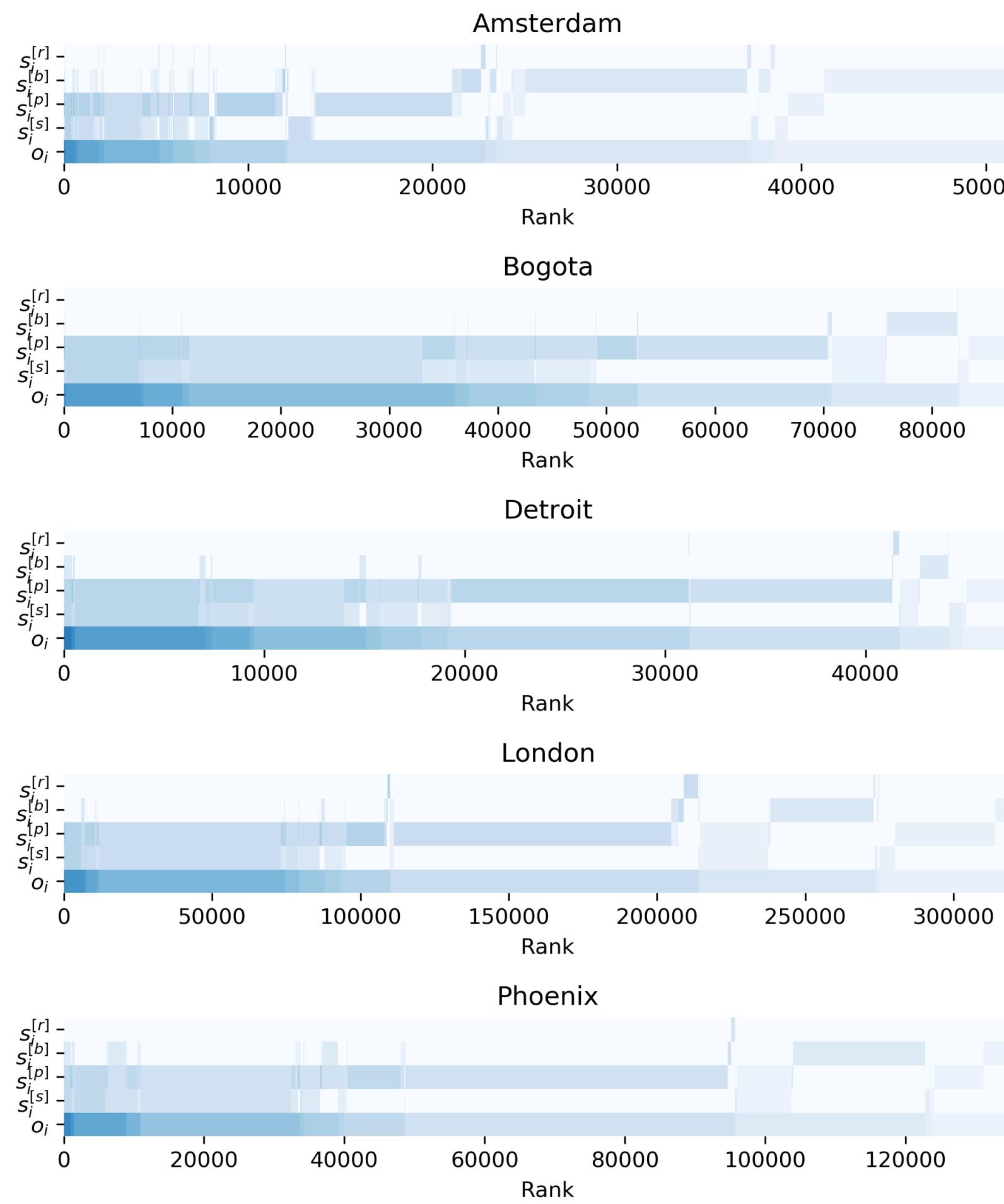
Budapest

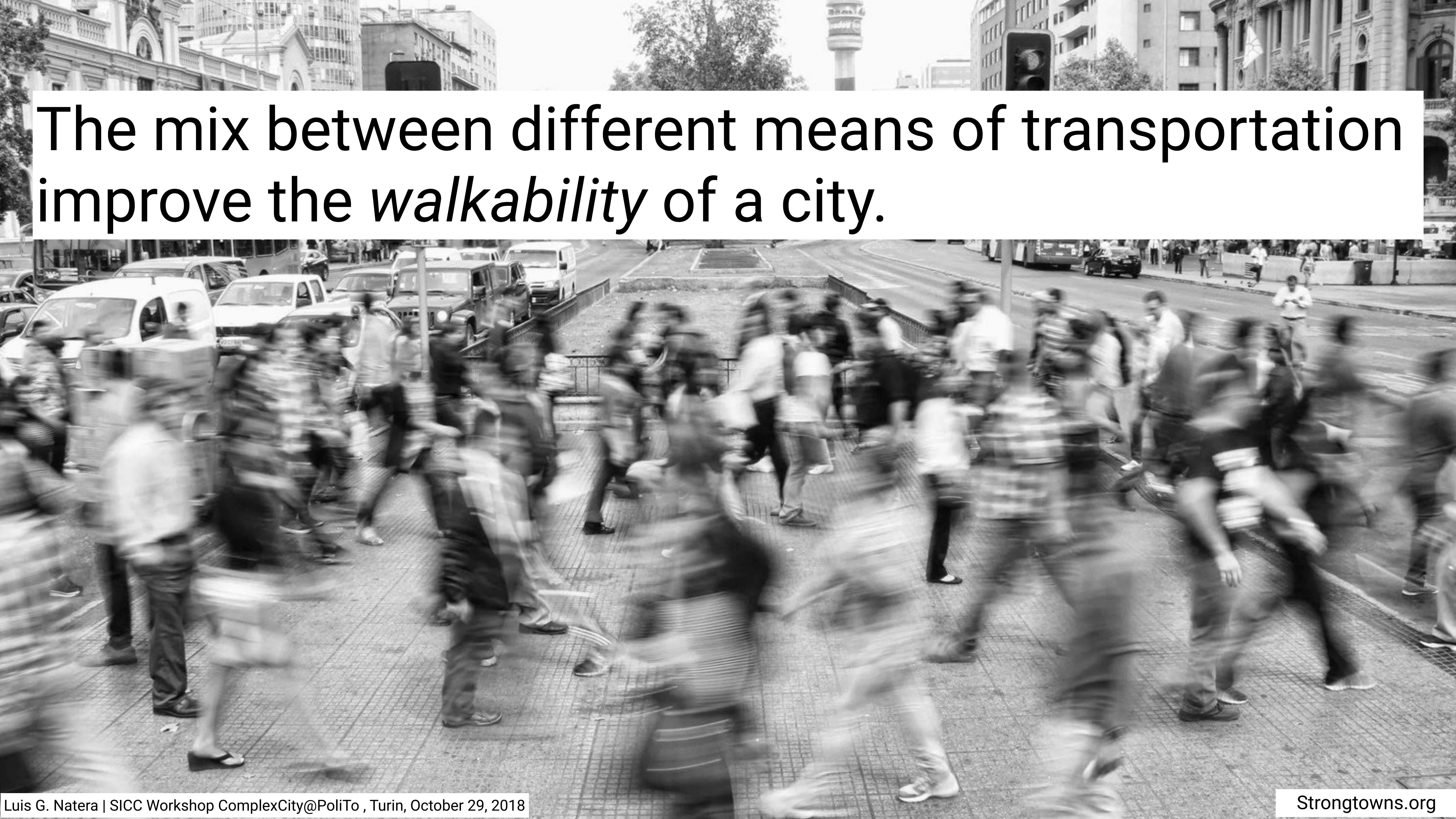


Mexico



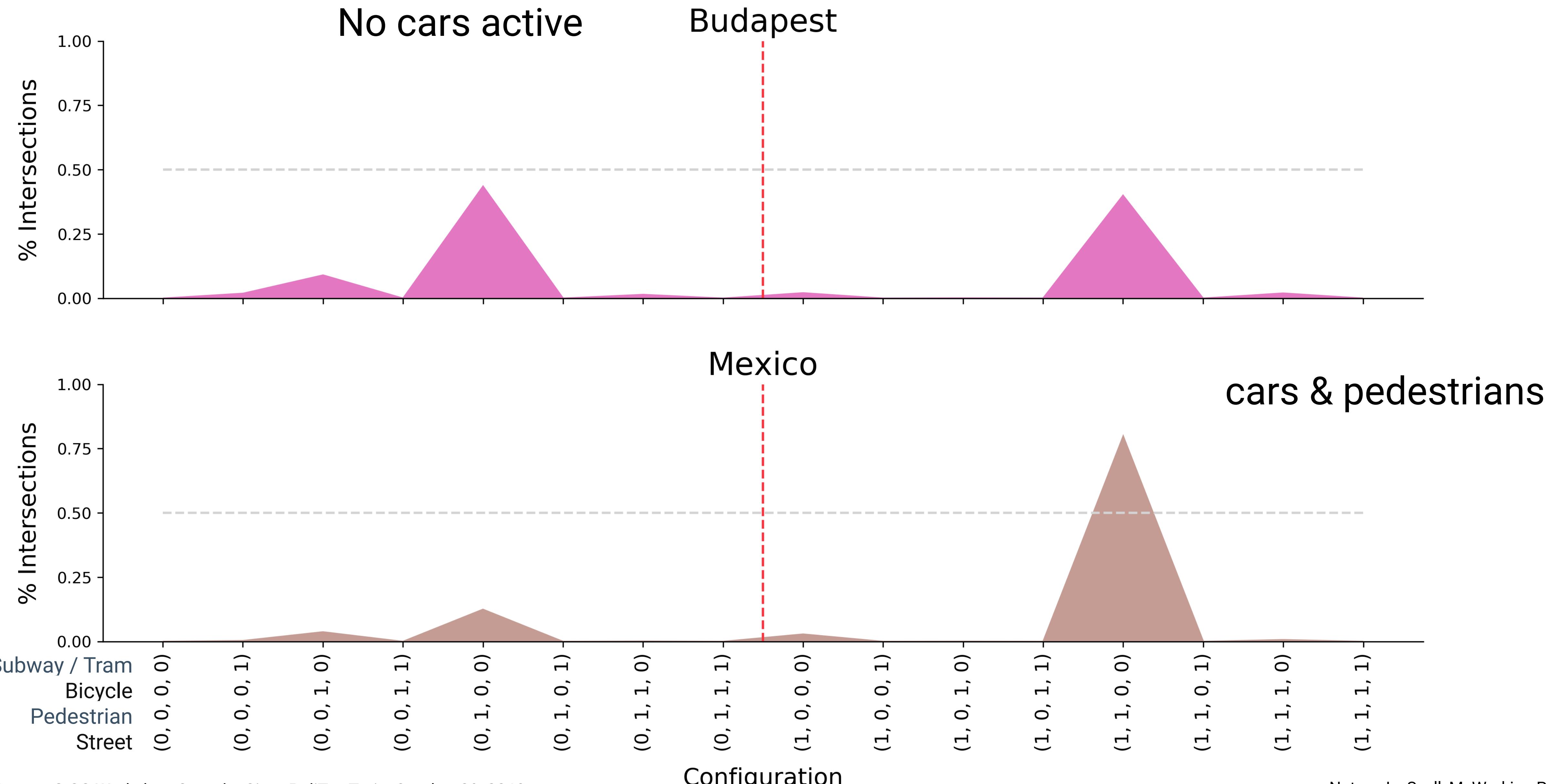
Cities Overlap Profiles



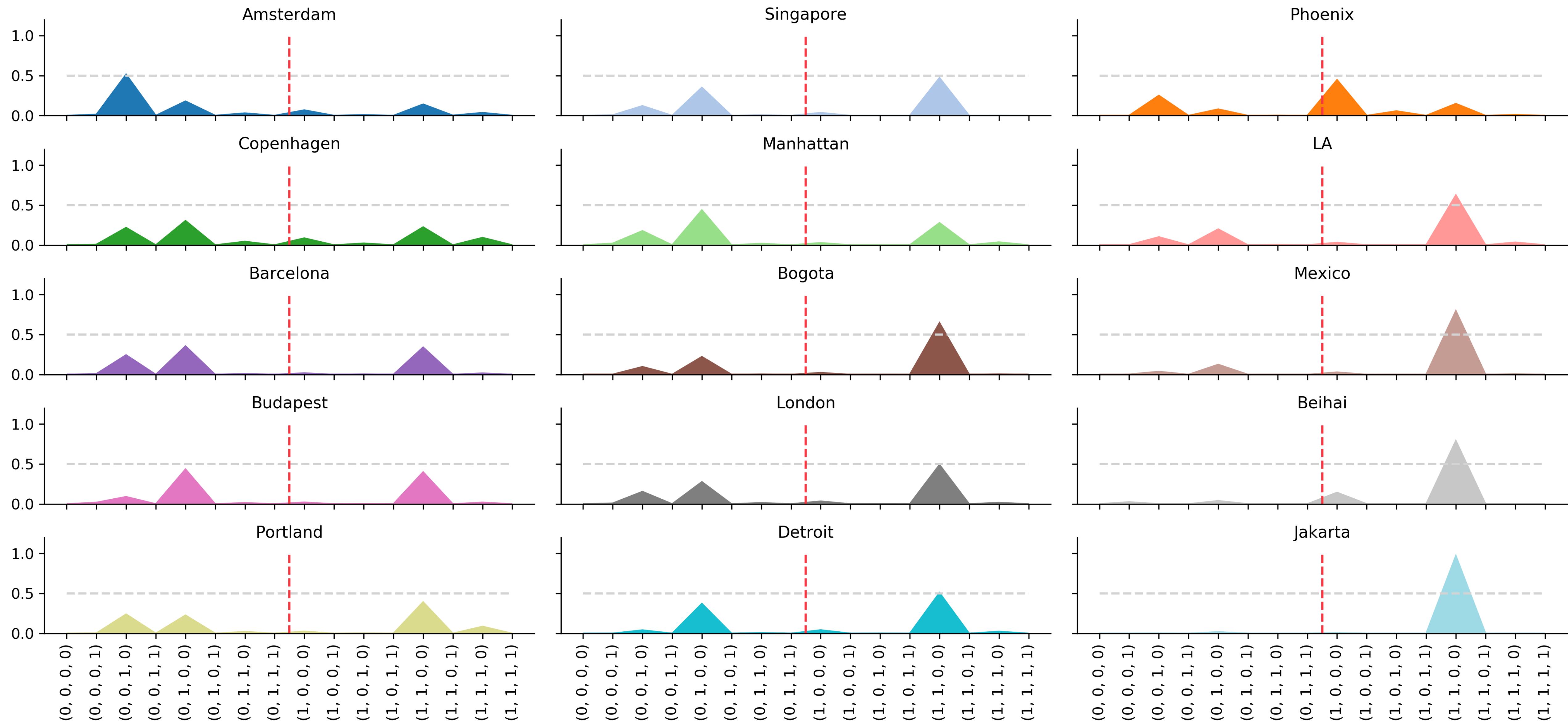


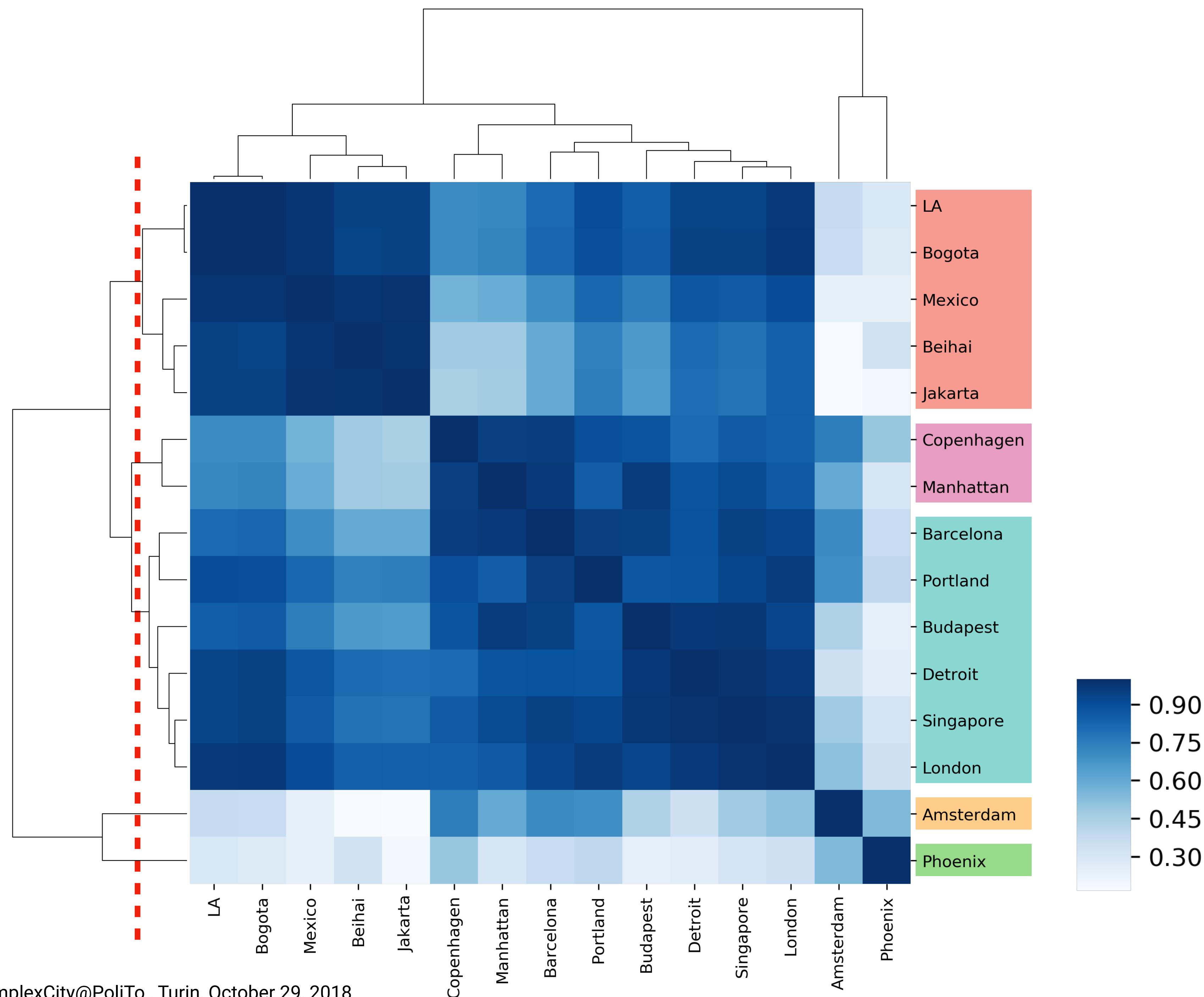
The mix between different means of transportation improve the *walkability* of a city.

Overlap Census

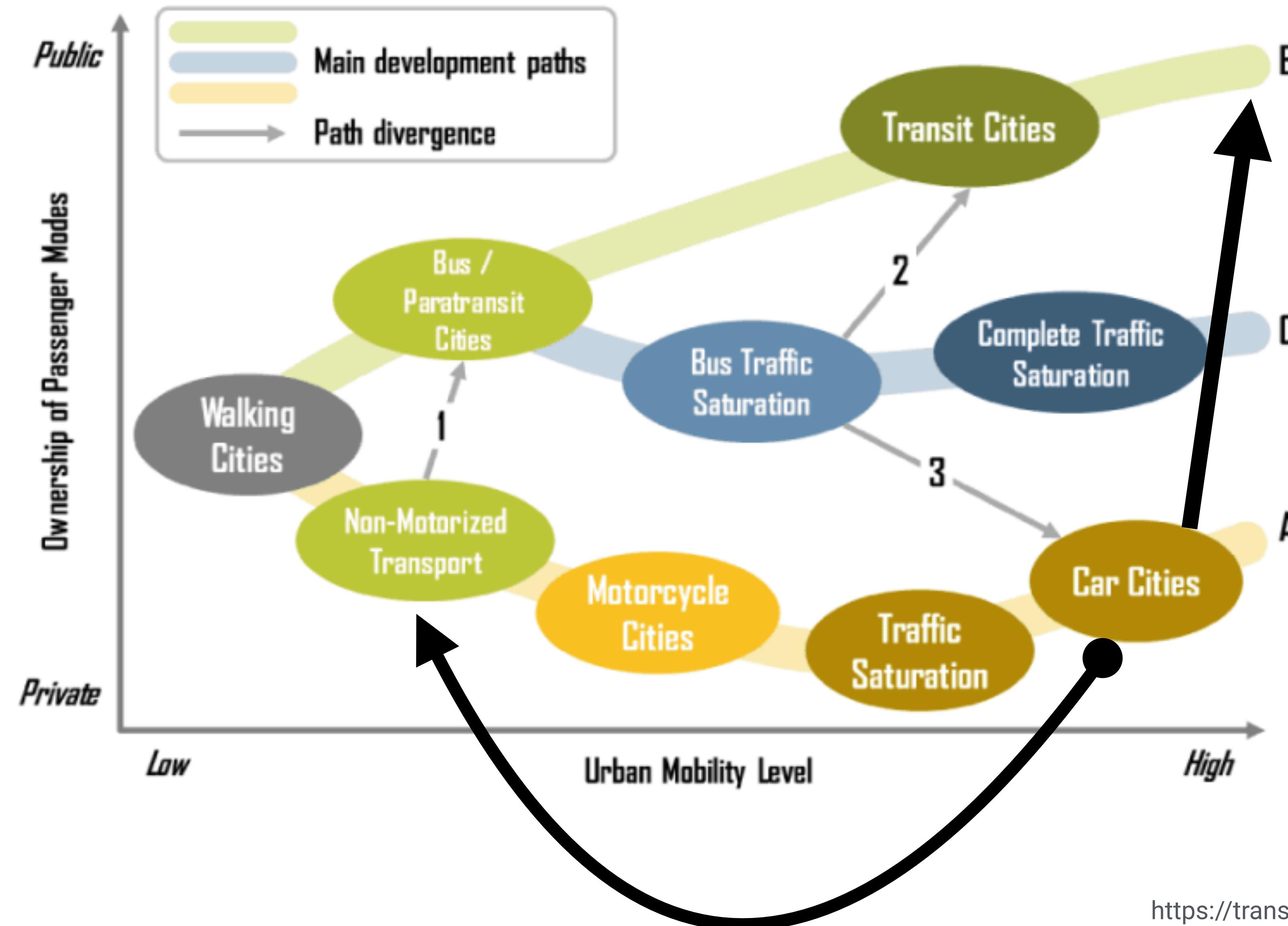


Node Overlap Census

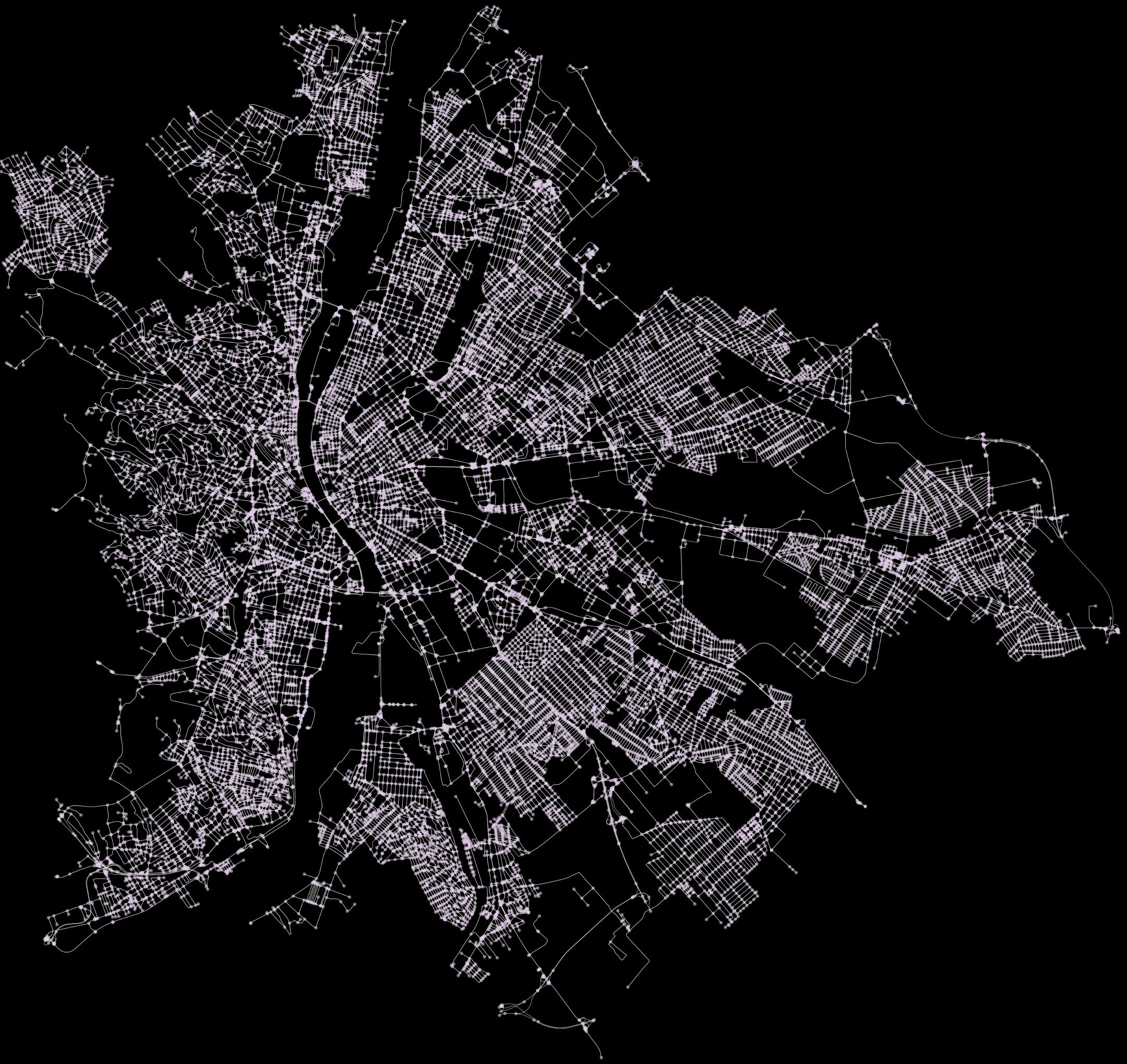




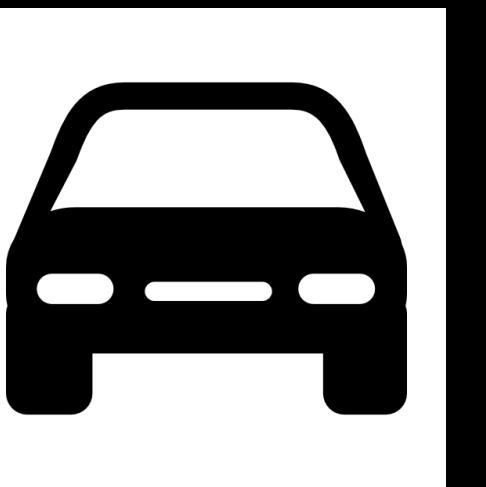
Find the missing links

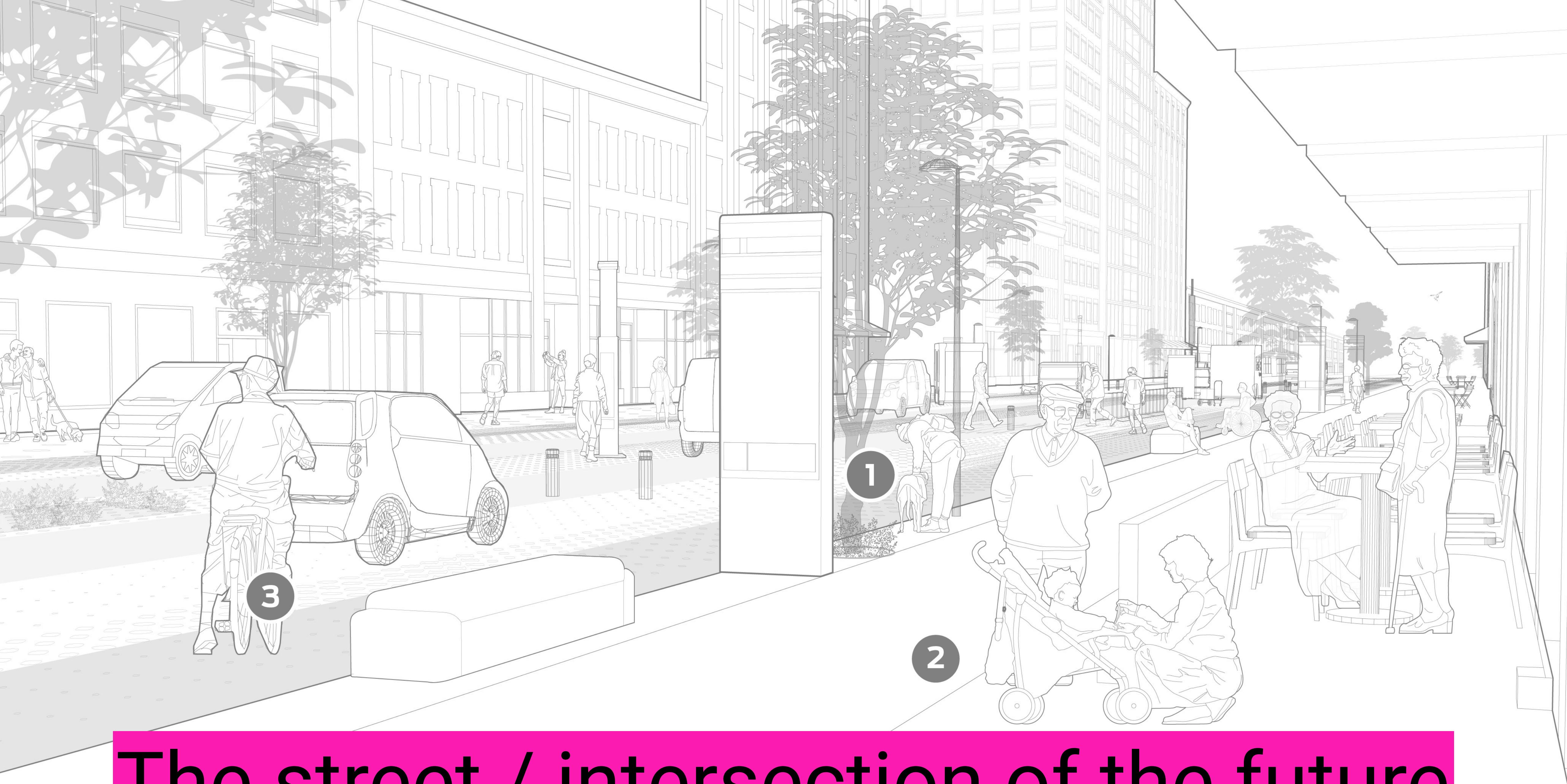


https://transportgeography.org/?page_id=4792

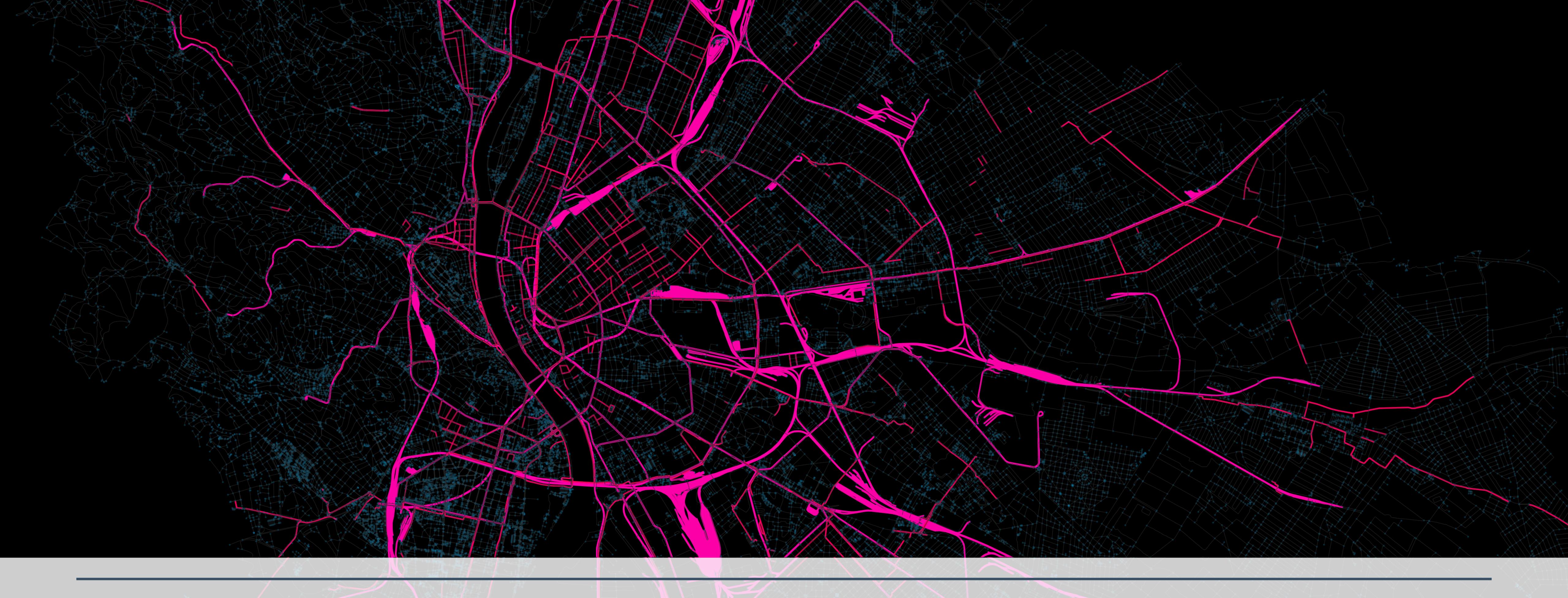


← **PERCOLATION** →





The street / intersection of the future



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