



## We support place-based research with state-of-the-art GIS analyses

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Our team has skills and experience in supporting research projects with digital surveys and GIS-based calculations. We have conducted research in the domains of urban and regional geography, transportation research, mobilities, urban planning, public health, environmental psychology, ecological economics, sustainability science, participatory mapping, and public participation GIS (PPGIS).

### Among the research methods that we excel at are:

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#### Geo-questionnaire

We have developed an online survey method with mapping capabilities, called geo-questionnaire or softGIS survey (Czepkiewicz et al. 2018a). We have used it to study travel patterns (Czepkiewicz et al., 2018b), elicit values attributed to green spaces (Pietrzyk-Kaszyńska et al., 2017), and support public participation in urban planning (Jankowski et al. 2016).



#### Green space accessibility and evaluation

We measure neighborhood greenness, using land-use maps, topographic maps, and remote sensing data (e.g., NDVI). We estimate access to green areas using gravity-type or cumulative-opportunity models, which take into account walking distances and destination attractiveness.



#### Accessibility and walkability

We calculate a varied set of measures, including pedestrian accessibility of services, street design characteristics, population density, and transit accessibility (Czepkiewicz et al., 2018c). We use well-established frameworks, such as the 5D model (Ewing and Cervero, 2010), and our methodologies to quantify built environment characteristics that potentially influence travel behavior, health, and wellbeing of urban dwellers.



#### Network distance calculations

We support transportation research with measures of distances on the street network between given sets of points, such as home to city centers, home to work, etc. We supplement the calculations with travel time estimation.



#### Travel behavior measures

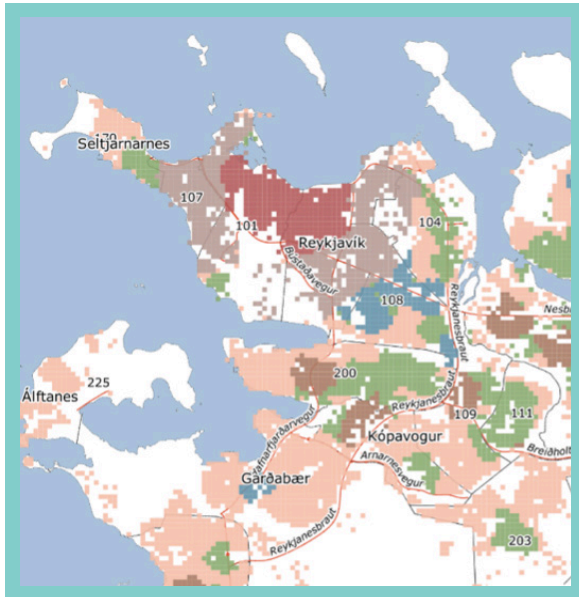
we calculate an extensive set of measures that summarize individuals' or households' travel patterns over a given time frame, based on geo-questionnaire data and more traditional data sets such as travel diaries. Among the measures are mode shares, vehicle kilometers traveled, modality styles (Czepkiewicz et al. 2019), or characteristics of activity spaces (Hasanzadeh et al., 2019).



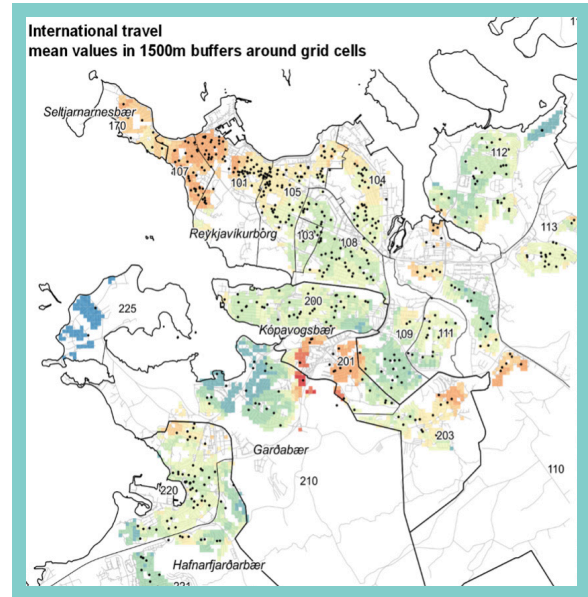
#### Greenhouse gas (GHG) emissions and climate impact estimation

Using geo-questionnaire data and state-of-the-art emission coefficients, we estimate GHG emissions related to travel behavior (Czepkiewicz et al. 2018b, 2019).

## EXAMPLES



Travel-related urban zones of the Reykjavik Capital Region (Czepkiewicz et al., 2018c).



Local averages of GHG emissions from international travel calculated in 1500 m circles around population grid cells (Czepkiewicz et al. 2019).

We are committed to providing measures of high quality and academic merit. We have participated in multiple international and multidisciplinary research projects. We can support research at all stages, from conceptualization and grant application to journal publication.

## References

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