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## Was East London Revitalized by the Olympics?

A Case Study on the London 2012 Olympics  
and its effect on the growth boroughs of London

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# 1 Introduction

## 1.1 Problem Statement

Hosting the Olympics has rarely been profitable. Hype over the occasion and sentiments of national pride lead to overblown budgets and event revenues that do not cover expenses. As in the case of Rio 2020, Brazil was left with disused stadiums that have high maintenance costs and ever-growing debt. Questions arose, was the event worth it? Did it bring about the desired economic boost? These sentiments are not uncommon. Countries have grown wary of hosting the quadrennial event, with France (Paris) and the United States (Los Angeles) respectively sole bidders for the 2024 and 2028 editions.

Our team hypothesized that the Olympics could have provided long-lasting positive impacts such as increased tourism, improved citizen quality of life due to improvements in infrastructure and increased investment in the host city. Case in point, the London 2012 Olympics aimed to revitalise parts of London that suffered from high levels of crime and poverty. Secondly, we observed that countries who have previously hosted the Olympics are more likely to bid to host future Olympics. This makes the case that hosts with existing athletic infrastructure already in place (and perhaps a phenomenon of ‘repeat hosting’) could be the solution in ensuring the Olympics is economically-viable. Our team poses the question:

**Did hosting the London 2012 Olympics in the *poorer* boroughs of East London, Barking and Dagenham, Greenwich, Hackney, Newham, Tower Hamlets, Waltham Forest, successfully revitalise these areas?**

To answer this question, we analysed publicly available data on business enterprises, housing, employment and economic activity, of the London boroughs. We investigated if these boroughs grew notably more than the rest of London. Through our investigation, we believe smart planning can lead to sustainable growth in underdeveloped areas, thus making the Olympics an attractive event to host.

## 1.2 Executive Summary

The following conclusions were made after analysing the data:

### 1. Economic activity

- The *growth boroughs* in London have as an overall shown a stronger increase (in terms of % change from 2011 to 2017) in the number of enterprises, housing and dwellings, and hospitality (pubs, bars, restaurants etc.).
- We attribute this to the improvements in infrastructure, increased investment, and better transport links via new rail lines such as the extension of the Docklands Light Railway (DLR).

### 2. Transport links

- Stratford station, Stratford underground, and Stratford International has seen a huge spike in the number of visits to the station.
- DLR shows a significant increase in the number of journeys post Olympics.

## 2 Data

To answer our question, we analysed both the data provided and additional data obtained from various other sources.

### 2.1 Data Sets Provided

The data sets provided that were used are:

- Taxpayer Income, Earnings by Borough, Economic Activity, London Underground.

### 2.2 Additional Data Sets

The additional data sets that were used are:

- Number of Dwellings
  - Number of dwellings by boroughs.
  - *Source:* London Datastore [2]
- Number of Active Enterprises
  - Number of active enterprises by boroughs.
  - *Source:* Office for National Statistics [4, 3]
- Mean House Prices
  - Annual mean property prices by boroughs.
  - *Source:* London Datastore [1]
- Number of Licensed Restaurants, Number of Unlicensed Restaurants, Number of Takeaway Places
  - Number of licensed and unlicensed restaurants, and takeaways by boroughs.
  - *Source:* Office for National Statistics [7]
- Stratford Station and Stratford International Activity
  - Estimates of station usage figures of Stratford station and Stratford international.
  - *Source:* London Datastore [10]
- Public Transport Journeys by Type of Transport
  - Number of journeys on the public transport network by bus, underground, DLR, tram, Overground and cable car.
  - *Source:* Transport for London [8]
- London Museums
  - Data on museums and galleries monthly visits
  - *Source:* London Museums and Galleries [6]

## 3 Analysis

### 3.1 Exploratory Analysis

In this report, we analyse London datasets separated by boroughs. We investigate if growth in the years post the Olympics was higher in boroughs that had event-related infrastructure investment. However, we note that correlation does not imply causation. In particular, *growth* could have been due to the wider economic recovery from the 2008 financial crisis.

### 3.2 The London Growth Boroughs

A key objective of hosting the London 2012 Olympics was to regenerate East London. More specifically, *Barking and Dagenham*, *Greenwich*, *Hackney*, *Newham*, *Tower Hamlets*, *Waltham Forest*, were chosen as host boroughs, with the goal of uplifting these poorer areas. The main Olympic venue (*Queen Elizabeth Olympic Park*) encompasses Newham, Tower Hamlets, Hackney and Waltham Forest [9]. Moreover, we highlight that the main station for access via public transport is *Stratford* (Newham).

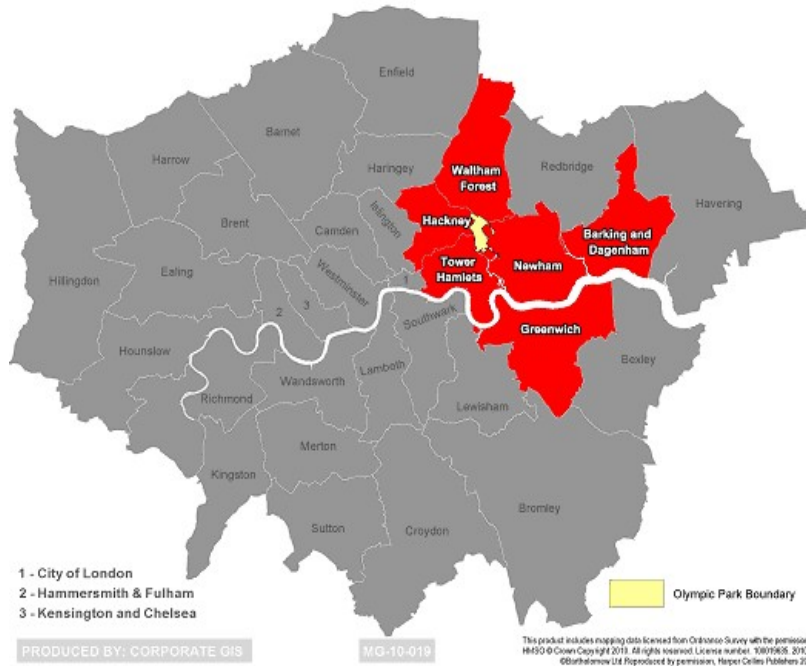


Figure 1: Map of London boroughs with host boroughs highlighted. Map taken from [5].

As different boroughs have different population sizes, we mainly consider percentage changes. We use two periods of analysis – 2005 to 2017 and 2011 to 2017. We chose the year 2005 as this is the year London won the bid to host the 2012 Summer Olympics, and the year 2011 as this the year prior to the Olympics.

### 3.2.1 Economy and Business

In Fig. 2, we observe significant increase in the number of economically active people in the host boroughs. We similarly observe the number of active enterprises in Fig. 3. In particular, the number of active enterprises in the borough Newham (where Stratford station is located) nearly tripled, with other growth boroughs showing remarkable developments as well.

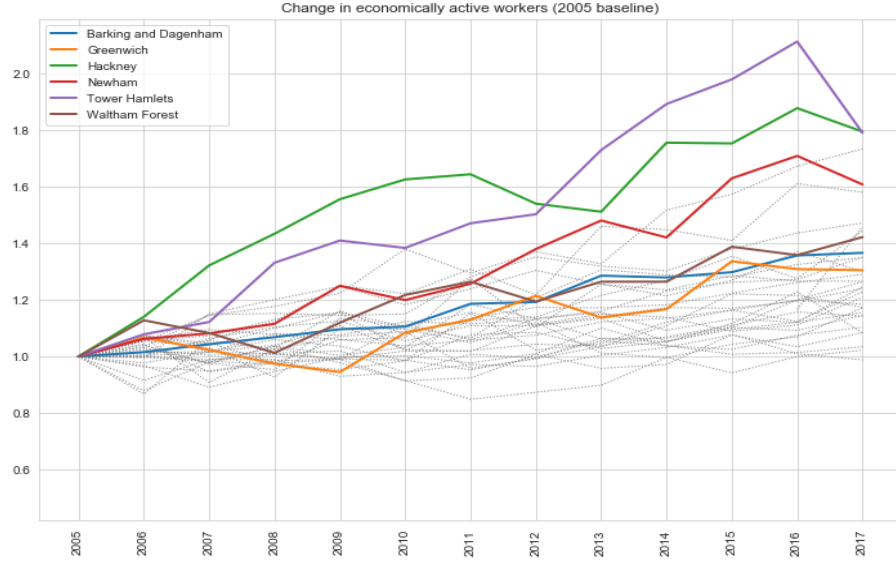


Figure 2: Change in number of economically active workers from 2005 to 2017

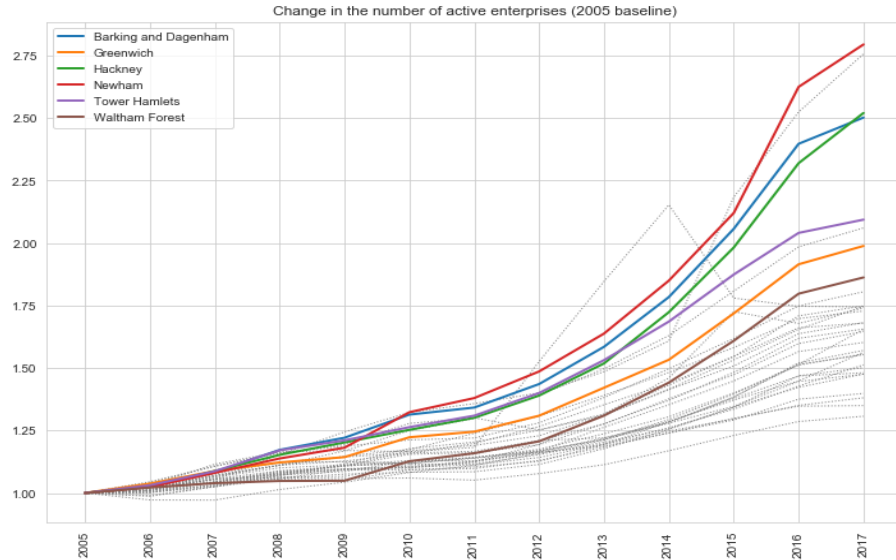


Figure 3: Change in the number of active enterprises from 2011 to 2017, in terms of multipliers, taking 2011 as base level.

### 3.2.2 Housing

In Fig. 4, we observe significant change in average house prices in the host boroughs. Newham and Waltham Forest both show multipliers of 1.91. This indicates that house prices nearly doubled over the period analysed. Number of dwellings/ houses Fig. 5 similarly showed significant increases with *Waltham Forest*, *Hackney*, *Newham* having the largest multipliers.

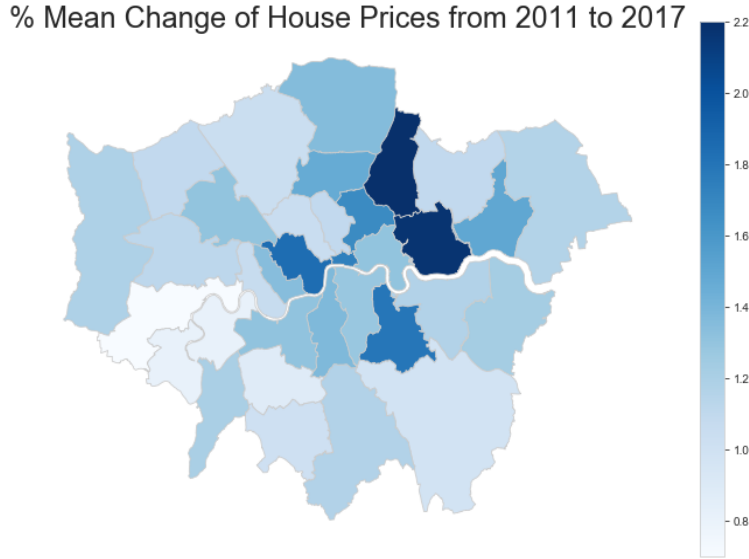


Figure 4: Change in average house price from 2011 to 2017, in terms of multipliers, taking 2011 as base level.

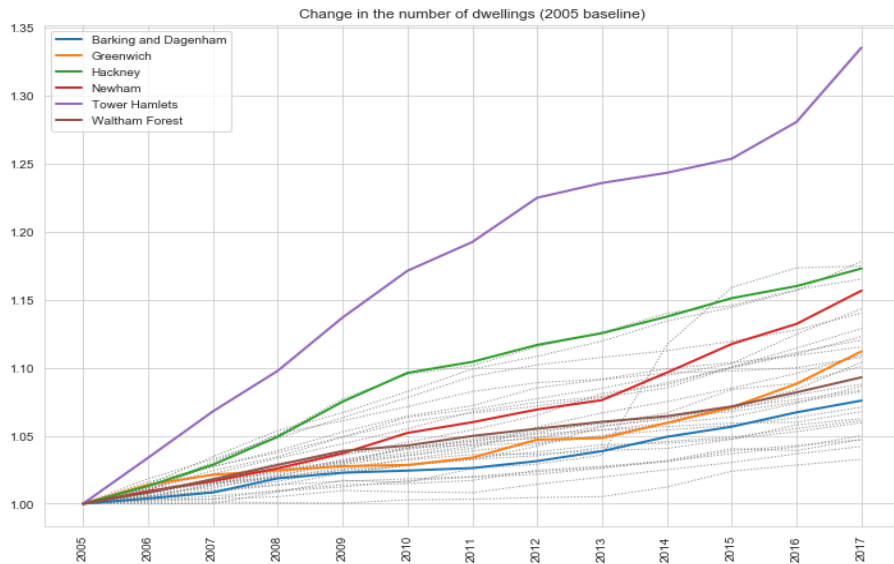


Figure 5: Change in number of houses from 2005 to 2017, in terms of multipliers, taking 2005 as base level. East London boroughs clearly show larger increases in housing supply.

### 3.3 Dining and Entertainment

We detail the percentage growth in the number of pubs, restaurants, bars, as well as the employment numbers in these establishments, in the East London growth boroughs. Additionally, we also consider the number of visits to the museums in the area.

#### 3.3.1 Pubs and Bars

There is a general downward trend of the number pubs and bars around London, including most of the East London boroughs with the exception of Hackney. Hackney has seen a significant growth since 2011 and continues to grow in 2017, having a larger growth multiplier than any of the other London boroughs.

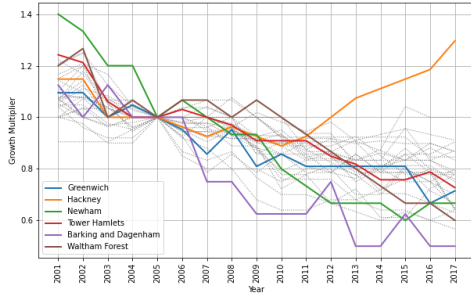


Figure 6: Growth multiplier of the number of pubs and bars (baseline year 2005).

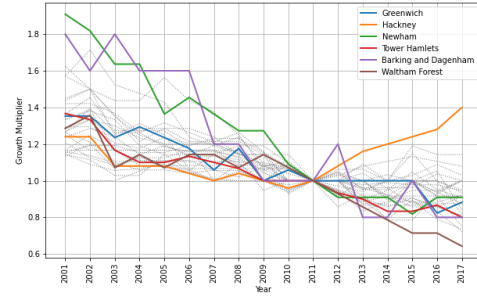


Figure 7: Growth multiplier of the number of pubs and bars (baseline year 2011).

#### 3.3.2 Restaurants

In Fig. 8 and Fig. 9, we observe a significant increase in growth of the number of licensed restaurants in the growth boroughs.

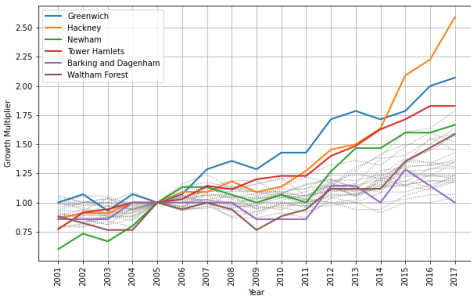


Figure 8: Growth multiplier of the number of licensed restaurants (baseline year 2005).

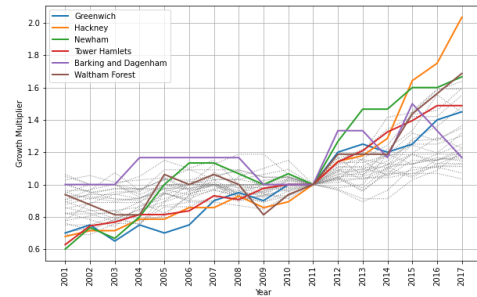


Figure 9: Growth multiplier of the number of licensed restaurants (baseline year 2011).



### 3.3.3 Takeaway and food stands

The data shows a spike in the number of takeaway and food stands in the host boroughs in 2012, likely due to the Olympics games held in those areas. The growth in numbers surpasses most other London boroughs, with the most significant being the borough Tower Hamlets. In Fig. 10 and Fig. 11, we observe a significant increase in growth of the number of takeaway and food stand places in the growth boroughs, throughout the years.

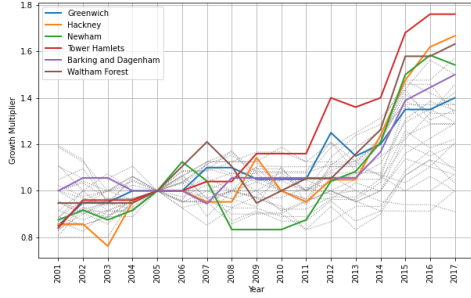


Figure 10: Growth multiplier of the number of takeaway places (baseline year 2005).

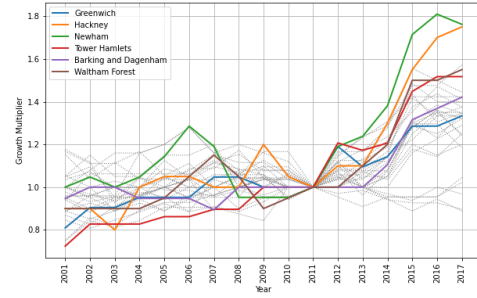


Figure 11: Growth multiplier of the number of takeaway places (baseline year 2011).

### 3.3.4 Museums

In the summer of 2012, almost all London museums show a decrease in the number of visitors, as most tourists were attending the Olympics instead of visiting museums. Post 2012 Olympics, we notice that almost all museums show a slight increase in the number of visitors. In East London, The Royal Museum of Greenwich saw an increase in the number of visits in July-September in 2013, compared to 2011 and 2012 (Fig. 12).

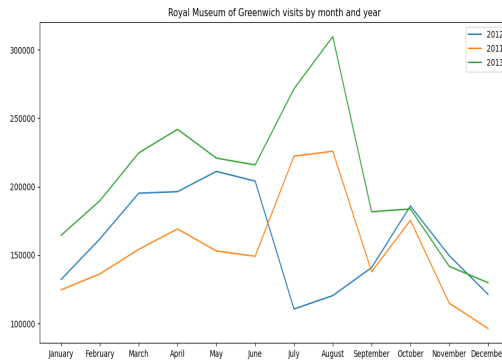


Figure 12: The number of visits by month to the Royal Museum of Greenwich (located in East London). One year before, during and after the Olympics.

### 3.4 Transport

To better understand the travel activity in East London boroughs, we want to know whether the DLR usage and the volume of passengers travelling through East London transport stations has increased. We look at both Stratford Underground Station and the DLR.

#### 3.4.1 Stratford Underground Station

In the following analysis, we present evidence showing a significant increase in number of annual visitors since 2010-2011. In particular, Stratford station continues to have a steady growth in number of visitors, both on weekdays and weekends, post 2011.

#### Stratford compared to other East London Underground Stations

The most popular station in East London based on people traffic is Stratford station. Stratford station has the highest number of entries on weekends and the 2nd highest number of entries on weekdays (after Canary Wharf, the main station servicing the commercial business district of London), amongst the East London boroughs (Fig. 13).

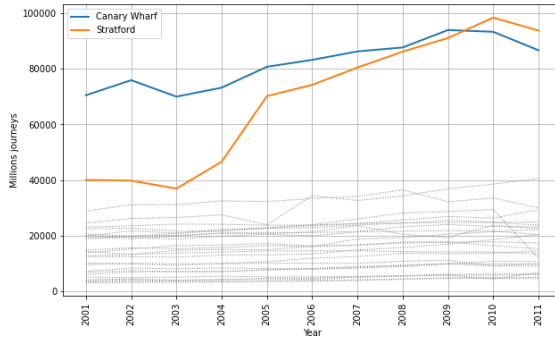


Figure 13: The average number of weekday journeys (in millions) that enter through stations in East London by year.

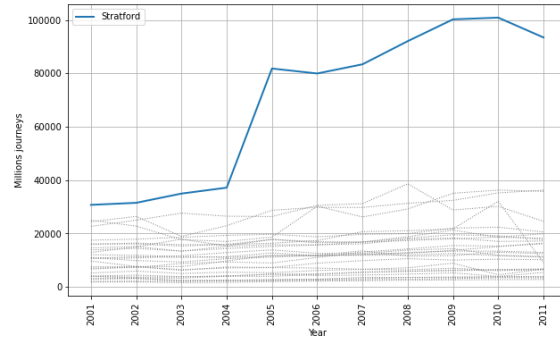


Figure 14: The average number of Saturday journeys (in millions) that enter through stations in East London by year.

#### Stratford compared to all other London Underground stations

East London underground stations show a general upward trend in number of visitors, but still have considerably less traffic than other London underground stations, with the exception of Stratford. Stratford joins King's Cross, Victoria, and Oxford Circus, as one of the most frequented stations on weekends (Fig. 15), and ranks in the top 5% for most entered stations on an average weekday across all London underground stations, post 2011. This can be attributed to the popularity of Westfield shopping mall located in the area.

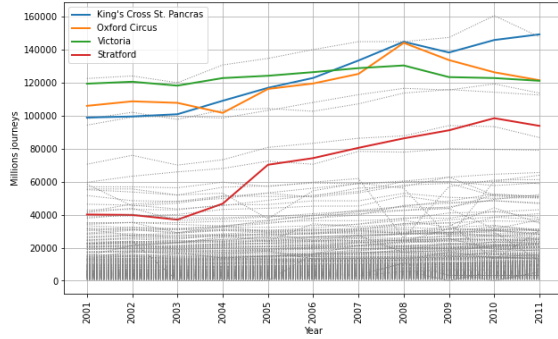


Figure 15: The average number of weekday journeys (in millions) that enter through stations in London by year.

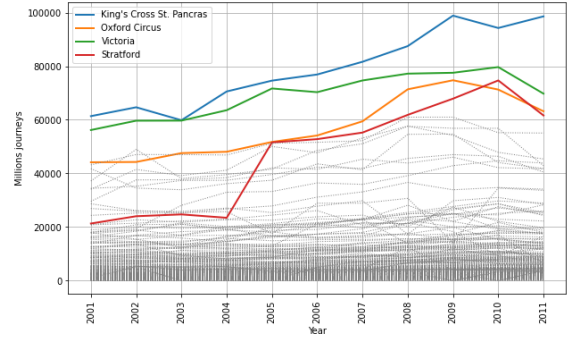


Figure 16: The average number of Saturday journeys (in millions) that enter through stations in London by year.

In Fig. 17, we observed that the growth multiplier for Stratford underground station is amongst the highest, further indicating its increased popularity over the years.

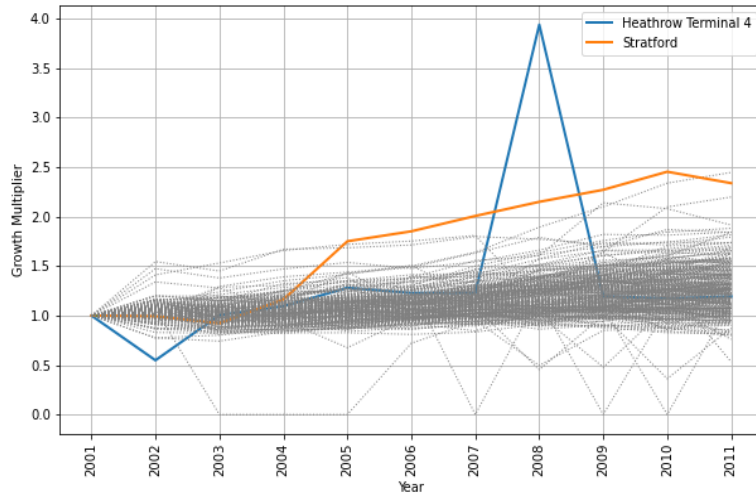


Figure 17: Growth multiplier of number of entries on an average weekday for all underground stations across London, from a baseline in 2007.

### 3.4.2 Docklands Light Railway (DLR) popularity

The London 2012 Olympics led to an extension of the existing DLR network, i.e. the Northern line, from Canning Town to Stratford International. The extension led to an increase in the popularity of the DLR, and is becoming one of the main modes of transportation for commuters of all around London going towards the business district and other workplaces in East London.

We observe a spike in the number of journeys taken via the DLR in the summer of 2012, with a continuous upward trend throughout the next few years. In fact, the growth is the most significant, as we observe the growth multiplier of each transport type in Fig. 18.

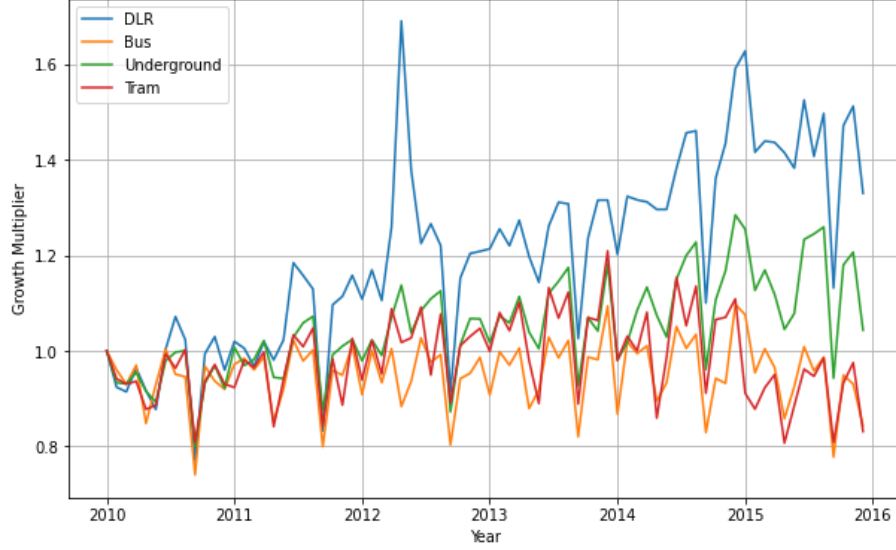


Figure 18: The growth multiplier of number of journeys monthly by the means of transportation, from a baseline in 2010.

### 3.5 Conclusion

We have shown evidence that suggests a correlation between infrastructure investment for the London 2012 Olympics and revitalization of East London boroughs. This evidence is observed through multiple indicators, such as growth in the mean house prices and the increased use of transportation links in the area.

We conclude that proper planning of hosting the Olympics can be a catalyst that encourages growth in the hosted area. It is vital that the transport links in these areas are well connected to the rest of the city, to encourage movement of people and businesses that will sustain for a longer period of time.

Future host cities such as Paris (2024) and Los Angeles (2028) can take the success of London into account, and similarly use the opportunity of hosting the Olympics to improve disadvantaged areas in their city.

## 4 References

### References

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