

Analysis of Gross Disposable Household Income (GDHI) in UK Cities

A DATA-DRIVEN EXPLORATION OF ECONOMIC
TRENDS IN UK CITIES

Data Overview



Sources: UK GDHI dataset (2002-2021)



Cities Analyzed: London, York, Belfast,
Edinburgh



Metrics Used: GDHI in million pounds, Year-on-Year Growth Rate

Methodology



Data Processing:

- Filtering data for required cities
- Computing National Average GDHI
- Calculating Year-on-Year Growth Rate



Visualization Tools:

- Matplotlib (for graphs)
- Kepler.gl (for geographic visualization)

Key Visualizations



Comparison of GDHI Trends:

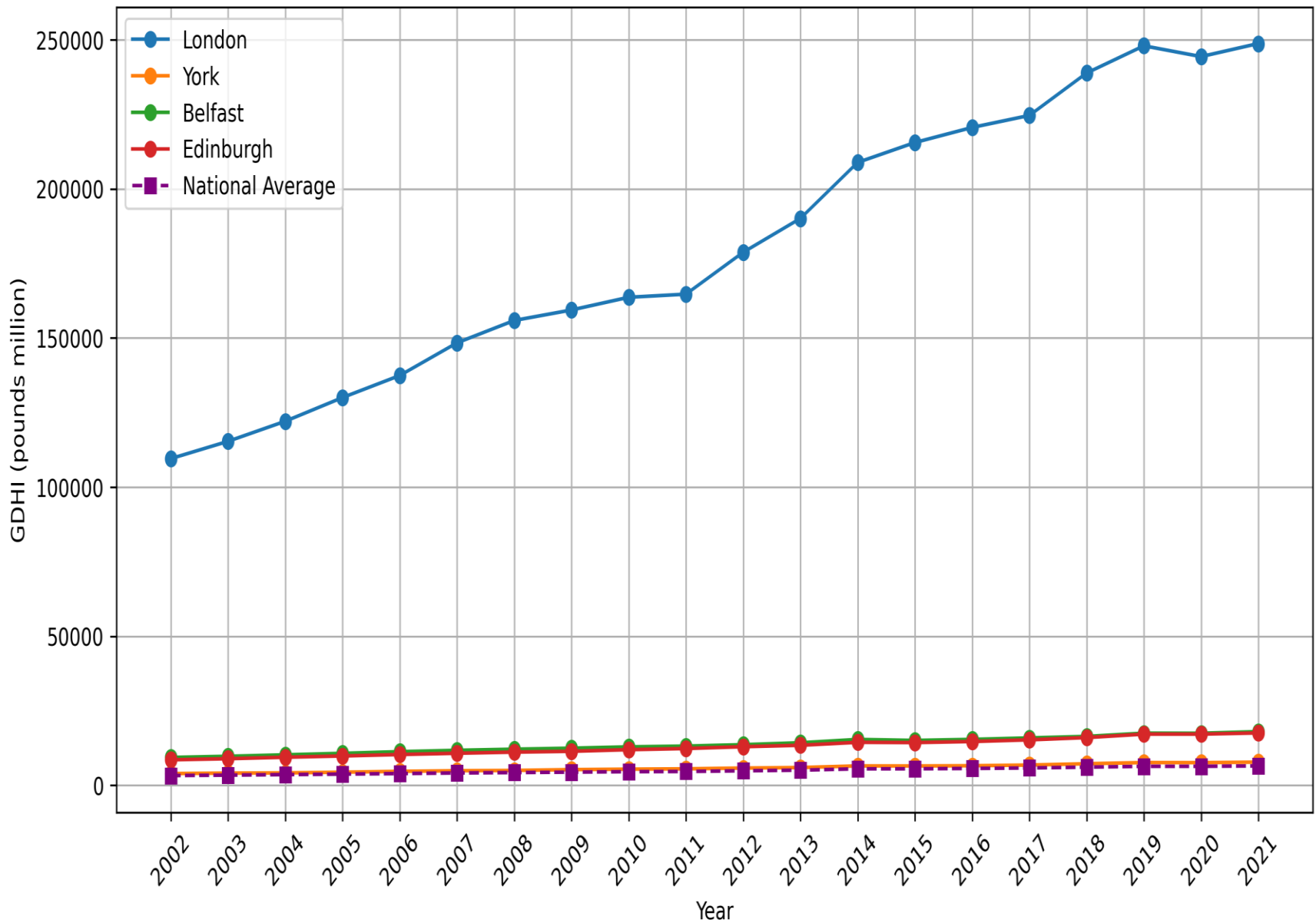
- Line graph comparing GDHI for selected cities vs. National Average
- Year-on-Year Growth Rates for each city



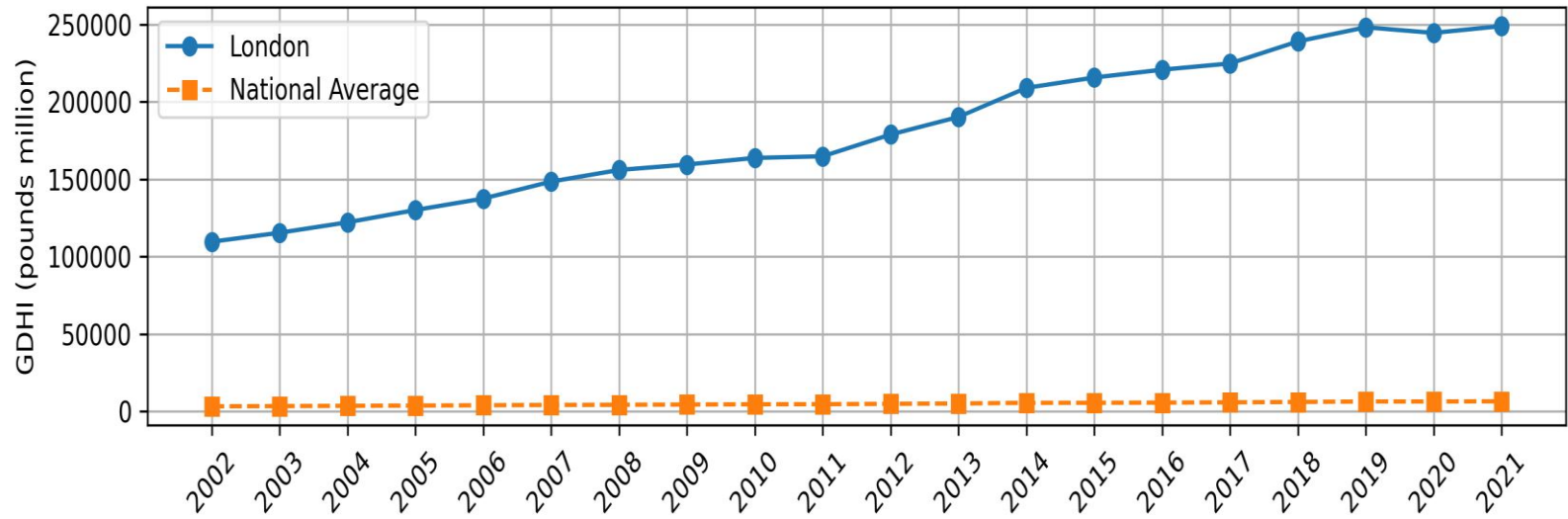
Geographic cartodiagram:

- Visualization of GDHI distribution across cities using Kepler.gl

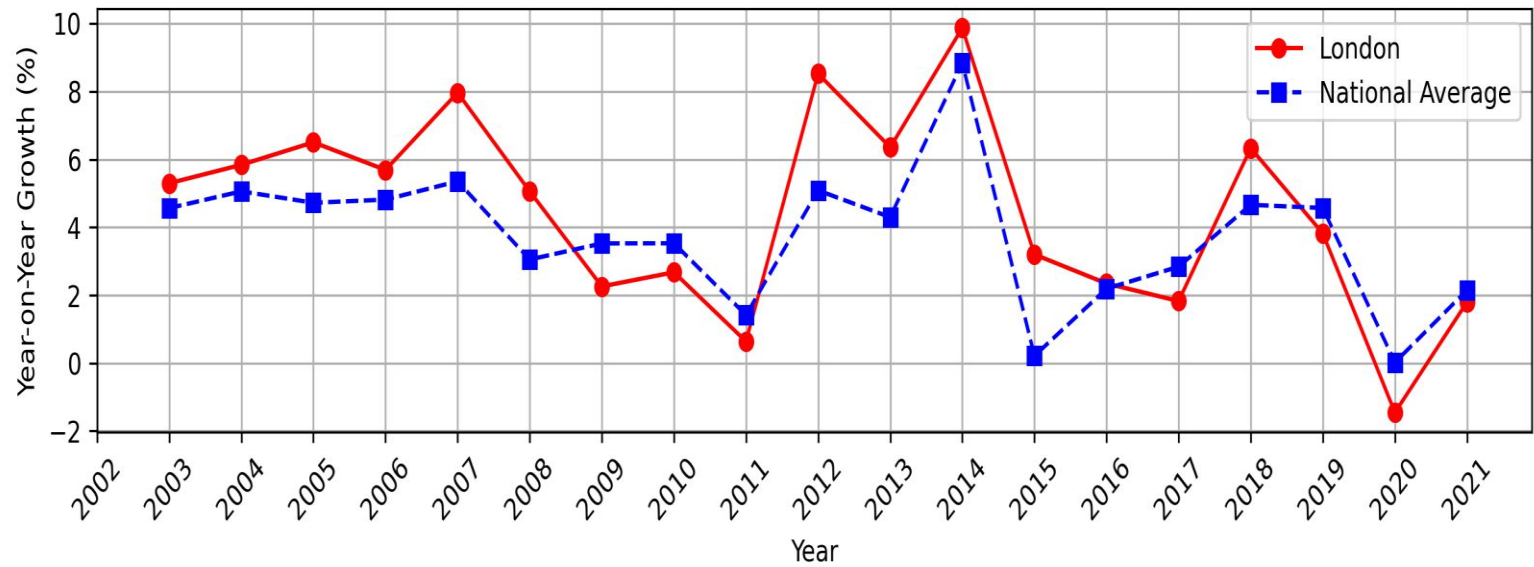
Comparison of GDHI for Cities and National Average



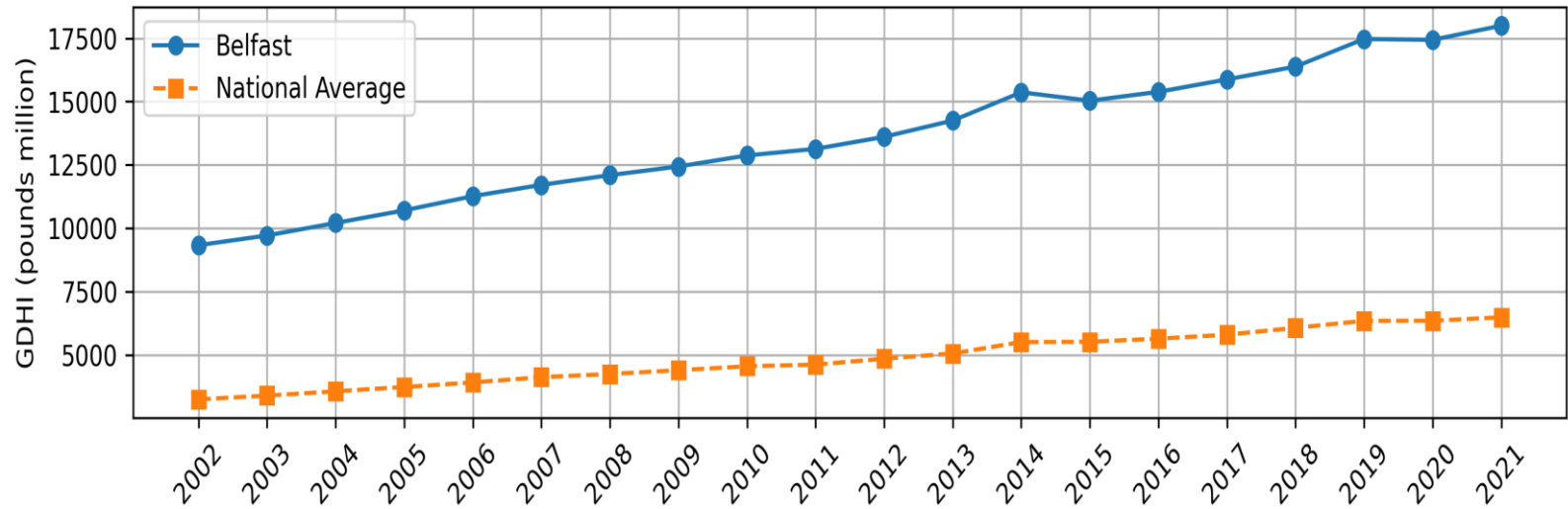
GDHI for London



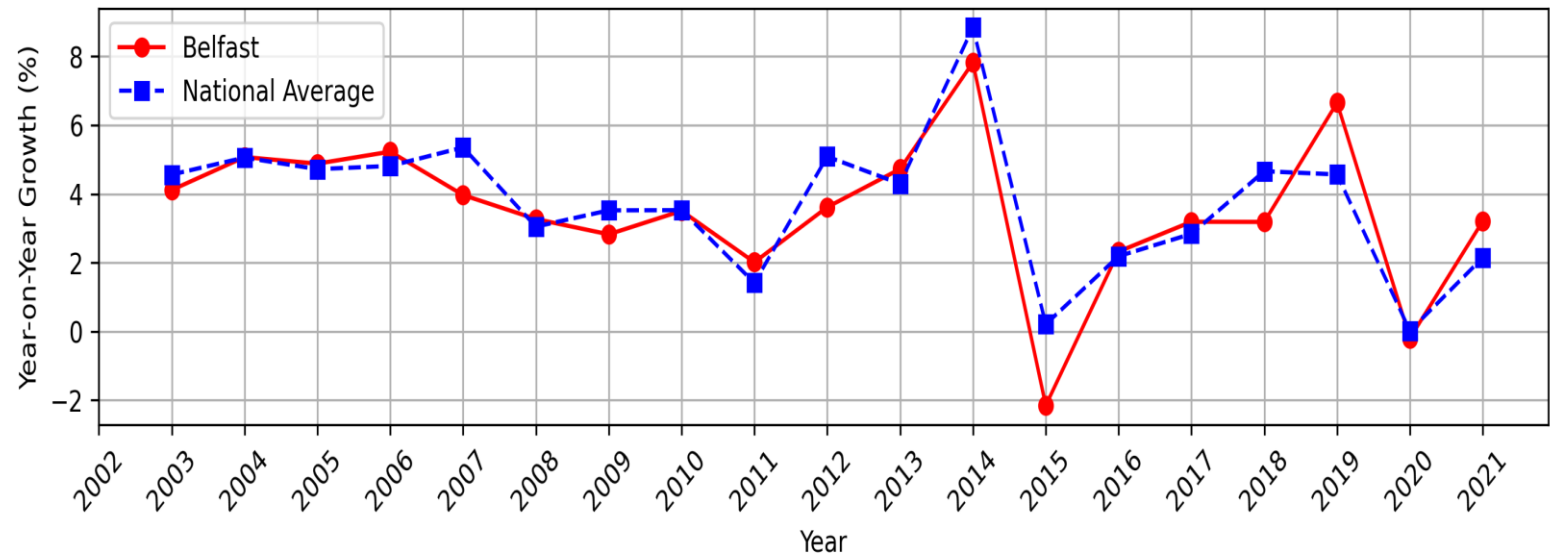
Year-on-Year GDHI Growth for London



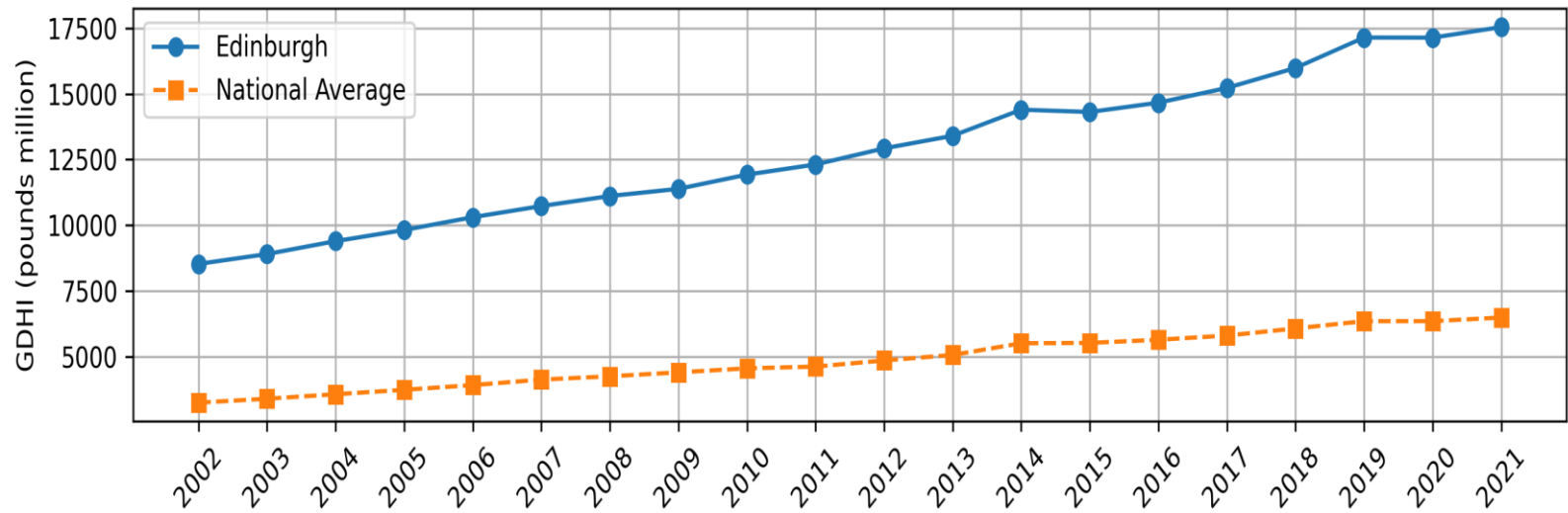
GDHI for Belfast



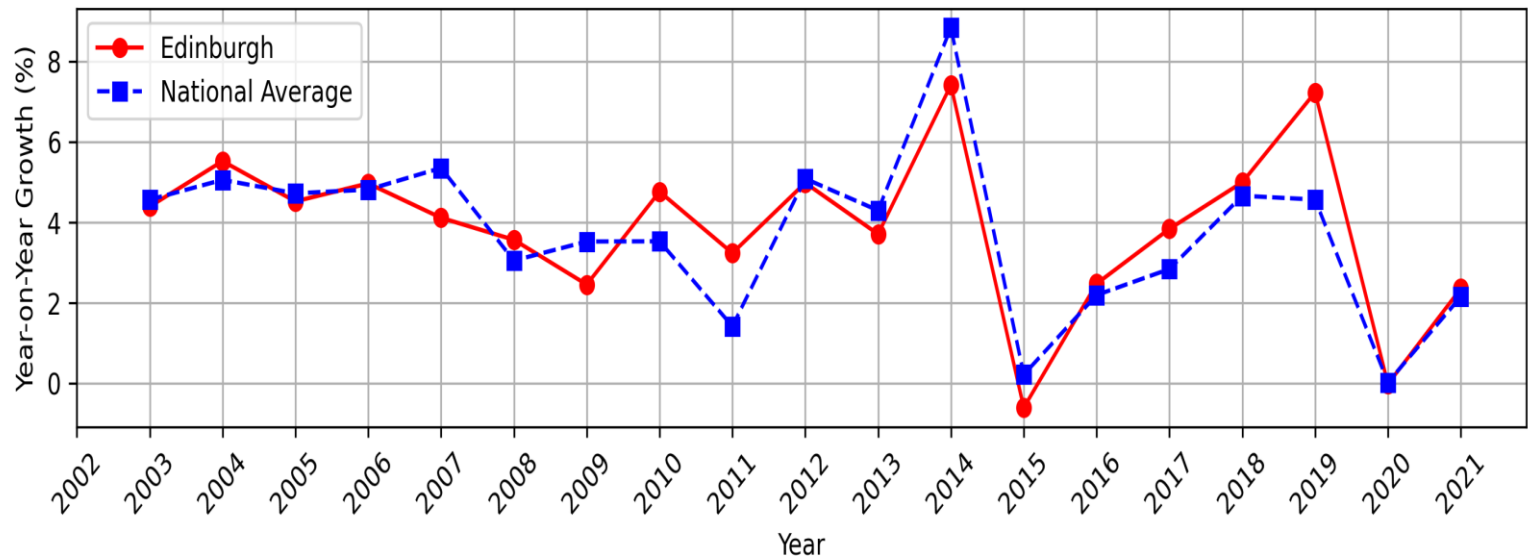
Year-on-Year GDHI Growth for Belfast



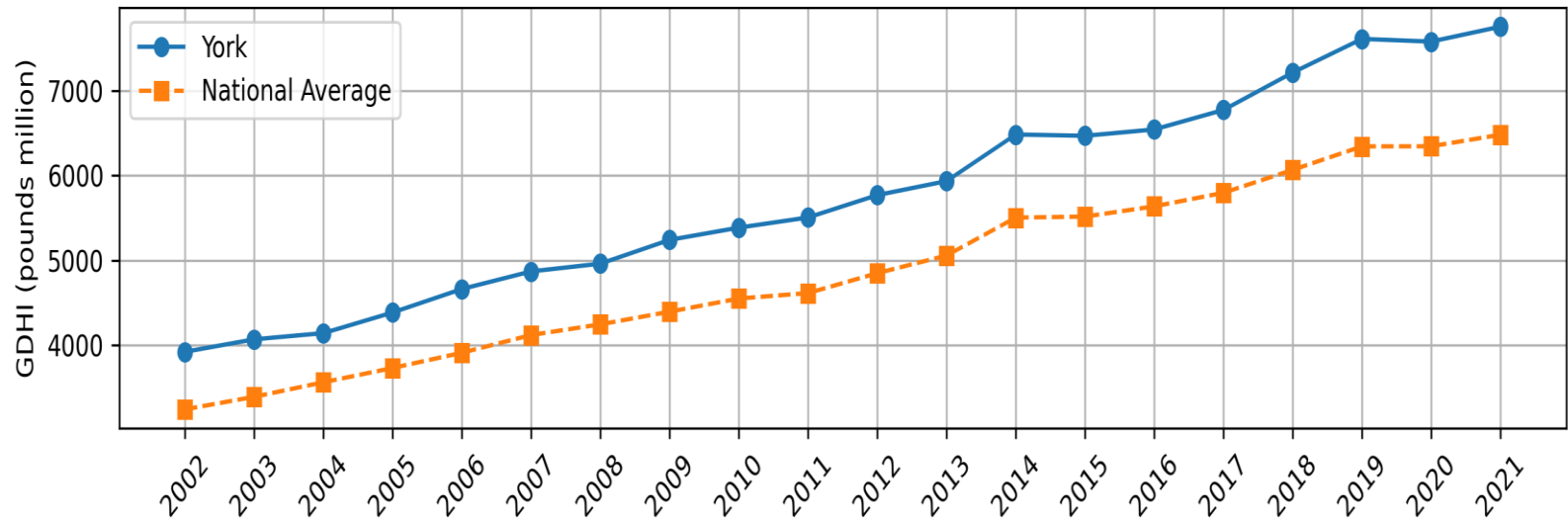
GDHI for Edinburgh



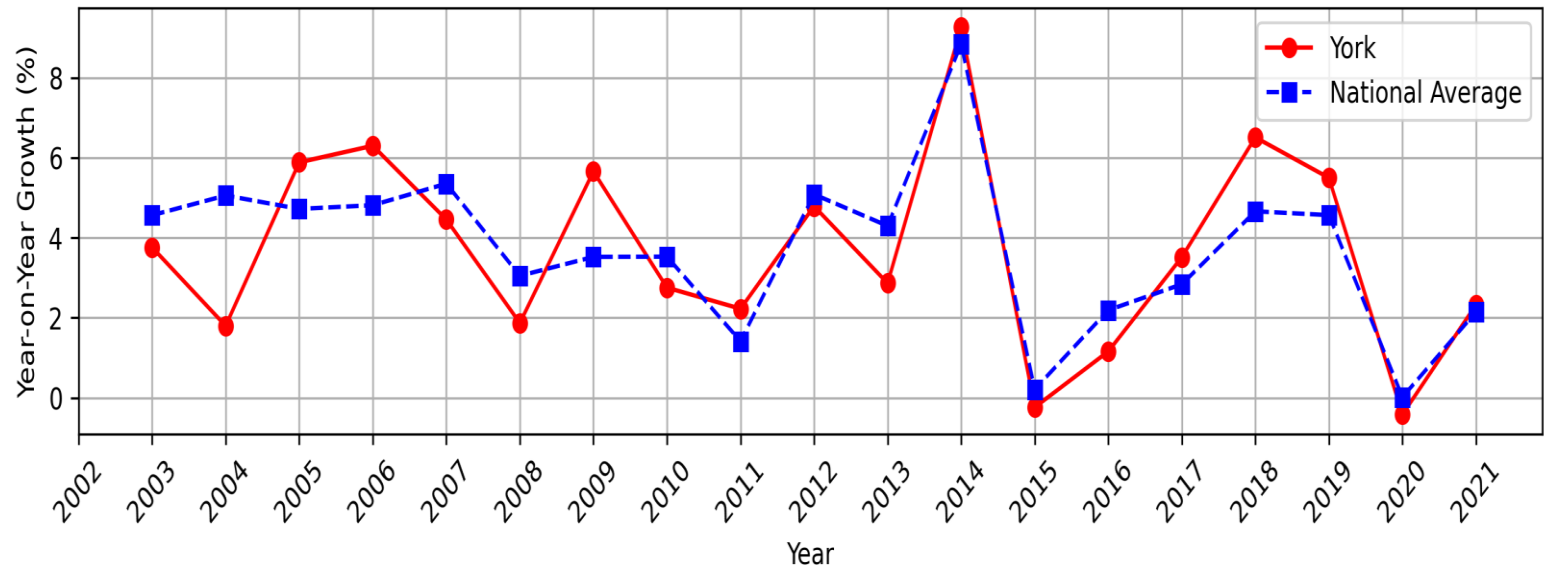
Year-on-Year GDHI Growth for Edinburgh



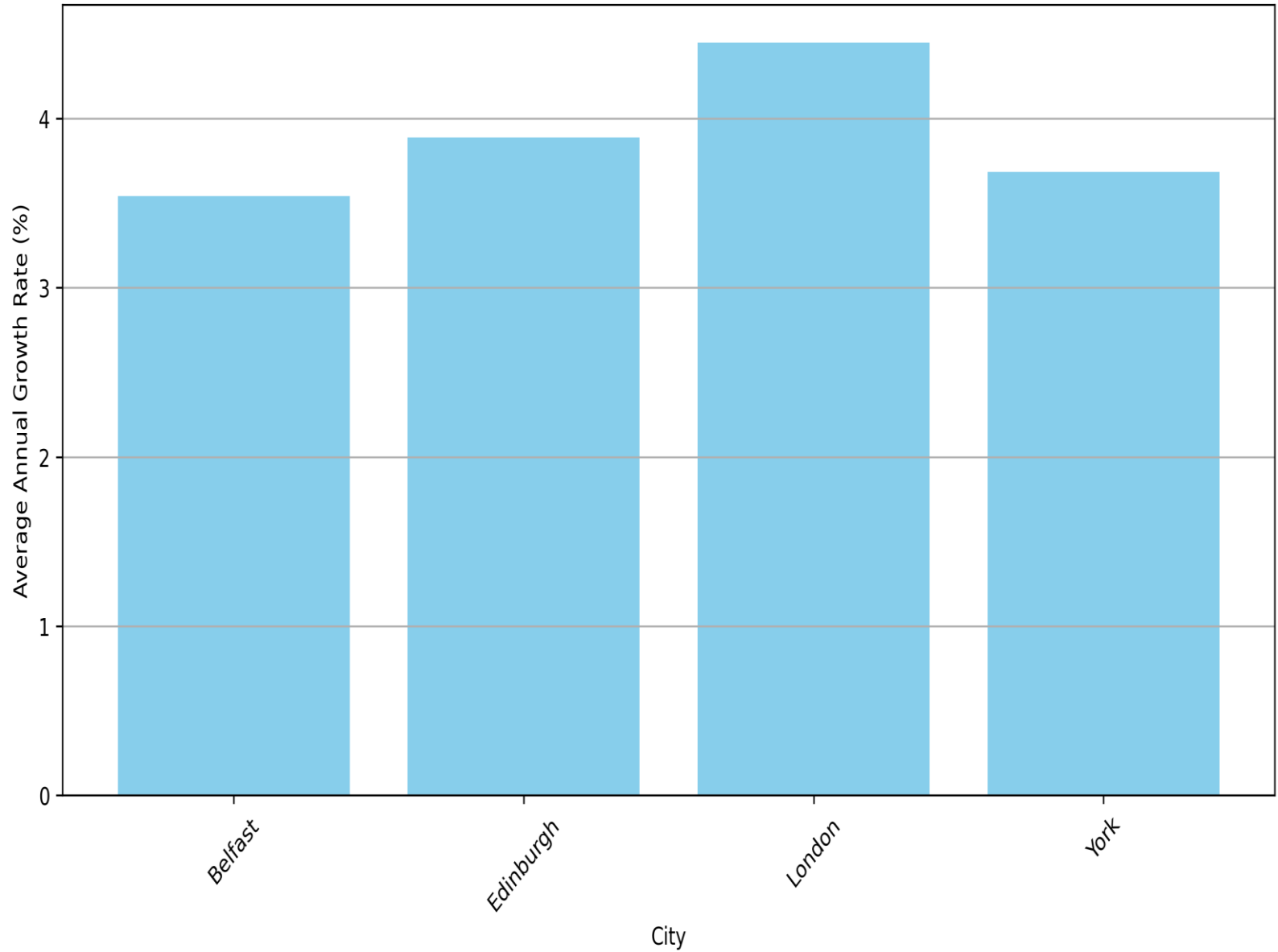
GDHI for York



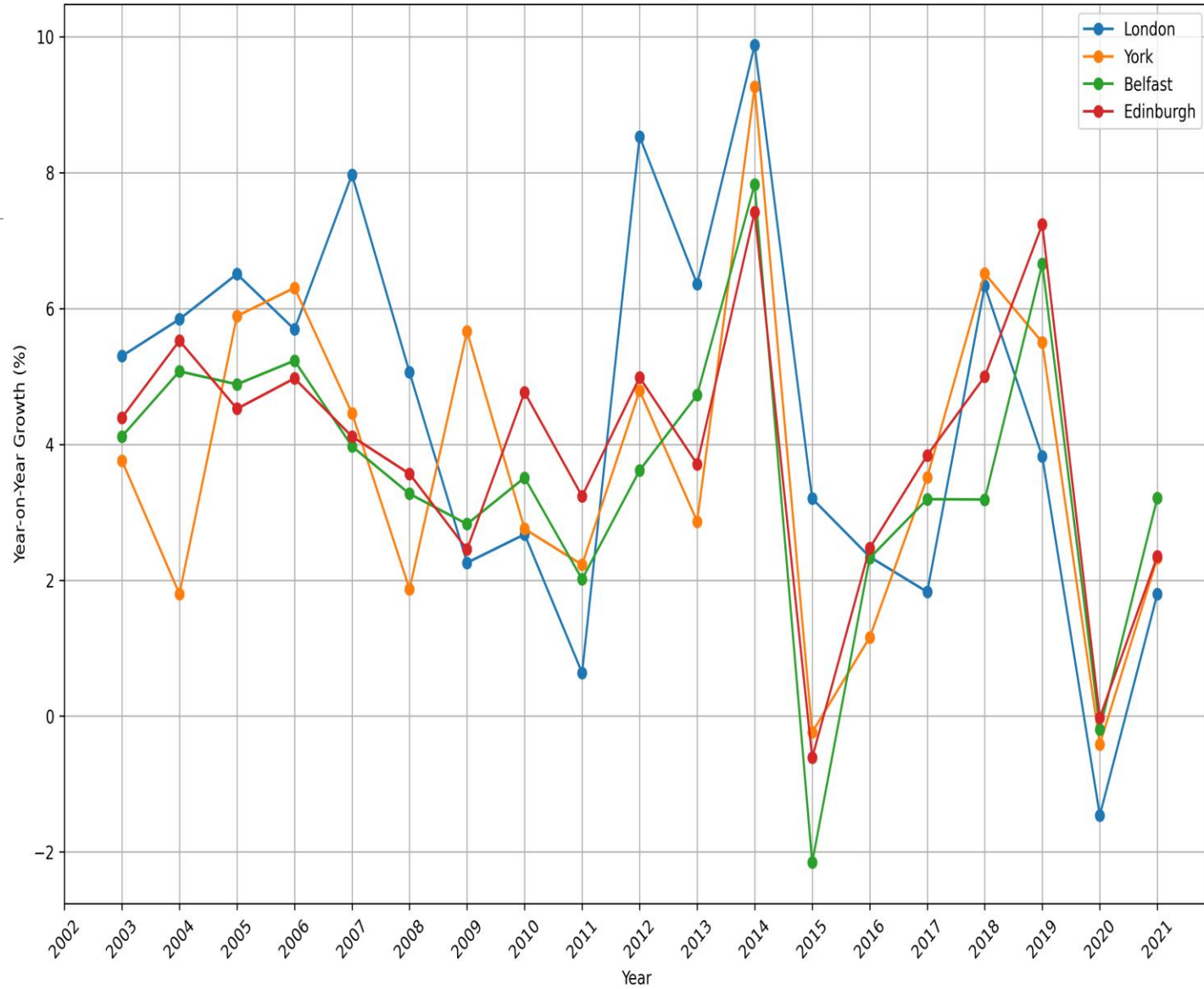
Year-on-Year GDHI Growth for York



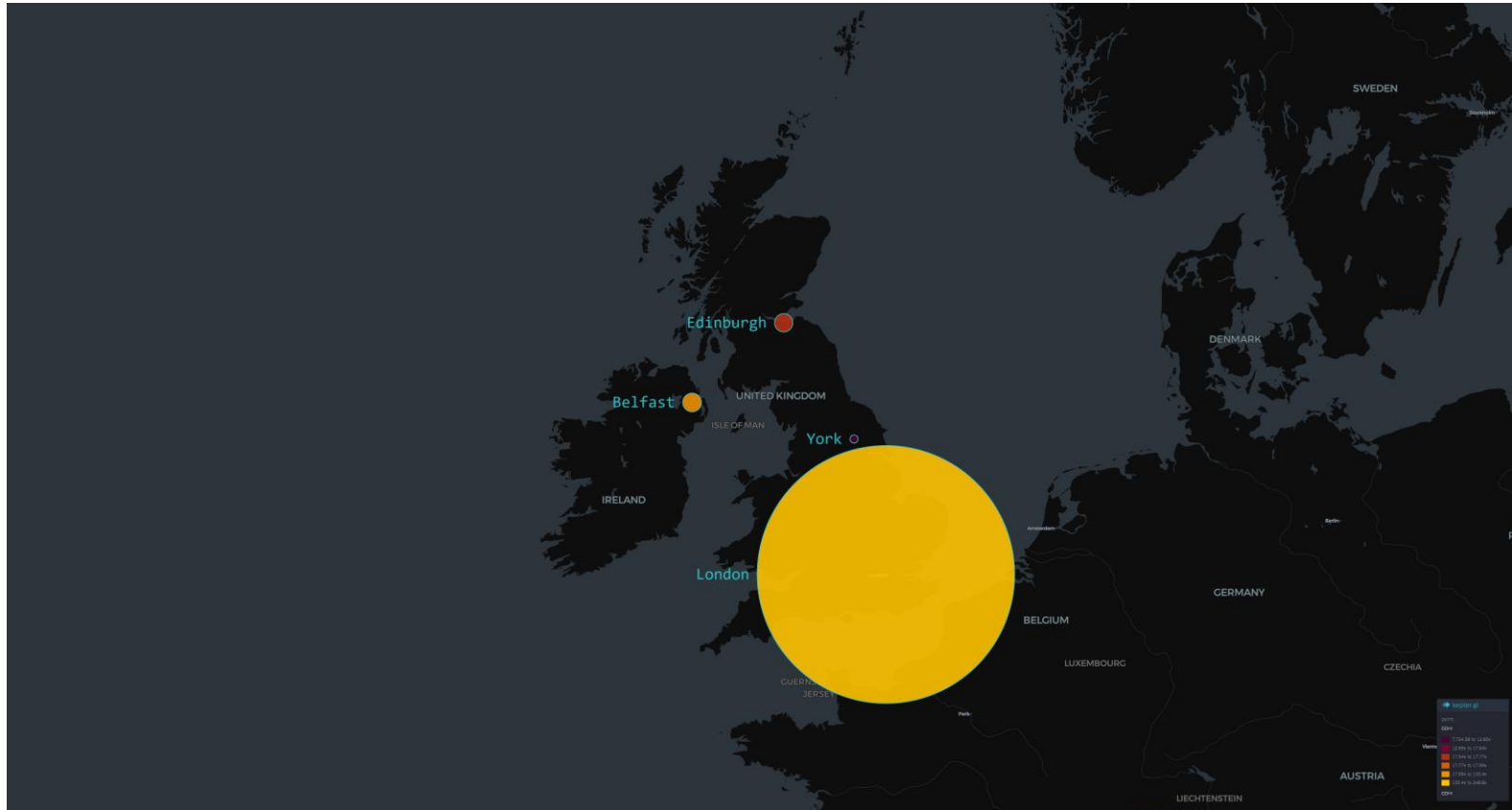
Average Annual GDHI Growth Rate for Each City



Year-on-Year GDHI Growth Comparison for All Cities



Cartodiagram of GDHI (2021)



City Comparison



London: Highest GDHI, but more fluctuations in growth



York: Moderate but stable GDHI



Belfast & Edinburgh: Consistent growth patterns with less volatility



National Average: Serves as a benchmark for city comparisons

Correlation Matrix:

City	Belfast	Edinburgh	London	York
Belfast	1.000000	0.998484	0.994148	0.998075
Edinburgh	0.998484	1.000000	0.993689	0.998930
London	0.994148	0.993689	1.000000	0.995120
York	0.998075	0.998930	0.995120	1.000000

Growth Rate Volatility:

City	Belfast
Belfast	2.212440
Edinburgh	2.026680
London	2.907234
York	2.481246

Insights and Findings






Key Takeaways:

- London leads in GDHI but has higher volatility
- Other cities show stable growth closer to the national average
- Year-on-Year growth patterns suggest economic stability in Belfast and Edinburgh
- All cities exhibited an overall upward trend in GDHI

Issues Faced

Challenges in Data Handling:

- Missing regional coordinates (resolved via manual mapping/geocoding) 
- Visualization challenges in Kepler.gl (adjusted formatting) 
- Overlapping data points (resolved by filtering latest available year) 

Conclusion

Final Thoughts:

- GDHI trends can provide insights into economic well-being of cities
- Data-driven approach aids better decision-making for urban development
- Future analyses could incorporate additional factors such as employment rates, inflation, and housing costs to provide a more comprehensive understanding of the factors affecting GDHI.

Thank You



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Questions and Discussion