

FINAL REPORT

Dundee Hackney Carriage Unmet Demand Survey

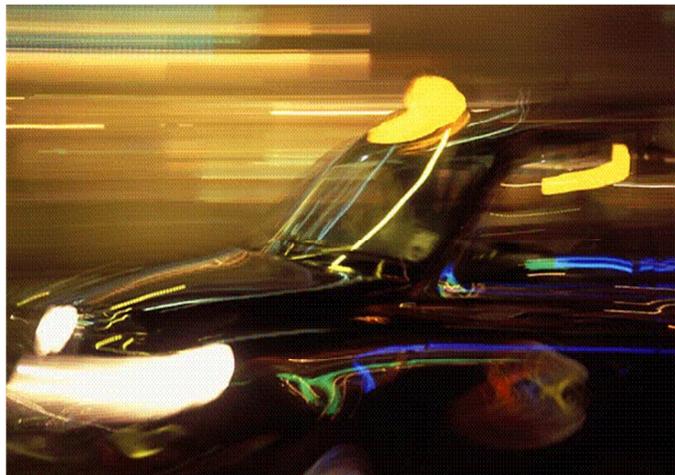
Prepared for

Dundee City Council

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ch2m.SM

CH2M Hill
Park House
Headingley Office Park
Victoria Road
Leeds



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Section 1 – Introduction

In preparing this report, CH2M relied, in whole or in part, on data and information provided by the Client and third parties, which information has not been independently verified by CH2M and which CH2M has assumed to be accurate, complete, reliable, and current. Therefore, while CH2M has utilised reasonable skill and care in preparing this Report, CH2M does not warrant or guarantee the conclusions set forth in this Report which are dependent or based upon data, information, or statements supplied by third parties or the client.

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Introduction

1.1 General

This study has been conducted by CH2M on behalf of Dundee City Council (DCC). The overall objective is to provide a full survey of demand for taxis in Dundee and to determine whether or not significant unmet demand for taxis exists in terms of section 10(3) of the Civic Government (Scotland) Act 1982. Specific objectives of the study are to determine:

- Whether there is any significant unmet demand for taxi services in Dundee; and
- If significant unmet demand is found, recommend how many licences would be required to meet this.

In 2007 the Scottish Government issued Best Practice Guidance for Taxi and Private Hire licensing. The Scottish Government reissued this guidance in April 2012 in recognition of a number of legislative changes. Essentially, the Government stated that the present legal position on quantity restrictions for taxis is set out in section 10(3) of the 1982 Act. The Scottish Government takes the view that decisions as to the case for limiting taxi licences should remain a matter for licensing authorities in the light of local circumstances. 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 however most of the provisions for taxi accessibility are still to come into play.

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. Section 166 will allow taxi drivers to apply to their licensing authority for an exemption from Section 165 of the Equality Act 2010. The UK Government are still considering the commencement strategy for Section 165. This section when commenced will impose a duty on taxi and private hire car drivers with wheelchair accessible vehicles to provide assistance to disabled passengers.

Background

2.1 General

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

2.2 Dundee

Dundee is a city and council area located in eastern Scotland, with a resident population of 148,260 (2015 National Records of Scotland).

2.3 Background to the Taxi Market in Dundee

Dundee City Council currently licences 605 taxis, with a high percentage of the fleet consisting of wheelchair accessible vehicles. This provides Dundee with a taxi provision of one taxi per 245 resident population.

The private hire fleet consists of over 190 vehicles (2012). In view of the size of this fleet relative to the taxi fleet, it is evident that taxis are the dominant force in the Dundee market.

Dundee operated a derestricted market until 2013 when the Licensing Committee reinstated the numerical limit.

2.4 Provision of Taxi Stands

There are currently 23 official taxi ranks located throughout the Dundee licensing area; the locations and times of operation of each of the ranks are provided in Appendix 1.

2.5 Taxi Fares and Licence Premiums

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

- Daytime – Monday to Sunday, 6am until 10pm;
- Weekday evenings – Monday to Thursday, 10pm until 6am;
- Weekend evenings – Friday to Sunday, 10pm until 6am;
- Festive period – 24th December from 6pm until 6am 27th December, and 31st January from 6pm until 6am 3rd January

The standard charge tariff is made up of two elements; an initial fee (or ‘drop’) of £3.02 for entering the vehicle, and a fixed price addition of 16p-22p per 0.1 mile, dependent on the tariff in place, or uncompleted part thereof travelled, plus fixed additions for waiting time. Fixed additional charges are also in place for extra passengers or luggage. A standard two-mile daytime fare undertaken by one individual would therefore be £5.58. The tariffs are outlined in detail in the fare card in Figure 2.1 below.

Section 2 – Background

Figure 2.1 – Farecard for Dundee taxi hire. The values were set in 2014 and remained frozen in 2015, pending the latest review scheduled for January 2016.

Dundee City Council - Fares for the hire of taxis 				
Charges for the first passenger carried	Tariff 1	Tariff 2	Tariff 3	Tariff 4
	Daytime Monday to Sunday 6am to 10pm	Weekday Evenings Monday to Thursday 10pm to 6am	Weekend Evenings Friday to Sunday 10pm to 6am	Festive Period See Below
Initial hire not exceeding 4/10th of a mile (704 yards) or 169 seconds of waiting time or a combination of both time and distance	£3.02	£3.32	£3.62	£4.23
Each additional 1/10th of a mile (176 yards) or part thereof, or 42 seconds of waiting time or part thereof, or a combination of both time and distance	16p	17p	19p	22p
Extras - All Tariffs	For each passenger in excess of the first passenger For each parcel carried in the luggage compartment, boot or rack			30p 30p
Festive Period	Between 6pm on 24th December until 6am on 27th December and between 6pm on 31st December until 6am on 3rd January			
No charge shall be made for a child's perambulator or carriage, any items designed to assist the mobility of users such as wheelchairs or walkers, a bag or bags containing loose groceries or shopping carried in a taxi, whether in the luggage compartment or inside the taxi.				
Soiling Charge (which results in the vehicle being taken off service for any period of time)			Minimum - £25 Maximum - £50	
Payments by Credit Card will incur a surcharge of £1 per journey.				

The Private Hire and Taxi Monthly magazine publish monthly league tables of the fares for 365 authorities over a two mile journey. Each journey is ranked with one being the most expensive. The January 2016 table shows Dundee rated 204th in the table, indicating that Dundee has lower than average fares. Table 2.1 provides a comparison of where a selection of other authorities in Scotland, based on population figures and the presence of a large city or town, rank in terms of fares, showing that fares in Dundee are mid-range in comparison to other similar authorities.

Table 2.1 - Comparison of neighbouring authorities in terms of fares (Source Private Hire and Taxi Monthly, January 2016)

Local Authority	Rank
Fife	116
Glasgow City	151
City of Edinburgh	186
Renfrewshire	194
Dundee	204
Aberdeen City	228

Section 2 – Background

Local Authority	Rank
West Lothian	247
South Lanarkshire	307
North Lanarkshire	330

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 taxi 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 taxis.

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 (Indicator of Significant Unmet Demand).

3.3 Defining Significant Unmet Demand

The provision of evidence to aid licensing authorities in making decisions about taxi provision requires that surveys of demand be carried out. Results based on observations of activity at taxi 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 Great 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 determined 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 taxi.

If demand remained at a constant level throughout the day and week, the identification and treatment of significant unmet demand would be more straight-forward. 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 taxis 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 considerations, 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 – Existing of SUD determined by comparing demand and delay profiles

Demand is:	Delays during peak only	Delays during peak and other times
Highly peaked	No SUD	Possibly a SUD
Not highly peaked	Possibly a SUD	Possible 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 that suggests 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.

Section 3 – Definition, Measurement and Removal of Significant Unmet Demand

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

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 taxi 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 taxi 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 taxi 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 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 CH2M 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 taxi 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, CH2M has developed a predictive model. SUDSIM is a product of 20 years experience of analysing taxi 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.

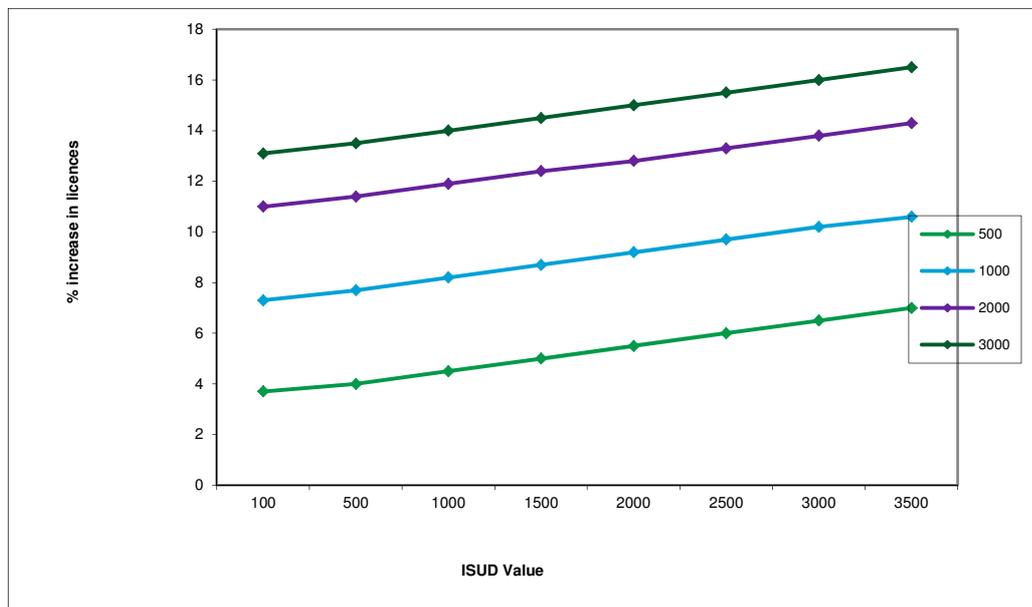
SUDSIM represents a synthesis of a queue simulation work that was previously used (1989 to 2002) to predict the alleviation of significant unmet demand and the ISUD factor described above (hence the term SUDSIM). The benefit of this approach is that it provides a direct relationship between the scale 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 taxis 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 taxi fleet required to eliminate significant unmet demand is positively related to the population per taxi (PPT) and the value of the ISUD factor over the expected range of these two variables.

Figure 3.1 – Forecast increase in taxi fleet size as a function of population per taxi (PPT) and the ISUD value



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

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

Where:

Latent Demand Factor = (1 + proportion giving up waiting for a taxi 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, exp p Bunch 1989*¹. This case set the precedent that it is only those services that are exclusive to taxis that need concern a licensing authority when considering significant unmet demand. Telephone booked trips, trips booked in advance or indeed the provision of bus type services are not exclusive to taxis and have therefore been excluded from consideration.

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

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 program covered a period of 183 hours during October to November 2015. Some 15,081 passengers and 9,296 departures were recorded across eight selected ranks. A summary of the rank observation programme is provided in Appendix 2.

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.

4.2 The Balance of Supply and Demand

The results of the analysis are presented in Table 4.1 below. The predominant market state is one of equilibrium. Excess supply (queues of cabs) was experienced during 46% of the hours observed while excess demand (queues of passengers) was experienced 8% of the hours observed. Conditions are generally favourable to customers at all times of the day with most favourable time being the weekday and weekday night periods. Sunday daytime appears to be the only period where demand outstrips supply.

Table 4.1 – The balance of supply and demand in the Dundee rank-based taxi market (percentage of hours observed)

Period		Excess Demand (Max Passenger Queue ≥ 3)	Equilibrium	Excess Supply (Min Cab Queue ≥ 3)
Weekday	Day	5	60	36
	Night	0	22	78
Weekend	Day	3	55	42
	Night	12	34	54
Sunday	Day	23	62	15
Total 2015		8	46	46
Total 2013		6	60	34

NB – Excess Demand = Maximum passenger queue ≥ 3 . Excess Supply = Minimum Cab Queue ≥ 3 – values derived over 12 time periods within an hour.

As detailed in Table 4.1 conditions have become slightly less favourable to passengers since the last study. The number of hours where excess demand was observed have increased from 6% to 8% and equilibrium has decreased from 60% to 46%.

4.3 Average Delays and Total Demand

The following estimates of average delays and throughput were produced for each selected rank in Dundee (Table 4.2).

The survey suggests some 15,081 passenger departures occur per week from ranks in Dundee involving some 9,296 cab departures. The taxi trade is concentrated at the rank at Nethergate (Steeple Church) accounting for 29% of the total passenger departures. On average cabs wait 20.31 minutes for a passenger. On average passengers wait 0.09 minutes for a cab.

Since the previous study passenger demand has increased by 44% but passenger delay has decreased.

Table 4.2 Average Delays and Total Demand (Delays in Minutes)

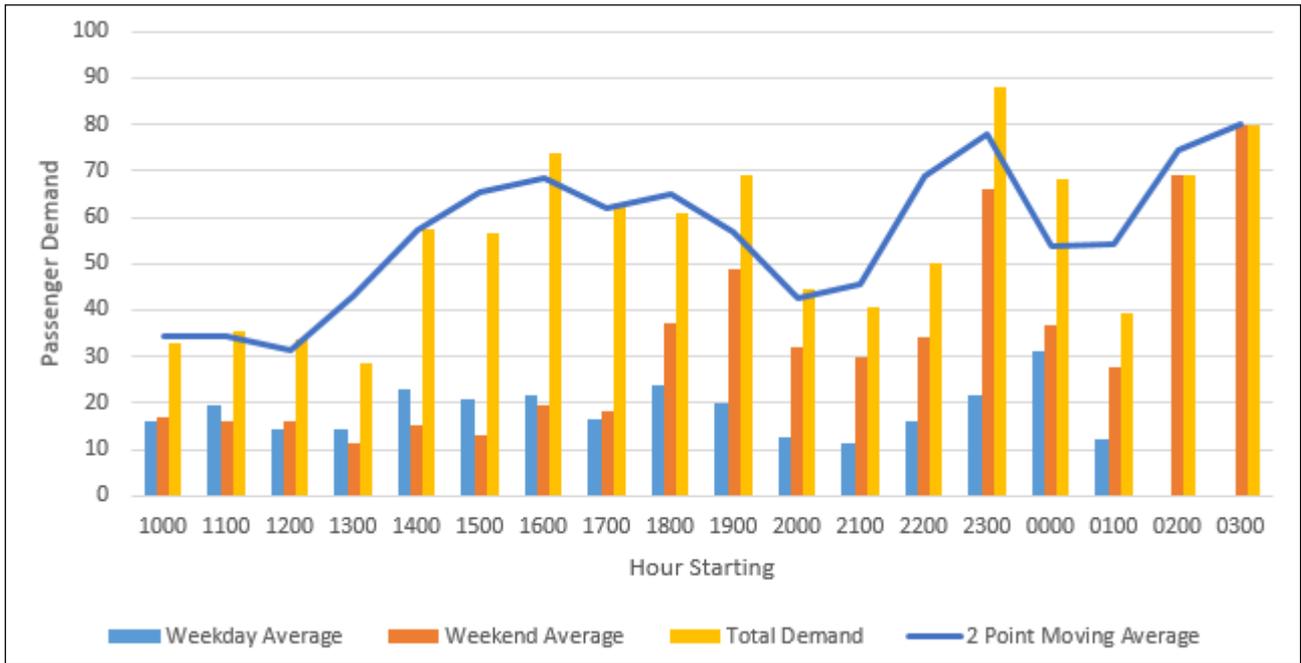
Rank	Passenger Departures	Cab Departures	Average Passenger Delay in Minutes	Average Cab Delay in Minutes
Dundee Rail Station	2,518	1,791	0.13	17.64
Nethergate (Steeple Church)	4,367	2,515	0.00	19.67
Market Gate	1,817	701	0.00	27.39
Meadowside	2,090	1,310	0.09	29.02
Nethergate DCA	1,960	1,003	0.35	8.50
Lochee High Street	689	821	0.00	10.05
Brook Street, Broughty Ferry	972	747	0.16	33.76
Nine Wells Hospital	668	409	0.00	20.88
Total 2015	15,081	9,296	0.09	18.54
Total 2013	10,492	7,230	0.28	20.31

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 10:00 and 04:00.

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

Figure 4.1 Passenger Demand by Time of Day in 2015 (Monday to Saturday)



The profile of demand shows peaks in demand in the afternoon and between 11pm-1am on weekdays. Demand also appears to peak in late evening at weekends.

Figure 4.2 Passenger Delay by Time of Day in 2015(Monday to Saturday)

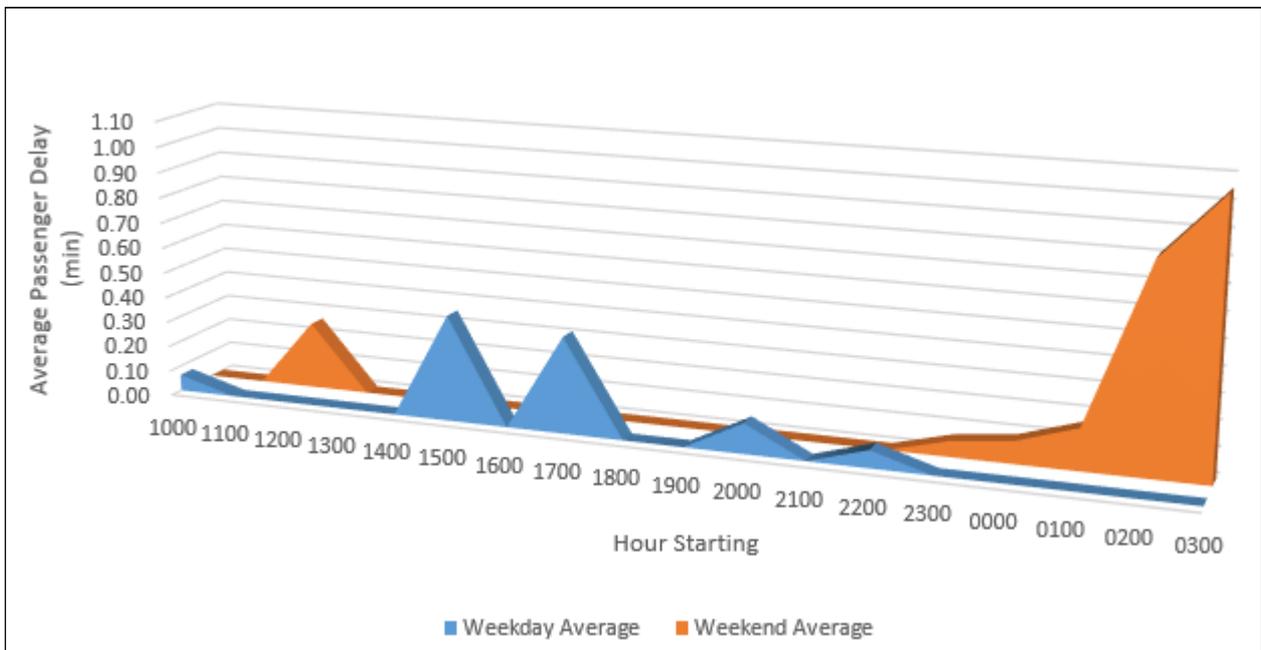


Figure 4.2 provides an illustration of passenger delay by the time of day for the weekday and weekend periods. It shows that delay peaks on weekday during mid-afternoon and early evening, and during the night on weekends.

4.5 The General Incidence of Passenger Delay

The rank observations 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 min	Delay > 5 min
2015	5.03	1.98	0.22
2013	9.28	2.93	0.81

In 2015 1.98% of passengers are likely to experience more than a minute of delay. It is this proportion (1.98%) that is used within the ISUD as the 'Generality of Passenger Delay'. This is 1% less than 2013.

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 Dundee. In particular, the survey allowed an assessment of flagdown, telephone and rank delays, the satisfaction with delays and general use information.

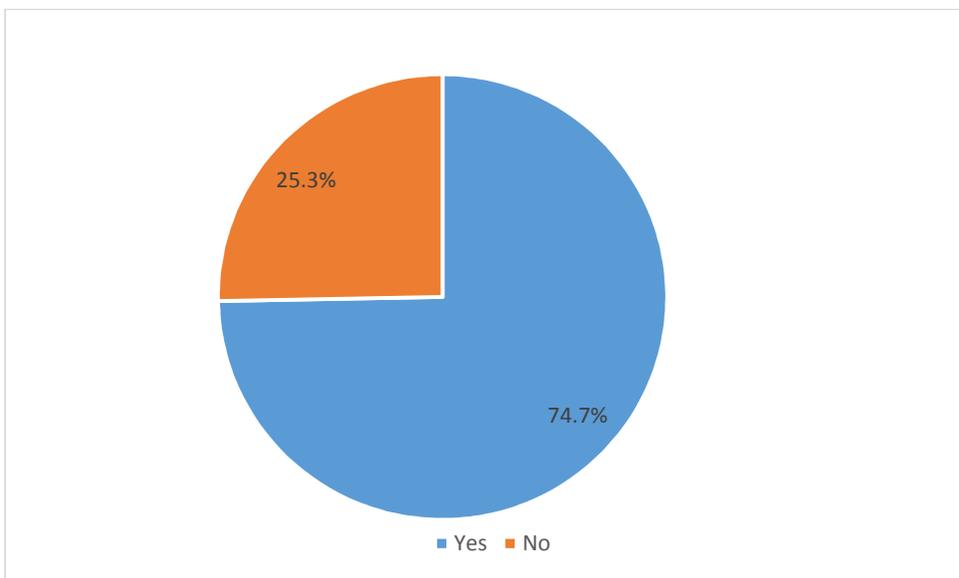
Some 352 on-street public attitude surveys were carried out in November and December 2015. The surveys were conducted across a range of locations within the Dundee licensing area.

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

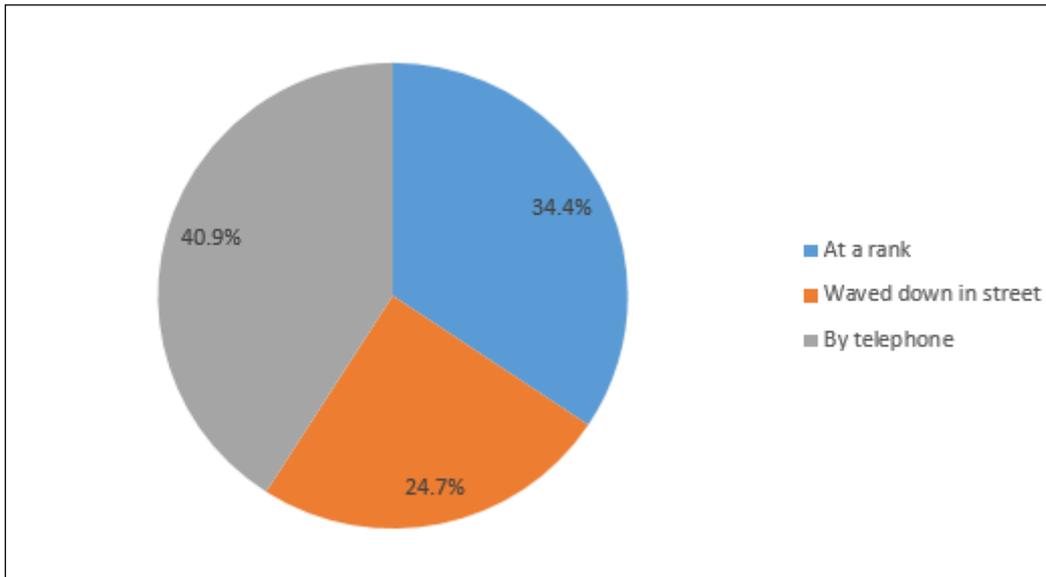
Respondents were asked whether they had made a trip by taxi in the past three months. Figure 5.1 shows that 74.7% (263) of the 352 people surveyed had made a trip by taxi in the last three months.

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



Trip makers (259, discounting 4 non-respondents) were asked how they obtained their taxi or private hire vehicle. Some 34.4% of trip makers (89) stated that they hired their taxi at a rank while 24.7% (64) of hirings were obtained a taxi by on-street flagdown. Some 40.9% (106) of trips were achieved by telephone. Figure 5.2 reveals the pattern of hire.

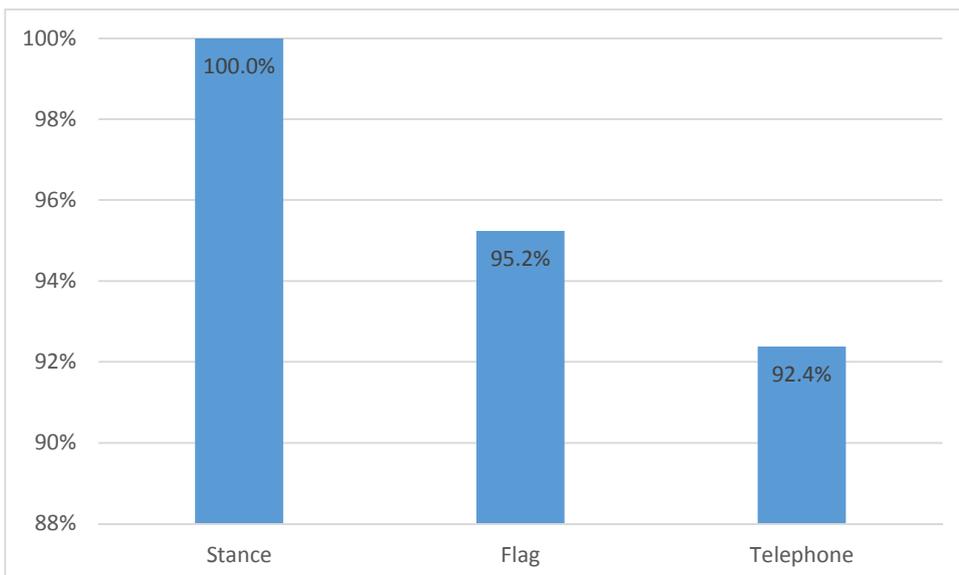
Figure 5.2 – Method of hire for last trip



Respondents were asked what type of vehicle they had obtained on their last trip. Some 44.2% were purpose built taxis and 55.7% were saloon vehicles. They were then asked if they were satisfied with the time taken and the promptness of the vehicles arrival. When considering all hirings, the majority of customers (95.7%) were satisfied with their last taxi journey.

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 at a stance provided the highest levels of satisfaction.

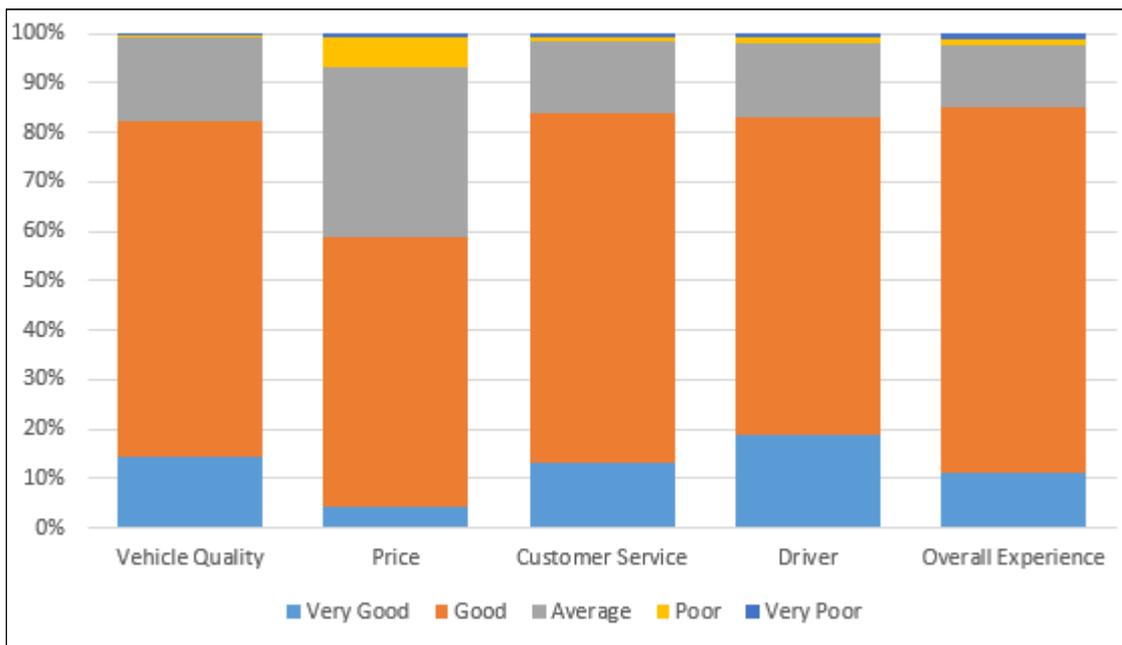
Figure 5.3 – Satisfaction with delay on last trip by method of hire



Trip makers were asked to rate five elements from their last taxi journey on a scale from very poor to very good. The results in Figure 5.4 show that all elements were generally good. Negative ratings included reasons such as:

- Prices are too high
- The driver was not well presented
- The taxi took too long to arrive

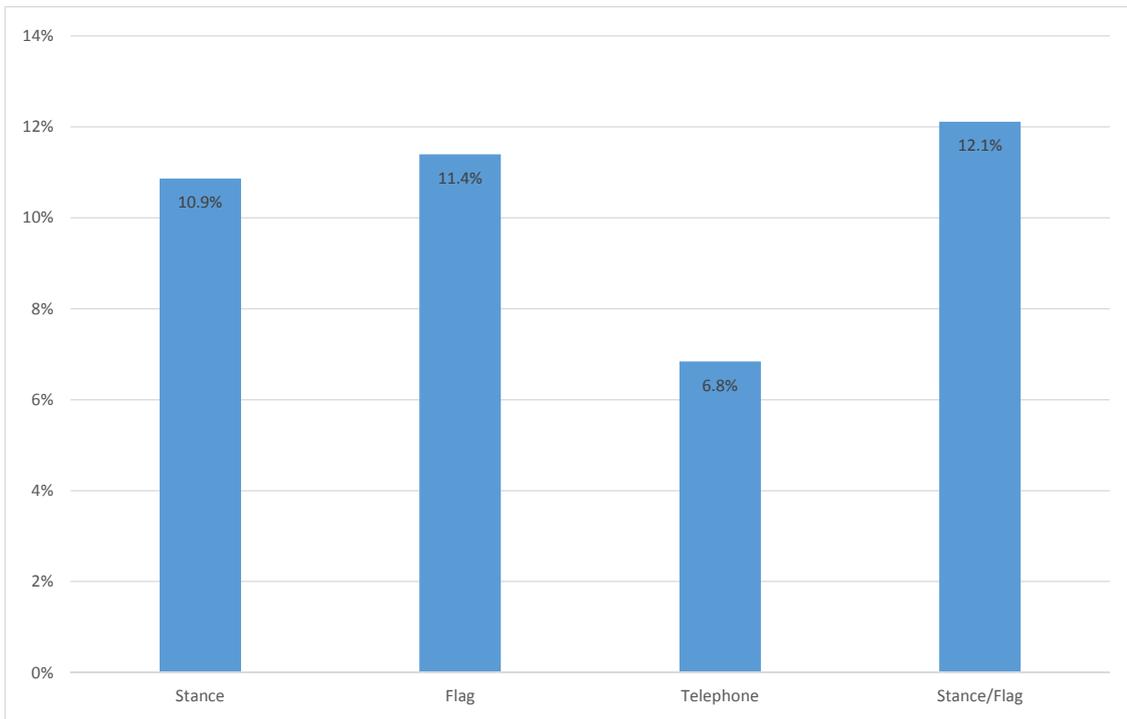
Figure 5.4 – Rating of last journey



5.3 Attempted method of hire

In order to measure demand suppression, all respondents were asked to identify whether or not they had given up waiting for a taxi or private hire vehicle at a stance, on the street, or by telephone in Dundee 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?



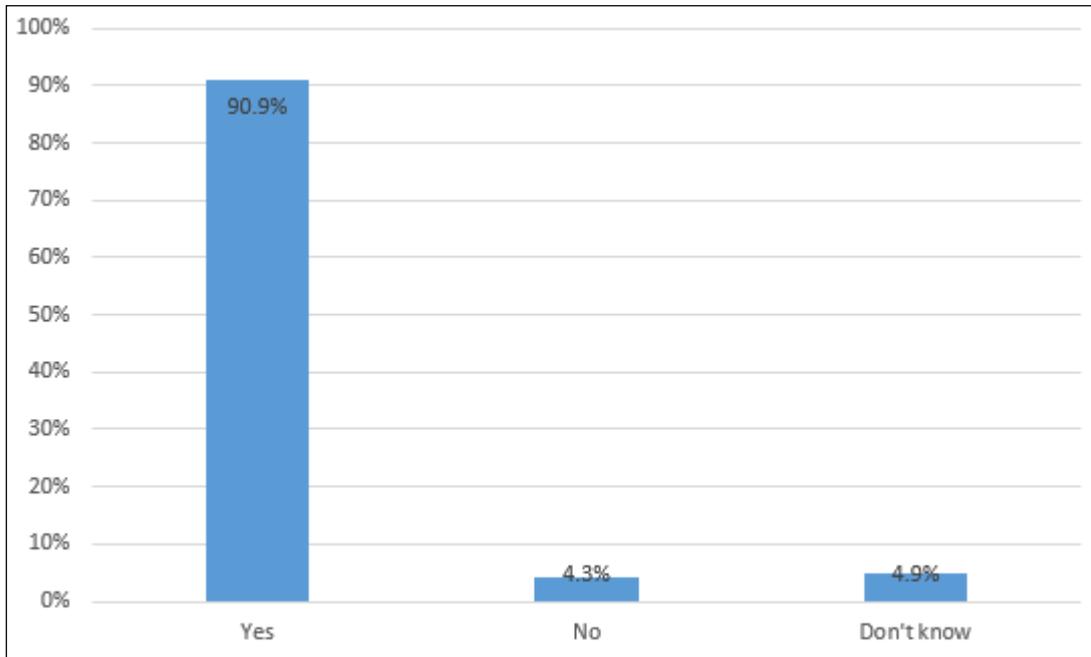
As indicated in Figure 5.5, some 12.1% of respondents had given up waiting for a taxi at a rank and/or by flagdown in the last three months. This has implications for the interpretation of the results (see Chapter 8 below).

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 were the city centre and the rail station (35 and 6 respondents respectively). In addition, the majority of respondents had given up waiting at night.

5.4 Service Provision

The difference between a taxi and private hire vehicle was explained to each respondent prior to asking participants whether they feel there are enough taxis in Dundee at the current time. Some 90.9% (318) commented that there are sufficient taxis in Dundee (see Figure 5.6).

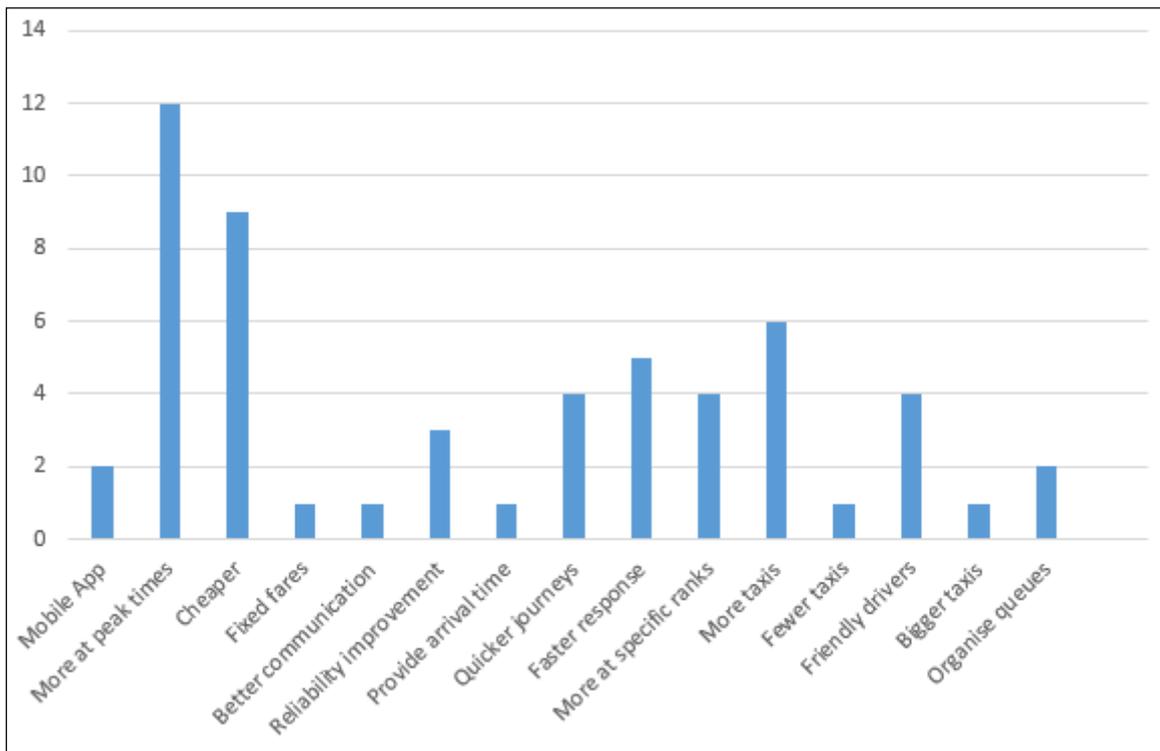
Figure 5.6 – Are there sufficient taxis in Dundee?



The survey then asked respondents whether taxi services in Dundee could be improved. Some 15.2% (53) felt that they could be improved while 67.0% thought no improvements were needed. Suggested improvements are listed in Figure 5.7.

The graph shows that the majority of responses felt that more taxis should be provided at peak times and that taxis should be cheaper.

Figure 5.7 – How could hackney carriage services be improved (multiple responses)



5.5 Ranks

Respondents were asked if they felt there was sufficient provision of taxi ranks in Dundee. Some 88.5% of respondents felt that there are currently enough ranks in Dundee. Suggested improvements from respondents who answered ‘no’ are listed in Table 5.1.

Table 5.1 – Suggested improvements for taxi ranks in Dundee

Suggested Improvement	No. of Responses
Provide information on location of existing ranks	10
Provide new ranks	10
Improve signage of existing ranks	11
Other:	2
<ul style="list-style-type: none"> • Shelters at taxi ranks • Marshals at taxi ranks 	

Respondents were asked if there were any locations in Dundee where new ranks were needed. A total of 83.6% said that no new ranks were needed in Dundee whilst 10.1% did not know. The remaining 6.3% of respondents who stated that they would like to see a new ranks were asked to provide a location. The most common locations included:

- City centre
- A larger rank at the rail station

- Broughty Ferry
- Tannadice Stadium

5.6 Summary

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

- Some 34.4% of hirings are from a rank;
- High levels of satisfaction with delay on last trip – hiring at a rank providing the highest levels;
- Some 12.1% of people had given up trying to obtain a taxi at a rank or by flagdown;
- Some 15.2% of people felt that taxi services could be improved – more provided at peak times and need to be cheaper; and
- Some 6.9% of people found that new ranks were needed.

Consultation

6.1 Introduction

Guidelines issues by the Scottish Government 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.

In order to consult with relevant stakeholders across Dundee, written consultation was undertaken.

6.2 Indirect (Written) Consultation

A number of stakeholders were contacted by letter and email. This assured the Scottish Government guidelines were fulfilled and all relevant organisations and bodies were provided with an opportunity to comment.

In accordance with advice issued by the Scottish Government the following organisations were contacted:

- Dundee City Council;
- Trade representatives;
- User/disability groups representing those passengers with special needs;
- Local interest groups including hospitals, visitor attractions, entertainment outlets and education establishments; and
- Rail bus and coach operators.

A summary of the responses received are provided below.

Unite the Union

Unite considered that the supply of taxis is more than adequate across all times of day and areas in Dundee. Private hire is felt to be irrelevant as the mixed fleet of wheelchair accessible vehicles (60%) and saloon taxis (40%) available eradicates the need for private hire.

They support the policy of limiting the number of licenses available as it creates a safe environment for both drivers and the public, stating that removing the restrictions would create a platform whereby taxi drivers would be working excessive hours to earn a living and consequently putting the public at risk.

In terms of image of the taxi trade, Unite considered the mixed fleet to be beneficial and state that the testing regime in place ensures vehicle quality is maintained. Vehicle cleanliness and driver attitude/quality is generally very high but enforcement is poorly regulated. They also felt that dress code for drivers should be more strenuously enforced, as per the license conditions. In relation to the need for additional training, Dundee already has a policy that all taxi driver have to undertake SQA training by May 2017 & if not attained

by this date the drivers badge will be revoked. The SQA training is of a very high standard & if all drivers meet this standard then additional training will not be required.

Unite considered the suitability of taxi rank locations to be mixed, with the need for extension at some ranks and the addition of a taxi rank at the Grosvenor Casino. They would also welcome the consultation of the taxi trade during the planning application stage for premises that are largely frequented by the public to see if extra taxi provision is necessary. Rank accessibility is considered to be adequate.

The provision of wheelchair accessible taxis is considered ample, especially in combination with the majority of these vehicles available for pre-booking through taxi offices. Unite state that the provision of wheelchair accessible vehicles is primarily the responsibility of Dundee City Council.

Fares are rated as medium to low in comparison to the other three major cities in Scotland, with Unite hypothesising that this may be due to the lack of industry in comparison to these areas. Taxi services are considered to be adequately advertised in Dundee. Taxis are considered to not be very well integrated with the local bus services.

The safety of users and drivers in Dundee is generally perceived as high, with a recommendation for increasing the number of taxi enforcement officers to ensure drivers are running their taxis in accordance with their licensing conditions.

Taxi Trade

Two responses were received from the trade in Dundee.

Billy Lees

Mr Lees stated that he felt taxi provision was adequate at all times of day and in all areas. He considered that the current number of taxis in Dundee was too great, as was the number of private hire vehicles due to the mixed taxi fleet already available. In terms of the image of the taxi trade, Mr Lees stated that the lack of a uniform fleet can confuse visitors to Dundee regarding what vehicles are taxis for hire. He considered that most taxis are clean and tidy, and that driver appearance and attitude are generally good with some exceptions. He also felt that initial training for drivers when they begin working in the taxi industry, supplemented by periodic ongoing training, would be beneficial.

The current number and location of ranks was considered sufficient. In relation to accessibility, Mr Lees felt that the introduction of a uniform fleet would improve accessibility for wheelchair users.

Fares were considered to be too low. Taxi services were considered to be adequately advertised in Dundee due to the number of taxis currently available. In addition to his view that Dundee has too many taxis at present, Mr Lees also felt that there are too many buses available.

The safety of users and drivers was seen as having similar issues to other large cities.

Graeme Stephen

Mr Stephen stated that he felt taxi and private hire provision was very good at all times of day and in all areas. He considered that the policy of limiting taxi licenses was very good but that the current number of taxis could be reduced, in addition to limiting the number of private hire licenses due to overlap with the taxi trade. In terms of the image of the taxi trade, Mr Stephen felt that the mixed fleet provides well for a range of people, including those who have limited mobility or elderly, and is generally good quality. He states that vehicle cleanliness is also generally good but some vehicles have issues with unpleasant smells such as cigarette smoke. He felt that driver attitude and quality has traditionally been good but has worsened recently due to

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an influx of new drivers, including drivers failing to adhere to the dress code and appearing scruffy, and drivers being over-reliant on Sat-Navs rather than local knowledge. In terms of additional training, Mr Stephen felt that the current SVQ training was sufficient but more enforcement would be beneficial.

The suitability of the location of current ranks was considered mixed. New ranks were suggested for KFC, the new V&A museum, and anywhere within the new water front development. Mr Stephen also suggested adding large taxi signs at the head of ranks in order to increase their visibility, as has been successfully implemented at the Albert Street rank. In terms of accessibility, it was considered that there were sufficient numbers of wheelchair accessible taxis available and there were no issues with pre-booking these vehicles.

Fares were considered to have a medium rating, with a good fare structure in place to determine variability across the year. Advertising of taxi services was considered to be generally sufficient but needed a greater emphasis on the difference between a taxi and a private hire vehicle, such as in relation to private hire cars not being insured for street pickups. Mr Stephen felt that Dundee's transport was relatively well integrated, with the exception of a lack of airport, with more opportunities for taxis likely to emerge from increased tourism due to the V&A and waterfront development.

Mr Stephen considered that the safety of passengers and drivers was generally good, with the main risks due to drivers speeding or failing to obey road signs, such as no left turns, and issues in common with other cities of a similar size.

Disability Groups

Two responses came from disabled taxi users. Taxi and private hire provision was seen as generally adequate across all times of day and areas in Dundee, but that the provision of additional wheelchair accessible vehicles, especially during peak periods would be beneficial. The addition of steps to aid disabled passengers entering and exiting the vehicle was also suggested as a future improvement. The current number of overall taxis in Dundee was considered to be adequate.

In terms of image of the taxi trade, it was stated that vehicle type, quality, and cleanliness were very mixed, as were driver attitude, quality, and appearance. Customer service training was seen as a potential improvement measure.

It was felt some ranks are currently oversubscribed, resulting in large volumes of cars in unsuitable areas, and that consultation would be required to determine the location of any new ranks, with off street ranks preferable.

It was considered that fares could be reduced for both daytime and night-time tariffs. Advertising of current taxi services is seen as sufficient.

It was stated that users feel safe in the taxis themselves but not when waiting at the ranks, with the suggestion of implementing taxi marshals at ranks in the peak early morning period to increase passenger safety while waiting.

Taxis are considered to complement other transport types well, with the main issue being the integration of the rail and bus stations with each other.

Community Care Services, Dundee City Council

Three responses were received from Community Care Services.

Response 1

The respondents reported that they encountered difficulties booking wheelchair accessible taxis for their service users, especially in mornings and late afternoons due to high demand by school pupils, resulting in wheelchair accessible taxis not always being available or having to wait for some time. One customer with a 'fused leg' does not fit in any type of taxi, including wheelchair accessible. It was suggested that the fleet in Dundee move from a mixed fleet to one where all vehicles cater for wheelchair users, including increasing taxi size to allow easy access to the taxi.

It was generally felt that there were enough licenced taxis in Dundee. Some respondents felt that as a developing city with many factors which determine the requirement for such services, the rationale behind this restricted figure was not understandable. With future developments such as the V&A, in addition to able bodied citizens requiring taxi services, which will likely significantly increase the requirement for taxis adapted to suit the needs of people with a variety of disabilities this seems short sighted.

All driver and vehicle qualities, fares, and ranks were predominantly rated as good or reasonable. The provision of wheelchair accessible taxis was mainly rated as poor. One respondent stated that *"Taxi drivers on the whole have generally been very polite and helpful when I have been out with service users. The taxis I have used have always been very clean and the drivers have been knowledgeable about assisting service users with mobility problems or wheelchairs."* Driver attitude appears to be variable and can range from good to very abrupt and rude, especially regarding short journeys. It has been highlighted that clients often build up a relationship with a taxi company and get to know a particular driver well, which is usually a positive experience.

Driver skill in regards to use of ramps, clamping systems, and seat belts has been reported as an area that needs major improvement in the future as these factors often leave customers feeling unsafe during their journey, especially if combined with excessive speed. Training drivers in the use of sign language, communication systems such as 'Makaton' (a type of sign language) and in ways to better understand and communicate with people for whom understanding and making their needs known is an enormous challenge has also been suggested to allow more effective communication and improve the customer experience. Providing adapted signage and written information in the taxis themselves would be another initiative perhaps using local photographs as way markers or 'object signifiers' to assist people to clearly express where they wish to go. This could result in the development of a 'gold standard' of customer service, with perhaps some form of on-board, or on-line rating for good customer service may also improve the passenger's experience along with supporting a more positive communication outcome for drivers. The introduction of a phone app to comment on the customer experience and DCC awards event to promote excellent customer service – valid for all taxi users, not just those with a disability – have also been suggested.

Despite fares being generally rated as reasonable, for some people taxis are the only suitable method of transport due to limited mobility, capacity and/or health conditions/disabilities. For some financially this may be a real problem, with taxis already perceived as an expensive alternative to public transport. It was raised that taxi-cards i.e. the reduced fare scheme, can only be used with one company. This is very restrictive, and does not promote choice for individuals. In the event that someone had a bad experience with this one firm, they have no choice but to keep using the service as there is no alternative. Choice of taxi company and the ability to use a taxi card with any company would also be hugely helpful, enabling people to make personal choices, which may lead to regular use of a local taxi driver who would come to know the specific needs/choices/preferred routes etc. that the disabled person expressed over time.

Taxi ranks in town were stated as located in reasonable areas but restricted due to pedestrianisation of the main city centre area. Advertising of taxi services was raised as an issue, with the need to advertise wheelchair accessible vehicles more obviously and use of taxi-cards highlighted.

In terms of safety, some respondents felt that the public need better information about what "registration" means, any differences in expectations (e.g. criminal records checks for drivers etc.) and how to raise any concerns about a driver or car (not just to their own company). Use of cameras in taxis to protect the driver

and the service user were also suggested. By providing a personal door to door service, which cannot be provided by public transport, taxis are helpful for people who do not feel confident using other forms of public transport or who might not feel able to attend social activities if other forms of public transport were their only option. One respondent stated that *“Taxis are a critical element of transport within the City – door to door service is vital for many. Public transport is daunting for many disabled people – i.e. noisy, busy bus = sensory overload = increased anxiety, agitation = challenging behaviour or social isolation due to avoidance of situation. This could lead to increased personal risk if someone would choose to walk rather than use the bus, and put themselves at risk from others (verbal/physical assault).”*

Response 2

These respondents considered the general provision of taxis for their service users to be good at all times of day and across all areas, with the exception of wheelchair accessible taxis which were rated as poor. The current number of overall taxis in Dundee and the limiting of licences were considered to be good.

All driver and vehicle qualities, fares, and ranks were rated as good or reasonable. Driver attitudes were rated as reasonable as sometimes drivers are excellent and helpful, making a huge difference to a journey. Unfortunately sometimes drivers are unhelpful and rude, often centring on situations when the fare is paid through an account (by employers) rather than the driver receiving money in hand. Also although some drivers are confident using a wheelchair taxi some are not. Additional training for use of wheelchair equipment, to understand people with disabilities more, and to be aware of the importance of taxis to people with disabilities.

Overall most services users who use taxis regularly were happy with the level of service that they receive – with the right driver there is nothing better than a taxi.

Response 3

“Some difficulties have been experienced with pre-booking and obtaining wheelchair accessible taxis, otherwise the service we receive from the taxi companies is very good. The main comment I would have is in relation to wheelchair accessible taxis. It can be difficult to pre book as many are often doing 'school runs'. Also, we have one gentleman who has a wider wheelchair, and not all wheelchair accessible taxis fit his chair. Team members try to explain when they phone for a taxi which type of taxi they need, however often the wrong taxi is sent. Recently the gentleman had to suffer the indignity of 3 taxis being sent before one that would fit his wheelchair arrived. This can be embarrassing and frustrating for the individual, and cause him to be late for appointments.”

Dundee Community Cars

Dundee Community Cars considered the provision of taxis and private hire vehicles to be adequate across all areas during the day but more problematic in the evening and night when not all ranks are operational. The current number of overall taxis and private hire vehicles in Dundee was considered to be adequate based on the ease of obtaining taxis at present.

In terms of image of the taxi trade, drivers have predominately been found to be pleasant and helpful when needed, with vehicles in a good state of maintenance and clean. There have been occasion where taxi drivers have complained about the short distance being travelled, resulting in upset and distress to passengers with mobility issues.

In regard to ranks, it can be problematic as the mixed fleet means that the taxi at the head of the queue may not always be accessible to passengers with mobility issues. The ground at the rank at Albert Street becomes a slipping hazard during wet conditions due to nearby trees and can therefor make it difficult to access taxis

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safely. Many older people find some styles of taxis are too high to get into properly and don't feel comfortable using them as a result. The availability of swivel seats could be useful to aid people in and out of the car when they have mobility problems. Drivers need to be aware as well that entering and exiting the vehicle may take longer for those with short term or long term disabilities regardless of age and should be equipped

Taxi fares were seen as very high in compared to other local authority areas. It can be very expensive to travel a short distance due to the minimum fare as well as the fact that all types of taxi use a metered charging structure. The additional cost per person/for luggage seems unreasonable especially given the fact that the charges are so high already and that there is a basic lack of an alternative and affordable public transport means from many areas of the city.

It was stated that the users had never had any concerns using taxis in Dundee and only use ranks during the day.

Dundee Community Cars consider that there is a lack of transport integration in Dundee in that there are many areas without bus routes or nearby parking structures that then require the use of what is very often an expensive taxi journey. This includes access to the only train station, the waterfront area and also many hospitals in Dundee are difficult to reach by public transport. People wishing to access care facilities - both in the Dundee are and outwith - from many areas of the city often have to use numerous buses or taxis. There are efforts being made to work more closely with community transport organizations but there is often a feeling of negativity towards these services from taxi companies.

Anonymous

The respondent considered the provision of taxis and private hire vehicles to be adequate at all times of day and in all areas. The current number of licensed taxis was considered to be too high at present. In terms of image of the taxi trade, all aspects related to drivers and vehicles were rated as good, with the suggestion that refresher training would be useful for drivers. The provision of wheelchair accessible vehicles was seen as good. Fares were rated as reasonable. The respondent felt that transport was well integrated in Dundee.

Deriving the Significant Unmet Demand Index Value

7.1 Introduction

The data provided in the previous chapters can be summarised using CH2M’s ISUD factor as described in Chapter 3.

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

Average Passenger Delay (Table 4.2)	0.09
Peak Factor (Figure 4.2)	1
General Incidence of Delay (Table 4.3)	5.03
Steady State Performance (Table 4.1)	5
Seasonality Factor (Section 3)	1
Latent Demand Factor (Section 5)	1.121
ISUD (0.09*1*5.03*5*1*1.121)	2.5

The cut off level for a significant unmet demand is 80. It is clear that Dundee is well below this cut off point as the ISUD is 2.5, indicating that there is **NO significant unmet demand**. This conclusions covers both patent and latent/suppressed demand.

Supply of Taxis

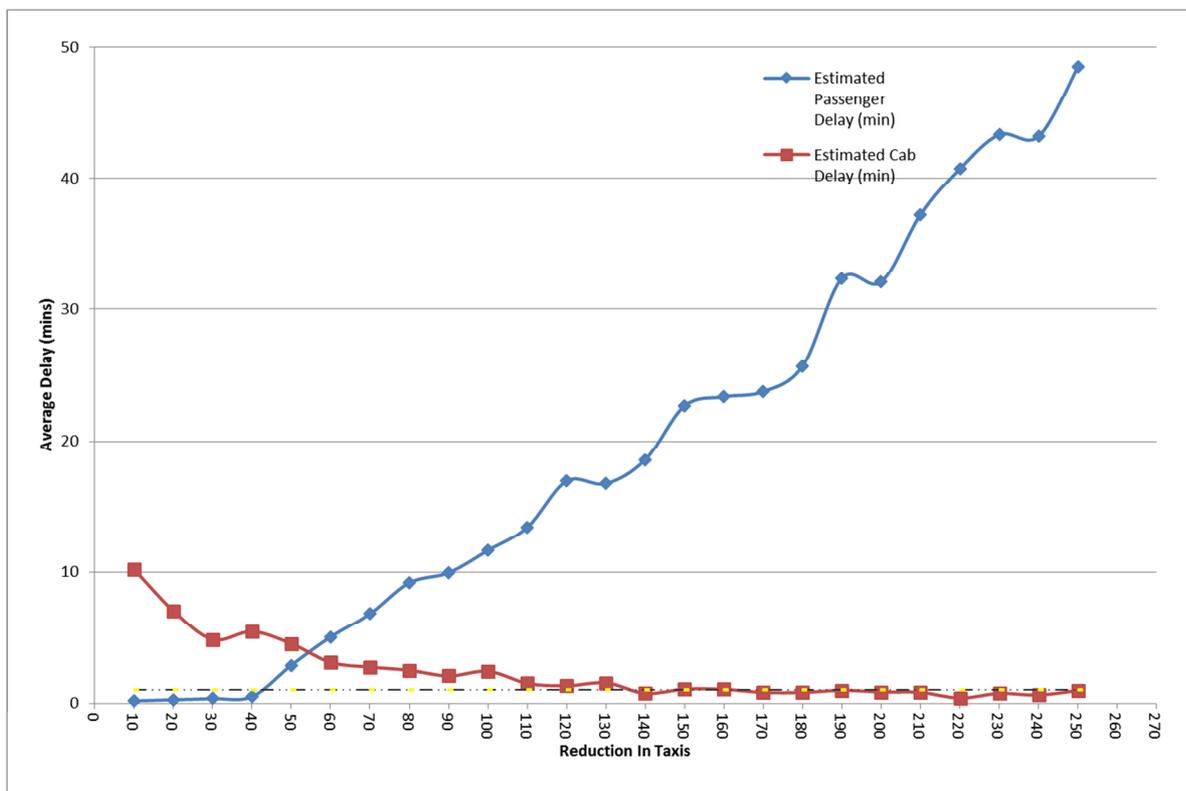
8.1 Introduction

To examine the extent to which the recent increase in taxi numbers may have resulted in an excess supply of vehicles, relative to demand in Dundee, a simulation exercise has been conducted. The exercise used CH2M’s STAR4 simulation model (Simulation of Taxis at Ranks). The simulation takes a typical daytime observation period (in this case Rail Station rank between 10am and 6pm on 28th October 2015) and estimates the impact of reducing the number of vehicles serving the rank on cab and passenger queues and delays. The analysis is intended to be indicative of the general impact of reduced supply and should not be interpreted as a recommendation for any given reduction in the size of the fleet. The results of the analysis are presented in Figure 8.1 below.

8.2 Analysis

The analysis shows that the removal of around 10 licences from circulation on the day in question would have been unlikely to have resulted in any passenger delay at the rank. On the other hand, cabs at the rank would have experienced significantly faster turn-around times. A reduction in the fleet beyond this would result in the introduction of passenger delay at the rank, with the level of passenger delay generally increasing as the fleet is reduced in size. Average passenger delay would reach 1 minute if the fleet were to be reduced by 43 vehicles.

This exercise was designed to show the effect of removing licenses during typical conditions however during non typical conditions i.e. busy night time rank the effect may be different.



Summary and Conclusions

9.1 Introduction

CH2M has conducted a study of the taxi market on behalf of Dundee City 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 taxi services within Dundee 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.

9.2 Significant Unmet Demand

The 2015 study has identified that there is NO evidence of significant unmet demand for taxis in Dundee. This conclusion is based on an assessment of the implications of case law that has emerged since 2000, and the results of CH2M's analysis.

It is clear that demand for taxi services has increased since the last survey but that people are well served by the trade given that passenger delay has decreased since the last survey.

9.3 Public Perception

Public perception of the service was obtained through the undertaking of 352 surveys. Overall the public were generally satisfied with the service – key points included;

- Some 34.4% of hirings are from a rank;
- High levels of satisfaction with delay on last trip – hiring at a rank providing the highest levels;
- Some 12.1% of people had given up trying to obtain a taxi at a rank or by flagdown;
- Some 15.2% of people felt that taxi services could be improved – increased provision at peak times and need to be cheaper; and
- Some 6.9% of people found that new ranks were needed.

9.4 Recommendations

The 2015 study has identified that there is NO evidence of significant demand in Dundee. 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 CH2M's analysis.

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

- Maintain the current limit of 605 taxi 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.