EVS 38

38th International Electric Vehicle Symposium & Exhibition

15 to 18 june 2025 - Gothenburg, Sweden

The geography of BEV's in Sweden

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Gothenburg, Sweden, 2025

A knowledge agency for transport policy

TRANSPORT ANALYSIS

- Agency under the Ministry of Rural Affairs and Infrastructure
- Our point of departure is the transport policy goal of a transport supply that is sustainable in the long term and efficient in terms of national economics

Official Statistics of Sweden

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The geography of BEV's Spatial patterns of Ownership, registration and charging access

- Introduction
- Growth of EV's
- New Registrations
- Income
- Household types
- Accessibility to Charging
- Summary & Conclusion

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Why geography matters in the EV transition

- Geographic methods offer powerful tools for analysing spatial correlations between electric vehicle (EV) ownership and a range of socioeconomic and infrastructural factors. These include income levels, housing types, and access to public charging infrastructure, as well as proximity to essential services and public transport.
- By integrating geospatial data, researchers can uncover spatial inequalities, identify patterns of accessibility and exclusion, and support evidence-based policymaking for a more equitable and sustainable transport transition.

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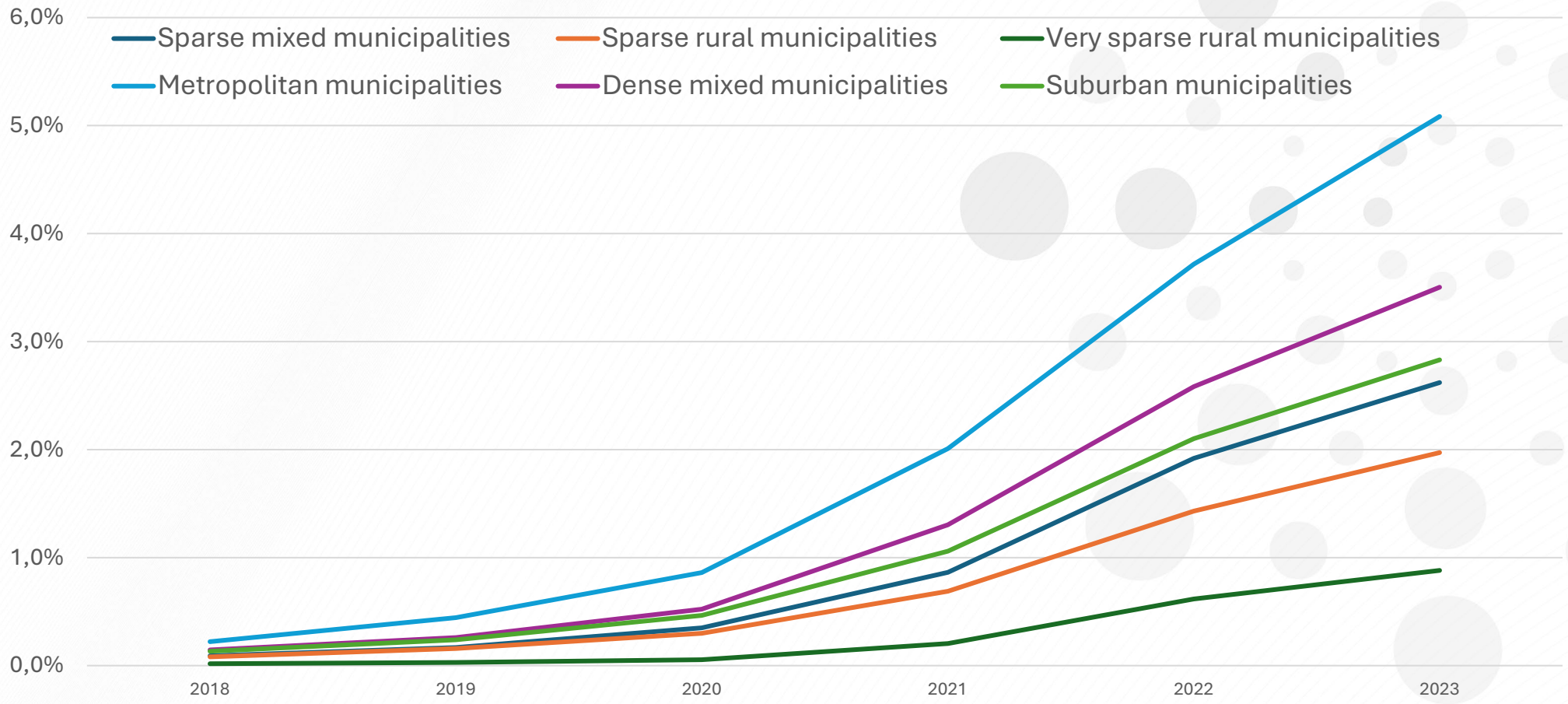
EV ownership by municipality type



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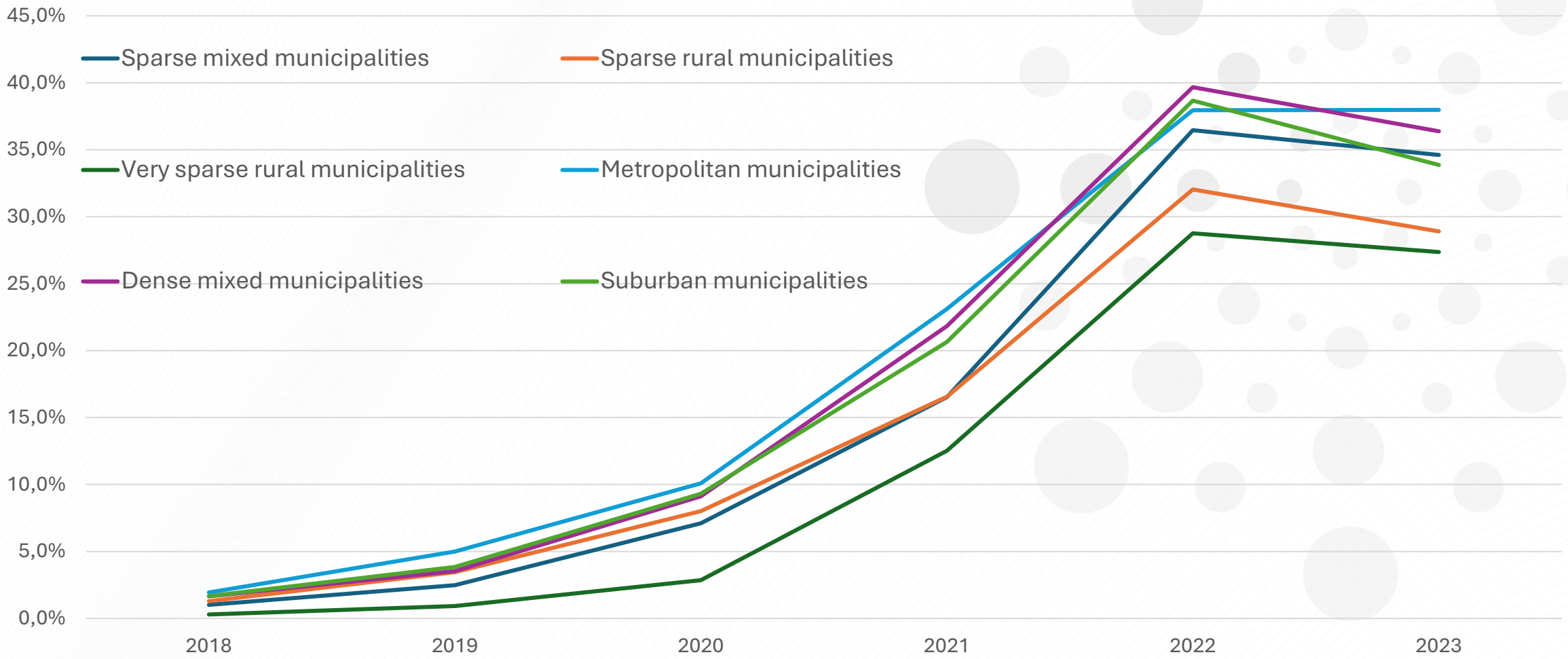
EV registration by municipality type



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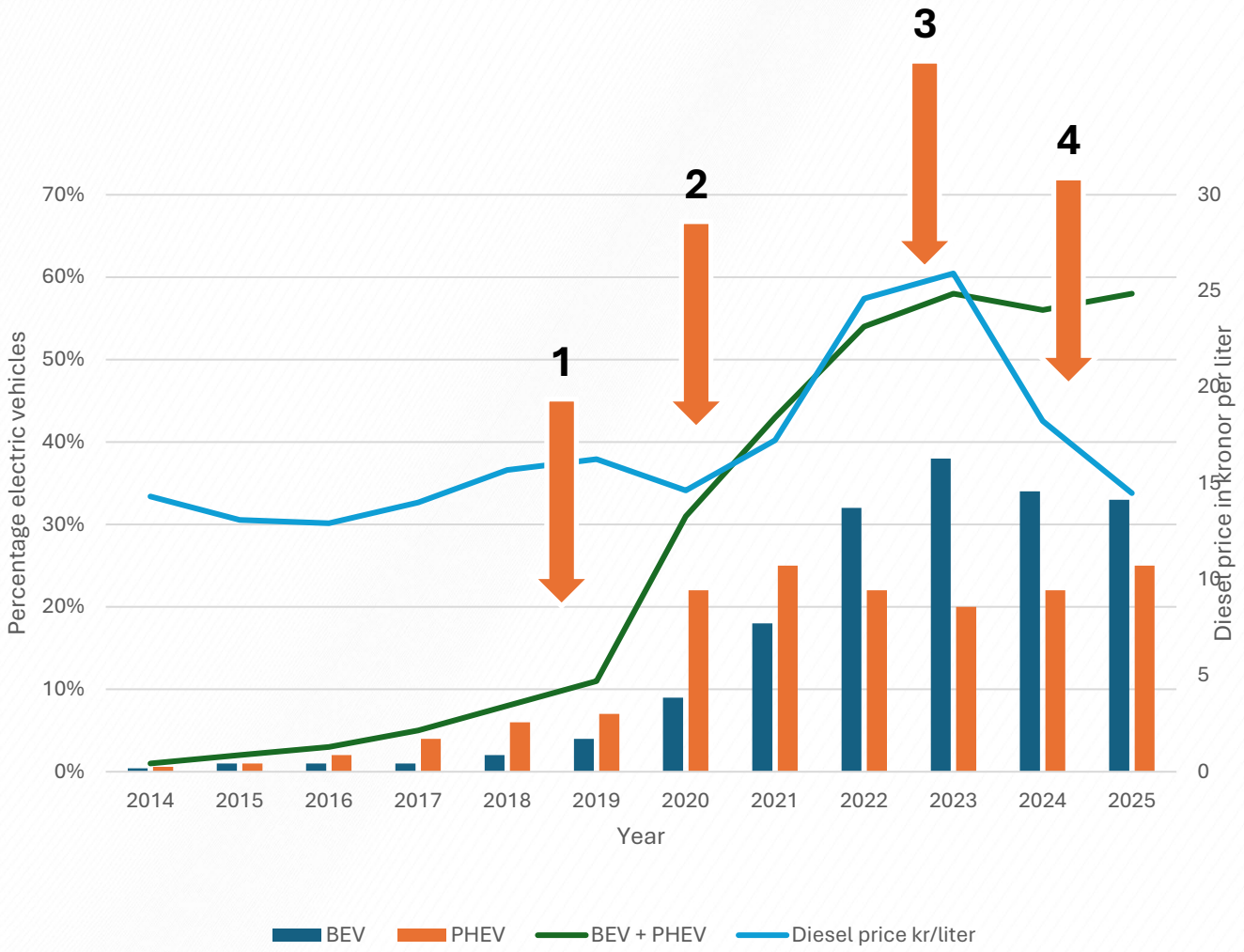
EV new registration



1. Introduction of bonus-malus system july 2018
   Climate bonus of up to SEK 60,000
2. Adjustments 2020-2022
   2020 maximum bonus for BEVs increased to 70,000
3. Abolishment november 2022
   Climate bonus was abolished with immediate effect.
4. Lowering the reduction obligation for biofuels to a minimum

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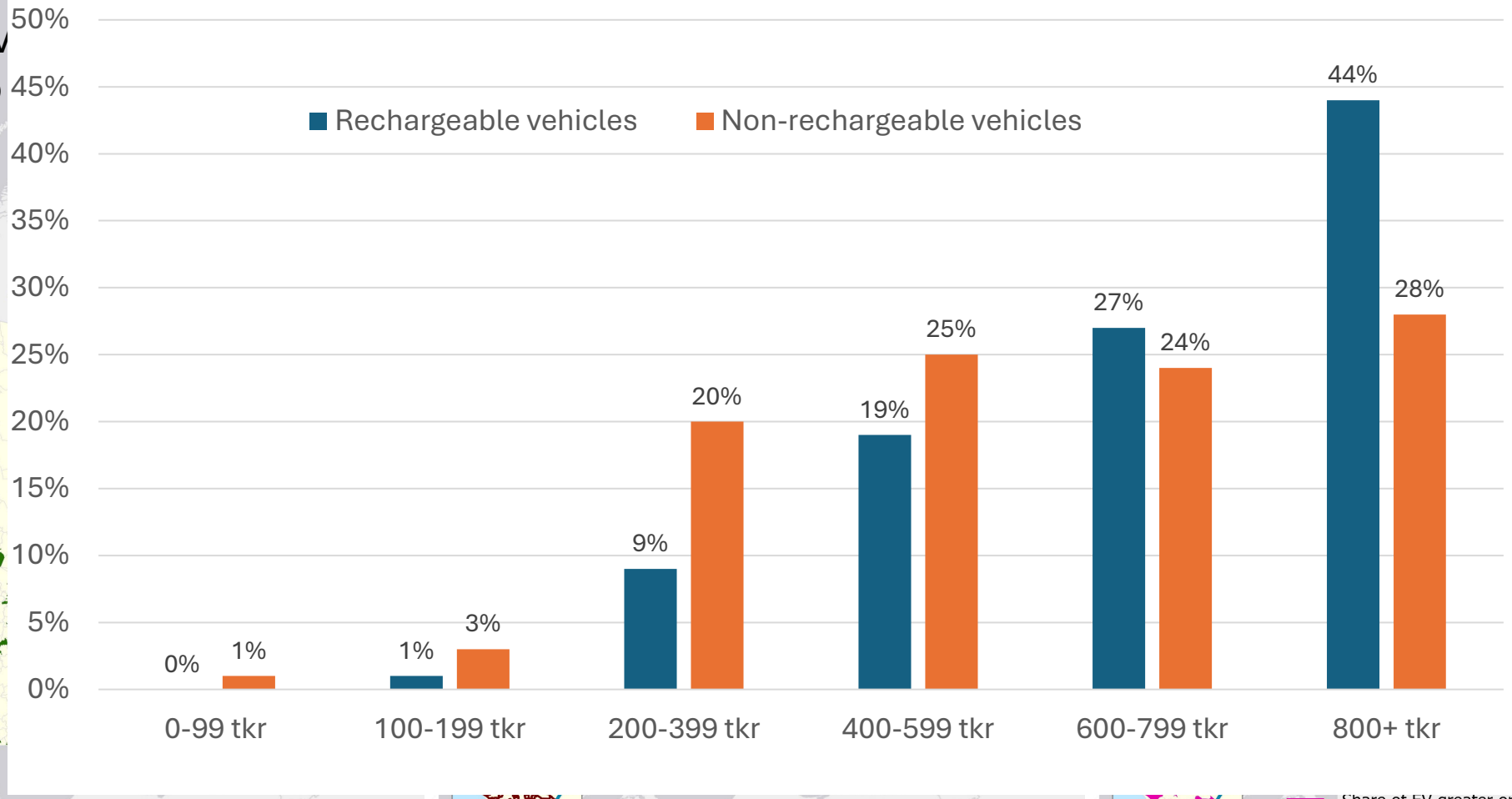
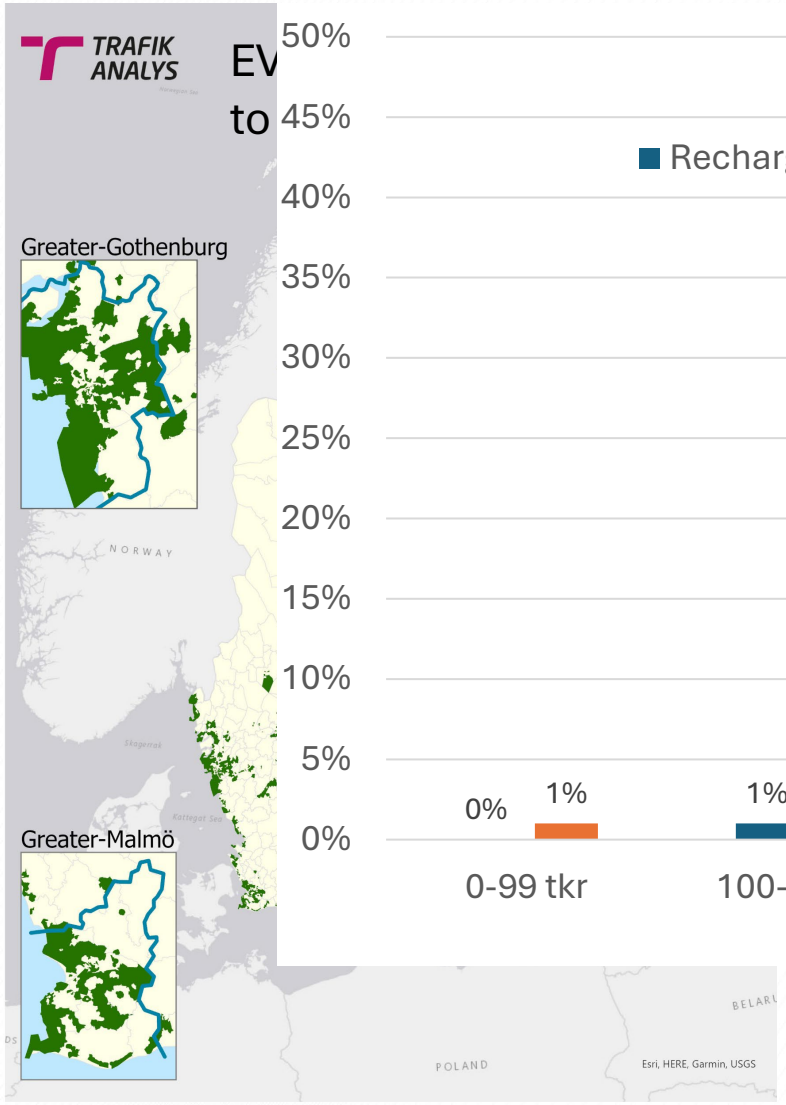
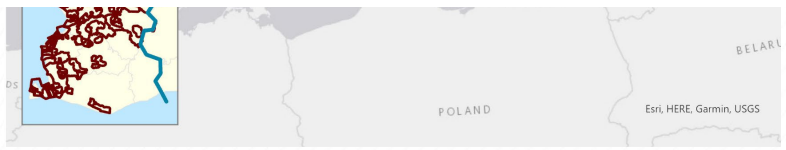
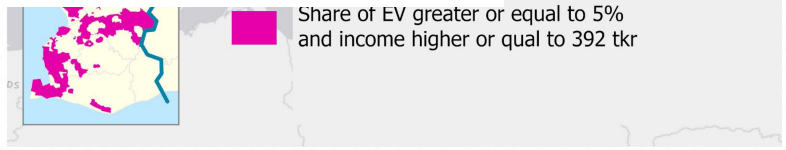
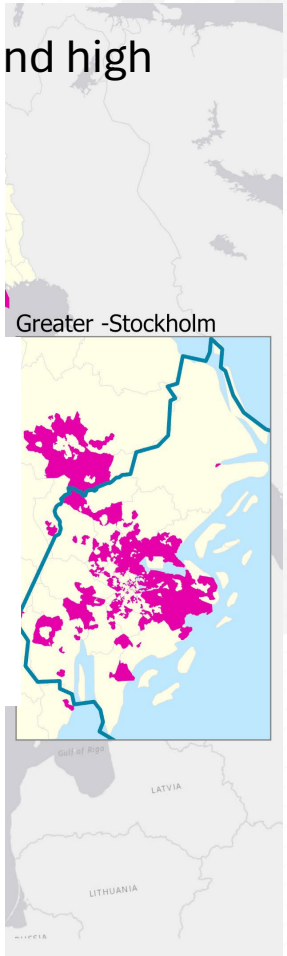
EV ownership and income











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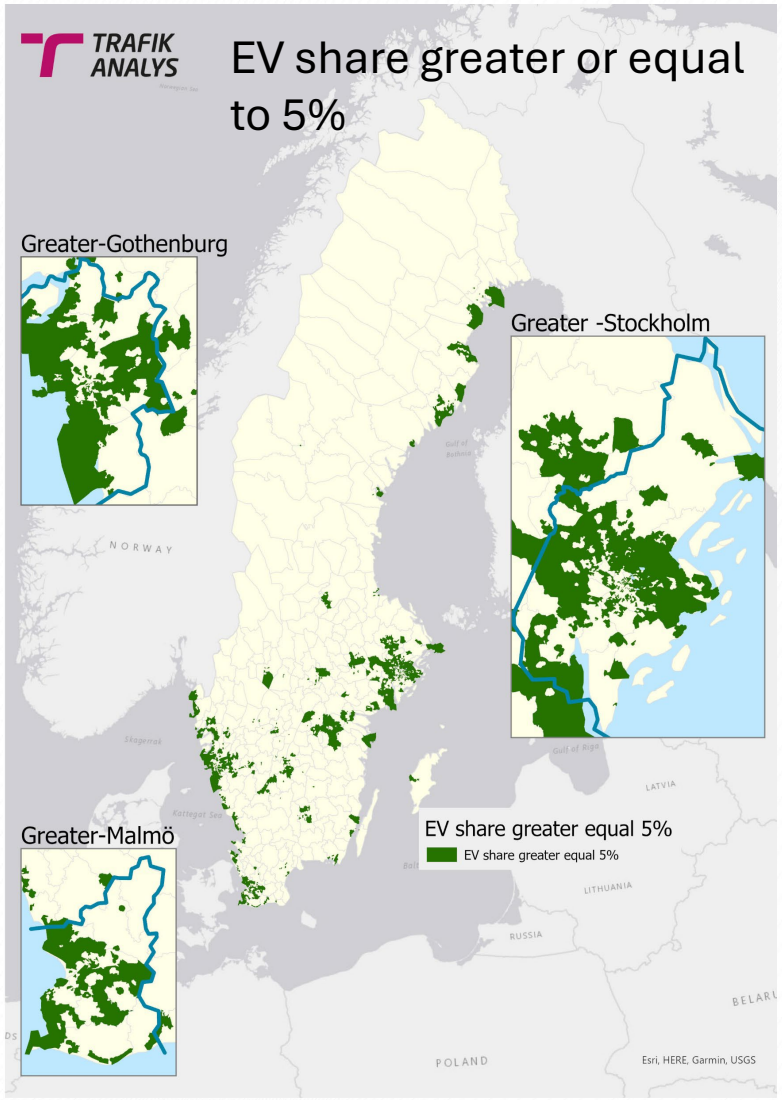
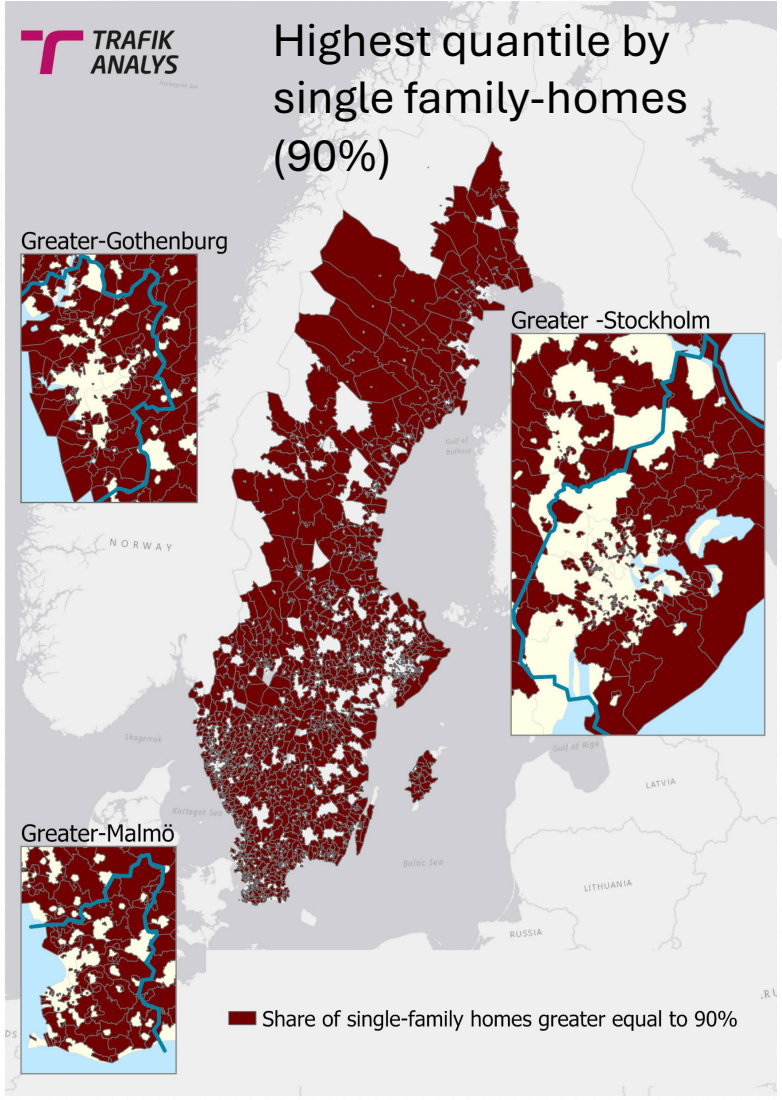
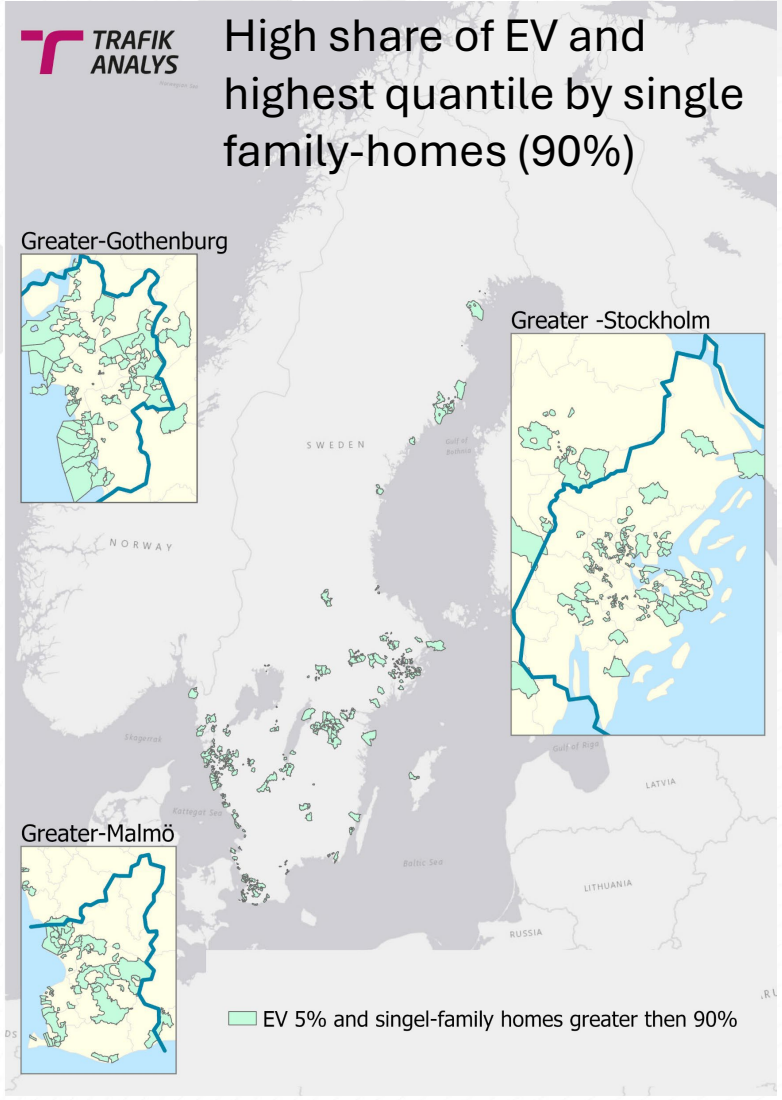
EV ownership and type of housing







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EV ownership and type of housing

TRAFIK ANALYS

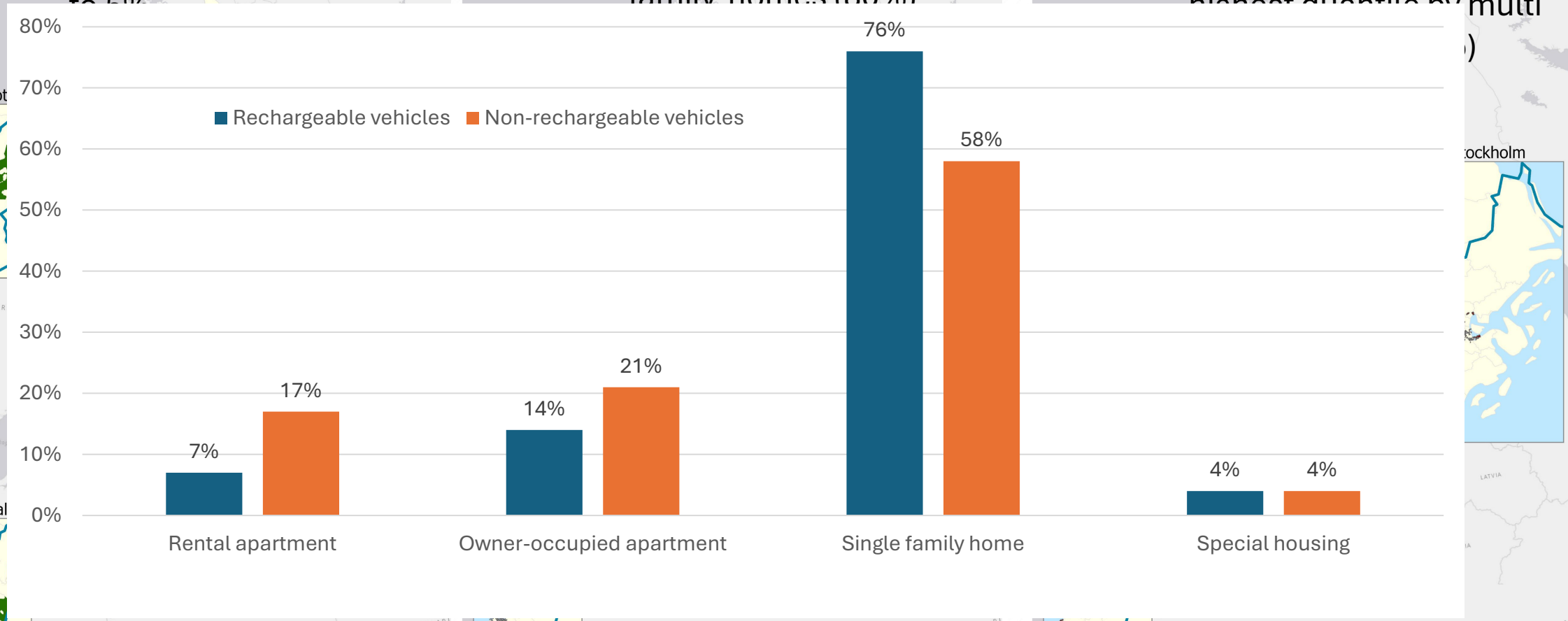
EV share greater or equal to 5%

TRAFIK ANALYS

Highest quantile by multi-family-homes (80%)

TRAFIK ANALYS

High share of EV and highest quantile by multi



Greater-Got

Greater-Mal

Share of multi-family houses greater equal to 80%

EV 5% and multi-family homes greater equal to 80%

Esri, HERE, Garmin, USGS

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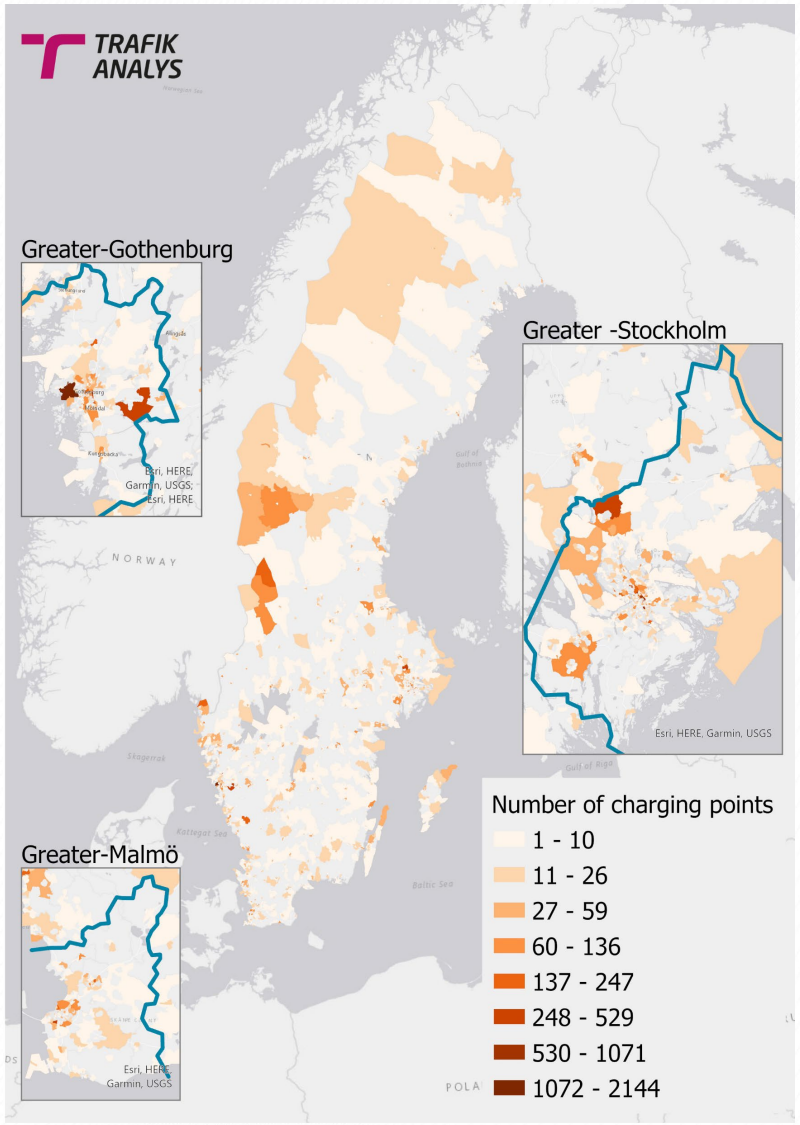
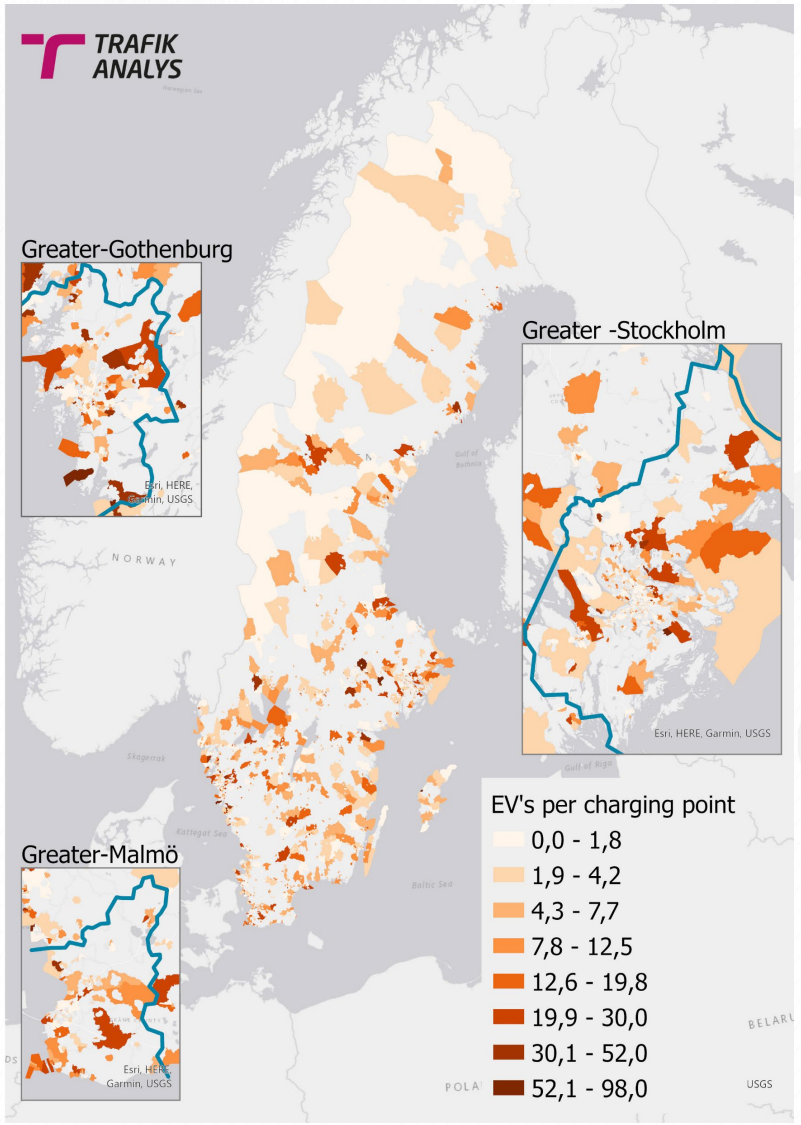
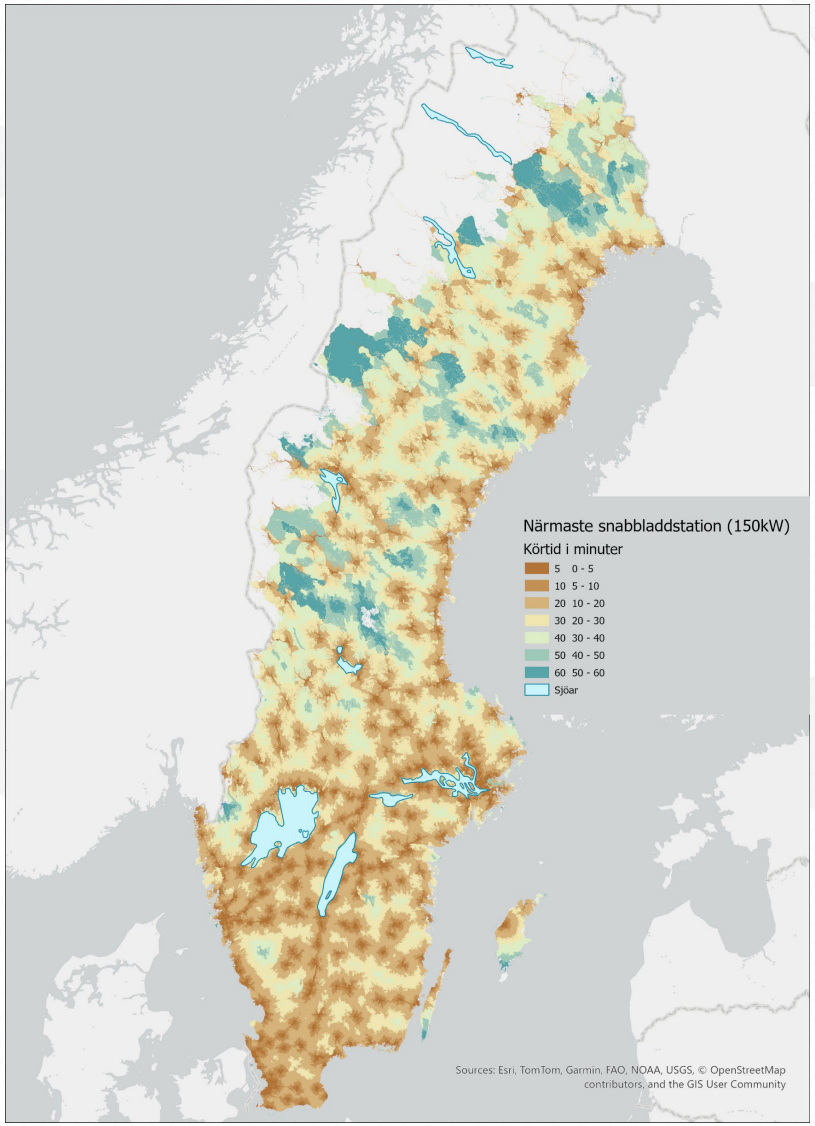
Public charging by DeSO







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Accessibilty to nearest charging station

TRAFIK ANALYS

Walking time to nearest charging station (average by DeSO)

Greater-Gothenburg

Greater -Stockholm

Greater-Malmö

63% of population live within 20 min of nearest charging station

Nearest charging station by fot
- 0 - 3
- 4 - 5
- 6 - 10
- 11 - 15
- 16 - 20
- 21 - 25
- 26 - 30
- 31 - 586

TRAFIK ANALYS

Concentration of EV's (more the 5%) walking distance, income and multi-family house

Greater-Gothenburg

Greater -Stockholm

Greater-Malmö

Within 20 min 50% multi-family homes min 371 tkr 5%EV

TRAFIK ANALYS

Max 20 min walking to nearest charging station and min 50% multi-family homes and income > 371tkr

Greater-Gothenburg

Greater -Stockholm

Greater-Malmö

Within 20 min 50% multi-family homes min 371 tkr

Conclusion

- Battery Electric Vehicles (BEVs) are present in all Swedish municipalities, although their concentration is significantly higher in urban and metropolitan areas.
- BEV ownership is more prevalent in areas dominated by single-family housing, likely due to better access to home charging facilities.
- Income level is a strong predictor of BEV adoption, with higher-income households showing markedly higher ownership rates.

Conclusion cont.

- In areas with a high proportion of multi-family housing, there is a positive correlation between the availability of public charging infrastructure and BEV uptake.
- The limited availability of fast-charging stations, particularly in northern Sweden, may act as a barrier to further BEV adoption in these regions.
- Policy instruments matter. However, accessibility to service, public transport and income should be taken into consideration when introducing financial incentives.