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# City of Bradford MDC Hackney Carriage Demand Study

Final Report

City of Bradford MDC

January 2015

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## Document history

### Bradford Hackney Carriage Demand Survey

Final Report

City of Bradford MDC

This document has been issued and amended as follows:

Version	Date	Description	Created by	Verified by	Approved by
	Aug 14	Draft Report	Aidan Shearer	Liz Richardson	Liz Richardson
	Jan 15	Final Report			Liz Richardson

## Contents

<b>1</b>	<b>Introduction</b>	<b>4</b>
1.1	General	4
<b>2</b>	<b>Background</b>	<b>6</b>
2.1	General	6
2.2	Bradford Overview	6
2.3	Background to the Hackney Carriage Market in Bradford	6
2.4	Provision of Hackney Carriage Stands	6
2.5	Hackney Carriage Fares and Licence Premiums	6
<b>3</b>	<b>Definition, Measurement and Removal of Significant Unmet Demand</b>	<b>9</b>
3.1	Introduction	9
3.2	Overview	9
3.3	Defining Significant Unmet Demand	9
3.4	Measuring Patent Significant Unmet Demand	10
3.5	Determining the Number of New Licences Required to Eliminate Significant Unmet Demand	13
3.6	Note on Scope of Assessing Significant Unmet Demand	14
<b>4</b>	<b>Evidence of Patent Unmet Demand – Rank Observation Results</b>	<b>16</b>
4.1	Introduction	16
4.2	The Balance of Supply and Demand	16
4.3	Average Delays and Total Demand	17
4.4	The Delay/Demand Profile	18
4.5	The General Incidence of Passenger Delay	20
<b>5</b>	<b>Evidence of Suppressed Demand – Public Attitude Pedestrian Survey results</b>	<b>21</b>
5.1	Introduction	21
5.2	General Information	21
5.3	Attempted Method of Hire	23
5.4	Improvements	24
5.5	Safety	25
5.6	Summary	25
<b>6</b>	<b>Consultation</b>	<b>26</b>
6.1	Introduction	26

6.2	Written Consultation	26
<b>7</b>	<b>Deriving the Significant Unmet Demand Index Value</b>	<b>28</b>
7.1	Introduction	28
7.2	Comparing the results of Bradford with those of other unmet demand studies	28
<b>8</b>	<b>Summary and Conclusions</b>	<b>32</b>
8.1	Introduction	32
8.2	Significant Unmet Demand	32
8.3	Public Perception	32
8.4	Recommendations	32

# 1 Introduction

## 1.1 General

This study has been conducted by CH2M Hill on behalf of City of Bradford MDC (BMDC). BMDC requires an independent survey of demand for hackney carriages across the Bradford licensing area. The purpose of the study is to determine:

- Whether there is any evidence of significant unmet demand for hackney carriage services in Bradford; and
- If significant unmet demand is found, recommend how many licences would be required to eliminate this.

In 2010 the Department for Transport (DfT) re issued Best Practice Guidance for Taxi and Private Hire licensing. The Guidance restates the DfT's position regarding quantity restrictions. Essentially, the DfT stated that the assessment of significant unmet demand, as set out in Section 16 of the 1985 Act, is still necessary but not sufficient in itself to justify continued entry control. The Guidance provides local authorities with assistance in local decision making when they are determining the licensing policies for their local area. Guidance is provided on a range of issues including: flexible taxi services, vehicle licensing, driver licensing and training.

The Equality Act 2010 provides a new cross-cutting legislative framework to protect the rights of individuals and advance equality of opportunity for all; to update, simplify and strengthen the previous legislation; and to deliver a simple, modern and accessible framework of discrimination law which protects individuals from unfair treatment and promotes a fair and more equal society.

The provisions in the Equality Act will come into force at different times to allow time for the people and organisations affected by the new laws to prepare for them. The Government is considering how the different provisions will be commenced so that the Act is implemented in an effective and proportionate way. Some provisions came into force on the 1st October 2010 and some are still waiting to be implemented.

Sections 165, 166 and 167 of the Equality Act 2010 are concerned with the provision of wheelchair accessible vehicles and place obligations on drivers of registered vehicles to carry out certain duties unless granted an exemption by the licensing authority on the grounds of medical or physical condition. From 1 October 2010, Section 166 allows taxi drivers to apply to their licensing authority for an exemption from Section 165 of the Equality Act 2010.

Section 161 of the Equality Act 2010 qualifies the law in relation to unmet demand, to ensure licensing authorities that have 'relatively few' wheelchair accessible taxis operating in their area, do not refuse licences to such vehicles for the purposes of controlling taxi numbers. For section 161 to have effect, the Secretary of State must make regulations specifying:

- The proportion of wheelchair accessible taxis that must operate in an area before the respective licensing authority is lawfully able to refuse to license such a vehicle on the ground of controlling taxi numbers; and

- The dimensions of a wheelchair that a wheelchair accessible vehicle must be capable of carrying in order for it to fall within this provision.

The DfT plans to consult on the content of regulations before section 161 comes in to force and to date has not set a timetable to do so.

## 2 Background

### 2.1 General

This section of the report provides a general background to the taxi market in Bradford and the relevant legislation governing the market.

### 2.2 Bradford Overview

Bradford is situated in the West Yorkshire region and comprises the city of Bradford with the smaller towns of Keighley, Ilkley, Bingley and Shipley. The Bradford district had a population of 522,452 in the 2011 census. The city also has a large student population.

### 2.3 Background to the Hackney Carriage Market in Bradford

City of Bradford Council maintains a policy of quantity control and at the time of the study licensed 222 hackney carriage vehicles. This provides Bradford with a hackney carriage provision of one hackney per 2,353 residents. The last unmet demand survey identified no significant unmet demand.

The private hire fleet consists of approximately 2,180 vehicles. In view of the size of this fleet relative to the hackney carriage fleet, it is evident that the private hire fleet is the dominant force in the Bradford taxi market.

### 2.4 Provision of Hackney Carriage Stands

There are currently 22 official ranks located in Bradford City Centre and 10 in the outlying areas of Ilkley, Shipley, Bingley and Keighley.

### 2.5 Hackney Carriage Fares and Licence Premiums



Hackney carriage fares are regulated by the Local Authority. There are four tariffs across the following periods;

- Tariff 1 – 7am to 11pm
- Tariff 2 – 11pm –7am
- Christmas Tariff – Tariff 2 x 11/2
- New Year Tariff – Tariff 2 x1 1/2

The standard charge tariff is made up of two elements; an initial fee (or 'drop) for entering the vehicle, and a fixed price addition of 10p for each subsequent 97m, plus fixed additions for waiting time. A standard two-mile day time fare undertaken by one individual would therefore be £5.30. Table 2.1 outlines the fare structure in more detail.



Table 2.1 – Bradford Hackney Carriage Fare Tariff

 <b>BRADFORD</b> METROPOLITAN DISTRICT COUNCIL		<b>HACKNEY CARRIAGE</b> <b>TABLE OF FARES</b>	<b>Fare</b> <b>(Pence</b> <b>Inc.</b> <b>VAT)</b>
<p style="text-align: center;"><b>CITY OF BRADFORD</b> <b>METROPOLITAN DISTRICT</b> <b>COUNCIL</b></p> <p style="text-align: center;"><b>HACKNEY CARRIAGE</b> <b>LICENCE NO. 0042</b></p> <p style="text-align: center;"><b>SF11 GRZ</b> <b>4 Seats W/C</b></p> <p>COMPLAINTS SHOULD BE ADDRESSED TO :- THE HACKNEY CARRIAGE MANAGER SHEARBRIDGE ROAD DEPOT GREAT HORTON ROAD BRADFORD BD7 1PU TELEPHONE (01274) 432398</p>	i.)	Mileage (except for journeys between the hours of 11 pm and 7 am or at any time on a Sunday, Bank Holiday or a Public Holiday and 6pm on 24 <sup>th</sup> and 31 <sup>st</sup> December ) if the distance does not exceed 97 metres for the whole distance. For each subsequent 97 metres or uncompleted part thereof.	Tariff 1 £2.00  10p
	ii.)	Mileage for journeys between the hours of 11 pm and 7 am or at any time on a Sunday, Bank Holiday or a Public Holiday and on 24 <sup>th</sup> and 31 <sup>st</sup> December, if the distance does not exceed 97 metres for the whole distance. For each subsequent 97 metres or uncompleted part thereof.	Tariff 2 £2.00  10p
	iii.)	Also to apply for journeys over the District Boundary.  WAITING TIME for each period of 60 seconds or uncompleted part thereof.	  Tariff 1 10p Tariff 2 20p
	iii.)	CONTRACTS OR PURPORTED CONTRACTS FOR PRIVATE HIRE. When the hirer arranges by radio telephone or otherwise with the proprietor or driver, prior to the commencement of the hiring, for hire of the carriage to commence from a stated place other than a taxi stand or booking office.	£1.00
	iv.)	OTHER CHARGES For journeys between 6 pm on 24 December and 7 am on 27 December will be 1 ½ the Tariff 2 charge.	
	v.)	For journeys between 6pm on 31 <sup>st</sup> December and 7am 2 <sup>nd</sup> January will be 1 ½ times the Tariff 2 charge	
	vii.)	Fouling of taxi cab by passenger.	£50.00
		 Ian Baisrow Strategic Director, Environment & Neighbourhoods 12/01/2009	

The Private Hire and Taxi Monthly magazine publish monthly league tables of the fares for 364 authorities over a two mile journey. Each journey is ranked with one being the most expensive, the July 2014 table show's Bradford ranked 245<sup>th</sup> in the table, therefore Bradford has lower than average fares. Table 2.2 provides a comparison of where neighbouring authorities rank in terms of fare levels.

Table 2.2 Comparison of Neighbouring Authorities in Terms of Fares (figures are ranked out of a total of 364 Authorities with 1 being the most expensive)

Local Authority	Rank
Leeds	74
Calderdale	193
<b>Bradford</b>	<b>245</b>
Wakefield	346
Kirklees	353

Where local hackney carriage markets are subject to both price and entry regulation, it has commonly been the case that a rent accrues to the ownership of the vehicle licence. This rent or 'premium' is difficult to assess accurately as the re-sale of vehicle licences is not encouraged by the Authority. It is not known what this currently is in Bradford.

The existence of a licence premium is evidence of 'excess' profit; that is, profit that would not exist if the level of supply of hackney carriages was determined by the market rather than by the Regulator. Licence premiums do not exist in Authorities where quantity controls are absent. This does not mean that we judge hackney carriage proprietors in Bradford to be making too much money. It is not within our remit to comment on what is or is not an appropriate rate of remuneration from hackney carriage operation. The term 'excess' profit simply means that earnings from plying for hire are at present higher than they would be if a free entry policy was introduced.

Although a premium is a clear indicator of higher than 'market' profits, it is not necessarily an indicator of significant unmet demand. Where a premium exists, this may be due to low cab waiting time associated with under-supply, and hence passenger delays. Alternatively, it may be due to a fares level, which is higher than the break-even level for a given supply. Finally, it may simply be a reflection of the absence of alternative means of gaining employment.

## 3 Definition, Measurement and Removal of Significant Unmet Demand

### 3.1 Introduction

Section 3 provides a definition of significant unmet demand derived from experience of over 100 unmet demand studies since 1987. This leads to an objective measure of significant unmet demand that allows clear conclusions regarding the presence or absence of this phenomenon to be drawn. Following this, a description is provided of the SUDSIM model which is a tool developed to determine the number of additional hackney licences required to eliminate significant unmet demand, where such unmet demand is found to exist. This method has been applied to numerous local authorities and has been tested in the courts as a way of determining if there is unmet demand for Hackney Carriages.

### 3.2 Overview

Significant Unmet Demand (SUD) has two components:

- Patent demand – that which is directly observable; and
- ‘suppressed’ demand – that which is released by additional supply.

Patent demand is measured using rank observation data. Suppressed (or latent) demand is assessed using data from the rank observations and public attitude interview survey. Both are brought together in a single measure of unmet demand, ISUD (Index of Significant Unmet Demand).

### 3.3 Defining Significant Unmet Demand

The provision of evidence to aid licensing authorities in making decisions about hackney carriage provision requires that surveys of demand be carried out. Results based on observations of activity at hackney ranks have become the generally accepted minimum requirement.

The definition of significant unmet demand is informed by two Court of Appeal judgements:

- R v Great Yarmouth Borough Council ex p Sawyer (1987); and
- R v Castle Point Borough Council ex p Maude (2002).

The Sawyer case provides an indication of the way in which an Authority may interpret the findings of survey work. In the case of Sawyer v. Yarmouth City Council, 16 June 1987, Lord Justice Woolf ruled that an Authority is entitled to consider the situation from a temporal point of view as a whole. It does not have to condescend into a detailed consideration as to what may be the position in every limited part of the Authority in relation to the particular time of day. The authority is required to give effect to the language used by the Section (Section 16) and can ask

itself with regard to the area as a whole whether or not it is satisfied that there is no significant unmet demand.

The term 'suppressed' or 'latent' demand has caused some confusion over the years. It should be pointed out that following *Maude v Castle Point Borough Council*, heard in the Court of Appeal in October 2002, the term is now interpreted to relate purely to that demand that is measurable. Following *Maude*, there are two components to what Lord Justice Keene prefers to refer to as 'suppressed demand':

- What can be termed inappropriately met demand. This is current observable demand that is being met by, for example, private hire cars illegally ranking up; and
- That which arises if people are forced to use some less satisfactory method of travel due to the unavailability of a hackney carriage.

If demand remained at a constant level throughout the day and week, the identification and treatment of significant unmet demand would be more straightforward. If there were more cabs than required to meet the existing demand there would be queues of cabs on ranks throughout the day and night and passenger waiting times would be zero. Conversely, if too few cabs were available there would tend to be queues of passengers throughout the day. In such a case it would, in principle, be a simple matter to estimate the increase in supply of cabs necessary to just eliminate passenger queues.

Demand for hackney carriages varies throughout the day and on different days. The problem, introduced by variable demand, becomes clear when driver earnings are considered. If demand is much higher late at night than it is during the day, an increase in cab supply large enough to eliminate peak delays will have a disproportionate effect on the occupation rate of cabs at all other times. Earnings will fall and fares might have to be increased sharply to sustain the supply of cabs at or near its new level.

The main implication of the present discussion is that it is necessary, when considering whether significant unmet demand exists, to take account of the practicability of improving the standard of service through increasing supply.

### **3.4 Measuring Patent Significant Unmet Demand**

Taking into account the economic, administrative and legal consideration, the identification of this important aspect of significant unmet demand should be treated as a three stage process as follows:

- Identify the demand profile;
- Estimate the passenger and cab delays; and
- Compare estimated delays to the demand profile.

The broad interpretation to be given to the results of this comparison are summarised in Table 3.1.

Table 3.1 – Existence of Significant Unmet Demand (SUD) Determined by Comparing Demand and Delay Profiles

	Delays during peak hour only	Delays during peak and other times
Demand is:		
<b>Highly Peaked</b>	No SUD	Possibly a SUD
<b>Not Highly Peaked</b>	Possibly a SUD	Possibly a SUD

It is clear from the content of the table that the simple descriptive approach fails to provide the necessary degree of clarity to support the decision making process in cases where the unambiguous conclusion is not achievable. However, it does provide the basis of a robust assessment of the principal component of significant unmet demand. The analysis is therefore extended to provide a more formal numerical measure of significant unmet demand. This is based on the principles contained in the descriptive approach but provides greater clarity. A description follows.

The measure feeds directly off the results of observations of activity at the ranks. In particular it takes account of:

- Case law suggests that an authority should take a broad view of the market;
- The effect of different levels of supply during different periods at the rank on service quality; and
- The need for consistent treatment of different authorities, and the same authority over time.

The Index of Significant Unmet Demand (ISUD) was developed in the early 1990's and is based on the following formula. The SF element was introduced in 2003 and the LDF element was introduced in 2006 to reflect the increased emphasis on latent demand in DfT Guidance.

$$\text{ISUD} = \text{APD} \times \text{PF} \times \text{GID} \times \text{SSP} \times \text{SF} \times \text{LDF}$$

Where:

APD = Average Passenger Delay calculated across the entire week in minutes.

PF = Peaking Factor. If passenger demand is highly peaked at night the factor takes the value of 0.5. If it is not peaked the value is 1. Following case law this provides dispensation for the effects of peaked demand on the ability of the Trade to meet that demand. To identify high peaking we are generally looking for demand at night (at weekends) to be substantially higher than demand at other times.

GID = General Incidence of Delay. This is measured as the proportion of passengers who travel in hours where the delay exceeds one minute.

- SSP = Steady State Performance. The corollary of providing dispensation during the peaks in demand is that it is necessary to focus on performance during “normal” hours. This is measured by the proportion of hours during weekday daytimes when the market exhibits excess demand conditions (i.e. passenger queues form at ranks).
- SF = Seasonality factor. Due to the nature of these surveys it is not possible to collect information throughout an entire year to assess the effects of seasonality. Experience has suggested that hackney demand does exhibit a degree of seasonality and this is allowed for by the inclusion of a seasonality factor. The factor is set at a level to ensure that a marginal decision either way obtained in an “untypical” month will be reversed. This factor takes a value of 1 for surveys conducted in September to November and March to June, i.e. “typical” months. It takes a value of 1.2 for surveys conducted in January and February and the longer school holidays, where low demand the absence of contract work will bias the results in favour of the hackney trade, and a value of 0.8 for surveys conducted in December during the pre Christmas rush of activity. Generally, surveys in these atypical months, and in school holidays, should be avoided.
- LDF = Latent Demand Factor. This is derived from the public attitude survey results and provides a measure of the proportion of the public who have given up trying to obtain a hackney carriage at either a rank or by flagdown during the previous three months. It is measured as 1+ proportion giving up waiting. The inclusion of this factor is a tactical response to the latest DfT guidance.

The product of these six measures provides an index value. The index is exponential and values above the 80 mark have been found to indicate significant unmet demand. This benchmark was defined by applying the factor to the 25 or so studies that had been conducted at the point it was developed. These earlier studies had used the same principles but in a less structured manner. The highest ISUD value for a study where a conclusion of no significant unmet demand had been found was 72. The threshold was therefore set at 80. The ISUD factor has been applied to over 80 studies by Halcrow and has been adopted by others working in the field. It has proved to be a robust, intuitively appealing and reliable measure.

Suppressed/latent demand is explicitly included in the above analysis by the inclusion of the LDF factor and because any known illegal plying for hire by the private hire trade is included in the rank observation data. This covers both elements of suppressed/latent demand resulting from the Maude case referred to above and is intended to provide a ‘belt and braces’ approach. A consideration of latent demand is also included where there is a need to increase the number of hackney carriage licences following a finding of significant unmet demand. This is discussed in the next section.

### 3.5 Determining the Number of New Licences Required to Eliminate Significant Unmet Demand

To provide advice on the increase in licences required to eliminate significant unmet demand, Halcrow has developed a predictive model. SUDSIM is a product of 20 years' experience of analysing hackney carriage demand. It is a mathematical model, which predicts the number of additional licences required to eliminate significant unmet demand as a function of key market characteristics.

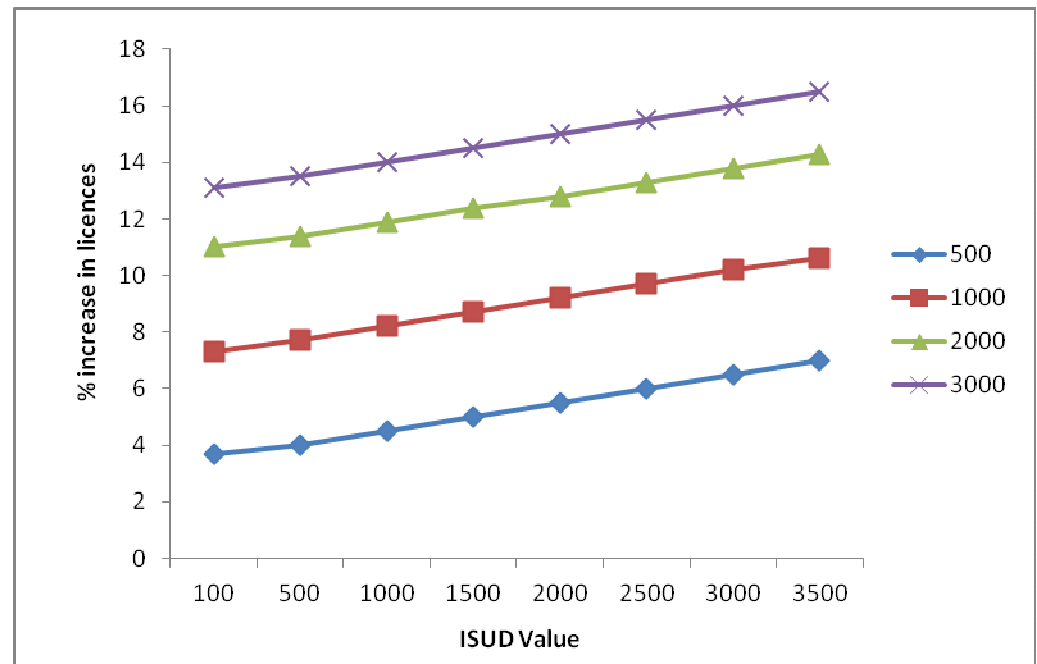
SUDSIM represents a synthesis of a queue simulation work that was previously used (1989 to 2002) to predict the alleviation of significant unmet demand and the ISUD factor described above (hence the term SUDSIM). The benefit of this approach is that it provides a direct relationship between the scale of the ISUD factor and the number of new hackney licences required.

SUDSIM was developed taking the recommendations from 14 previous studies that resulted in an increase in licences, and using these data to calibrate an econometric model. The model provides a relationship between the recommended increase in licences and three key market indicators:

- The population of the licensing Authority;
- The number of hackneys already licensed by the licensing Authority; and
- The size of the SUD factor.

The main implications of the model are illustrated in Figure 3.1 below. The figure shows that the percentage increase in a hackney fleet required to eliminate significant unmet demand is positively related to the population per hackney (PPH) and the value of the ISUD factor over the expected range of these two variables.

Figure 3.1 – Forecast Increase in Hackney Fleet size as a Function of Population per Hackney (PPH) and the ISUD Value



Where significant unmet demand is identified, the recommended increase in licences is therefore determined by the following formula:

$$\text{New Licences} = \text{SUDESIM} \times \text{Latent Demand Factor}$$

Where:

Latent Demand Factor = (1+ proportion giving up waiting for a hackney at either a rank or via flagdown).

### 3.6 Note on Scope of Assessing Significant Unmet Demand

It is useful to note the extent to which a licensing authority is required to consider peripheral matters when establishing the existence or otherwise of significant unmet demand. This issue is informed by *R v Brighton Borough Council, ex p Bunch* 1989<sup>1</sup>. This case set the precedent that it is only those services that are exclusive to hackney carriages that need concern a licensing authority when considering significant unmet demand. Telephone booked trips, trips booked in advance or

<sup>1</sup> See Button JH 'Taxis – Licensing Law and Practice' 2<sup>nd</sup> edition Tottel 2006 P226-7



indeed the provision of bus type services are not exclusive to hackney carriages and have therefore been excluded from consideration.

## 4 Evidence of Patent Unmet Demand – Rank Observation Results

### 4.1 Introduction

This Section of the report highlights the results of the rank observation survey. The rank observation programme was undertaken in March 2014. Some 14,234 passengers and 9,765 cab departures were recorded. A summary of the rank observation programme is provided in Appendix 1.

The results presented in this Section summarise the information and draw out its implications. This is achieved by using five indicators:

- The Balance of Supply and Demand – this indicates the proportion of the time that the market exhibits excess demand, equilibrium and excess supply;
- Average Delays and Total Demand – this indicates the overall level of passengers and cab delays and provides estimates of total demand;
- The Demand/Delay Profile – this provides the key information required to determine the existence or otherwise of significant unmet demand;
- The Proportions of Passengers Experiencing Given Levels of Delay – this provides a guide to the generality of passenger delay; and
- The Effective Supply of Vehicles – this indicates the proportion of the fleet that was of the road during the survey.

### 4.2 The Balance of Supply and Demand

The results of the analysis are presented in Table 4.1 below. Table 4.1 documents the proportion of hours during the observations where excess demand was observed. The predominant market state is one of equilibrium. Excess supply (queues of cabs) was experienced during 49% of the hours observed while excess demand (queues of passengers) was experienced during 2% of the hours observed. Conditions are favourable to customers at all times of the day with the most favourable time being the weekday evening period and Saturdays.

Table 4.1 – The Balance of Supply and Demand in the Bradford Rank-Based Hackney Carriage Market (Percentage of hours observed)

Period		Excess Demand	Equilibrium	Excess Supply
Weekday	Day	4	33	62
	Night	0	74	26
Weekend	Day	0	33	67
	Night	3	47	50
Sunday	Day	3	61	37
<b>Total 2014</b>		<b>2</b>	<b>49</b>	<b>49</b>

NB –Excess Demand = Maximum Passenger Queue  $\geq 3$ . Excess Supply = Minimum Cab Queue  $\geq 3$ .

### 4.3 Average Delays and Total Demand

The following estimates of average delays and throughput were produced for each rank observed across Bradford (Table 4.2).

The survey suggests some 14,234 passenger departures occur per week from ranks in Bradford involving some 9,765 cab departures. The taxi trade is concentrated at the Bradford Interchange rank accounting for 18% of the total passenger departures. On average cabs wait 24.07 minutes for a passenger. On average passengers wait 0.10 minutes for a cab.

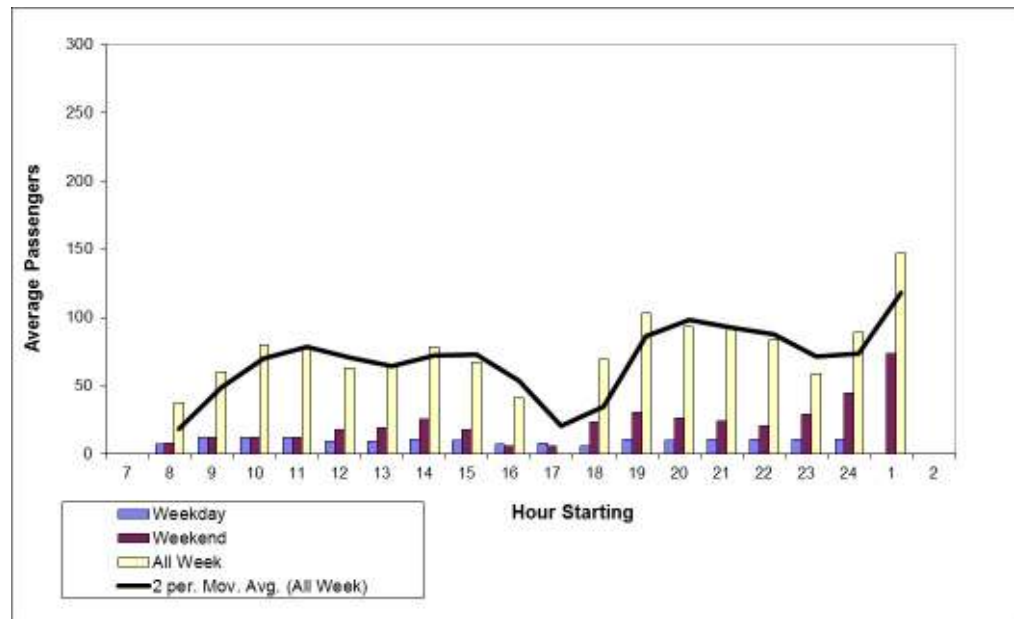
Table 4.2 – Average Delays and Total Demand (Delays in Minutes i.e. 0.22 minutes is 13.2 seconds) please note that not all the same ranks were observed for each study

Rank	Passenger Departures	Cab Departures	Average Passenger Delay (minutes)	Average Cab Delay (minutes)
Bank St	1,436	1,030	0.00	36.03
Rawson Square	815	560	0.00	28.69
Chester St	909	432	0.54	3.23
Westgate	1,213	767	0.70	11.63
Norfolk Gardens	1,451	831	0.00	43.41
Great Horton Road	738	455	0.00	12.82
Forster Square Rail Station	1,315	896	0.00	30.84
Morley St	554	257	0.00	25.70
Bradford Interchange	2,551	2,135	0.00	15.07
Brook St, Ilkley	531	376	0.00	39.79
Cook St, Keighley	293	279	0.00	49.19
High St, Keighley	9	18	0.00	27.50
Kirkgate, Shipley	404	365	0.14	17.57
Wellington St, Bingley	2,018	1,366	0.00	20.27
<b>Total 2014</b>	<b>14,234</b>	<b>9,765</b>	<b>0.10</b>	<b>24.07</b>

#### 4.4 The Delay/Demand Profile

Figure 4.1 provides a graphical illustration of passenger demand for the Monday to Saturday period between the hours of 08:00 and 02:00.

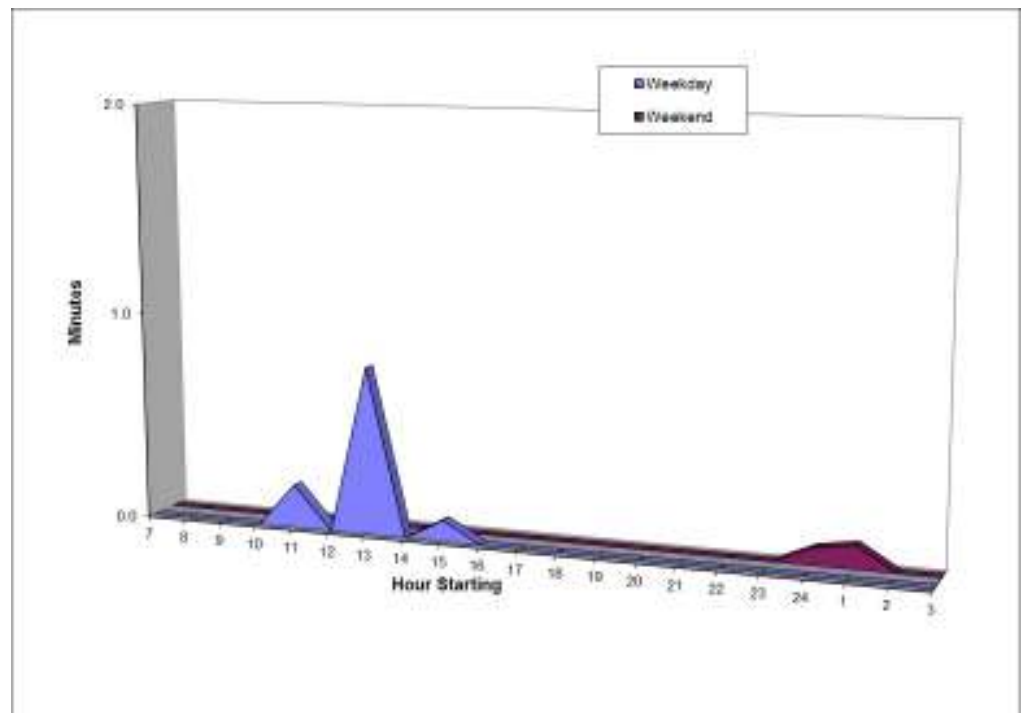
Figure 4.1 – Passenger Demand by Time of Day in 2014 (Monday to Saturday)



The profile of demand shows no dominant peak in demand with both morning and evening peaks. We therefore conclude that this is not a 'highly peaked' demand profile. This has implications for the interpretation of results (see Chapter 7 below).

Figure 4.2 provides a graphical illustration of passenger delay by time of day for the weekday and weekend periods. It shows spikes in delay during the daytime and some delay on a weekend night – however low levels of delay were observed.

Figure 4.2 – Passenger Delay by Time of Day in 2014 (Monday to Saturday)



## 4.5 The General Incidence of Passenger Delay

The rank observation data can be used to provide a simple assessment of the likelihood of passengers encountering delay at ranks. The results are presented in Table 4.3 below.

*Table 4.3 – General Incidence of Passenger Delay (percentage of Passengers travelling in hours where delay exceeds one minute)*

Year	Delay > 0	Delay > 1 minute	Delay > 5 minutes
2014	1.61	0.24	0.00

In 2014 0.24% of passengers are likely to experience more than a minute of delay. It is this proportion that is used within the ISUD 'Generality of Passenger Delay'.

## 5 Evidence of Suppressed Demand – Public Attitude Pedestrian Survey results

### 5.1 Introduction

A public attitude survey was designed with the aim of collecting information regarding opinions on the taxi market in the Bradford licensing area. In particular, the survey allowed an assessment of flagdown, telephone and rank delays, the satisfaction with delays and general use information.

Some 381 on-street public attitude surveys were carried out in May and June 2014. The surveys were conducted across a range of locations within the Bradford licensing area.

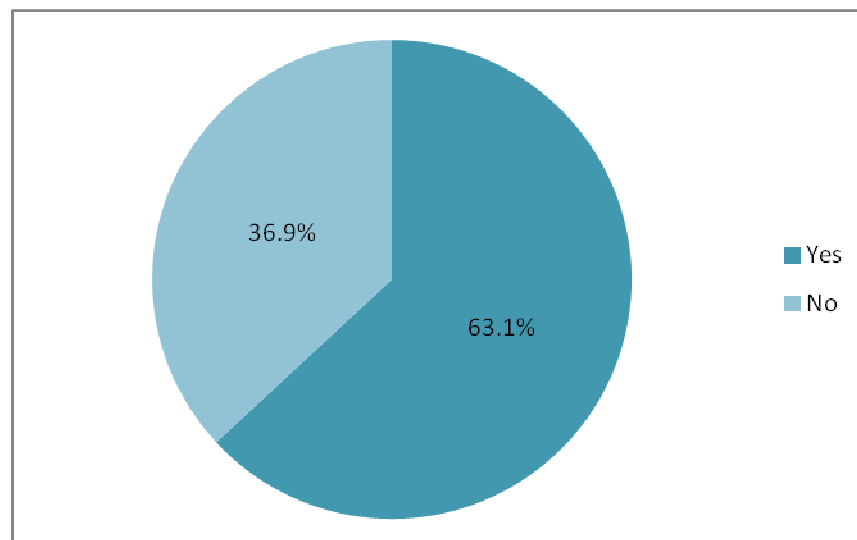
It should be noted that in the tables and figures that follow the totals do not always add up to the same amount which is due to one of two reasons. First, not all respondents were required to answer all questions; and second, some respondents failed to answer some questions that were asked.

### 5.2 General Information

At the start of the survey the respondent was asked a question to determine whether they knew the difference between hackney carriages and private hire vehicles. Some 98.3% correctly answered the question indicating that they knew the difference.

Respondents were asked whether they had made a trip by taxi in the past three months. Figure 5.1 shows that 63.1% of people surveyed had made a trip by taxi in the last three months.

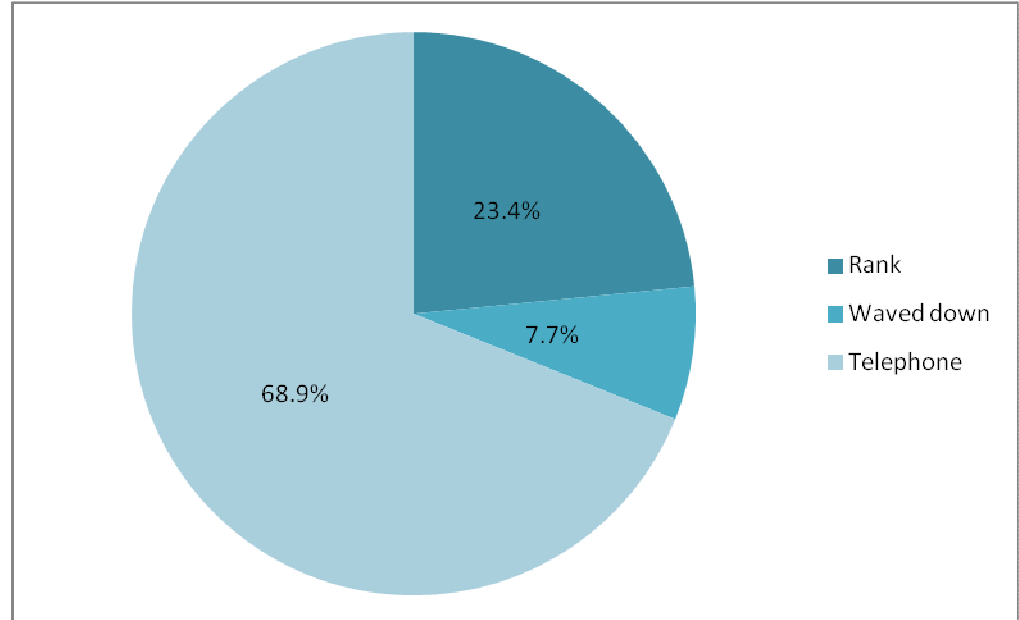
Figure 5.1 – Have you made a trip by taxi in the last three months?



Trip makers were then asked how they obtained their hackney carriage or private hire vehicle. Some 23.4% of trip makers stated that they hired their taxi at a rank.

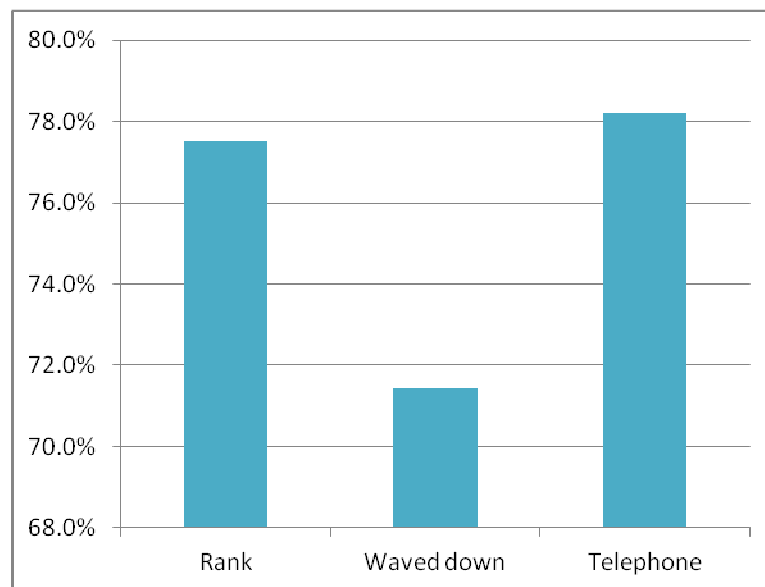
Some 68.9% of hiring's achieved by telephone with 7.7% of trip makers obtaining a taxi by on-street flagdown. Respondents were asked what type of vehicle they hired. The most common type of vehicle used was a saloon car (59.0%).

Figure 5.2 – Method of hire for last trip



Respondents were asked if they were satisfied with the time taken and the promptness of the vehicles arrival. The majority of people were satisfied with their last taxi journey (77.2%). Figure 5.3 shows that for each method of obtaining a vehicle, the majority were satisfied with the length of time they had to wait. Those obtaining their taxi by telephone provided the highest levels of satisfaction.

Figure 5.3 – Satisfaction with delay on last trip by method of hire



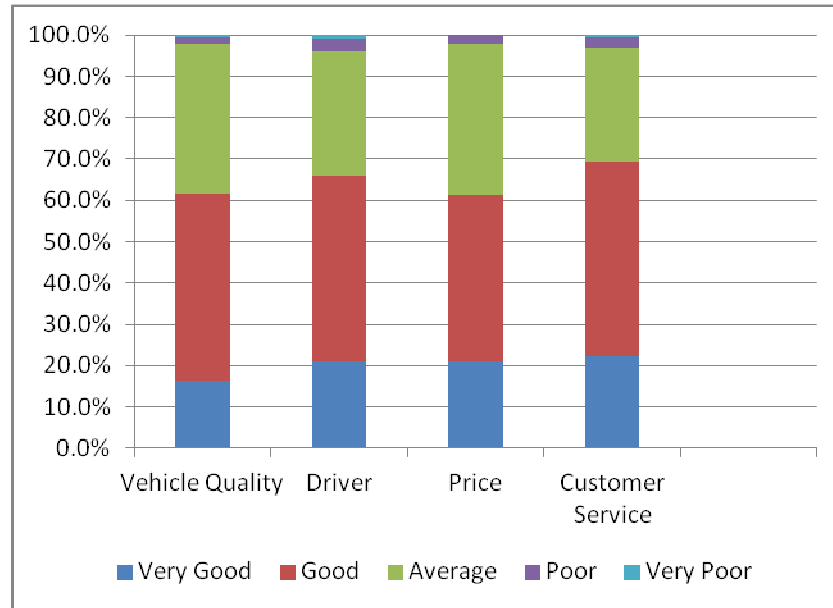
Respondents were asked to rate four elements from their last journey on a scale from very poor to very good. The results in Figure 5.4 show that the respondents generally



consider standards to be good or average. Those respondents who stated that part of the service was poor or very poor were asked to state their reasons why, and the following reasons were given:

- Journey was too expensive;
- Driver didn't speak English; and
- Vehicle was old and smelly.

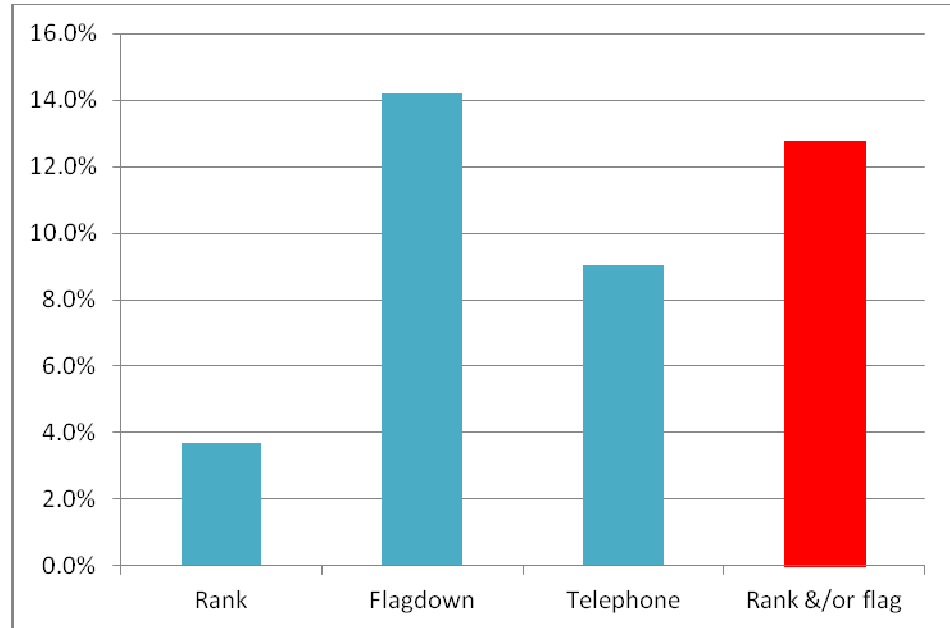
Figure 5.4 Rating of Last Journey



### 5.3 Attempted Method of Hire

In order to measure demand suppression, respondents were asked to identify whether or not they had given up waiting for a taxi at a rank, on the street, or by telephone in the Bradford area in the last three months. The results are summarised in Figure 5.5.

Figure 5.5 – Latent demand by method of hire – Given up trying to make a hiring?



As indicated in Figure 5.5, some 12.8% of respondents had given up waiting for a hackney at a rank and/or by flagdown in the last three months.

Respondents who had given up trying to obtain a taxi in the last three months were asked the location where they had given up waiting for a taxi. The most common areas for those at a rank were Bradford Interchange or generally in Bradford City Centre. The time of these attempted journeys was during the daytime in the main with only one stating an evening time of 8pm.

## 5.4 Improvements

Respondents were asked whether they felt that taxi services in Bradford could be improved. Some 57.2% of respondents considered that services could be improved.

Of those who felt improvements were required the following were the most popular responses:

- Better Drivers;
- Cheaper; and
- Better Vehicles

Respondents were asked if there were any locations in Bradford where new ranks were needed. A total of 12.6% said that no new ranks were needed in Bradford, whilst 84.9% did not know.

Respondents who stated they would like to see a new rank (2.5%) were subsequently asked to provide a location. The most common locations included:

- City Hall; and

- City Centre near Kirkgate.

## **5.5 Safety**

Respondents were asked if they felt safe using hackney carriages and private hire services in Bradford. Some 98.3% did feel safe when using them during the day whilst 87.4% felt safe whilst using them at night. When asked how security could be improved, the most common responses was the installation of CCTV in taxis.

## **5.6 Summary**

Key points from the public attitude survey can be summarised as follows:

- Some 68.9% of hiring's are pre booked via a telephone;
- High levels of satisfaction with delay on last trip;
- Some 12.8% of people had given up trying to obtain a taxi at a rank or by flagdown;
- Some 57.2% of respondents believed taxi services in Bradford could be improved.

## 6 Consultation

### 6.1 Introduction

Guidelines issued by the DfT state that consultation should be undertaken with the following organisations and stakeholders:

- All those working in the market;
- Consumer and passenger (include disabled) groups;
- Groups which represent those passengers with special needs;
- The Police;
- Local interest groups such as hospitals or visitor attractions; and
- A wide range of transport stakeholders such as rail/bus/coach providers and transport managers.

### 6.2 Written Consultation

A number of organisations responded stating that had no response to our letter of consultation.

We received a written response from:

#### Bradford Hackney Carriage Owners and Drivers Association (1)

The Association felt that the hackney carriage trade is currently in decline with drivers waiting longer for jobs. Private hire numbers were considered to be increasing rapidly. They also considered that bases need to be monitored properly.

We also received a second response from the Association.

#### Bradford Hackney Carriage Owners and Drivers Association (2)

The representative noted that taxi availability was good because there is a lack of work for drivers therefore the ranks are full. Hackneys were considered to have a good image, however there was concern about out of district hackneys working as private hire vehicles. This was considered to be confusing for the public and dangerous for the trade and public.

#### People First, Keighley and Craven

People First considered there to be enough hackney carriages and private hire vehicles across Bradford. However he noted that some private hire companies do not have wheelchair accessible vehicles which can make pre booking an accessible vehicle problematic.

It was suggested that some drivers may benefit from greater disability awareness training.

Concern was raised as to the additional charges applied to wheelchair accessible private hire vehicles compared to saloons – this was felt to be discriminatory. It was suggested that hackney carriages should advertise more widely that they have to use the local authority set tariff for fares.

The representative felt safe travelling in most vehicles.

## 7 Deriving the Significant Unmet Demand Index Value

### 7.1 Introduction

The data provided in the previous chapters can be summarised using Halcrow's ISUD factor as described in Section 3.

The component parts of the index, their source and their values are given below:

*Table 7.1 ISUD Calculation*

Average Passenger Delay (Table 4.2)	0.10
Peak Factor (Figure 4.1)	1
General Incidence of Delay (Table 4.3)	0.24
Steady State Performance (Table 4.1)	4
Seasonality Factor (Section 3)	1
Latent Demand Factor (Section 5)	1.128
<b>ISUD (0.10*1*0.24*4*1*1.128)</b>	<b>0.1</b>

The cut off level for a significant unmet demand is 80. It is clear that Bradford is well below this cut off point as the ISUD is 0.1, indicating that there is **NO significant unmet demand**. This conclusion covers both patent and latent/suppressed demand.

### 7.2 Comparing the results of Bradford with those of other unmet demand studies

Comparable statistics are available from local authorities that Halcrow have recently conducted studies in and these are listed in table 7.2. The Table highlights a number of key results including:

- Population per hackney carriage at the time of the study (column one);
- The proportion of rank users travelling in hours in which delays of greater than zero, greater than one minute and greater than five minutes occurred (columns two to four);

- Average passenger and cab delay calculated from the rank observations (columns five to six);
- The proportion of Monday to Thursday daytime hours in which excess demand was observed (column seven);
- The judgement on whether rank demand is highly peaked (column eleven); and
- A numerical indicator of significant unmet demand.

The following points (obtained from the rank observations) may be made about the results in Bradford compared to other areas studied:

- population per hackney carriage is higher than the average overall value i.e. provision is lower;
- the proportion of passengers, who travel in hours where some delay occurs, is just 1.6%, which is lower than the average (20%) for the districts analysed;
- overall average passenger delay at 0.10 minutes is below the average value;
- overall average cab delay at 24.07 minutes is higher than the average for the districts shown; and
- the proportion of weekday daytime hours in which excess demand conditions are observed 4% of the time which is lower than the average

<b>Table 7.2 A Comparison of Bradford with Other Authorities Studied (values in italics make up ISUD)</b>									
<b>District and Year of Survey</b>	<b>Population per Hackney</b>	<b>Proportion Waiting at Ranks</b>	<i>Proportion Waiting &gt;= 1 Min</i>	<i>Proportion Waiting &gt;= 5 Mins</i>	<i>Average Passenger Delay</i>	<i>Average Cab Delay</i>	<i>% Excess Demand</i>	<b>Demand Peaked, Yes=0.5 No=1</b>	<b>ISUD Indicator Value</b>
<b>Bradford 14</b>	<b>2,353</b>	<b>1.61</b>	<b>0.24</b>	<b>0</b>	<b>0.1</b>	<b>24.07</b>	<b>4</b>	<b>1</b>	<b>0</b>
Sefton 13	1,010	2.76	0.87	0.05	0.1	11.4	3	1	0
Dundee 13	223	9.28	2.93	0.81	0.28	21.61	0	0.5	0
Edinburgh 13	362	5.67	2.73	0.17	0.32	12.07	5	1	5
Blackpool 12	556	9.06	4.86	0.53	0.38	16.25	0	1	0
Chorley 12	2,978	6	0	0	0.02	15.90	0	1	0
Torridge 12	1,306	3	0	0	0.11	16.76	0	1	0
Braintree 12	1,714	3	0.63	0.05	0.09	22.57	0	1	0
Torbay 11	777	3	1.42	0.1	0.16	21.45	0	0.5	0
Wirral 11 *	1,080	4	0.41	0.16	0.12	20.19	0	0.5	0
Carrick 11	1,145	9	5.55	0	0.39	9.92	4	0.5	5
Penwith 11	1,261	14	6.66	2.29	0.96	7.98	12	0.5	41
Restormel 11	1,408	4	3.41	0	0.26	13.54	0	0.5	0
York 11	1,118	14	5.96	0.77	0.93	8.25	9	1	59.1
Crawley 11	924	6	6.28	0.64	0.18	21.88	5	1	6
Liverpool 11	308	5	2.13	0.37	0.14	20.64	1	1	0
West Berkshire 10 *	741	5	3.84	0.92	0.37	22.78	3	0.5	4
Sefton 10	1,015	7	4.25	0.55	0.38	19.15	4	0.5	2
Pendle 10	1,257	1	0.03	0.03	0.03	33.1	0	0.5	0
Brighton & Hove 09	474	11	5.67	1.19	0.72	8.91	7	0.5	16.2
Leicester 09	880	10	9.53	2.58	1.52	19.02	0	1	0
Oxford 09	1,266	10	3.08	0.07	0.24	10.43	5	1	4
Blackpool 09	556	4	1	0	0.05	18.96	2	0.5	1
Hull 09	1,465	12	8.54	0.99	1.72	9.34	2	0.5	18
Rochdale 09	1,937	3	1.18	0	0.14	12.92	5	1	1
North Tyneside 08	971	16	1.18	0.03	0.38	10.72	8	0.5	2
Rotherham 08	5,192	0	0.09	0	0.01	27.29	0	1	0
Preston 08	677	12	5.28	0	0.61	11.13	7	1.0	21
Scarborough 08	1,111	12	5	1.06	0.49	7.74	7	0.5	0
York 08	1,146	31	11.5	6.74	3.21	5.42	31	0.5	645
Barrow 08	474	14	12.52	0	0.5	6.85	0	0.5	0
Stirling 08	1,265	25	18	0.3	0.7	10.94	2	0.5	38
Torridge 08	1,202	7	0.94	0	0.12	14.99	0	1	0
Richmondshire 08	723	5	1	0.07	0.22	34.32	1	0.5	0.4
Exeter 07/08	1,883	7	4	0.6	0.33	15.27	6	1	9
Manchester 07	394	21	6	2.28	1.59	10.24	14	1	174
Bradford 07	1,630	18	2	0.03	0.23	17.64	5	1	2
Barnsley 07	3,254	5	8	0.22	1.32	11.93	5	1	58
Blackpool 06	556	31	10	0.34	0.42	10.34	5	0.5	11



District and Year of Survey	Population per Hackney	Proportion Waiting at Ranks	Proportion Waiting >= 1 Min	Proportion Waiting >= 5 Mins	Average Passenger Delay	Average Cab Delay	% Excess Demand	Demand Peaked, Yes=0.5 No=1	ISUD Indicator Value
Broadstairs 06	1,000	13	13	10	3.25	23.97	4	1	177
Margate 06	1,622	4	1	0	0.05	33.14	0	1	0
Ramsgate 06	1,026	2	2	2	0.49	19.57	13	1	13
Plymouth 06	669	7	3	1	0.52	11.58	1	1	2
Brighton 06	508	52	23	6	0.73	7.64	6	0.5	50
Thurrock 06	1,590	32	13	1	0.22	15.27	0	1	0
Trafford 06	2,039	55	38	6	1.09	13.15	5	1	249
Leicester05	880	21	11	1	0.35	19.36	3	1	12
Bournemouth 05	656	20	11	2	0.37	12.25	1	0.5	2
Bradford 03	2,171	19	6	0.77	0.25	14.89	6	1.0	9
Oldham 03	2,558	30	12	0.79	0.48	14.8	7	1.0	40
Thurrock 03	1,607	43	14	1.01	0.50	12.5	2	1.0	14
Blackpool 03	556	21	4	0.3	0.13	12.4	6	1.0	3
Wolverhampton 03	3,113	50	31	7.39	1.49	11.18	14	1.0	647
Carrick 02	1,335	28	18	7	0.61	10.53	9	1.0	99
Bournemouth 02	702	25	15	2	0.67	9.97	1	0.5	5
Brighton 02	540	60	35	12	1.11	8.31	5	0.5	97
Exeter 02	2,353	47	18	3	0.71	10.12	20	1.0	256
Wigan 02	2,279	28	10	0	1.17	11.98	6	1.0	70
Cardiff 01	656	51	29	6	0.83	8.77	14	0.5	168
Edinburgh 01	373	47	29	9	1.27	8.77	13	1.0	479
Torridge 01	1,298	25	21	0	0.51	9.32	8	0.5	43
Worcester 01*	941	40	4	1	0.46	12.3	8	0.5	7
Ellesmere Port 01	2,527	80	48	17	2.49	4.23	49	0.5	2,928
Southend 00	895	46	29	8	1.92	8.08	4	1.0	223
South Ribble 00 *	485	12	0.25	0.25	0.07	11.27	0	1.0	0
Leeds 00	1,693	83	61	33	5.03	7.92	36	1.0	11,046
Sefton 00	1,069	18	8	0.6	0.28	12.95	6	1.0	13
Leicester 00 *	956	10	7	3	1.17	20.19	1	1.0	8
Castle Point 00	2,286	28	12	3	0.74	8.6	2	0.5	9
<b>AVERAGE</b>	<b>1,289</b>	<b>20</b>	<b>10</b>	<b>2</b>	<b>1</b>	<b>14</b>	<b>6</b>		
KEY	* Derestricted Authorities								

## 8 Summary and Conclusions

### 8.1 Introduction

Halcrow has conducted a study of the hackney carriage and private hire market on behalf of City of Bradford District Council. The present study has been conducted in pursuit of the following objectives. To determine;

- Whether or not there is a significant unmet demand for hackney carriage services within Bradford district as defined in Section 16 of the Transport Act 1985; and
- How many additional taxis are required to eliminate any significant unmet demand?

This section provides a brief description of the work undertaken and summarises the conclusions.

### 8.2 Significant Unmet Demand

The 2014 study has identified that there is NO evidence of significant unmet demand for hackney carriages in Bradford. This conclusion is based on an assessment of the implications of case law that has emerged since 2000, and the results of Halcrow's analysis.

### 8.3 Public Perception

Public perception of the service was obtained through the undertaking of 381 surveys. Overall the public were generally satisfied with the service – key points included;

- Some 68.9% of hiring's are pre booked via a telephone;
- High levels of satisfaction with delay on last trip;
- Some 12.8% of people had given up trying to obtain a taxi at a rank or by flagdown;
- Some 57.2% of respondents believed taxi services in Bradford could be improved.

### 8.4 Recommendations

The 2014 study has identified that there is NO evidence of significant unmet demand for hackney carriages in Bradford. This conclusion covers both patent and latent/suppressed demand and is based on an assessment of the implications of case law that has emerged since 2000, and the results of Halcrow's analysis.

On this basis the authority has the discretion in its hackney licensing policy and may either:

- Maintain the current limit of 222 hackney carriage licences;

- Issue any number of additional plates as it sees fit, either in one allocation or a series of allocations; or
- Remove the numerical limit.

Should the authority decide to issue additional plates we would recommend that these be for wheelchair accessible vehicles only.

