


Dover Hackney Carriage Demand Study

Final Report

Dover District Council

March 2015



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1 Introduction

1.1 General

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

- Whether there is any evidence of significant unmet demand for hackney carriage services in Dover; 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 Dover and the relevant legislation governing the market.

2.2 Dover District Overview

Dover is a district authority in East Kent and is situated on the south east coast of England. Dover is England's closest point to mainland Europe and is the busiest passenger port in the world. The district had a population of 111,700 in 2011 (2011 Census).

2.3 Background to the Hackney Carriage Market in Dover

Dover District Council maintains a policy of quantity control and licence 69 hackney carriage vehicles, eight of these vehicles are wheelchair accessible. This provides Dover with a hackney carriage provision of one hackney per 1,619 residents. The last unmet demand survey conducted in 2010 identified no significant unmet demand.

The private hire fleet consists of approximately 130 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 Dover taxi market.

2.4 Provision of Hackney Carriage Stands

There are currently 9 official ranks located in the Dover licensing district. Plate 1 depicts the Biggin Street rank and Plate 2 depicts the rank at Priory Train Station.

Plate 1 Biggin Street



Plate 2 Dover Priory Train Station




2.5 Hackney Carriage Fares and Licence Premiums

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

- Tariff 1 – 6am to midnight
- Tariff 2 – midnight to 6am
- Tariff 3 – Christmas and New Year

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 117 yards, plus fixed additions for waiting time. A standard two-mile day time fare undertaken by one individual would therefore be £6.00. Table 2.1 outlines the fare structure in more detail.

Table 2.1 – Dover Hackney Carriage Fare Tariff

 Hackney Carriage Table of Fares 1.1.12 onwards	
Applies to all journeys within the District Boundary and to journeys outside the District Boundary unless agreed otherwise between driver and hirer prior to the hiring.	
TARIFF 1	
For hiring commenced between 06:00 hrs and 12 Midnight each day	
❖ For the first 400 yards or 1 minutes and 20 seconds	£3.30
❖ For each succeeding 117 yards or 23.5 seconds thereafter or a combination of both.	£0.10
TARIFF 2	
For hiring commenced between 12 midnight and 06:00 hrs each day, Statutory Holidays and Bank Holidays (excluding Christmas and New Year):	
❖ For the first 400 yards or 1 minute and 20 seconds	£4.95
❖ For each succeeding 117 yards or 23.5 seconds thereafter or a combination of both.	£0.15
TARIFF 3	
For hiring commenced between 18:00 hrs Christmas Eve and 06:00hrs 27 December and between 18:00 hrs New Year's Eve and 06:00 hrs 2 January:	
❖ For the first 400 yards or 1 minutes 20 seconds	£6.60
❖ For each succeeding 117 yards or 23.5 seconds thereafter or a combination of both	£0.20
EXTRAS	
❖ For Hiring on Sundays	£1.00
❖ For each article of luggage	£0.20
❖ For each person in excess of one	£0.20
ADVERSE WEATHER CONDITIONS	
During adverse weather conditions, defined as when the Stagecoach Bus Company withdraw their services due to adverse weather, the tariffs relating to distance and waiting time are increased by 50 per cent	
SOILING CHARGE	
❖ To cover cleaning and loss of income, where the interior of the vehicle is soiled (at the discretion of the driver) not exceeding £50.00	

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 August 2014 table show's Dover ranked 103rd in the table, therefore Dover has higher 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
Dartford	5
Maidstone	26
Tunbridge Wells	28
Gravesham	36

Local Authority	Rank
Sevenoaks	53
Swale	58
Tonbridge and Malling	59
Ashford	65
Shepway	81
Canterbury	100
Dover	103
Medway	142
Thanet	302

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. 'Premium' or 'plate value' occurs from the scarcity of vehicle licences in local authority areas that numerically restrict licences. The premium occurs when the vehicle is sold with the hackney licence plate attached. It is not known what the premium is in Dover.

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 Dover 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:		
Highly Peaked	No SUD	Possibly a SUD
Not Highly Peaked	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.

$$ISUD = APD \times PF \times GID \times SSP \times SF \times LDF$$

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.

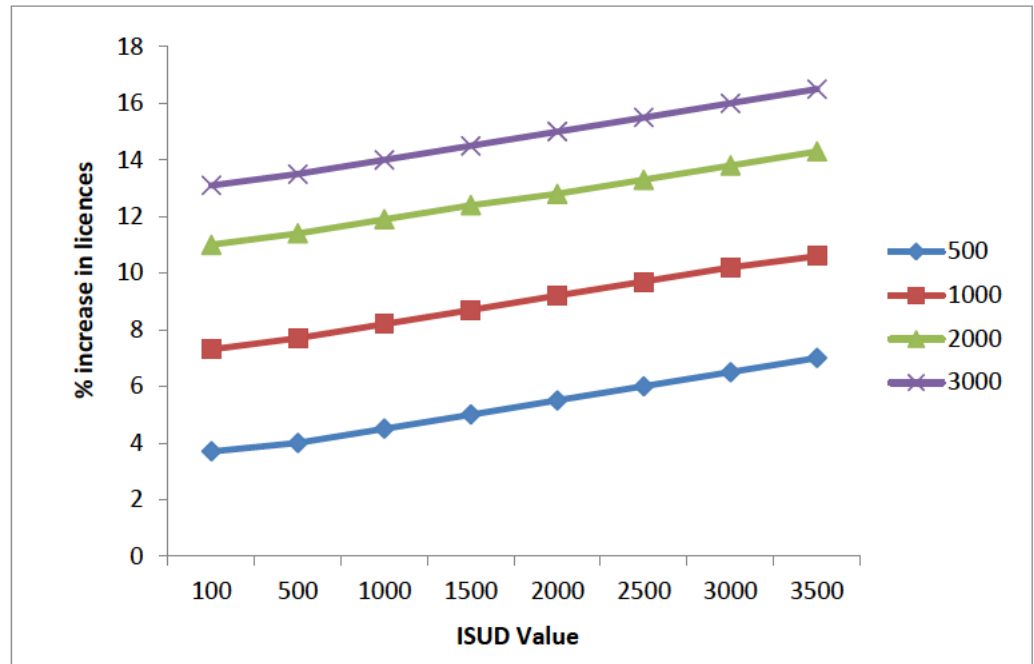
SUDSIM represents a synthesis of a queue simulation work that was previously used (1989 to 2002) to predict the alleviation of significant unmet demand and the ISUD factor described above (hence the term SUDSIM). The benefit of this approach is that it provides a direct relationship between the scale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

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

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* 1989¹. 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

¹ See Button JH 'Taxis – Licensing Law and Practice' 2nd 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 May and June 2014. Some 3,932 passengers and 3,824 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 on 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 14% 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 weeknight and Saturday and Sunday periods.

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

Period		Excess Demand	Equilibrium	Excess Supply
Weekday	Day	3	87	10
	Night	0	71	29
Weekend	Day	0	82	18
	Night	5	86	10
Sunday	Day	0	94	6
Total 2014		2	84	14
Total 2010		5	90	6

NB – Excess Demand = Maximum Passenger Queue ≥ 3 . Excess Supply = Minimum Cab Queue ≥ 3 .

4.3 Average Delays and Total Demand

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

The survey suggests some 3,932 passenger departures occur per week from ranks in Dover involving some 3,824 cab departures. The taxi trade is concentrated at the South Street rank in Deal accounting for 45% of the total passenger departures. On average cabs wait 15.19 minutes for a passenger. On average passengers wait 0.10 minutes for a cab.

Demand has decreased by 9% since the last survey in 2010 and passenger delay has decreased.

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

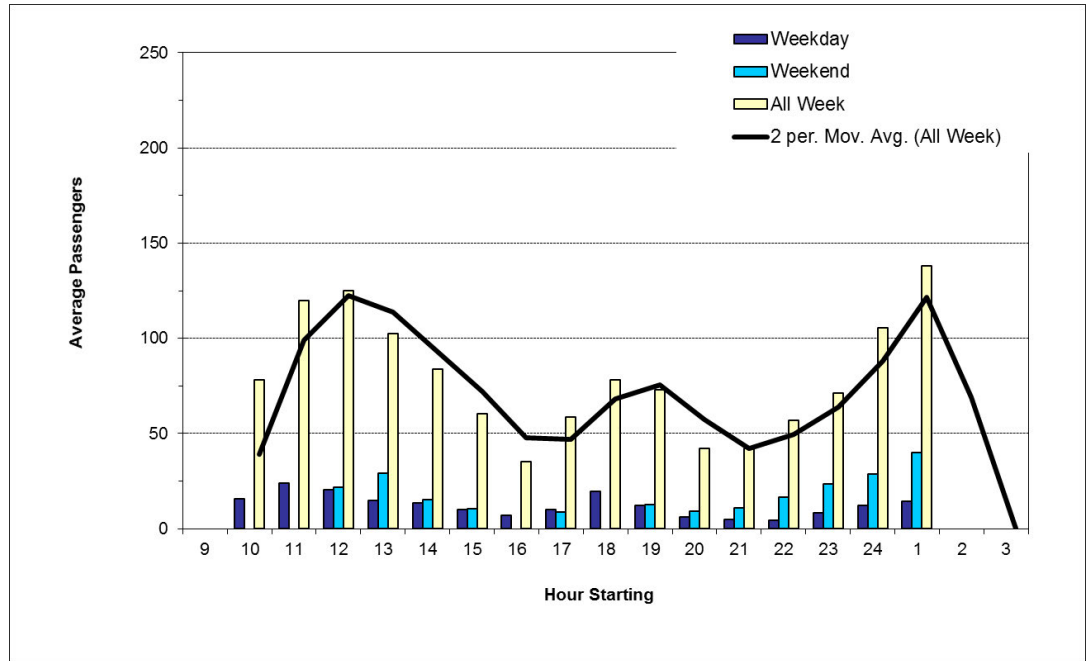
Rank	Passenger Departures	Cab Departures	Average Passenger Delay (minutes)	Average Cab Delay (minutes)
Biggin Street, Dover	860	629	0.08	16.19
Priory Rail Station, Dover	1,288	933	0.04	29.75
Market Street, Dover	22	11	0.00	3.33
South Street, Deal	1,761	2,217	0.12	9.01
Sandwich Rail Station	2	35	15.00	4.35
Total 2014	3,932	3,824	0.10	15.19
Total 2010²	4,335	4,897	0.37	16.33

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 04:00.

² The 2010 study included the cruise terminals, these have been removed from the figures to allow comparison in 2014.

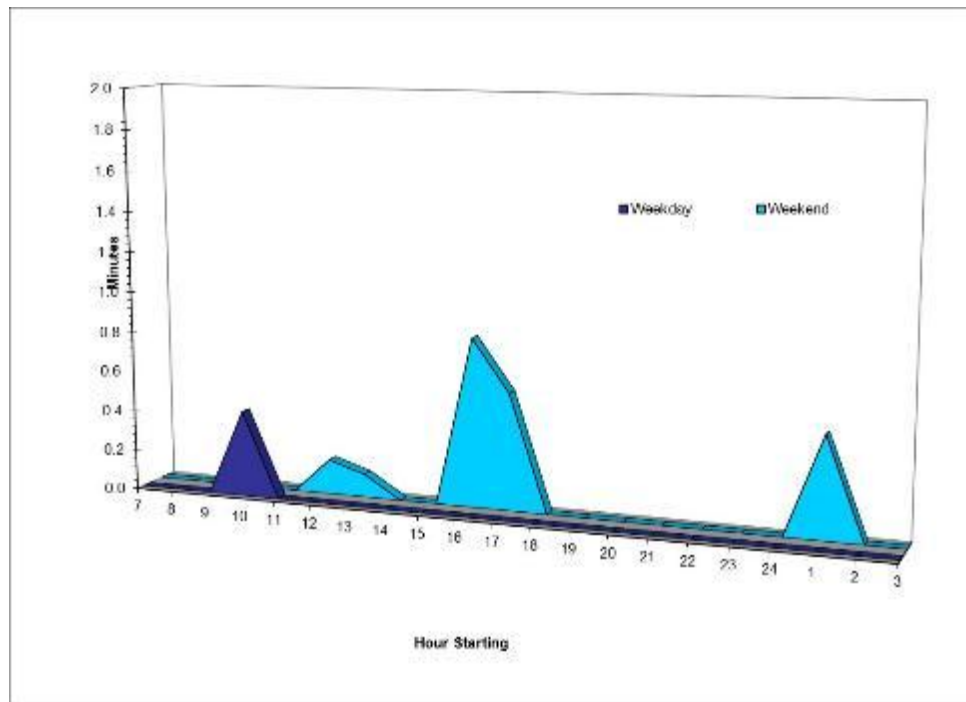
Figure 4.1 – Passenger Demand by Time of Day in 2014 (Monday to Saturday)



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 night time period with greater levels of delay on a weekend.

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	5.83	0.58	0.08
2010	10.44	4.35	0.66

In 2014, 0.58% 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'. This is a reduction compared to the previous study.

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

Some 458 on-street public attitude surveys were carried out in May and June 2014. The surveys were conducted across a range of locations within the Dover licensing area.

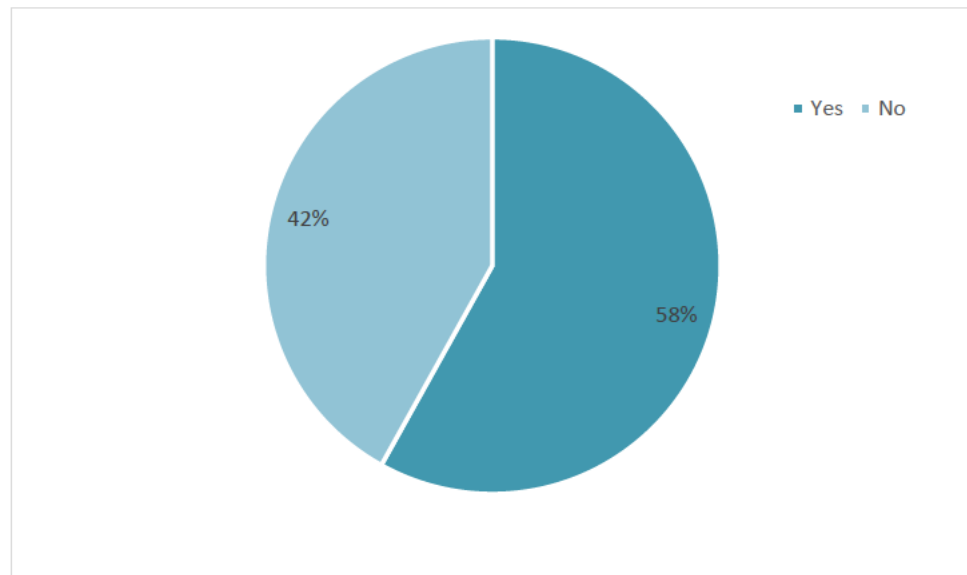
It should be noted that in the tables and figures that follow the totals do not always add up to the same amount which is due to one of two reasons. First, not all respondents were required to answer all questions; and second, some respondents failed to answer some questions that were asked.

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 59% 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 58% of people surveyed had made a trip by taxi in the last three months.

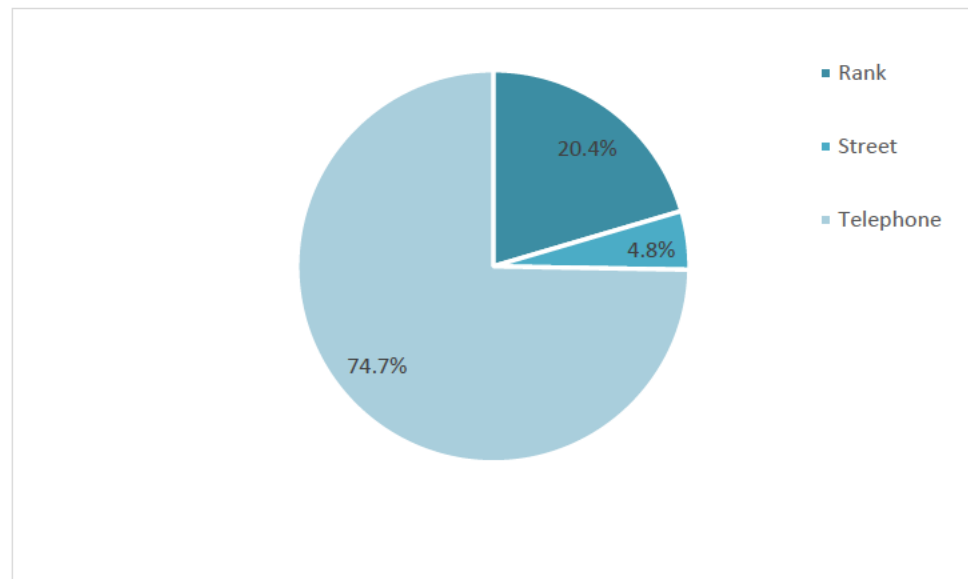
Figure 5.1 – Have you made a trip by taxi in the last three months?



Trip makers were then asked how they obtained their hackney carriage or private hire vehicle. Some 20.4% of trip makers stated that they hired their taxi at a rank.

Some 74.7% of hiring's achieved by telephone with 4.8% of trip makers obtaining a taxi by on-street flagdown. Figure 5.2 reveals the pattern of hire.

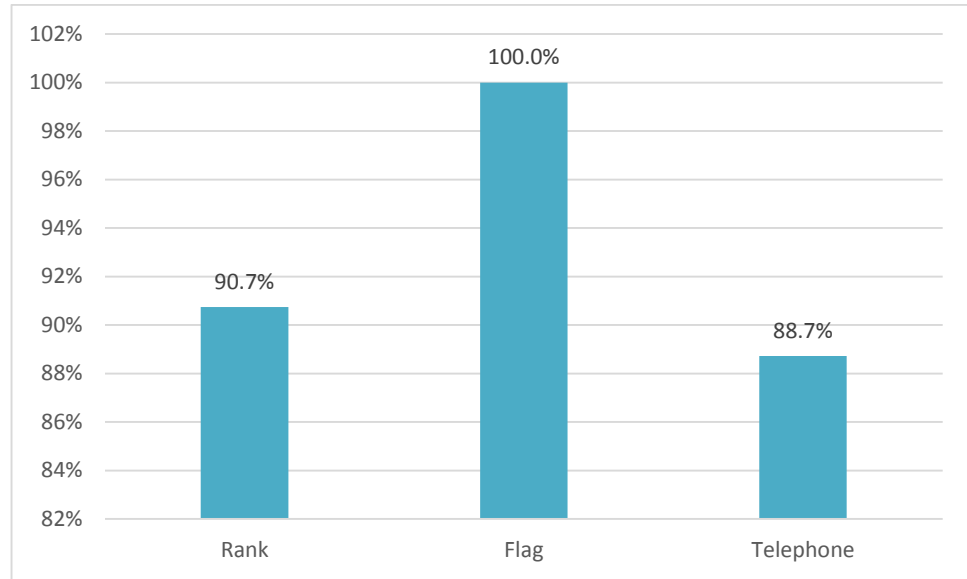
Figure 5.2 – Method of hire for last trip



Those who telephoned for a vehicle were predominantly obtaining the vehicle from their home address. Those obtaining their vehicle at a rank predominantly used the Biggin St rank and the Station rank.

Respondents were asked what type of vehicle they hired. The most common type of vehicle used was a saloon car (61.1%).

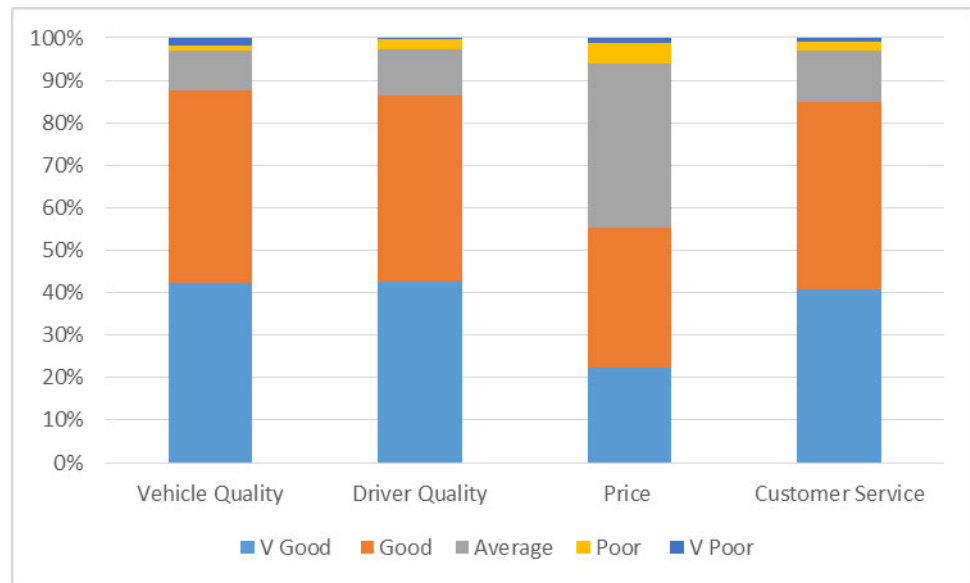
Respondents were asked if they were satisfied with the time taken and the promptness of the vehicles arrival. The majority of people were satisfied with their last taxi journey (89.6%). This is a similar figure to that obtained in the 2010 survey. Figure 5.3 shows that for each method of obtaining a vehicle, the majority were satisfied with the length of time they had to wait. Those obtaining their taxi by on street flagdown 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 very good. 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:

- Poor driver attitude;
- Too expensive in relation to the distance travelled;
- Dirty vehicles; and
- Poor punctuality.

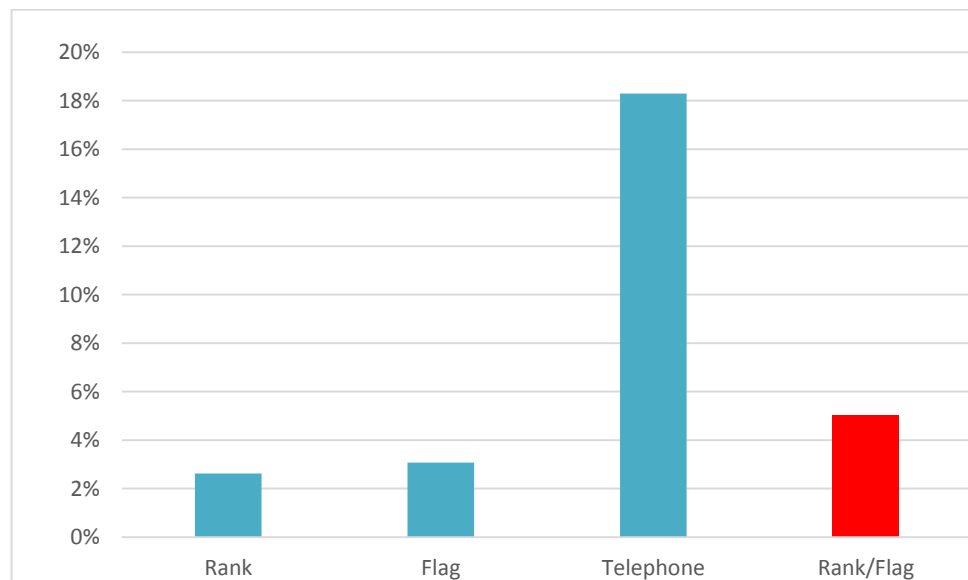
Figure 5.4 Rating of Last Journey



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 Dover area in the last three months. The results are summarised in Figure 5.4.

Figure 5.4 – Latent demand by method of hire – Given up trying to make a hiring?



As indicated in Figure 5.4, some 5% of respondents had given up waiting for a hackney at a rank and/or by flagdown in the last three months. This has implications for the interpretation of the results (see Section 7 below).

Respondents who had given up trying to obtain a taxi at a rank in the last three months were asked the location where they had given up waiting for a taxi. Only 12 people had given up waiting at a rank with the most popular location being Priory Station in Dover. All instances were at night.

5.4 Adequacy of Supply

Respondents were asked if they thought there to be sufficient hackney carriages in the Dover district. Some 47.2% considered there to be sufficient hackneys in Dover, whilst some 25.2% considered there to be insufficient. The remaining respondents did not know.

5.5 Improvements

Respondents were asked whether they felt that taxi services in Dover could be improved. Some 52.3% of respondents considered that services could be improved.

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

- Cheaper;
- More of them; and
- Better drivers.

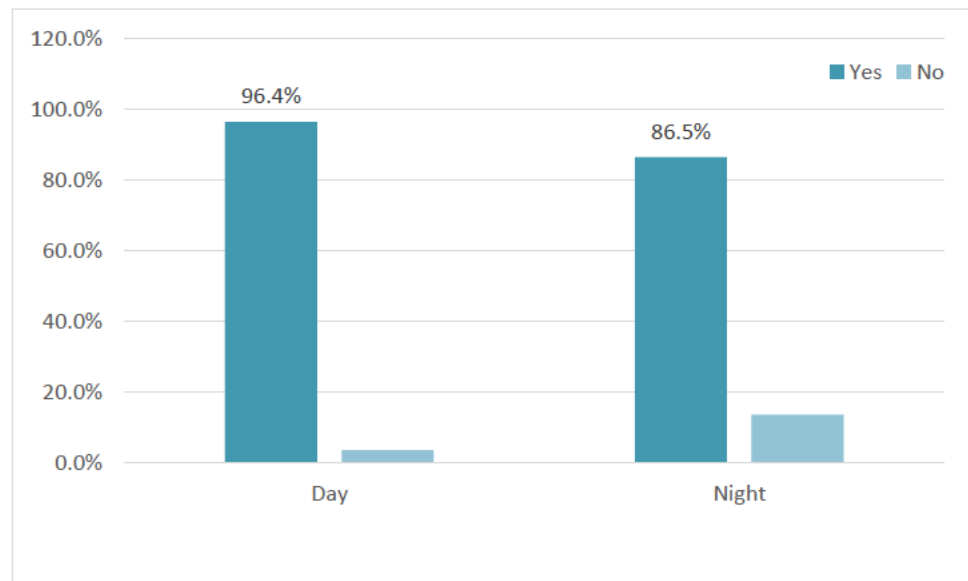
Other suggestions for improvements included:

- Improved punctuality;
- Ability to order taxis by text message; and
- More vehicles at peak times.

5.6 Safety

Respondents were asked if they felt safe using hackney carriages and private hire services in Dover. Some 96.4% did feel safe when using them during the day whilst 86.5% felt safe whilst using them at night. Those who did not feel safe were asked how their safety could be improved, the most common responses was the installation of CCTV in taxis (56.7%) followed by CCTV at ranks (28.3%).

Figure 5.5– Do you feel safe using hackneys and private hire vehicles in Dover District?



5.7 Ranks

Respondents were asked if there were any locations where a new taxi rank was required. Some 22.6% felt that new ranks were required. Suggested locations were:

- Seafront, Dover;
- Market Square, Dover;
- Tesco, Whitfield; and
- North Deal;

5.8 Summary

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

- Some 74.7% of hiring's are pre booked via a telephone;
- High levels of satisfaction with delay on last trip;
- Some 5% of people had given up trying to obtain a taxi at a rank or by flagdown;
- Some 52.3% of respondents believed taxi services in Dover 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 stakeholders were contacted by letter and email. This assured the DfT guidelines were fulfilled and all relevant organisations and bodies were provided with an opportunity to comment. The following responses were received:

Sandwich Town Council

Sandwich Town made reference to an objection they had made to a planning application. This concerned a premises on Delf Street, Sandwich, which seeks to convert a commercial property with 2 ground floor retail outlets of a shop and taxi office into 2 residential dwellings and a self-contained flat with only 1 ground floor retail outlet. Sandwich Cars who are the leaseholders of the taxi offices are still in situ and wish to retain their lease. The Town Council has sent an objection to this planning application to Dover District Council, and feels that a successful local taxi business could be seriously affected by the proposed development as it stands.

Deal & Walmer Chamber of Trade

Deal & Walmer Chamber of Trade is of the view that taxis in Deal provide a higher level of service at better value than is seen in neighbouring districts. It was suggested that some operators might benefit from training in their customer service telephone manner.

Aylesham Parish Council

Aylesham Parish Council wanted to see a greater presence of taxis in Aylesham - at the moment taxis have to come from Canterbury or Dover. Also, they wished to see taxi provision at the railway station or a good notice advertising who to contact for a taxi. Fares are considered to be too high and wheelchair accessible taxi provision is limited.

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)	0.58
Steady State Performance (Table 4.1)	3
Seasonality Factor (Section 3)	1
Latent Demand Factor (Section 5)	1.05
ISUD (0.10*1*0.58*3*1*1.05)	0.2

The cut off level for a significant unmet demand is 80. It is clear that Dover is well below this cut off point as the ISUD is 0.2, indicating that there is **NO significant unmet demand**. This conclusion covers both patent and latent/suppressed demand.

7.2 Comparing the results of Dover 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 Dover 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 5.83%, which is lower than the average for the districts analysed;
- overall average passenger delay at 0.10 minutes is below the average value;
- overall average cab delay at 15.17 minutes is above average for the districts shown; and
- the proportion of weekday daytime hours in which excess demand conditions are observed 3% of the time which is lower than the average

District and Year of Survey	Population per Hackney	Proportion Waiting at Ranks	<i>Proportion Waiting >= 1 Min</i>	Proportion Waiting >= 5 Mins	<i>Average Passenger Delay</i>	Average Cab Delay	% Excess Demand	Demand Peaked, Yes=0.5 No=1	ISUD Indicator Value
Dover 14	1,619	5.83	0.58	0.08	0.12	15.17	3	1	0
Dover 10	1,546	10.44	4.35	0.66	0.37	16.29	0	0.5	0
Seflon 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
Seflon 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
Bamsley 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
AVERAGE	1,283	20	10	2	1	14	6		
KEY	* Derestricted Authorities								

8 Summary and Conclusions

8.1 Introduction

Halcrow has conducted a hackney carriage demand study on behalf of Dover 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 Dover 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 Dover. 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.

It is evident that passenger demand has decreased since 2010 with the results showing a decrease in passenger and cab departures. Alongside this passenger delay has also decreased.

8.3 Public Perception

Public perception of the service was obtained through the undertaking of 458 surveys. Overall the public were generally satisfied with the service – key points included;

- Some 74.7% of hiring's are pre booked via a telephone;
- High levels of satisfaction with delay on last trip;
- Some 5% of people had given up trying to obtain a taxi at a rank or by flagdown;
- Some 52.3% of respondents believed taxi services in Dover could be improved.

Since the last survey less people have obtained their vehicle at a rank and more people are pre booking vehicles.

8.4 Recommendations

The 2014 study has identified that there is NO evidence of significant unmet demand for hackney carriages in Dover. 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.

It is clear that since the previous study demand for taxis has decreased and those using taxis have to wait less time to obtain their vehicle. On this basis the authority has the discretion in its hackney licensing policy and may either:

- Maintain the current limit of 69 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.

Biggin St Tuesday 06/05/2014 1000-1800

Hour	Rank Throughput		Queue 'Snap-Shot' Total		Service Quality		Queue Extremes		Market Conditions		
	Passengers	Cabs	Passenger Queue	Cab Queue	Average Passenger Delay	Average Cab Delay	Maximum Passenger Queue	Minimum Cab Queue	Excess Demand	Equilibrium	Excess Supply
1000-1100	21	18	1	24	0.24	6.67	1	0	0	1	0
1100-1200	27	17	0	32	0.00	9.41	0	1	0	1	0
1200-1300	16	12	0	34	0.00	14.17	0	2	0	1	0
1300-1400	13	9	0	40	0.00	22.22	0	2	0	1	0
1400-1500	20	14	0	46	0.00	16.43	0	0	0	1	0
1500-1600	6	6	0	62	0.00	51.67	0	4	0	0	1
1600-1700	6	6	0	41	0.00	34.17	0	1	0	1	0
1700-1800	13	7	0	24	0.00	17.14	0	0	0	1	0
Total	122	89	1	303	0.04	17.02			0	7	1

Biggin St Saturday 17/05/2014 1000-1800

Hour	Rank Throughput		Queue 'Snap-Shot' Total		Service Quality		Queue Extremes		Market Conditions		
	Passengers	Cabs	Passenger Queue	Cab Queue	Average Passenger Delay	Average Cab Delay	Maximum Passenger Queue	Minimum Cab Queue	Excess Demand	Equilibrium	Excess Supply
1000-1100	16	12	2	20	0.63	8.33	2	0	0	1	0
1100-1200	12	7	0	33	0.00	23.57	0	2	0	1	0
1200-1300	14	10	0	24	0.00	12.00	0	2	0	1	0
1300-1400	39	20	2	21	0.26	5.25	2	0	0	1	0
1400-1500	10	9	0	27	0.00	15.00	0	2	0	1	0
1500-1600	9	9	0	26	0.00	14.44	0	0	0	1	0
1600-1700	14	10	0	12	0.00	6.00	0	0	0	1	0
1700-1800	2	3	3	2	7.50	3.33	1	0	0	1	0
Total	116	80	7	165	0.30	10.31			0	8	0

Biggin St Sunday 18/05/2014 1400-1800

Hour	Rank Throughput		Queue 'Snap-Shot' Total		Service Quality		Queue Extremes		Market Conditions		
	Passengers	Cabs	Passenger Queue	Cab Queue	Average Passenger Delay	Average Cab Delay	Maximum Passenger Queue	Minimum Cab Queue	Excess Demand	Equilibrium	Excess Supply
1400-1500	1	2	0	7	0.00	17.50	0	0	0	1	0
1500-1600	7	5	0	22	0.00	22.00	0	0	0	1	0
1600-1700	10	9	0	19	0.00	10.56	0	0	0	1	0
1700-1800	1	1	0	17	0.00	85.00	0	0	0	1	0
Total	19	17	0	65	0.00	19.12			0	4	0

Dover Rail Station Tuesday 06/05/2014 0800-1600

Hour	Rank Throughput		Queue 'Snap-Shot' Total		Service Quality		Queue Extremes		Market Conditions		
	Passengers	Cabs	Passenger Queue	Cab Queue	Average Passenger Delay	Average Cab Delay	Maximum Passenger Queue	Minimum Cab Queue	Excess Demand	Equilibrium	Excess Supply
0800-0900	15	14	0	30	0.00	10.71	0	0	0	1	0
0900-1000	15	11	2	48	0.67	21.82	2	0	0	1	0
1000-1100	2	2	0	60	0.00	150.00	0	0	0	1	0
1100-1200	0	0	0	62	0.00	0.00	0	4	0	0	1
1200-1300	20	18	0	42	0.00	11.67	0	0	0	1	0
1300-1400	9	8	0	53	0.00	33.13	0	2	0	1	0
1400-1500	4	3	0	52	0.00	86.67	0	2	0	1	0
1500-1600	13	7	0	25	0.00	17.86	0	0	0	1	0
Total	78	63	2	372	0.13	29.52			0	7	1

Dover Rail Station Thursday 15/05/2014 1800-0000

Hour	Rank Throughput		Queue 'Snap-Shot' Total		Service Quality		Queue Extremes		Market Conditions		
	Passengers	Cabs	Passenger Queue	Cab Queue	Average Passenger Delay	Average Cab Delay	Maximum Passenger Queue	Minimum Cab Queue	Excess Demand	Equilibrium	Excess Supply
1800-1900	34	14	0	50	0.00	17.86	0	0	0	1	0
1900-2000	12	10	0	40	0.00	20.00	0	1	0	1	0
2000-2100	3	3	0	51	0.00	85.00	0	4	0	0	1
2100-2200	4	6	0	48	0.00	40.00	0	3	0	0	1
2200-2300	4	8	0	71	0.00	44.38	0	4	0	0	1
2300-0000	7	9	0	66	0.00	36.67	0	4	0	0	1

0000-0100	13	7	0	61	0.00	43.57	0	2	0	1	0
0100-0200	10	6	0	32	0.00	26.67	0	3	0	0	1
Total	87	63	0	419	0.00	33.25			0	3	5

Dover Rail Station Saturday 17/05/2014 1000-1600

Hour	Rank Throughput		Queue 'Snap-Shot' Total		Service Quality		Queue Extremes		Market Conditions		
	Passengers	Cabs	Passenger Queue	Cab Queue	Average Passenger Delay	Average Cab Delay	Maximum Passenger Queue	Minimum Cab Queue	Excess Demand	Equilibrium	Excess Supply
1000-1100	16	8	0	81	0.00	50.63	0	5	0	0	1
1100-1200	27	13	0	85	0.00	32.69	0	0	0	1	0
1200-1300	47	20	0	81	0.00	20.25	0	4	0	0	1
1300-1400	26	12	0	92	0.00	38.33	0	6	0	0	1
1400-1500	9	6	0	68	0.00	56.67	0	4	0	0	1
1500-1600	9	7	0	37	0.00	26.43	0	1	0	1	0
1600-1700	2	2	0	26	0.00	65.00	0	1	0	1	0
1700-1800	9	8	0	28	0.00	17.50	0	1	0	1	0
Total	145	76	0	498	0.00	32.76			0	4	4

Dover Rail Station Friday 16/05/2014 1800-0200

Hour	Rank Throughput		Queue 'Snap-Shot' Total		Service Quality		Queue Extremes		Market Conditions		
	Passengers	Cabs	Passenger Queue	Cab Queue	Average Passenger Delay	Average Cab Delay	Maximum Passenger Queue	Minimum Cab Queue	Excess Demand	Equilibrium	Excess Supply
1800-1900	12	9	0	22	0.00	12.22	0	0	0	1	0
1900-2000	13	10	0	29	0.00	14.50	0	0	0	1	0
2000-2100	3	3	0	66	0.00	110.00	0	5	0	0	1
2100-2200	8	8	0	52	0.00	32.50	0	3	0	0	1
2200-2300	10	10	0	50	0.00	25.00	0	2	0	1	0
2300-0000	9	10	0	25	0.00	12.50	0	0	0	1	0
0000-0100	40	11	0	16	0.00	7.27	0	0	0	1	0
0100-0200	12	10	0	20	0.00	10.00	0	0	0	1	0
Total	107	71	0	280	0.00	19.72			0	6	2

Dover Rail Station Sunday 18/05/2014 1400-1800

Hour	Rank Throughput		Queue 'Snap-Shot' Total		Service Quality		Queue Extremes		Market Conditions		
	Passengers	Cabs	Passenger Queue	Cab Queue	Average Passenger Delay	Average Cab Delay	Maximum Passenger Queue	Minimum Cab Queue	Excess Demand	Equilibrium	Excess Supply
1400-1500	2	5	0	52	0.00	52.00	0	2	0	1	0
1500-1600	11	9	0	42	0.00	23.33	0	0	0	1	0
1600-1700	0	2	0	50	0.00	125.00	0	4	0	0	1
1700-1800	11	6	0	25	0.00	20.83	0	0	0	1	0
Total	24	22	0	169	0.00	38.41			0	3	1

Deal South Street Tuesday 06/05/2014 1000-1800

Hour	Rank Throughput		Queue 'Snap-Shot' Total		Service Quality		Queue Extremes		Market Conditions		
	Passengers	Cabs	Passenger Queue	Cab Queue	Average Passenger Delay	Average Cab Delay	Maximum Passenger Queue	Minimum Cab Queue	Excess Demand	Equilibrium	Excess Supply
1000-1100	24	43	3	44	0.63	5.12	3	0	1	0	0
1100-1200	21	37	0	47	0.00	6.35	0	2	0	1	0
1200-1300	26	31	0	56	0.00	9.03	0	2	0	1	0
1300-1400	22	22	0	38	0.00	8.64	0	1	0	1	0
1400-1500	17	25	0	15	0.00	3.00	0	0	0	1	0
1500-1600	11	11	0	4	0.00	1.82	0	0	0	1	0
1600-1700	8	20	0	44	0.00	11.00	0	3	0	0	1
1700-1800	7	13	0	50	0.00	19.23	0	2	0	1	0
Total	136	202	3	298	0.11	7.38			1	6	1

Deal South Street Thursday 08/05/2014 1800-0200

Hour	Rank Throughput		Queue 'Snap-Shot' Total		Service Quality		Queue Extremes		Market Conditions		
	Passengers	Cabs	Passenger Queue	Cab Queue	Average Passenger Delay	Average Cab Delay	Maximum Passenger Queue	Minimum Cab Queue	Excess Demand	Equilibrium	Excess Supply
1800-1900	5	17	0	33	0.00	9.71	0	0	0	1	0
1900-2000	0	16	0	43	0.00	13.44	0	0	0	1	0
2000-2100	9	16	0	25	0.00	7.81	0	0	0	1	0
2100-2200	6	16	0	16	0.00	5.00	0	0	0	1	0

2200-2300	5	11	0	46	0.00	20.91	0	1	0	1	0
2300-0000	10	8	0	68	0.00	42.50	0	5	0	0	1
0000-0100	11	10	0	15	0.00	7.50	0	0	0	1	0
0100-0200	19	11	0	11	0.00	5.00	0	0	0	1	0
Total	65	105	0	257	0.00	12.24			0	7	1

Deal South Street Saturday 17/05/2014 1000-1800

Hour	Rank Throughput		Queue 'Snap-Shot' Total		Service Quality		Queue Extremes		Market Conditions		
	Passengers	Cabs	Passenger Queue	Cab Queue	Average Passenger Delay	Average Cab Delay	Maximum Passenger Queue	Minimum Cab Queue	Excess Demand	Equilibrium	Excess Supply
1000-1100	18	17	0	51	0.00	15.00	0	0	0	1	0
1100-1200	25	17	2	55	0.40	16.18	1	0	0	1	0
1200-1300	25	17	0	13	0.00	3.82	0	0	0	1	0
1300-1400	22	20	0	78	0.00	19.50	0	4	0	0	1
1400-1500	27	17	0	63	0.00	18.53	0	2	0	1	0
1500-1600	13	11	0	37	0.00	16.82	0	0	0	1	0
1600-1700	20	14	6	6	1.50	2.14	1	0	0	1	0
1700-1800	15	12	0	22	0.00	9.17	0	0	0	1	0
Total	165	125	8	325	0.24	13.00			0	7	1

Deal South Street Saturday 10/05/2014 1800-0200

Hour	Rank Throughput		Queue 'Snap-Shot' Total		Service Quality		Queue Extremes		Market Conditions		
	Passengers	Cabs	Passenger Queue	Cab Queue	Average Passenger Delay	Average Cab Delay	Maximum Passenger Queue	Minimum Cab Queue	Excess Demand	Equilibrium	Excess Supply
1800-1900	2	15	0	64	0.00	21.33	0	2	0	1	0
1900-2000	12	15	0	28	0.00	9.33	0	1	0	1	0
2000-2100	15	18	0	40	0.00	11.11	0	0	0	1	0
2100-2200	14	14	0	14	0.00	5.00	0	0	0	1	0
2200-2300	23	21	0	15	0.00	3.57	0	0	0	1	0
2300-0000	38	18	0	17	0.00	4.72	0	0	0	1	0
0000-0100	40	22	0	28	0.00	6.36	0	1	0	1	0
0100-0200	68	34	8	28	0.59	4.12	4	0	1	0	0
Total	212	157	8	234	0.19	7.45			1	7	0

Deal South Street Sunday 11/05/2014 1400-1800

Hour	Rank Throughput		Queue 'Snap-Shot' Total		Service Quality		Queue Extremes		Market Conditions		
	Passengers	Cabs	Passenger Queue	Cab Queue	Average Passenger Delay	Average Cab Delay	Maximum Passenger Queue	Minimum Cab Queue	Excess Demand	Equilibrium	Excess Supply
1400-1500	4	10	0	23	0.00	11.50	0	0	0	1	0
1500-1600	5	14	0	37	0.00	13.21	0	0	0	1	0
1600-1700	2	12	0	24	0.00	10.00	0	0	0	1	0
1700-1800	7	15	0	36	0.00	12.00	0	1	0	1	0
Total	18	51	0	120	0.00	11.76			0	4	0

Deal South Street Thursday 15/06/2014 2300-0500

Hour	Rank Throughput		Queue 'Snap-Shot' Total		Service Quality		Queue Extremes		Market Conditions		
	Passengers	Cabs	Passenger Queue	Cab Queue	Average Passenger Delay	Average Cab Delay	Maximum Passenger Queue	Minimum Cab Queue	Excess Demand	Equilibrium	Excess Supply
2100-2200	0	0	0	0	0.00	0.00	0	0	0	1	0
2200-2300	0	0	0	0	0.00	0.00	0	0	0	1	0
2300-0000	0	0	0	0	0.00	0.00	0	0	0	1	0
0000-0100	0	0	0	0	0.00	0.00	0	0	0	1	0
0100-0200	0	0	0	0	0.00	0.00	0	0	0	1	0
Total	0	0	0	0	0.00	0.00			0	5	0

Deal South Street Saturday 14/06/2014 2100-0200

Hour	Rank Throughput		Queue 'Snap-Shot' Total		Service Quality		Queue Extremes		Market Conditions		
	Passengers	Cabs	Passenger Queue	Cab Queue	Average Passenger Delay	Average Cab Delay	Maximum Passenger Queue	Minimum Cab Queue	Excess Demand	Equilibrium	Excess Supply
2100-2200	0	0	0	0	0.00	0.00	0	0	0	1	0
2200-2300	0	0	0	0	0.00	0.00	0	0	0	1	0
2300-0000	0	1	0	1	0.00	5.00	0	0	0	1	0
0000-0100	6	2	0	1	0.00	2.50	0	0	0	1	0
0100-0200	0	0	0	0	0.00	0.00	0	0	0	1	0
Total	6	3	0	2	0.00	3.33			0	5	0

Sandwich Rail Station Wednesday 07/05/2014 1200-1800

Hour	Rank Throughput		Queue 'Snap-Shot' Total		Service Quality		Queue Extremes		Market Conditions		
	Passengers	Cabs	Passenger Queue	Cab Queue	Average Passenger Delay	Average Cab Delay	Maximum Passenger Queue	Minimum Cab Queue	Excess Demand	Equilibrium	Excess Supply
1200-1300	0	1	0	0	0.00	0.00	1	0	0	1	0
1300-1400	0	2	0	3	0.00	7.50	0	0	0	1	0
1400-1500	0	0	0	0	0.00	0.00	0	0	0	1	0
1500-1600	0	0	0	0	0.00	0.00	0	0	0	1	0
1600-1700	0	0	0	0	0.00	0.00	0	0	0	1	0
1700-1800	0	1	0	1	0.00	5.00	0	0	0	1	0
Total	0	4	0	4	0.00	5.00			0	6	0

Sandwich Rail Station Saturday 17/05/2014 1000-1400

Hour	Rank Throughput		Queue 'Snap-Shot' Total		Service Quality		Queue Extremes		Market Conditions		
	Passengers	Cabs	Passenger Queue	Cab Queue	Average Passenger Delay	Average Cab Delay	Maximum Passenger Queue	Minimum Cab Queue	Excess Demand	Equilibrium	Excess Supply
1200-1300	1	1	3	0	15.00	0.00	1	0	0	1	0
1300-1400	0	0	0	0	0.00	0.00	0	0	0	1	0
1400-1500	0	0	0	0	0.00	0.00	0	0	0	1	0
1500-1600	0	1	0	0	0.00	0.00	0	0	0	1	0
Total	1	2	3	0	15.00	0.00			0	4	0

Sandwich Rail Station Sunday 18/05/2014 1200-1600

Hour	Rank Throughput		Queue 'Snap-Shot' Total		Service Quality		Queue Extremes		Market Conditions		
	Passengers	Cabs	Passenger Queue	Cab Queue	Average Passenger Delay	Average Cab Delay	Maximum Passenger Queue	Minimum Cab Queue	Excess Demand	Equilibrium	Excess Supply
1200-1300	0	0	0	0	0.00	0.00	0	0	0	1	0
1300-1400	0	0	0	0	0.00	0.00	0	0	0	1	0
1400-1500	0	0	0	0	0.00	0.00	0	0	0	1	0
1500-1600	0	0	0	0	0.00	0.00	0	0	0	1	0
1600-1700	0	0	0	0	0.00	0.00	0	0	0	1	0
1700-1800	0	0	0	0	0.00	0.00	0	0	0	1	0
Total	0	0	0	0	0.00	0.00			0	6	0