

Multiplex urban fingerprints for bicycle network planning

NetSci, Burlington, VT, May 29, 2019

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with:
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Network and
Data Science

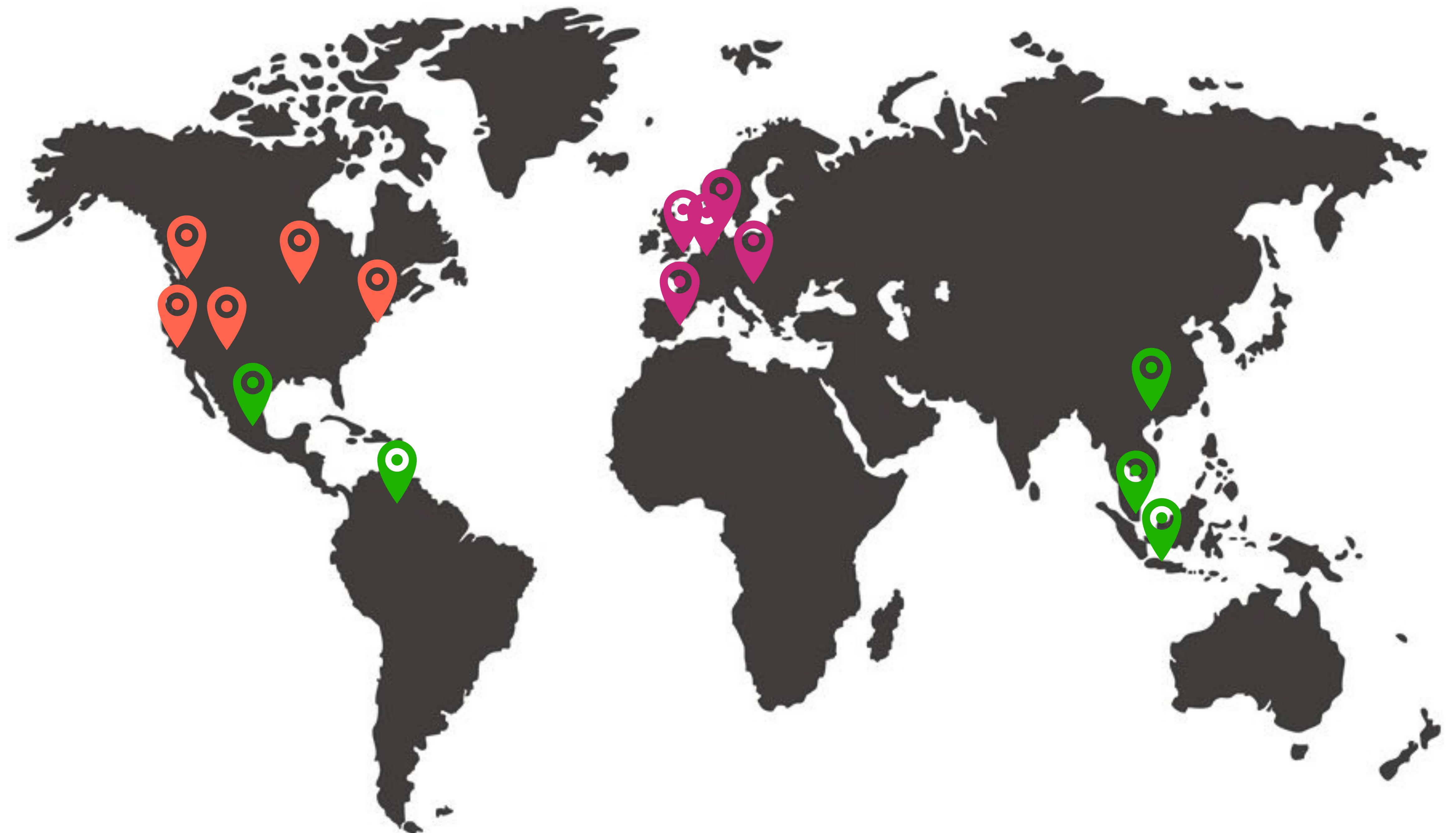
CENTRAL
EUROPEAN
UNIVERSITY

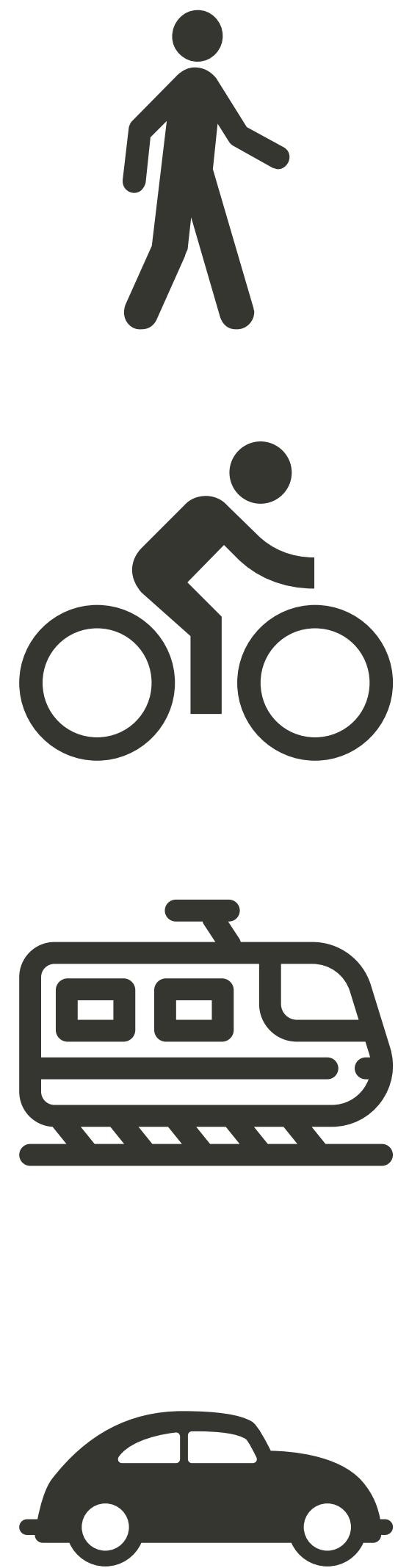


“first we shape the cities –
then they shape us.”

Jan Gehl

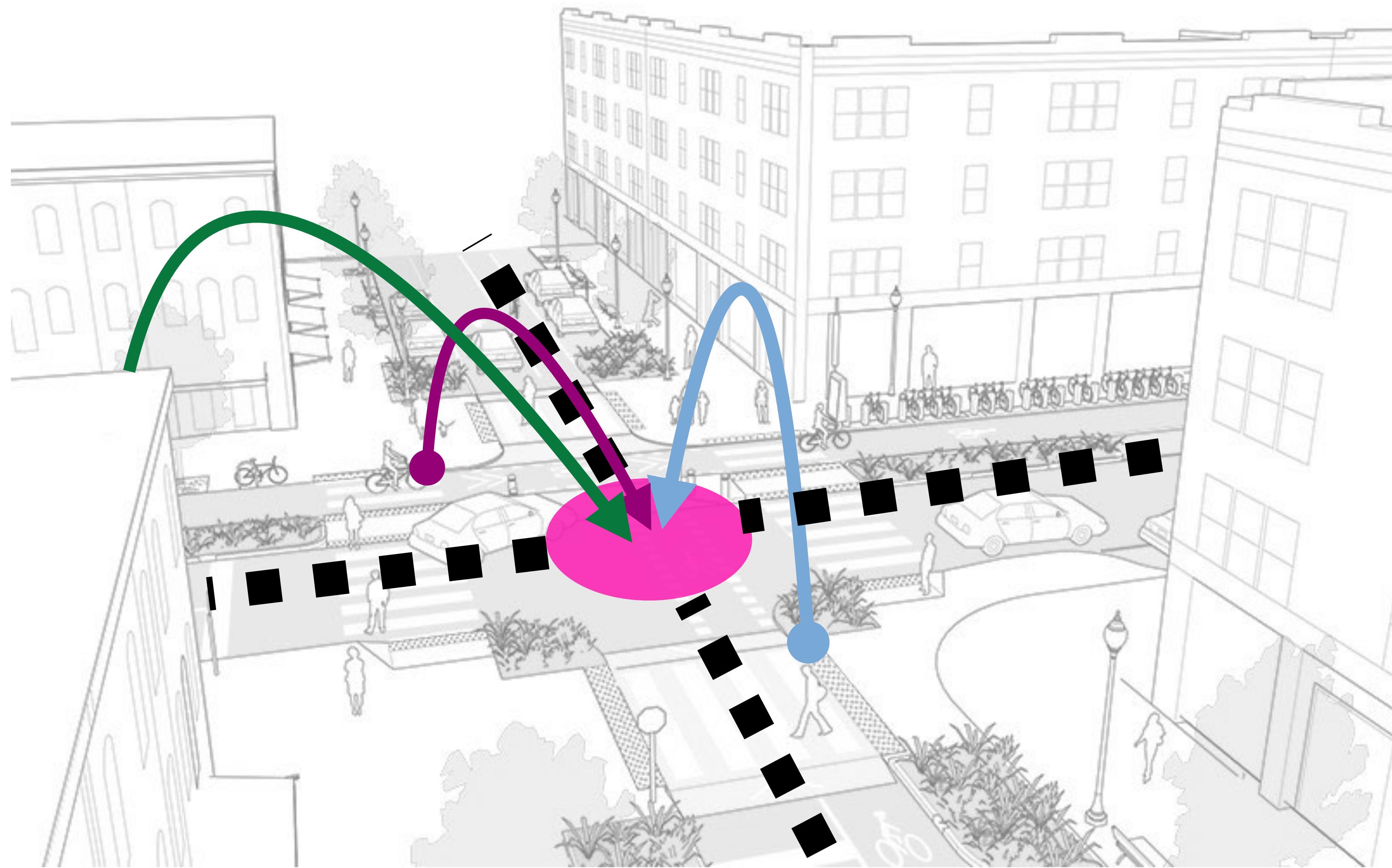
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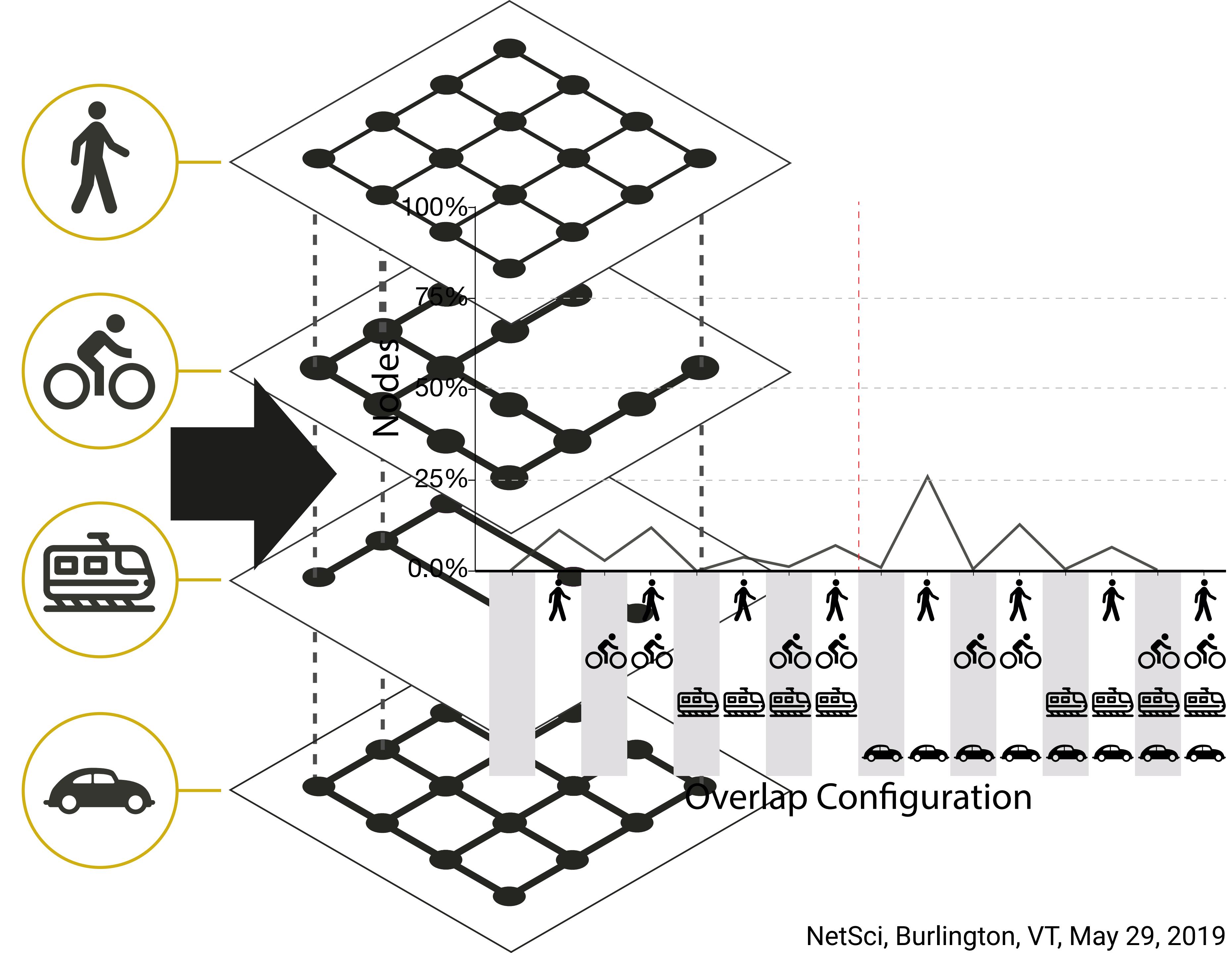




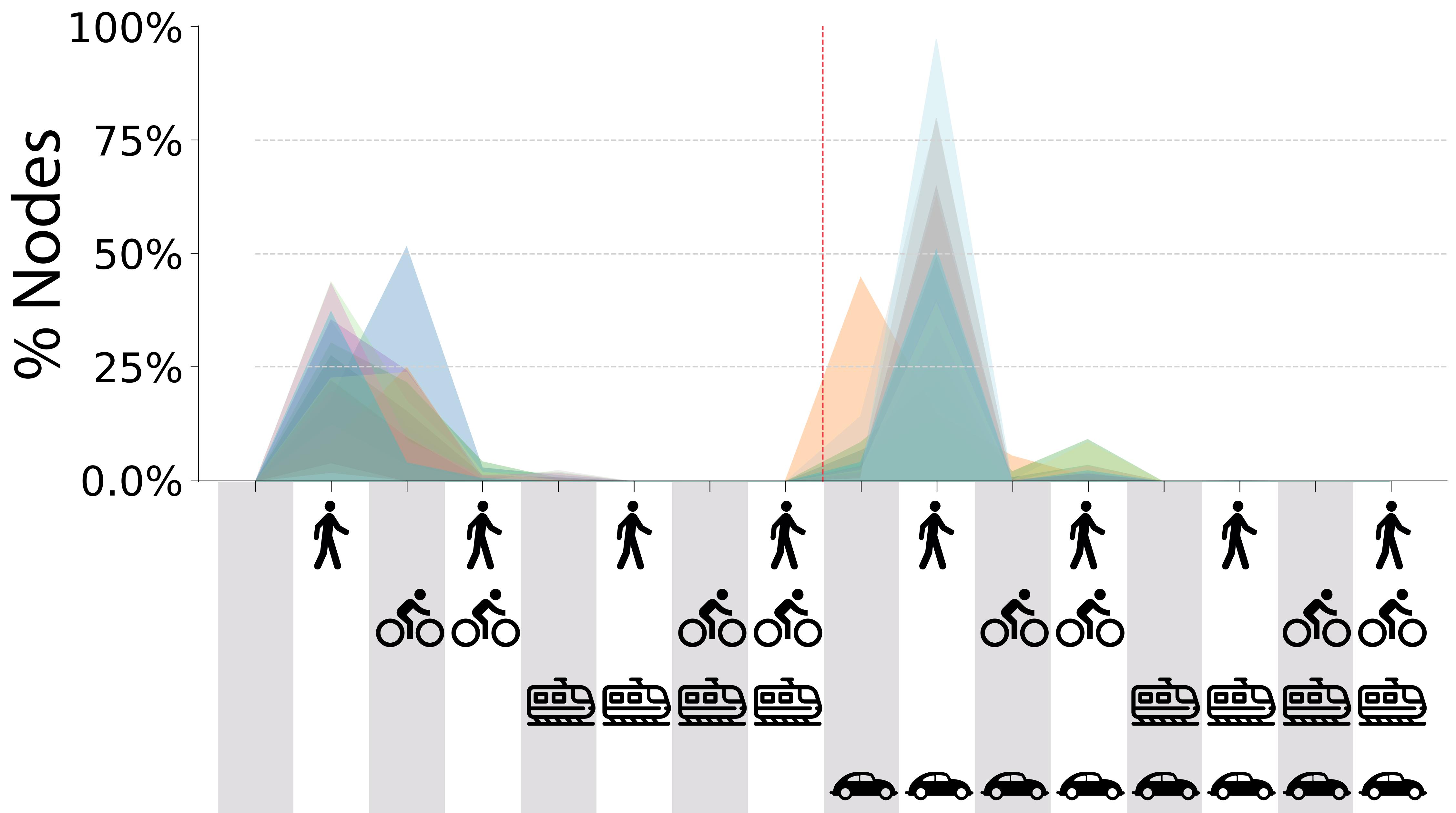
Avenue Hostel

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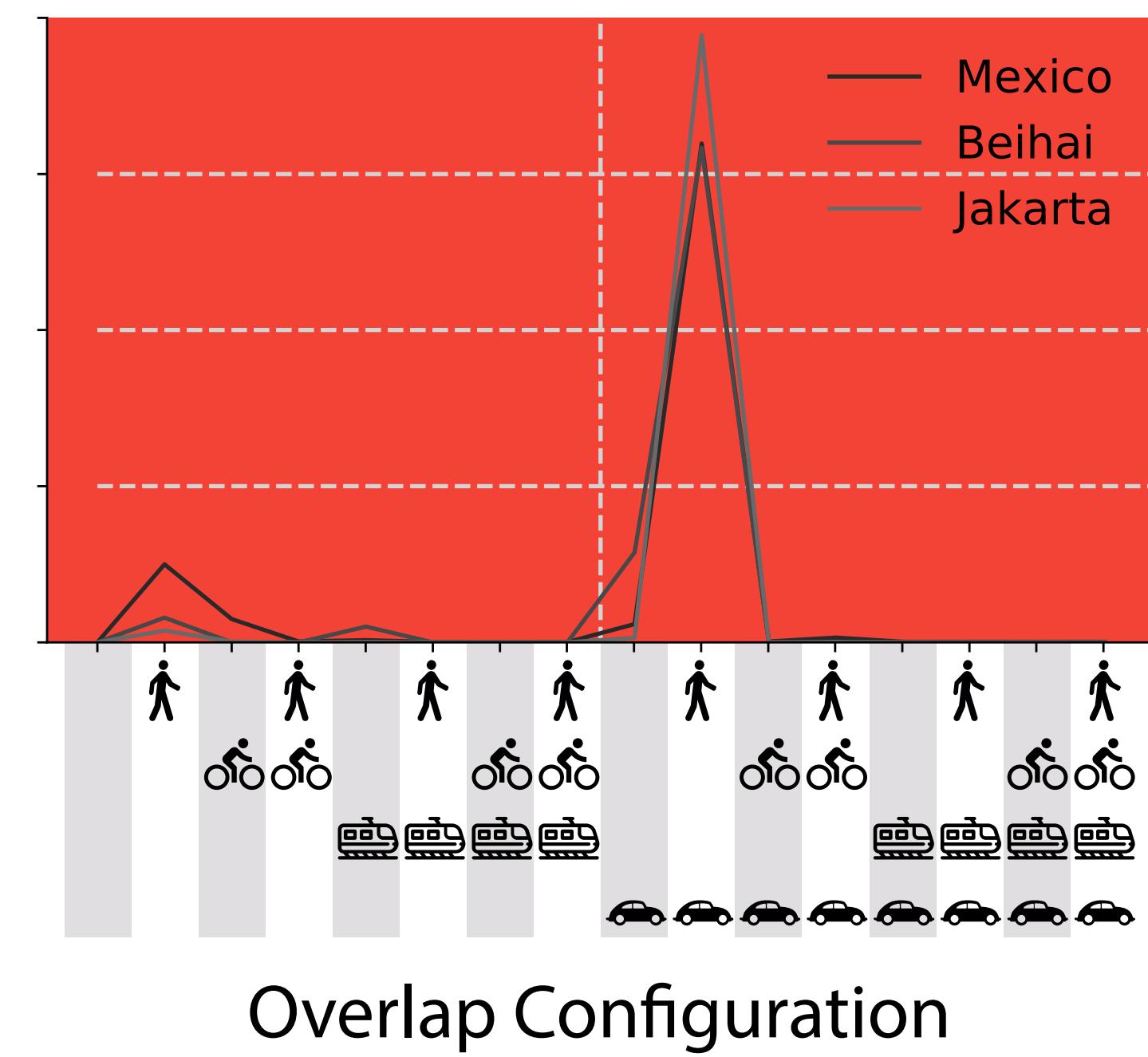
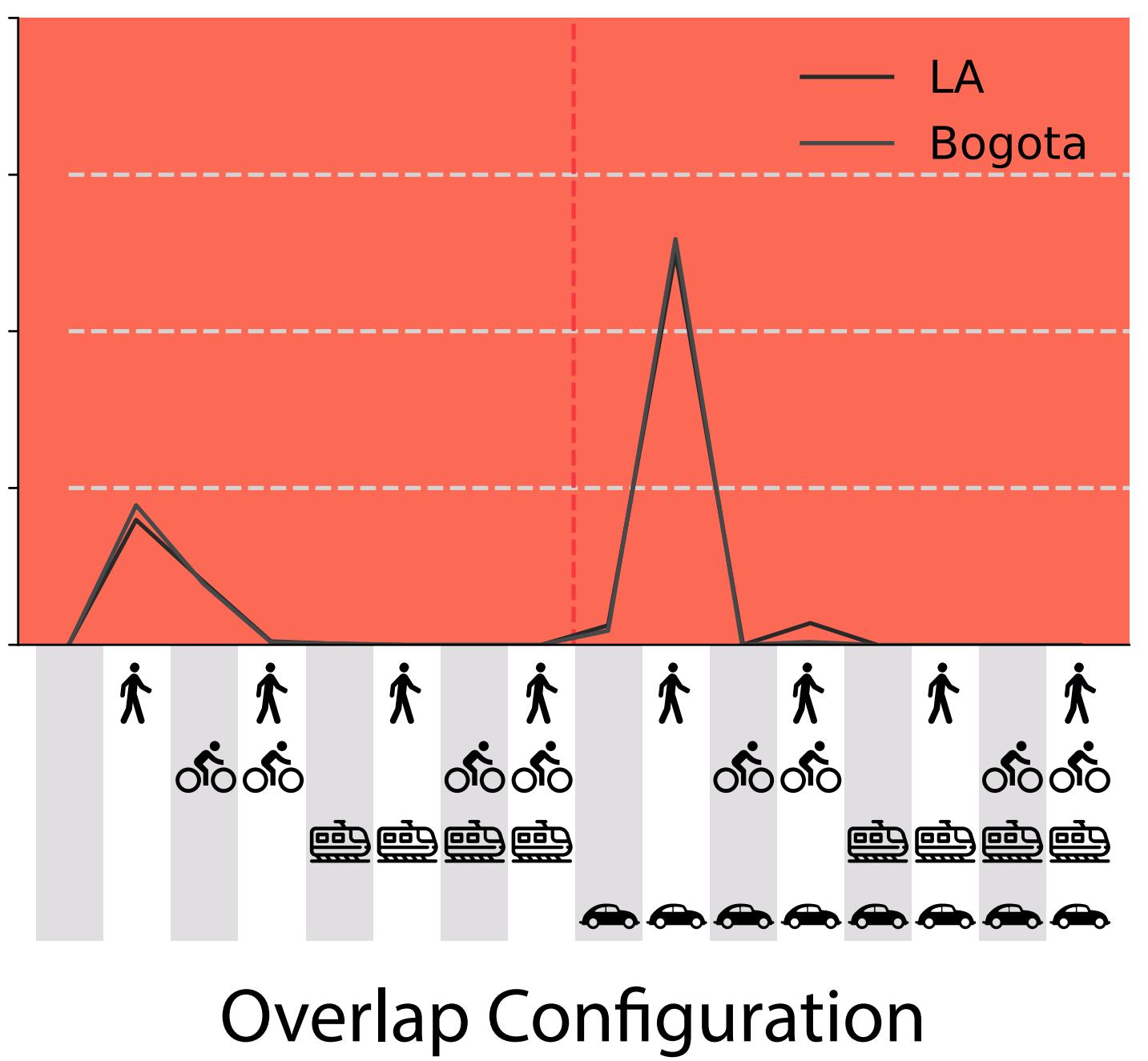
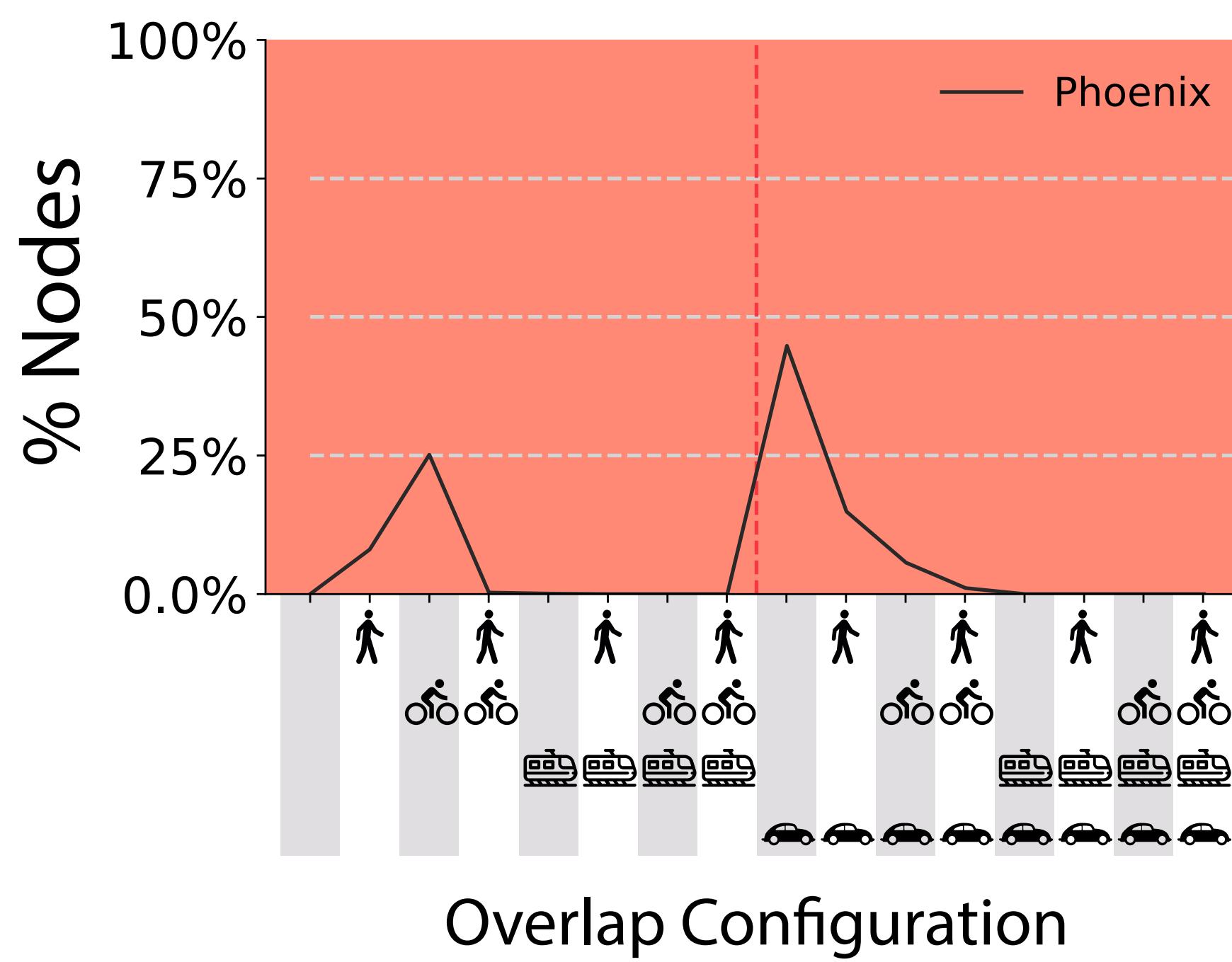
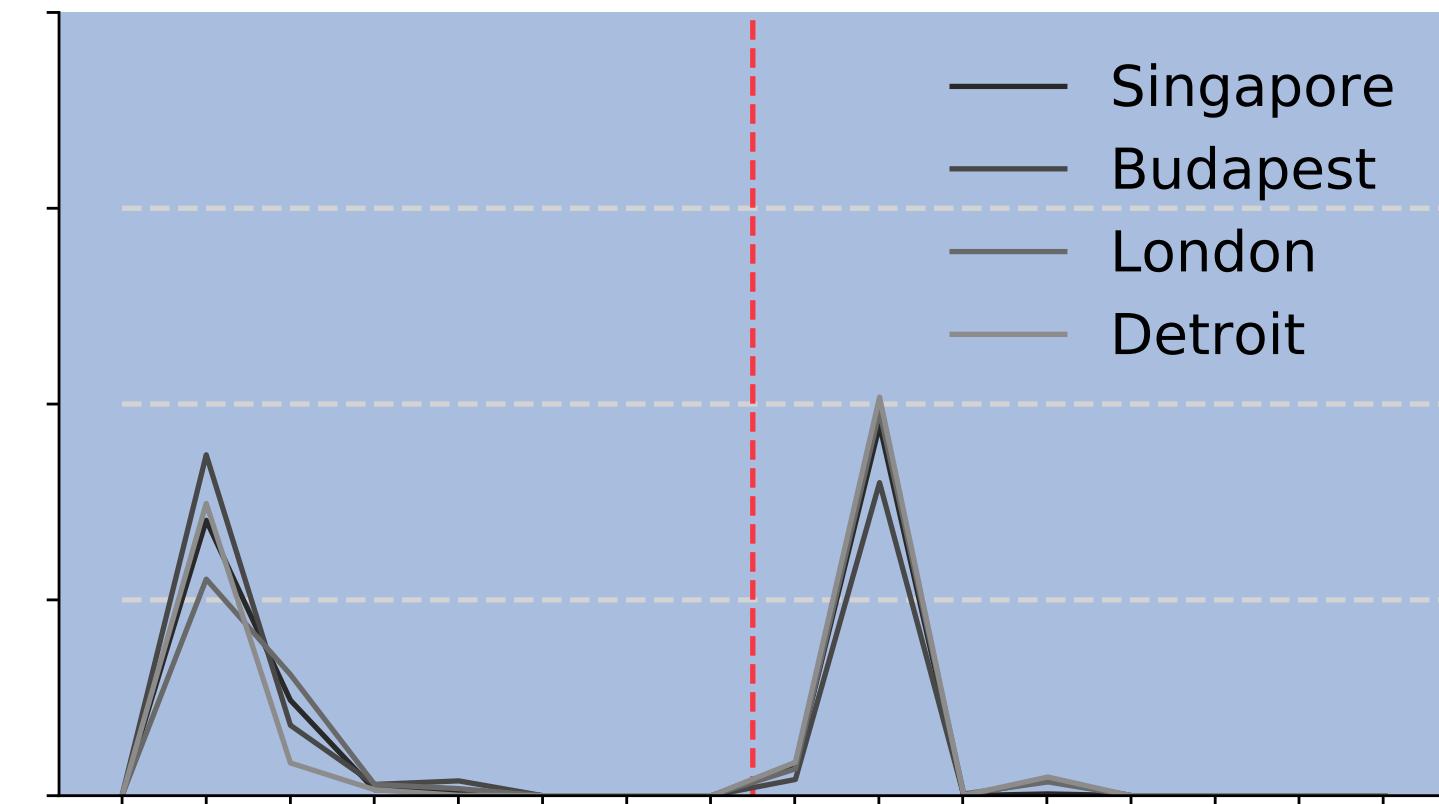
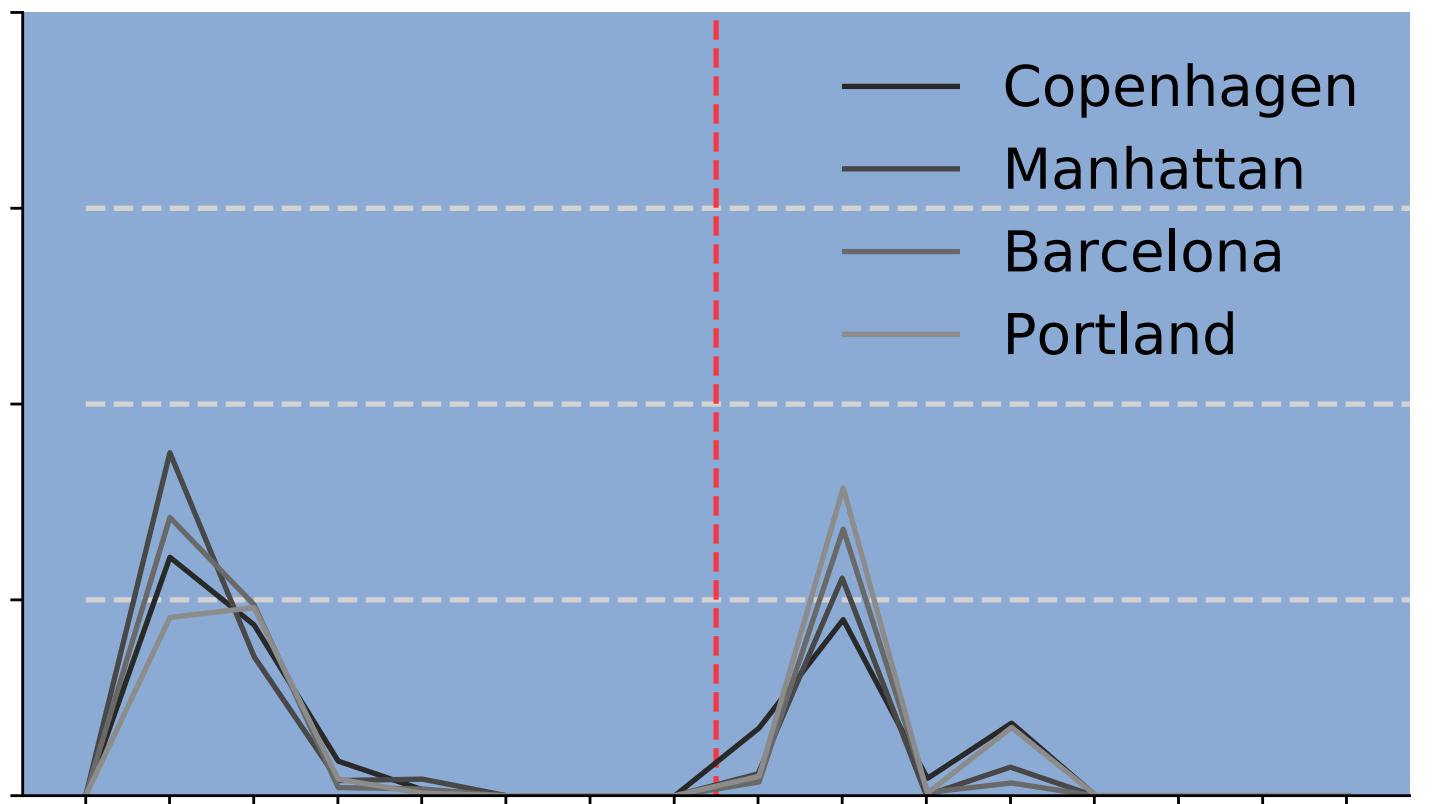
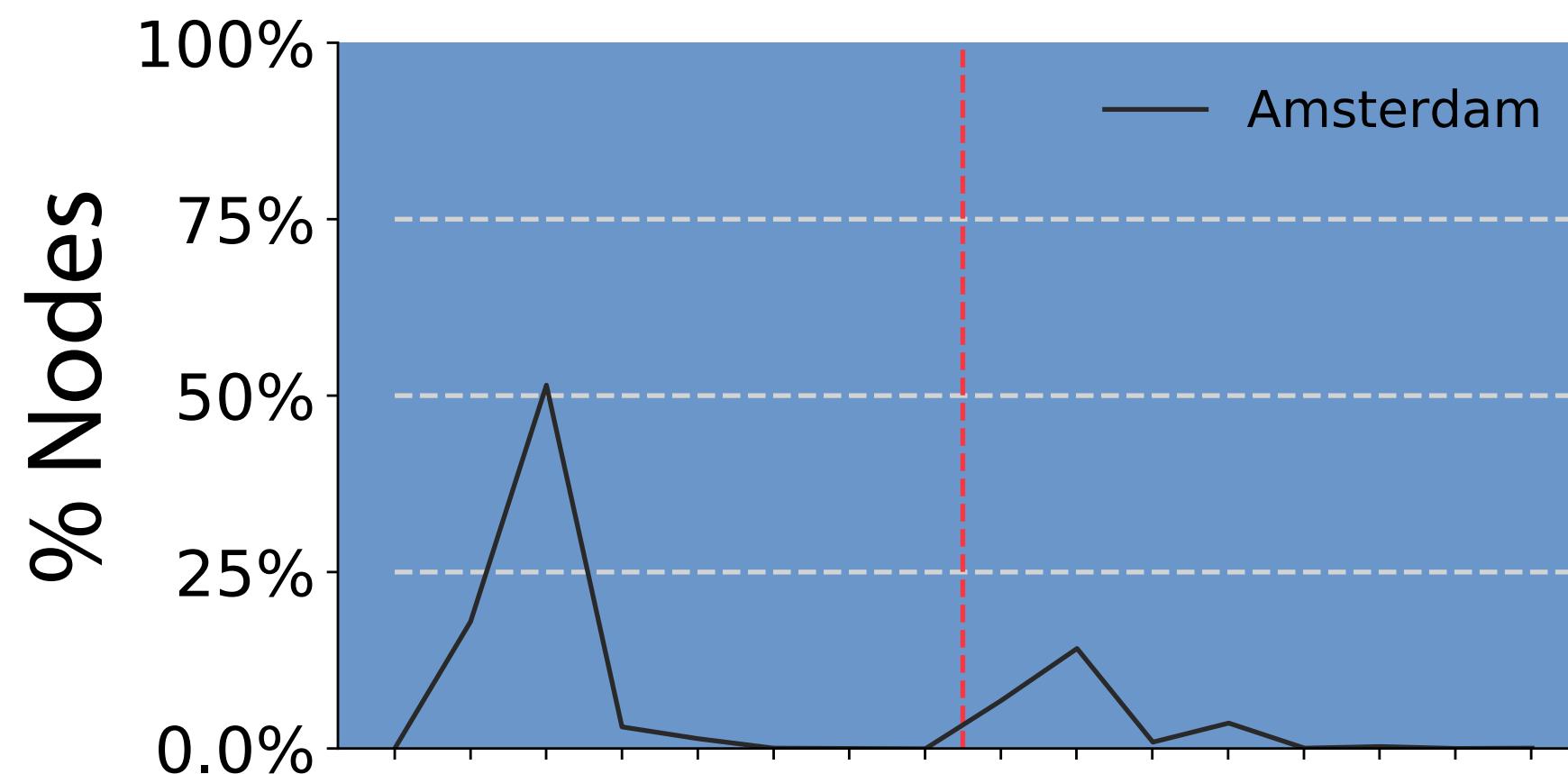
actual_status



Overlap Profile



Overlap Census



closer_look

Copenhagen

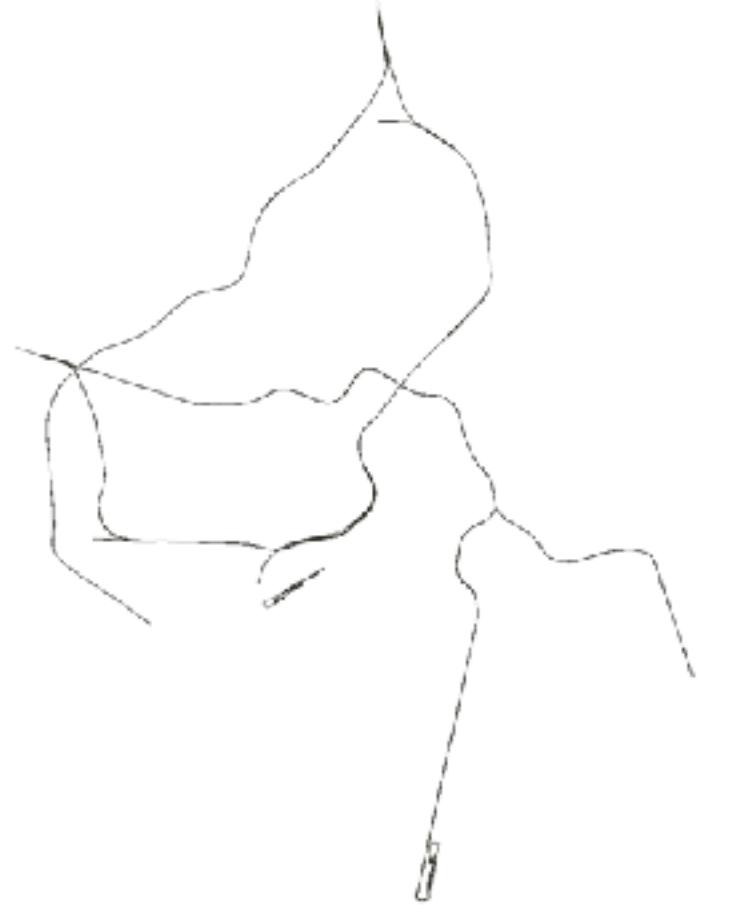
Pedestrian



Bike



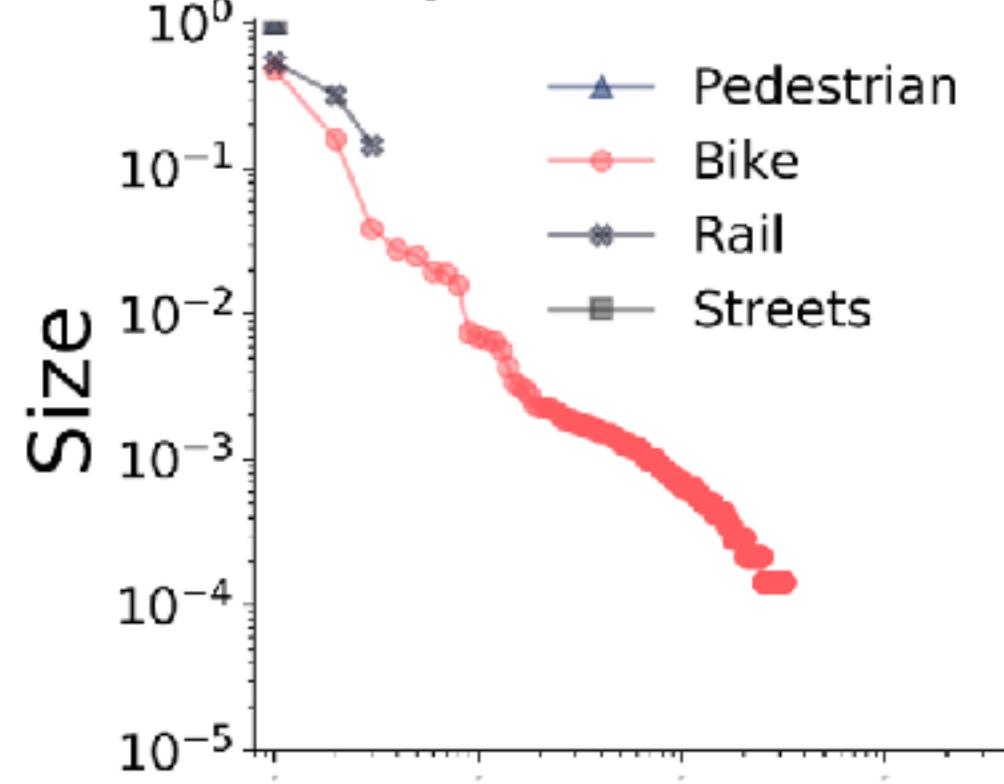
Rail



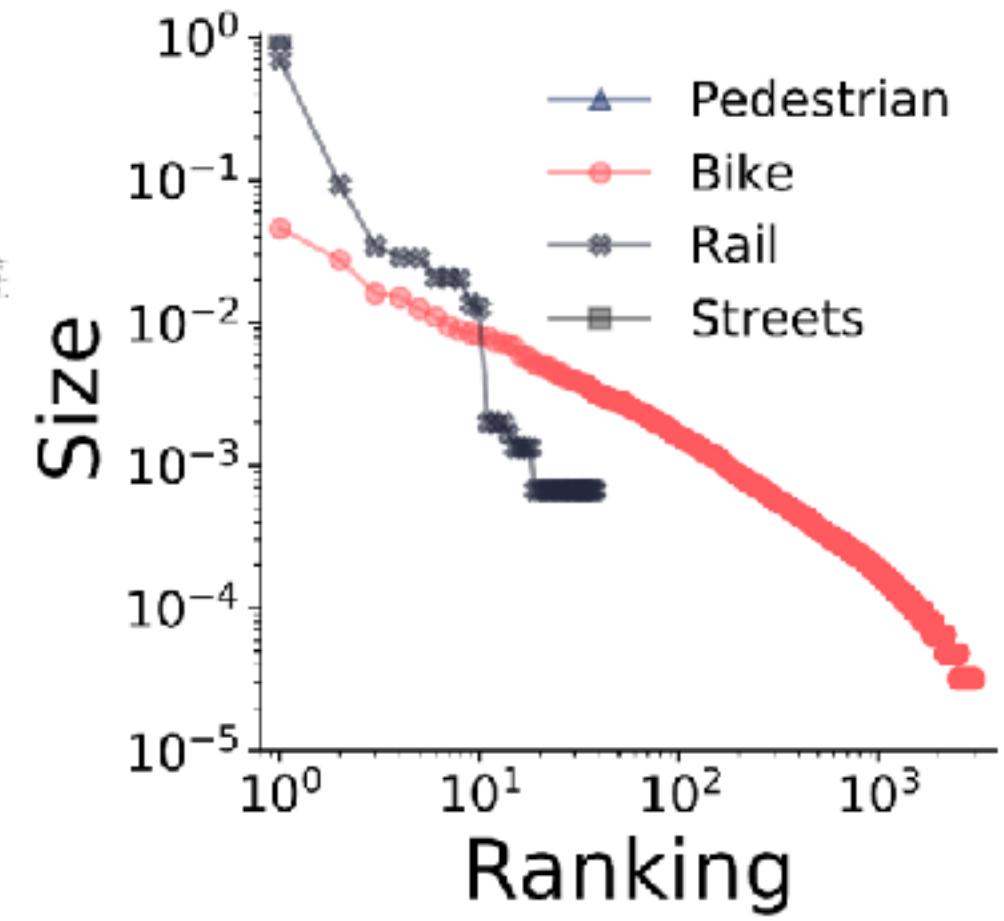
Streets

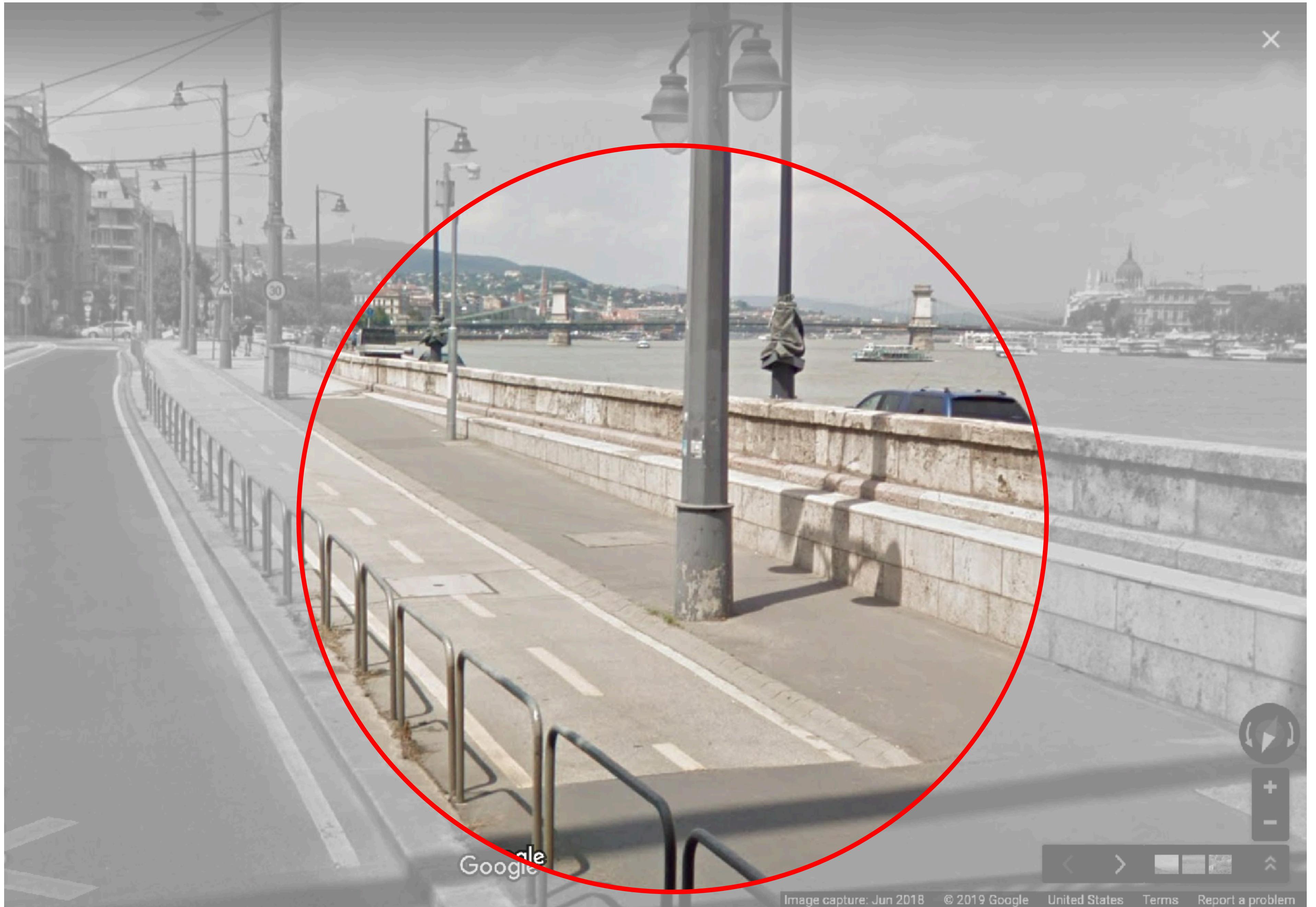


Components



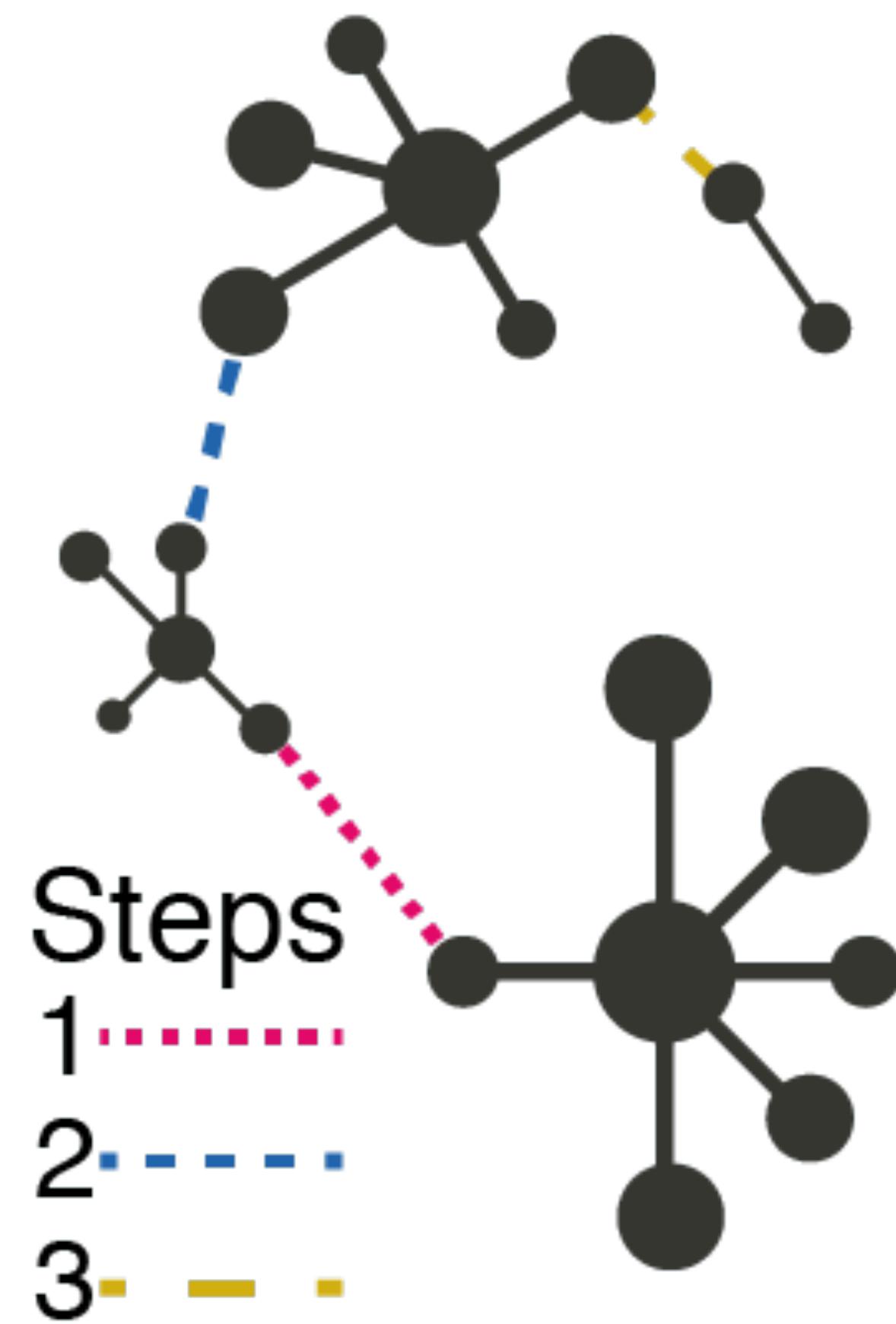
London



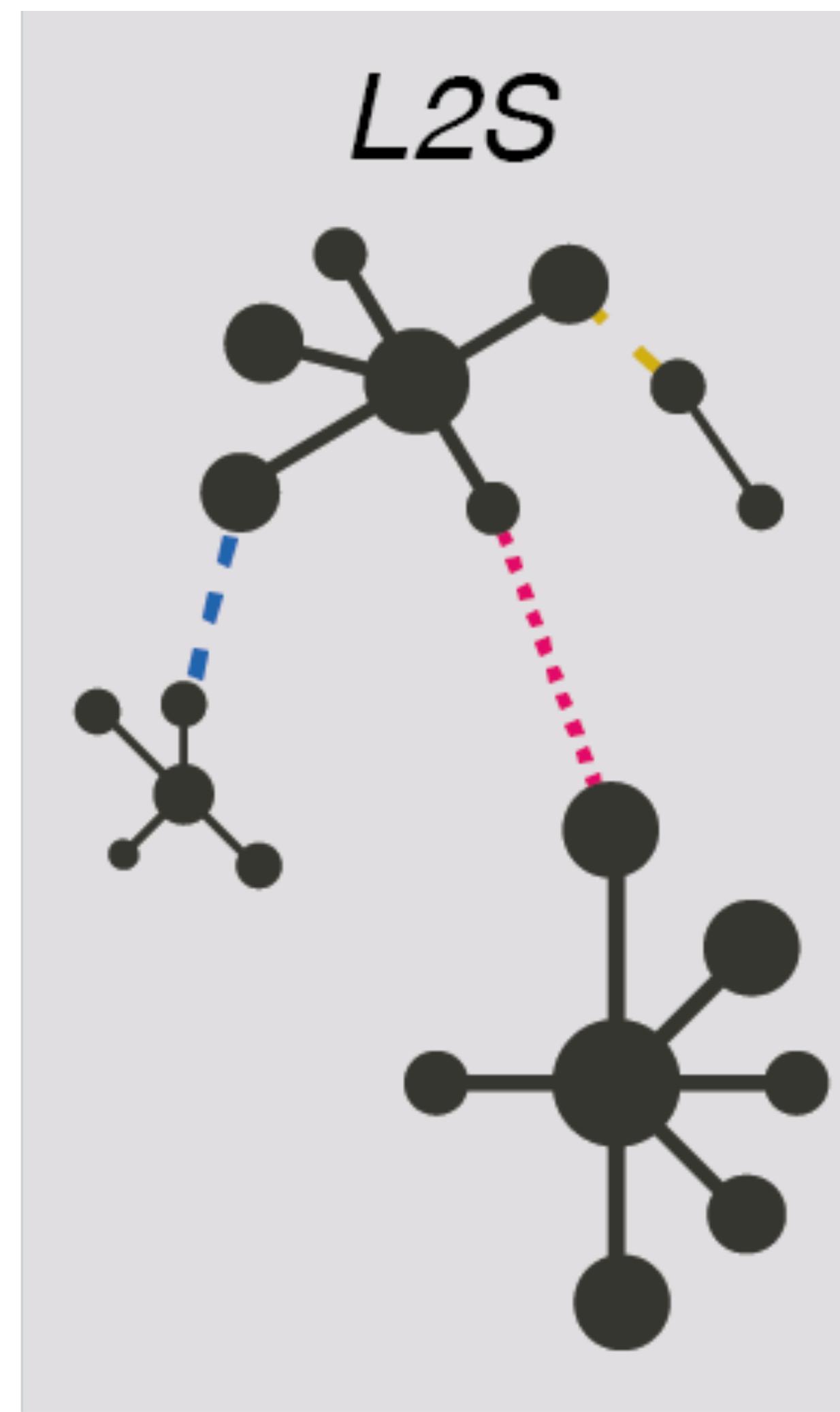


consolidate_network

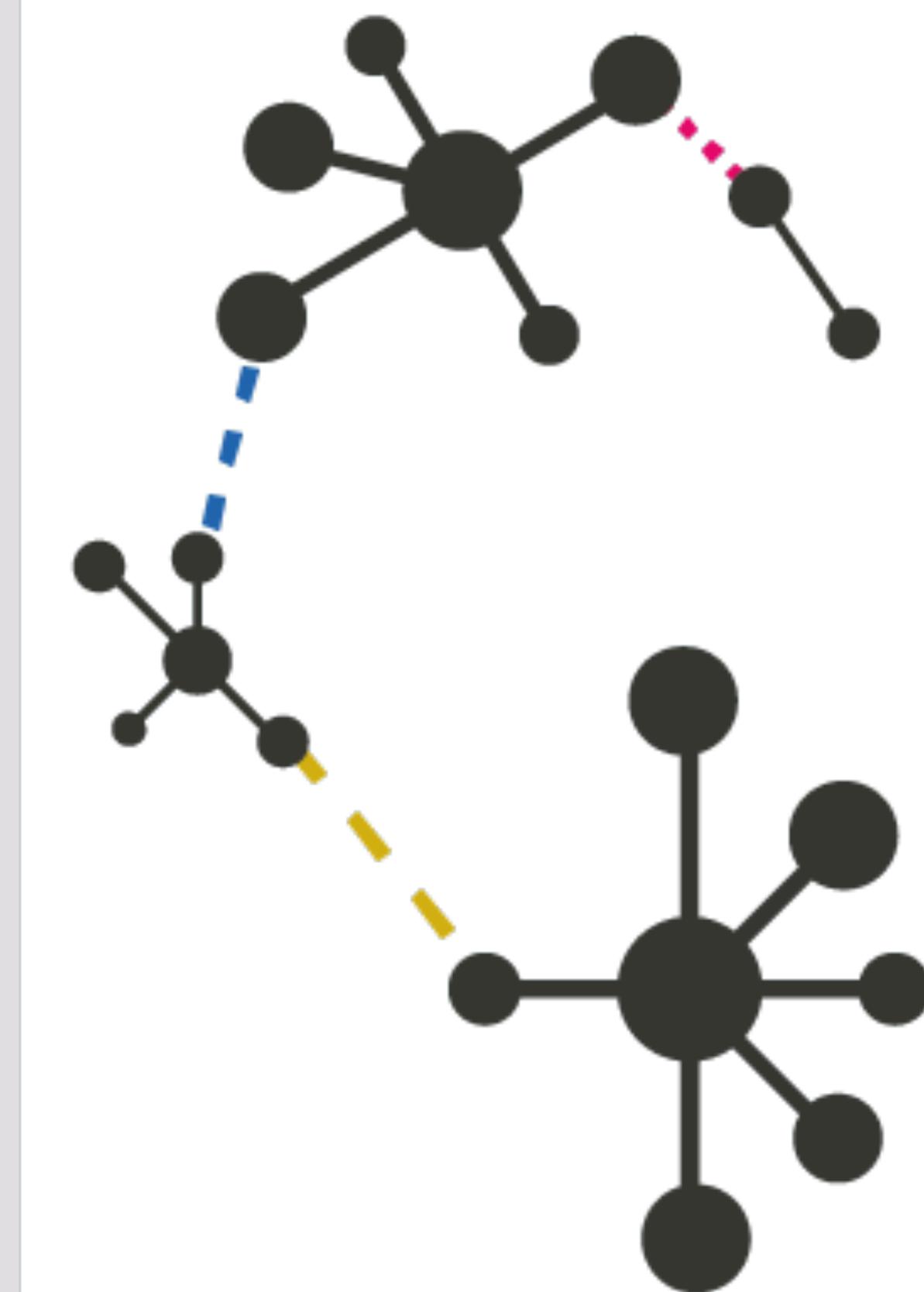
L2C



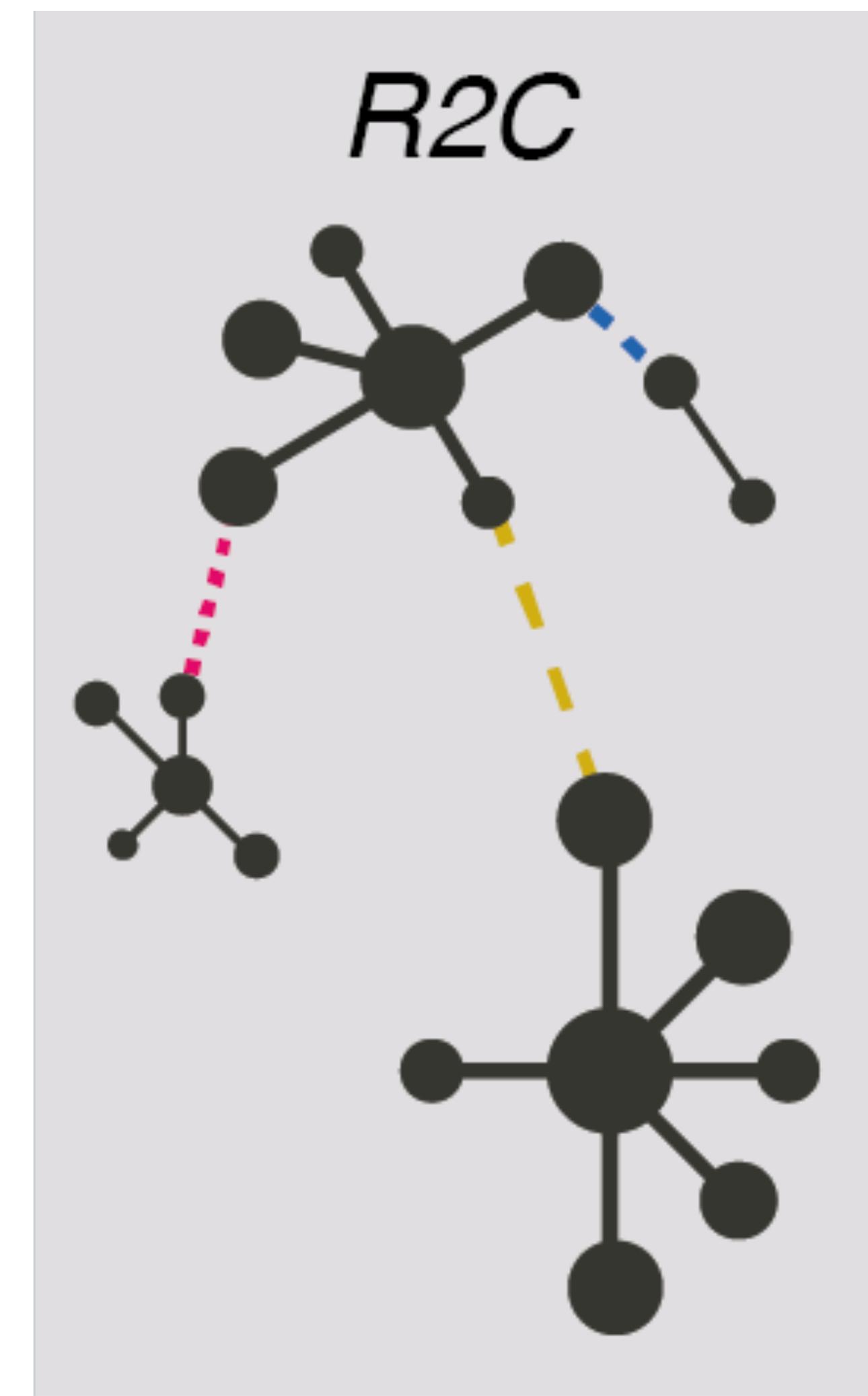
L2S



CC

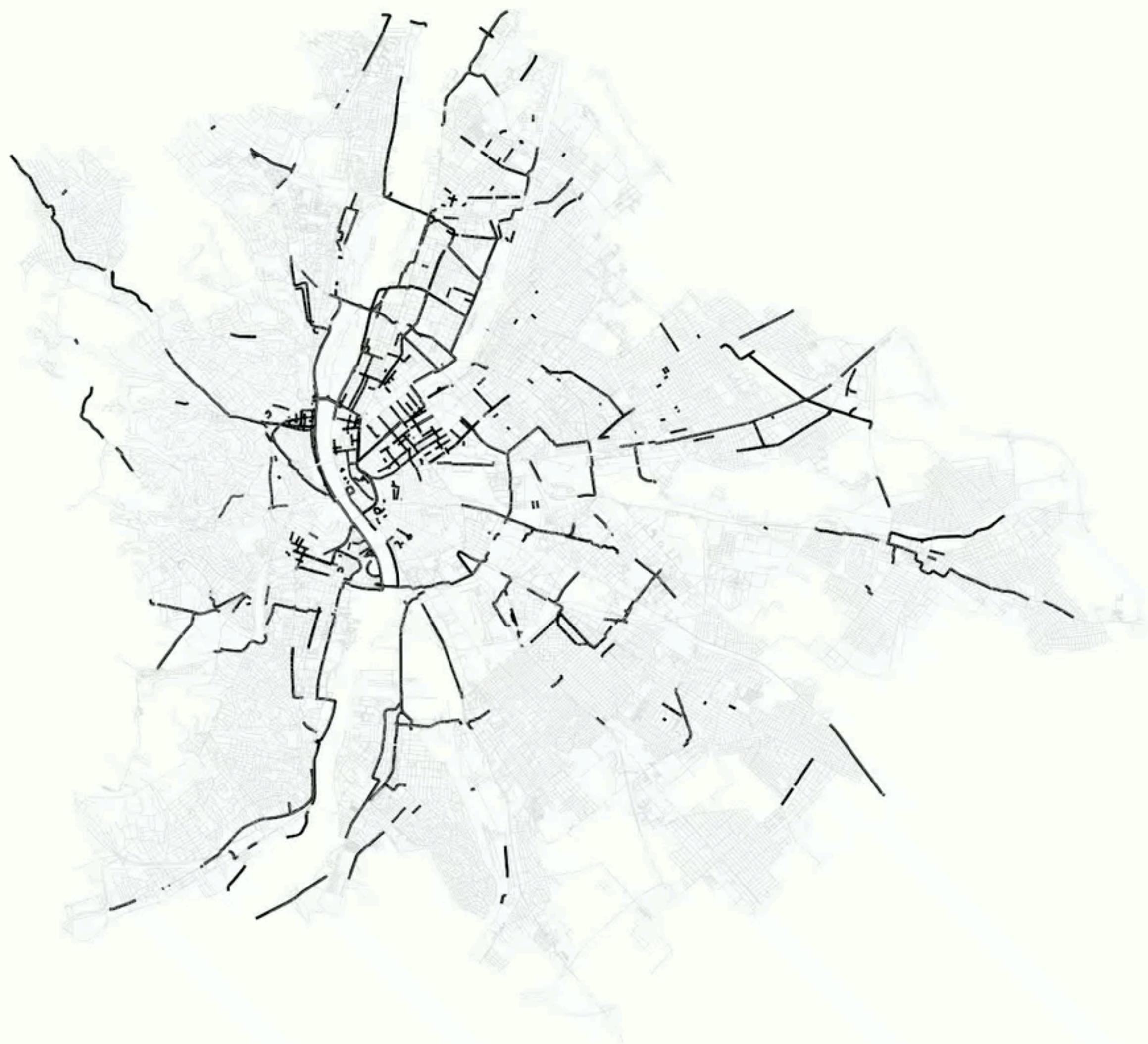


R2C

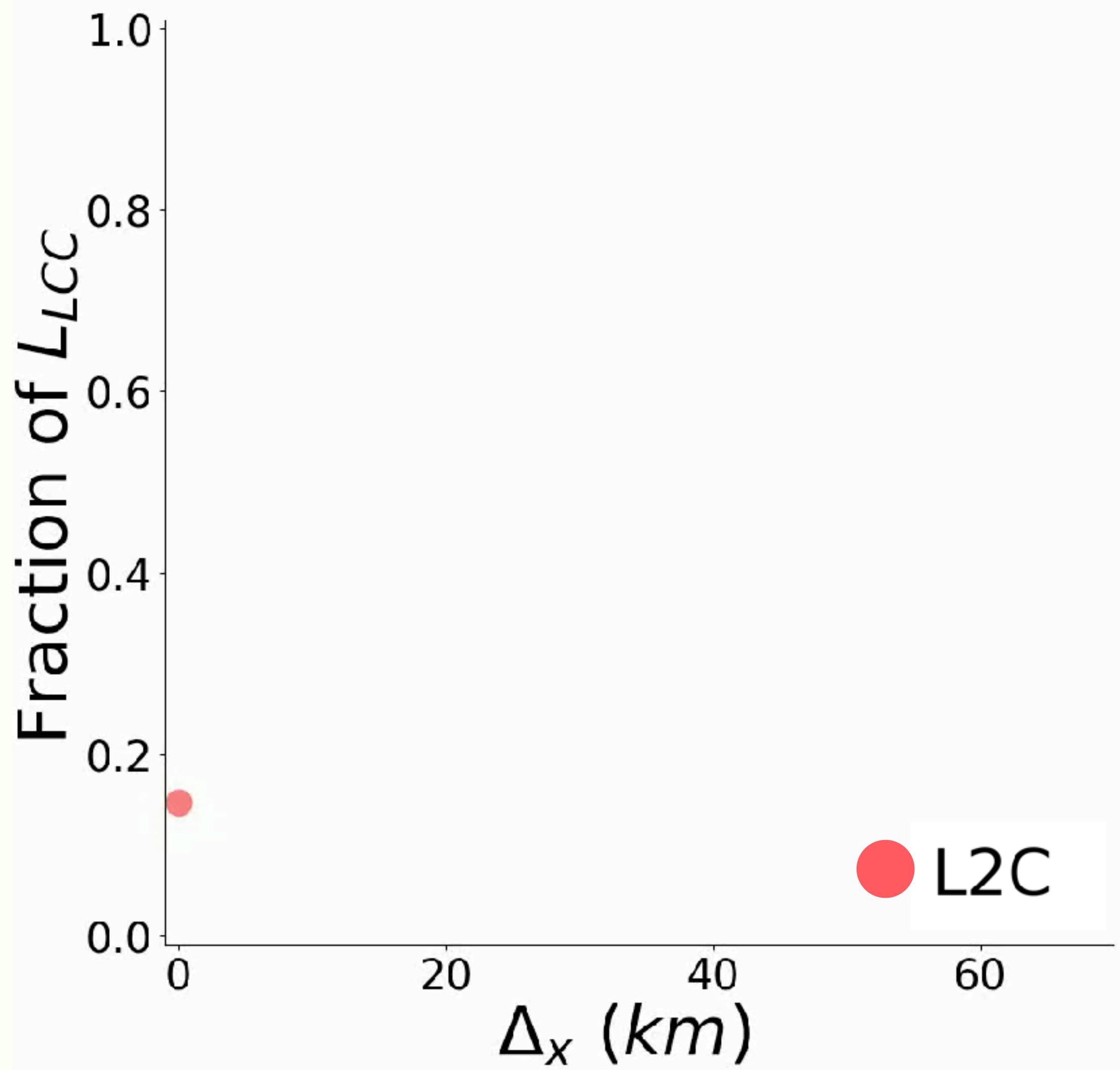


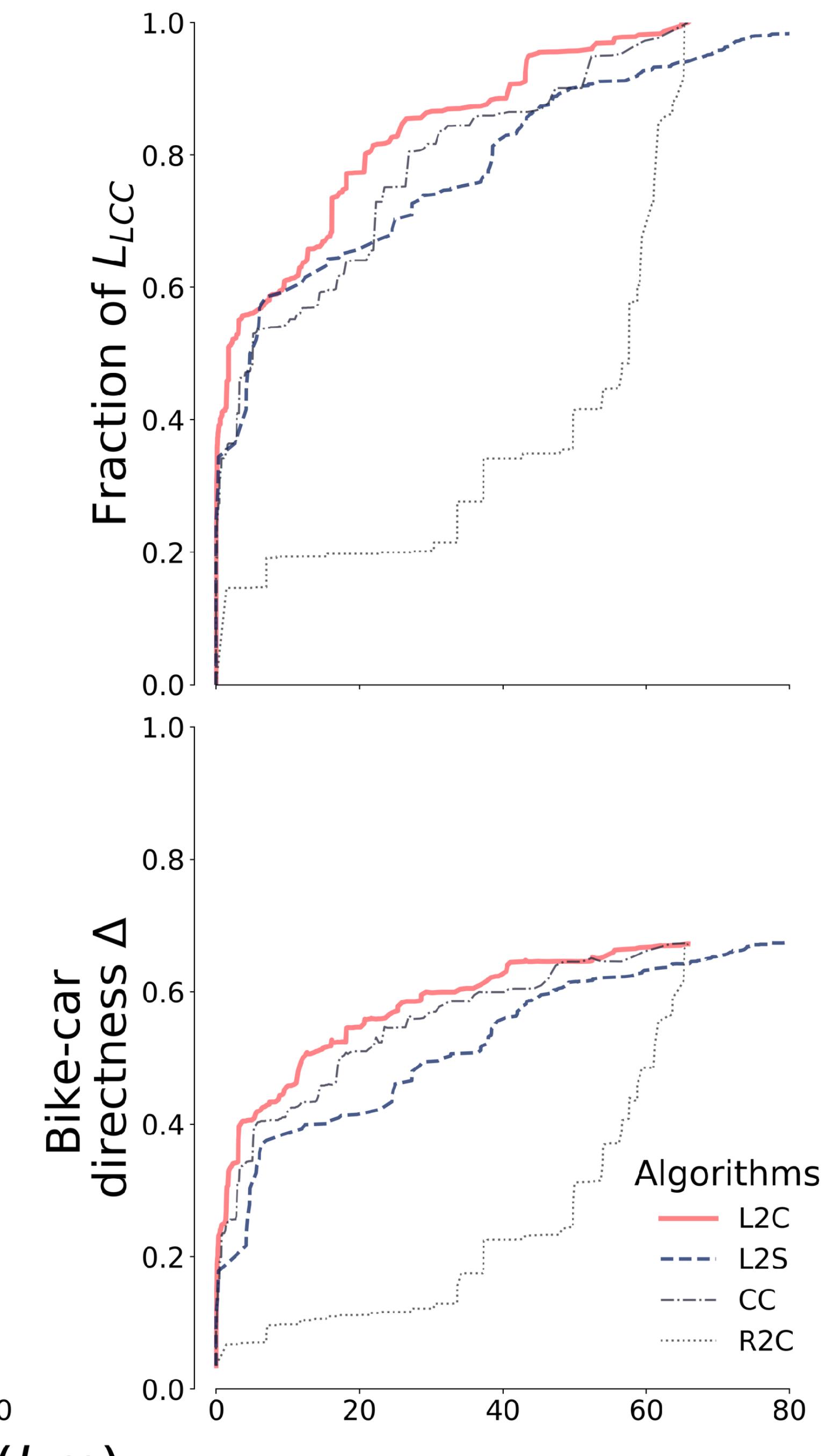
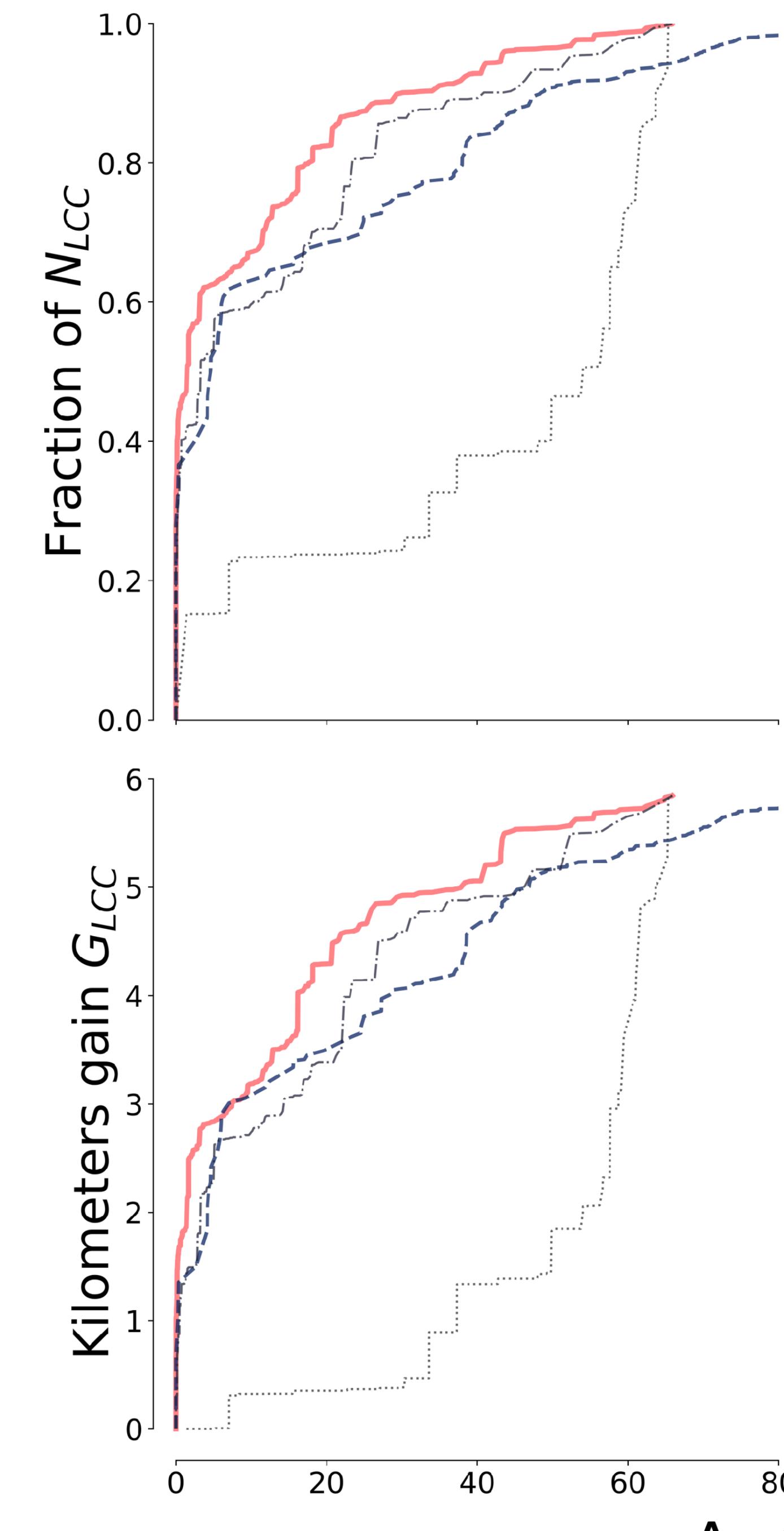
BUDAPEST

Cumulative $\Delta_x = 0.0 \text{ km}$ | 81.88 km in LCC | Bicycle layer 14.61% connected

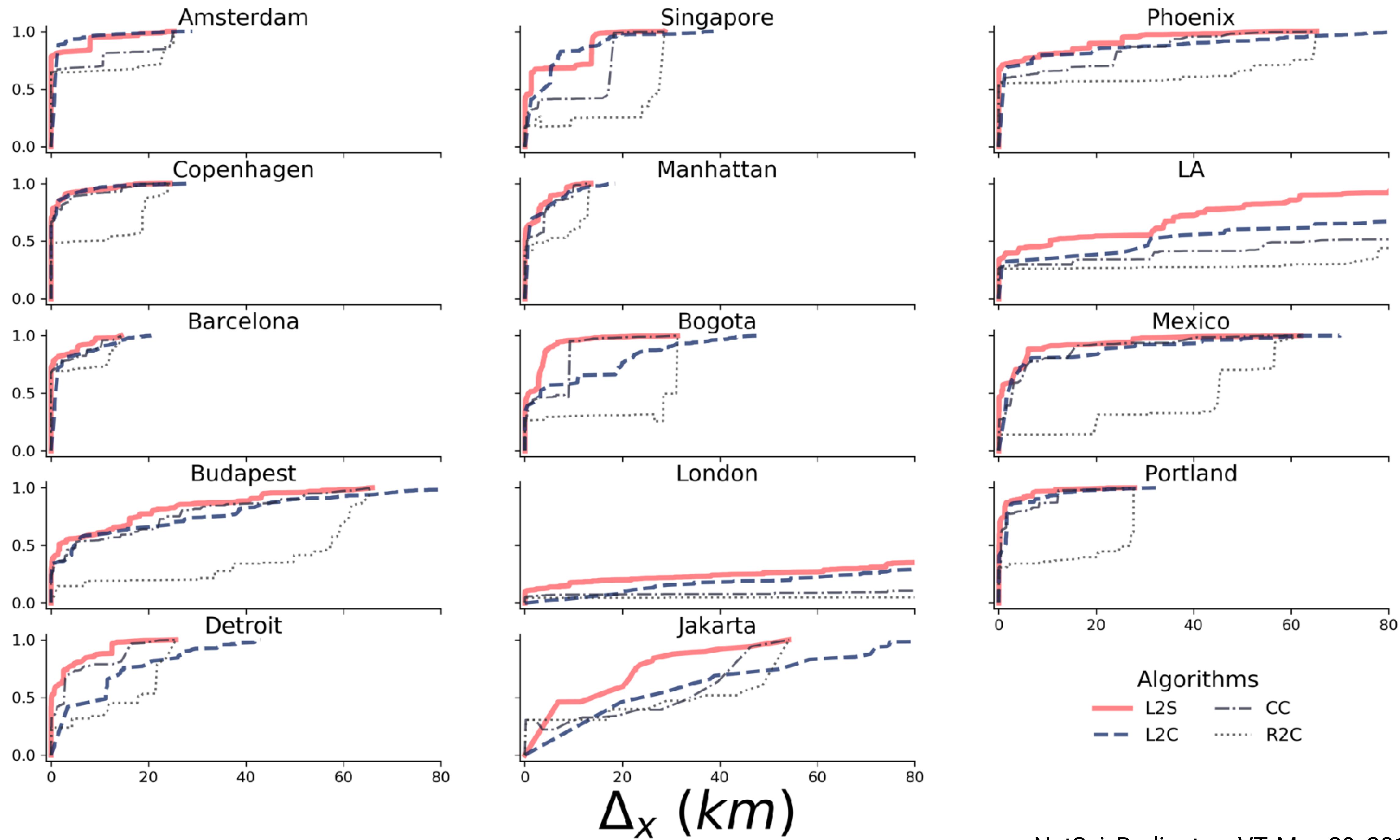


KM Increase per invested Δ_x



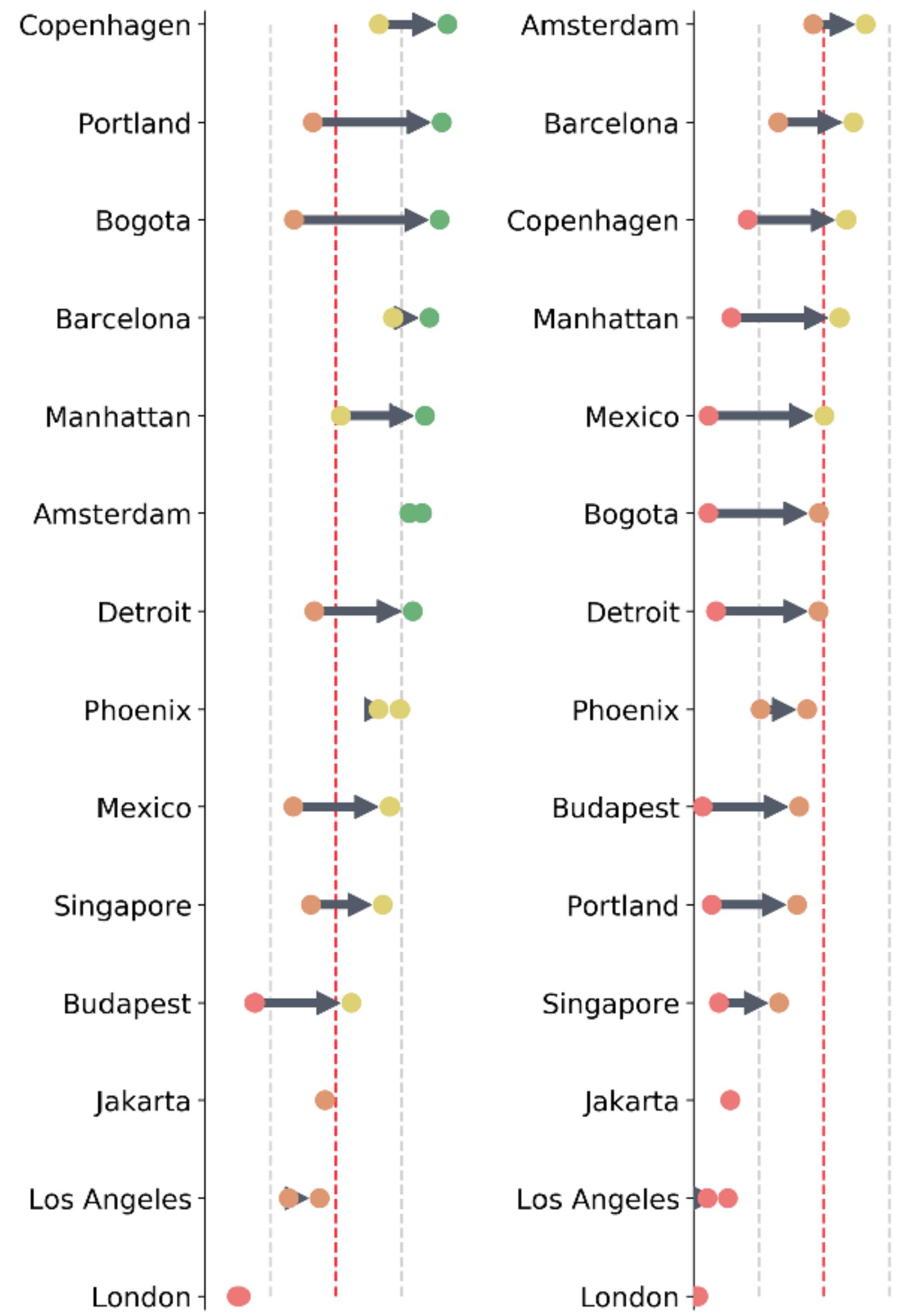


Fraction of L_{LCC}

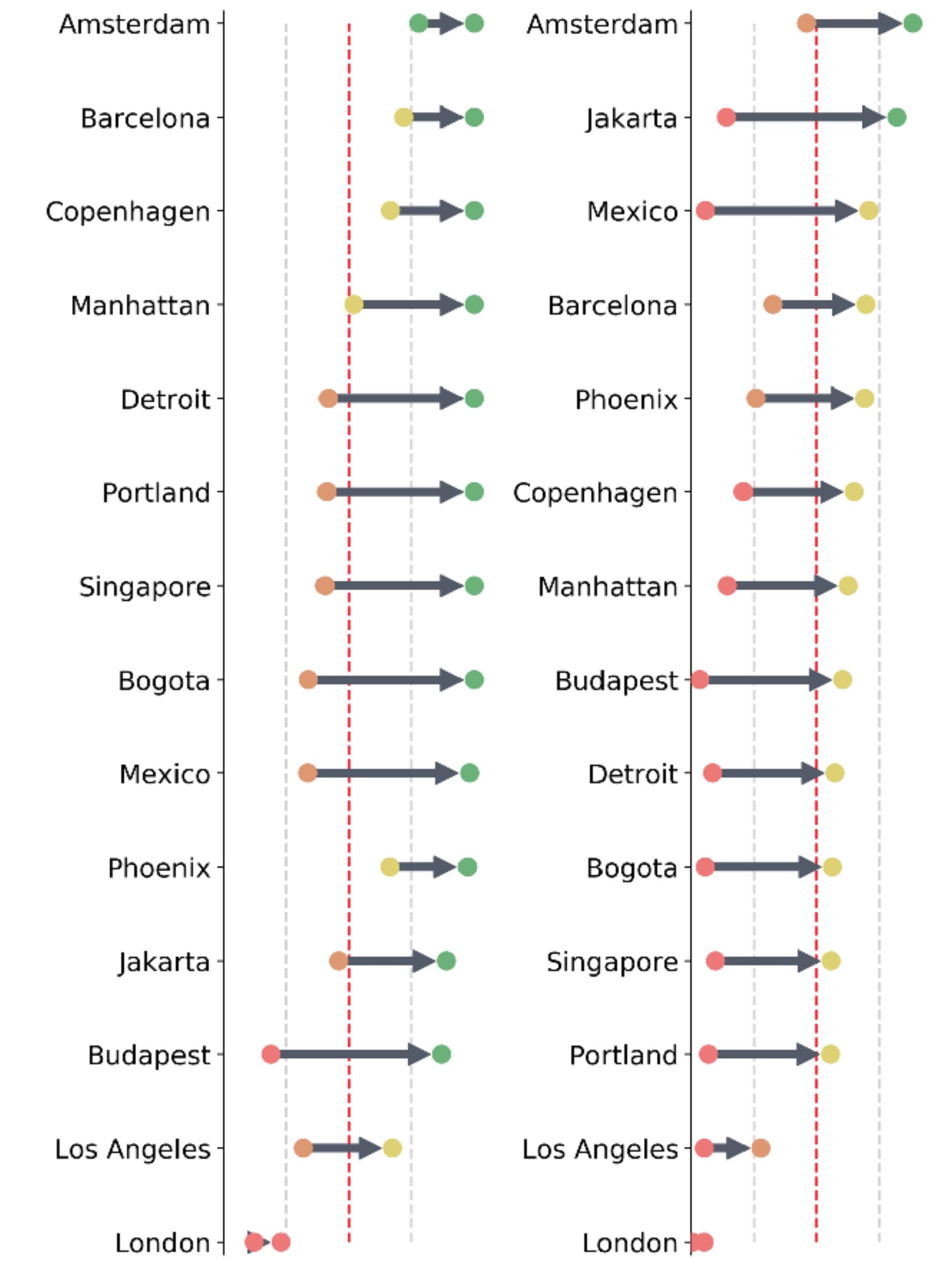


cities_improvement

5km investment



35km investment



take_away

urban_fingerprints

fragmented_infrastructure

small_focalized_investment

budget_dependance

every_city_improvable

thank_you

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