GLAINTELLIGENCE UNIT

Housing-led population modelling

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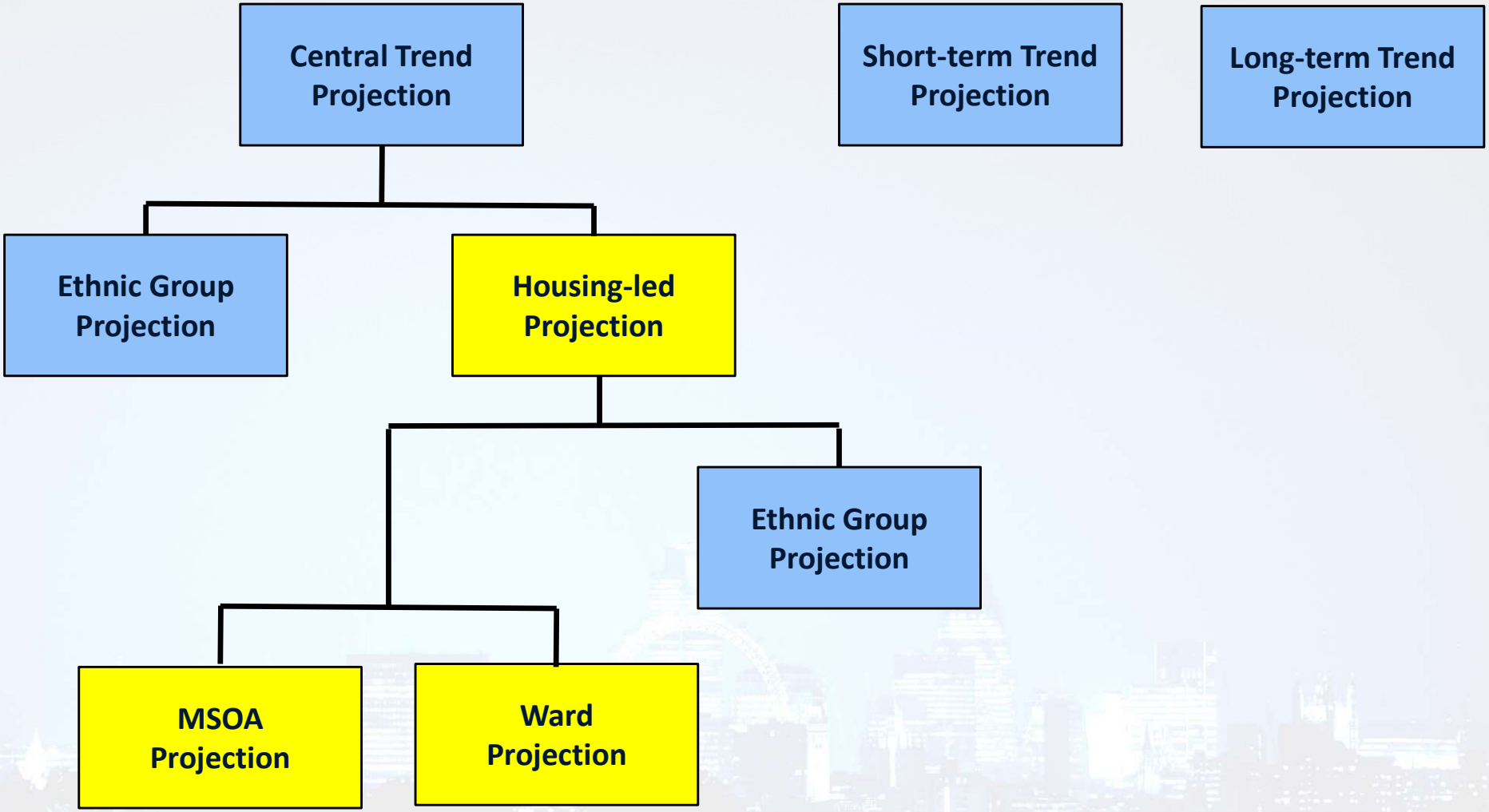
Greater London Authority

Overview

- GLA Modelling
- Housing-led methodology
- London projections
- National projections

GLA Modelling



Housing-led projections

- Redeveloped methodology in 2016
- Goals:
  - Attempting to provide a level of consistency across the range of projections
  - Added transparency of model and clarity of outputs
  - Incorporate strengths from trend projections

Methodology – calculate rates

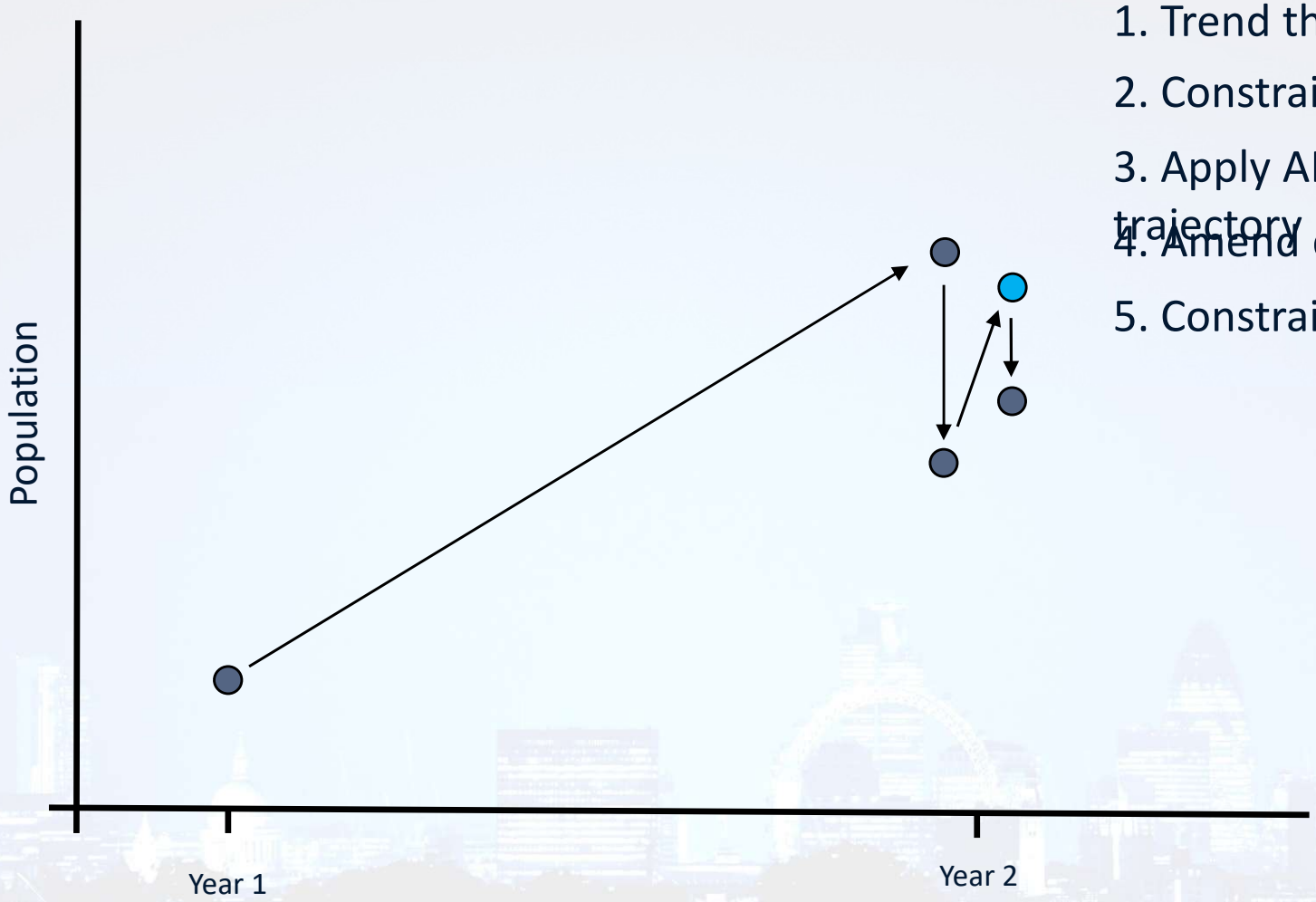
1. Run a trend-based projection for the entire projection period

2. Throw away the resulting borough populations

3. Keep the components and populations for the HMA

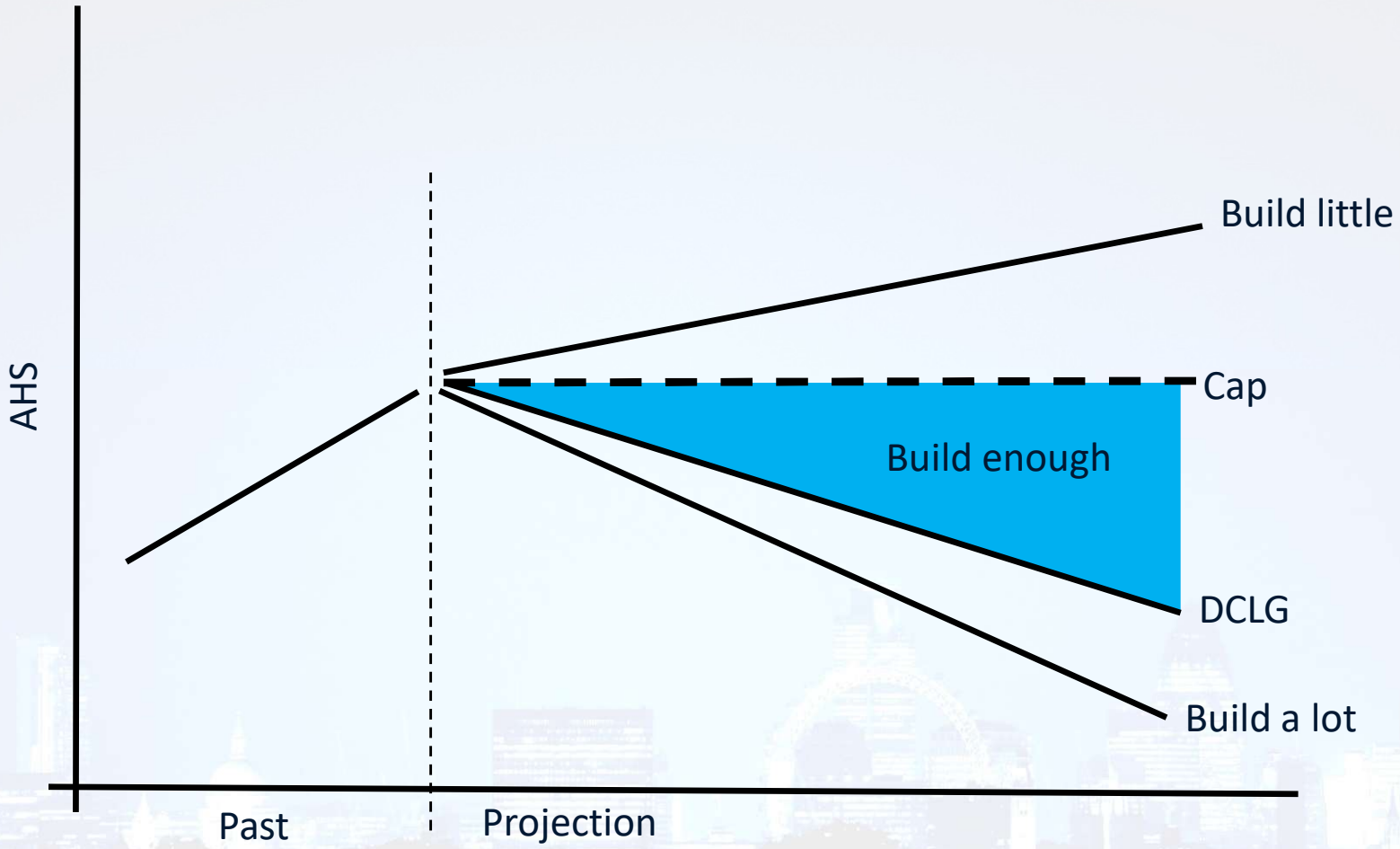
4. Keep the age/sex/year specific rates for components at borough level

Methodology – housing data



1. Trend the population forward
2. Constrain components to the HMA
3. Apply AHS to household trajectory
4. Amend domestic migration
5. Constrain total to the HMA

AHS Capped Method



Small Area model

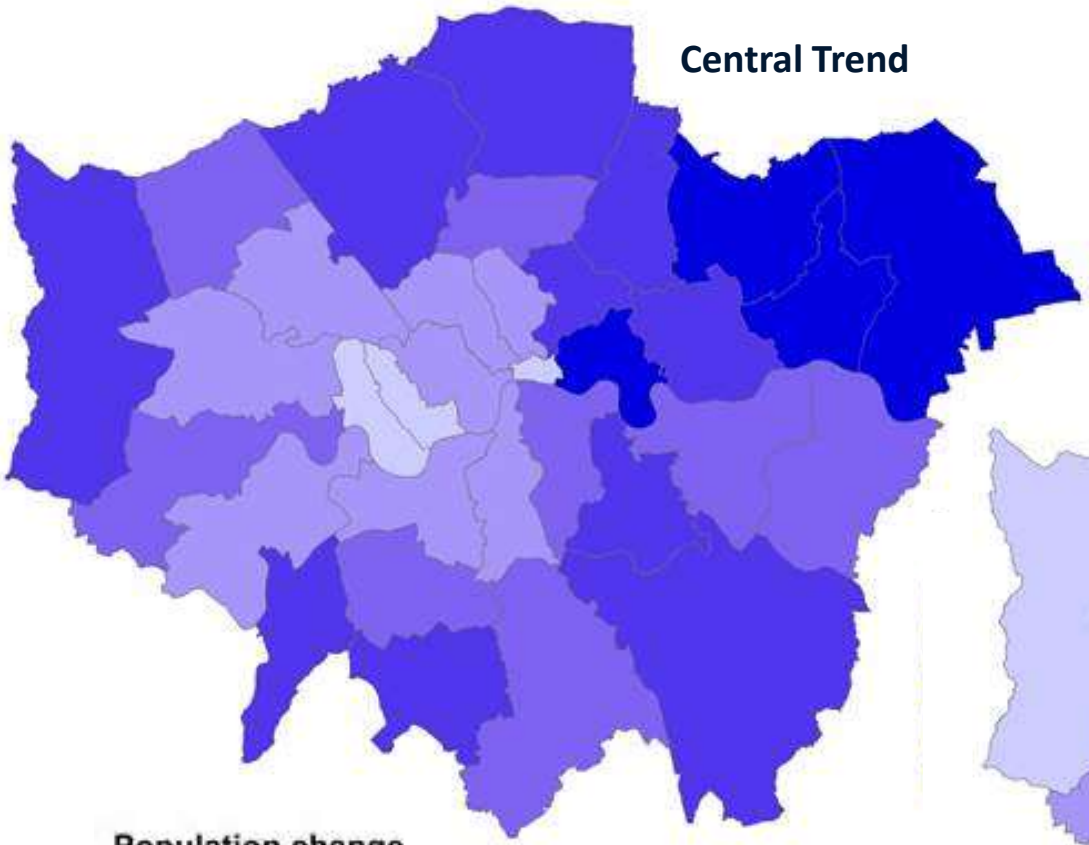
- Target adults (adults per dwelling * dwellings)
- Births (borough fertility rates * ward populations)
- Deaths (borough mortality rates * ward populations)
- Out-migration (census o-d & modelled probs from ONS district level data)
- In-migration
  - Volume: determined by target population
  - Characteristics: taken from census

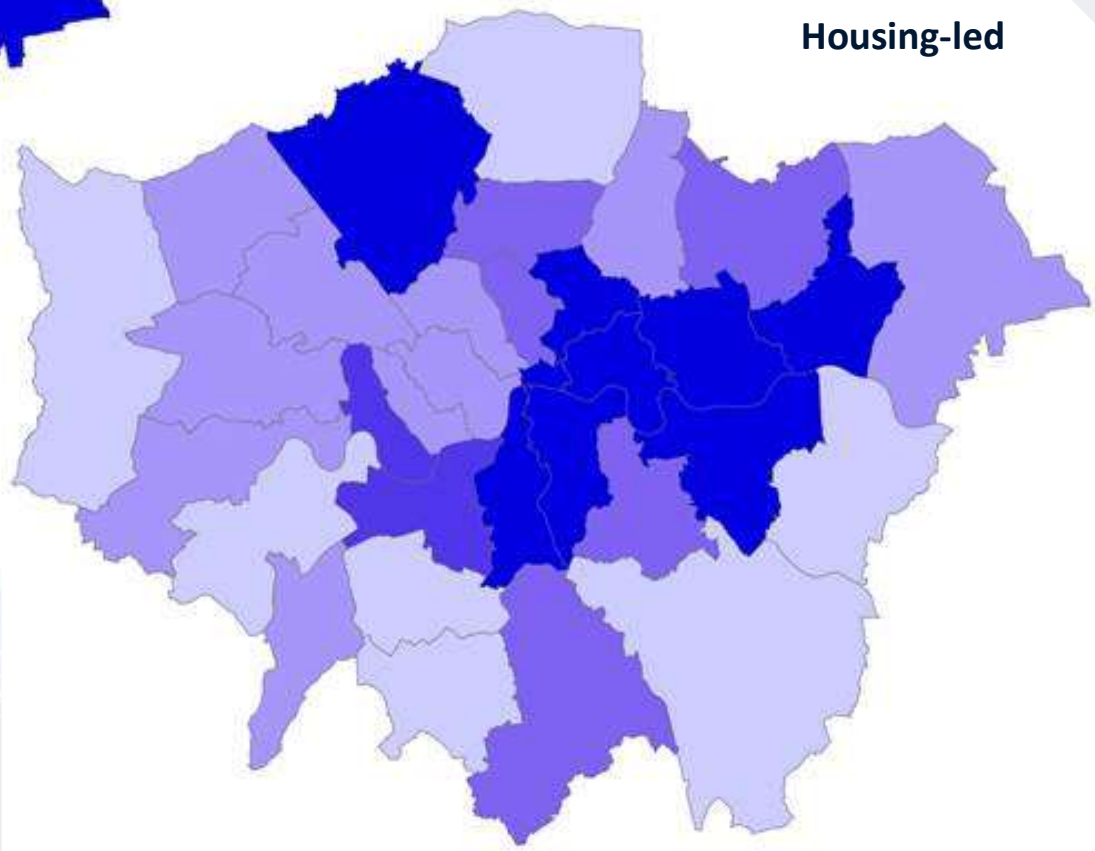
Small Area Model - Limitations

- Randomness and noise have a greater significance as populations and sample sizes become smaller
- The characteristics of small areas and populations tend to change more rapidly than for larger regions. As such model assumptions based on past patterns are outdated
- Data availability is typically worse at lower geographies (especially for migration flows). Many data sets that are available at local authority or national level are available at reduced detail or not at all for lower geographies.

Impact of incorporating housing data

Impact of incorporating housing data

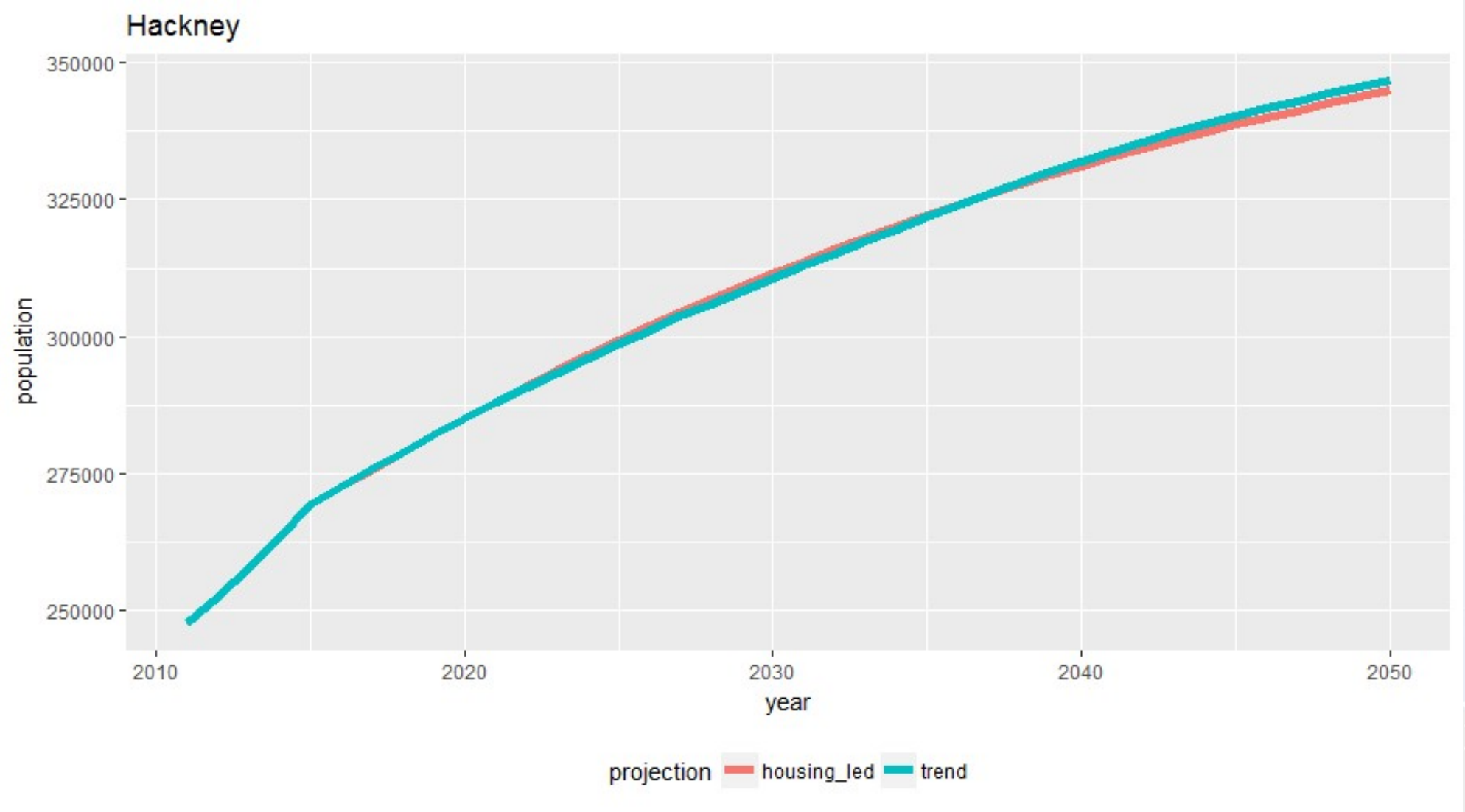




Population change
2015-2041

- 10% - 14%
- 14.1% - 20%
- 20.1% - 23%
- 23.1% - 26%
- 26.1% - 51%

Impact of incorporating housing data



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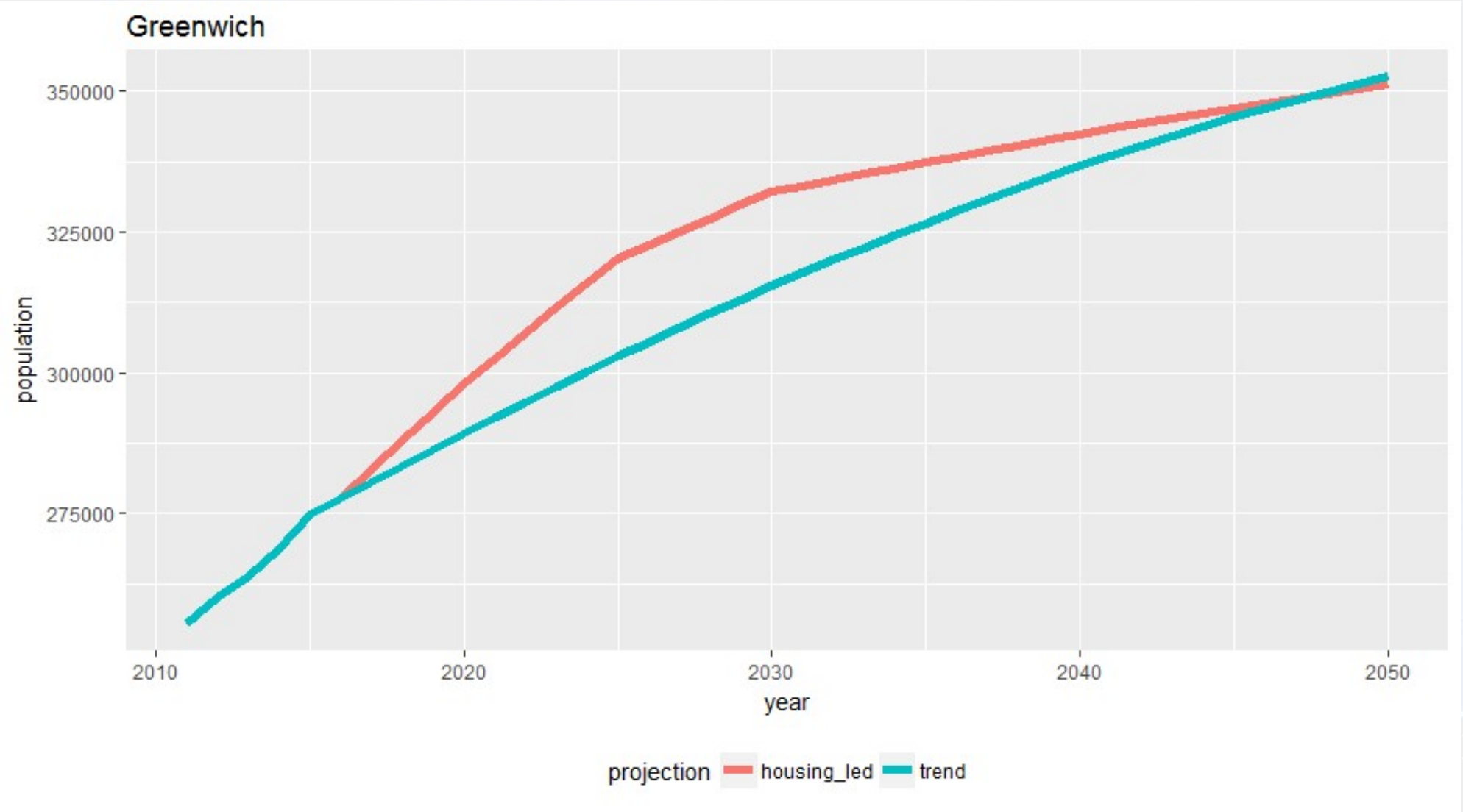

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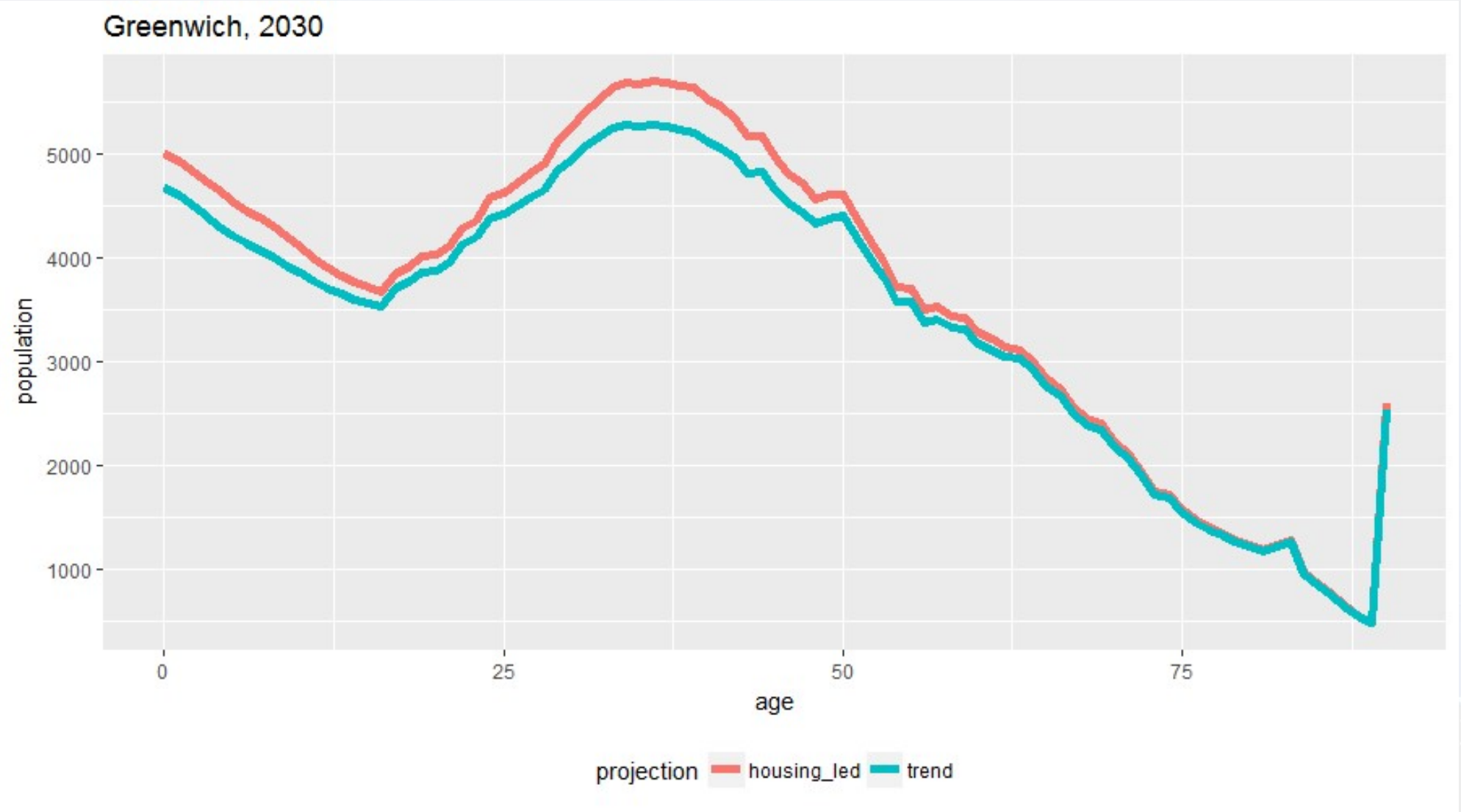

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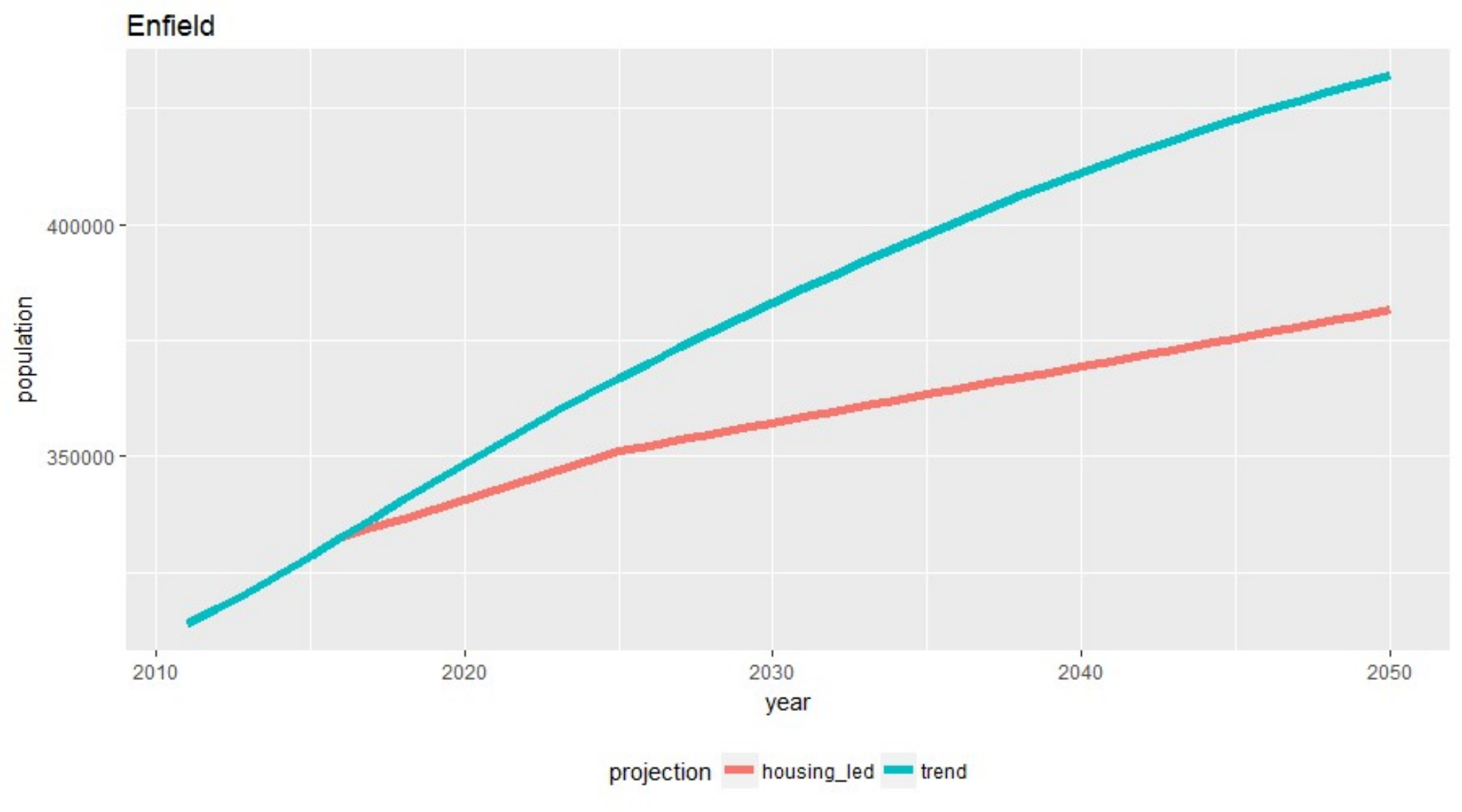

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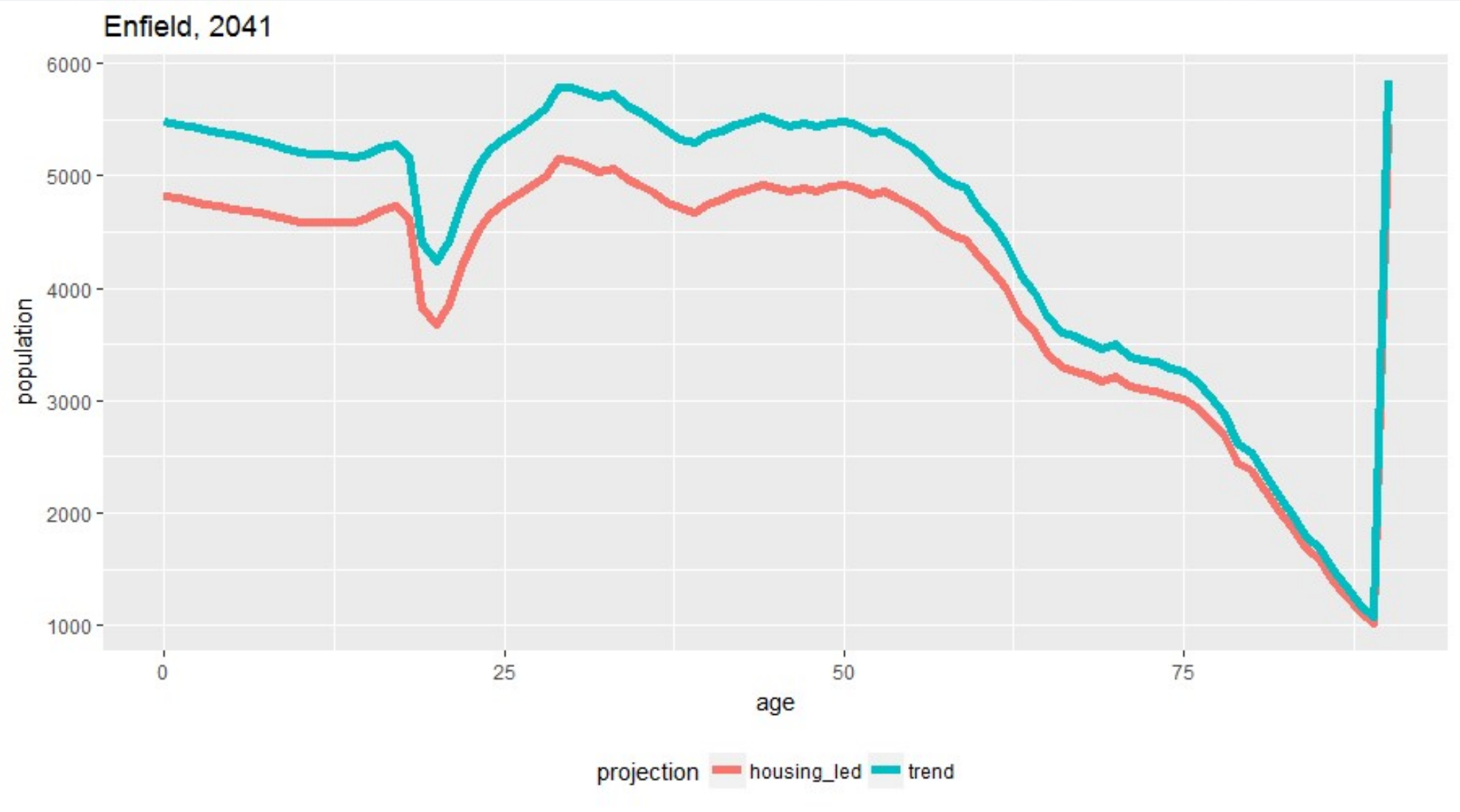
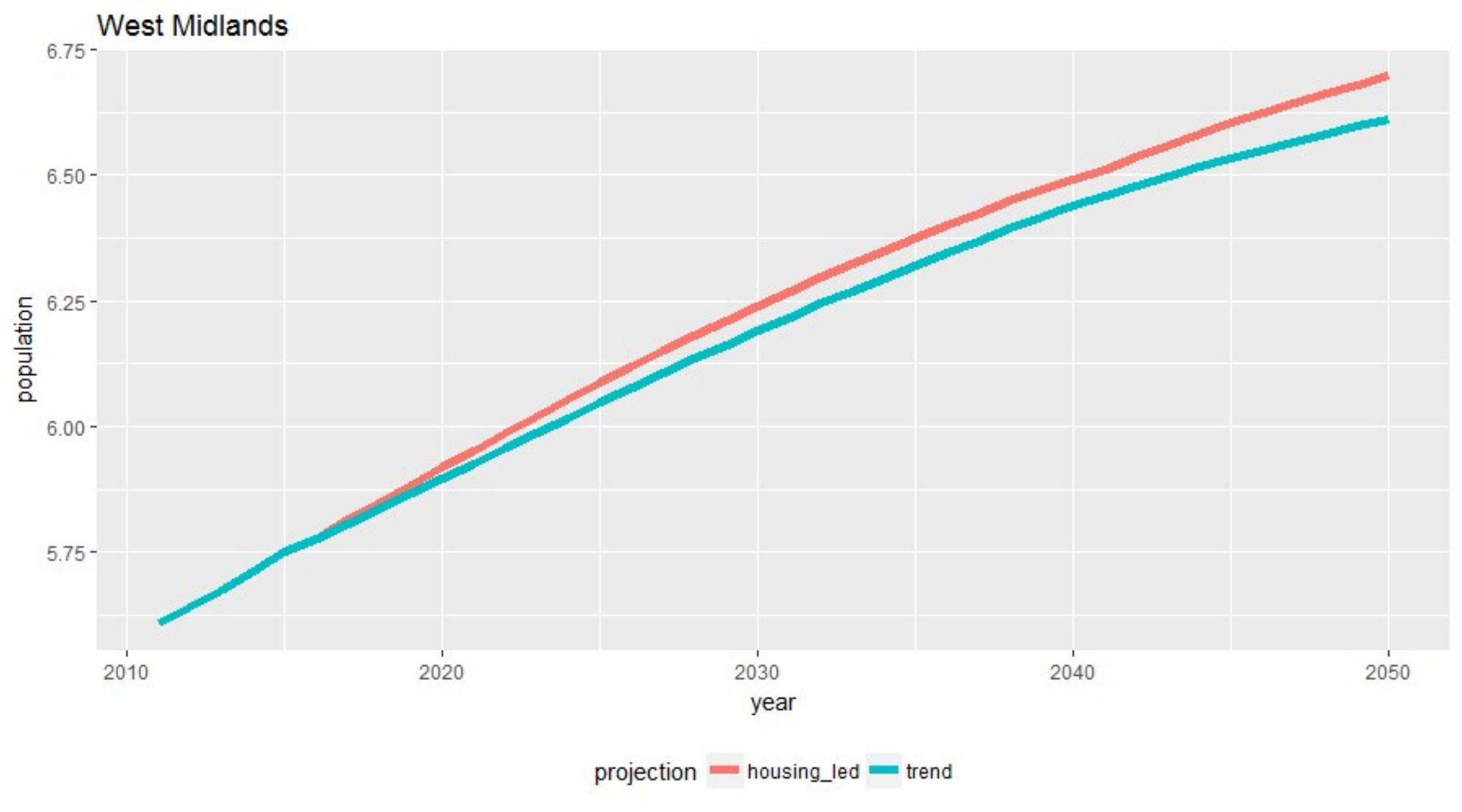
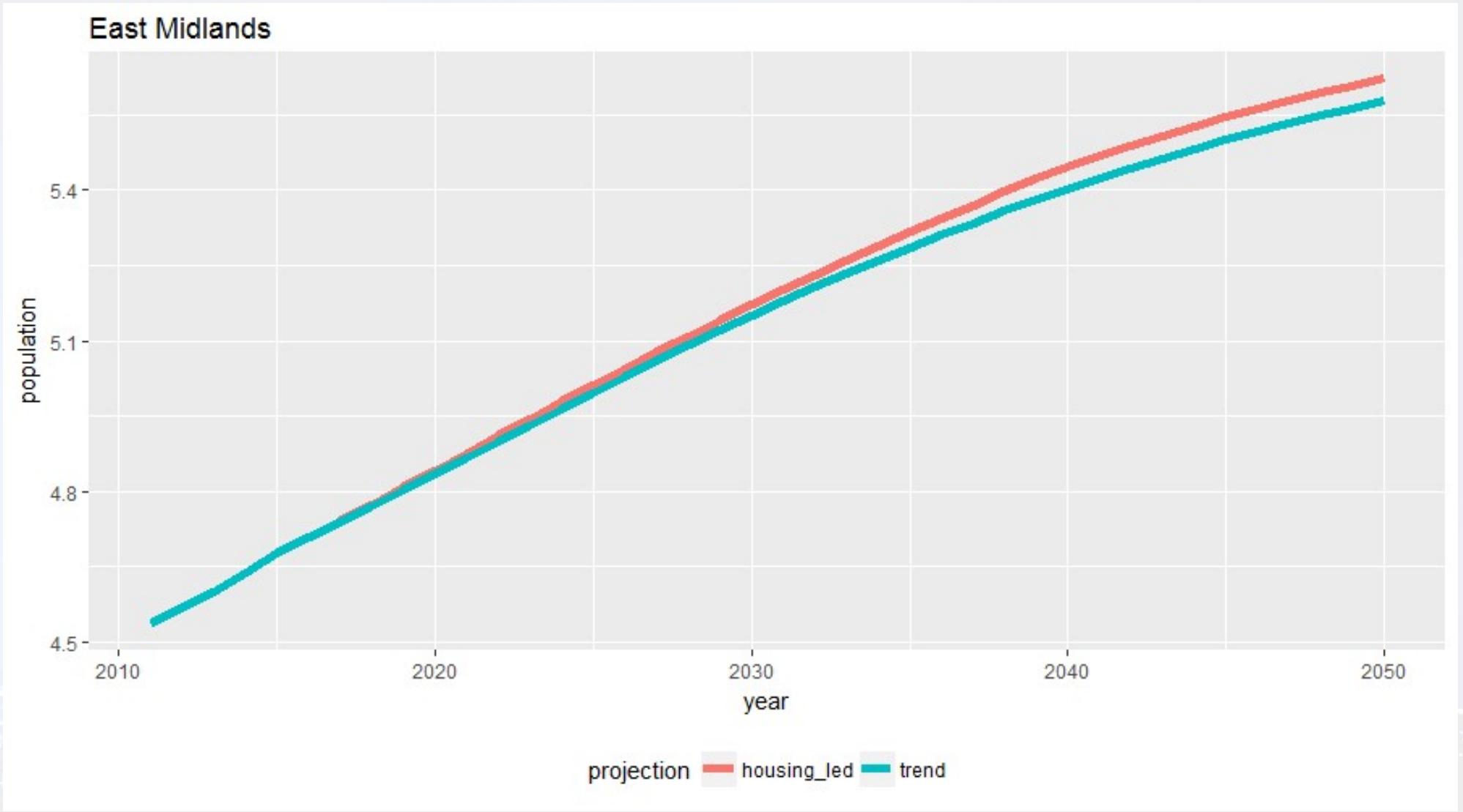


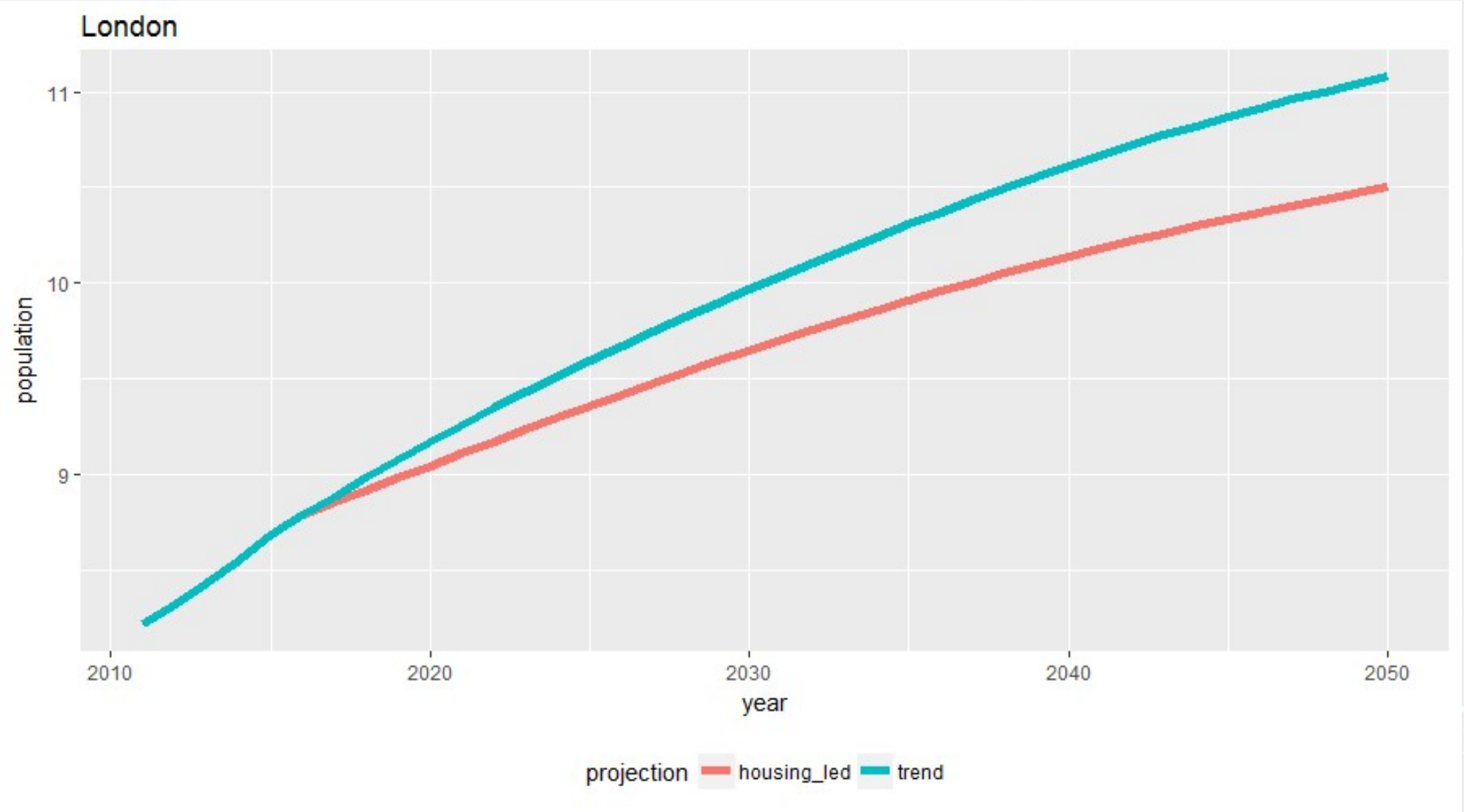
Expanding beyond London

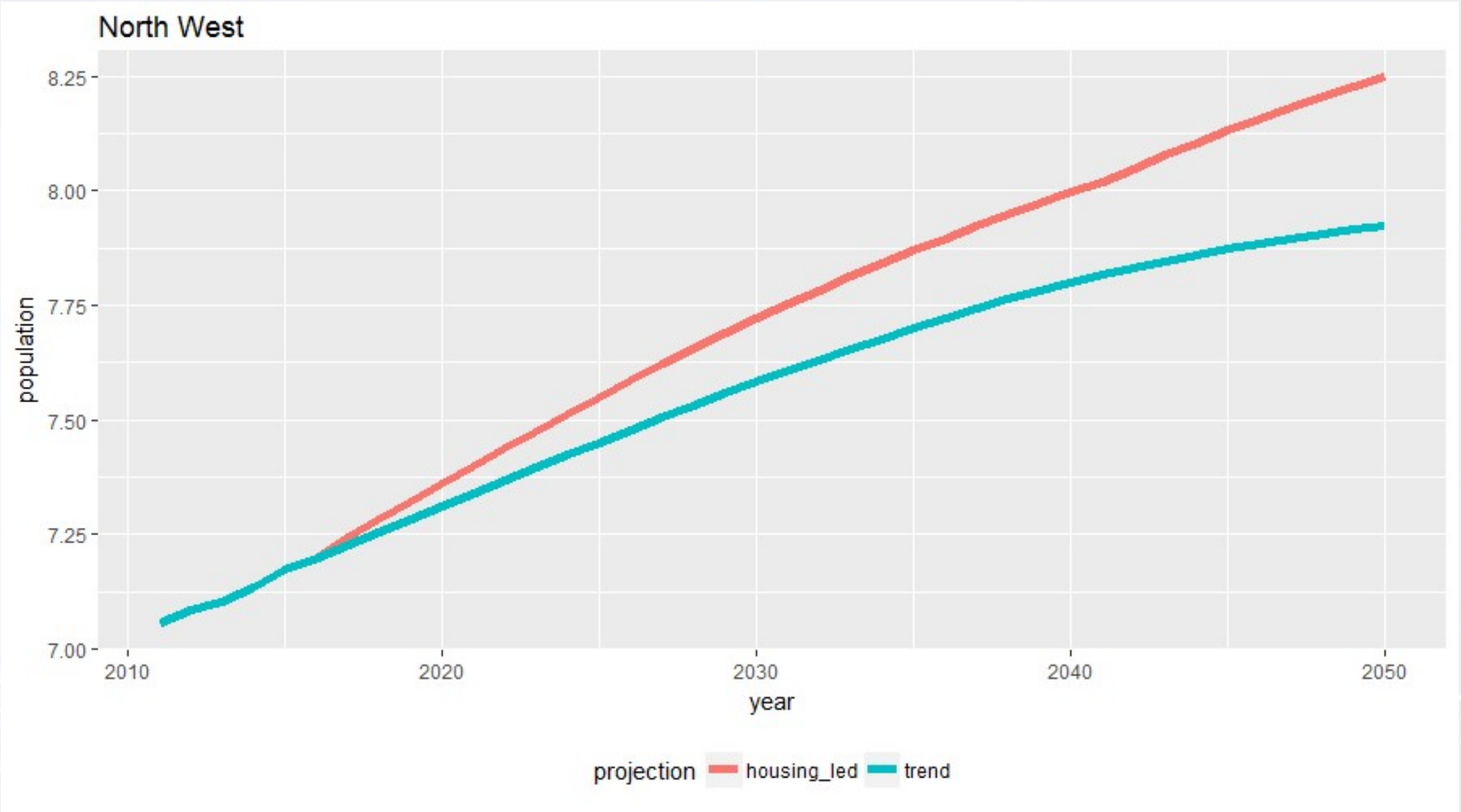
Quality of DCLG Completions Data

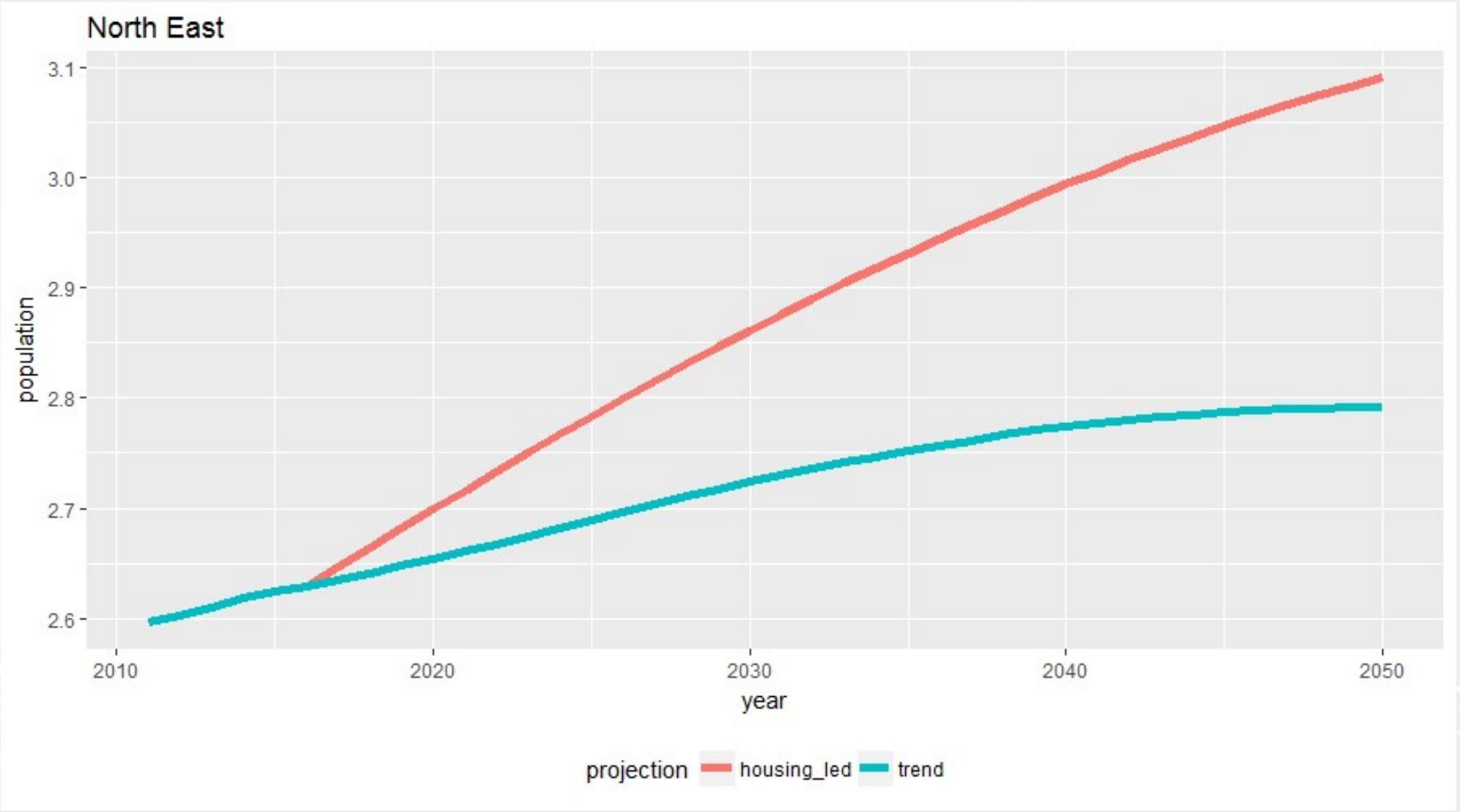
Regional Projections

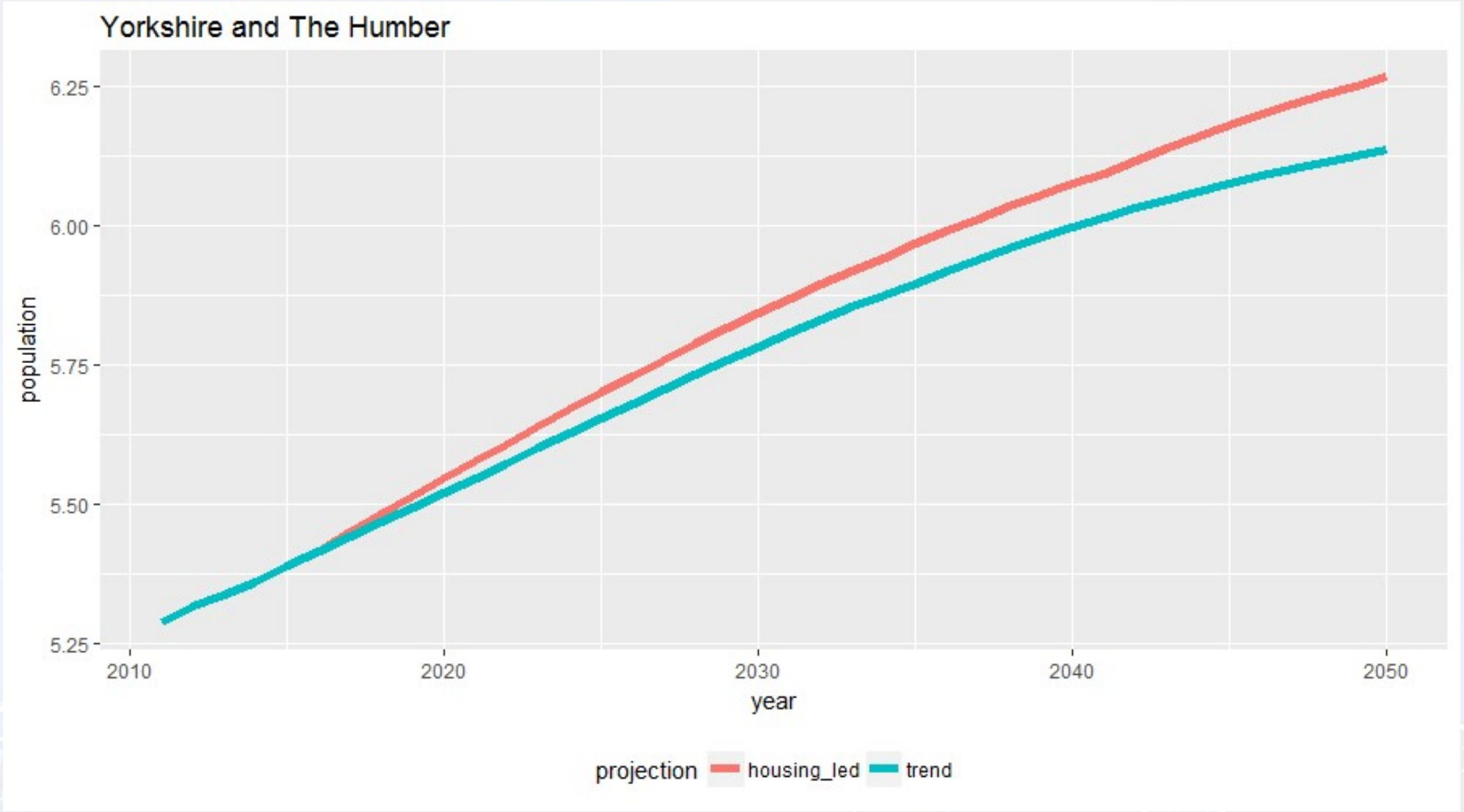


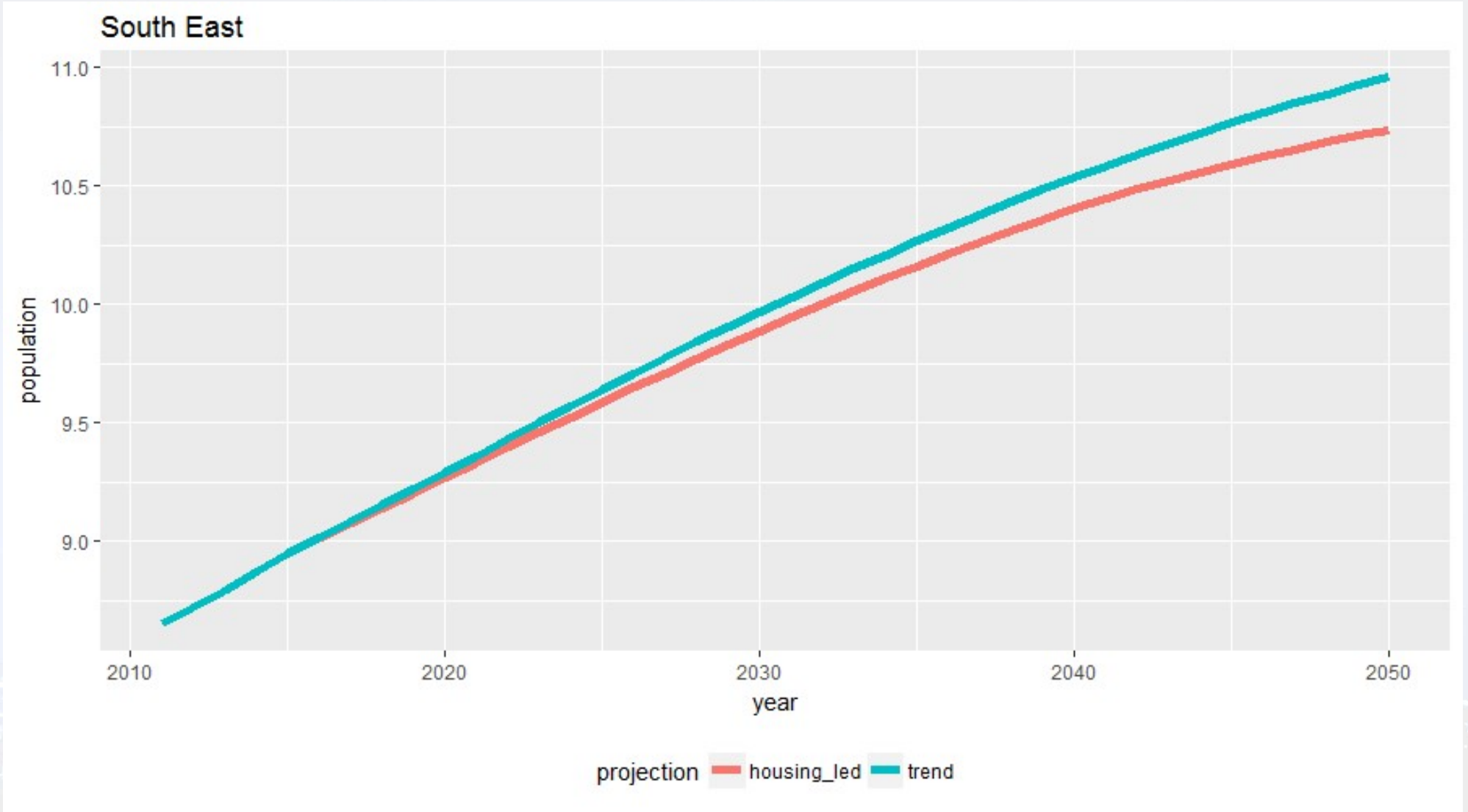

East Midlands
population
5.4
5.1
4.8
4.5
2010
2020
2030
2040
2050
year
projection
housing_led
trend

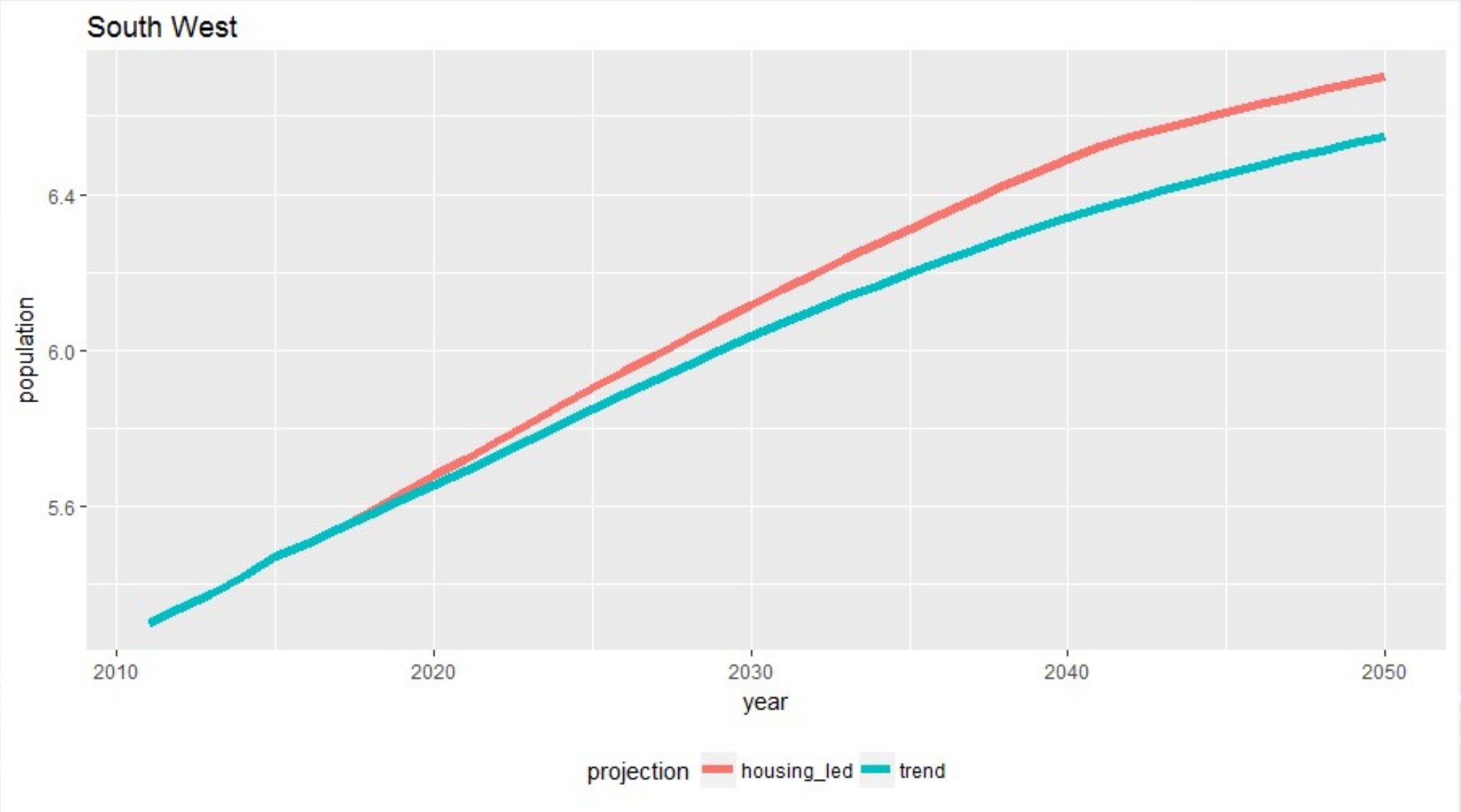

London
11
10
9
population
2010
2020
2030
2040
2050
year
projection
housing_led
trend


North West
8.25
8.00
7.75
7.50
7.25
7.00
population
2010
2020
2030
2040
2050
year
projection
housing_led
trend


North East
3.1
3.0
2.9
2.8
2.7
2.6
population
2010
2020
2030
2040
2050
year
projection
housing_led
trend


Yorkshire and The Humber
6.25
6.00
5.75
5.50
5.25
population
2010
2020
2030
2040
2050
year
projection
housing_led
trend


South East
11.0
10.5
10.0
9.5
9.0
population
2010
2020
2030
2040
2050
year
projection
housing_led
trend


South West
6.4
6.0
5.6
population
2010
2020
2030
2040
2050
year
projection
housing_led
trend

Conclusions

- Housing-led forecasts can provide a useful counterpoint to purely trend-based projections
- Potential exists for scenario testing based on development demand, HMA definitions
- Housing-led projections are only as good as the development data which feeds them

Questions

(except about Brexit)

Contact:

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Projections data & documentation:

http://data.london.gov.uk/demography