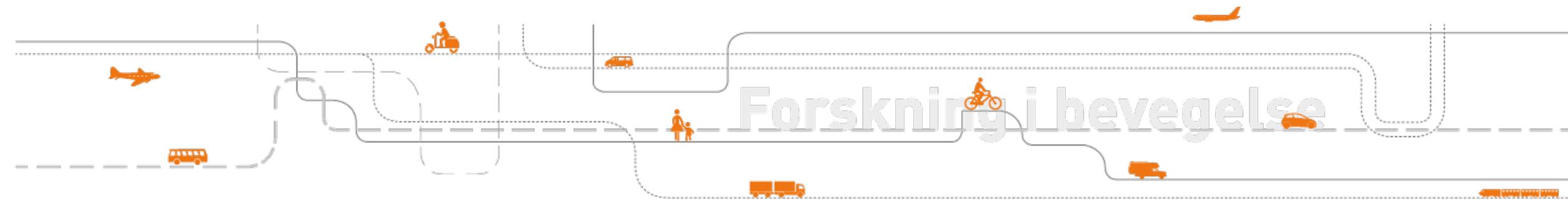


Spatial context and travel behavior in small cities

Kollektivforums årskonferanse, Oslo, 10. mars 2020

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PhD By- og regionplanlegging, forsker



Why focus on spatial context and city size?

- The causal relationship between built-environment and travel behavior is contingent on context (spatial scale and context)
 - *Density is important but the geographic scale at which it occurs is a necessary condition*
- A certain minimum population base is required for:
 - *Diversity in land-uses*
 - *Efficient transit provision*
- Regional context
 - *Satellite cities*
 - *Regional centers*

What was investigated?

- Objective:

- *Explore the influence of built environment at neighborhood, local and regional scale on travel behavior.*

- Built environment factors investigated:

- *Neighborhood level built environment factors*
- *Residential distance from city center*
- *Effect of regional spatial context (satellite vs independent regional center)*

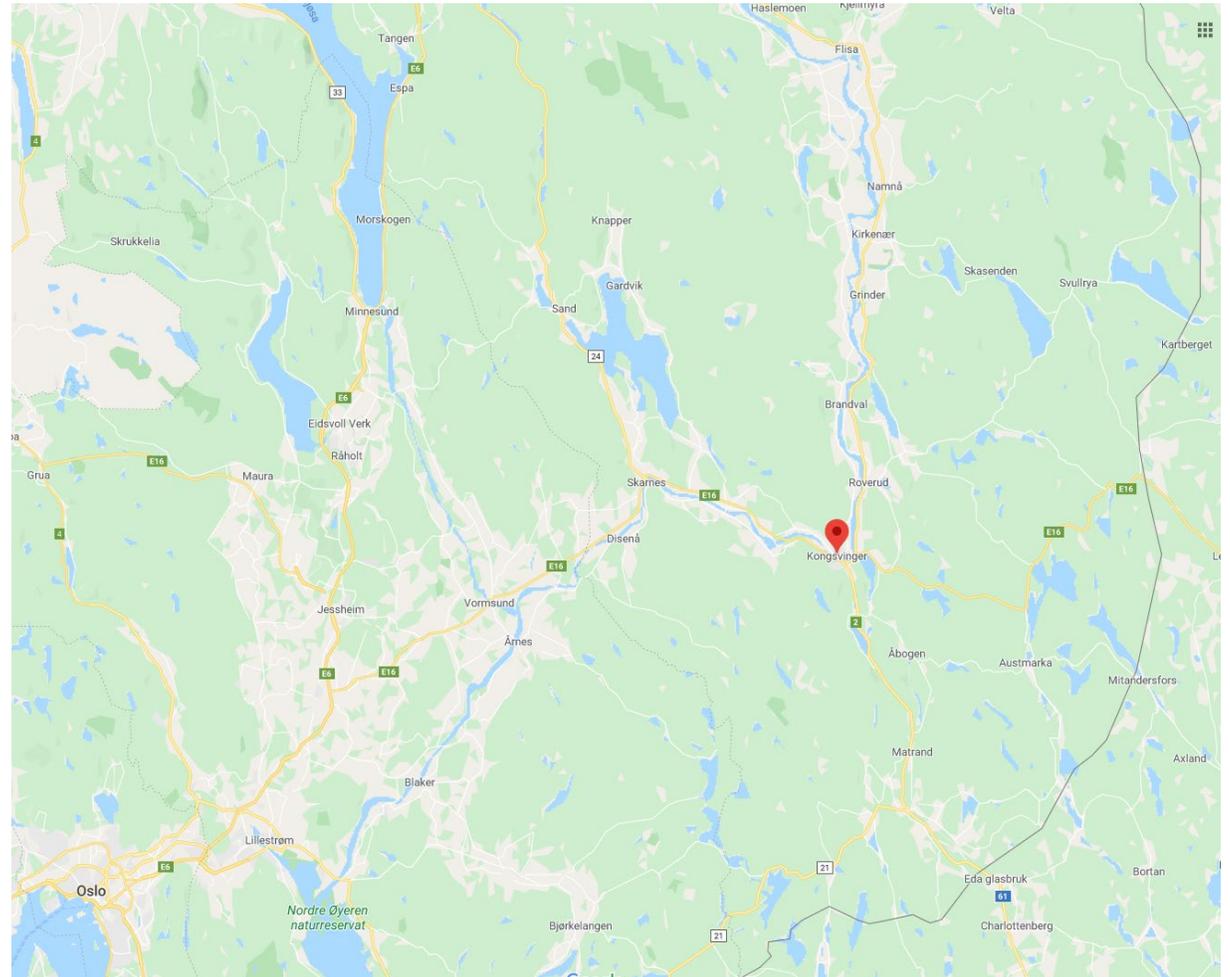
Survey and case cities

- Web based survey from three small cities:
 - *Kongsvinger*
 - *Jessheim*
 - *Drøbak*
- Selection criteria: city-center hierarchy, transport infrastructure & regional context

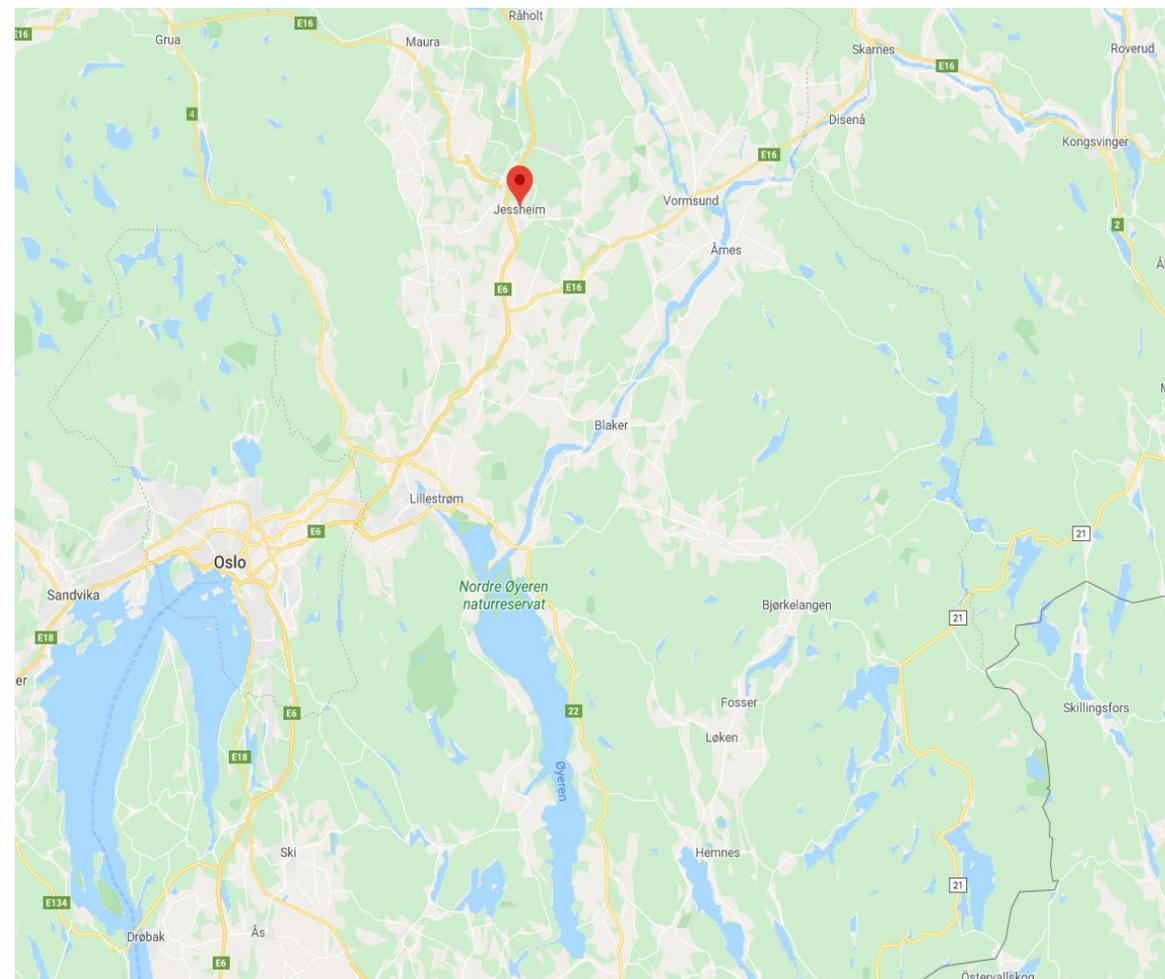
City characteristics

City	Population	Regional center hierarchy	City center structure	Connection to Oslo
Kongsvinger	12000	Regional center	Single centered	Road & rail
Jessheim	16600	Satellite	Single centered	Road & rail
Drøbak	13400	Satellite	Dual centered	Road

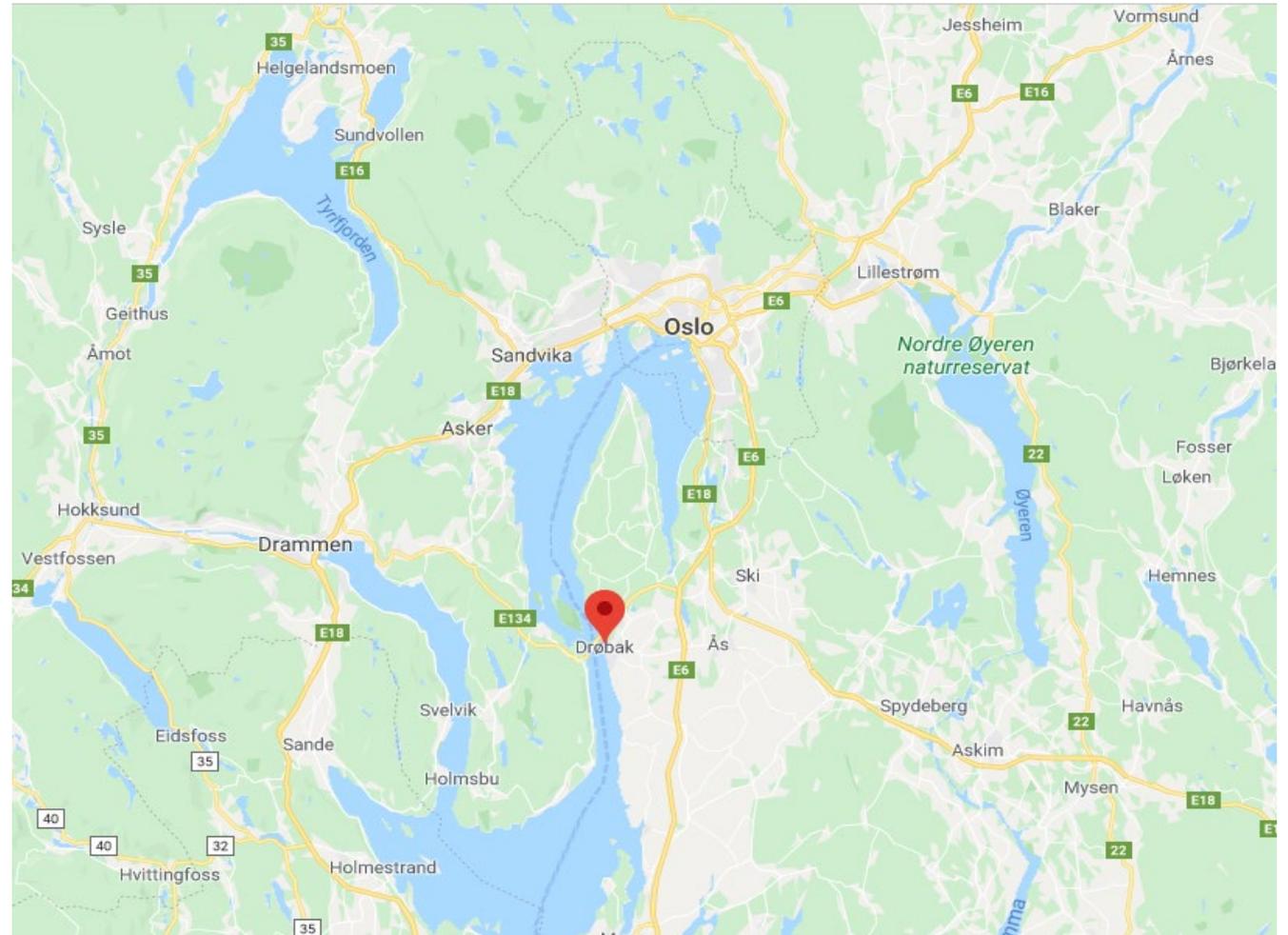
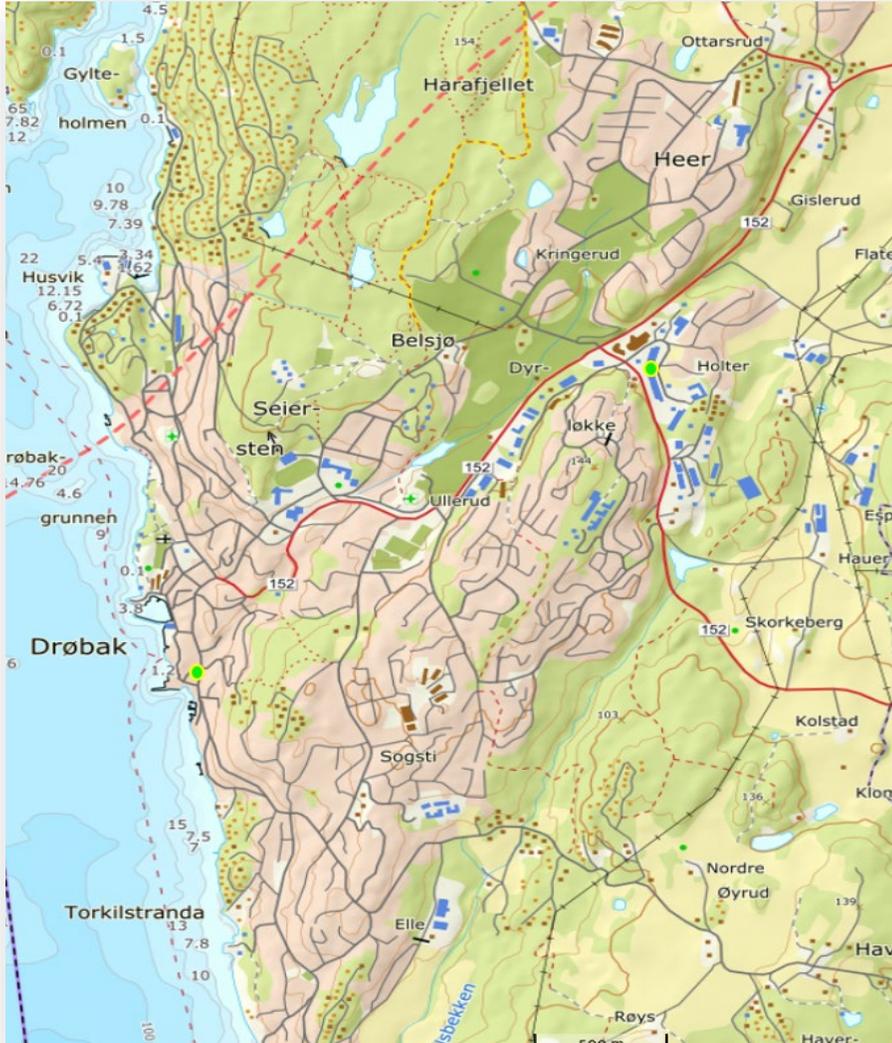
Kongsvinger



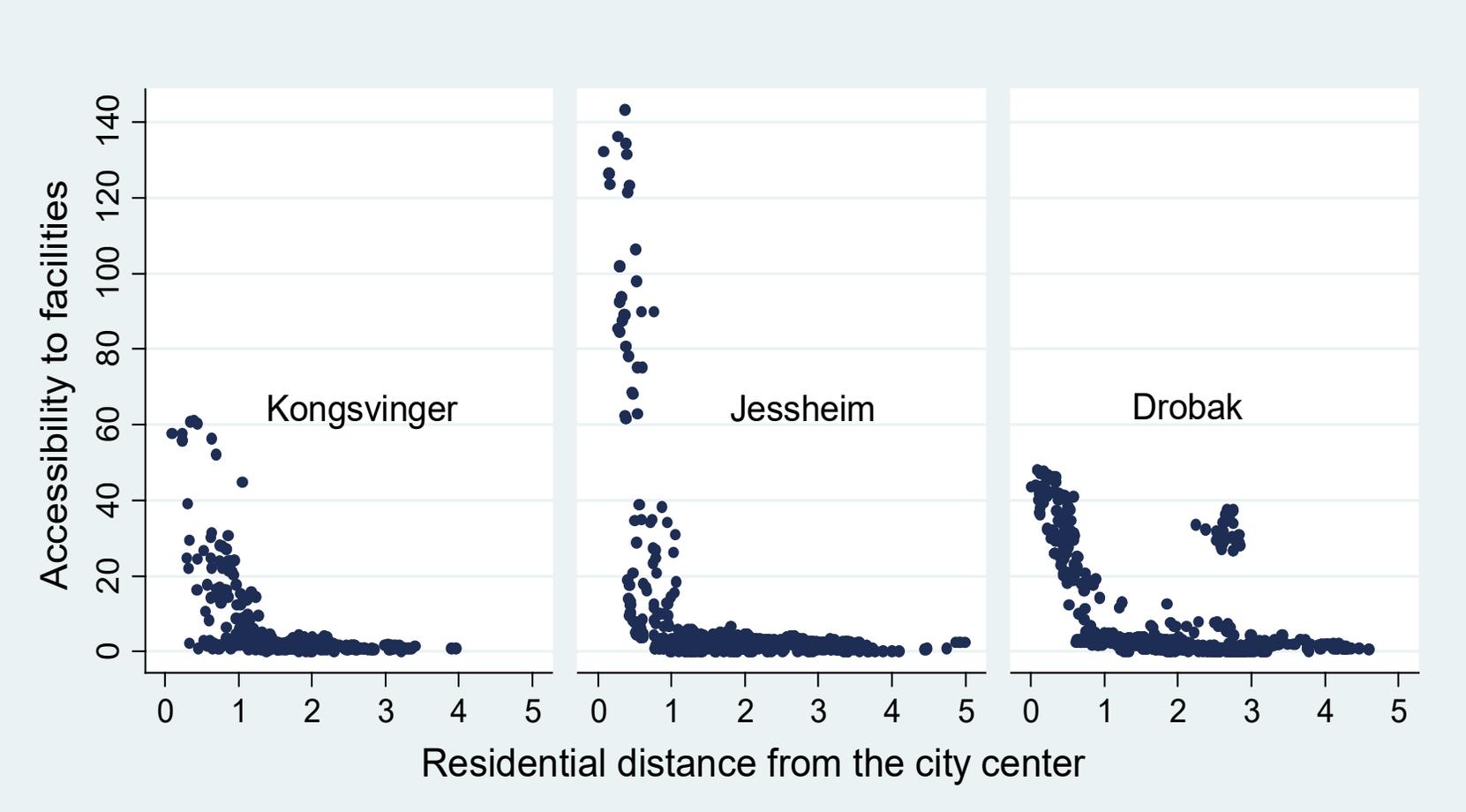
Jessheim



Drøbak



City center structure and the distribution of facilities

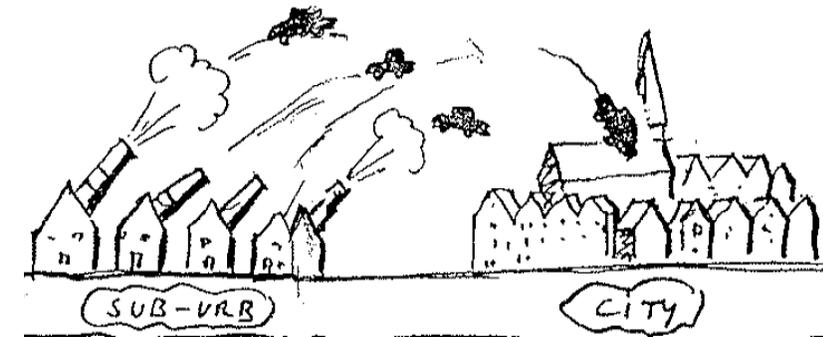


To recap...

- Explore the influence of built environment at neighborhood, local and regional scale on car driving distance
 - *How do built environment factors relate to travel behavior (car driving distance) in small city context?*
 - *What are the local vs regional dimensions to this relationship?*

Research findings

- Neighborhood scale built environment has little effect on car driving distance
- No significant influence of variation in city-center structures on car driving distance
- The effect of residential distance from the city center on car driving distance depends on regional context
 - *For a small city that functions as a regional center, residential proximity to the city center reduces driving distance*
 - *For a satellite city, the influence of distance from the city center on driving distance is weaker and likely mediated by transit commutes*



Result summary

- Effect of residential distance from the city center on total car driving distance

	Kongsvinger	Jessheim	Drøbak
Residential distance from the city center	0.265	0.170	insig.
<i>Residential distance from the city center*</i>	<i>0.283</i>	<i>insig.</i>	<i>insig.</i>

Recommendations

- Reducing car driving distance originating from a small city may require a combination of policy options at the local scale and regional scale.
 - *For local car travel, reducing the average distance from the city center would reduce car driving distance (at least for non-satellite cities).*
 - *At the regional scale, efficient transit with high average accessibility (with a station at the center of the city) would also reduce car driving distance.*

Thank you