

# Cardiff Taxi Licensing Study 2016

Part 1: Taxi Rank Operations and Public Attitude Survey

Cardiff Council

29 September 2016

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Cardiff Taxi Licensing Study 2016: Part 1: Taxi rank Operations and Public Attitude Survey

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## **E Executive Summary**

## Executive Summary

- E.1 Cardiff Council (CC) controls the issuing of taxi licences in Cardiff. Following a previous study in 2010 where there was no evidence of significant unmet demand, the Council imposed a moratorium on the issue of new taxi licences. This restriction was left in place following a further study in 2013.
- E.2 Under DfT Taxi and Private Hire Vehicle Licensing Best Practice Guidance, a new study is required at a maximum interval of three years when a quantity restriction is in place. A new study is now due.
- E.3 AECOM has been commissioned by CC to undertake this study, comprising of analysis of taxi activity in the city centre, and surveys to establish the attitudes of the public, trade, and key stakeholders. The study has been approached with consideration to the DfT's Best Practice Guidance throughout.
- E.4 The main objectives of the study are as follows:
- To identify the current level of demand for taxis within Cardiff;
  - To assess whether the supply of taxis matches the demand;
  - To better understand the operations of taxis and private hire vehicles in and around Cardiff; and
  - To identify areas of the service that could be improved.
- E.5 In order to meet these objectives six different surveys have been undertaken. These surveys are described in three separate reports, with one overriding report summarising all the information and drawing the key conclusions and making recommendations. The four reports are listed below:

Report	Surveys
Cardiff Taxi Licensing Study 2016: Part 1: Taxi Rank Operations and Public Attitude Survey	<ul style="list-style-type: none"> <li>• Taxi rank observation survey</li> <li>• Public attitude questionnaire</li> </ul>
Cardiff Taxi Licensing Study 2016: Part 2: Driver and Proprietor Attitude Survey	<ul style="list-style-type: none"> <li>• Licensed driver questionnaire</li> <li>• Vehicle proprietor questionnaire</li> </ul>
Cardiff Taxi Licensing Study 2016: Part 3: Operator and Stakeholder Attitude Survey	<ul style="list-style-type: none"> <li>• Stakeholder online questionnaire</li> <li>• Operator online questionnaire</li> </ul>
Cardiff Taxi Licensing Study 2016: Part 4: Summary Report	<ul style="list-style-type: none"> <li>• Summary of the above surveys</li> </ul>

- E.1 This report is the Taxi Rank Operations and Public Attitude Survey, which summarises the results of two of the six surveys which have taken place; the taxi rank observations and a public attitude survey. The data collected from these surveys has been analysed to determine the current level of service and market conditions in Cardiff. The key conclusions are listed below:
- E.2 The Taxi Rank Surveys showed effective taxi demand and taxi supply follow similar patterns, however a clear oversupply of taxis can be seen across the network. Passenger delay analysis showed no significant delays being experienced by passengers, apart from a small number of anomalous occasions. Average taxi delay was over 5 minutes for the vast majority of locations, and delays could be over two hours in some cases.
- E.3 The Public Attitude Survey highlighted a possible lack of understanding of the difference between taxis and private hire vehicles, and little knowledge of the fare structure in Cardiff. However, there was no strong evidence that the moratorium imposed on taxi licences has had a detrimental impact on the public's needs and requirements according to responses from the public in the last three years.
- E.4 This is supported by the market condition analysis, which shows a significant amount of unused supply and no significant unmet demand. Passenger delay times do not appear to have changed from 2013 to 2016.

# 1 Introduction

# 1 Introduction

## 1.1 Background

- 1.1.1 Cardiff Council (CC) controls the issuing of taxi licences in Cardiff. Following a previous study in 2010 where there was no evidence of significant unmet demand, the Council imposed a moratorium on the issue of new taxi licences. This restriction was left in place following a further study in 2013.
- 1.1.2 Under Department for Transport (DfT) Taxi and Private Hire Vehicle Licensing Best Practice Guidance<sup>1</sup>, a new study is required at a maximum interval of three years when a quantity restriction is in place. A new study is now due.
- 1.1.3 AECOM has been commissioned by CC to undertake this study, comprising of analysis of taxi activity in the city centre, and surveys to establish the attitudes of the public, trade, and key stakeholders. The study has been approached with consideration to the DfT's Best Practice Guidance throughout.
- 1.1.4 The term 'Taxi' is commonly used to refer to both Hackney Carriages and Private Hire Vehicles (PHVs). However, for clarification, in this report the term 'Taxi' is used to refer to Hackney Carriages in line with the Law Commission report titled 'Taxi and Private Hire Services'<sup>2</sup>. Where the report includes analysis that refers to PHVs, this will be clearly stated.

## 1.2 Study Objectives

- 1.2.1 The main objectives of the study are as follows:
- To identify the current level of demand for taxis within Cardiff;
  - To assess whether the supply of taxis matches the demand;
  - To better understand the operations of taxis and private hire vehicles in and around Cardiff; and
  - To identify areas of the service that could be improved.
- 1.2.2 In order to meet these objectives six different surveys have been undertaken. These surveys are described in three separate reports, with one overriding report summarising all the information and drawing the key conclusions and making recommendations. The four reports are listed below:

Report	Surveys
Cardiff Taxi Licensing Study 2016: Part 1: Taxi Rank Operations and Public Attitude Survey	<ul style="list-style-type: none"> <li>• Taxi rank observation survey</li> <li>• Public attitude questionnaire</li> </ul>
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Cardiff Taxi Licensing Study 2016: Part 4: Summary Report	<ul style="list-style-type: none"> <li>• Summary of the above surveys</li> </ul>

- 1.2.3 This report is the Taxi Rank Operations and Public Attitude Survey which analyses and summarises the findings of the taxi rank and public attitude surveys to help determine the current level of service and market conditions in Cardiff.

<sup>1</sup> <https://www.gov.uk/government/publications/taxi-and-private-hire-vehicle-licensing-best-practice-guidance>

<sup>2</sup> <https://www.gov.uk/government/publications/taxi-and-private-hire-services>

### **1.3 Report Structure**

1.3.1 Following this introduction, the report is structured as follows:

- Section 2 provides the background to the study, including details of the licensed vehicle market in Cardiff and current law and policy;
- Section 3 sets out the methodology of the study, providing details of the surveys and consultations undertaken;
- Section 4 summarises the key results from the taxi rank surveys, including analysis of demand and supply and average waiting times for both passengers and taxis;
- Section 5 outlines the results of the public attitude surveys, including information about existing licensed vehicle usage patterns, perceived service quality and potential improvements;
- Section 6 analyses the results of the various surveys with a view to determining whether there is currently excess demand or excess supply in the taxi market;
- Section 7 compares the 2013 study results with the new 2016 results;
- Section 8 summarises the findings and provides the key recommendations of the study.

## **2 Study Background**

## 2 Study Background

### 2.1 Licensed Vehicle Market in Cardiff

- 2.1.1 Cardiff is one of the fastest growing European Capital cities, and this rapid rate of expansion puts pressure on local transport infrastructure and services. Licensed Vehicles, in the form of Taxis and Private Hire Vehicles, provide an important service to the public allowing them to move round the city.
- 2.1.2 It is important to understand the differences between taxis and private hire vehicles. A Taxi (also known as Hackney Carriage) can be hailed at the roadside, and will have a 'Taxi' roof sign and a licence plate displayed on the rear of the vehicle. In Cardiff the vehicles are either black with a white bonnet and white licence plate on the rear or a London Cab style vehicle. For clarification, in line with the Law Commission report titled 'Taxi and Private Hire Services'<sup>3</sup> from May 2014, this report will use the term taxi rather than hackney carriage.
- 2.1.3 A Private Hire Vehicle (PHV) cannot be hailed at the roadside; all private hire vehicles must be pre-booked. There is no light on its roof and a yellow licence plate is displayed at the rear of the vehicle. If a private hire vehicle stops when hailed it is likely that the vehicles insurance may be invalidated.
- 2.1.4 At the current time Cardiff City Council licenses 901 taxis with a further 49 licences currently on hold. Given that the population of Cardiff is 357,160 (2015 Mid-Year Estimate), this equates to one taxi per 396 people; a slight increase compared with 2010 when the moratorium was originally introduced. In addition, there are currently 1056 licensed private hire vehicles, which is a 28% increase from the 2013 study. The total number of licensed drivers has increased from 2045 to 2148.

**Table 2.1**  
**Comparison of Licence Numbers in 2010, 2013 and 2016**

Licensed Vehicles/Drivers	2010	2013	2016
Taxis	875	896	901
Private Hire Vehicles	865	827	1056
Drivers	2045	2022	2148

- 2.1.5 Table 2.2. compares the number of licenced taxis per head of population in a number of local authorities of comparable size to Cardiff. This shows that Cardiff has significantly more taxis per head of population than these other local authorities, with Bristol (1 per 596 people) and Nottingham (1 per 776 people) being the next largest.

**Table 2.2**  
**Comparison of Taxi Licences per Population**

Location	Population Estimate (2015)	Taxi Licence Numbers	Number of People per Taxi Licence
Nottingham	318901	411	776
Leicester	342627	336	1020
Cardiff	357160	901	396
Dorset	420585	541	777
City of Bristol	449328	754	596

<sup>3</sup> <https://www.gov.uk/government/publications/taxi-and-private-hire-services>

- 2.1.6 Taxis operate from 13 official ranks located throughout the city, the locations and hours of operation of which are identified in Table 2.3. It should be noted that the ranks at Saunders Road (Cardiff Central Station) and Heath Hospital are located on private land and are not maintained by the Council. The locations of the ranks are displayed on a map in **Appendix A**.
- 2.1.7 It is worth noting the closure of two ranks since the 2013 study; namely Central Square (Cardiff Central Station) and Glynrhondda Street.

**Table 2.3**  
**Location and Hours of Operation of Official Taxi Ranks**

Location	Hours of Operation
(1) Albert Street	24hr
(2) Churchill Way	24hr
(3) Greyfriars Road	24hr
(4) Havelock Street	24hr
(5) Heath Hospital	07:00-23:00
(6) Lower St Mary Street (East)*	19:00-07:00
(7) Lower St Mary Street (West)*	24hr
(8) Mermaid Quay	24hr
(9) Mill Lane (South)	24hr
(10) Park Place	06:00-23:00**
(11) Saunders Road (Cardiff Central Station)	24hr
(12) St Mary Street / Guildhall Pl	24hr
(13) Tredegar St	24hr

\*Indicates night time closure due to road closure on weekend nights

\*\*The Park Place rank is officially operational in these hours, but used throughout the night and therefore has been surveyed over the 24hr period

- 2.1.8 In addition, there are a number of unofficial taxi ranks around the City Centre, which are generally in operation at night. This includes unofficial ranks at Duke Street/Castle Street, Greyfriars Road, St Mary Street (outside O'Neills) and Wood Street/Westgate Street. Sophia Gardens is the current National Express coach stop and there is an unofficial taxi rank for passenger pick-up and drop-off. Table 2.4 summarises the location and approximate hours of operation of each unofficial rank.

**Table 2.4**  
**Location and Approximate Hours of Operation of Unofficial Taxi Ranks**

Location	Hours of Operation
(A) Duke Street / Castle Street	Informal
(B) Greyfriars Road (Unofficial)	Informal
(C) Sophia Gardens	Coach stop – 24 hrs
(D) St Mary Street (outside O'Neills)	Informal
(E) Wood Street / Westgate Street	Informal

2.1.9 Cardiff Council regulates the fares which are charged by taxis in Cardiff. The fare tariff is split into three main components; the initial fee for entering the vehicle and travelling 103 yards (94.18 m) or part thereof; a distance related charge rate for each subsequent 207 yards (189.28m) travelled; and a time based charge rate for periods when the taxi is not in motion. Additional charges are applied according to the time of day and year, the number of passengers on board and additional bulky items that may be transported in taxis from time to time. The current fare tariff is summarised in Table 2.5.

**Table 2.5**  
**Cardiff Taxi Fare Tariff December 2015**

<b>Authorised Fare Tariff</b>	
First 103 yards (94.18 metres) or part thereof	£2.30
If distance exceeds 103 yards (94.18m) for first 103 yards (94.18m)	£2.30
For each subsequent 207 yards (189.28m)	£0.20
<b>Waiting Time</b>	
For each period of 48 seconds	£0.20
<b>Extra Charges</b>	
For hiring between midnight and 6 am and on Sundays, and Bank Holidays	£1.00
For hiring between 8pm Christmas Eve and 6am on 27 <sup>th</sup> December and between 8pm New Years Eve and 6am 2 <sup>nd</sup> January	£3.00
For each passenger exceeding four	£1.00 each
For bicycles, cabin trunks (minimum size 36" x 24" x 18") and items of furniture	£0.50 each
The extra charge for night time, Sundays and Bank Holidays will not apply when extra charge for Christmas and New Year applies.	
<b>Contamination</b>	
For the fouling of a vehicle	£50.00
On all journeys within the boundary of the City and County of Cardiff the driver must use the meter which must not exceed the authorised fare scale shown above. Fares for journeys ending outside the area of the City and County of Cardiff, and in respect of which no fare or rate of fare was agreed before the hiring was effected, must not exceed the authorised fare scale as shown above.	

## **2.2 Licensed Vehicle Legislation**

2.2.1 Licensed Vehicle legislation is not set out in any single act, but is fragmented and complex falling under the following five key pieces of legislation;

- The Town Police Clauses Act 1847;
- The Town Police Clauses Act 1889;
- The Transport Act 1985;
- The Local Government Act 1976; and
- The Equality Act 2010.

2.2.2 The Town Police Clauses Act of 1847 set out the regulatory system in respect of taxis. The Act sets out the definition of a taxi, what would be on a licence and how the carriages could operate. The Act made it illegal to ply for trade without a licence with a strict fine for those convicted, and also stated that there would be a fixed penalty for any driver refusing service. The Town Police Clauses Act 1889 contains amendments to the act from 1847.

2.2.3 The Local Government Act 1976 set down the mechanism for the licensing of vehicles and drivers as well as the basis for enforcement. This Act does however concentrate on private hire vehicles. This Act allows the local licensing authority to set conditions for drivers and their cabs if they are considered reasonably necessary, for example in relation to the vehicle style, colour etc. The local authority also has the power to refuse a licence application and to remove a licence if the driver is not seen to be fit to hold it, for any reasonable reason.

2.2.4 Following on from the 1976 Act, the Transport Act 1985 set down the requirements for continued licence control and allows for the control of licence numbers. The Act also set out the conditions under which shared taxis and taxi buses could be introduced. It also covers the provision of designated bays from which taxis could be hired.

2.2.5 The Equalities Act 2010 replaces The Disability Discrimination Act 1995, and covers the requirements for taxi accessibility and other matters in Part 12.

2.2.6 In addition to this legislation is the Department for Transport (DfT) Taxi and Private Hire Vehicle Licensing: Best Practice Guidance. This document sets out the role of licensing and in particular references the best approach to quantity restrictions.

## **2.3 Policy Context**

2.3.1 The Transport (Wales) Act 2006 made provision for a new transport planning system in Wales where the Local Transport Plans (LTPs) prepared by each local authority are replaced with Regional Transport Plans (RTPs) produced by the four regional transport consortia in Wales.

2.3.2 Cardiff Council was one of 10 authorities in the South East Wales Transport Alliance (Sewta), the regional consortium for South East Wales. Sewta's RTP was published in January 2010 following release of the Welsh Assembly Government's Wales National Transport Plan (NTP). Sewta ceased to operate in September 2014. As of January 2015 Cardiff Council adopted a new LTP for 2015-2020, and in January 2016 Cardiff Council adopted a Local Development Plan (LDP) for Cardiff.

2.3.3 Both Cardiff's LTP 2015-2020 and Cardiff's LDP, however, make no direct reference to taxis and private hire vehicles, beyond supporting facilities for taxis to enable transfer between transport modes.

2.3.4 At present there is a moratorium on the issue of new taxi licences, and as such a new study is required to assess the current market within three years of the previous study. This new study should be approached with the interests of the travelling public in mind, and consider what benefits or disadvantages the moratorium has on them, or the removal of the moratorium would have.

2.3.5 The DfT Best Practice Guidance sets the need to demonstrate that there is no evidence of significant unmet demand, and states 'it is sometimes argued that delays associated only with peaks in demand ... are not 'significant' for the

purpose of the Transport Act 1985'. However, in line with DfT guidance, significant unmet demand at peak times should be taken into consideration, and will be in this study.

### **3 Study Scope**

## 3 Study Scope

### 3.1 Survey Programme

- 3.1.1 The primary aim of this study is to establish whether there is any significant unmet demand for taxi services in Cardiff. A study was carried out in 2002 which showed that there was a significant unmet demand for taxis in Cardiff and therefore the introduction of a cap could not be justified. A second study in 2010 found there was not any significant unmet demand for taxis in Cardiff, and therefore a moratorium on the issue of new licences was introduced. A subsequent study in 2013 found there was no significant unmet demand and as such the moratorium remained in place.
- 3.1.2 In accordance with the DfT guidance, when a cap is in place a new study should be carried out up to a maximum of 3 years after the previous study. This study is an update of the 2013 study and therefore uses very similar methods of data capture and analysis.
- 3.1.3 Two data capture exercises were undertaken, taxi rank observation surveys and a public attitude survey, which together enable both the assessment of the quality of service to existing passengers and the existence of significant unmet demand. The conclusions in this report are largely based on the rank observation results with the data from the public attitude survey being used to provide supplementary information.

### 3.2 Taxi Rank Surveys

- 3.2.1 The taxi rank survey programme was undertaken over a four month period from March 2016 to June 2016. During this period a total of 1020 hours of observations were undertaken across 13 official and 5 unofficial taxi ranks in Cardiff.
- 3.2.2 Manual observations were carried out across a range of days and time periods encompassing weekdays (Monday to Friday), weekends (Friday night and Saturday) and Sundays. At each rank, surveyors recorded the supply and demand for taxis in 5 minute intervals throughout the survey period. Table 3.1 shows the total number of hours observed at each taxi rank. Where some ranks were closed or not operational for certain periods this has been noted below. Some ranks were observed via video footage rather than on street observations.

**Table 3.1**  
**Allocation of Taxi Rank Observations**

Location	Hours Observed
Albert Street	72.00 <sup>1</sup>
Churchill Way	72.00 <sup>1</sup>
Greyfriars Road	72.00
Havelock Street	72.00 <sup>1</sup>
Heath Hospital	48.00
Lower St Mary Street (East)	72.00 <sup>1,2</sup>
Lower St Mary Street (West)	72.00 <sup>2</sup>
Mermaid Quay	72.00
Mill Lane	72.00
Park Place	64.00 <sup>1</sup>
Saunders Road (Cardiff Central Station)	72.00
St Mary Street / Guildhall Place	72.00
Tredegar Street	72.00
Duke Street / Castle Street*	9.50
Greyfriars Road (Unofficial)*	5.08
Sophia Gardens*	72.00
St Mary Street (outside O'Neills)*	17.92
Wood Street / Westgate Street*	12.08

\* Unofficial taxi ranks.

<sup>1</sup> A total of 72 hours of observations were carried out, but this did not cover the full Weekend period. The extra data collected during the Weekday period has been excluded from the subsequent analysis

<sup>2</sup> Time inclusive of road closure on Friday and Saturday (Weekend) nights – 21:00-04:00

### 3.3 Public Attitude Survey

3.3.1 A survey of 733 people was conducted in Cardiff City Centre across four months between May 2016 and August 2016. The aim of the survey was to assess peoples' views on the quality of the taxi and private hire vehicle services in Cardiff.

3.3.2 In 2010, the survey response was controlled by quotas on age and sex of respondent linked to 2001 Census data for Cardiff residents. This approach was not replicated in the 2013 study as it is recognised that the users of licensed vehicles in Cardiff include other groups as well as local residents, and the same approach has been used in this study. However, the survey responses have been compared to the 2011 Census data for Cardiff to ensure that they remain reasonably representative of the current demographics in the City, as shown in Section 5.

## **4 Results of Taxi Rank Surveys**

## 4 Results of Taxi Rank Surveys

### 4.1 Survey Response

4.1.1 In order to construct a representative profile of demand at each rank over the period of a week, a number of assumptions are made.

4.1.2 Firstly 'daytime' observations refer to observations made between 07:00 and 18:59 hours, and 'night time' observations refer to observations made between 19:00 and 06:59 hours. These are then divided further into distinct time periods, which are designed to represent different types of activity. The hours covered by each time period are defined in Table 4.1 below.

**Table 4.1**  
**Definition of Time Periods<sup>4</sup>**

Time of Day	Time Period	Hours
Daytime	AM Peak (AM)	07:00 – 09:59
	Interpeak (IP)	10:00 – 15:59
	PM Peak (PM)	16:00 – 18:59
Night time	Off-peak night (OPN)	19:00 – 23:59
	Off-peak morning (OPM)	00:00 – 06:59

4.1.3 Secondly, the week has been split into three day types – Weekday, Weekend and Sunday. These day types are defined as follows:

**Table 4.2**  
**Definition of Day Types**

Day Type	Time Period
Weekday	07:00 Monday to 18:59 Friday
Weekend	19:00 Friday to 06:59 Sunday
Sunday	07:00 Sunday to 06:59 Monday

4.1.4 Each of the 13 official taxi ranks was surveyed on a weekday, weekend and a Sunday. Table 4.3 summarises the number of hours of observations that were carried out at each of the taxi ranks on each day in each time period. During the periods surveyed some 14,723 passengers and 8,319 taxi vehicles were observed to depart from the taxi ranks.

<sup>4</sup> The time periods are standard definitions which refer to the prevailing traffic conditions rather than specifically to taxi usage.

**Table 4.3**  
**Taxi Rank Observations (No. of hours surveyed)**

Taxi Rank	Weekday					Weekend					Sunday				
	AM	IP	PM	OPN	OPM	AM	IP	PM	OPN	OPM	AM	IP	PM	OPN	OPM
Albert Street	3	6	3	5	7	3	6	2.9	5	7	3	6	3	5	7
Churchill way	3	6	3	5	7	3	6	2.9	5	7	3	6	3	5	7
Greyfriars Road	3	6	3	5	7	3	6	3	5	7	3	6	3	5	7
Havelock Street	3	6	3	5	7	3	6	2	5	7	3	6	3	5	7
Heath Hospital	3	6	3	4	0	3	6	3	4	0	3	6	3	4	0
Lower St Mary Street (East)	6	12	6	5	7	0	0	0	3*	3.1*	3	6	3	5	7
Lower St Mary Street (West)	3	6	3	5	7	3	6	3	3.3*	3.1*	3	6	3	5	7
Mermaid Quay	3	6	3	5	7	3	6	3	5	7	3	6	3	5	7
Mill Lane (South)	3	6	3	5	7	3	6	3	5	7	3	6	3	5	7
Park Place	3	6	3	5	7	3	6	2.9	5	7	3	6	3	4	0
Saunders Road	3	6	3	5	7	3	6	3	5	7	3	6	3	5	7
St Mary Street/Guildhall Place	3	6	3	5	7	3	6	3	5	7	3	6	3	5	7
Tredegar Street	3	6	3	5	7	3	6	3	5	7	3	6	3	5	7
Duke Street/ Castle Street	0	0	0	0	0	0	0	0	2.9	6.6	0	0	0	0	0
Greyfriars Road (Unofficial)	0	0	0	0	0	0	0	0	1.6	3.5	0	0	0	0	0
Sophia Gardens	3	6	3	5	7	3	6	3	5	7	3	6	3	5	7
St Mary Street (O'Neills)	0	0	1	5	6	0	0	0	2.1	3.8	0	0	0	0	0
Wood Street	0	0	0.1	0	0	0	0	0	3.2	3.3	0	0	0	0	0

Grey squares indicate periods when checks were carried out but no activity was observed.

'\*\*' indicates where night time road closures have shortened observation time.

- 4.1.5 This table shows that across the survey period there was almost complete coverage of all ranks on a weekday, weekend and on a Sunday. The unofficial ranks have limited coverage, however, this is primarily due to the fact that they are not in use for long periods and therefore no observations have been carried out during these times.

#### 4.2 Survey Methodology

- 4.2.1 As in 2013, the taxi rank surveys record all passenger and taxi activity at each rank in 5 minute intervals. The surveys record all taxis departing from the rank during the 5-minute period and the number of passengers in each vehicle. The surveys also record the number of passengers and/or taxis queuing at the rank at the end of each 5-minute period. The surveys also record any potential customers who walked away from a rank without getting into a taxi and/or any taxis that drive away from the rank without getting a fare.

- 4.2.2 Using this data, it is possible to calculate a wide range of indicators that are useful in determining the prevailing market conditions. Firstly, the record of all taxis leaving the rank and the number of passengers in each can be used to determine the total passenger demand and the total taxi supply in each 5-minute period and also the average vehicle occupancy (i.e. the average number of passengers per vehicle).
- 4.2.3 When making a comparison between the demand for and the supply of taxis, it would be inaccurate to directly compare passenger demand and taxi supply, as more than one person will often share a taxi. In order to make a direct comparison it is necessary to estimate the effective taxi demand; that is, the number of taxis that would be required to serve the existing passenger demand, assuming that current taxi occupancy rates remain the same. Effective taxi demand is calculated by dividing the average passenger demand by the average taxi occupancy.
- 4.2.4 Finally and most importantly, using the passenger and taxi activity data and the queue length at the end of each 5-minute period, it is possible to estimate how long each person and taxi in the queue at the end of a 5-minute period has been waiting. This calculation assumes that the queue is arranged in the order that people arrive and therefore the first people to depart in each 5-minute period will be the people who have been waiting the longest. The following example illustrates the calculation methodology (refer to Figure 4.1).

**Figure 4.1 – Example Passenger Demand Data**

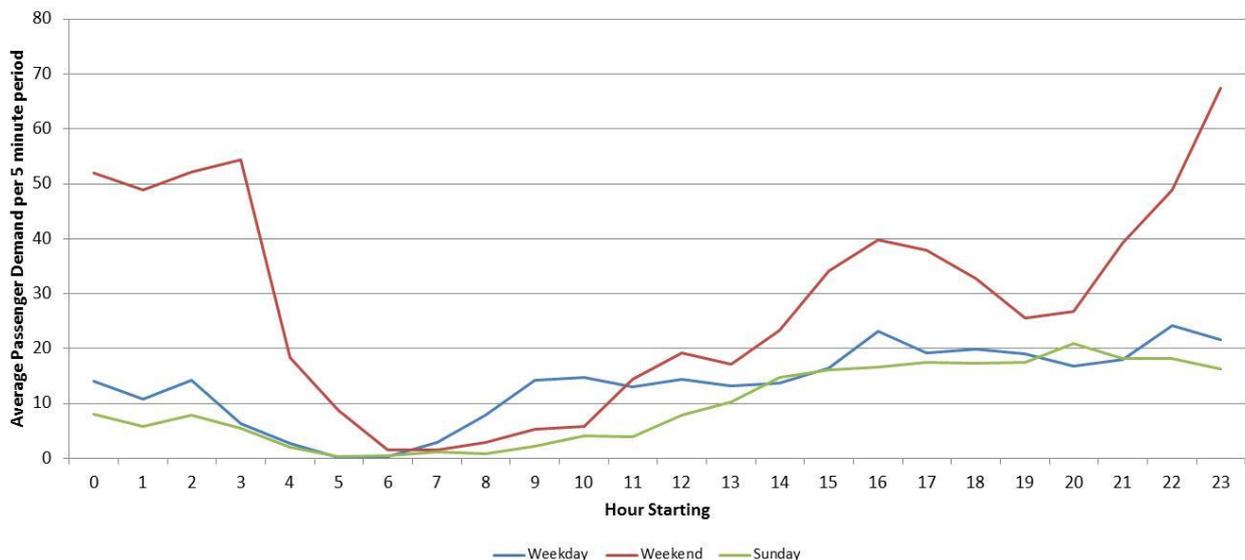
Time Period	Passenger Arrivals	Passenger Departures	Queue Length	Queue Profile
T			6	
T+1	1	3	4	
T+2	2	2	4	
T+3	2	5	1	

- 4.2.5 The passenger indicated in red arrives at some point in time period T and is at the back of the queue (6th) at the end of that period. During the following 5-minute period, T+1, 3 passengers depart leaving the red passenger 3rd in the queue, while 1 person has joined behind. In the next time period, T+2, 2 further passengers depart, leaving the red passenger at the front of the queue with three further passengers behind. In time period T+3, 5 passengers including the red passenger depart. It can be calculated that the red passenger has waited two full 5-minute period (T+1 and T+2), plus the time taken to obtain a taxi in period T+3. As the passenger was the first of five passengers to depart in this period and assuming that passengers departed at regular intervals, it is estimated that the passenger has waited 1 minutes in time period T+3, giving a total wait time of 11 minutes. This figure ignores the time spent waiting in time period T as it is unknown exactly when the passenger joined the queue. On this basis it can be considered to be a conservative estimate of the passenger's wait time.
- 4.2.6 The wait time is calculated in this manner for all passengers in the queue at the end of each 5-minute period and also for any passengers that have departed during that 5-minute period. An average is taken, which represents the overall average wait time for passengers at that rank during that 5-minute period. A similar calculation can be performed for taxis to estimate their average wait time during each 5-minute period.

### 4.3 Passenger Demand

4.3.1 The data collected from the taxi rank surveys has been used to estimate overall passenger demand by day type and time period from which the peak passenger demand across the city can be derived. Figure 4.2 shows the average passenger demand in a 5 minute period in each hour for weekdays, weekends and Sundays. Passenger demand was also calculated by rank; copies of the graphs showing each ranks passenger demand and taxi supply data can be found in **Appendix B**.

**Figure 4.2**  
**Average Passenger Demand (All Taxi Ranks)**



4.3.2 A number of key observations can be made from this graph. Firstly, passenger demand is peaked, particularly on weekend nights, with greatest demand occurring in the late evening and early morning when other transport choices are limited.

4.3.3 On weekdays, passenger demand builds from around 7am, plateauing at 9am with average demand of around 14 passengers every 5 minutes across all ranks. Passenger demand remains within the range of 13-15 passengers until 3pm when the demand rises to a daytime peak at 4pm of 23 passengers every 5 minutes. Between 5pm and 9pm there is a steady demand of between 16 and 20 before the peak of 24 passengers per 5 minutes at 10pm. From 6am to 11pm the taxi rank showing greatest average passenger demand is Saunders Road close to Cardiff Central Station, where the peak average passenger demand per 5 minute period reaches 8 at 10am. This suggests the peak demand may be attributable to train passengers. The rank on Churchill Way has a sharp rise in passenger demand in the afternoon between 3pm and 7pm, with a peak of nearly 5 passengers per 5 minutes at 4pm. The busiest ranks during the weekday night time are Lower St Mary Street (West), Greyfriars Road and the unofficial rank on St Mary Street, all of which are near local bars and clubs.

4.3.4 Weekend daytime demand follows a similar pattern to weekday use although reaches much higher levels of demand. Passenger demand starts from close to zero at 7am and rises steadily throughout the morning, although it is generally lower than during the weekday. By 11am, average demand exceeds weekday demand and continues to rise through the afternoon with peak daytime demand occurring around 4pm when there are on average 39.8 passengers per 5 minute period. The busiest ranks in the weekend daytime period (07:00 – 18:59) are Saunders Road which serves the Cardiff Central Station, Lower St Mary Street (West) and Mermaid Quay. After 4pm, there is a slight reduction in demand until 8pm, at which point demand starts to build steadily towards the 11pm peak.

- 4.3.5 During the weekend night time period the demand for taxis builds steadily from 8pm, peaking at 11pm when the average demand per 5 minute period across all taxi ranks is 67.4 passengers, with demand remaining between 48 and 55 passengers per 5 minutes from midnight to 3am. The most heavily used rank during this peak period is the unofficial rank on St Mary Street, with an average of 17.8 passengers departing per 5 minute period between 11pm and midnight. Mermaid Quay is also busy before midnight, and after midnight the unofficial ranks at Castle Street/Duke Street and Greyfriars Road are the busiest ranks. The popularity of these ranks is most probably due to their proximity to many of the city centre bars and night clubs which close around this time, with many patrons opting to travel home by taxi rather than using other means of transport (e.g. night buses).
- 4.3.6 Taxi demand is generally lower on Sundays, but follows a similar pattern and level to weekday demand. Demand rises steadily between 8am and 8pm although demand is well below the weekday periods in the morning. Between 2pm and 9pm average passenger demand is at a similar level to weekday demand. Sundays still exhibit a night time peak, however it occurs earlier and demand is lower than during the weekday and particularly the weekend periods. The Sunday peak occurs around 8pm with average demand of 21 passengers per 5 minutes period. The key ranks used during this peak are Saunders Road, St Mary Street/Guildhall Place and Mermaid Quay.

#### **4.4 Taxi Occupancy**

- 4.4.1 As part of the taxi rank survey, the number of passengers that departed in each taxi was recorded. Using this data, it is possible to calculate the average taxi occupancy and see whether there are certain locations or time periods where average occupancy is particularly high or low. Table 4.4 summarises average taxi occupancy by day, time period and location.
- 4.4.2 The overall average occupancy over all locations and time periods is 1.7 passengers per taxi. There is limited variation by day type. Weekdays have the lowest average occupancy at 1.5, followed by Sundays at 1.7 passengers per taxi, with weekends having the highest average occupancy at 1.9 passengers per taxi.
- 4.4.3 On weekdays, taxi occupancy is higher in the off-peak period than during the daytime, perhaps reflecting that a higher proportion of taxi journeys made in the evening and night time are leisure related, with people travelling in larger groups to and from their destinations, while daytime taxi usage is largely business related, with many passengers travelling alone or in small groups.
- 4.4.4 At weekends, there is a noticeable increase in average taxi occupancy in the PM period, where average occupancy is 2.1 passengers per taxi. This is largely related to high occupancy rates at Sophia Gardens where passengers are arriving into Cardiff on coaches, Lower St Mary Street (West) and Mermaid Quay. The inter-peak and off-peak morning averages are both 1.9 passengers per taxi, but the ranks contributing most to these numbers are different in each period. The off-peak average is likely to be pushed up by the high proportion of people who use taxis to get home after a night out, with the ranks closest to the pubs and nightclubs – Lower St Mary Street (East and West), Greyfriars Road, and the unofficial Castle Street/Duke Street and Wood Street ranks – all having the averages of 2 or more passengers per taxi. The inter-peak period occupancy rates are highest at Saunders Road, Mill Lane and Mermaid Quay, which could be attributed to the train station and local shops and attractions.
- 4.4.5 There is less variation in taxi occupancy levels on Sundays, with only the morning peak average (1.2 passengers per taxi) significantly lower than the daily average of 1.7. However, looking at individual ranks, Tredegar Street and Mermaid Quay experience an average occupancy of 2 or above passengers per taxi across the day, and these ranks are close to shops and attractions.

**Table 4.4**  
**Average Taxi Occupancy**

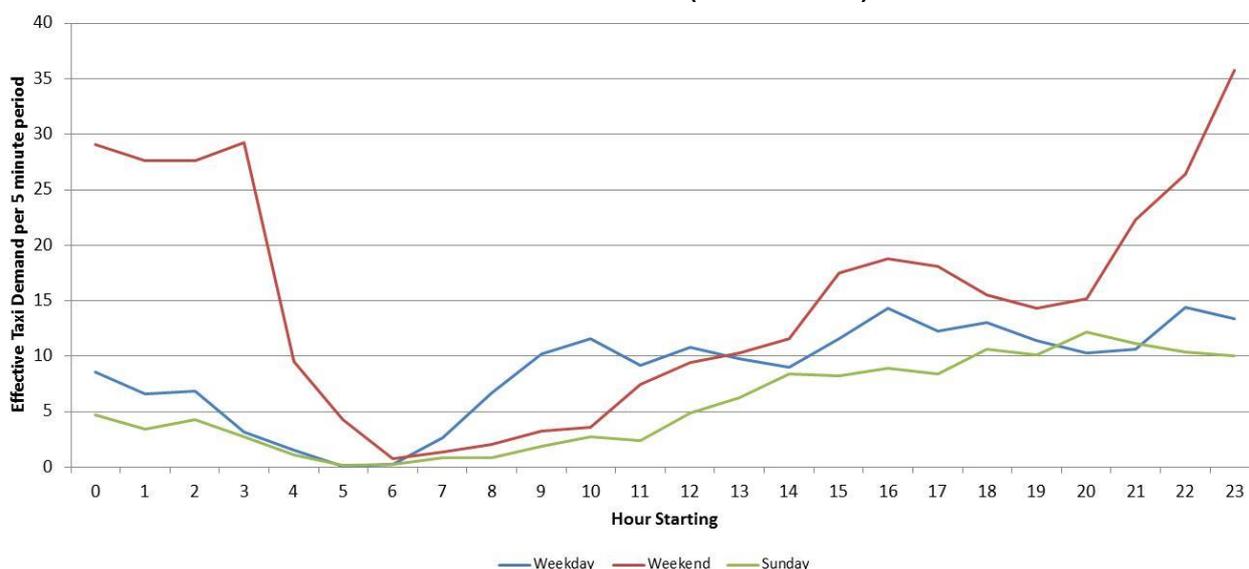
Location	Weekday						Weekend						Sunday						Overall
	AM	IP	PM	OPN	OPM	Daily	AM	IP	PM	OPN	OPM	Daily	AM	IP	PM	OPN	OPM	Daily	
Albert Street	1.2	1.4	1.8	1.7	2.0	1.4	1.1	1.7	1.8	1.5		1.6	1.0	2.1	1.7	1.5	1.0	1.8	<b>1.6</b>
Churchill way	1.0	1.4	1.8	1.7	1.4	1.6	1.3	1.5	2.2	1.9	1.9	1.9	1.3	2.0	2.0	1.7	2.1	1.9	<b>1.8</b>
Greyfriars Road	1.4	1.6	1.7	1.7	1.8	1.7	1.5	2.0	1.9	1.9	2.0	1.9	1.3	1.5	2.1	1.8	2.0	1.8	<b>1.8</b>
Havelock Street								1.0			1.0	1.0							<b>1.0</b>
Heath Hospital	1.6	1.3	1.3	1.5		1.4	1.3	1.3	1.3	1.3		1.3	1.0	1.3	1.5	1.0		1.3	<b>1.3</b>
Lower St Mary Street (East)				1.0	1.0	1.0					2.1	2.1							<b>1.9</b>
Lower St Mary Street (West)		1.5	1.7	1.8	2.3	2.0	1.4	1.9	2.7	1.7	2.2	2.1		1.8	1.6	1.5	1.7	1.7	<b>1.9</b>
Mermaid Quay	1.0	1.6	1.5	1.7	2.3	1.6	1.0	2.2	2.5	2.0	1.7	2.1	1.3	2.2	2.1	1.9	2.0	2.0	<b>1.9</b>
Mill Lane (South)	1.2	1.5	1.7	1.5	1.5	1.5	2.0	2.3	2.2	2.3	1.9	2.2	1.3	2.0	2.3	1.7	1.8	1.9	<b>1.9</b>
Park Place	1.1	1.2	1.7	1.6	1.3	1.4	1.5	1.6	2.0	1.6	1.6	1.6	1.3	1.8	1.8	1.6		1.7	<b>1.6</b>
Saunders Road	1.3	1.3	1.4	1.3	1.6	1.3	1.9	2.4	2.3	1.7	1.2	2.0	1.4	1.5	1.4	1.5	1.7	1.5	<b>1.6</b>
St Mary Street/Guildhall Place	1.0	1.3	1.3	1.8	1.7	1.5	1.3	1.7	1.5	1.6	1.8	1.7	1.0	1.4	1.7	1.7	1.4	1.5	<b>1.6</b>
Tredegar Street		2.0		3.0		2.3		1.0	2.0	2.0	3.0	2.0		2.0	2.0	4.0		2.7	<b>2.3</b>
Duke Street/ Castle Street										1.7	1.9	1.8							<b>1.8</b>
Greyfriars Road (Unofficial)										1.8	1.9	1.9							<b>1.9</b>
Sophia Gardens	1.8	1.5	1.6	2.1	1.0	1.6		1.9	2.7	1.7	1.9	1.9		1.3	1.0	1.3	1.1	1.2	<b>1.6</b>
St Mary Street (O'Neills)				1.8	1.8	1.8				2.1	1.9	1.9							<b>1.9</b>
Wood Street										1.7	2.0	1.8							<b>1.8</b>
<b>Grand Total</b>	<b>1.3</b>	<b>1.4</b>	<b>1.6</b>	<b>1.7</b>	<b>1.8</b>	<b>1.5</b>	<b>1.5</b>	<b>1.9</b>	<b>2.1</b>	<b>1.8</b>	<b>1.9</b>	<b>1.9</b>	<b>1.2</b>	<b>1.7</b>	<b>1.9</b>	<b>1.7</b>	<b>1.8</b>	<b>1.7</b>	<b>1.7</b>

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**4.5 Effective Taxi Demand**

4.5.1 As noted above, the effective taxi demand represents the number of taxis that would be required to serve the existing passenger demand, assuming that current taxi occupancy rates remain the same and is calculated by dividing the average passenger demand by the average taxi occupancy. Figure 4.3 shows the effective taxi demand across all taxi ranks on a weekday, weekend and Sunday.

**Figure 4.3  
Effective Taxi Demand (All Taxi Ranks)**

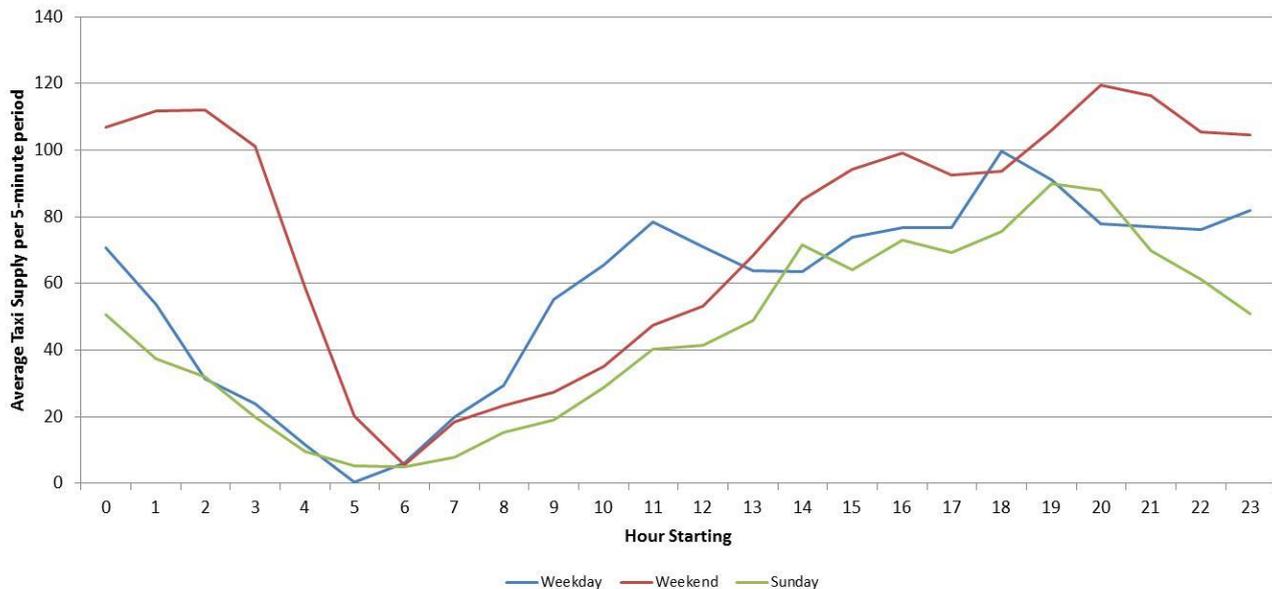


4.5.2 Comparing Figure 4.3 with Figure 4.2, it is evident that the effective demand follows broadly the same pattern as passenger demand but is approximately half the intensity, which is to be expected given that average taxi occupancy is relatively constant at around 1.7 passengers per vehicle. The main difference is in the weekday daytime period, where the effective demand is consistently greater than the Sunday effective demand, due to the lower taxi occupancy rates on a weekday.

**4.6 Taxi Supply**

4.6.1 As well as recording passenger demand, the taxi rank surveys also recorded the number of taxis departing in 5 minute intervals and the number of taxis queueing at the end of each 5-minute period. This data has been used to identify the pattern of taxi supply across the week. Figure 4.4 shows the average taxi supply across the city centre by day type and hour. Analysis of the taxi supply at each rank is provided in **Appendix B**, where it is directly compared to passenger demand and effective taxi demand.

**Figure 4.4**  
**Average Taxi Supply (All Taxi Ranks)**



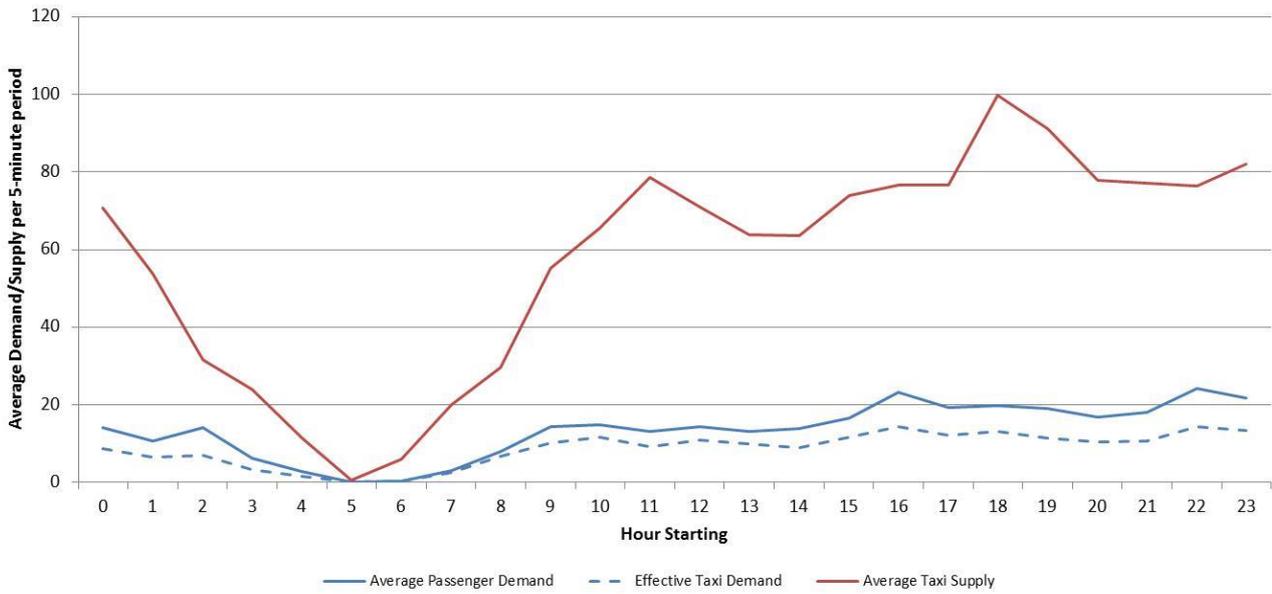
- 4.6.2 Figure 4.4 shows that taxi supply across Cardiff varies through the day. Overall taxi supply broadly follows passenger demand and effective taxi demand, however, the peaks and troughs are less pronounced. Each day type follows a similar pattern, with the only noticeable differences being the Weekend evening/night time and the weekday 7am-12pm period. On all day types there is a dip in supply during the early hours of the morning (4am to 7am), reflecting the limited demand for taxis during this period. On weekends, taxi supply is generally higher than on weekdays and Sundays.
- 4.6.3 Weekday daytime supply increases steadily from 5am to 11am by which time there are around 79 taxis available. Supply remains relatively stable between 10am and midnight, although there is a slight dip in supply between 12pm and 2pm. There is a peak in taxi supply at 6pm when there are approximately 100 taxis available whilst at the low point between 4am and 6am, there are only around 1-11 taxis available. During the day the most well supplied rank by far is Saunders Road, which serves Cardiff Central Station. There is a limited supply of taxis at some ranks, with Lower St Mary Street (East), Tredegar Street and Havelock Street having almost no supply at all.
- 4.6.4 Weekend taxi supply climbs steadily between 6am and 8pm apart from a dip around 5pm to 6pm, possibly coinciding with dinner periods. The peak taxi supply is at 8pm, which is 3 hours before the peak passenger demand occurs. At this point the supply of taxis reaches approximately 120 across all ranks, with Saunders Road and St Mary Street/Guildhall Place having the highest supply of 21.5 and 16.8 taxis available per 5 minutes. The taxi supply at the Saunders Road rank then begins to drop rapidly reflecting reduced demand, whereas St Mary Street/Guildhall Place supply increases a little into the night time period. The supply at unofficial ranks such as Duke Street/Castle Street and St Mary Street which are close to the city centre bars and clubs, increase from 10pm before starting to drop away from 3am.
- 4.6.5 Sunday shows a similar pattern to other day types, but with less extreme peaks. Peak supply occurs at 7pm, when there are around 90 taxis available. The busiest rank is Saunders Road, with St Mary Street/Guildhall Place being the next best served rank.

#### 4.7 Comparison of Taxi Demand and Supply

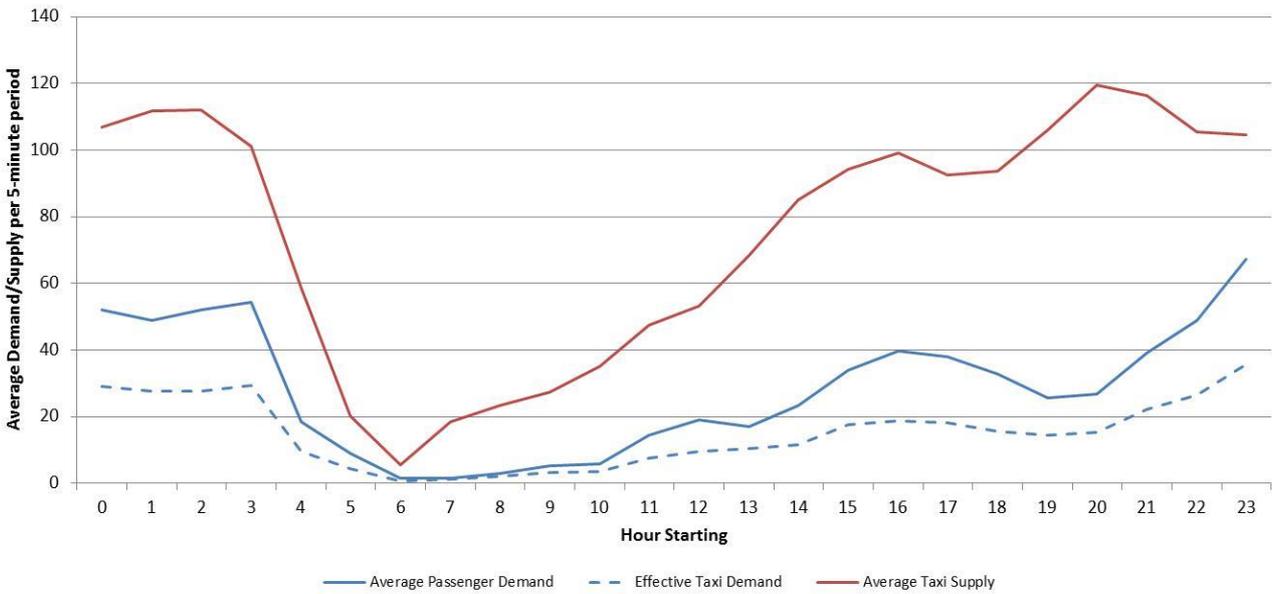
By comparing 'effective taxi demand' with 'taxi supply', it is possible to get an indication of whether the taxi market in Cardiff is operating in equilibrium (i.e. demand and supply are broadly matched), or whether there are too many or too

few taxis. Figures 4.5 – 4.7 show the relationship between taxi supply, passenger demand and effective taxi demand on a weekday, a weekend and a Sunday.

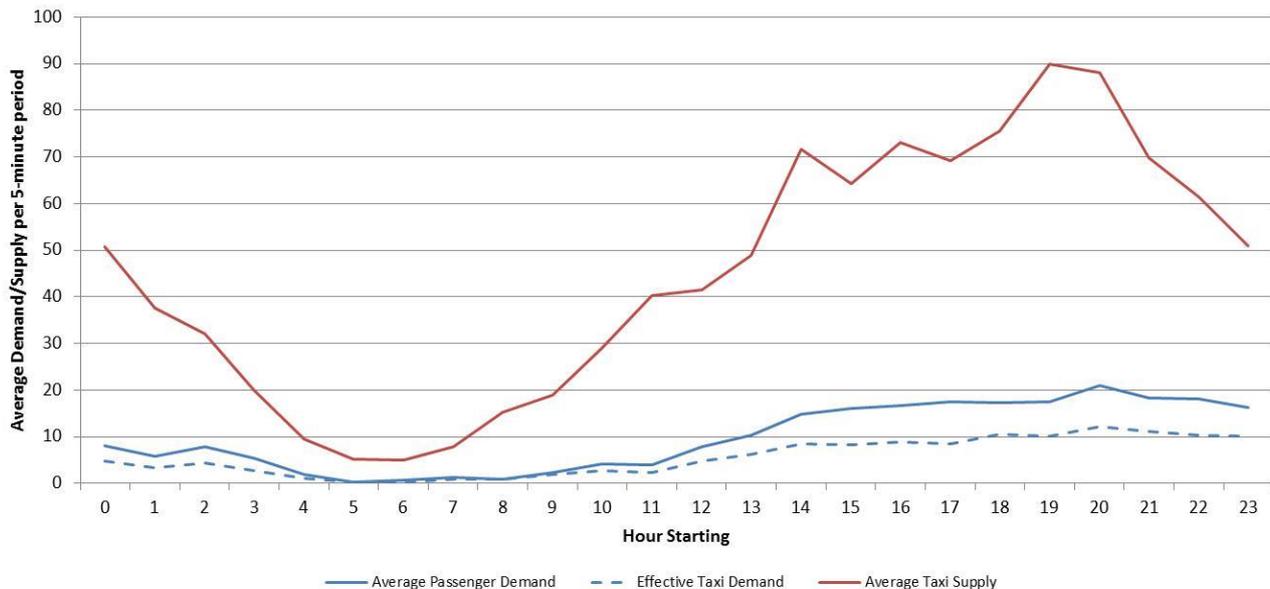
**Figure 4.5**  
**Comparison of Demand and Supply: Weekday**



**Figure 4.6**  
**Comparison of Demand and Supply: Weekend**



**Figure 4.7**  
**Comparison of Demand and Supply: Sunday**



4.7.1 These graphs show that taxi supply follows the same pattern as passenger demand. However, it can clearly be seen that in all time periods, the supply of taxis significantly exceeds passenger demand and effective taxi demand.

#### 4.8 Average Delay Calculations

4.8.1 As well as understanding the total demand for and supply of taxis, it is also important to investigate the average delay experienced by taxi passengers and drivers; that is, the average length of time that a passenger must wait before they are able to hire a taxi and the average length of time that a taxi driver must wait before getting a fare. The methodology for this has been set out in section 4.2. A comparison of the 2013 and 2016 results is provided in Section 7.2.

##### Average Passenger Delays

4.8.2 Using the data collected in the taxi rank observation surveys and the calculation methodology set out above, average passenger delays have been calculated for each taxi rank by day type (weekday, weekend and Sunday) and time period (AM peak, interpeak, PM peak and off-peak). Table 4.5 summarises the average passenger delay in seconds.

4.8.3 From this dataset it can be seen that the average delay time for passengers at taxi ranks across the city centre is generally less than 1 second, indicating that a taxi is usually immediately available in most locations. The longest wait time is at Sophia Gardens, where a passenger waits for 8.9 seconds on average. The Sophia Gardens rank serves the National Express coach stop and observations during the surveys show it has a unique behaviour. It is difficult to determine whether passengers waiting at this location have pre-booked a vehicle or not, and therefore sometimes are waiting for a specific vehicle. As taxi vehicles can be booked as PHVs it is then difficult to ascertain whether a passenger entering a 'taxi' has pre-booked the vehicle or not. There are also periods at this rank where a large number of passengers arrive on a coach at one time and the physical size of the rank (2-3 vehicles) limits the number of passengers that can be served within any one time period. It is therefore worth considering this rank in isolation. The longest delay experienced was in the Sunday AM period where passengers were waiting an average of 2 minutes, and the second longest delay was a weekday AM period with average waiting times of 48 seconds. All other day types and time periods had average delay times of less than 15 seconds, and the overall average passenger delay for Sophia Gardens is 8.9 seconds.

- 4.8.4 Considering all ranks apart from Sophia Gardens across all day types and time periods, there are few ranks with any passenger delay at all. Only four official ranks – Churchill Way, Mermaid Quay, Park Place and St Mary Street/Guildhall Place – and one unofficial rank on Greyfriars Road show any periods of passenger delay. The PM weekday period at Churchill Way show average delays of 30 seconds and the Sunday inter-peak period show average delays of 12.5 seconds. Churchill Way is a relatively busy rank, with taxis queueing for the vast majority of the surveyed periods. The weekday delay relates to one 5 minute period when no taxis were available and two individual 5 minute periods when passengers were still queueing due to insufficient taxis arriving to serve them, and the Sunday delay is due to two consecutive 5 minute periods where one passenger was waiting for a taxi to arrive. All other observed delays at ranks are for one time period only and are average delays of below 10 seconds, except for the unofficial rank of Greyfriars Road which has average delays of 11 seconds in the weekend off-peak morning time period. Yet even here this relates to one 5 minute period where an increase in passenger demand occurred.

#### **Average Taxi Delay**

- 4.8.5 As well as identifying the average passenger delay it is important to consider the taxi delay. Average taxi delays have been calculated for each taxi rank by day (weekday, weekend and Sunday) and time period (AM peak, interpeak, PM peak and off-peak). Table 4.6 shows the average waiting time for taxis.
- 4.8.6 This analysis indicates that the average delay for taxis is high, with the majority of drivers waiting over 5 minutes for a fare, and some delays in excess of 2 hours. The average delay on weekends and Sunday is over 8 minutes, with average delays of just over 7 and a half minutes at weekends. Delays are typically lower in the AM peak and the weekday off-peak morning periods, with the highest delays occurring during the interpeak and PM period, except for on the weekday day type where the off-peak night period has the highest delay.
- 4.8.7 The longest delays occurred at Saunders Road during the weekend off-peak morning period, with taxis waiting 35 minutes on average. During the weekday and Sunday day types, the maximum waiting times were at Heath Hospital where there was an average waiting time of over 24 minutes and over 27 minutes respectively. Taxis at Heath Hospital tended to wait longer than at the other taxi ranks, with drivers estimated to wait more than 15 minutes between fares. The Saunders Road rank had taxi delays of just over 12 and a half minutes, and taxis at Sophia Gardens waited just under 12 and a half minutes on average.

**Table 4.5**  
**Average Passenger Delay (seconds)**

Location	Weekday						Weekend						Sunday						Overall	
	AM	IP	PM	OPN	OPM	Daily	AM	IP	PM	OPN	OPM	Daily	AM	IP	PM	OPN	OPM	Daily		
Albert Street	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
Churchill way	0.0	0.0	29.9	0.0	0.0	3.7	0.0	3.1	0.0	0.0	0.0	0.8	0.0	12.5	0.0	0.0	0.0	0.0	3.1	<b>2.6</b>
Greyfriars Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
Havelock Street	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
Heath Hospital	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0		0.0	0.0	<b>0.0</b>
Lower St Mary Street (East)	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
Lower St Mary Street (West)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
Mermaid Quay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.1	0.0	0.0	0.0	0.8	0.0	<b>0.3</b>
Mill Lane (South)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
Park Place	4.2	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.2</b>
Saunders Road	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
St Mary Street/Guildhall Place	0.0	0.0	0.0	0.0	0.0	0.0	5.4	5.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.6</b>
Tredegar Street	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.0</b>
Duke Street/ Castle Street										0.0	0.0	0.0								<b>0.0</b>
Greyfriars Road (Unofficial)										0.0	11.1	7.6								<b>7.6</b>
Sophia Gardens	48.3	0.0	0.0	0.0	3.6	7.1	0.0	13.6	0.0	0.0	0.0	3.4	120.8	4.2	0.0	0.0	0.0	16.1	0.0	<b>8.9</b>
St Mary Street (O'Neills)			0.0	0.0	0.0	0.0				0.0	0.0	0.0								<b>0.0</b>
Wood Street			0.0			0.0				0.0	0.0	0.0								<b>0.0</b>
<b>Grand Total</b>	<b>3.5</b>	<b>0.0</b>	<b>1.9</b>	<b>0.0</b>	<b>0.3</b>	<b>0.8</b>	<b>0.4</b>	<b>1.7</b>	<b>0.0</b>	<b>0.0</b>	<b>0.3</b>	<b>0.5</b>	<b>8.6</b>	<b>1.4</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>1.5</b>	<b>0.9</b>	

**Table 4.6**  
**Average Taxi Delay (minutes)**

Location	Weekday						Weekend						Sunday						Overall
	AM	IP	PM	OPN	OPM	Daily	AM	IP	PM	OPN	OPM	Daily	AM	IP	PM	OPN	OPM	Daily	
Albert Street	7.4	9.8	13.5	6.5	1.6	6.9	10.8	7.0	6.9	4.9	2.7	5.8	9.7	8.9	10.0	6.6	0.3	6.1	<b>6.3</b>
Churchill way	13.3	8.8	3.9	9.7	6.9	8.4	11.8	6.9	7.6	10.9	7.1	8.5	5.3	10.0	11.3	9.0	19.8	12.2	<b>9.7</b>
Greyfriars Road	4.4	10.3	9.7	16.0	7.3	9.8	2.4	8.9	8.5	4.5	6.5	6.4	6.2	11.4	8.9	10.4	9.7	9.7	<b>8.6</b>
Havelock Street	0.0	1.3	6.8	0.1	2.7	2.0	0.1	8.4	0.0	1.8	1.7	3.1	0.1	8.8	0.0	1.4	0.0	2.5	<b>2.5</b>
Heath Hospital	11.5	15.8	12.4	24.3		16.5	13.9	14.2	12.3	11.7		13.2	13.1	20.5	27.4	8.8		17.5	<b>15.7</b>
Lower St Mary Street (East)	0.0	0.0	0.0	0.5	0.1	0.1				0.0	6.2	3.2	0.0	0.0	0.0	0.0	0.0	0.0	<b>0.3</b>
Lower St Mary Street (West)	0.1	6.8	8.0	9.0	14.2	8.7	15.6	4.8	1.3	27.4	13.3	11.4	1.4	10.5	12.2	14.5	19.1	12.9	<b>11.0</b>
Mermaid Quay	2.0	10.9	6.6	7.3	6.4	7.2	3.9	7.0	7.0	3.9	11.2	7.2	3.6	10.3	11.9	8.6	5.3	7.9	<b>7.4</b>
Mill Lane (South)	15.5	13.2	14.9	12.4	9.0	12.3	7.7	11.3	9.1	8.0	3.2	7.5	2.3	11.8	9.2	10.6	14.9	10.9	<b>10.3</b>
Park Place	12.8	12.8	11.3	9.3	6.9	10.1	10.0	11.1	11.5	9.1	4.2	8.6	6.9	15.0	9.8	15.9		12.7	<b>10.2</b>
Saunders Road	7.0	10.1	10.4	9.2	8.1	9.0	18.5	13.2	16.4	8.2	35.0	19.6	14.9	12.8	10.0	9.4	3.1	9.2	<b>12.6</b>
St Mary Street/Guildhall Place	4.2	9.2	11.1	11.6	5.7	8.3	13.1	11.0	13.7	10.4	13.9	12.3	6.3	12.2	14.8	15.9	10.7	12.1	<b>10.9</b>
Tredegar Street	0.0	9.2	0.0	0.1	0.0	2.3	0.0	2.8	4.6	2.5	0.3	1.9	0.0	4.3	6.3	7.3	0.4	3.5	<b>2.6</b>
Duke Street/ Castle Street										4.5	8.5	7.3							<b>7.3</b>
Greyfriars Road (Unofficial)										4.0	4.2	4.2							<b>4.2</b>
Sophia Gardens	1.2	4.9	8.4	19.7	14.0	10.6	0.5	5.3	11.5	11.6	13.5	9.2	0.4	13.0	14.1	13.4	31.3	17.0	<b>12.3</b>
St Mary Street (O'Neills)			0.5	9.2	11.3	9.5				0.9	4.5	3.2							<b>7.5</b>
Wood Street			0.0			0.0				6.9	2.1	4.5							<b>4.4</b>
<b>Grand Total</b>	<b>5.3</b>	<b>8.2</b>	<b>7.6</b>	<b>9.5</b>	<b>6.7</b>	<b>7.6</b>	<b>8.3</b>	<b>8.6</b>	<b>8.7</b>	<b>7.4</b>	<b>8.5</b>	<b>8.3</b>	<b>5.0</b>	<b>10.7</b>	<b>10.4</b>	<b>9.3</b>	<b>9.5</b>	<b>9.3</b>	<b>8.4</b>

## **5 Results of Public Attitude Surveys**

## 5 Results of Public Attitude Surveys

### 5.1 Survey Response

- 5.1.1 A public attitude interview survey has been carried out with the aim of collecting information to supplement the taxi rank surveys. In particular, the public attitude survey allowed an assessment of frequency of licensed vehicle use, passenger delays for all methods of hire (flag down, telephone and rank), passenger satisfaction with the service they received and general attitudes to the use of both taxis and private hire vehicles in Cardiff.
- 5.1.2 The survey was structured into three parts. The first part obtained information about the individual completing the questionnaire. The second part sought information about people's understanding of the differences between taxis and private hire vehicles and information about their last trip. The third part addressed more general information about people's usual use and recorded views on improvements and safety.
- 5.1.3 It should be noted that although 733 interviews were completed in total, in the tables that follow the totals do not always add up to 733. This is due to one of three reasons; first, not all respondents were required to answer all questions; second, some respondents failed to answer some questions that were asked; and third, some questions allowed multiple responses. Where the latter case applies this will be highlighted in the title of the table.

### 5.2 Survey Administration

- 5.2.1 A total of 733 interviews were carried out between May and August 2016. The survey sample and 2011 census results for Cardiff are summarised in Table 5.1 below.

**Table 5.1**  
**Survey Sample and 2011 Census by Age and Sex**

Category	2011 Census Percent	Actual Sample	
		Frequency	Percent
16 – 34	40.7%	259	35.3%
35 – 64	43.1%	313	42.7%
65+	16.3%	120	16.4%
No Answer	-	41	5.6%
<b>Total</b>	<b>100.0%</b>	<b>733</b>	<b>100.0%</b>
Male	48.8%	299	40.8%
Female	51.2%	409	55.8%
No Answer	-	25	3.4%
<b>Total</b>	<b>100.0%</b>	<b>733</b>	<b>100.0%</b>

- 5.2.2 Table 5.1 demonstrates that the age structure of the sample conforms relatively well to the 2011 Census, although the 16-34 age group has been slightly under-sampled. The mix of male and female respondents is broadly similar to the 2011 Census with the majority of respondents being female, however the proportion of males interviewed is below the proportion recorded in the 2011 Census.
- 5.2.3 A set target quota was not used because, as Table 5.3 below shows, the survey captured the views of visitors as well as Cardiff residents and so it may not be representative to match the 2011 Census demographics exactly.
- 5.2.4 Cardiff Council's Access Group received copies of the public attitude survey, and the 11 responses received have been combined with the wider public attitude survey.
- 5.2.5 The remainder of the survey results are reported below. For the purposes of clarity, the word 'licensed vehicle' is used when the responses refer to both taxis and private hire vehicles. Where the responses relate specifically to taxis or private hire vehicles, this will be clearly stated.

### 5.3 Economic and Residency Status

5.3.1 The economic status of respondents is given in Table 5.2. Approximately 38% of 2016 respondents were in full-time employment and nearly 20% were in part time employment. Approximately one in twenty people are not in employment with a further 10% being students. Over 18% of the respondents were retired.

**Table 5.2  
Economic Status of Respondents**

Status	Raw Data	
	Frequency	Percent
Full time	278	37.9%
Part time	143	19.5%
Student	73	10.0%
Retired	135	18.4%
Unemployed	34	4.6%
No answer	70	9.5%
<b>Total</b>	<b>733</b>	<b>100.0%</b>

5.3.2 Table 5.3 indicates the residency status of respondents. The majority of people (49%) who took part live within Cardiff, however, a substantial number of respondents came from outside of Cardiff (34%). Nearly 10% of respondents were tourists.

**Table 5.3  
Residency Status of Respondents**

Status	Raw Data	
	Frequency	Percent
Cardiff	356	48.6%
Not Cardiff	251	34.2%
Tourist	71	9.7%
No Answer	55	7.5%
<b>Total</b>	<b>733</b>	<b>100.0%</b>

### 5.4 Understanding of Licensed Vehicle Flagging and Rank Waiting

5.4.1 Respondents were asked if they had given up trying to flag down or wait at a rank for a taxi in the last 3 months. The results show a vast majority (70%) said no, but a significant percentage (28%) said yes with the remaining respondents giving no answer.

5.4.2 The 204 Respondents who indicated that they had given up trying to flag down or waiting for a taxi were asked, 'If yes, what was your reason for giving up?' with a combination of closed and open responses; the results are shown in Table 5.4. Just under 44% of respondents who gave up attributed their reason to lack of taxis and another 21% suggest they were refused a fare within Cardiff. No answer to the question was provided by 21% of respondents, and 12% stated the taxi had already been booked. The 'Other' box was filled in by 16% of respondents, with the most significant reply of 'length of journey too short' at 3.4%, followed by driver competency (2.9%) and too expensive (2.5%). Respondents who gave both a closed response and an open response had both their answers considered, unless the open response reiterated the closed.

**Table 5.4**  
**Reasons for Giving Up Waiting<sup>5</sup>**

Reason	Raw Data	
	Frequency	Percent
Lack of taxis	89	43.6%
Taxi already booked	25	12.3%
Driver refusal to use meter (within Cardiff)	3	1.5%
Driver refusal to use meter (outside Cardiff)	4	2.0%
Refusal of fare (outside Cardiff)	14	6.9%
Refusal of fare (within Cardiff)	43	21.1%
No Answer	43	21.1%
Other: Length of Journey - Too short	7	3.4%
Other: Driver competency	6	2.9%
Other: Too expensive	5	2.5%
Other: Disabled accessibility	3	1.5%
Other: Language Barrier	3	1.5%
Other: Driver didn't want to leave rank	2	1.0%
Other: Potential Passenger Ignored	2	1.0%
Other: Booked another vehicle	1	0.5%
Other: Elderly accessibility	1	0.5%
Other: Length of Journey - Too Long	1	0.5%
Other: Used personal vehicle	1	0.5%
Other: Vehicle Malfunction	1	0.5%
<b>Total</b>	<b>221</b>	<b>108.3%</b>

5.4.3 Respondents were then asked if they thought all licensed vehicles (i.e. taxis and private hire vehicles) are allowed to pick up from ranks or be flagged down. While a majority of almost 52% said no, just under a third answered yes and the remaining 18% declined to answer. This indicates there is a general lack of understanding of the difference between taxis and private hire vehicles and restrictions on their operations.

## 5.5 Recent Journeys

5.5.1 Respondents were each asked if they had made a journey by licensed vehicle in the Cardiff area in the last month. The survey showed around 41% of respondents had made a recent journey and 59% had not. 2 of the 733 respondents (0.3%) did not answer this question.

5.5.2 Those respondents who indicated that they had made a recent journey by licensed vehicle, were then questioned about their last trip in terms of the following;

- Type of licensed vehicle (i.e. taxi or private hire vehicle);
- Wheelchair accessibility;
- Journey purpose;
- Time of Travel;
- Cost; and

<sup>5</sup> The table adds up to greater than 100% as some respondents gave more than one answer

- Standard of Service (e.g. Vehicle Quality, Driver Quality, Price and Waiting Time).

5.5.3 A number of respondents answered no to the initial question, and yet continued to answer the questions relating to this last trip. These results have been removed from the analysis.

#### Type of Licensed Vehicle

5.5.4 The type of licensed vehicle used on the respondents' last trip is shown in Table 5.5 below. The split using taxis and PHVs is similar with 36% using a taxi for their previous journey and 41% using PHVs. However, 8% of people didn't know which type they used, and nearly 11% were unaware of the difference between a taxi and private hire vehicle.

**Table 5.5**  
**Licensed Vehicle Type for Last Trip**

Licensed Vehicle Type	Raw Data	
	Frequency	Percent
Taxi	107	35.7%
PHV	122	40.7%
Don't know	25	8.3%
Unaware of difference	32	10.7%
No Answer	14	4.7%
<b>Total</b>	<b>300</b>	<b>100.0%</b>

#### Wheelchair Accessibility

5.5.5 Respondents were asked if the vehicle they hired was wheelchair accessible or not. Results from respondents who replied to this question indicate that less than a quarter said it was, and 47% said it wasn't. However 21% said they did not know.

5.5.6 Approximately 60% of taxis in Cardiff are currently wheelchair accessible. The survey results recorded a lower percentage of wheelchair accessible vehicles, however this is to be expected as fewer private hire vehicles are wheelchair accessible and as this is not a primary concern for many licensed vehicle users they may not notice whether the vehicle they are using is equipped for wheelchair use.

#### Trip Purpose

5.5.7 The journey purpose of respondents is summarised in Table 5.6 below. The most common journey purpose across Cardiff was leisure trips, accounting for almost half of all journeys. 'Shopping' was the next most popular journey purpose, accounting for almost one in 6 journeys with a similar proportion – one in 7 journeys – being made for business purposes. Other trip purposes, such as 'education' and 'medical', accounted for the remaining 15% of trips, with 6% not giving an answer.

**Table 5.6**  
**Trip Purpose for Last Licensed vehicle Trip**

Licensed Vehicle Type	Raw Data	
	Frequency	Percent
Leisure	149	49.7%
Shopping	46	15.3%
Work	42	14.0%
Medical	11	3.7%
Education	11	3.7%
Other	22	7.3%
No Answer	19	6.3%
<b>Total</b>	<b>300</b>	<b>100.0%</b>

#### Time of Trip

- 5.5.8 Respondents were also asked about the day and time of their trip, with the results summarised in Table 5.7 below. Some respondents filled out either the day of the trip or the time of their trip – these have been placed in the 'Unspecified' rows and columns respectively.
- 5.5.9 The results indicate that respondent's last trips were staggered across a number of time periods and days. The most trips were undertaken during the weekday interpeak time period (10:00 – 15:59) with the Weekday AM period also showing a high response. Saturday off-peak (19:00 - 06:59) had the next largest response. By far the fewest trips were undertaken on a Sunday, where the highest activity recorded is in the off-peak time. These patterns are broadly consistent with the passenger demand profiles recorded during the taxi rank observations, although weekday PM and off-peak is slightly underrepresented.

**Table 5.7**  
**Time of Last licensed Vehicle Trip**

Day	Raw Data				
	Frequency by time Period				
	AM	IP	PM	OP	Unspecified
Weekday	39	49	10	15	9
Friday	10	23	14	22	4
Saturday	1	16	23	33	5
Sunday	1	3	2	6	2
Unspecified	2	1	0	6	0

#### Trip Cost

- 5.5.10 Respondents who had made a recent journey were asked to provide information about the approximate fare they paid. Respondents who gave wide brackets for estimation of their trip costs which overlapped several cost brackets defined in the question were dismissed here. Table 5.8 below indicates the distribution of trip costs.
- 5.5.11 The price bracket £9.01 and £10.00 accounts for 12% of respondents which was the highest percentage, with shouldering brackets relatively high also. Very few journeys cost £5 or less (4.3%) with almost 15% of trips costing more than £15.

**Table 5.8**  
**Cost of Last Licensed Vehicle Trip**

Licensed Vehicle Type	Raw Data	
	Frequency	Percent
£0.01 - £1.00	0	0.0%
£1.01 - £2.00	0	0.0%
£2.01 - £3.00	4	1.3%
£3.01 - £4.00	2	0.7%
£4.01 - £5.00	7	2.3%
£5.01 - £6.00	11	3.7%
£6.01 - £7.00	20	6.7%
£7.01 - £8.00	21	7.0%
£8.01 - £9.00	19	6.3%
£9.01 - £10.00	35	11.7%
£10.01 - £12.50	24	8.0%
£12.51 - £15.00	21	7.0%
£15.01 - £17.50	9	3.0%
£17.51 - £20.00	12	4.0%
£20.01 - £30.00	14	4.7%
£30.01 - £100.00	9	3.0%
Don't know	23	7.7%
Other	3	1.0%
No Answer	66	22.0%
<b>Total</b>	<b>300</b>	<b>100.0%</b>

5.5.12 Further analysis has been undertaken to examine journey costs by time of day and day of week. Table 5.9 summarises the results from average trip cost by time of day.

**Table 5.9**  
**Average Trip Cost by Time of Day**

Day	Average					
	Frequency by time Period					
	AM	IP	PM	OP	Unspecified	Average
Weekday	£10.62	£9.34	£9.81	£10.72	£15.27	<b>£10.44</b>
Friday	£8.66	£10.03	£17.62	£10.46	£10.25	<b>£11.39</b>
Saturday		£16.48	£12.82	£19.26	£12.50	<b>£16.80</b>
Sunday	£23.00	£10.00	£14.40	£11.40	£9.00	<b>£12.60</b>
Unspecified	£8.00	£10.00		£36.67		<b>£22.67</b>
<b>Average</b>	<b>£10.41</b>	<b>£10.59</b>	<b>£13.80</b>	<b>£15.98</b>	<b>£12.93</b>	<b>£12.71</b>

5.5.13 The highest average cost is Sunday AM although there was only one person surveyed with this fare and therefore it isn't necessarily representative of costs within this time period. A high cost with a proportionally representative sample size is Saturday off-peak period, with the average cost being £19.26. Similarly high average costs are for present for PM Friday (£17.62) and interpeak Saturday (£16.48). Both periods have low sample sizes and contain outliers – £53.70 for Friday and £57.70 for Saturday – and therefore may not be representative of this period. The lowest average journey cost was found during the weekday with the cost at £10.44. Saturday was found to be the most expensive day with average costs at £16.80.

5.5.14 Overall, the findings show that average journey costs on Weekdays, Fridays and Sundays are similar, with only Saturdays noticeably higher. There is relatively little variation between all time periods, except off-peak (19:00-06:59) which is generally the more expensive period.

#### Rate Standards on Last Trip

5.5.15 Finally, respondents were asked to rate the standard of service they received, considering issues such as vehicle quality, driver quality, price and waiting time for their last trip. The results have been analysed according to whether the respondent indicated that the journey was made by taxi, private hire vehicle, or that they didn't know/were unaware of the difference. The results are summarised in Tables 5.10 to 5.13 below.

**Table 5.10**  
**Standard of Service on Last Trip: Vehicle Quality**

Type of Licensed Vehicle	Number of Answers	Vehicle Quality					Total
		Very Good	Good	Average	Poor	Very Poor	
Taxi	107	11.2%	39.3%	37.4%	7.5%	0.0%	<b>95.3%</b>
Private Hire Vehicle	122	15.6%	46.7%	32.0%	1.6%	0.0%	<b>95.9%</b>
Unaware of Difference	32	3.1%	28.1%	56.3%	12.5%	0.0%	<b>100.0%</b>
Don't Know/No Answer	39	20.5%	35.9%	33.3%	0.0%	0.0%	<b>89.7%</b>
<b>Total</b>	<b>300</b>	<b>13.3%</b>	<b>40.7%</b>	<b>37.7%</b>	<b>4.7%</b>	<b>0.0%</b>	<b>96.3%</b>

**Table 5.11**  
**Standard of Service on Last Trip: Driver Quality**

Type of Licensed Vehicle	Number of Answers	Driver Quality					Total
		Very Good	Good	Average	Poor	Very Poor	
Taxi	107	13.1%	35.5%	40.2%	8.4%	0.9%	<b>98.1%</b>
Private Hire Vehicle	122	19.7%	44.3%	26.2%	4.9%	0.8%	<b>95.9%</b>
Unaware of Difference	32	3.1%	21.9%	56.3%	18.8%	0.0%	<b>100.0%</b>
Don't Know/No Answer	39	23.1%	30.8%	28.2%	5.1%	2.6%	<b>89.7%</b>
<b>Total</b>	<b>300</b>	<b>16.0%</b>	<b>37.0%</b>	<b>35.3%</b>	<b>8.0%</b>	<b>1.0%</b>	<b>97.3%</b>

**Table 5.12**  
**Standard of Service on Last Trip: Price**

Type of Licensed Vehicle	Number of Answers	Price					Total
		Very Good	Good	Average	Poor	Very Poor	
Taxi	107	6.5%	25.2%	41.1%	18.7%	2.8%	<b>94.4%</b>
Private Hire Vehicle	122	6.6%	27.9%	45.9%	12.3%	2.5%	<b>95.1%</b>
Unaware of Difference	32	3.1%	15.6%	62.5%	12.5%	6.3%	<b>100.0%</b>
Don't Know/No Answer	39	20.5%	17.9%	38.5%	10.3%	2.6%	<b>89.7%</b>
<b>Total</b>	<b>300</b>	<b>8.0%</b>	<b>24.3%</b>	<b>46.0%</b>	<b>14.3%</b>	<b>3.0%</b>	<b>95.7%</b>

**Table 5.13**  
**Standard of Service on Last Trip: Waiting Time**

Type of Licensed Vehicle	Number of Answers	Waiting Time					Total
		Very Good	Good	Average	Poor	Very Poor	
Taxi	107	14.0%	30.8%	35.5%	11.2%	3.7%	<b>95.3%</b>
Private Hire Vehicle	122	16.4%	43.4%	32.0%	4.1%	0.8%	<b>96.7%</b>
Unaware of Difference	32	3.1%	18.8%	53.1%	18.8%	0.0%	<b>93.8%</b>
Don't Know/No Answer	39	20.5%	30.8%	28.2%	5.1%	2.6%	<b>87.2%</b>
<b>Total</b>	<b>300</b>	<b>14.7%</b>	<b>34.7%</b>	<b>35.7%</b>	<b>8.7%</b>	<b>2.0%</b>	<b>95.7%</b>

5.5.16 It is clear that there are few Poor/Very Poor ratings across each of the four categories in the question; All service categories have 10% or lower Poor/Very Poor ratings except for on price which had the Poor rating under 15%. The majority of respondents considered vehicle quality, driver quality and waiting time to be Good or Very Good and the large proportion of respondents think the price is Good or Average. In all cases, the level of service received when using private hire vehicles was considered better than the level of service when using taxis, although price showed very little difference between the two. Overall the results give a positive view of the standard of service for licensed vehicles in Cardiff.

5.5.17 Respondents were asked to give the reasons for any Poor/Very Poor ratings. Responses were considered if they contained at least one Poor/Very Poor rating in any service category and also gave a reason. The most frequent reason was high costs, with 66% of the 50 who answered giving this response. The second highest rated response was long waiting times at 30%. Other reasons given were poor customer service (16%), bad driver competency (12%), vehicle

upkeep, unfair meter usage and a lack of spoken English by the driver. Percentages are considered in relation to the number of responses as some respondents had several reasons for giving a poor rating.

## 5.6 General Patterns of Licensed Vehicle Use

5.6.1 Whilst the first part of the survey was aimed at those people who recently used licensed vehicle services, the second part asked everyone who took part in the survey how often they used services in order to build up a picture of general attitudes to travel in Cardiff. The results of this section are summarised below.

### Frequency of Licensed Vehicle Use

5.6.2 Firstly, respondents were asked to indicate how frequently they used licensed vehicles and by what type they usually hired. The results are summarised in Table 5.14.

5.6.3 In terms of frequency of hire, there is a relatively even distribution between taxi and private hire vehicles, with most people using licensed vehicles rarely. Around 7% of respondents use taxis or private hire vehicles on a weekly basis, while less than 2.5% of respondents use licensed vehicles every day. Those who did not know the difference between licensed vehicle types generally used them infrequently or never, which may explain why they do not know the difference.

**Table 5.14**  
**Frequency of Licensed Vehicle Use by Type**

Time	Taxi		PHV		Unknown	
	Frequency	%	Frequency	%	Frequency	%
Daily	11	2.3%	11	2.1%	2	1.4%
Weekly	43	9.1%	29	5.5%	2	1.4%
Monthly	70	14.8%	75	14.2%	12	8.1%
Yearly	27	5.7%	33	6.3%	5	3.4%
Rarely	200	42.4%	209	39.7%	55	37.2%
Never	121	25.6%	170	32.3%	72	48.6%
<b>Total</b>	<b>472</b>	<b>100.0%</b>	<b>527</b>	<b>100.0%</b>	<b>148</b>	<b>100.0%</b>

### Method of Hire

5.6.4 The method of hire usually used was assessed against the type of licensed vehicle. The results are shown below in Table 5.15.

5.6.5 The results imply a misunderstanding of taxi and private hire vehicles with 50% of respondents saying they booked a taxi via phone, although the confusion could arise from the ability of taxi vehicle to be used as PHVs. A small percentage of respondents implied they hired a PHV at a rank or by flagging it down, which is an illegal activity. The most frequent way of hiring a licensed vehicle was by phone, with 88% of PHVs being hired this way.

**Table 5.15**  
**Usual Method of Hire by Vehicle Type**

Method of Hire	Taxi		PHV		Unknown	
	Frequency	%	Frequency	%	Frequency	%
Rank	49	19.8%	8	3.0%	5	7.6%
Flagged	57	23.0%	11	4.1%	4	6.1%
Phone	124	50.0%	236	88.4%	42	63.6%
Other	18	7.3%	12	4.5%	15	22.7%
<b>Total</b>	<b>248</b>	<b>100.0%</b>	<b>267</b>	<b>100.0%</b>	<b>66</b>	<b>100.0%</b>

**Reasons for not using licensed vehicles more regularly**

- 5.6.6 Those people who indicated that they only used licensed vehicles rarely or never were asked to provide reasons for not using them more frequently. The most popular responses are summarised in Table 5.16 below.
- 5.6.7 The most common reason for not using licensed vehicles is the availability of other modes of transport, with many respondents preferring to use their car or travel by public transport. This may in part be due to the relative costs of these modes compared to licensed vehicles, but may also reflect the greater convenience of car. Nearly 16% of respondents cited cost as a key reason for not using licensed vehicles, while just fewer than 7% indicated they had no need to use them. Poor customer service was the next notable reason at just under 2%.

**Table 5.16**  
**Reasons for not using Licensed Vehicles more often**

Reason	Frequency	Percent
Use/would rather use other modes	272	37.1%
Cost	115	15.7%
No need	50	6.8%
Infrequent Visitor	27	3.7%
Customer Service	13	1.8%
Personal safety	12	1.6%
Bad reputation	10	1.4%
Availability	9	1.2%
Not Convenient	9	1.2%
Professional Negligence	8	1.1%
Unspecified Dislike	6	0.8%
Lack of Fitness benefits	3	0.4%
Driving Standards	2	0.3%
Reliability	1	0.1%
Other	7	1.0%
No Answer	189	25.8%
<b>Total</b>	<b>733</b>	<b>100.0%</b>

### Licensed Vehicle Safety in Cardiff

- 5.6.8 Respondents were asked whether they feel safe using licensed vehicles in Cardiff, and the majority (57%) said yes they did. Fewer than 29% of respondents said they didn't feel safe, and 14% didn't answer the question. Those who didn't feel safe were asked to give the ways that safety could be improved. The results are shown below in Table 5.17.
- 5.6.9 The highest ranked improvement was to have a greater police presence at ranks and patrolling popular pick up areas at 14%. The requirement for safe areas of operation for customers is supported by the third and fourth highest responses, safer ranks / places to wait and improved driver checks / easier identification which gathered over 6% of responses each. Over 1 in 10 respondents believe that an improved level of customer service is required to help them feel safer - the second highest improvement. Other popular improvements included improved language skills and driver competency. Of those who said they did not feel safe 30% did not suggest any improvements.

**Table 5.17**  
**Suggested Improvements to Licensed Vehicle Safety**

Improvement	Frequency	Percentage
More Stationed & Patrolling Police	29	13.7%
Improved Customer Service	24	11.4%
Safer Ranks / Places to Wait	14	6.6%
Better Driver Checks in Place / Easy Identification	13	6.2%
Improved Language Skills	13	6.2%
Improved Driver Competency	12	5.7%
CCTV	9	4.3%
Improved Reputation	5	2.4%
More Female Drivers	4	1.9%
Improved Car Quality	3	1.4%
Improved Route Choice	3	1.4%
Better Driver Training / Driving Enforcement	2	0.9%
Appropriately Presented Drivers	1	0.5%
Don't Know	7	3.3%
Other	33	15.6%
No response	63	29.9%
<b>Total</b>	<b>235</b>	<b>111.4%</b>

Percentages are in relation to the number of people who responded 'No' to the previous questions on safety

## 5.7 Consumer Knowledge of Taxi Fares

- 5.7.1 In order to gauge people's understanding of taxi fares, respondents were asked to estimate the cost of a three mile daytime journey in the Cardiff area. The actual cost should be £7.50 by distance, although this will vary due to traffic delays and the time of day (refer to paragraph 2.1.9 and the Cardiff taxi tariff in Table 2.4). A summary of the results is shown in Table 5.18.
- 5.7.2 Just under half the respondents thought the cost was between £4 and £9, with £4-5 being the most common response. Approximately one in five thought the cost would be greater than £9 and nearly one in ten thought the cost was less than £4. The number of respondents who didn't know the cost, or didn't answer was 27%. The responses indicate a high level of uncertainty regarding taxi fares in Cardiff.

**Table 5.18**  
**Estimated Cost of a 3 mile Taxi Journey**

Improvement	Frequency	Percentage
£0.01 - £1.00	1	0.1%
£1.01 - £2.00	1	0.1%
£2.01 - £3.00	13	1.8%
£3.01 - £4.00	54	7.4%
£4.01 - £5.00	97	13.2%
£5.01 - £6.00	77	10.5%
£6.01 - £7.00	68	9.3%
£7.01 - £8.00	72	9.8%
£8.01 - £9.00	24	3.3%
£9.01 - £10.00	69	9.4%
£10.01 - £12.50	21	2.9%
£12.51 - £15.00	24	3.3%
£15.01 - £17.50	3	0.4%
£17.51 - £20.00	13	1.8%
£20.01 - £30.00	1	0.1%
£30.01 - £100.00	1	0.1%
Don't Know / Other	35	4.8%
No answer	163	22.2%
<b>Total</b>	<b>733</b>	<b>100.00%</b>

### Taxi Availability

- 5.7.3 Since the 2010 study a moratorium on licences has been in place. To see if the public had noticed an adverse effect on the availability of taxis, respondents were asked whether they thought there are a sufficient number of taxis in Cardiff. Table 5.19 summarises the results, which show a fairly even split between yes (36%) and don't know (44%), with fewer than one in ten suggesting there are not enough taxis in Cardiff.

**Table 5.19**  
**Availability of taxis in Cardiff**

Response	Raw Data	
	Frequency	Percent
Sufficient	265	36.2%
Insufficient	57	7.8%
Don't know	324	44.2%
No answer	87	11.9%
<b>Total</b>	<b>733</b>	<b>100.0%</b>

### Potential for Improvement

- 5.7.4 All respondents, regardless of frequency of use, were asked to suggest ways of improving the licensed vehicle services in Cardiff. Table 5.20 summarises respondents' suggestions for improving services in order of popularity.

**Table 5.20**  
**Suggested Improvements to Taxi Service<sup>6</sup>**

<b>Improvement</b>	<b>Frequency</b>	<b>Percentage</b>
Improve customer service: Drivers	69	9.4%
Reduce fares	24	3.3%
Improve driver training/road knowledge	18	2.5%
Improved rank & taxi monitoring	16	2.2%
Improve cleanliness of vehicles	15	2.0%
Clearer / consistent pricing	13	1.8%
Improve standard of vehicles	11	1.5%
Stop unfounded driver refusal	10	1.4%
Increase number of taxis	7	1.0%
Improve driver language skills	7	1.0%
More access friendly vehicles within fleet	6	0.8%
Improve enforcement / control of licences	5	0.7%
Reduce number of taxis	4	0.5%
More efficient	4	0.5%
Improve reliability	4	0.5%
Improve availability	3	0.4%
Increase number of / improve taxi ranks	3	0.4%
More readily available away from the city centre	3	0.4%
Improve information / advertising	2	0.3%
Improve reputation	2	0.3%
Improve customer service: Other	1	0.1%
Other	6	0.8%
No answer	515	70.3%
<b>Total</b>	<b>748</b>	<b>102.0%</b>

- 5.7.5 The most popular improvement cited by respondents referred to improved customer service from the driver with over 9% of the result. The majority of comments pertain to key driver competencies and if combined would be the most popular improvement with 'Improved Driver Training / Knowledge', 'Stop Unfounded Refusals' and 'Improve Driver Language Skills' collectively making up 5% of respondents. The second highest improvement noted was reducing fares, with having clearer and consistent pricing also noted as a key improvement (2%). Over 70% of people did not respond to this question.
- 5.7.6 A small proportion of respondents seem to be weary and unsure of the taxi services provided in Cardiff. Common patterns which appear to run through respondent's answers pertain to improving rank and taxi monitoring as a high priority improvement, as well as improved standard of vehicles and level of enforcement, which combined represent just over than 4% of respondents.

<sup>6</sup> The table adds up to greater than 100% as some respondents indicated they would like to see more than one improvement.

### Suggested Locations for New Taxi Ranks

5.7.7 Respondents were also asked to indicate where, if any, they would they like to see new taxi ranks positioned. The results are summarised in Table 5.21 below.

**Table 5.21**  
**Suggested Locations for New Ranks<sup>7</sup>**

Location	Frequency	Percentage
Outside the City Centre	31	4.2%
Shops & Supermarkets (within Cardiff)	25	3.4%
Cardiff Bay	17	2.3%
Within the City Centre	14	1.9%
Railway Station	9	1.2%
Castle	8	1.1%
Retail Parks / Larger Stores	8	1.1%
Shops & Supermarkets (Outside of Cardiff)	7	1.0%
Other (Within Cardiff)	7	1.0%
Student Area (Campus, Union, Schools etc)	6	0.8%
Everywhere	5	0.7%
Mill Lane / The Hayes / St David's Hall	5	0.7%
Newport Road	5	0.7%
Other (Outside of Cardiff)	5	0.7%
Westgate Street / Principality stadium	3	0.4%
New Bus Station	2	0.3%
Park Place / Civic Centre	2	0.3%
Don't know	7	1.0%
None needed	14	1.9%
No Answer	565	77.1%
<b>Total</b>	<b>745</b>	<b>101.6%</b>

5.7.8 Only 13% of respondents answered this question, with the majority suggesting broad areas of coverage rather than specific rank locations. The most popular location excluding these general responses was Cardiff Bay with over 2% of respondents suggesting this as a location for new taxi ranks. The railway station and the Castle are also suggested by 1% of respondents each. A number other specific locations were suggested but there was not a general consensus over these locations with each location named by less than 1% of respondents.

<sup>7</sup> The table adds up to greater than 100% as some respondents indicated they would like to see new taxi ranks in multiple locations.

## **6 Analysis of Current Market Conditions**

## 6 Current Market Conditions

### 6.1 Significant Unmet Demand

- 6.1.1 The legislation with regard to the control of the number of taxi (hackney carriage) licences is set out in The Transport Act 1985. The Act states that *“the grant of a [hackney carriage] licence may be refused, for the purposes of limiting the number of hackney carriages in respect of which licences are granted, if, but only if, the person authorised to grant licences is satisfied that there is no significant demand for the services of hackney carriages (within the area to which the licence would apply) which is unmet”*.<sup>8</sup>
- 6.1.2 The term ‘significant unmet demand’ is not defined; the interpretation therefore differs from authority to authority and study to study. One option is to define a threshold for passenger queues at taxi ranks, with ‘unmet demand’ deemed to have occurred when the threshold is exceeded. While this approach is relatively simple to apply, it will not reliably determine market conditions when there is significant variability in the level of activity at individual ranks. For example, if the queue threshold is set too low, the queue of passengers at busy taxi ranks may regularly exceed the threshold, indicating the presence of unmet demand, even though individual passengers experience little or no delay in practice. Conversely, if the queue threshold is set too high, the queue of passengers at quieter taxi ranks may never exceed the threshold, indicating that there is not an excess demand, even though individual passengers may experience unacceptably long delays.
- 6.1.3 A better measure of the existence of unmet demand is to consider average passenger delay; the length of time that an individual passenger will wait on average before they are able to hire a taxi. However, this must also be considered in the context of the average taxi delay – the length of time that a driver must wait on average before getting a fare – before the potential presence of unmet demand can be identified. It is this latter approach that has been adopted for this study.
- 6.1.4 Once the presence of unmet demand has been determined, further assessment is required to determine whether it is significant or not. This assessment includes consideration of the duration for which there is unmet demand and the time at which it occurs. For example, if the presence of unmet demand is identified for a 5-10 minute period with ‘normal’ conditions prevailing in the prior and subsequent time periods, it is likely to be the result of an atypical event (e.g. a large group of people arriving in a short space of time) and therefore should not be considered as significant. Similarly, if the period of unmet demand occurs in a time period or at a rank where passenger demand and/or taxi supply is typically low (e.g. in the early morning) then it is not unreasonable to expect that average wait times will be longer than in busier periods and again it should not be considered as significant. Only if the unmet demand occurs over a sustained length of time during a time period when it is reasonable to expect that there should be a supply of taxis (e.g. weekday daytime) should it be deemed significant.

### 6.2 Analysis of Market Conditions

- 6.2.1 For the purposes of this study, average delay thresholds have been set at 2 minutes for passengers and 5 minutes for taxis. For a given taxi rank in a particular 5-minute period, if the average passenger delay is less than 2 minutes and the average taxi delay is less than 5 minutes, the market conditions at that rank are considered to be in ‘equilibrium’ (EQ) – i.e. demand and supply are broadly matched. If average passenger delay is 2 minutes or more but average taxi delay is less than 5 minutes, this indicates demand is exceeding supply and suggests that unmet demand (UD) may be present. Conversely, if average passenger delay is less than 2 minutes and average taxi delay is 5 minutes or more, this indicates that supply is exceeding demand and that there may be unused supply (US). In the unlikely event that average passenger delay exceeds 2 minutes and average taxi delay exceeds 5 minutes, it is not possible to reach a firm conclusion about the market conditions, as it suggests the presence of unstable market conditions usually associated with an atypical event.
- 6.2.2 The assessment matrix is summarised in Table 6.1 below.

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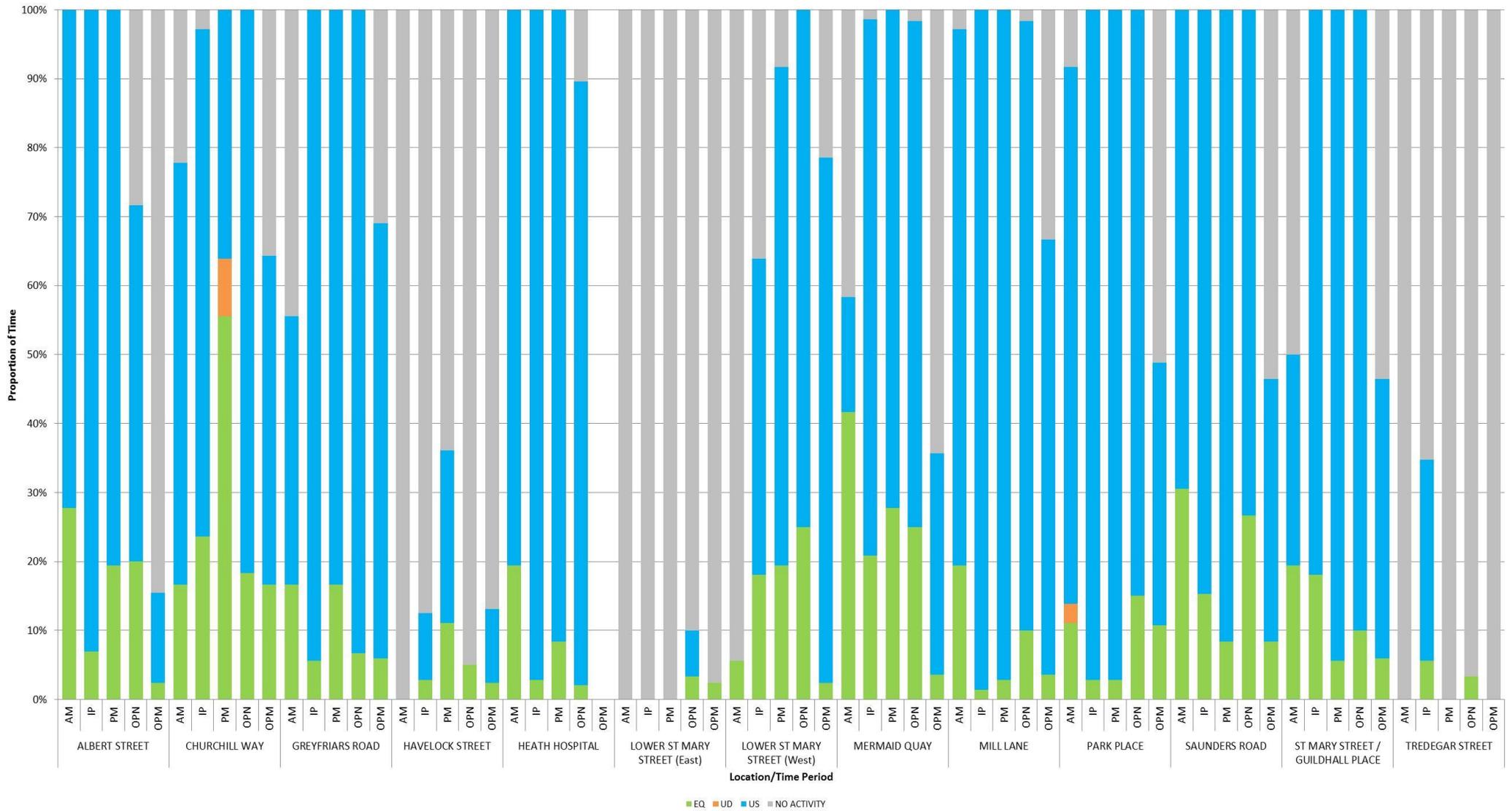
<sup>8</sup> Transport Act 1985 – Section 16

**Table 6.1  
Taxi Market Condition Assessment Matrix**

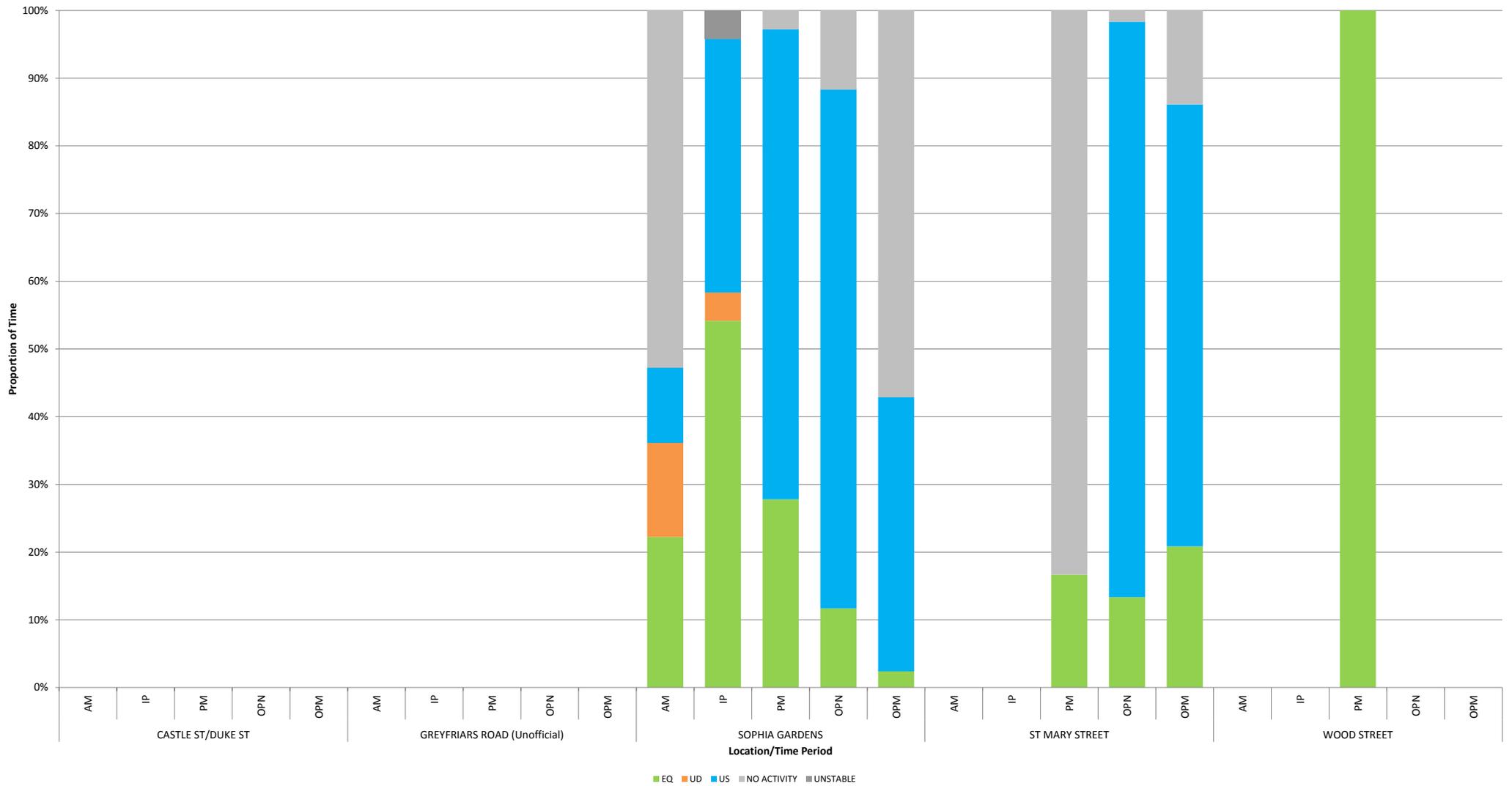
		Average Passenger Delay	
		< 2 mins	≥ 2 mins
Average Taxi Delay	< 5 mins	Equilibrium	Unmet Demand
	≥ 5 mins	Unused Supply	Unstable

- 6.2.3 Using the data collected in the Taxi Rank Surveys, the average passenger and taxi delays have been calculated for each rank in each 5 minute period surveyed. On the basis of these calculations, the prevailing market conditions have been determined using the matrix defined above. Figures 6.1-6.6 summarise the market conditions at each rank by time period for a weekday, weekend and Sunday respectively. 'No Activity' refers to periods when there was no passenger demand and no taxi supply (i.e. the taxi rank was empty).
- 6.2.4 Where a rank has no associated bar, this is due to the rank not being surveyed during the related time.

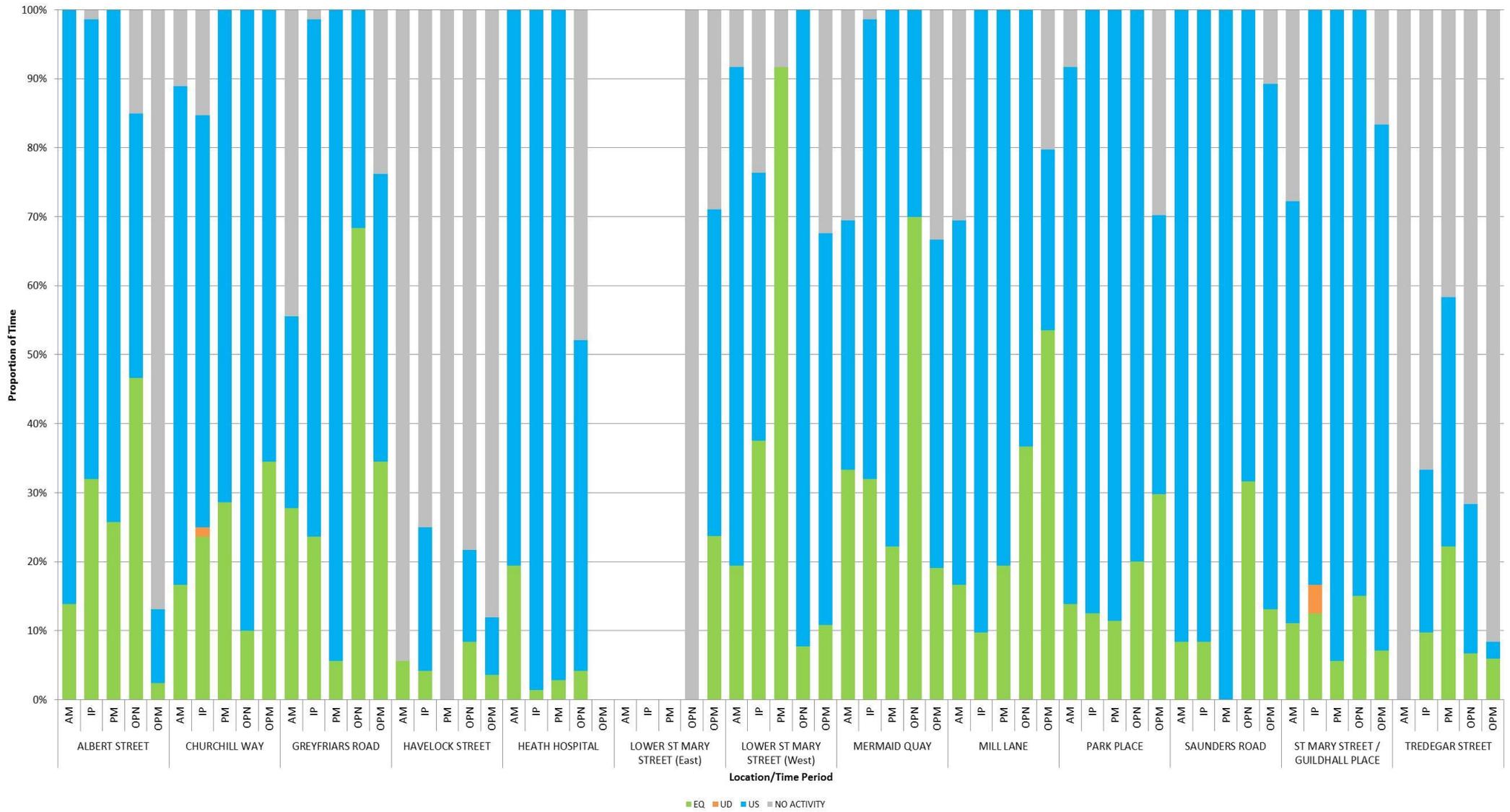
**Figure 6.1**  
**Analysis of Market Conditions: Weekday Official Ranks**



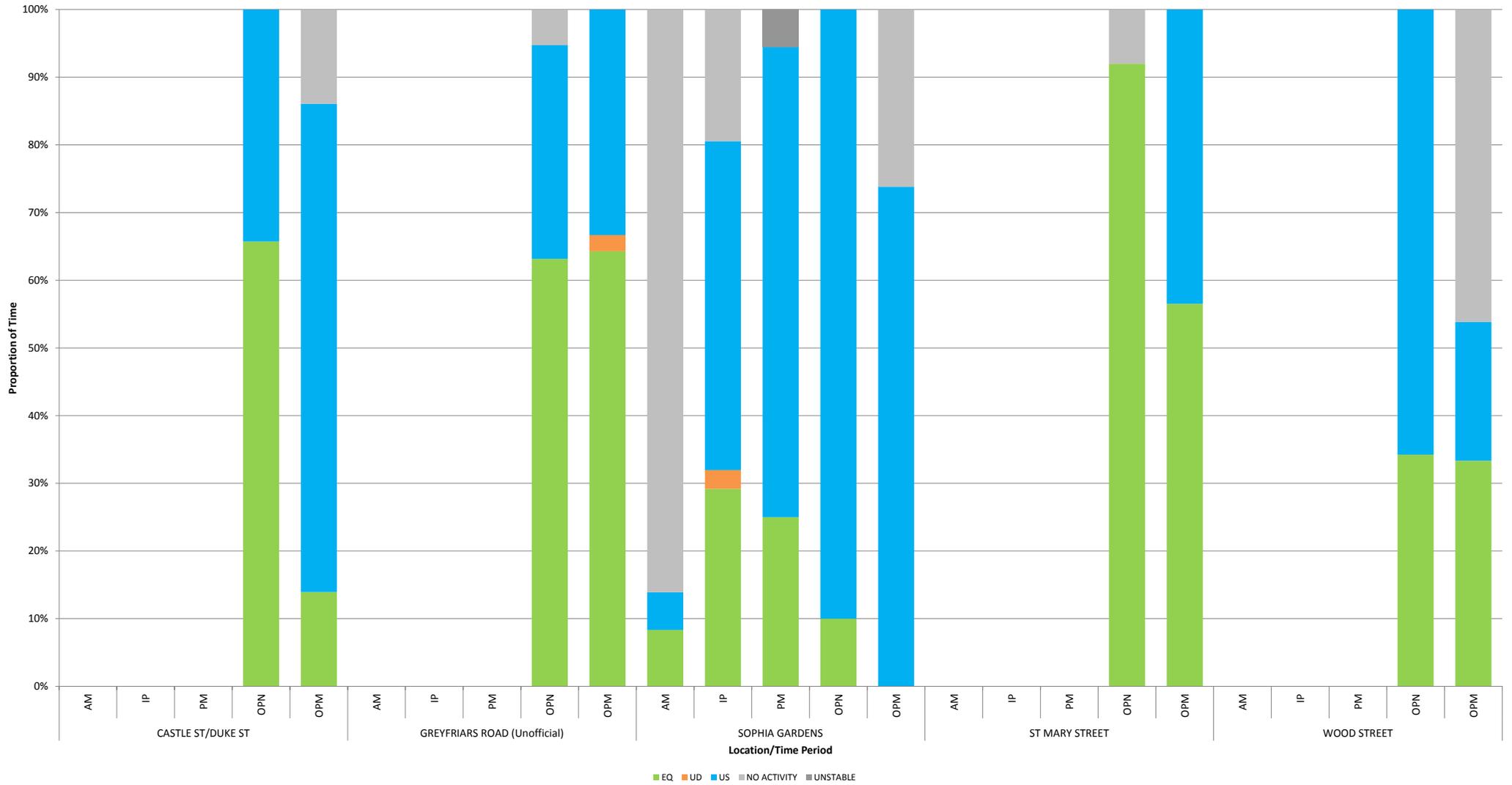
**Figure 6.2**  
**Analysis of Market Conditions: Weekday Unofficial Ranks**



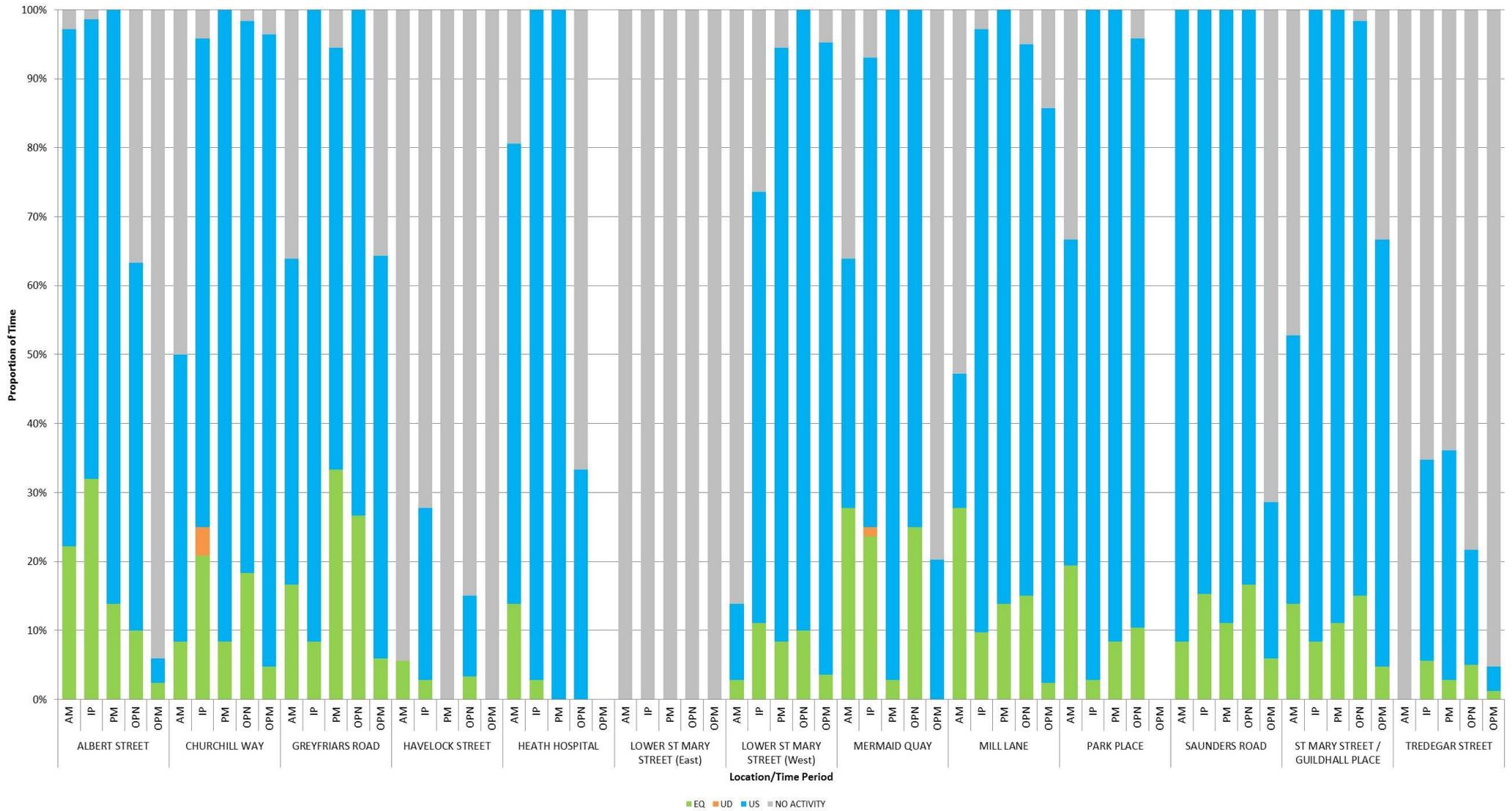
**Figure 6.3**  
**Analysis of Market Conditions: Weekend Official Ranks**



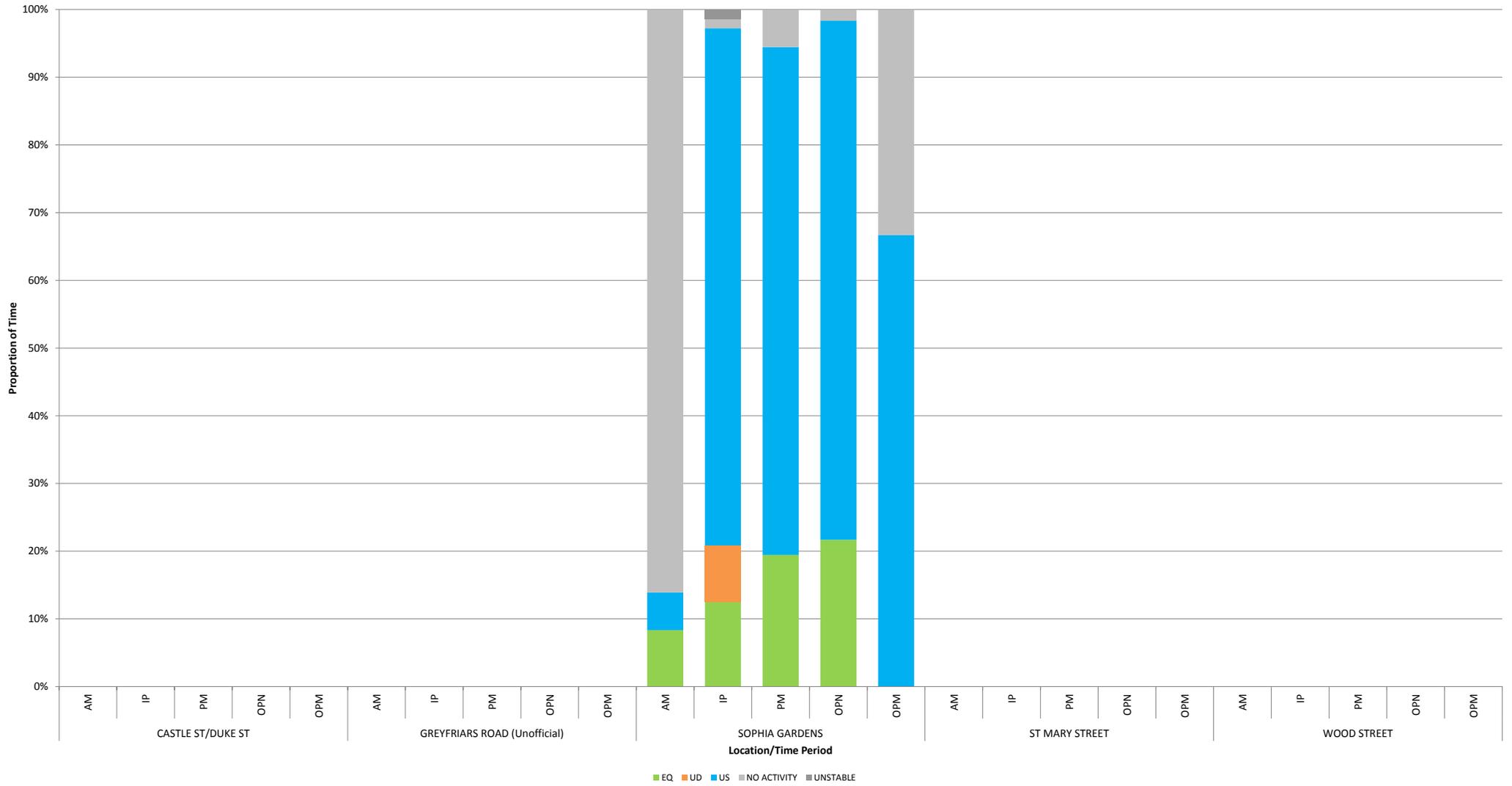
**Figure 6.4**  
**Analysis of Market Conditions: Weekend Unofficial Ranks**



**Figure 6.5**  
**Analysis of Market Conditions: Sunday Official Ranks**



**Figure 6.6**  
**Analysis of Market Conditions: Sunday Unofficial Ranks**



- 6.2.5 As noted above, this assessment in isolation does not definitively indicate the presence of UD or US; it is merely indicative of the potential presence of these market conditions.
- 6.2.6 Of all the incidences of unmet demand found, only the Churchill Way and Sophia Gardens ranks show unmet demand lasting two or more contiguous 5 minute periods. At Churchill Way on a weekday PM period unmet demand is reported for a 10 minute period between 16:25 and 16:35, and on a Sunday there is period where unmet demand occurs for 15 minutes between 12:20 and 12:35. In both cases there had been a continual queue of taxis available leading up to these periods and passengers arrive after taxis have recently departed. All of these passengers are able to depart in a taxi and no one walks away unsuccessful in these periods. The weekday unmet demand comes just after a peak in passenger demand and average passenger delay is less than 6 minutes, and the Sunday unmet demand is the only time throughout the 72 hours of observation that any passenger is queueing for a taxi, whereas taxis are queueing for the vast majority of the time. Therefore it is considered that the observed unmet demand does not constitute significant unmet demand.
- 6.2.7 As previously discussed in section 4.8, Sophia Gardens has unique behaviour observed, with uncertainty over whether passengers are waiting for a taxi at the taxi rank or are waiting for a pre-booked vehicle. The recorded unmet demand at this rank occurs in the weekday AM period for two 10 minute periods between 08:20 to 08:30 and 08:50 to 09:00, the weekday interpeak period for 10 minutes between 10:00 to 10:10 and 25 minutes in the Sunday interpeak period 10:00 to 10:25. It is hard to determine whether these are periods of genuine unmet demand or if passengers have pre-booked a vehicle, further supported by the result that the only periods of 'unstable' market conditions reported are at Sophia Gardens suggesting unusual data at this location. The Sunday period of unmet demand comes after a continual period of no activity and is followed by a continual period of unused supply of taxis. As this is an unofficial rank and each of these periods, apart from Sunday, last for no more than two consecutive 5 minute periods they are not considered significant.
- 6.2.8 All the remaining periods of unmet demand had duration of 5 minutes or less and are therefore also not considered to be significant.

### **6.3 Public Perceptions**

- 6.3.1 The analysis of the data from the taxi rank observations indicates the presence of unused supply in the taxi market in Cardiff, however this is not immediately apparent from the responses to the public attitude survey. When asked about suggestions for improvements, as seen in Table 5.20, 0.4% indicated there should be improved availability of taxis whilst 0.5% felt there should be a reduction in taxis. This suggests that the general public do not feel that there are currently too many taxis in Cardiff, or at least do not perceive this to be a significant problem.
- 6.3.2 Overall the public attitude survey does indicate the need for more taxis. In Table 5.4, of the 221 respondents who said they had given up waiting for a taxi in the last 3 months, 89 indicated their reason was due to a lack of taxis. However this is not backed up by the taxi rank surveys where only 3 passengers from two 5-minute periods were observed walking away from a taxi rank across the whole study whilst 14,719 passengers left in a taxi. Furthermore, when respondents of the public attitude survey were later asked for their reasons for not using taxis more often, only 9 (1.2%) suggested it was due a limited availability of taxis, as seen in Table 5.16. Similarly in Table 5.19, when asked if they felt there are sufficient taxis 36% of respondents indicated there are, with only 7.8% indicating that there are not enough taxis available.

## **7 Comparison with 2013 Study**

## 7 Comparison with 2013 Study

### 7.1 Background

7.1.1 Following the Cardiff Taxi Study, conducted in 2010, Cardiff Council placed a moratorium on the number of taxi licences available. The DfT Best Practice Guidance states that *'where restrictions are imposed the matter should be regularly reviewed...'* and that *'... the issue to be addressed first in each reconsideration is whether the restrictions should continue at all'*. In reaching its decision, the licensing authority should consider the following points:

- *What benefits or disadvantages arise for the travelling public as a result of the continuation of controls?*
- *What benefits or disadvantages would result for the travelling public if controls were removed?*
- *Is there any evidence that removal of controls would result in a deterioration in the amount or quality of taxi service provision?*

7.1.2 Even if the licensing authority takes the view that continued restriction can be justified in principle, further consideration is required over the level at which it should be set, that is whether the moratorium should remain at the same level or be increased.

7.1.3 In order to determine whether there is justification for maintaining the moratorium in Cardiff and if so the level at which the limit should be set, the results of the 2016 taxi rank survey and the public attitude survey have been compared with the results of the previous 2013 study to determine how the conditions have changed over that period. The results of this comparison are summarised below.

### 7.2 Taxi Rank Survey

7.2.1 The 2016 taxi rank surveys were carried out at all 13 official ranks for a period of 72 hours covering all day types and time periods. This compares with the 2013 taxi rank survey which covered all 15 official ranks, two of which have since been closed. In addition, five unofficial ranks were partially surveyed in 2016, compared with seven unofficial ranks in 2013.

7.2.2 The survey methodology was exactly the same between 2013 and 2016, and so is directly comparable.

7.2.3 The DfT guidance references three points licence quantity controls should not do. Therefore it is useful to compare the 2013 data to see what affect the introduction of the moratorium has had. These three points are as follows.  
Quantity controls should not:

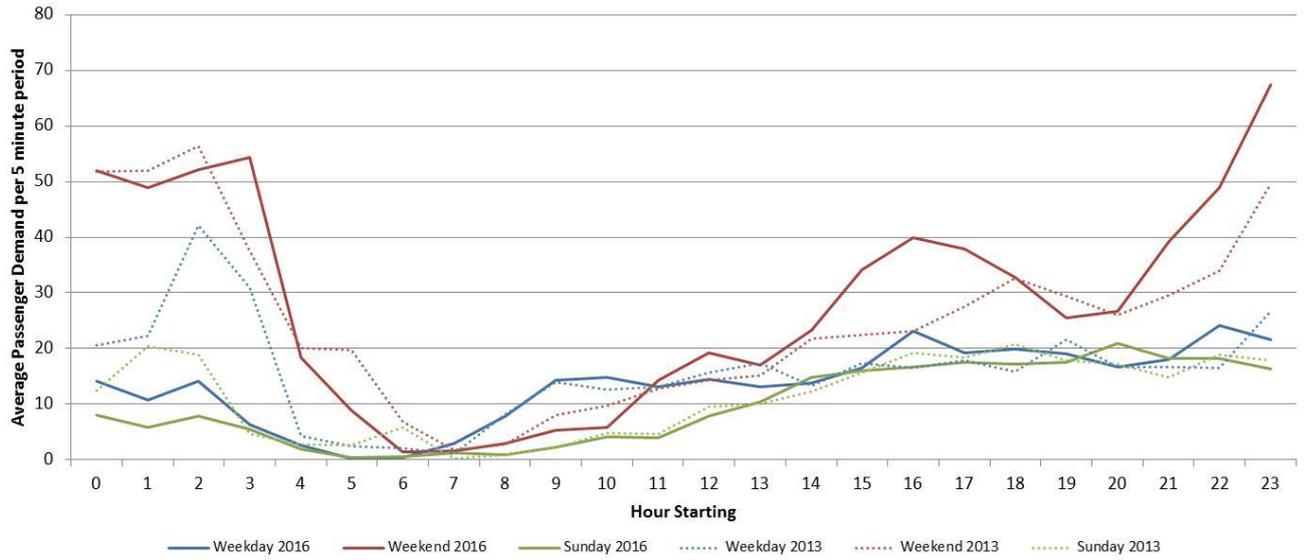
- Reduce the availability of taxis;
- Increase wait time for consumers;
- Reduce choice and safety for consumers.

#### **Change in Demand and Availability**

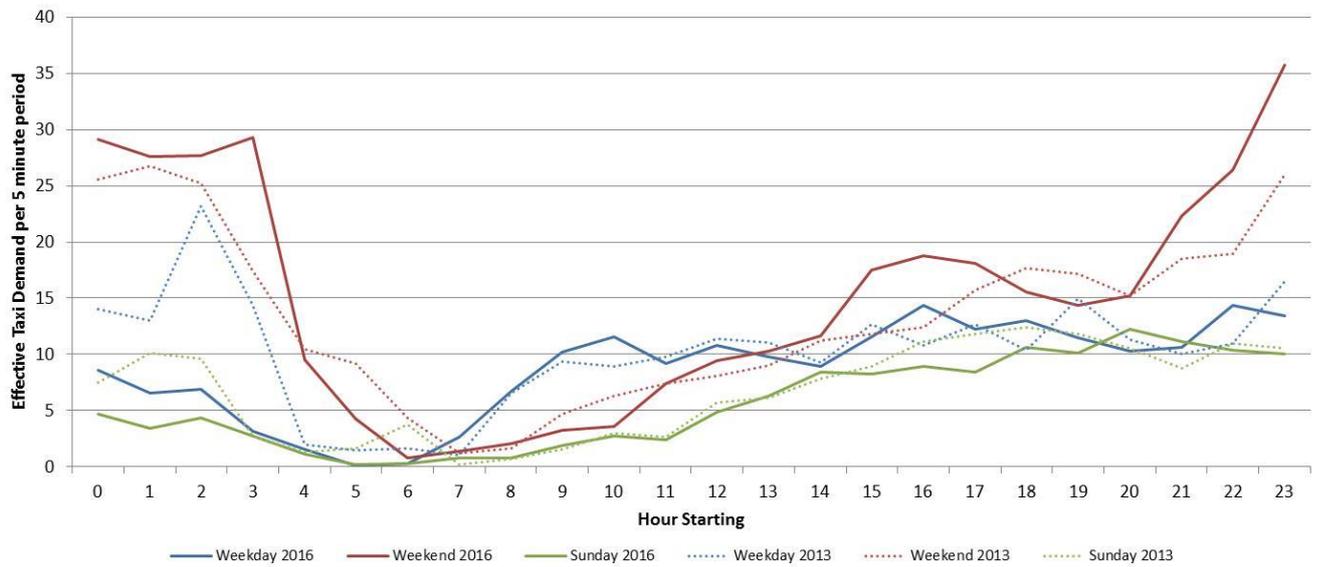
7.2.4 The change in demand and availability of taxis will show if there has been any reduction in availability of taxis. Figures 4.2 – 4.4 from Section 4 show the average passenger demand, effective demand and average taxi supply over the 24 hour period for each day type.

7.2.5 Figures 7.1 – 7.3 below show the comparisons between 2016 and 2013.

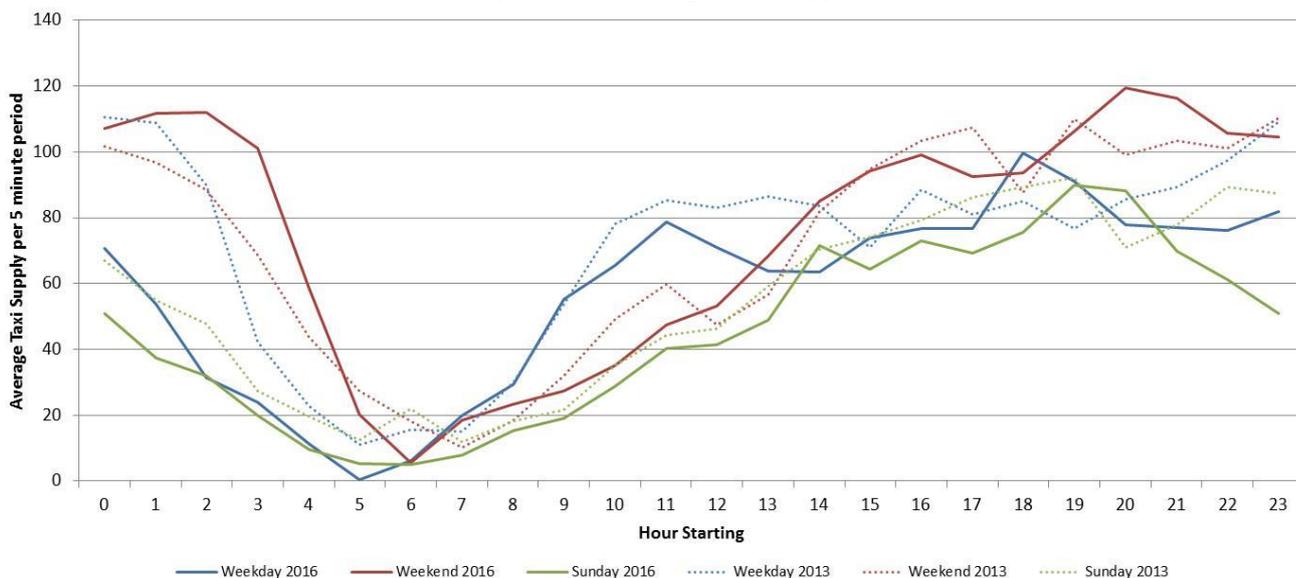
**Figure 7.1**  
**Comparison of Average Passenger Demand**



**Figure 7.2**  
**Comparison of Effective Taxi Demand**



**Figure 7.3  
Comparison of Average Taxi Supply**



7.2.6 The most significant change between 2013 and 2016 is a marked reduction in passenger demand on weekday nights, with peak demand falling by more than 65% from over 40 passengers per 5-minute period in 2013 to less than 15 passengers per 5-minute period in 2016. Average Sunday night time demand has also reduced, with weekend demand increasing in 2016 between 14:00-18:00 and 20:00-23:00. The weekend night time peak is similar to 2013 although it shifted one hour later to 03:00, and the remaining time periods follow a similar pattern and value to 2013.

7.2.7 Taxi supply appears to have responded to the changes in passenger demand, with the number of taxis available during the weekday night time peak falling by around 65%. There is an increase in the taxi supply during the weekend night time, with peak supply rising from around 88 taxis in 2013 to 112 taxis in 2016. Daytime supply follows a similar pattern in both years, although there is a slight decrease in weekday interpeak supply in 2016. Sunday night time supply has decreased slightly in 2016.

**Change in Passenger Wait Time**

7.2.8 Table 7.1 compares the average passenger wait times in 2013 and 2016, to see if there has been an increase in wait time for passengers since the moratorium was put in place.

**Table 7.1**  
**Comparison of Average Passenger Wait Times**

Location	2013				2016			
	Weekday	Weekend	Sunday	Overall	Weekday	Weekend	Sunday	Overall
Albert Street	0.0	0.0	0.0	<b>0.0</b>	0.0	0.0	0.0	<b>0.0</b>
Central Square	0.0	0.0	0.0	<b>0.0</b>				
Churchill Way	2.1	1.1	0.0	<b>1.1</b>	3.7	0.8	3.1	<b>2.6</b>
Glynhondda St	0.0	0.0	0.0	<b>0.0</b>				
Greyfriars Road	0.0	0.3	0.0	<b>0.1</b>	0.0	0.0	0.0	<b>0.0</b>
Havelock Street	0.0	0.0	0.0	<b>0.0</b>	0.0	0.0	0.0	<b>0.0</b>
Heath Hospital	0.0	0.0	0.0	<b>0.0</b>	0.0	0.0	0.0	<b>0.0</b>
Lower St Mary Street (East)	-	0.0	-	<b>0.0</b>	0.0	0.0	0.0	<b>0.0</b>
Lower St Mary Street (West)	0.0	0.0	0.0	<b>0.0</b>	0.0	0.0	0.0	<b>0.0</b>
Mermaid Quay	0.0	1.0	0.0	<b>0.3</b>	0.0	0.0	0.8	<b>0.3</b>
Mill Lane (South)	0.0	0.0	0.0	<b>0.0</b>	0.0	0.0	0.0	<b>0.0</b>
Park Place	0.0	0.0	0.0	<b>0.0</b>	0.5	0.0	0.0	<b>0.2</b>
Saunders Road	1.7	3.2	0.0	<b>1.6</b>	0.0	0.0	0.0	<b>0.0</b>
St Mary Street / Guildhall Pl	0.0	0.0	0.0	<b>0.0</b>	0.0	1.9	0.0	<b>0.6</b>
Tredegar St	0.0	0.0	0.0	<b>0.0</b>	0.0	0.0	0.0	<b>0.0</b>
Duke St / Castle St	0.0	-	-	<b>0.0</b>	-	0.0	-	<b>0.0</b>
Greyfriars Rd (Lloyds Bar)	-	-	0.0	<b>0.0</b>	-	7.6	-	<b>7.6</b>
Marshalled - Greyfriars Rd	0.0	-	-	<b>0.0</b>	-	-	-	-
Kingsway	0.0	-	-	<b>0.0</b>	-	-	-	-
Marshalled - Mill Lane	-	0.0	-	<b>0.0</b>	-	-	-	-
Sophia Gardens					7.1	3.4	16.1	<b>8.9</b>
St Mary St (O'Neills)	0.0	-	0.0	<b>0.0</b>	0.0	0.0	-	<b>0.0</b>
Wood St / Westgate St	-	0.0	-	<b>0.0</b>	0.0	0.0	-	<b>0.0</b>
<b>Grand Total</b>	<b>0.2</b>	<b>0.4</b>	<b>0.0</b>	<b>0.2</b>	<b>0.8</b>	<b>0.5</b>	<b>1.5</b>	<b>0.9</b>

Ranks shown in grey no longer exist, or did not exist in 2013.

Ranks which were not observed on a particular day type are marked with a -

- 7.2.9 The analysis indicates that the overall average passenger wait time was 0.2 seconds in 2013 and 0.9 seconds in 2016, however this includes the results of the Sophia Gardens rank which has unique behaviour as discussed in section 4.8 and therefore may be skewing the results. With the Sophia Gardens results excluded from the table, the 2016 overall average passenger wait time drops to 0.3 seconds indicating that the continuation of the moratorium on the issue of new licences has not had a detrimental impact on passenger delay.

### Change in Significant Unmet Demand

- 7.2.10 The percentage split between taxi rank conditions being classed as equilibrium, unused supply (US), unmet demand (UD), unstable or no activity is shown below in Table 7.1. Charts showing the same information are included in **Appendix C**.

**Table 7.1**  
**2013 and 2016 Market Conditions Comparison**

Market Condition	Weekday		Weekend		Sunday	
	2013	2016	2013	2016	2013	2016
Equilibrium (EQ)	12.09%	11.27%	16.69%	21.81%	9.45%	9.22%
Unmet Demand (UD)	0.11%	0.28%	0.25%	0.18%	0.14%	0.26%
Unused Supply (US)	50.57%	51.83%	49.70%	54.75%	50.54%	55.34%
Unstable	0.00%	0.07%	0.00%	0.05%	0.00%	0.03%
No Activity	37.23%	36.54%	33.36%	23.22%	39.87%	35.16%
<b>Total</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>	<b>100.00%</b>

- 7.2.11 The results show that on weekends the proportion of time that the market is operating in equilibrium has increased marginally, and on weekdays and Sundays has decreased by less than 1%. The proportion of time when there is unmet demand has slightly decreased on weekends and marginally increased on weekdays and Sundays, with a change of 0.17% and 0.12% respectively. The proportion of time when there is unused supply has remained relatively constant in the weekday period, but there is an increase during the weekend and Sunday periods. These results include the data from Sophia Gardens, which when removed gives the same results for unmet demand in weekday and Sunday 2013 and 2016 results, and a larger drop in 2016 weekend unmet demand. Overall, the assessment indicates that market conditions are largely unchanged from 2013, suggesting that the continuation of the moratorium on the issue of new taxi licences has not disadvantaged passengers.

### 7.3 Public Attitude Survey

- 7.3.1 The public attitude survey covered a sample of 733 people on the streets of Cardiff in 2016 and 1000 in 2013. Many questions were unchanged from the 2013 study, and an additional part to question 5 added for clarity. The reduced sample was compared to the 2011 census to confirm it was comparable and therefore deemed a suitable representation.

#### Availability of Taxis

- 7.3.2 In 2013 and 2016 respondents were asked to give suggestions for improvements to taxi service. In 2013, improved availability was listed by 3.5% of respondents in comparison to 0.4% in 2016. In contrast, reduced taxi numbers was listed by 0.4% in 2013 and similarly 0.5% in 2016.
- 7.3.3 Additionally, respondents were asked to give the reasons they did not use licensed vehicles more often in both 2013 and 2016. Availability was listed by 0.4% of respondents in 2013 and 1.2% in 2016. These results indicate relatively little change in public perception on availability, particularly when viewed in conjunction with the drop in suggestions for improved availability. Respondents were also asked directly whether they felt there are a sufficient number of taxis in Cardiff, with only 7.8% feeling there are insufficient numbers in 2016 compared with 8.6% in 2013, suggesting little change over the last 3 years and no emerging problem.

**Understanding of Taxis and Private Hire Vehicles**

- 7.3.4 In both years, the question on whether the respondent thought all licensed vehicles can be hired on ranks and by flagging them down was asked. In 2013 37% said yes compared with 30% in 2016 implying a slight improvement in understanding. However, in 2013 60% said no which is higher than the 2016 number of 52%.

**Suggested Improvements**

- 7.3.5 In 2013, the top rated suggested improvements were related to customer service and the cost of fares. This has been replicated in the 2016 study, indicating these issues still exist and have not been improved over the three years.

## **8 Summary**

## 8 Summary

### 8.1 Summary

- 8.1.1 Cardiff Council (CC) controls the issuing of taxi licences in Cardiff. Following a previous study in 2010 where there was no evidence of significant unmet demand, the Council imposed a moratorium on the issue of new taxi licences. This restriction was left in place following a further study in 2013.
- 8.1.2 Under Department for Transport (DfT) Taxi and Private Hire Vehicle Licensing Best Practice Guidance<sup>9</sup>, a new study is required at a maximum interval of three years when a quantity restriction is in place. A new study is now due.
- 8.1.3 AECOM has been commissioned by CC to undertake this study, comprising of analysis of taxi activity in the city centre, and surveys to establish the attitudes of the public, trade, and key stakeholders. The study has been approached with consideration to the DfT's Best Practice Guidance throughout.
- 8.1.4 The main objectives of the study are as follows:
- To identify the current level of demand for taxis within Cardiff;
  - To assess whether the supply of taxis matches the demand;
  - To better understand the operations of taxis and private hire vehicles in and around Cardiff; and
  - To identify areas of the service that could be improved.
- 8.1.5 In order to meet these objectives six different surveys have been undertaken. These surveys are described in three separate reports, with one overriding report summarising all the information and drawing the key conclusions and making recommendations. The four reports are listed below:

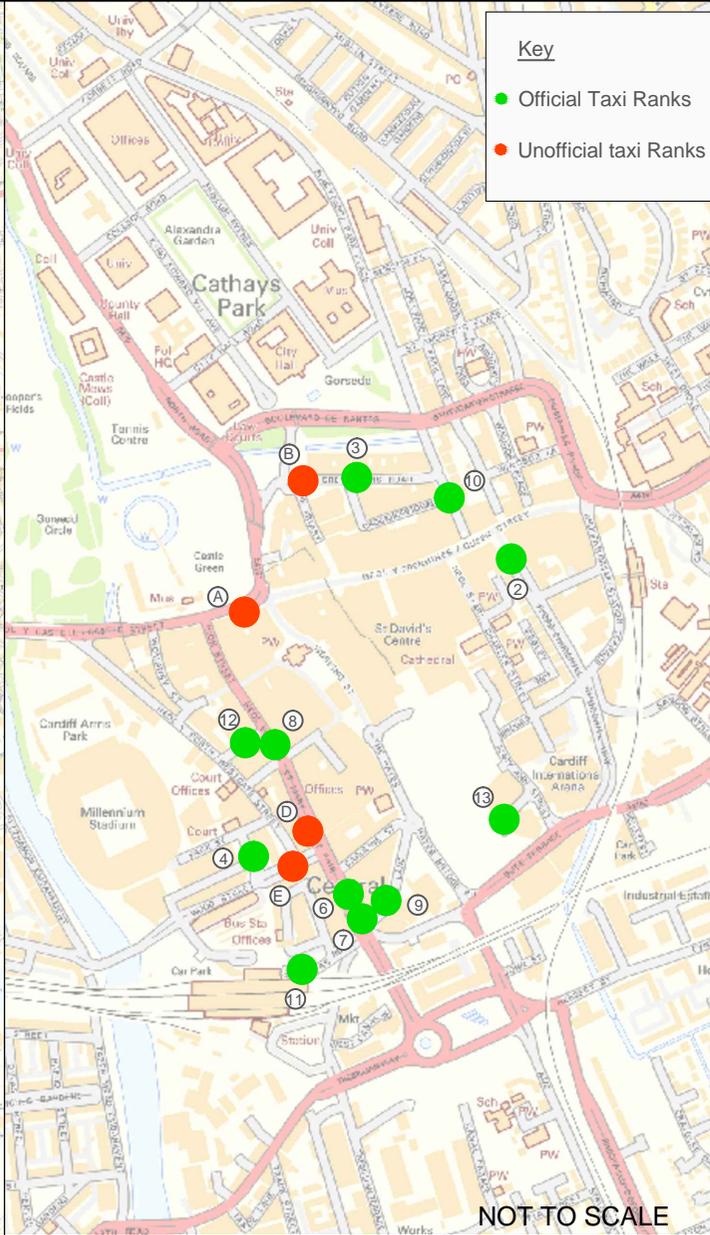
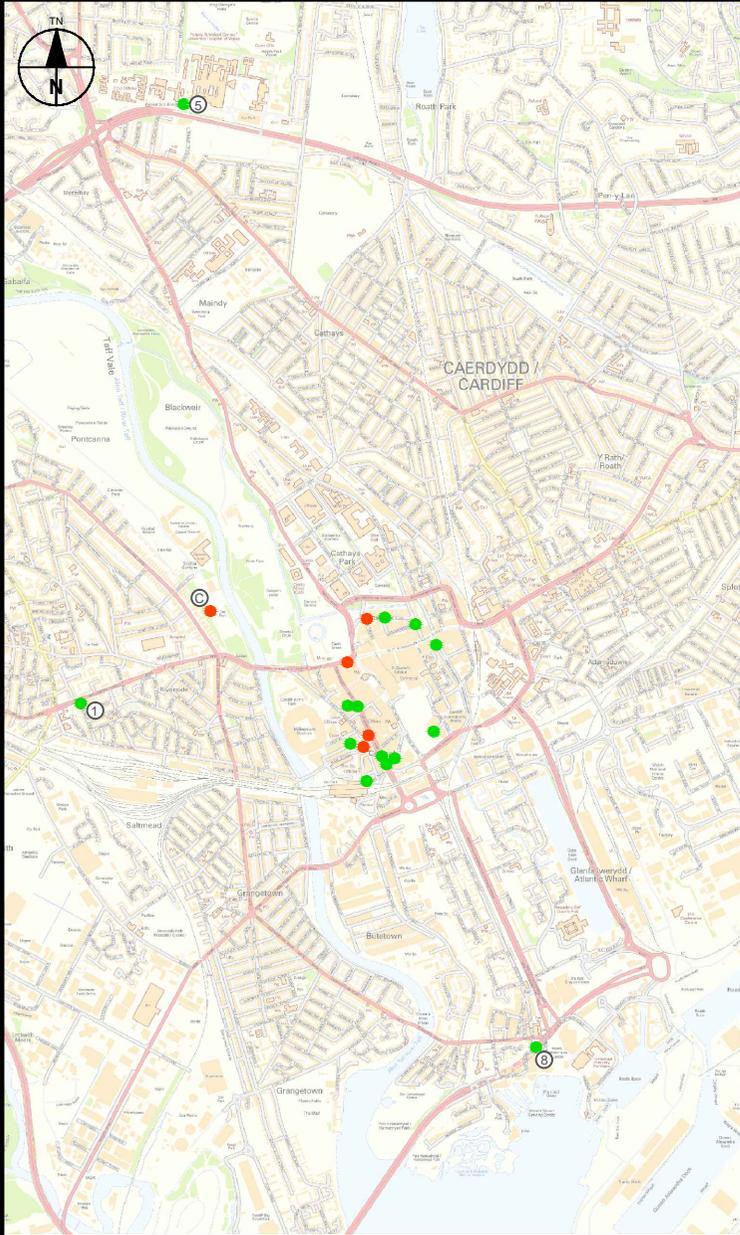
Report	Surveys
Cardiff Taxi Licensing Study 2016: Part 1: Taxi Rank Operations and Public Attitude Survey	<ul style="list-style-type: none"> <li>• Taxi rank observation survey</li> <li>• Public attitude questionnaire</li> </ul>
Cardiff Taxi Licensing Study 2016: Part 2: Driver and Proprietor Attitude Survey	<ul style="list-style-type: none"> <li>• Licensed driver questionnaire</li> <li>• Vehicle proprietor questionnaire</li> </ul>
Cardiff Taxi Licensing Study 2016: Part 3: Operator and Stakeholder Attitude Survey	<ul style="list-style-type: none"> <li>• Stakeholder online questionnaire</li> <li>• Operator online questionnaire</li> </ul>
Cardiff Taxi Licensing Study 2016: Part 4: Summary Report	<ul style="list-style-type: none"> <li>• Summary of the above surveys</li> </ul>

- 8.1.6 This report is the Taxi Rank Operations and Public Attitude Survey which analyses and summarises the findings of the taxi rank and public attitude surveys to help determine the current level of service and market conditions in Cardiff.
- 8.1.7 The Taxi Rank Surveys were very thorough, providing an almost complete assessment of all the sites at all times. The exception being the temporary sites where surveys were only completed during times of operation and some instances where sites were closed for weekend nighttimes.
- 8.1.8 Surveys showed the passenger demand for taxis to progressively build from a 7am low to a peak between 10pm and 3am. The pattern is consistent between weekday, weekend and Sunday surveys, however the scale of the demand is exaggerated on the weekend and the peak occurs earlier on Sundays.
- 8.1.9 Occupancy surveys suggest an average occupancy of 1.7 people per taxi, this figure is higher during the weekend and lower during weekday daytimes, which is consistent with the trip purpose expected during these times.

<sup>9</sup> <https://www.gov.uk/government/publications/taxi-and-private-hire-vehicle-licensing-best-practice-guidance>

- 8.1.10 Effective taxi demand and taxi supply follow a similar profile throughout the day, however the peaks and troughs are less pronounced. Compared against the passenger demand data, despite the consistency of the patterns, a clear oversupply of taxis can be seen across the network.
- 8.1.11 Passenger delay analysis showed no delays being experienced by passengers, apart from anomalous occasions and unique behaviour at Sophia Gardens. Consistent with this is the delay experienced by taxis waiting for a fare, with the majority of drivers waiting over 5 minutes for a fare and some delays of over two hours. Delays at Heath Hospital are highest overall with delays of 15 minutes on average and over 27 minutes on Sunday PM peaks. Saunders Road and Sophia Gardens Place experienced similar levels.
- 8.1.12 The Public Attitude Survey highlighted a possible lack of understanding of the difference between a taxi and a private hire vehicle, as 30.2% respondents who believed all licensed vehicles could be hired on ranks or by flagging them down.
- 8.1.13 The survey asked how much people thought a specified trip by taxi would cost, the results showed a wide spread of costs, indicating a general lack of understanding of the pricing structure for journeys by taxi.
- 8.1.14 The main reasons stated for not using licensed vehicles was a preference for other modes, followed by cost and 'no need' for them. All other factors, including safety, convenience, quality and availability, were given by below 5% of respondents, and availability by only 1.2%. This answer is confirmed by the fact that only 7.8% said they thought there were not enough taxis in the city.
- 8.1.15 There was a low response to the question of improving the service provided by licensed vehicles in the city, the top suggestion being an improvement to driver customer service which was proposed by 9.4% of respondents, with reduced fares the next highest at 3.3%. However, 70% of people did not answer this question.
- 8.1.16 A Taxi Market Condition Assessment Matrix has been determined to account for both passenger delays and taxi delays. This matrix was applied to each rank during each time interval for each day. This graphs determined using the matrix show rare occasions where the status of the rank is deemed to have unmet demand, none of which can be considered significant. However, each of the ranks spend much of their time with unmet supply, this is supported by the Public Attitude Survey, which indicated no need for more taxis.
- 8.1.17 The criteria for retaining a quantity control is that the conditions have not changed sufficiently to result in reduction in the availability of taxis, increased waiting times for consumers or a reduction in the choice and safety for consumers. The surveys in this report do not indicate that such a significant change has occurred.
- 8.1.18 The level the quantity control is set at should also be reviewed, as such a comparison between the 2013 data and the 2016 data has been completed to determine if the conditions have changed sufficiently to warrant a change in the level of licence numbers that is set. Passenger demand has significantly dropped on a weekday night time, but risen slightly during weekend afternoons and evenings. This trend has been mirrored by the taxi supply. Passenger delay times have been compared and are considered to be unchanged when considering Sophia Gardens as a separate unique case.
- 8.1.19 The Taxi Market Condition Assessment Matrix applied to both 2013 and 2016 shows little difference in market conditions, particularly when considering Sophia Gardens as a separate unique case. The evidence suggests that the continuation of the moratorium on the issue of new taxi licences has not disadvantaged passengers.

**Appendix A:  
Taxi Rank Locations**



**Key**

- Official Taxi Ranks
- Unofficial taxi Ranks

Location of Official Taxi Ranks	Hours of Operation
(1) Albert Street	24hr
(2) Churchill Way	24hr
(3) Greyfriars Road	24hr
(4) Havelock Street	24hr
(5) Heath Hospital	07:00-23:00
(6) Lower St Mary Street (East)*	19:00-07:00
(7) Lower St Mary Street (West)*	24hr
(8) Mermaid Quay	24hr
(9) Mill Lane (South)	24hr
(10) Park Place	06:00-23:00
(11) Saunders Road (Cardiff Central Station)	24hr
(12) St Mary Street / Guildhall Place	24hr
(13) Tredegar Street	24hr

Location of Unofficial Taxi Ranks	Hours of Operation
(A) Duke Street / Castle Street	Informal
(B) Greyfriars Road (Unofficial)	Informal
(C) Sophia Gardens	Coach stop - 24hr
(D) St Mary Street (outside O'Neills)	Informal
(E) Wood Street / Westgate Street	Informal

# Cardiff Taxi Licensing Study 2016

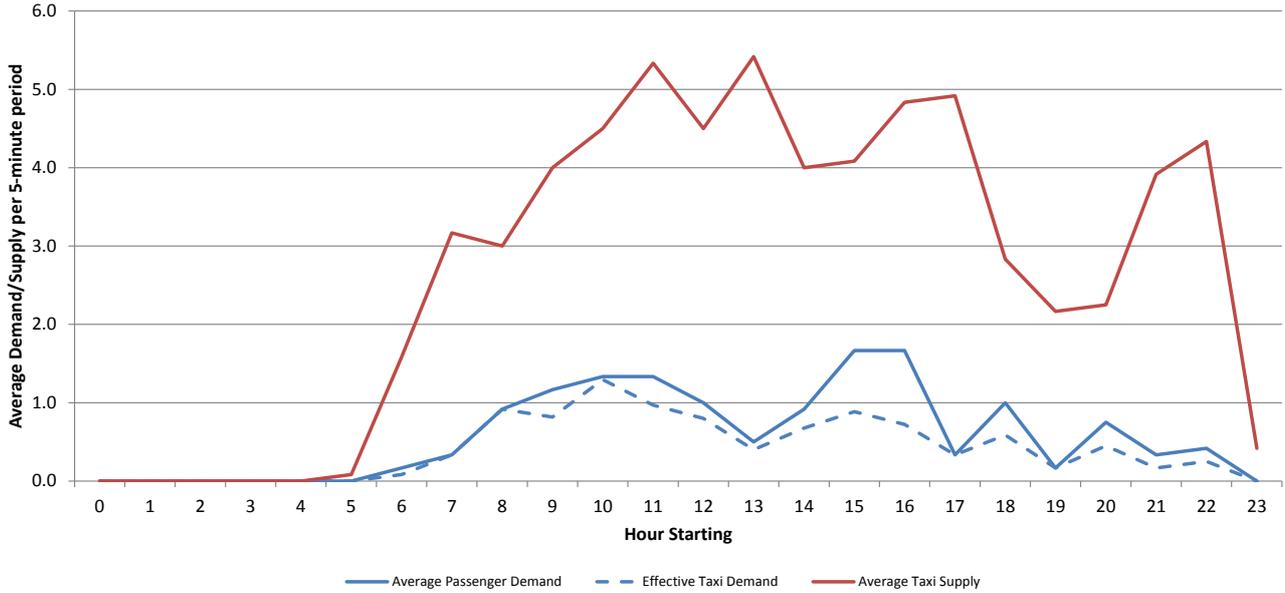
Taxi Rank Locations  
Appendix A



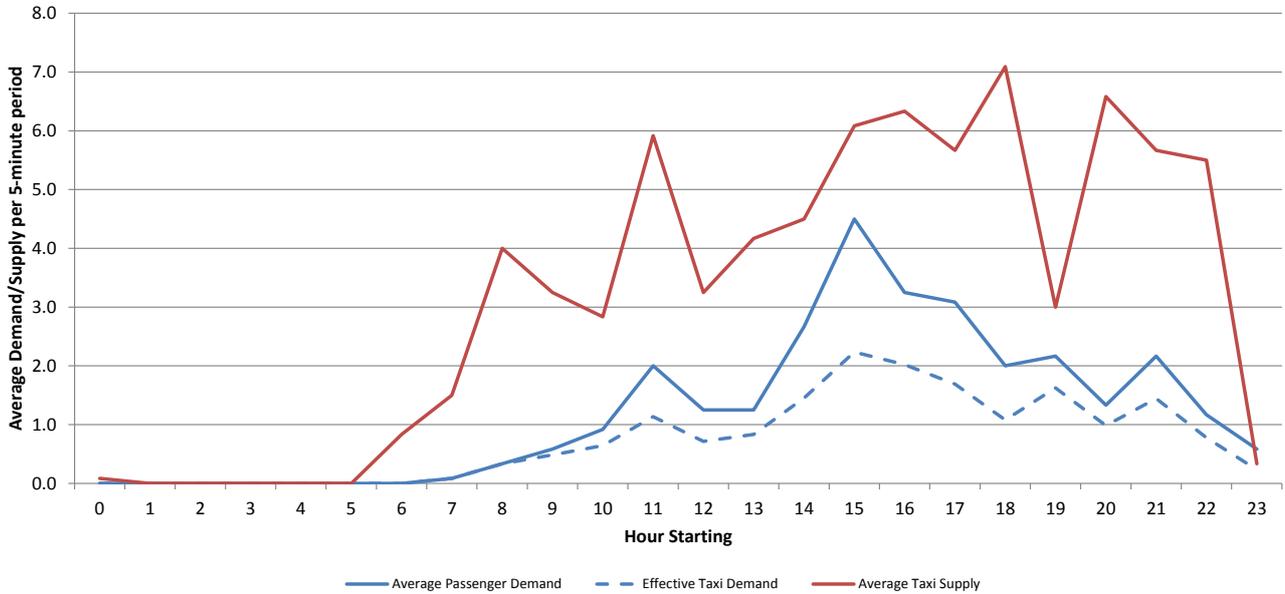
## **Appendix B: Comparison of Demand and Supply**

# Albert Street

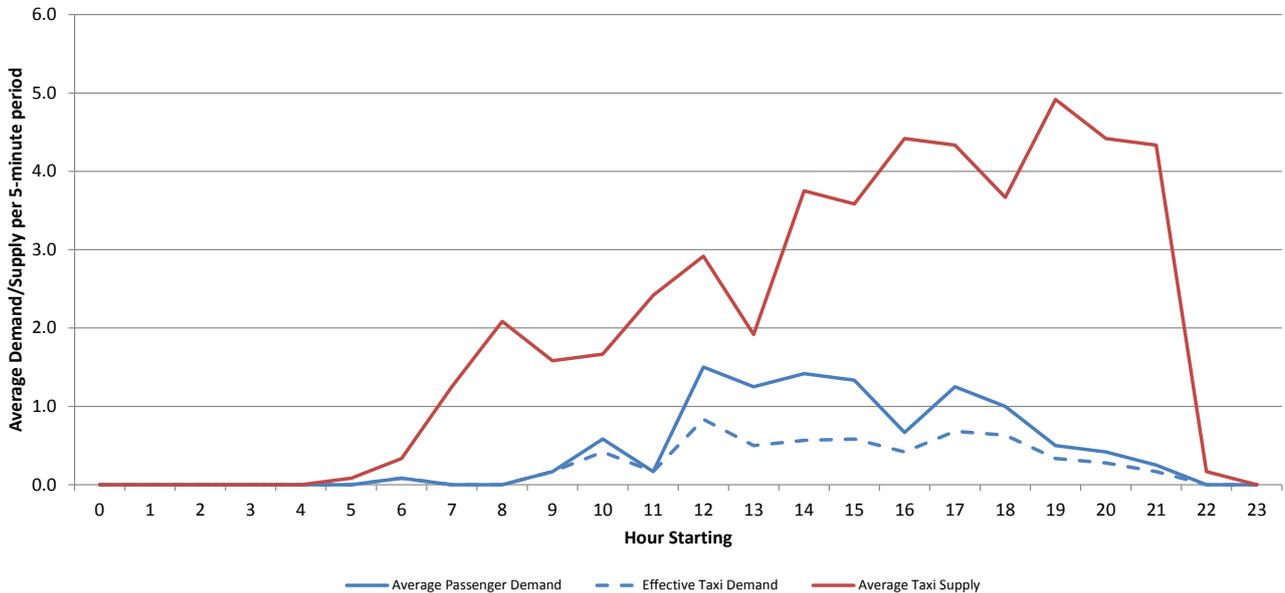
## Comparison of Demand and Supply: Weekday



## Comparison of Demand and Supply: Weekend

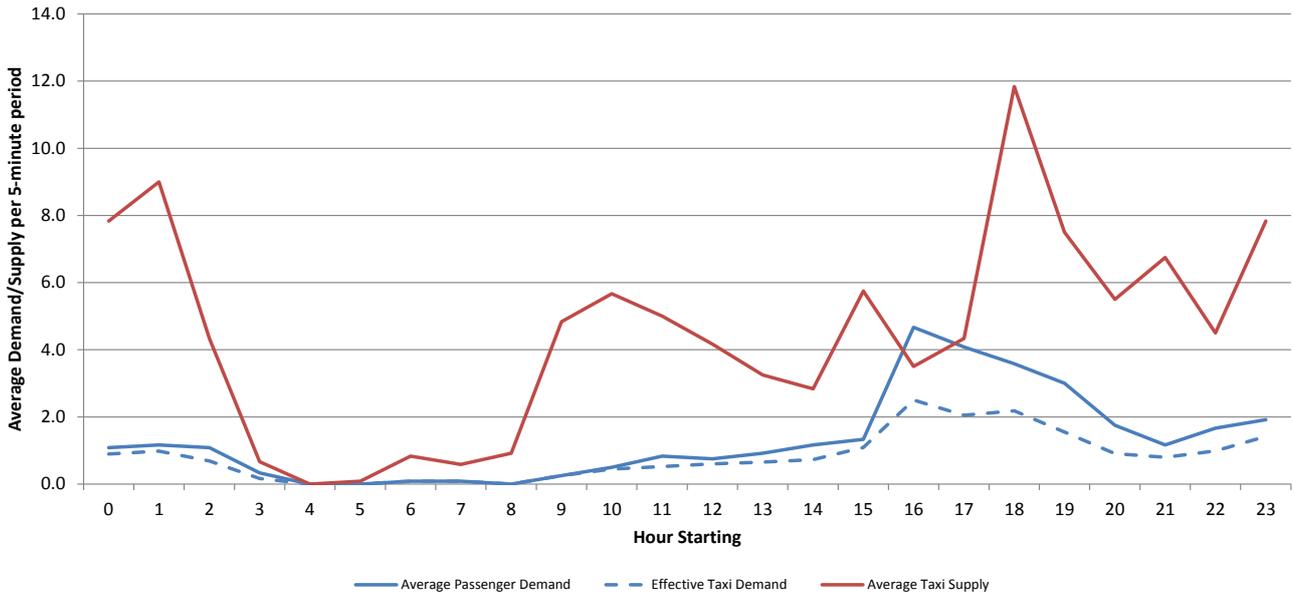


## Comparison of Demand and Supply: Sunday

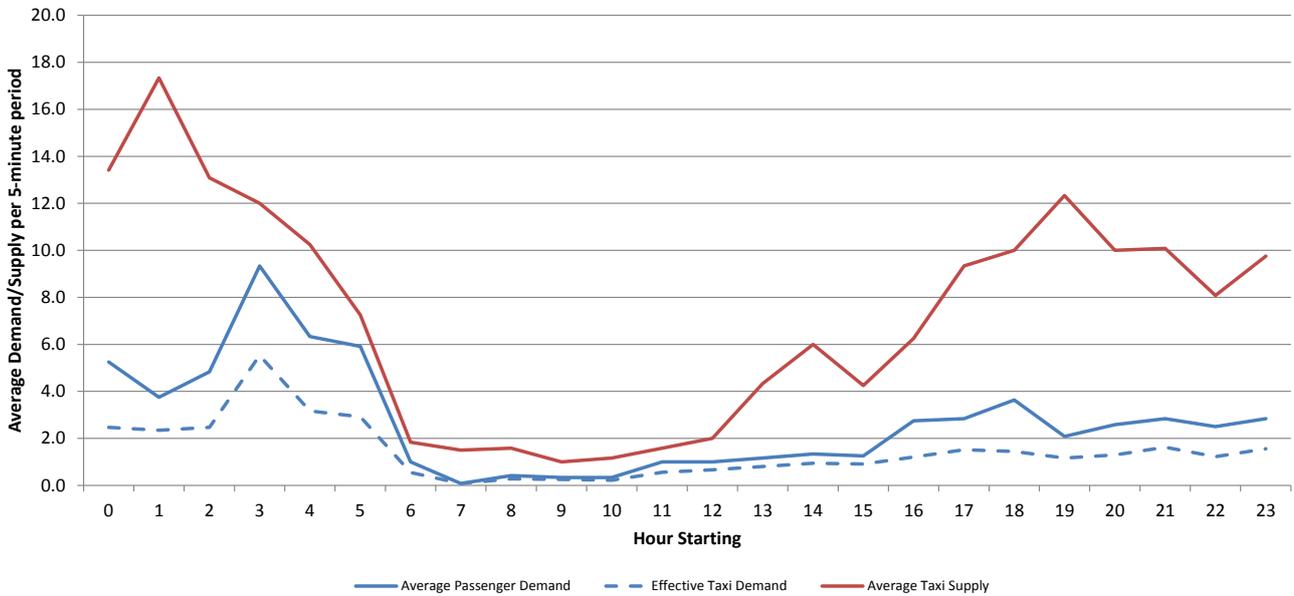


# Churchill Way

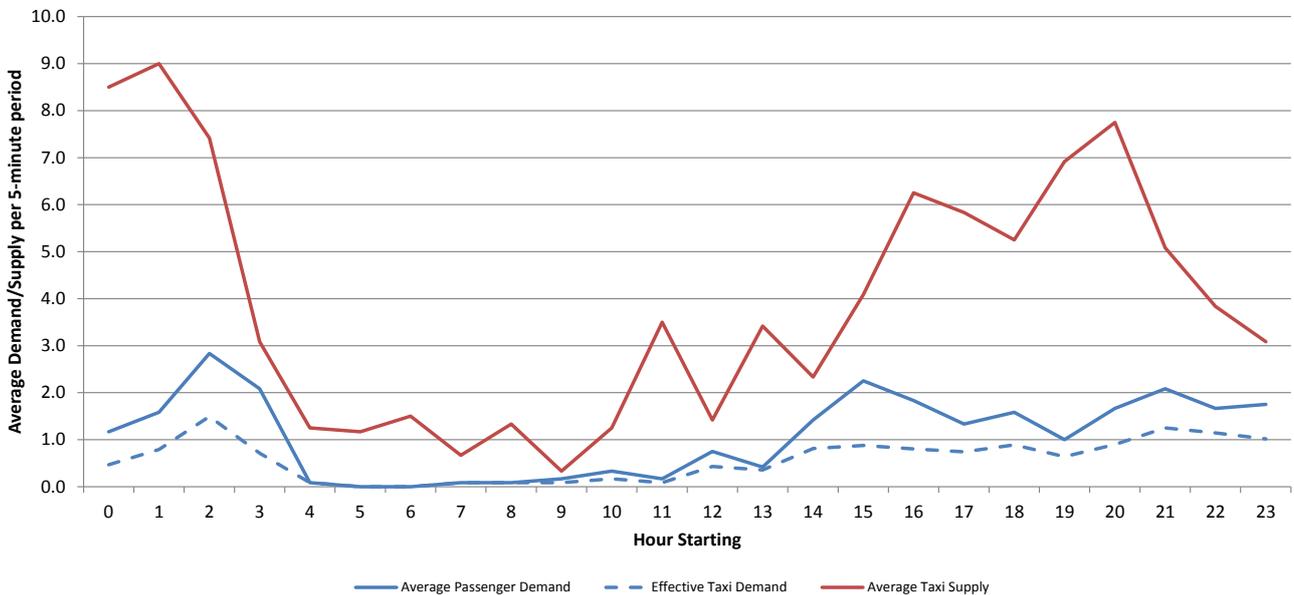
## Comparison of Demand and Supply: Weekday



## Comparison of Demand and Supply: Weekend

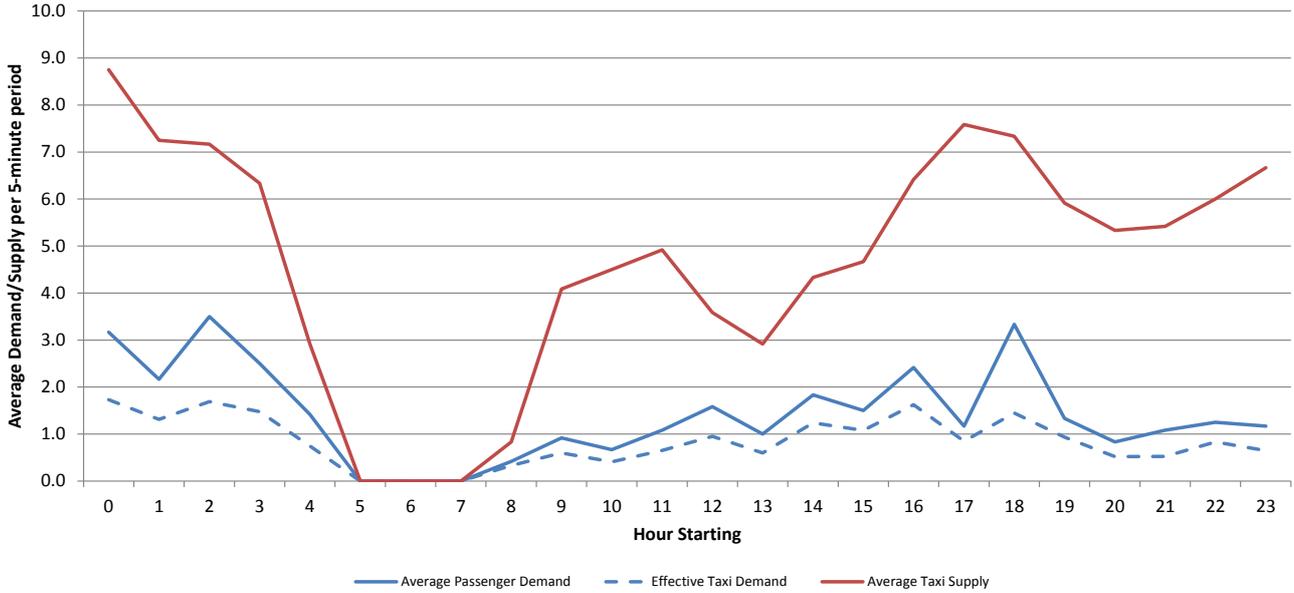


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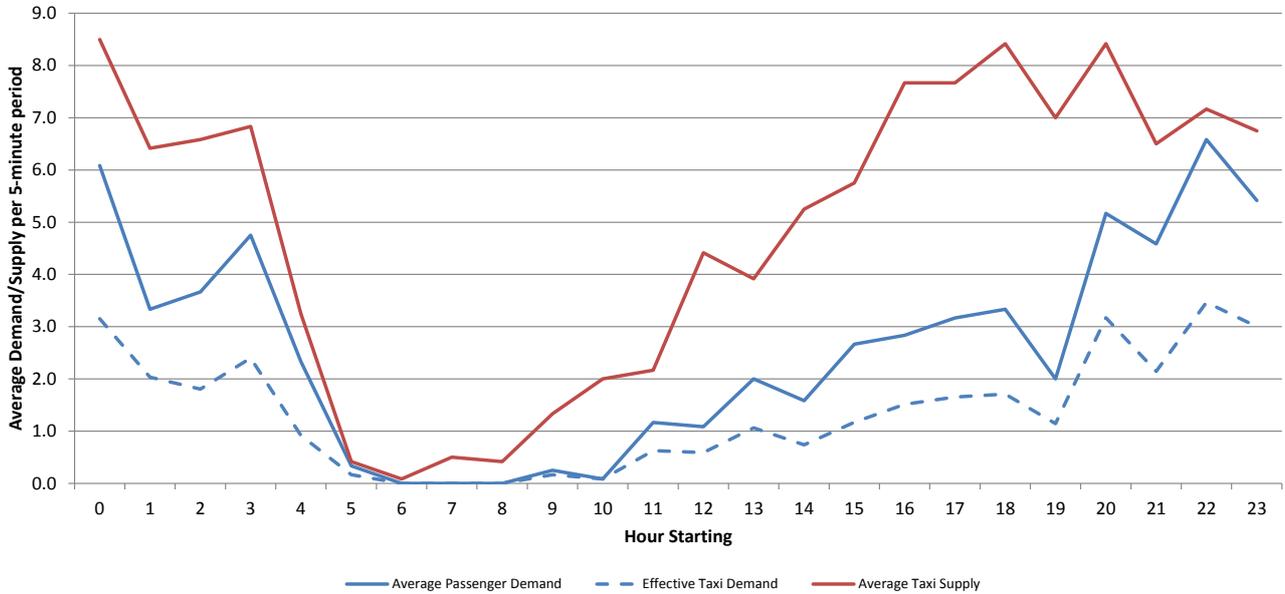


# Greyfriars Road

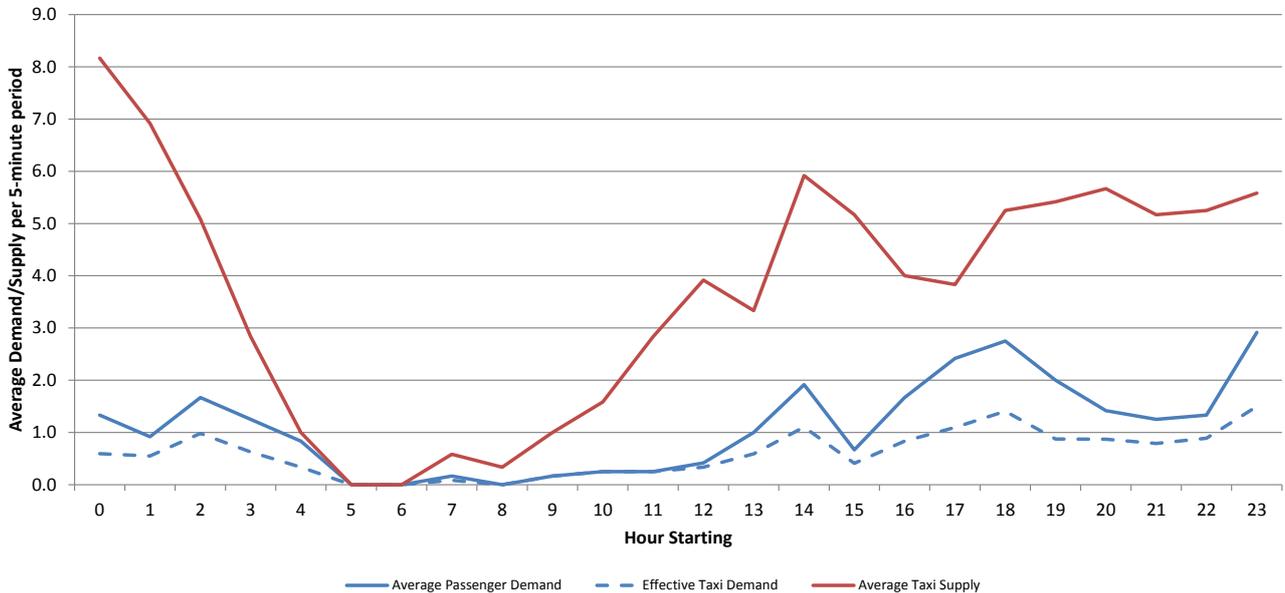
## Comparison of Demand and Supply: Weekday



## Comparison of Demand and Supply: Weekend

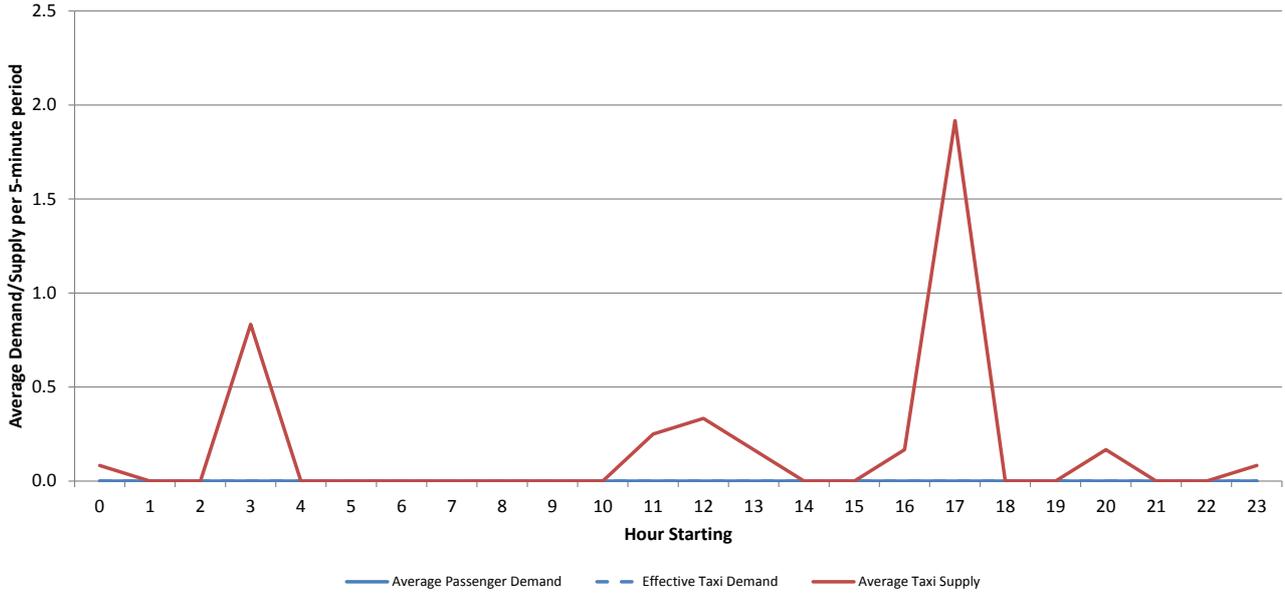


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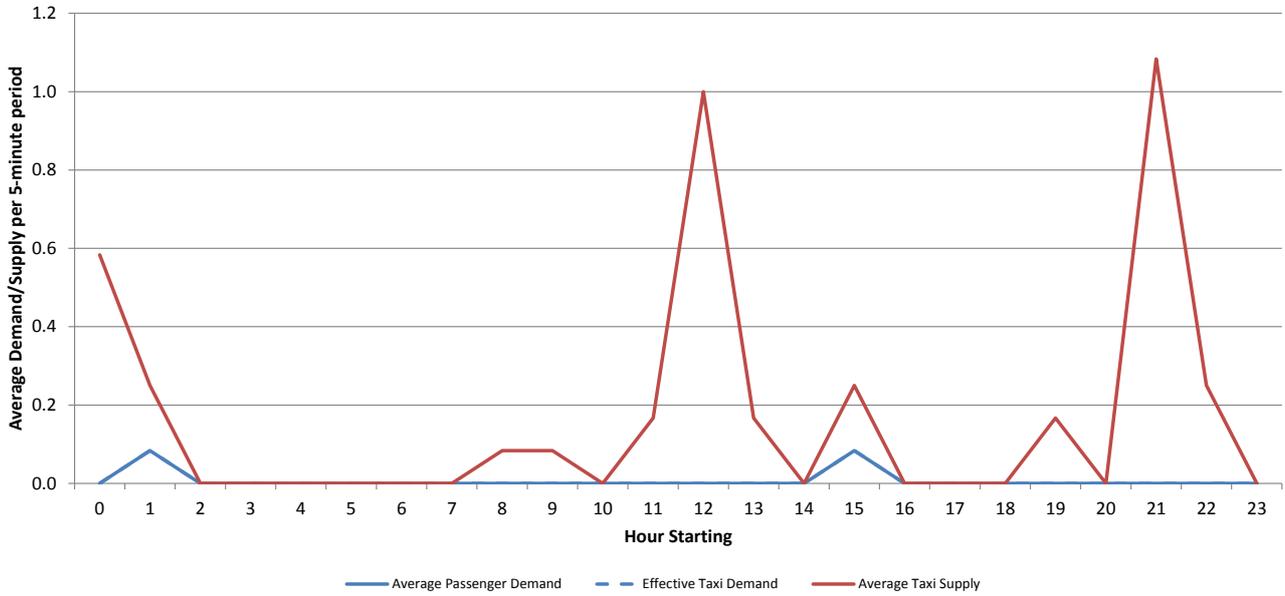


# Havelock Street

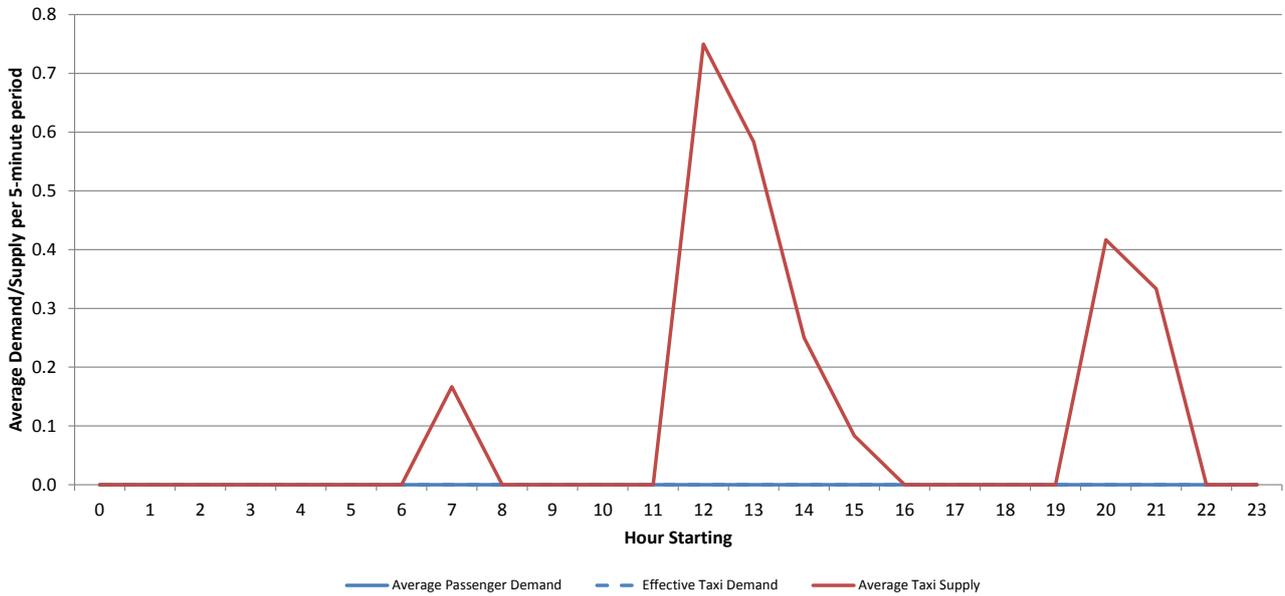
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## Comparison of Demand and Supply: Weekend

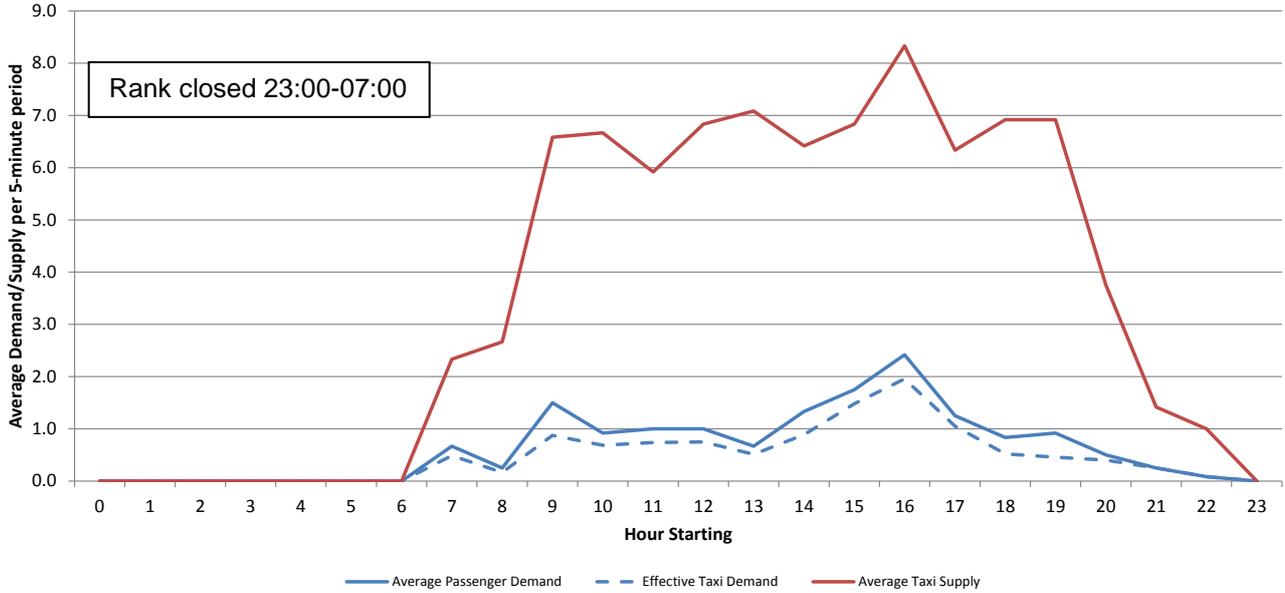


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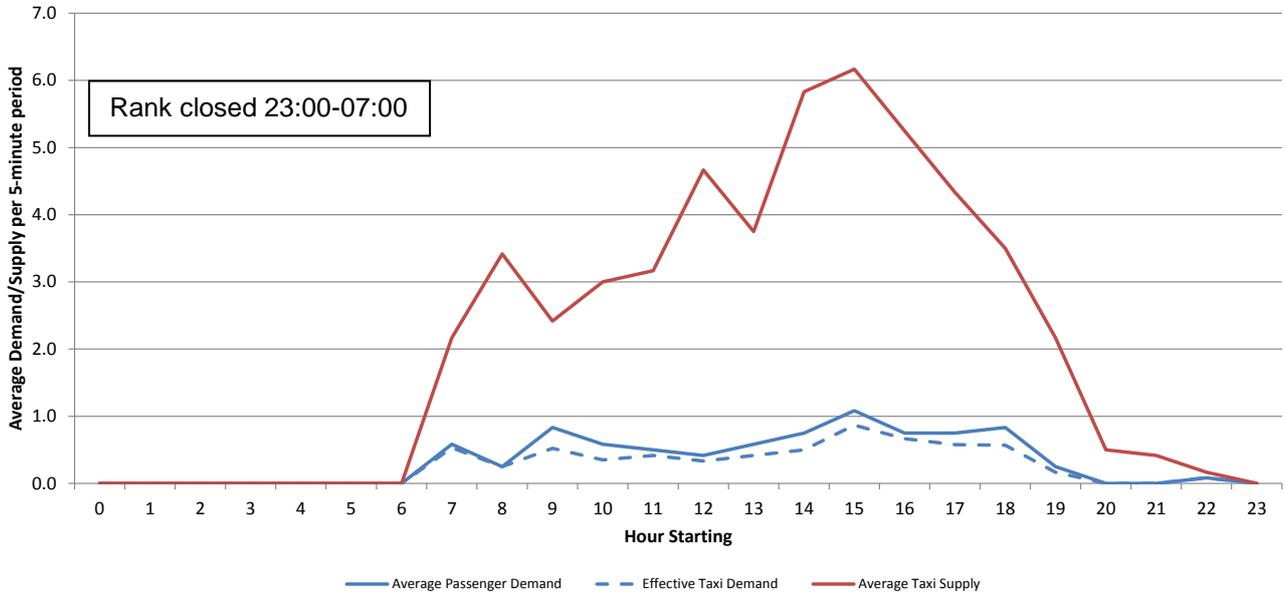


# Heath Hospital

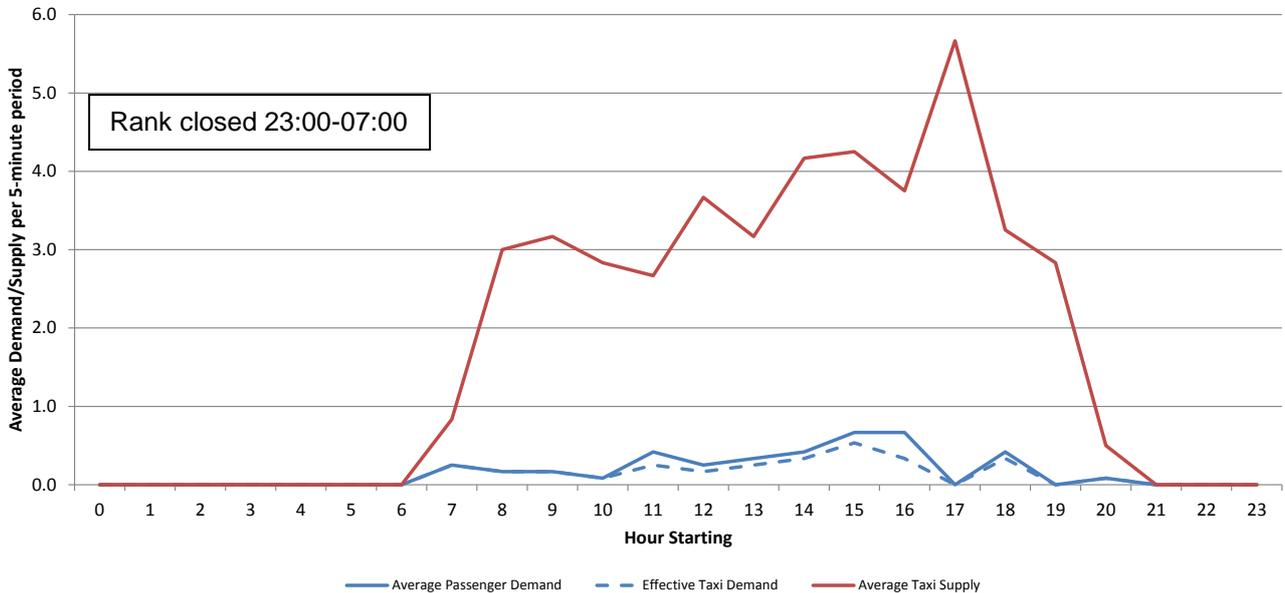
## Comparison of Demand and Supply: Weekday



## Comparison of Demand and Supply: Weekend

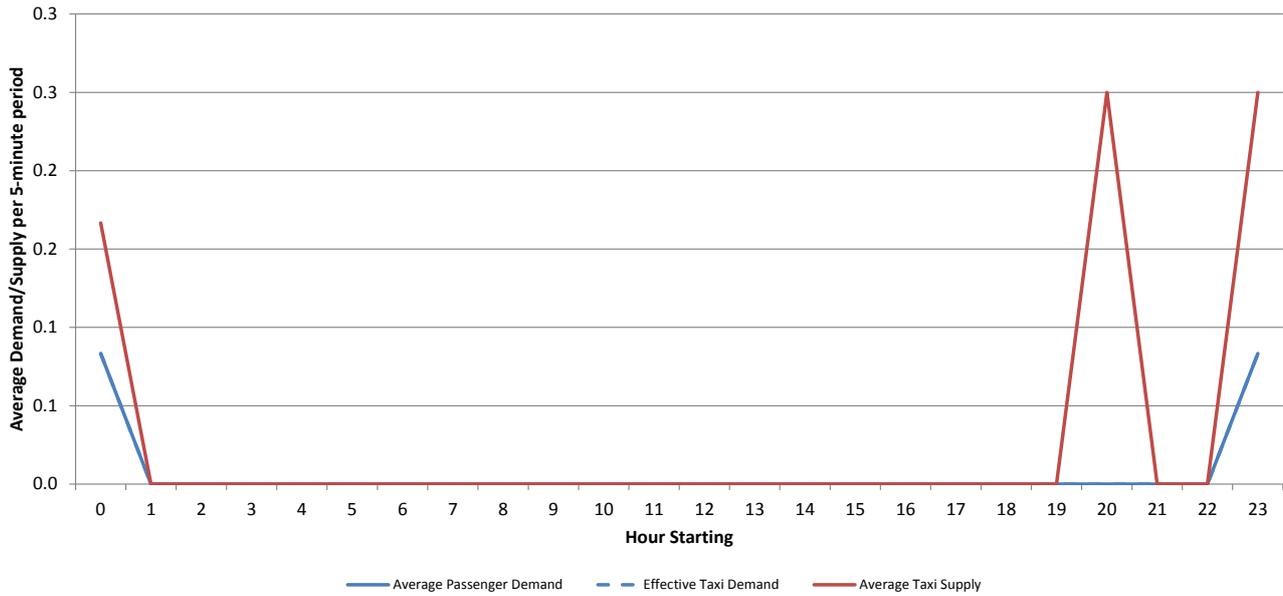


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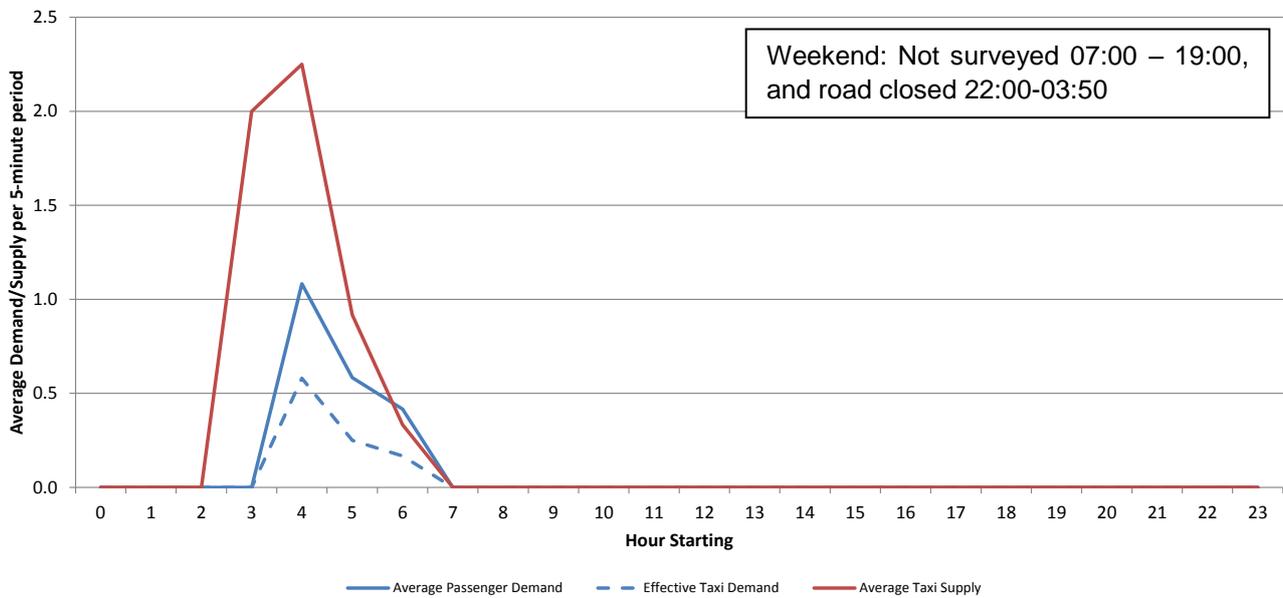


## Lower St Mary Street (East)

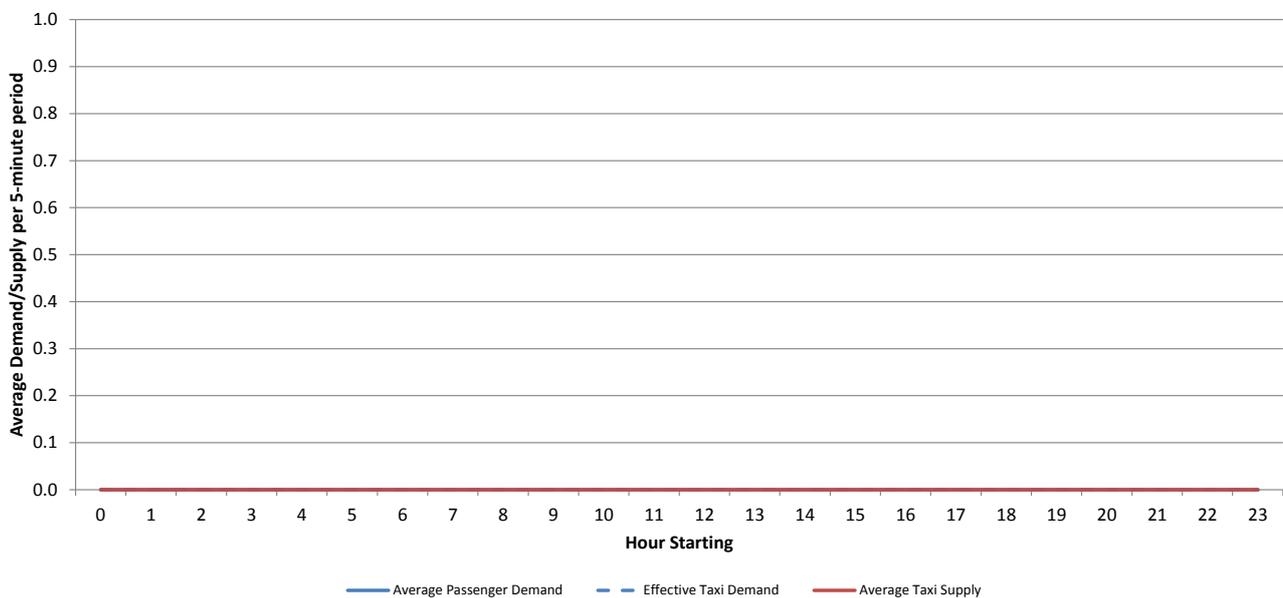
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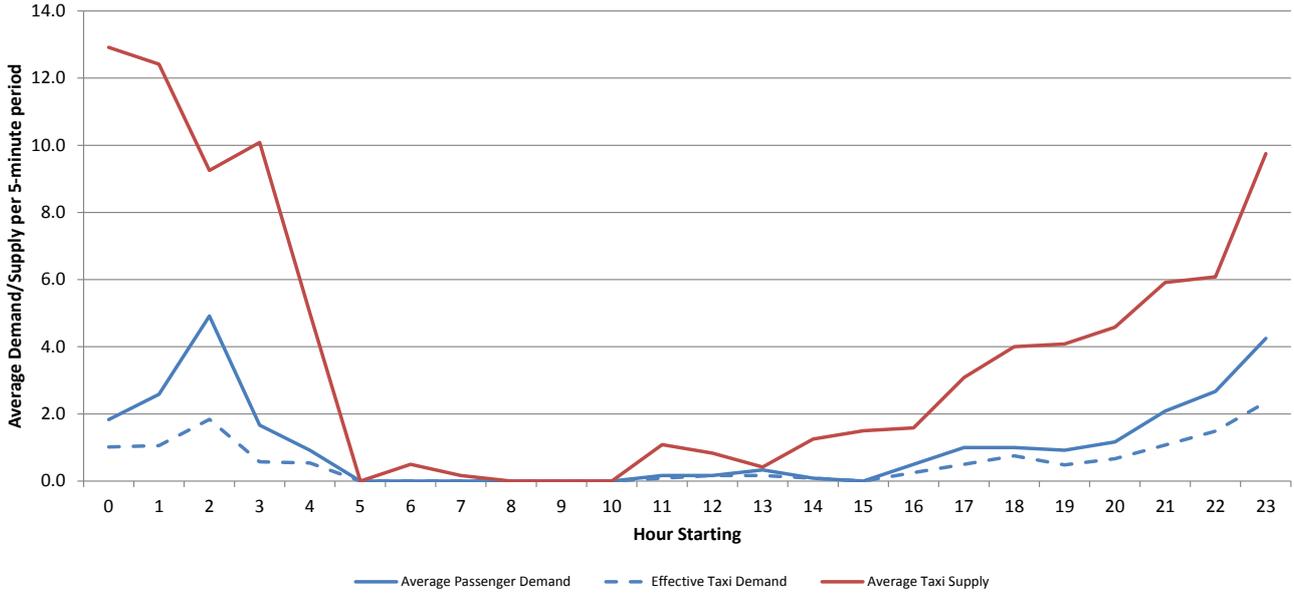


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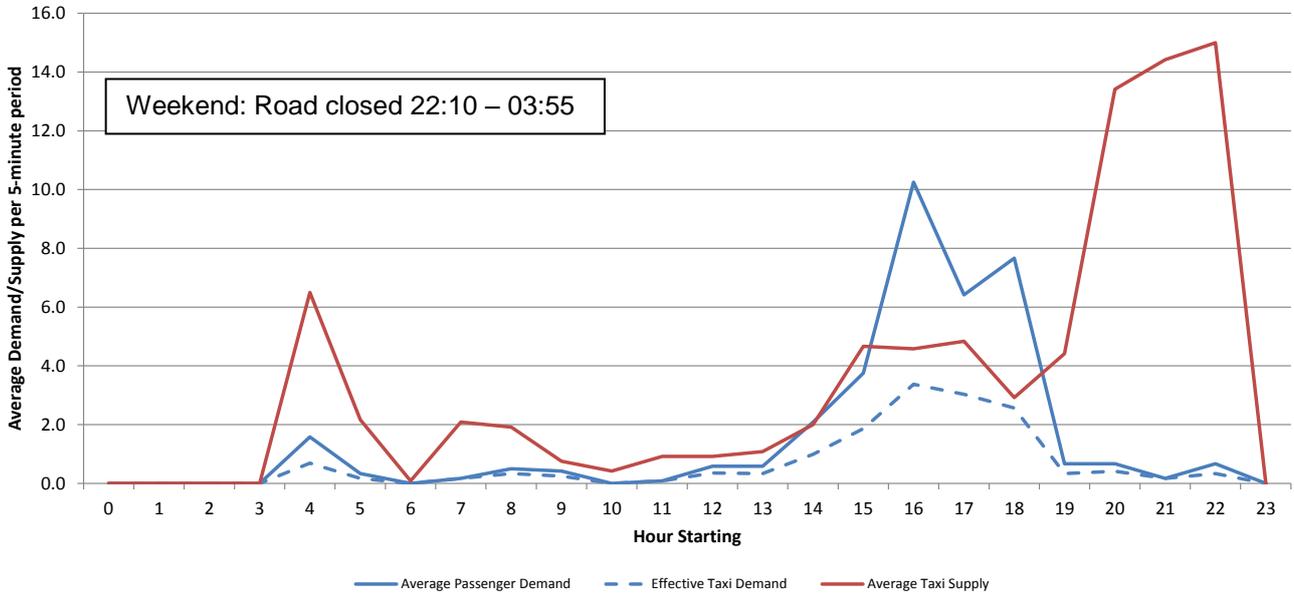


## Lower St Mary Street (West)

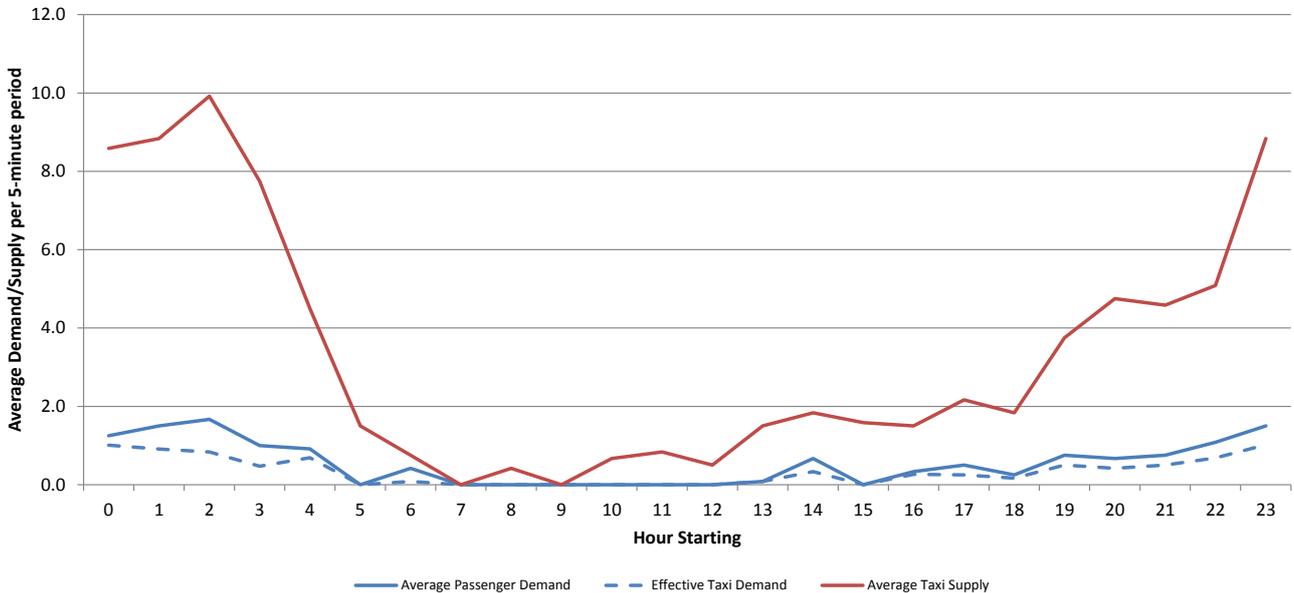
### Comparison of Demand and Supply: Weekday



### Comparison of Demand and Supply: Weekend

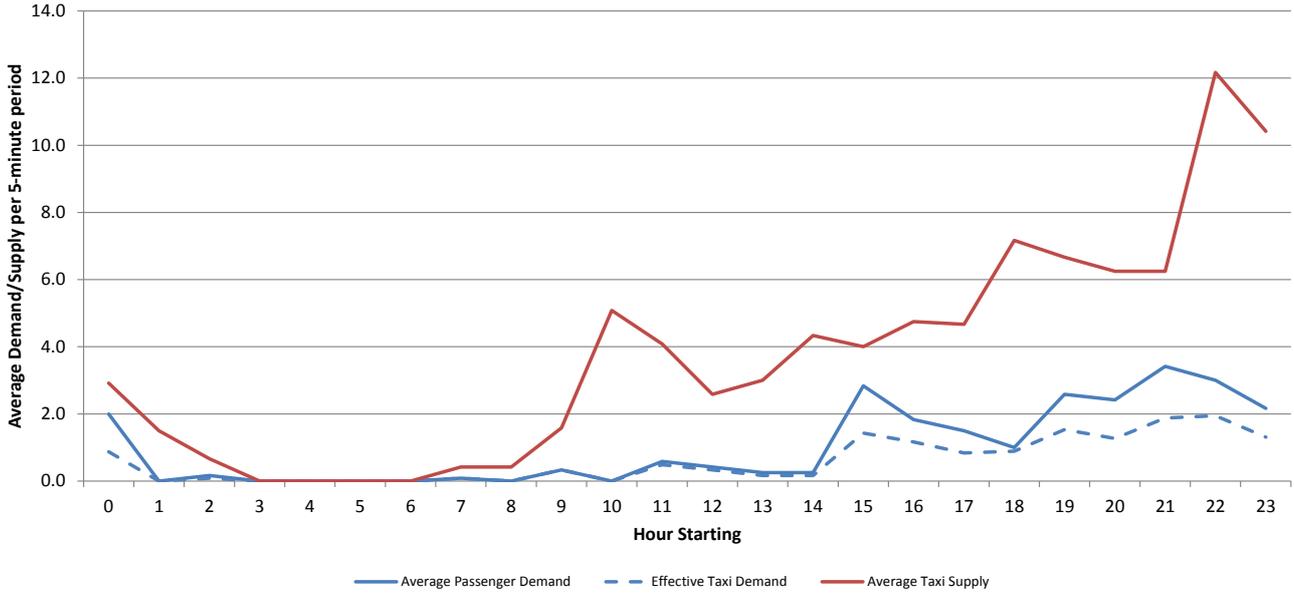


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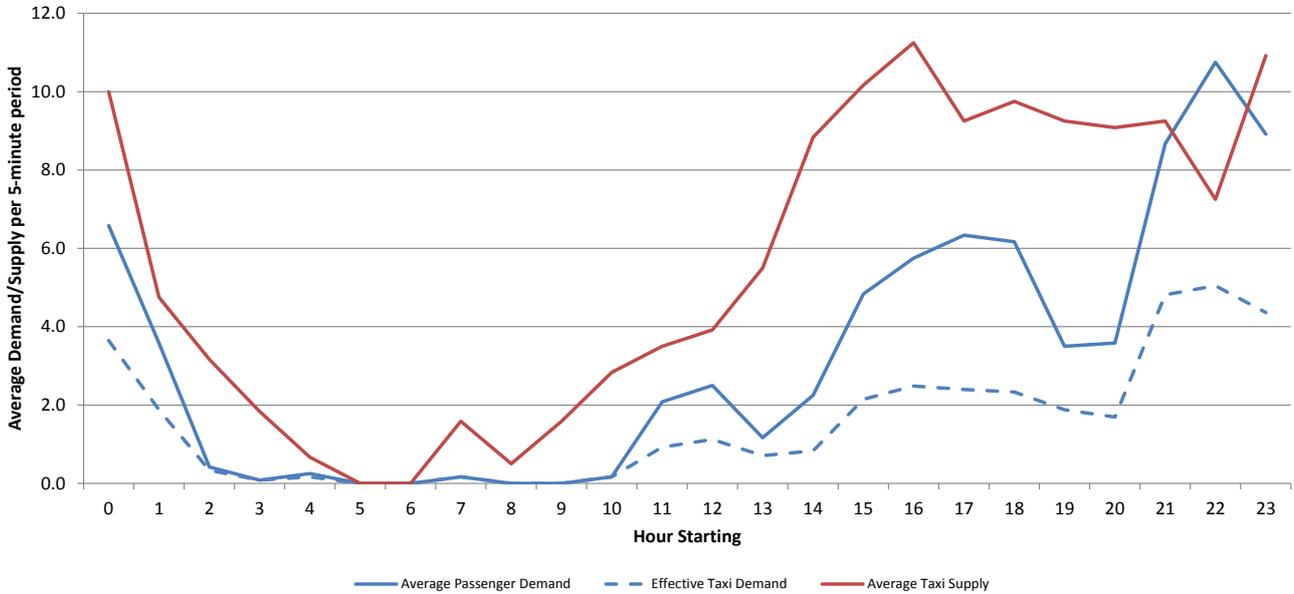


# Mermaid Quay

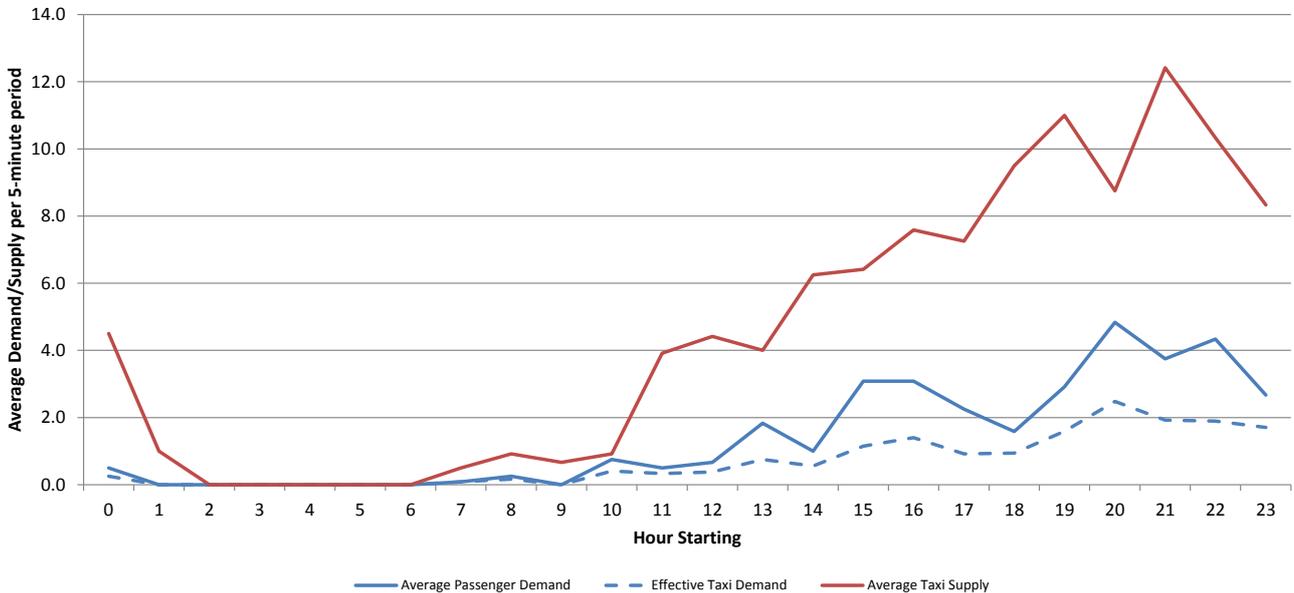
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## Comparison of Demand and Supply: Weekend

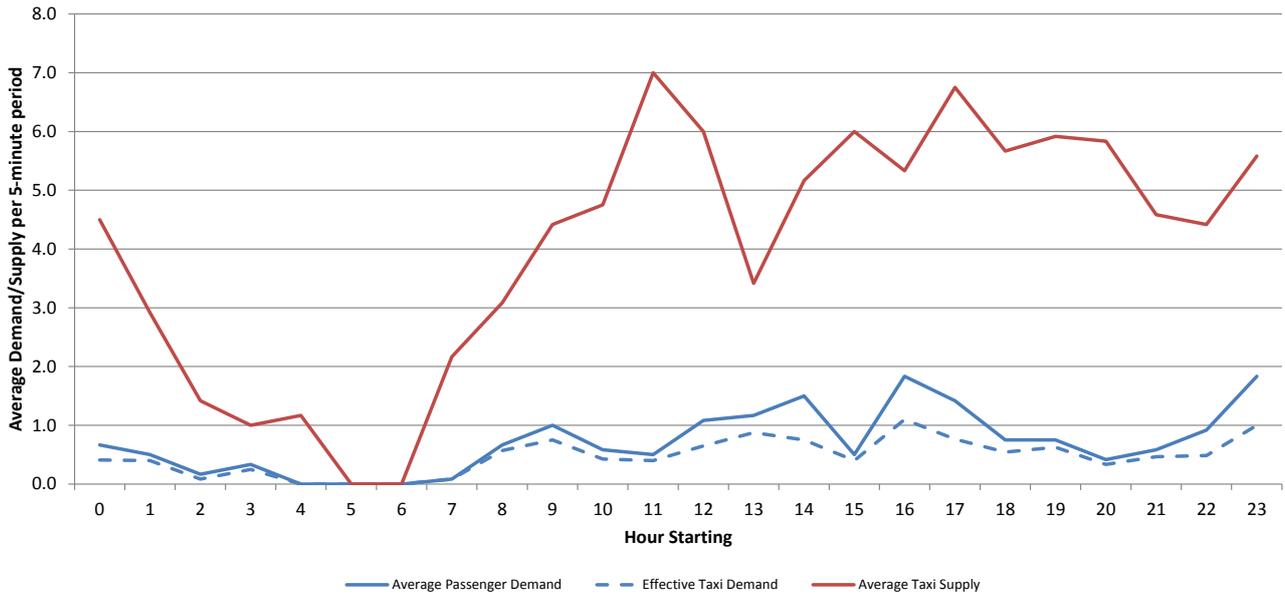


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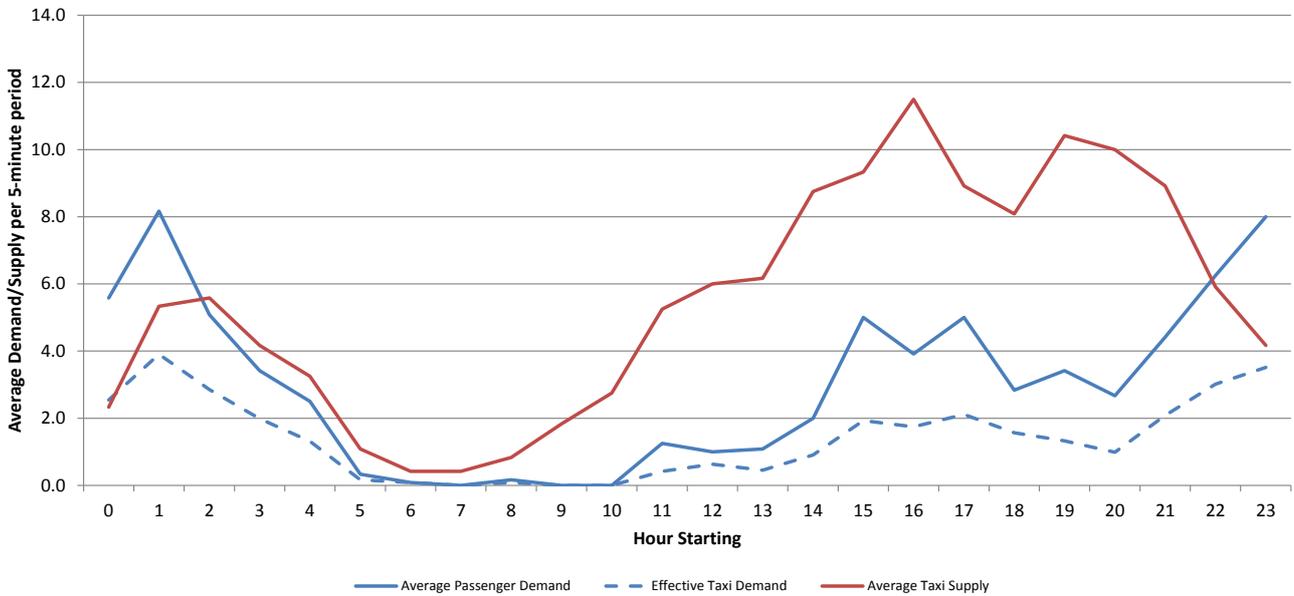


# Mill Lane

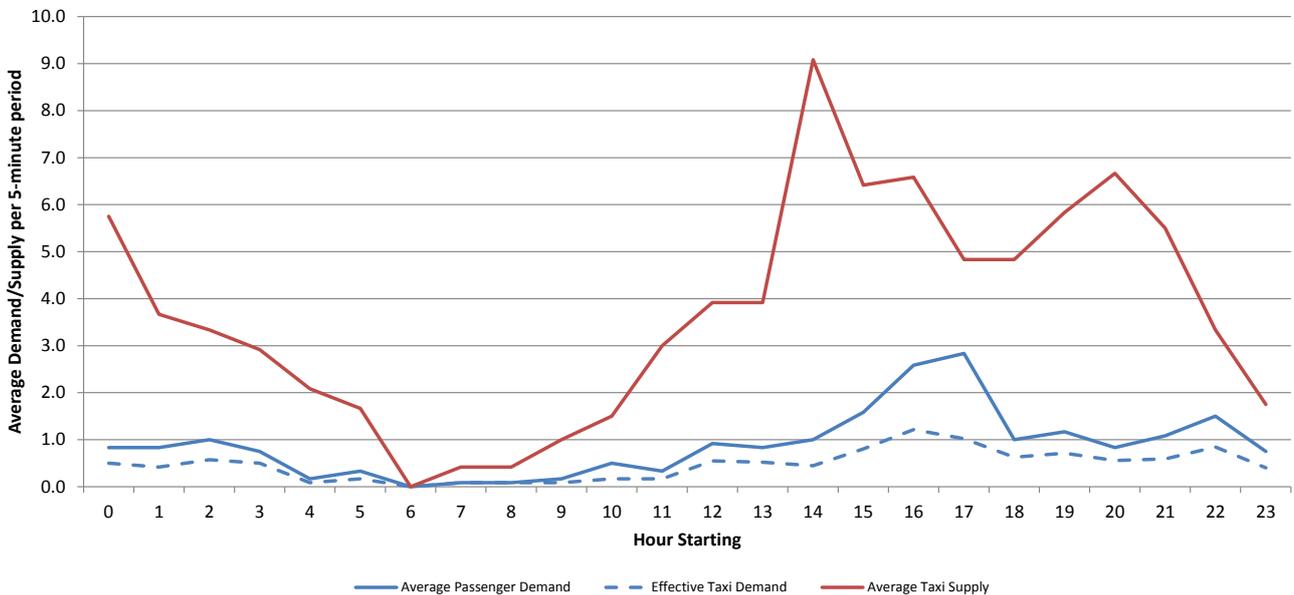
## Comparison of Demand and Supply: Weekday



## Comparison of Demand and Supply: Weekend

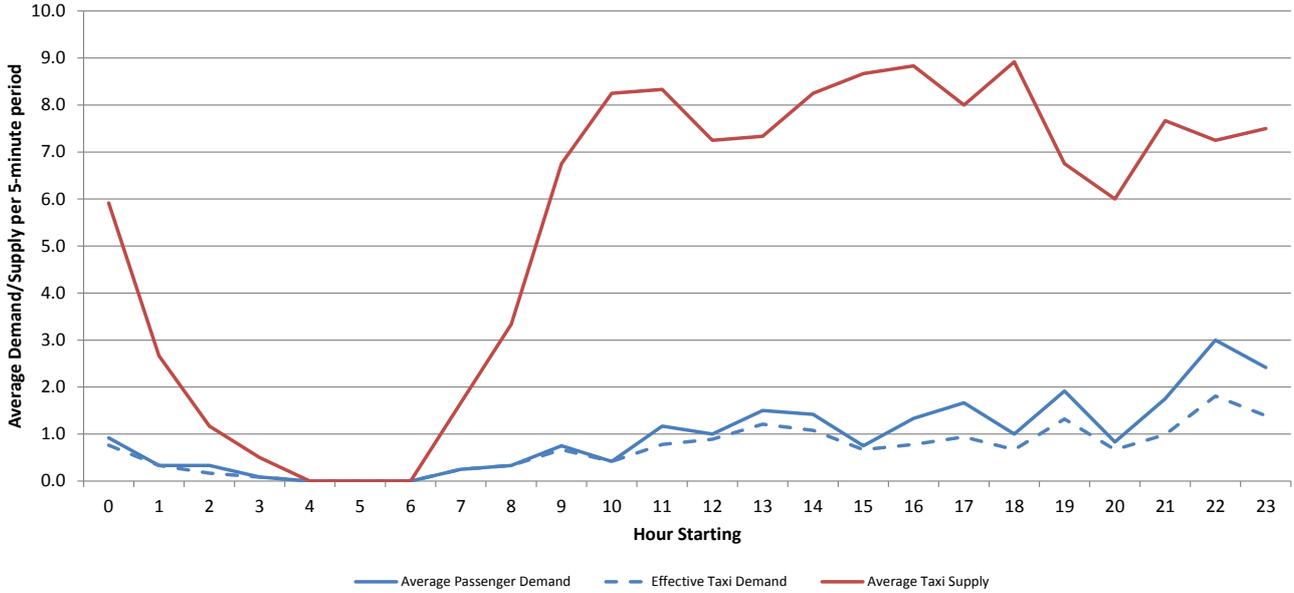


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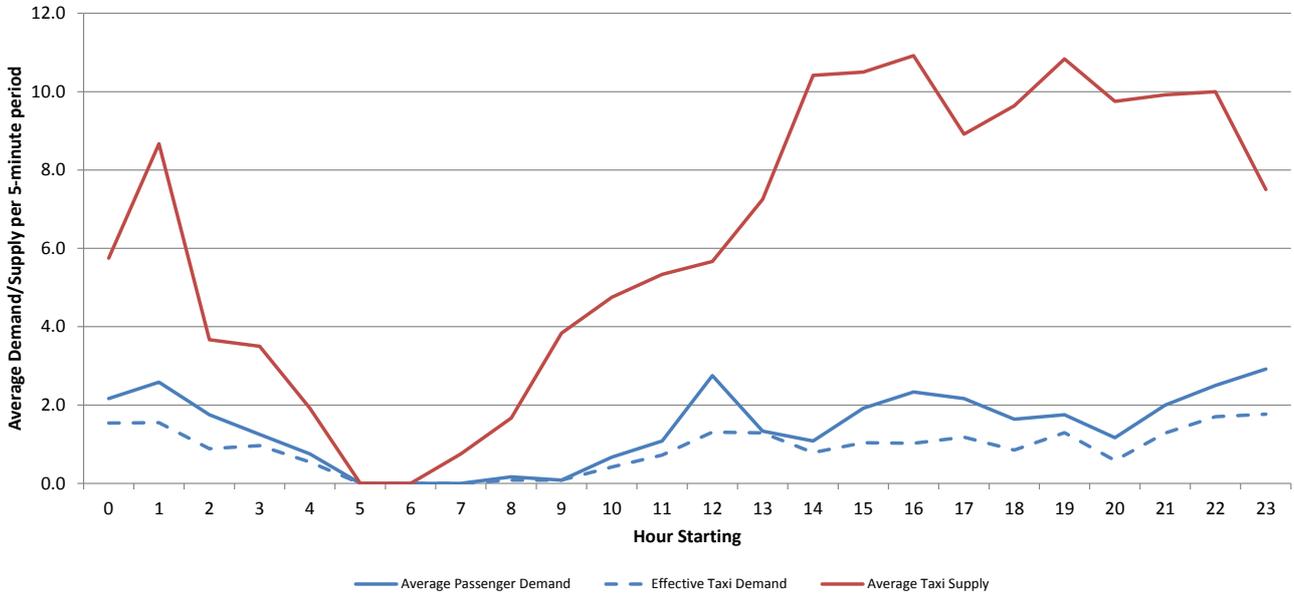


# Park Place

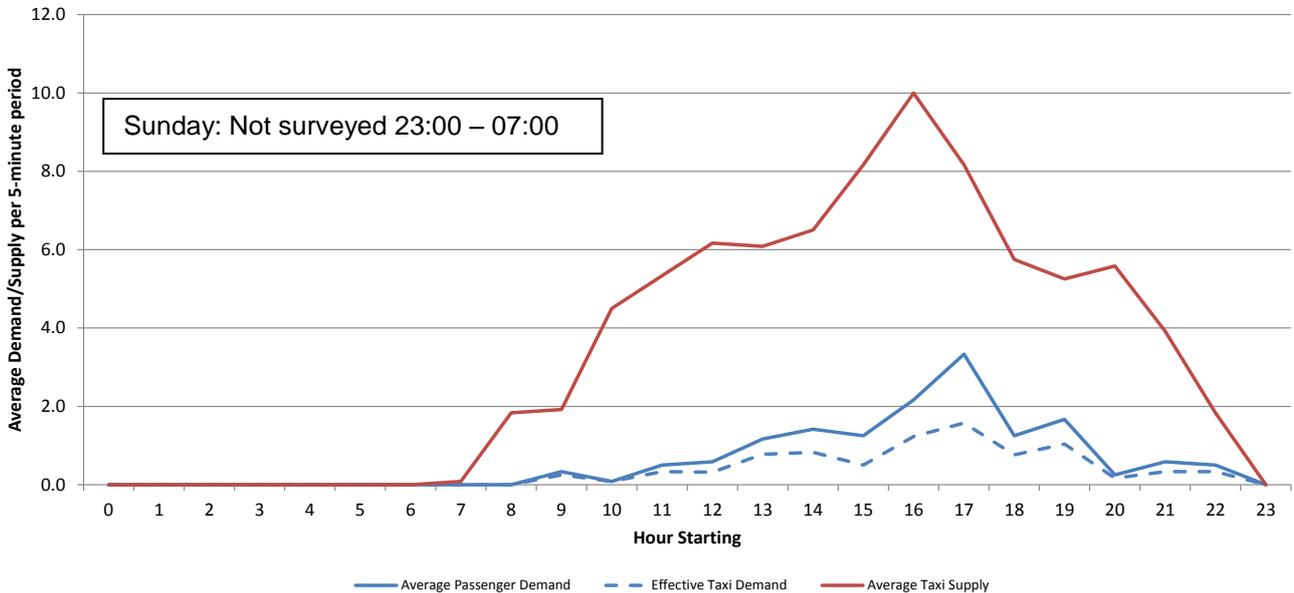
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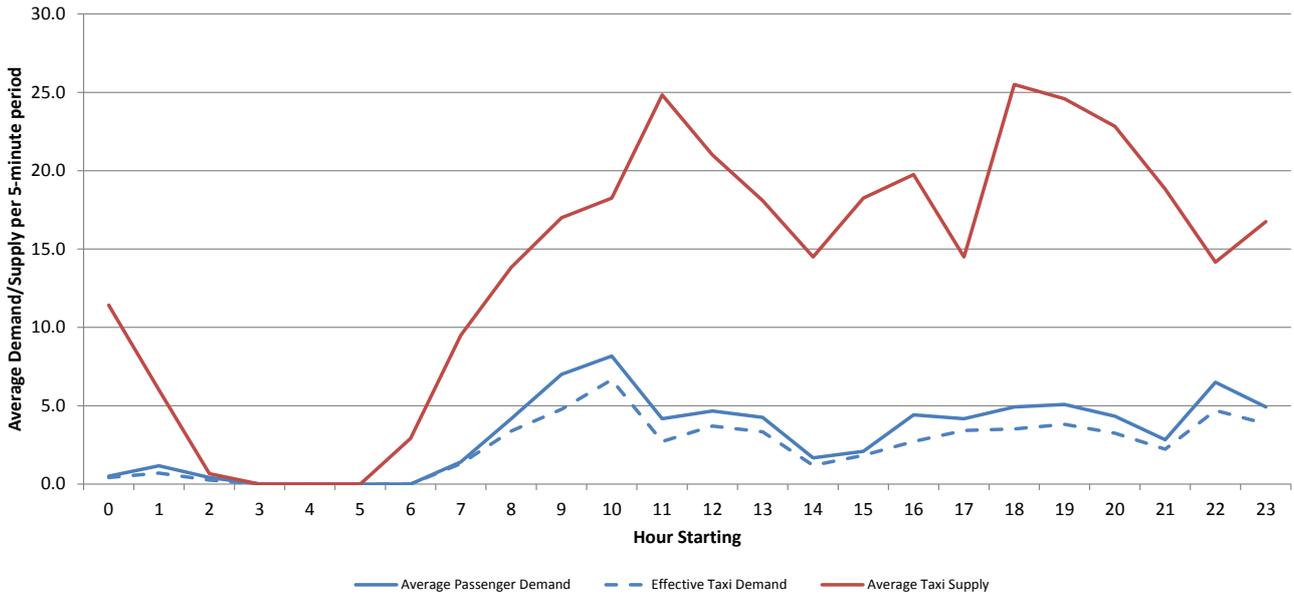


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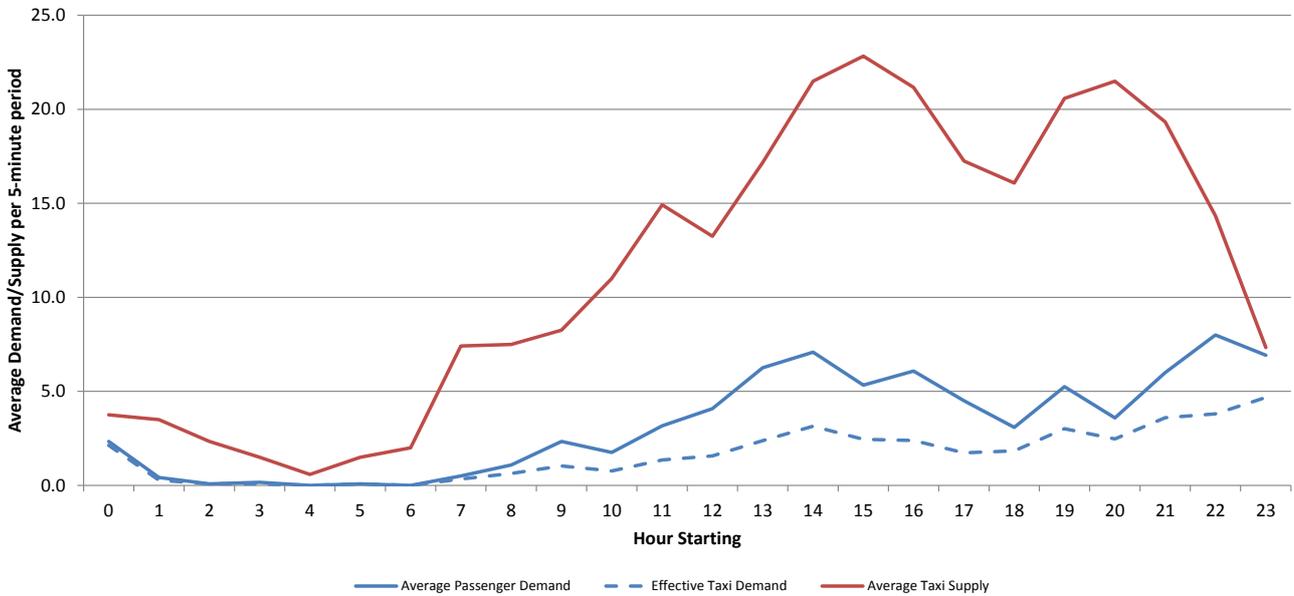


# Saunders Road

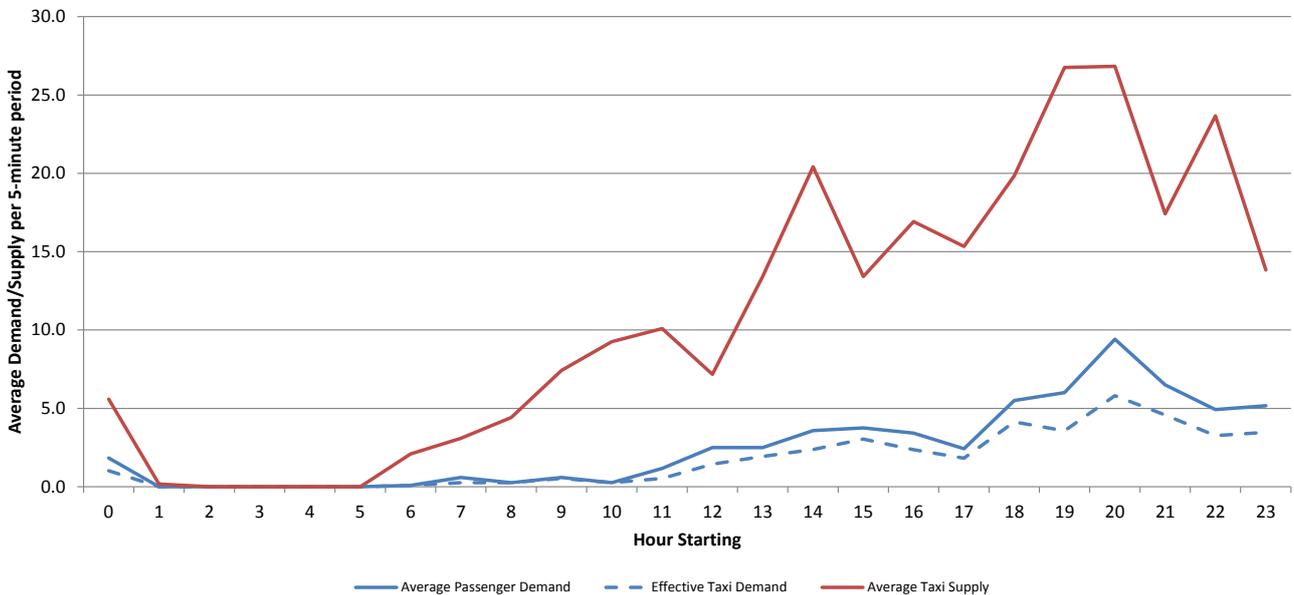
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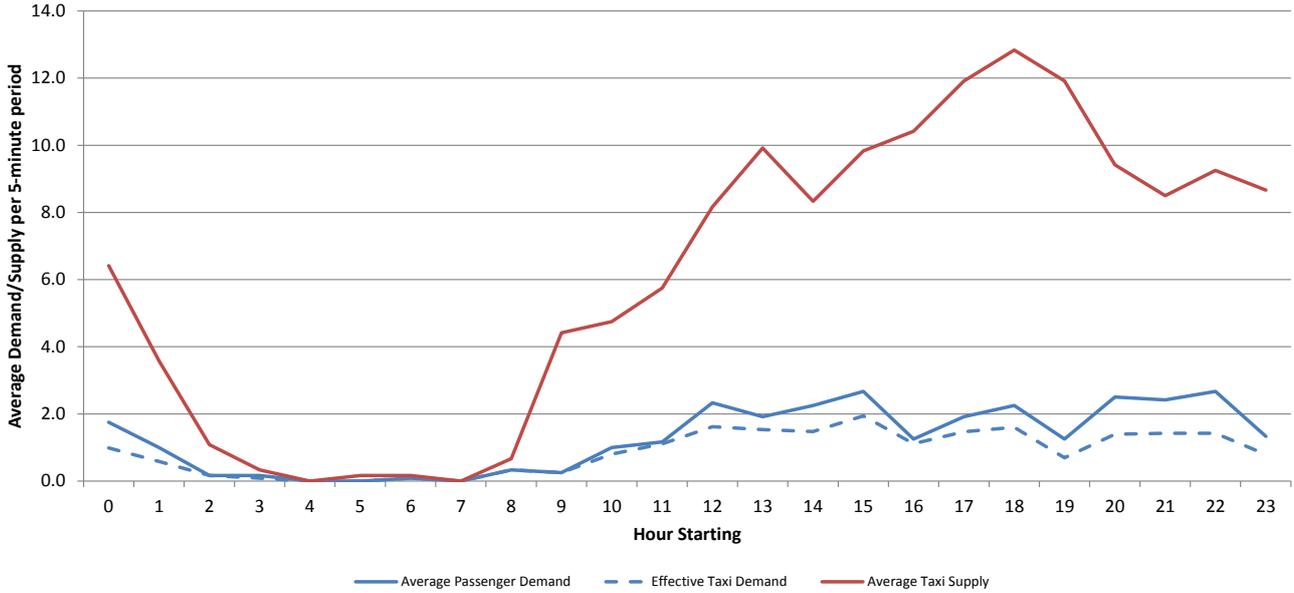


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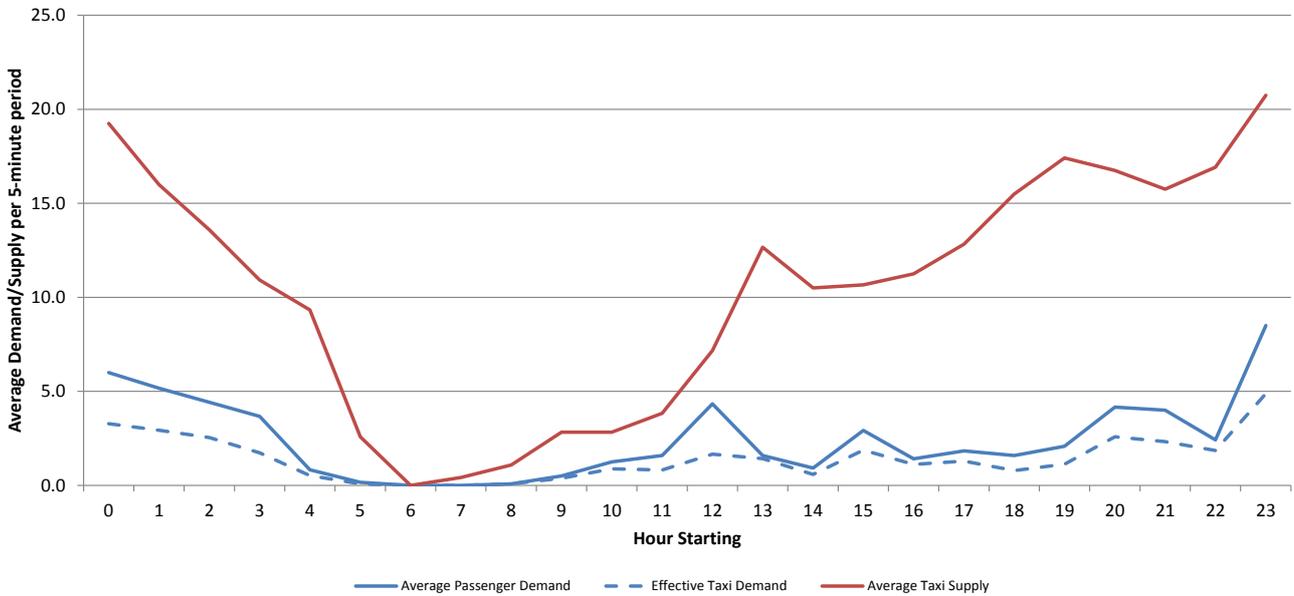


# St Mary Street / Guildhall Place

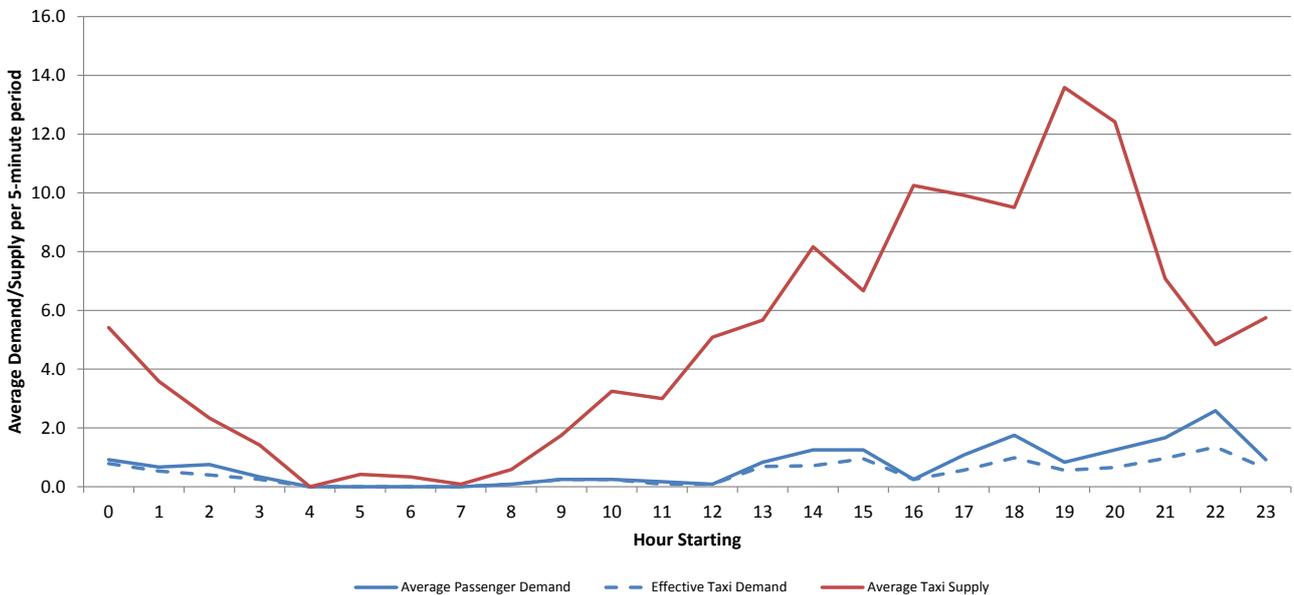
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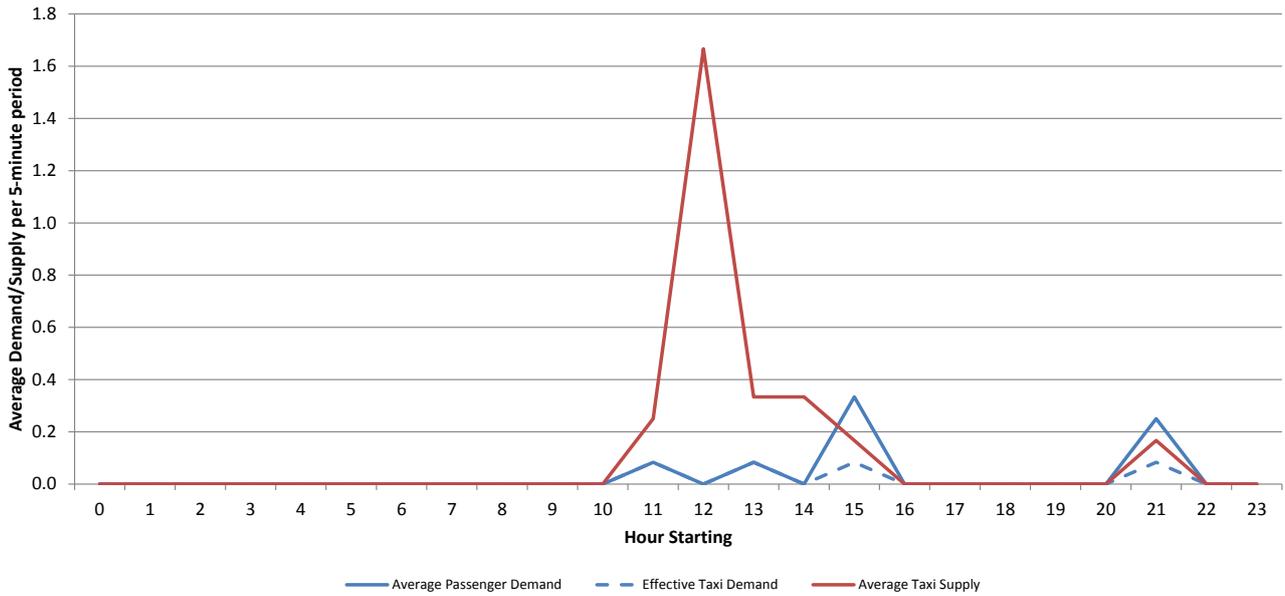


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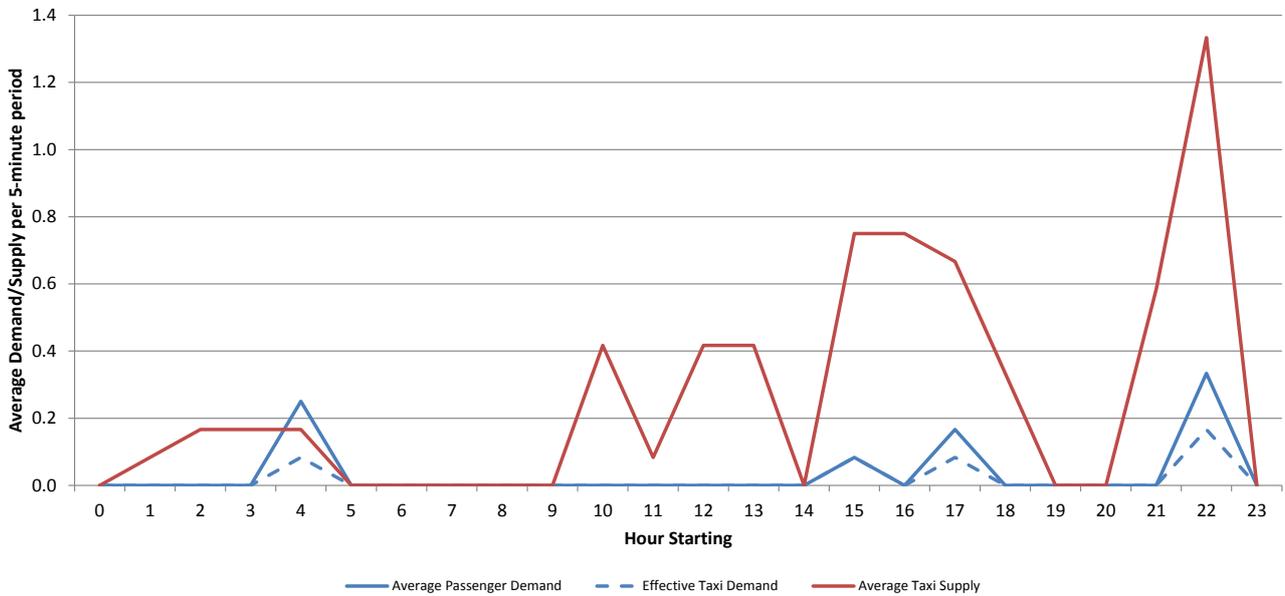


# Tredegar Street

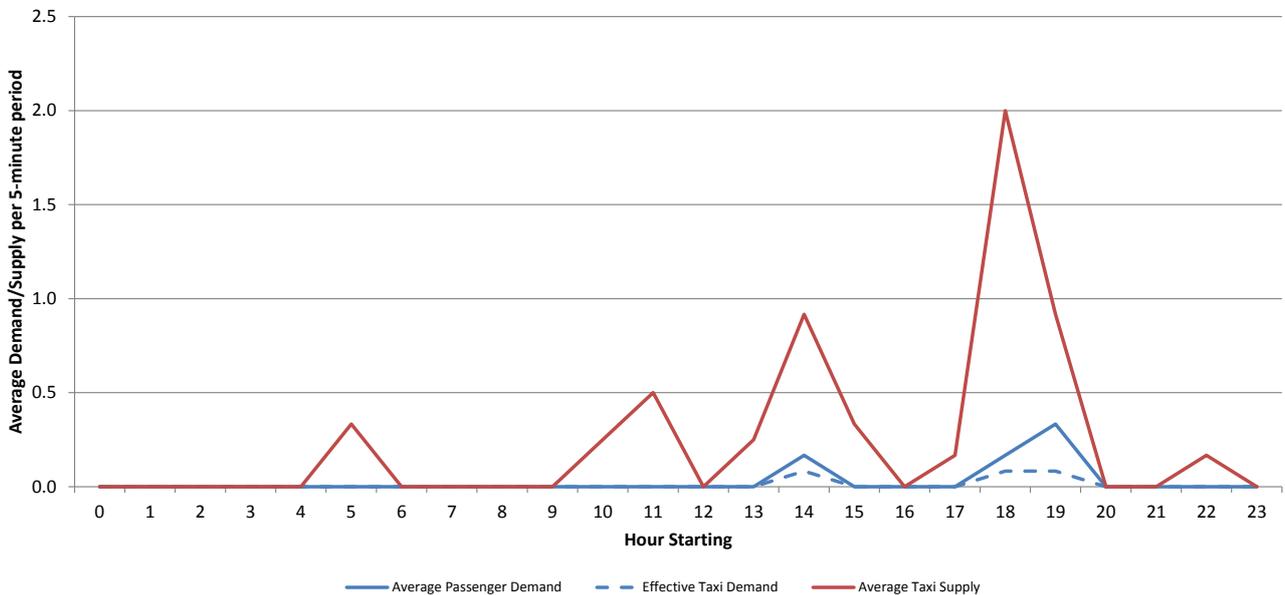
## Comparison of Demand and Supply: Weekday



## Comparison of Demand and Supply: Weekend

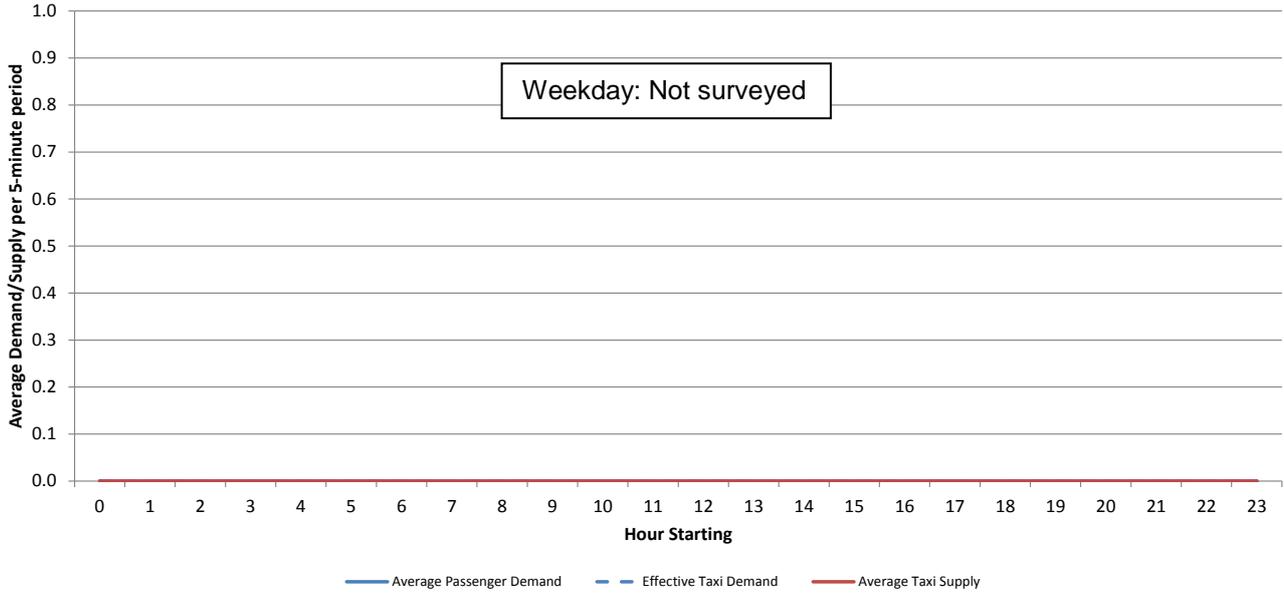


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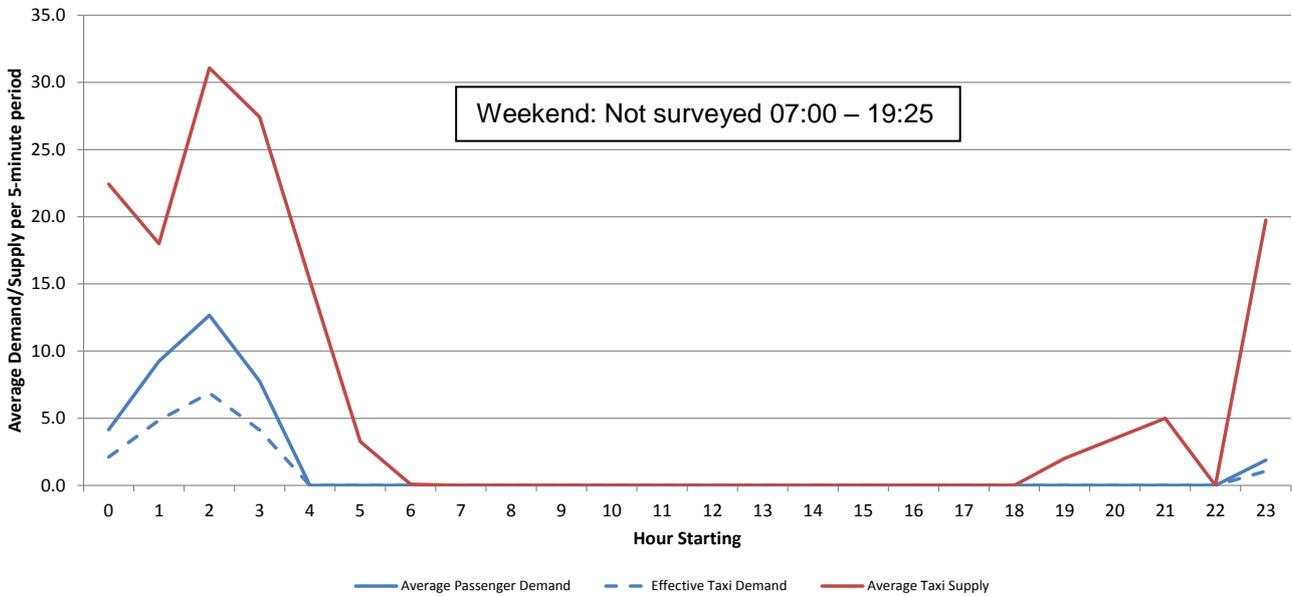


## Duke Street / Castle Street

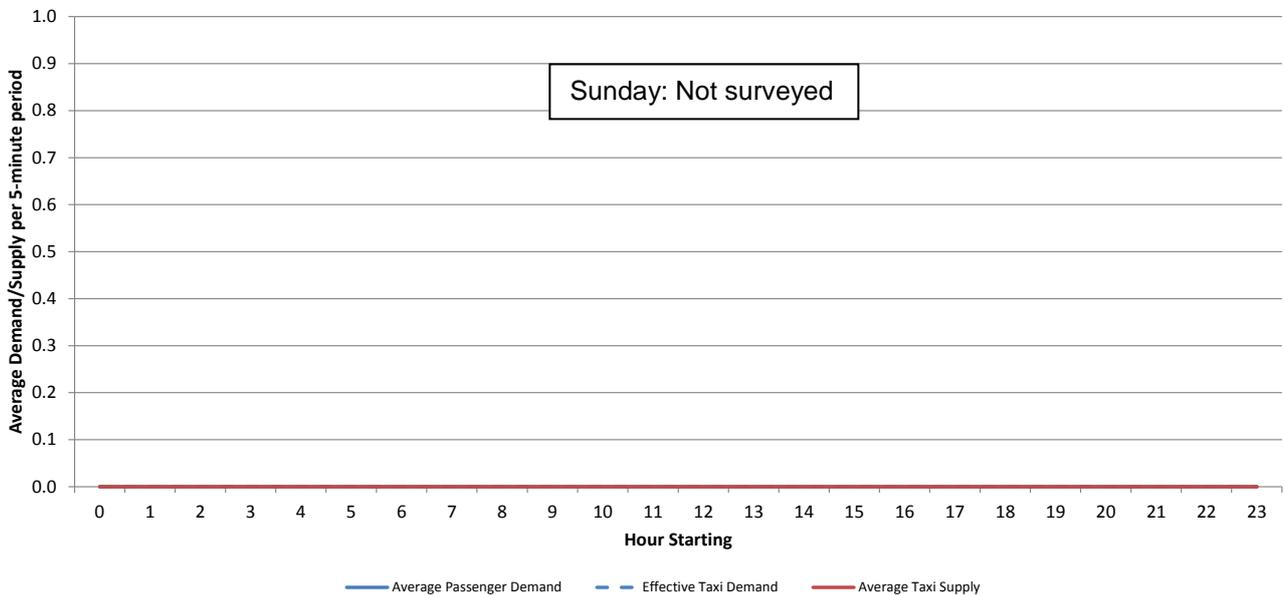
### Comparison of Demand and Supply: Weekday



### Comparison of Demand and Supply: Weekend

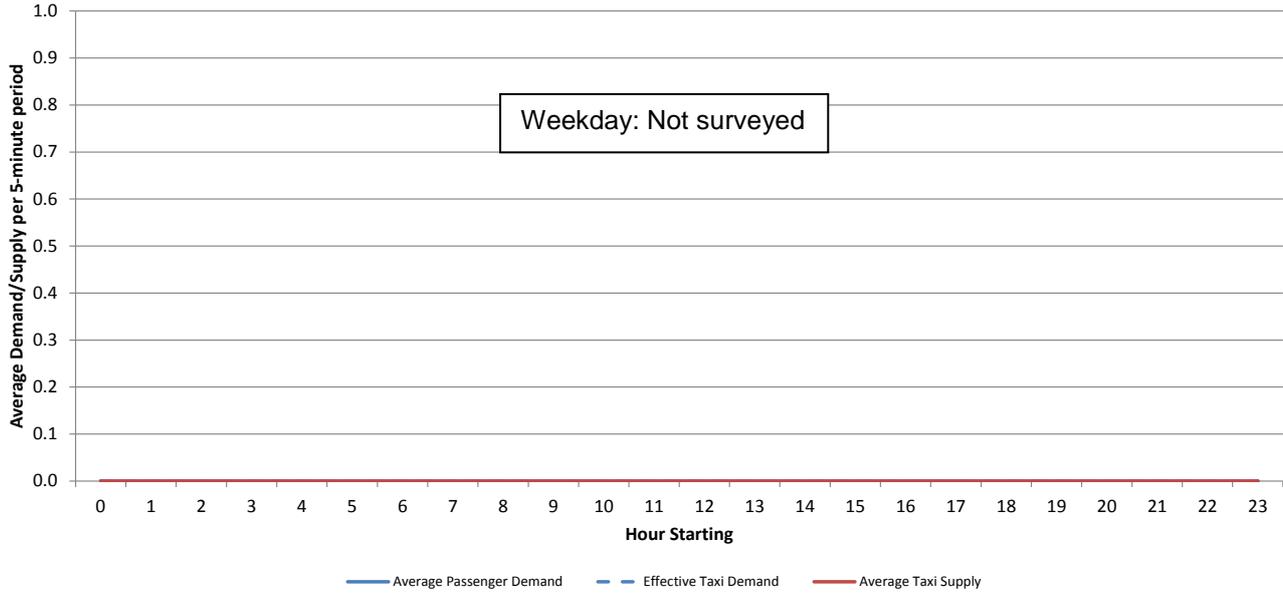


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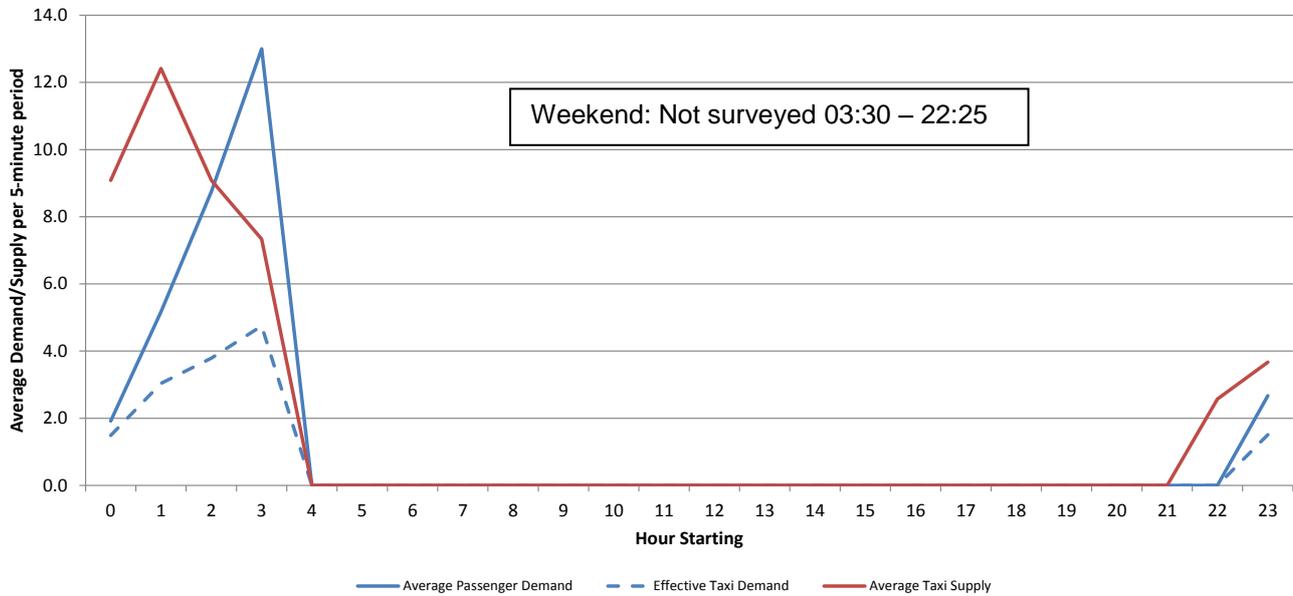


# Greyfriars Road (Unofficial)

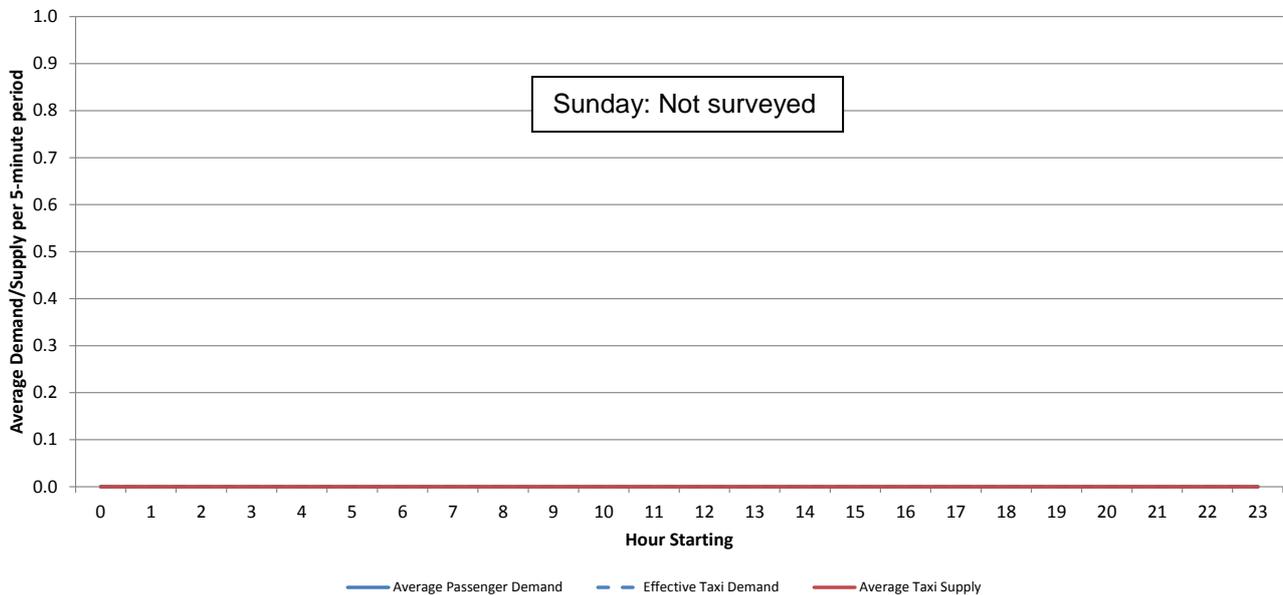
## Comparison of Demand and Supply: Weekday



## Comparison of Demand and Supply: Weekend

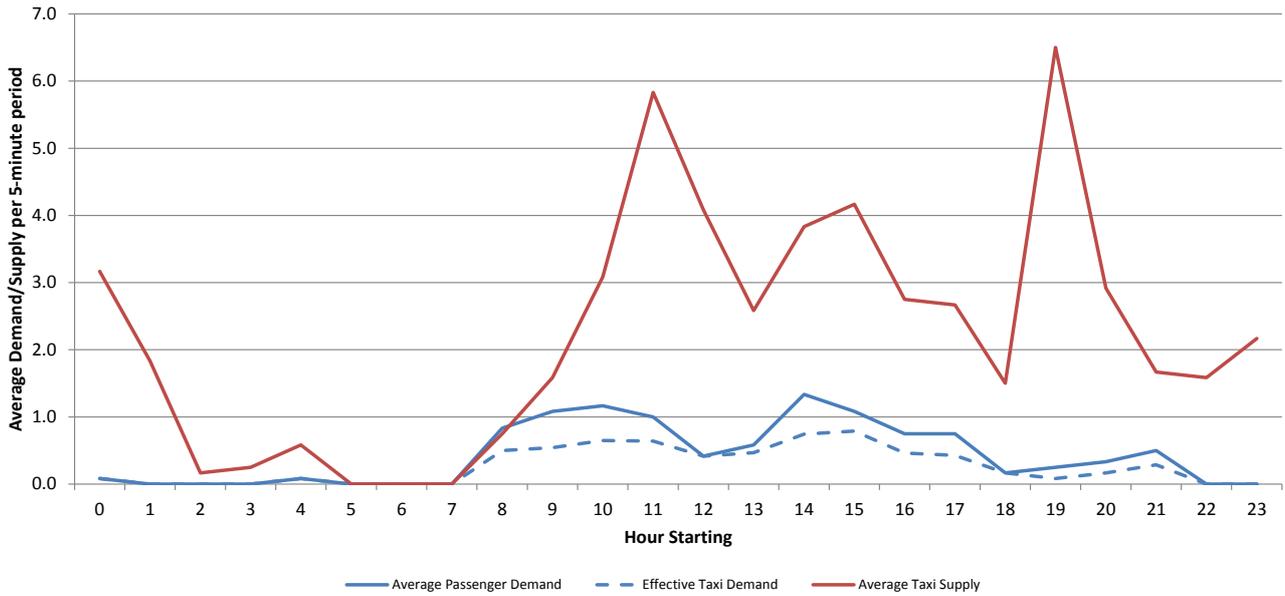


## Comparison of Demand and Supply: Sunday

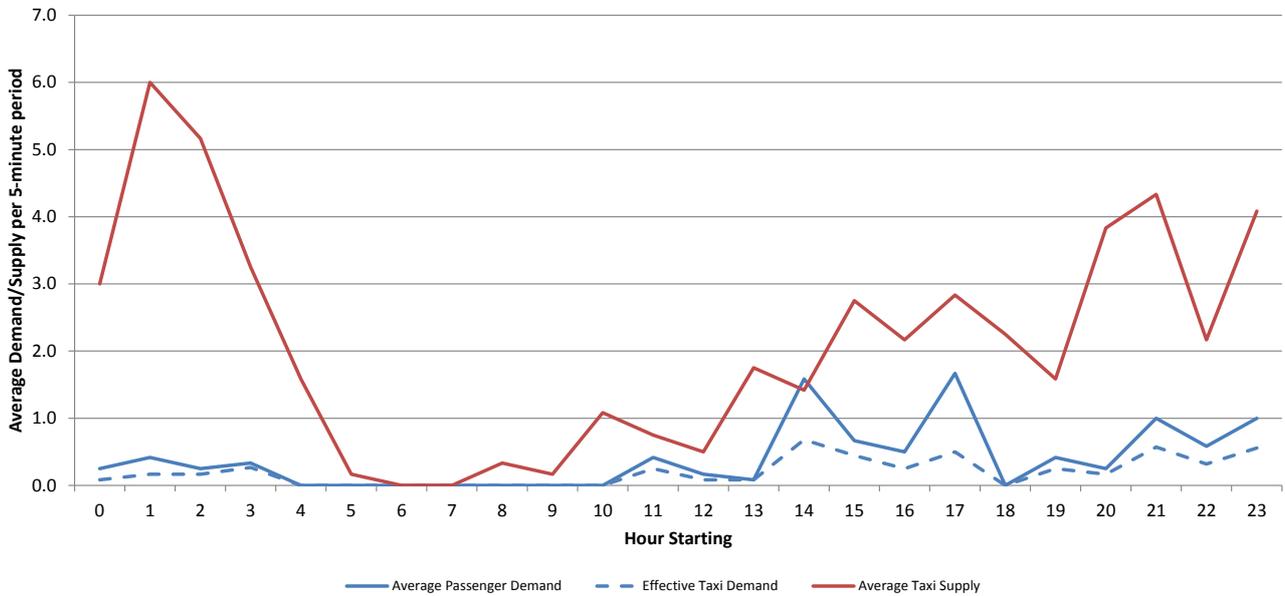


# Sophia Gardens

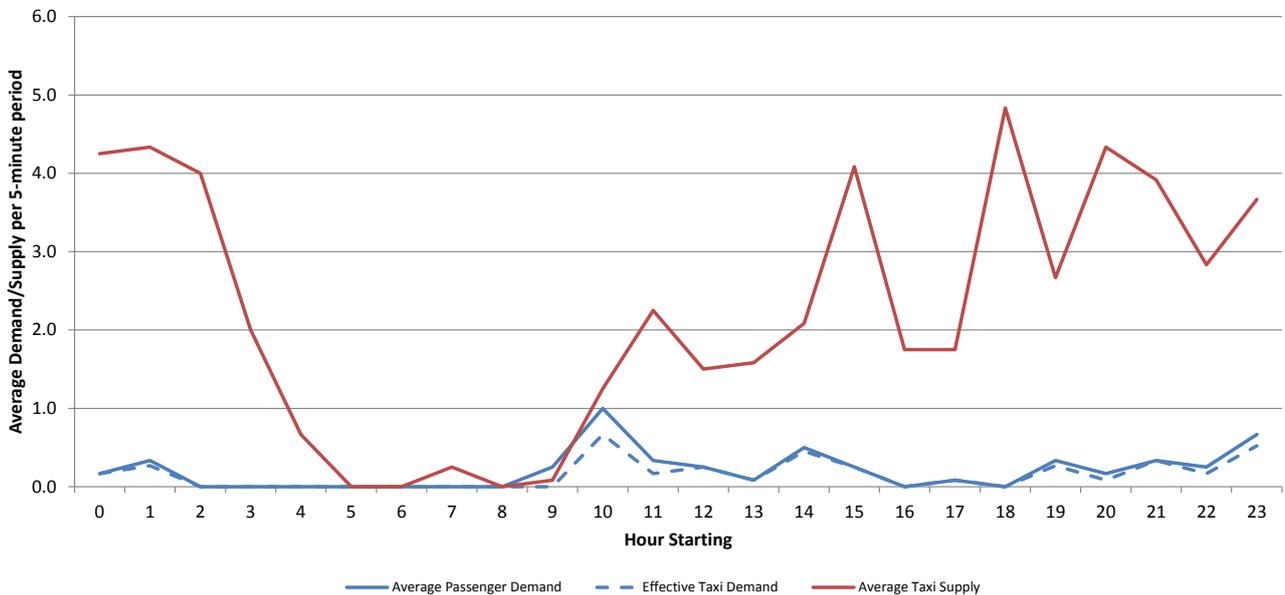
## Comparison of Demand and Supply: Weekday



## Comparison of Demand and Supply: Weekend

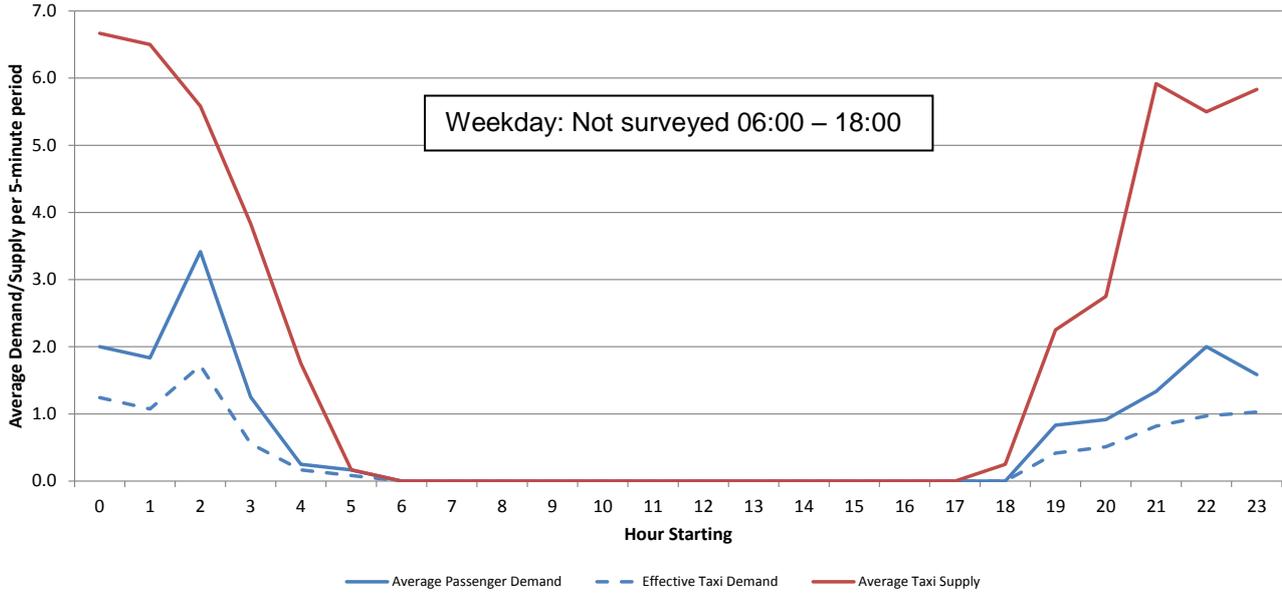


## Comparison of Demand and Supply: Sunday

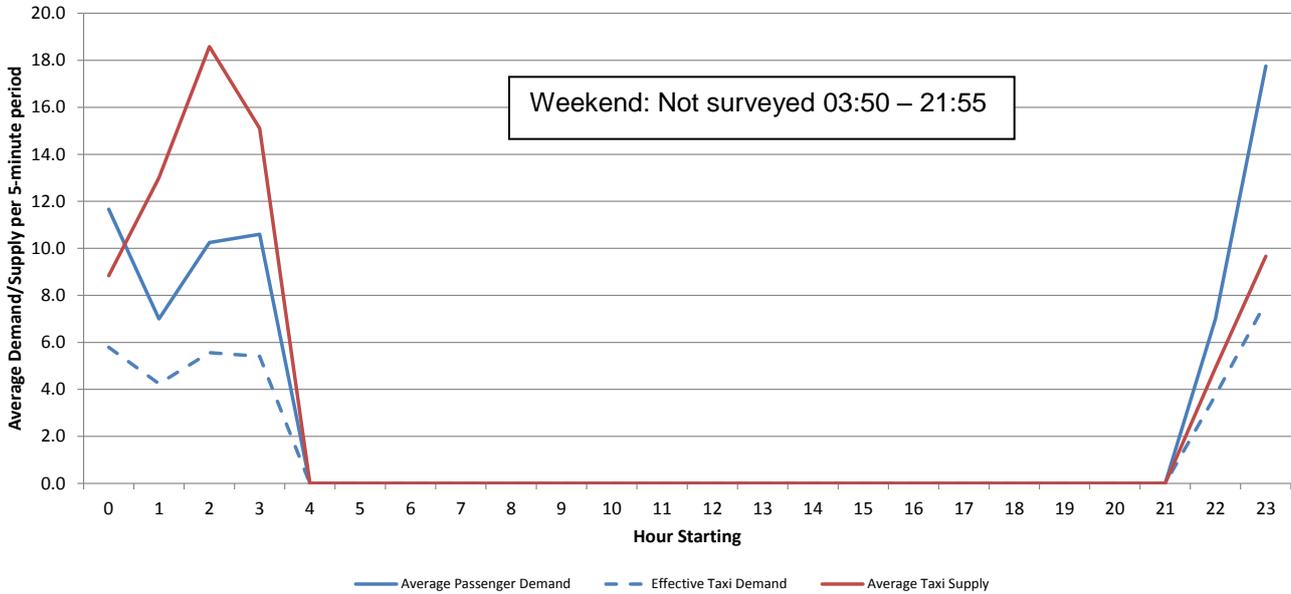


# St Mary Street (Unofficial)

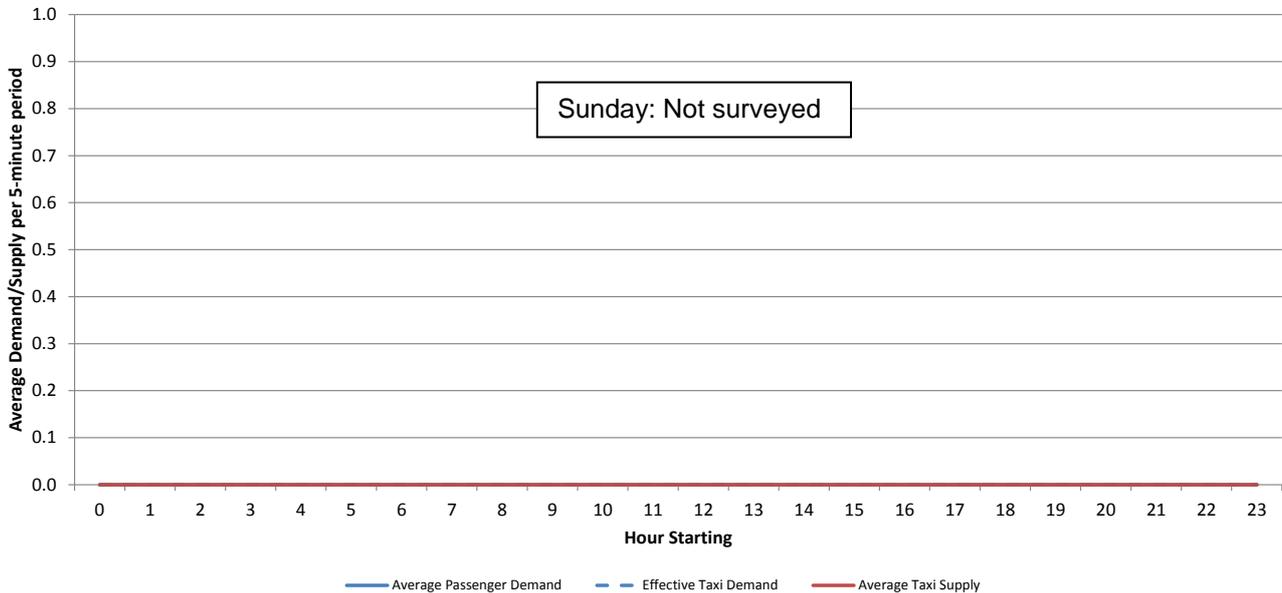
## Comparison of Demand and Supply: Weekday



## Comparison of Demand and Supply: Weekend

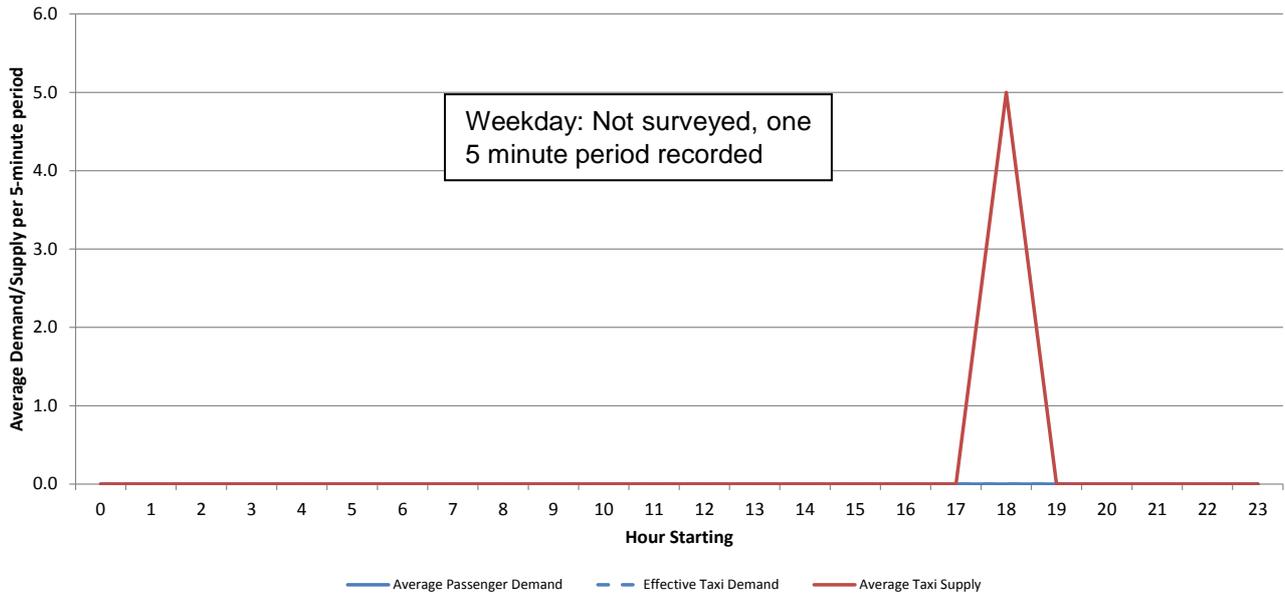


## Comparison of Demand and Supply: Sunday

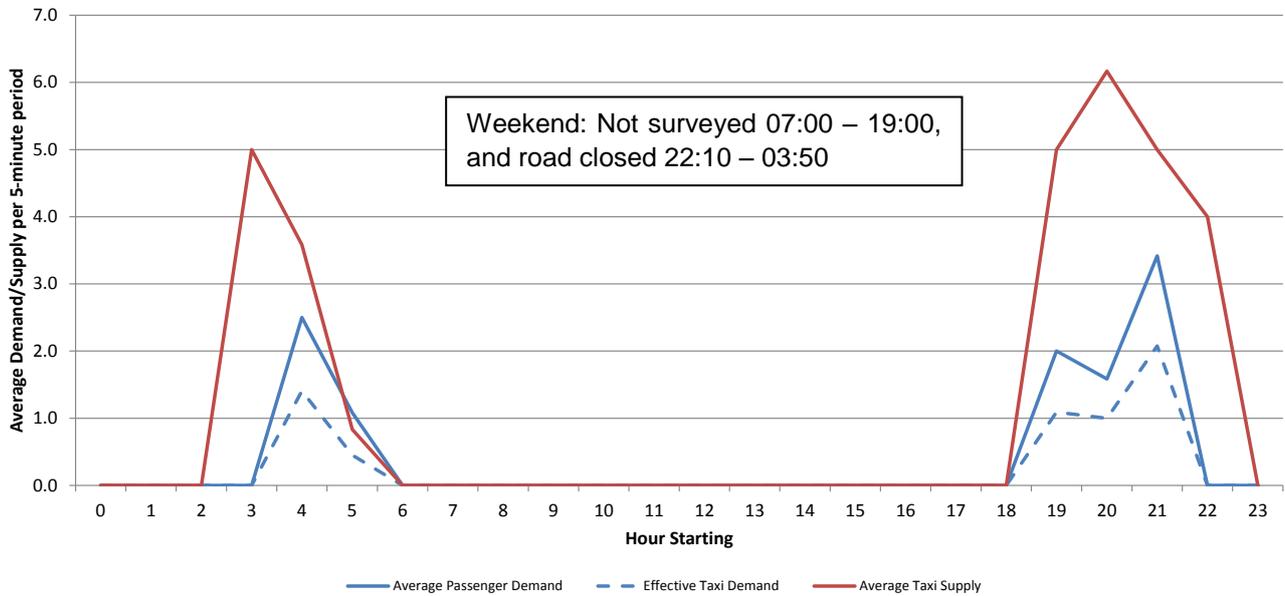


## Wood Street / Westgate Street

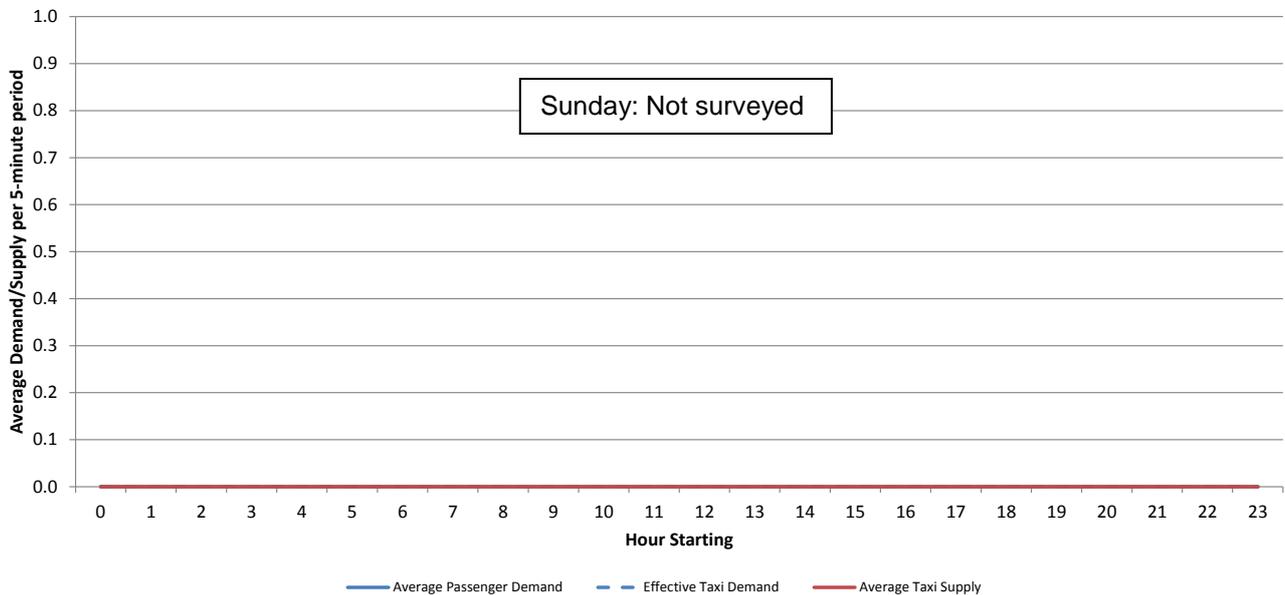
### Comparison of Demand and Supply: Weekday



### Comparison of Demand and Supply: Weekend



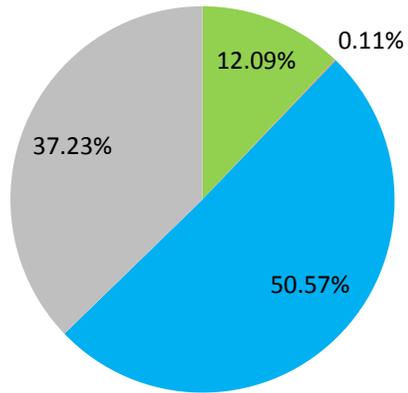
### Comparison of Demand and Supply: Sunday



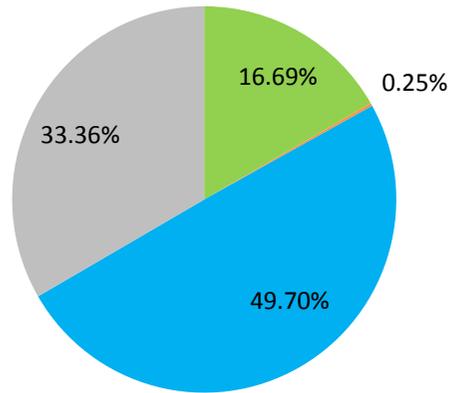
**Appendix C:  
Comparison of Market Conditions  
2013 and 2016**

2013

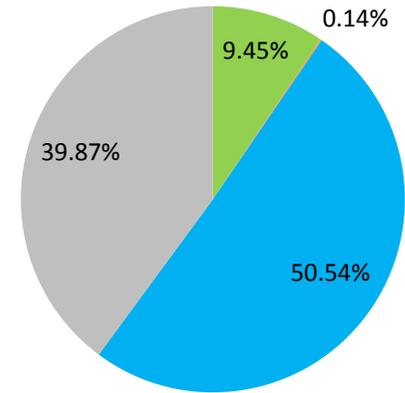
**Weekday**



**Weekend**



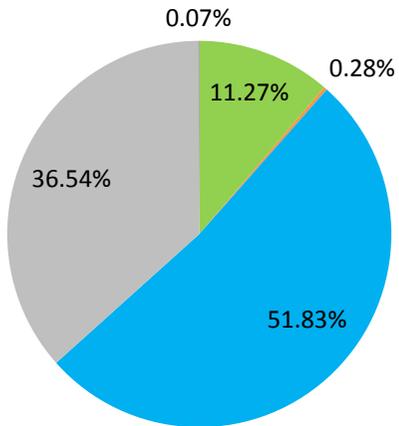
**Sunday**



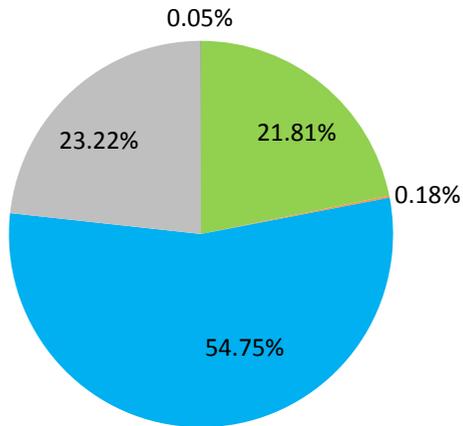
■ EQ ■ UD ■ US ■ NO ACTIVITY ■ UNSTABLE

2016

**Weekday**



**Weekend**



**Sunday**

