

Taxi Unmet Demand Survey- Dumbarton and Vale of Leven Zone

Prepared for

West
Dunbartonshire
Council

AUGUST 2019



CH2M Hill
Park House
Headingley Office Park
Victoria Road
Leeds



Contents

Section	Page
Introduction.....	1
1.1 General.....	1
Background.....	2
2.1 General.....	2
2.2 Background	2
2.3 Provision of Taxi Stances.....	3
2.4 Taxi Fares and Licence Premiums	3
Definition, Measurement and Removal of Significant Unmet Demand	6
3.1 Introduction	6
3.2 Overview	6
3.3 Defining Significant Unmet Demand	6
3.4 Measuring Patent Significant Unmet Demand	7
3.5 Determining the Number of New Licences Required to Eliminate Significant Unmet Demand.....	9
3.6 Note on Scope of Assessing Significant Unmet Demand	10
Evidence of Patent Unmet Demand – Stance Observation Results	11
4.1 Introduction	11
4.2 The Balance of Supply and Demand	11
4.3 Average Delays and Total Demand.....	12
4.4 The Delay/Demand Profile.....	13
4.5 The General Incidence of Passenger Delay.....	14
Evidence of Suppressed Demand – Public Attitude Pedestrian Survey Results.....	15
5.1 Introduction	15
5.2 General Information	15
5.3 Attempted method of hire.....	18
5.4 Service Provision.....	18
5.5 Ranks.....	19
5.6 Summary	20
Consultation	21
6.1 Introduction	21
6.2 Indirect (Written) Consultation	21
Wheelchair Accessibility.....	24
7.1 Introduction	24
7.2 General Operational Issues.....	24
7.3 Observed Usage	24
7.4 Public Consultation	24
7.5 Stakeholder Consultation	26
7.6 Availability of Accessible Vehicles via Telephone Bookings	26
Deriving the Significant Unmet Demand Index Value.....	28
8.1 Introduction	28
Summary and Conclusions.....	29

Section 1 – Introduction

9.1	Introduction	29
9.2	Significant Unmet Demand	29
9.3	Public Perception	29
9.4	Recommendations	29

Document History

Reference

Number:

Client Name:

West

Dunbartonshire

Council

This document has been issued and amended as follows:

Version	Date	Description	Created By	Verified By	Approved By
1	13.08.18	Draft Report	KD	LR	LR
2	14.11.18	Revised Draft			LR
3	13.03.19	Revised Draft			LR
4	23.05.19	Revised Draft			LR
5	19.08.19	Revised Draft			LR
6	22.08.19	Final Report			LR

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.

This Report is intended for Client's sole and exclusive use and is not for the benefit of any third party and may not be distributed to, disclosed in any form to, used by, or relied upon by, any third party without prior written consent of CH2M, which consent may be withheld in its sole discretion.

Use of this Report or any information contained herein, if by any party other than Client, shall be at the sole risk of such party and shall constitute a release and agreement by such party to defend and indemnify CH2M and its affiliates, officers, employees and subcontractors from and against any liability for direct, indirect, incidental, consequential or special loss or damage or other liability of any nature arising from its use of the Report or reliance upon any of its content. To the maximum extent permitted by law, such release from and indemnification against liability shall apply in contract, tort (including negligence), strict liability, or any other theory of liability."

Introduction

1.1 General

This study has been conducted by CH2M on behalf of West Dunbartonshire Council (WDC). The overall objective is to provide a full survey of demand for taxis in the Dumbarton and Vale of Leven zone 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 the Dumbarton and Vale of Leven zone; 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 allows taxi drivers to apply to their licensing authority for an exemption from Section 165 of the Equality Act 2010. Section 165 imposes a duty on taxi and private hire car drivers with wheelchair accessible vehicles to provide assistance to disabled passengers. These sections were introduced in full in April 2017.

Background

2.1 General

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

2.2 Background

Taxis licensed by West Dunbartonshire Council are licensed according to one of two zones. This report is concerned with the Dumbarton and Vale of Leven zone.

West Dunbartonshire is situated in the West of Scotland. The authority borders the West of Glasgow and contains many of Glasgow's commuter towns and villages. The mid year population estimate for West Dunbartonshire is 89,610.¹ Dumbarton, Leven and Lomond wards had a total population in the 2011 census of 46,817.

West Dunbartonshire Council currently limits the number of taxis it licences. The authority limits the number of taxis in the Dumbarton and Vale of Leven zone at 177 vehicles. Some 5.6% of the fleet is wheelchair accessible. This provides Dumbarton and the Vale of Leven with a taxi provision of around one taxi per 265 resident population. There are 27 private hire vehicles licenced in the Dumbarton and Vale of Leven zone, of which twelve are accessible.

Plate 2.1 depicts the Quay St rank in Dumbarton.

Plate 2.1 Quay St, Dumbarton



¹ National Records of Scotland Mid Year Population estimate 2017

2.3 Provision of Taxi Stances

There are currently 8 official taxi stances located throughout the Dumbarton and Vale of Leven licensing area and two unofficial stances; the locations and times of operation of each of the stances are provided in Appendix 1.

2.4 Taxi Fares and Licence Premiums

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

- Tariff 1– Monday to Sunday, 6am until 9pm;
- Tariff 2 – Monday to Sunday, 9pm until 6am;
- Tariff 3 – 6pm on 24th December to 6am on 27th December and 6pm on 31st December to 6am on 3rd January;
- Tariff 4 – Monday to Sunday, 6am to 9pm (when five or more passengers are being carried);
- Tariff 5 - Monday to Sunday, 9pm until 6am (when five or more passengers are being carried);
- Tariff 6 – Christmas and New Year hours as per Tariff 3 (when five or more passengers are being carried)

The standard charge tariff is made up of two elements: an initial fee (or ‘drop’) of £2.50 (Tariff 1) for entering the vehicle, and a fixed price addition of 10p per varying increment, 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 Glasgow Airport drop off or pick ups and waiting time. A standard two-mile daytime fare undertaken by one individual would therefore be £5.40. The tariffs are outlined in detail in the fare card in Figure 2.1 below.

Figure 2.1 – Farecard for Dumbarton and Vale of Leven zone. The values were set February 2019

WEST DUNBARTONSHIRE COUNCIL		
Civic Government (Scotland) Act 1982		
Fare Chart (Effective from 20 February 2019)		
<u>DUMBARTON AND VALE OF LEVEN ZONE</u>		
Tariff One	For a distance not exceeding	
6.00am to 9.00pm Monday to Sunday	½ OF A MILE.....	£2.50
	For each additional 1/19th mile.....	£0.10
Tariff Two	For a distance not exceeding	
9.00pm to 6.00am Monday to Sunday	½ OF A MILE.....	£3.00
	For each additional 1/21st mile.....	£0.10
Tariff Three	For a distance not exceeding	
6.00pm on 24th December to	½ OF A MILE.....	£4.10
6.00am on 27th December and	For each additional 1/25th mile.....	£0.10
6.00pm on 31st December to		
6.00am on 3rd January		
Tariff Four	For a distance not exceeding	
6.00am to 9.00pm Monday to Sunday	½ OF A MILE.....	£3.10
(Only applicable when five or more	For each additional 1/23rd mile.....	£0.10
passengers are being carried)		
Tariff Five	For a distance not exceeding	
9.00pm to 6.00am Monday to Sunday	½ OF A MILE.....	£3.60
(Only applicable when five or more	For each additional 1/25th mile.....	£0.10
passengers are being carried)		
Tariff Six	For a distance not exceeding	
Christmas and New Year hours	½ OF A MILE.....	£5.40
as per Tariff Three	For each additional 1/31st mile.....	£0.10
(Only applicable when five or more		
passengers are being carried)		
Any hire terminating out with the West Dunbartonshire area will be at a rate to be agreed at the time of hire.		
Extra Charges		
Taxi drivers may add on any charge incurred at Glasgow Airport when either dropping off or picking up passengers. Drivers must make passengers aware in advance that extra charges may be added to the fare.		
Fares for Waiting		
The Driver is, in addition to the above, entitled to charge for waiting whether in one stoppage or in several stoppages as follows:		
For each period of TWENTY SECONDS or part thereof£0.10 (All Tariffs)		
Soiling Fee		
A fee of £50 is chargeable for any soiling which necessitates a taxi being removed from service for cleaning. Soiling in this context includes any soiling by means of food, drink, vomit, urine or excrement.		

The Private Hire and Taxi Monthly magazine publish monthly league tables of the fares for 362 authorities over a two-mile journey (Appendix 2). Each journey is ranked with one being the most expensive. The May 2019 table shows Dumbarton and Vale of Leven zone rated 270th in the table, indicating that Dumbarton and Vale of Leven has lower than average fares. Table 2.1 provides a comparison of where a selection of neighbouring authorities in Scotland, rank in terms of fares, showing that fares in Dumbarton zone are low in comparison to neighbouring authorities.

Section 2 – Background

Table 2.1 - Comparison of neighbouring authorities in terms of fares (Source Private Hire and Taxi Monthly, May 2019)

Local Authority	Rank
Glasgow	70
Argyll and Bute	101
Dumbarton zone	270
East Dunbartonshire	283
Clydebank zone	303

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 stance observation data. Suppressed (or latent) demand is assessed using data from the stance 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 taxi provision requires that surveys of demand be carried out. Results based on observations of activity at taxi stances 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 stances 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 stances. 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 stance on service quality; and
- The need for consistent treatment of different authorities, and the same authority over time.

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

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

Where:

APD =	Average Passenger Delay calculated across the entire week in minutes.
PF =	Peaking Factor. If passenger demand is highly peaked at night, the factor takes the value of 0.5. If it is not peaked the value is 1. Following case law this provides dispensation for the effects of peaked demand on the ability of the Trade to meet that demand. To identify high peaking we are generally looking for demand at night (at weekends) to be substantially higher than demand at other times.
GID =	General Incidence of Delay. This is measured as the proportion of passengers who travel in hours where the delay exceeds one minute.
SSP =	Steady State Performance. The corollary of providing dispensation during the peaks in demand is that it is necessary to focus on performance during "normal" hours. This is measured by the proportion of hours during weekday daytimes when the market exhibits excess demand conditions (i.e. passenger queues form at stances).
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 stance 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 stance 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 over 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.

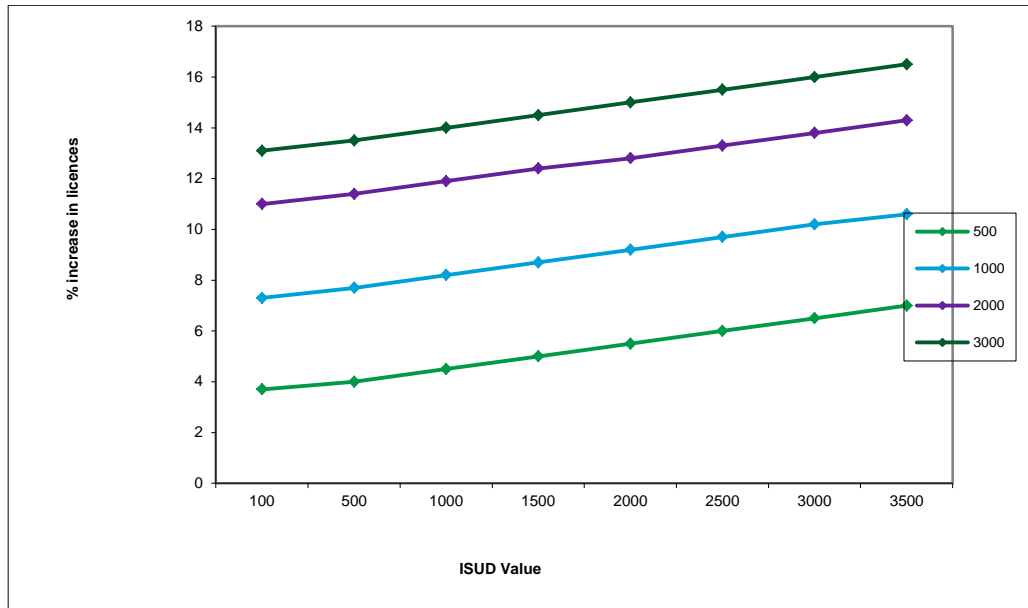
SUDSIM represents a synthesis of a queue simulation work that was previously used (1989 to 2002) to predict the alleviation of significant unmet demand and the ISUD factor described above (hence the term SUDSIM). The benefit of this approach is that it provides a direct relationship between the scale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

New Licences = SUDSIM x Latent Demand Factor

Where:

Latent Demand Factor = (1 + proportion giving up waiting for a taxi at either a stance 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* 1989². 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.

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

Evidence of Patent Unmet Demand – Stance Observation Results

4.1 Introduction

This section of the report highlights the results of the stance observation survey. The stance observation program covered a period of 98 hours during March to May 2018. Some 5,781 passengers and 5,597 departures were recorded across six selected stances. A summary of the stance observation programme is provided in Appendix 3.

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 2% of the hours observed while excess demand (queues of passengers) was experienced 14% of the hours observed. Conditions are generally favourable to customers at all times of the day. The situation observed was worse to that in 2013 with regard to excess demand.

Table 4.1 – The balance of supply and demand in the Dumbarton and Vale of Leven stance-based taxi market (percentage of hours observed)

Period		Excess Demand (Max Passenger Queue ≥ 3)	Equilibrium	Excess Supply (Min Cab Queue ≥ 3)
Weekday	Day	8	92	0
	Night	0	100	0
Weekend	Day	30	70	0
	Night	27	73	0
Sunday	Day	0	88	12
Total 2018		13	84	2
Total 2013		2	81	17

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

4.3 Average Delays and Total Demand

The following estimates of average delays and throughput were produced for each selected stance in Dumbarton and Vale of Leven (Table 4.2).

The survey suggests some 5,942 passenger departures occur per week from stances in Dumbarton and Vale of Leven involving some 5,768 cab departures. The taxi trade is concentrated at the Quayside rank accounting for 40% of the total passenger departures. On average cabs wait 9.88 minutes for a passenger. On average passengers wait 0.42 minutes for a cab.

Since the previous study in 2013 passenger demand has increased and passenger delay has slightly increased.

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

Stance	Passenger Departures	Cab Departures	Average Passenger Delay in Minutes	Average Cab Delay in Minutes
Quay Street	2,382	2,093	0.44	6.91
ASDA St James	2,014	1,292	0.28	9.70
Morrisons	857	689	0.51	9.80
Glasgow Road	216	274	2.08	5.46
Main Street, Alexandria	88	549	0.00	12.40
Balloch Rail Station	386	872	0.00	17.11
Total 2018	5,942	5,768	0.42	9.88
Total 2013	4,836	4,353	0.08	18.87

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 02:00.

Figure 4.1 Passenger Demand by Time of Day in 2018 (Monday to Saturday)



The profile of demand shows that demand is higher during the day with it peaking at 1600. Demand on a night time is much lower.

Figure 4.2 Passenger Delay by Time of Day in 2018 (Monday to Saturday)

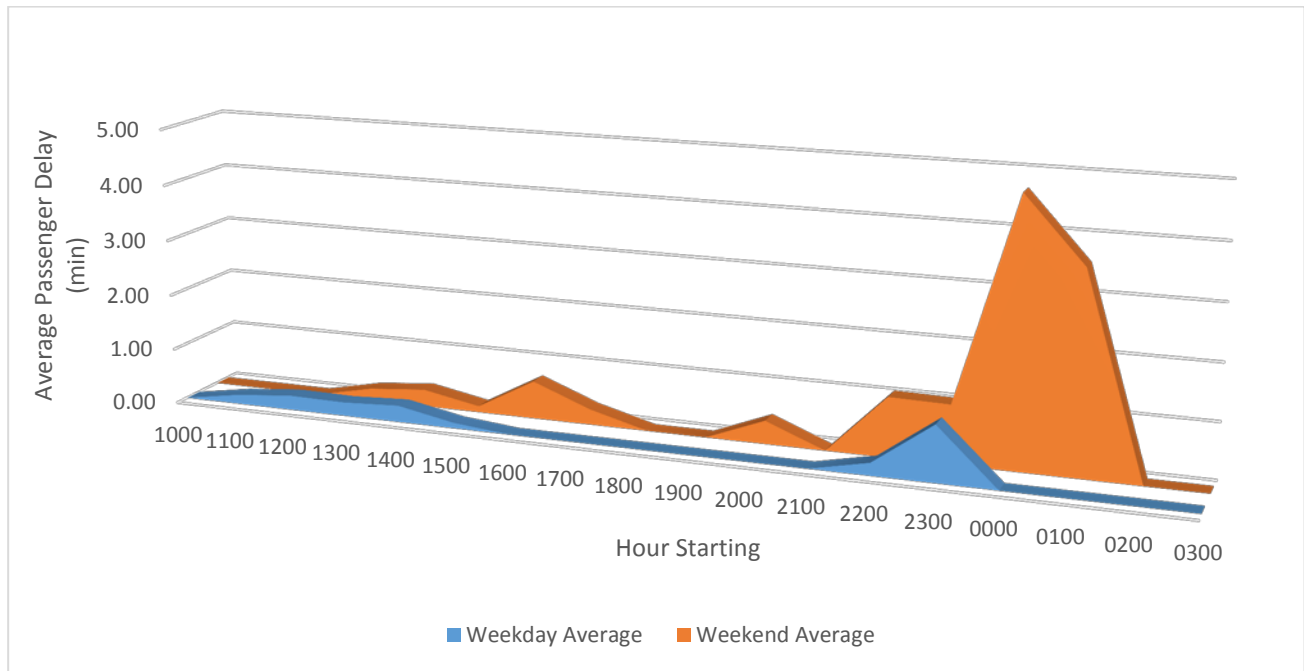


Figure 4.2 provides an illustration of passenger delay by the time of day for the weekday and weekend periods. It shows that delay peaks on weekdays between 2200 and 2300, and between midnight and 0200 on weekends.

4.5 The General Incidence of Passenger Delay

The stance observations data can be used to provide a simple assessment of the likelihood of passengers encountering delay at stances. 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
2018	10.49	3.67	0.15
2013	3.04	0.97	0.02

In 2018, 3.67% of passengers are likely to experience more than a minute of delay. It is this proportion (3.67%) that is used within the ISUD as the 'Generality of Passenger Delay'. This is higher than was observed in 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 Dumbarton and Vale of Leven. In particular, the survey allowed an assessment of flagdown, telephone and stance delays, the satisfaction with delays and general use information.

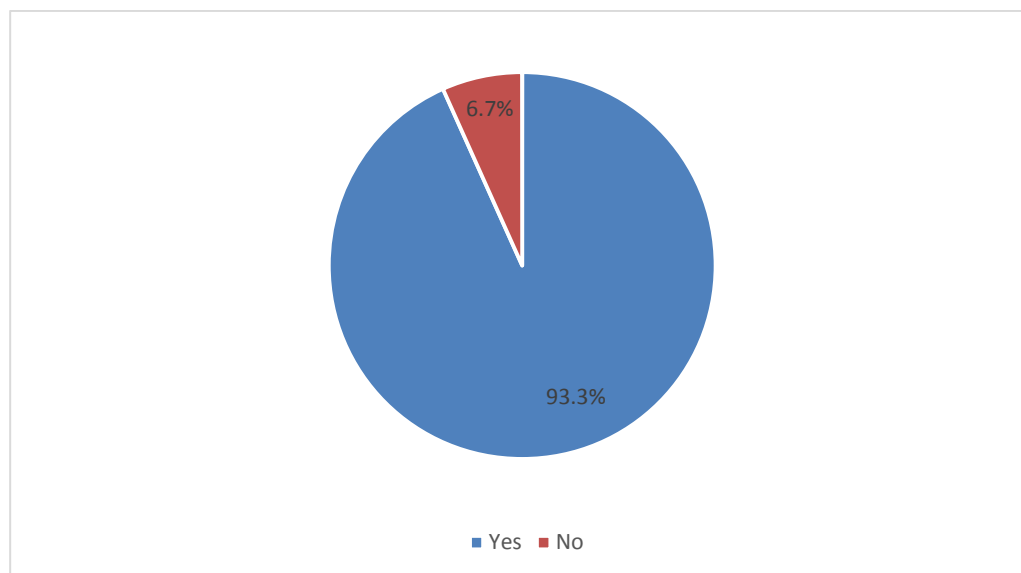
The survey was hosted online and promoted via West Dunbartonshire Council's website and the link was emailed to a range of stakeholders. Some 207 people responded to the on-line survey, however as 26 stated that they were members of the taxi or private hire trade their responses were discounted.

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

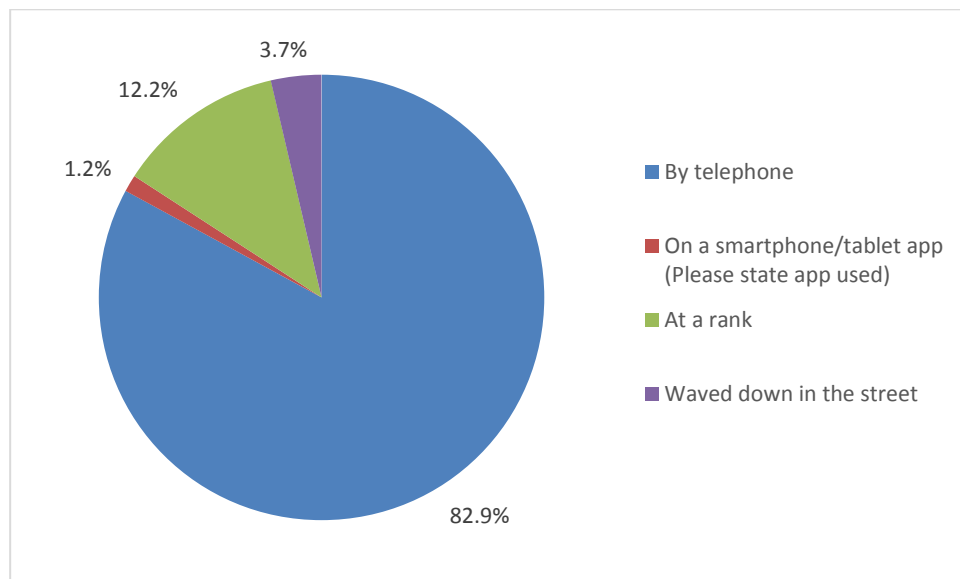
Respondents were asked whether they had made a trip by taxi in the past three months. Figure 5.1 shows that 93.3% of the 179 people answering the question had made a trip by taxi in the last three months.

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



Trip makers were asked how they obtained their taxi or private hire vehicle. Of those providing a response, some 82.9% of trip makers stated that they hired their taxi by telephone while 12.2% obtained a taxi at a rank. Some 1.2% of respondents stated that they hired their vehicle by an 'app'. 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 73.2% were saloon vehicles and 22% were wheelchair accessible. They were then asked if they were satisfied with the time taken and the promptness of the vehicles arrival. When considering all hiring's, the majority of customers (85.4%) were satisfied with their last taxi journey.

Respondents were also asked at what time of the day they obtained their taxi and on what day of the week it was. Figure 5.3 indicates that 42.7% took a taxi in the daytime between 6am and 6pm, followed by 37.2% during the evening (6pm – 10pm) and 20.1% during the night (after 10pm). Figure 5.4 shows what day of the week respondents obtained a taxi, which indicates that a Saturday was the most popular day of the week with 34.8% respondents indicating this.

Figure 5.3 – Time of day respondents obtained a taxi

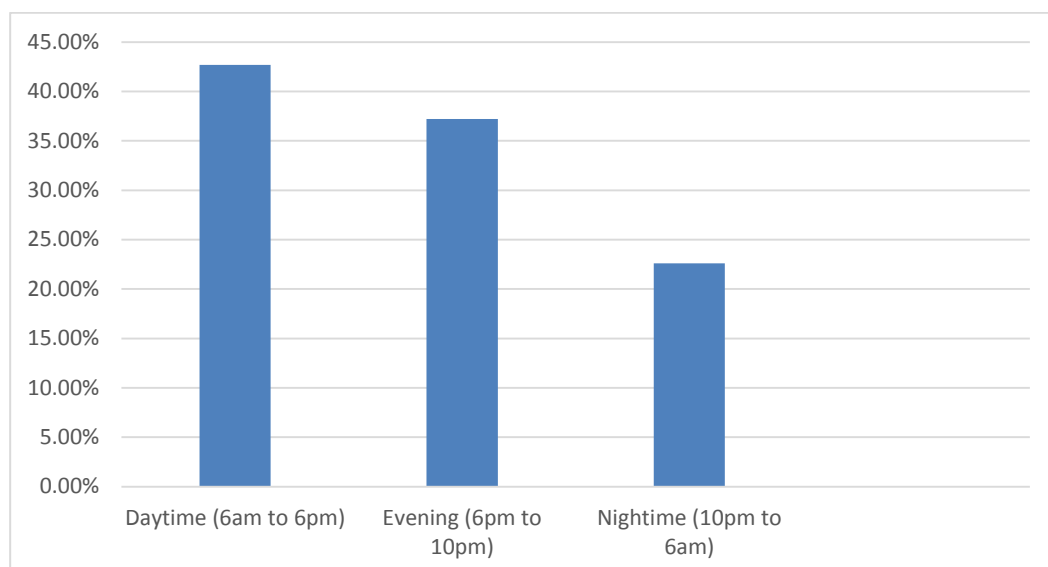
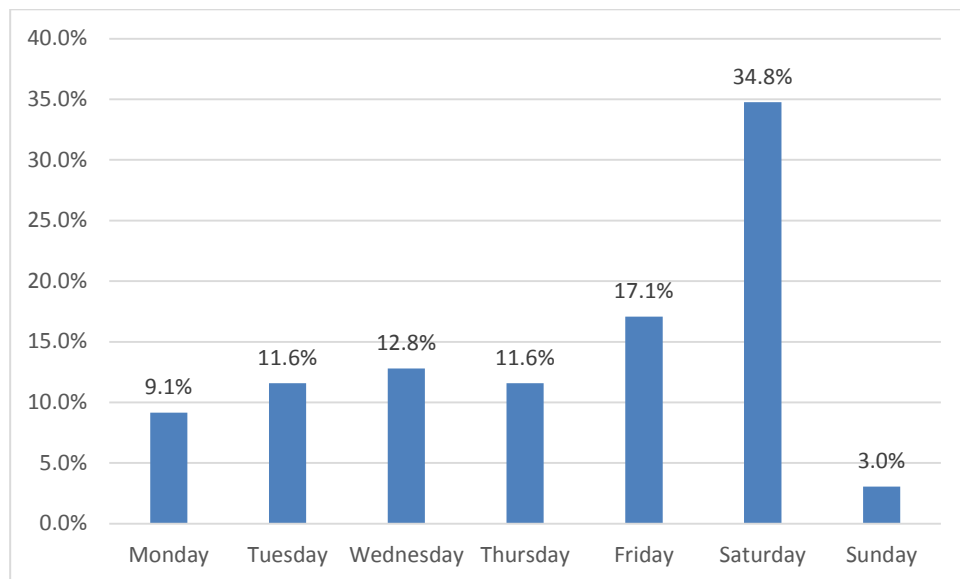


Figure 5.3 – Day of the week respondents obtained a taxi



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 most elements were generally good, apart from price which was average. When poor ratings were given respondents were asked to provide a reason for their rating. Negative ratings included reasons such as:

- Taxis overpriced
- Taxi turned up early and then didn't return
- Need more wheelchair accessible vehicles
- Taxi paid for by a third party otherwise I couldn't have afforded it
- Taxis more expensive than Clydebank
- Vehicle was like a van

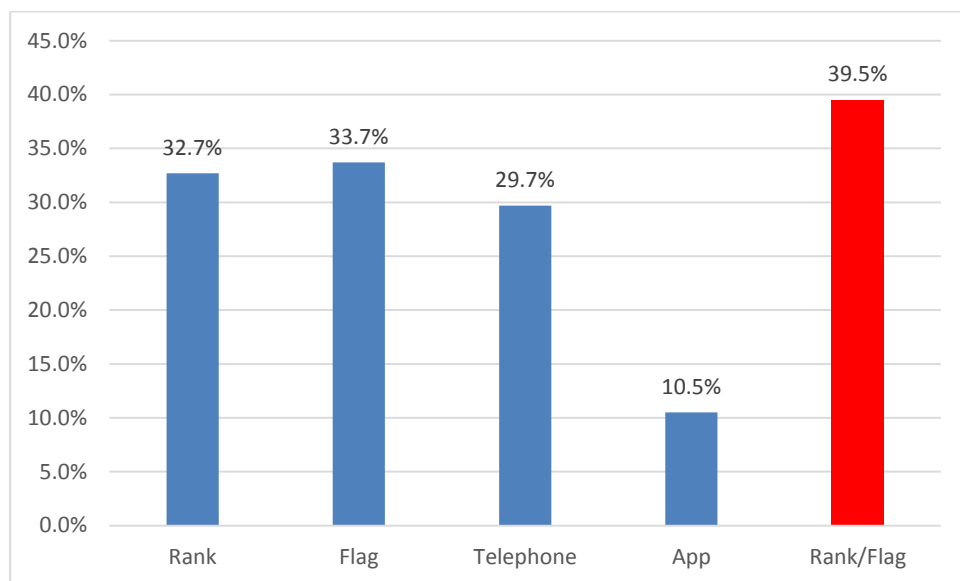
Figure 5.4 – Rating of last journey



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 at a rank, on the street, or by telephone in Dumbarton and the Vale of Leven in the last three months. The results are summarised in Figure 5.5. This indicates that most people gave up waiting for a taxi by flagdown or on the street followed by at a rank.

Figure 5.5 – Latent demand by method of hire – Given up trying to book a taxi?



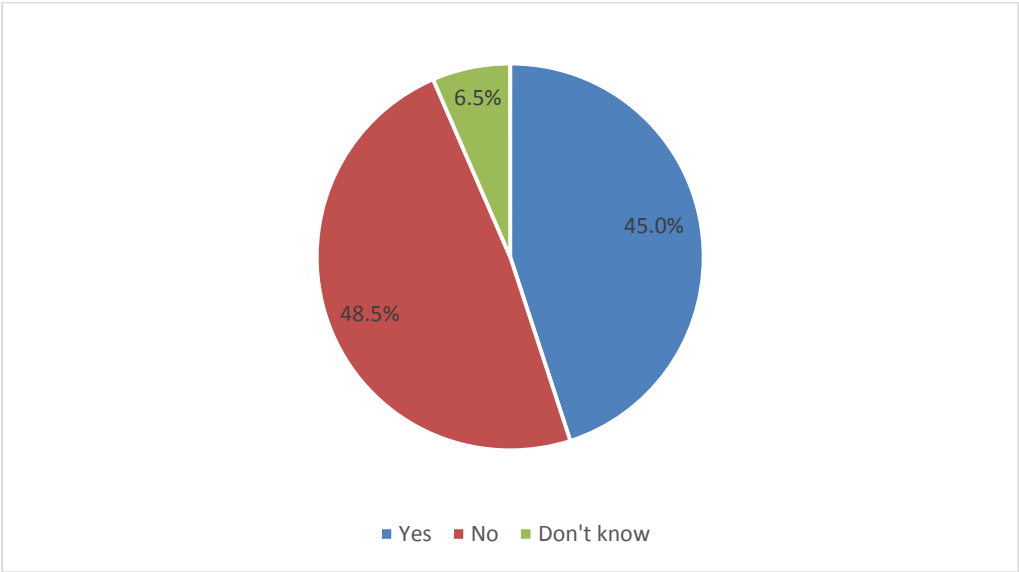
This has implications for the interpretation of the results (see Chapter 8 below).

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. A wide range of locations were given covering all areas of the Dumbarton and Leven zone.

5.4 Service Provision

Participants were subsequently asked whether they feel there are enough taxis in Dumbarton and the Vale of Leven at the current time. Some 48.5% commented that there are not sufficient taxis in Dumbarton and the Vale of Leven (see Figure 5.6).

Figure 5.6 – Do you think there are enough taxis in Dumbarton and Vale of Leven to suit your needs?



Respondents were then asked if they thought there were sufficient wheelchair accessible vehicles in the Dumbarton and Vale of Leven zone. Some 65.9% of respondents considered there to be insufficient wheelchair accessible vehicles.

The survey then asked respondents whether taxi services in Dumbarton and Vale of Leven could be improved. Some 64.3% felt that they could be improved while 13.7% thought no improvements were needed. Respondents were then asked to suggest what could be done to improve the services, with a variety of suggestions made. Most popular suggestions included:

- Cleaner vehicles;
- More wheelchair taxis required, especially at night;
- Make all taxis wheelchair accessible;
- Be able to pay by card
- Answer calls quicker;
- Cheaper fares;
- More taxis with higher seats;
- All wheelchair accessible vehicles are on school runs; and
- Taxis to park in the correct place and not block disabled spaces.

5.5 Ranks

Respondents were asked if they felt there was sufficient provision of taxi ranks in Dumbarton and Vale of Leven. Some 67.1% of respondents were not satisfied with the provision of ranks. Suggested improvements from respondents who answered 'no' are listed in Table 5.1.

Table 5.1 – Suggested improvements for taxi ranks in Dumbarton and Vale of Leven

Suggested Improvement	No. of Responses
-----------------------	------------------

Suggested Improvement	No. of Responses
Provide information on location of existing ranks	13
Provide new ranks	11
Improve signage of existing ranks	16
Other – more wheelchair accessible taxis and provision of subsidised taxi fares	5

Respondents were asked if there were any locations where new ranks were needed. A total of 36.7% said that no new ranks were needed whilst 50.9% stated they did not know. The remaining 12.4% of respondents who stated that they would like to see new ranks were asked to provide a location. Locations cited included:

- Renton;
- Away from the pub on the High St;
- Bellsmyre;
- Dumbarton Retail Park;
- Daleroch train station; and
- Old Bonhill.

5.6 Summary

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

- Majority of respondents hired their vehicle by telephone (82.9%);
- High levels of satisfaction with last taxi trip made (85.4%)
- Some 39.5% of people had given up trying to obtain a taxi at a rank or by flagdown;
- Some 64.3% of people felt that taxi services could be improved – more taxis provided at a cheaper price, more wheelchair accessible vehicles and comments about the drivers; and
- Some 12.4% of people believe that new ranks are needed in specific locations.

Consultation

6.1 Introduction

Guidelines issued 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 (including 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 Dumbarton and the Vale of Leven, written consultation was undertaken. In addition to the written consultation CH2M attended a meeting of the trade forum via video link. Key points from this were:

- Sufficient number of vehicles across both zones and a desire to maintain the current limitation policy;
- Views by some that the WAV policy is a 'waste of money'. It was considered that there is not enough demand for the cost of investing in a 100% WAV fleet. The cost of WAV taxis is very expensive;
- There has been a significant improvement in the quality of vehicles in recent years;
- There are low levels of complaints across the trade
- A recent review was undertaken of taxi ranks but the Council rejected those put forward by the trade. The Trade are concerned about the up keep of ranks. Some have no road markings and are poorly maintained;
- It was felt that more taxis rank up in Clydebank, than in the Dumbarton zone.

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:

- Trade representatives and members of the taxi forum;
- 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:

Wrights Taxis

A representative from Wrights taxis made contact by telephone and raised the following points:

- Want to see more Wheelchair Accessible Vehicles;
- Submitted a proposal to WDC to issue 10 new plates but only for WAVs in the Dumbarton zone – these should be non-transferable and restricted to a booking office
- Demand for WAVs is increasing

Wrights Taxis then submitted a further written response.

The representative considered that additional WAVs are required in Alexandria and Dumbarton – this is because they feel that there is insufficient inclusion of the rights of elderly and disabled travellers in West Dunbartonshire.

Mr Elder- Woodward

A further written response was received by a Mr Elder – Woodward. He stated in his response that he was concerned about the numerical limit on taxis because it restricted the number of wheelchair accessible taxis available to wheelchair users. His view is that all taxis should be wheelchair accessible. He feels that the current policy is discriminatory.

West Dunbartonshire Access Panel

The panel considered that there are sufficient taxis across both zones, however it is dependent on the types of vehicles available at specific times. It was noted that the wheelchair accessible vehicles are used at school pick up and drop off times and therefore not available to disabled users at these times.

The restriction of licenses is fine, however, as there are only 14 wheelchair accessible taxis available in the Dumbarton zone, these need to be increased to allow disabled people to access them at any time.

There is a problem in obtaining accessible taxis in the evenings in the Dumbarton / Vale of Leven zone. This is less problematic in Clydebank as all taxis are accessible.

The panel feel that additional wheelchair accessible taxis are required in Dumbarton. Some members of the panel stated that they did not wish to use 7 or 8-seater vehicles as some have high 'lip door' entries and are not easy to get in or out of.

It was noted that it can be problematic to pre-book wheelchair accessible vehicles in some areas between 8am and 10am and 3pm to 5pm due to accessible vehicles being used for airport/school runs.

At other times some panel members have phoned and been advised they don't have any accessible cars working at the moment or cannot guarantee when they will be available as they are self-employed and the taxi companies cannot force the drivers to come into work.

The panel also noted that when members phoned asking for a wheelchair accessible taxi, they have been asked if they have a wheelchair.

With regard to the image of the taxi trade, it was felt that vehicles should be fit for purpose. The panel wished to see a mix of wheelchair accessible taxis and saloon cabs, which would suit everybody.

It was suggested that some drivers require training on being polite and helpful – for example, assisting to get bags in or out of the vehicle, also helping people to their front doors. It was also suggested that drivers should wear polo shirts or t shirts with the company's logo and name, which would make drivers look more professional and raise the image of the trade.

The panel also wished to see 'practical' disability awareness training. This training should cover both obvious disabilities and hidden disabilities. This could be carried out bi-annually to ensure all taxi drivers have the opportunity to attend. The Access Panel offered their help in this regard.

With regard to taxi stances the panel considered that they should be on the left-hand side of the road only, to ensure the ramp can be available to allow wheelchair users to access the cabs. It was also suggested that having a selection of raised and lower pavements would be of use.

The panel suggested that clarification should be made to both service users and taxi drivers that the meter should start when they are actually in the cab and ready to move off.

It was considered that publicity about taxi services needs to be improved as a lot of disabled people do not know when and if wheelchair accessible cabs are available. As this has been extremely problematic in Dumbarton and the Vale of Leven, some panel members do not even attempt to phone for a vehicle.

It was also suggested that West Dunbartonshire Council should advertise how service users / members of the public, can make complaints if they experience problems with taxis..

Wheelchair Accessibility

7.1 Introduction

An assessment of the level of demand for disabled accessible vehicles has been carried out in the Dumbarton and Vale of Leven zone. This includes an assessment of observed wheelchair usage along with an evaluation of the availability of wheelchair accessible vehicles for telephone booking.

7.2 General Operational Issues

West Dunbartonshire Council currently licence 10 wheelchair accessible taxis in the Dumbarton/Vale of Leven zone. This equates to 5.6% of the taxi fleet. There are also 12 wheelchair accessible private hire vehicles licensed, equating to 44.4% of the private hire fleet.

7.3 Observed Usage

During the rank observation programme, no wheelchair users were observed hiring a taxi from a rank. This suggests that there is not a significant demand for wheelchair accessible vehicles from ranks in Dumbarton zone. However, this may be a function of the low numbers of accessible vehicles serving the ranks. This is supported through the consultation responses which indicate customers requiring wheelchair accessible vehicles tend to prebook.

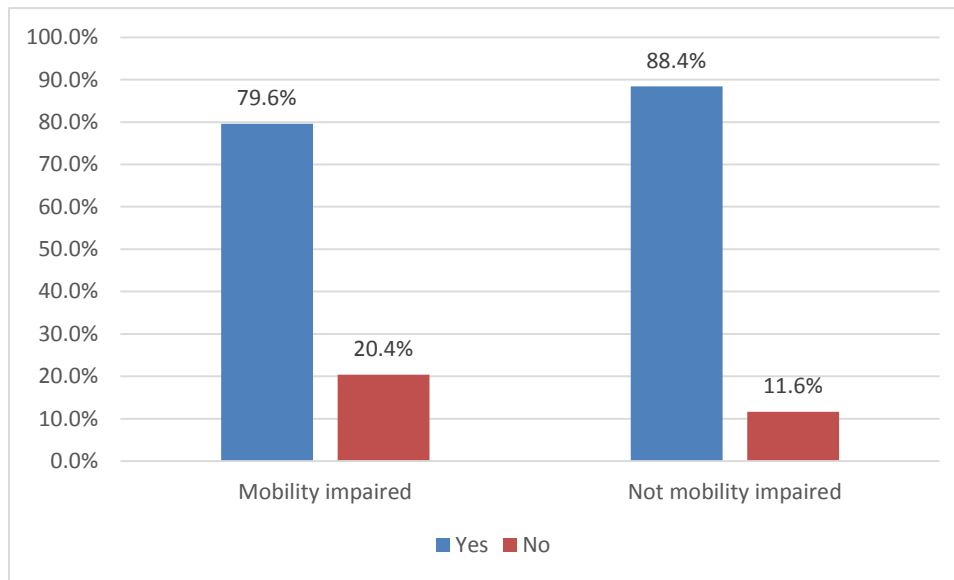
7.4 Public Consultation

Some 179 on-line public interview surveys were carried out during May 2018. Of these respondents 42 (23.5%) considered themselves to have a mobility impairment and 18 (42.9%) of these respondents used a wheelchair.

Of those mobility impaired respondents 41 (97.6%) had used a taxi in the last three months. Some 38 (92.7%) booked their vehicle by telephone, 2 obtained their vehicle at a rank and 1 person obtained a vehicle by flagdown.

When asked if they were satisfied with the time taken and the promptness of the taxis arrival 20.4% of those citing a mobility impairment were not satisfied with the level of delay. This compares to 12.2% of those without a mobility impairment. On average those with a mobility impairment were less satisfied than respondents as a whole.

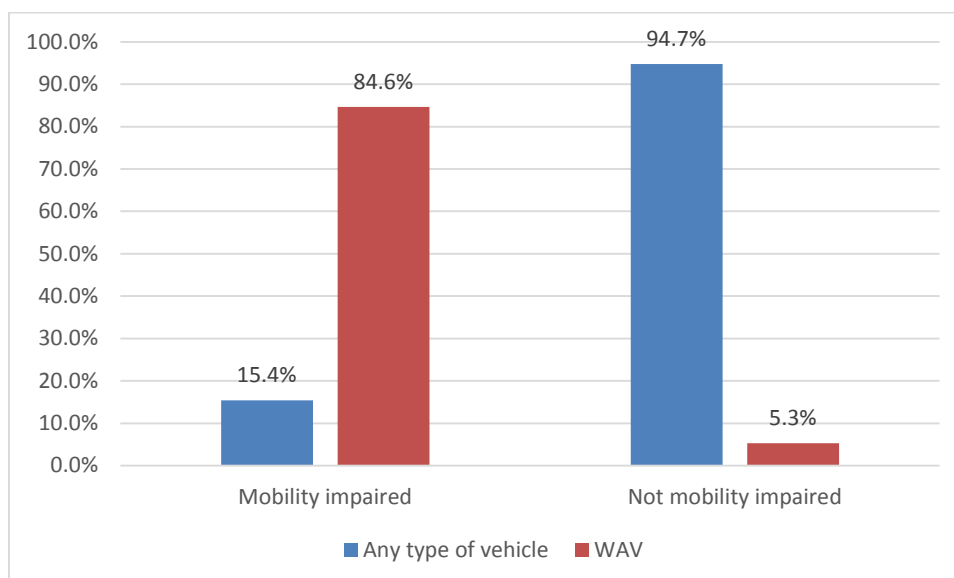
Figure 7.1 Satisfaction with delay on last trip



To provide evidence relating to suppressed demand in the event of finding significant patent unmet demand, 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 Dumbarton/Vale of Leven zone in the last three months. Of those citing mobility impairment 14 (33.3%) respondents had given up waiting for a taxi at a rank and 11 respondents (26.2%) had given up trying to obtain a vehicle by flagdown. Some 13 (31%) respondents had given up by telephone – this compares to 27.3% for telephone cited by respondents without a mobility impairment.

Those who gave up waiting were asked for the type of vehicle they wanted. As shown in Figure 7.2 84.6% (11) of those with a mobility impairment who gave up waiting for a vehicle required a Wheelchair Accessible Vehicle.

Figure 7.2 Which type of vehicle did you require?



7.5 Stakeholder Consultation

As detailed in Chapter 6, a representative from Wrights taxis made contact by telephone and raised the following points:

- Want to see more Wheelchair Accessible Vehicles;
- Submitted a proposal to WDC to issue 10 new plates but only for WAVs in the Dumbarton zone – these should be non-transferable and restricted to a booking office;
- Demand for WAVs is increasing

A further written response was received by a Mr Elder – Woodward. He stated in his response that he was concerned about the numerical limit on taxis because it restricted the number of wheelchair accessible taxis available to wheelchair users. His view is that all taxis should be wheelchair accessible.

The Access Panel felt that there were not enough wheelchair accessible vehicles in the Dumbarton and Vale of Leven zone.

7.6 Availability of Accessible Vehicles via Telephone Bookings

A telephone based mystery shopper survey was carried out to determine the difference between average waiting times for an accessible vehicle in comparison to a standard vehicle.

Some 36 enquiries were undertaken with booking offices within the Dumbarton and Vale of Leven licensing zone. Half of enquiries made asked for an estimate of waiting times for any type of vehicle, and the other half asked for an estimate of waiting times for an accessible vehicle. Table 7.1 summarises the results.

Table 7.1 Waiting Times for accessible and standard vehicles (minutes)

	Minimum Wait time	Maximum Wait Time	Average Wait time
Standard Vehicle	5	10	5.5
Wheelchair Accessible Vehicle	5	80	19.1

The results indicated that when booking a taxi via the telephone, passengers experience a difference in waiting time for an accessible vehicle than they do for a standard vehicle. The waiting time for a wheelchair accessible vehicle is greater than the waiting time reported for a standard vehicle. Average waiting times for a WAV were significantly greater at school start and finish times and in one instance the operator said that no cars are available at these times.

Given that, at the time of the surveys, the number of accessible vehicles within the entire hackney and private hire fleet was 22 (12 taxis and 10 private hire vehicles) the following formula provides an estimate of the number of accessible vehicle required to eliminate this discrepancy in waiting times:

$$Q_2 = \frac{D_1}{D_2} \times Q_1$$

- Where D_1 is the delay for accessible vehicles;

- D_2 is the delay for any vehicle;
- Q_1 is the current number of accessible vehicles in the entire fleet (taxis plus private hire cars).
- Q_2 is the required number of accessible vehicles to eliminate unmet demand.

$$Q_2 = \frac{19.1 \times 22}{5.5}$$

The formula indicates that an additional 54 accessible vehicles, linked to a radio circuit, would be required to eliminate the discrepancy in telephone booking waiting times between accessible and non accessible vehicles. It should be noted that this demand for additional vehicles is private hire demand and therefore not relevant to the issue of significant unmet demand. This value is also high due to there being few wheelchair accessible vehicles in the fleet. It is also the case that the requirement of additional accessible vehicles is not necessarily a requirement for more licensed vehicles. The discrepancy in waiting times could be alleviated by replacing standard vehicles with accessible vehicles or connecting the current accessible vehicles to radio circuits. Nevertheless, it remains the case that it is possible to improve the level of service to disabled people via increasing the number of accessible vehicles available significantly.

Deriving the Significant Unmet Demand Index Value

8.1 Introduction

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

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

Average Passenger Delay (Table 4.2)	0.42
Peak Factor (Figure 4.2)	0.5
General Incidence of Delay (Table 4.3)	3.67
Steady State Performance (Table 4.1)	8
Seasonality Factor (Section 3)	1
Latent Demand Factor (Section 5)	1.395
ISUD (0.42*0.5*3.67*8*1*1.395)	9

The cut off level for a significant unmet demand is 80. It is clear that Dumbarton/Vale of Leven is well below this cut off point as the ISUD is 9, indicating that there is **NO significant unmet demand**. This conclusion covers both patent and latent/suppressed demand.

Summary and Conclusions

9.1 Introduction

CH2M has conducted a study of the taxi market on behalf of West Dunbartonshire 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 Dumbarton and Vale of Leven zone 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 2018 study has identified that there is NO evidence of significant unmet demand for taxis in Dumbarton/Vale of Leven. 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 from the results that demand for taxi services has increased since the last survey in 2013, but that people are well served by the trade given that passenger delay has only marginally increased since the last survey.

9.3 Public Perception

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

- Majority of respondents hired their vehicle by telephone (82.9%);
- High levels of satisfaction with last taxi trip made (85.4%)
- Some 39.5% of people had given up trying to obtain a taxi at a rank or by flagdown;
- Some 64.3% of people felt that taxi services could be improved – more taxis provided at a cheaper price, more wheelchair accessible vehicles and comments about the drivers; and
- Some 12.4% of people believe that new ranks are needed in specific locations.

9.4 Recommendations

Following the study it is clear that there is NO evidence of significant demand in Dumbarton/Vale of Leven. 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.

However, the consultation did identify an issue with the prebooking of wheelchair accessible vehicles. To address this issue, should the authority wish to issue any additional plates these should be for wheelchair accessible vehicles, but they would need to be working on a radio circuit to allow people to prebook them.

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

- Maintain the current limit of 177 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.