Isoscope: Mapping *the* Dynamics *of* Mobility

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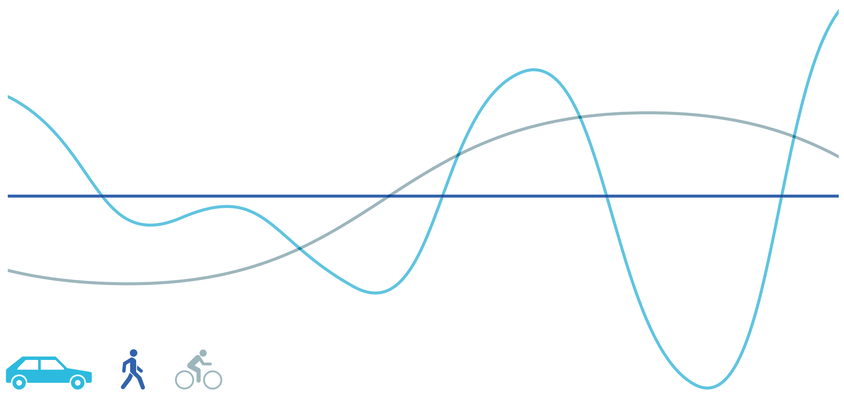
in partnership with
HERE, a Nokia Business

1. Motivation

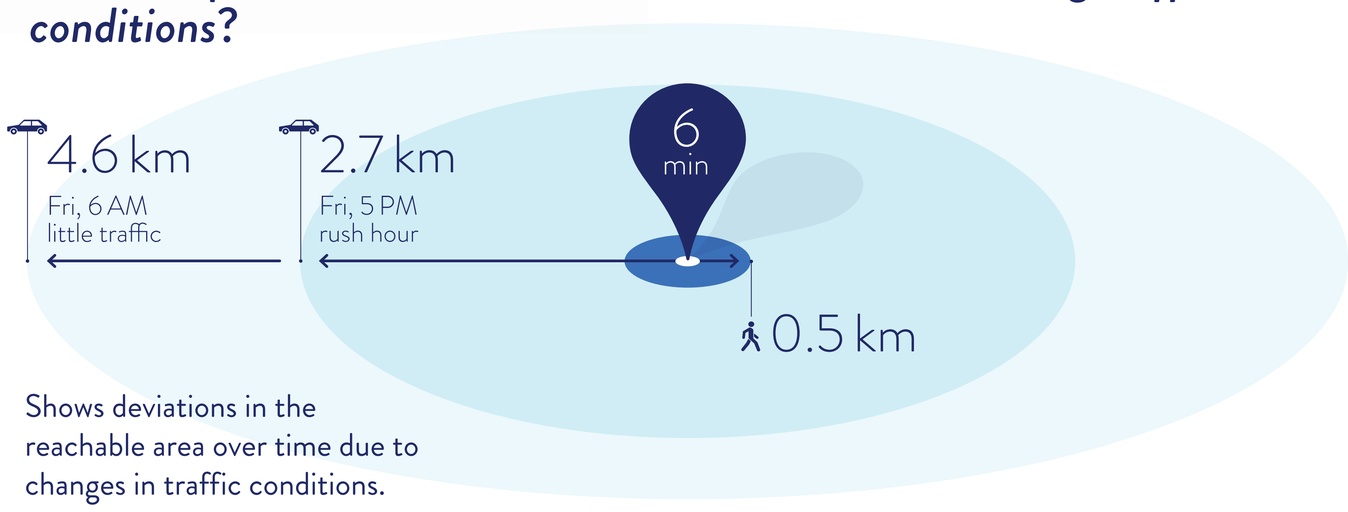
Traffic jams and other temporary hold-ups affect our personal mobility depending on the chosen means of transport.



→ How do those restrictions impact our journeys through the city? In what way do cities differ here?

2. Temporal variance in mobility

"Isoscope" is all about: *how far* do I get from a specific *location*, within a specific *travel time*, at various *dates* considering *traffic conditions*?



→ Shows deviations in the reachable area over time due to changes in traffic conditions.

→ Allows for exploration and comparisons within and among locations.

3. Prototype: www.flaviogortana.com/isoscope

Explore your own city now!

Global location search*

Main map*†

→ Grayscale to reduce visual complexity.

Date/Time & traveltime selector

→ Hovering over time highlights corresponding isoline.

→ Changing day or traveltime updates Isoscope shape.

24 layered isochrone shapes‡

→ Isolines[4] linearly connect points (here: crossroads) having the same travel time from a specified location.

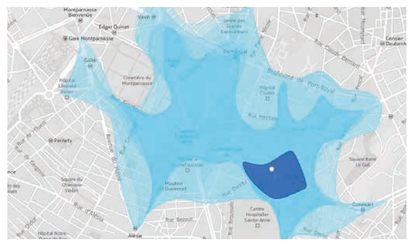
→ Travel ranges calculated by HERE Traffic API considering global traffic data.

→ Organic shape to imply vagueness of displayed info.

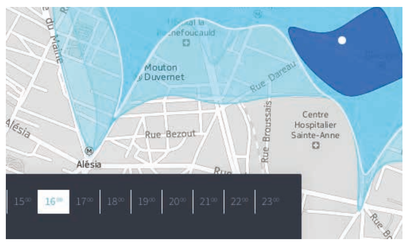
→ Translucence to assure legibility of map.

* uses the HERE Maps API[1] for Javascript — † uses the Leaflet[2] library; map tiles by HERE — ‡ uses the visualization framework d3[3]

4. Walkthrough



1. Click on a specific location. Multiple isochrone shapes are displayed based on the settings on the control panel.



2. Hover over the timeline to highlight single shapes. Adjust parameters in the settings to compare scopes between days.

3. Select additional locations to compare isoschrone shapes of multiple places side by side or start all over again.

5. Conclusion

"Isoscope" is a web-based tool to display time-varying mobility data with the help of layered isochrone maps.

→ A fun and aesthetically pleasing way to explore various metropolitan areas.

→ Scope variance provides insights into physical structure of cities.

→ Integration of missing modes of transportation (bike, public transport) would be valuable for a holistic representation of mobility.

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The authors wish to thank Ekkehard Petzold, and all students from the Urban Mobility class 2013/2014 for their feedback.