

TACTRAN Rail Use Surveys

TACTRAN

Rail Use Surveys Report – Final





TACTRAN RAIL USE SURVEYS REPORT – FINAL DRAFT

Description: **Rail Use Survey Report**

Date: **27 May 2009**

Project Manager: **Graeme Low**

Project Director: **Bob Nicol**

SIAS Limited
13 Rose Terrace
Perth PH1 5HA
UK

tel: 01738 621377
fax: 01738 632887
perth@sias.com
www.sias.com



SIAS Limited
13 Rose Terrace
Perth PH1 5HA
UK

tel: 01738 621377
fax: 01738 632887
perth@sias.com
www.sias.com



TACTRAN RAIL USE SURVEYS REPORT – FINAL DRAFT

CONTENTS :

	Page
1 INTRODUCTION	1
2 DESCRIPTION OF STATIONS	3
2.1 Introduction	3
2.2 Arbroath Rail Station	4
2.3 Balmossie Rail Station	5
2.4 Barry Links Rail Station	5
2.5 Blair Atholl Rail Station	5
2.6 Bridge of Allan Rail Station	5
2.7 Broughty Ferry Rail Station	6
2.8 Carnoustie Rail Station	6
2.9 Crianlarich Rail Station	7
2.10 Dunblane Rail Station	7
2.11 Dundee Rail Station	7
2.12 Dunkeld & Birnam Rail Station	8
2.13 Gleneagles Rail Station	8
2.14 Golf Street Rail Station	9
2.15 Invergowrie Rail Station	9
2.16 Monifieth Rail Station	9
2.17 Montrose Rail Station	10
2.18 Perth Rail Station	10
2.19 Pitlochry Rail Station	11
2.20 Rannoch Rail Station	11
2.21 Stirling Rail Station	12
2.22 Tyndrum Lower Rail Station	12
2.23 Upper Tyndrum Rail Station	12
3 SURVEY DETAILS	15
4 DATA CAPTURE METHODOLOGY	17
4.1 Face-to-Face Surveys	17
4.2 Passenger Counts	17
4.3 Car Park Surveys	18
5 RAIL PASSENGER SURVEYS	19
5.1 Introduction	19
5.2 Arbroath Rail Station	19
5.3 Balmossie Rail Station	27
5.4 Barry Links Rail Station	27
5.5 Blair Atholl Rail Station	28
5.6 Bridge of Allan Rail Station	28



5.7	Broughty Ferry Rail Station	35
5.8	Carnoustie Rail Station	35
5.9	Crianlarich Rail Station	43
5.10	Dunblane Rail Station	43
5.11	Dundee Rail Station	51
5.12	Dunkeld and Birnam Rail Station	59
5.13	Gleneagles Rail Station	60
5.14	Golf Street Rail Station	60
5.15	Invergowrie Rail Station	60
5.16	Monifieth Rail Station	60
5.17	Montrose Rail Station	60
5.18	Perth Rail Station	68
5.19	Pitlochry Rail Station	76
5.20	Stirling Rail Station	77
5.21	Rannoch Rail Station	84
5.22	Tyndrum Lower Rail Station	84
5.23	Upper Tyndrum Rail Station	85
5.24	Summary	85
6	DATA ANALYSIS TO SUPPORT NETWORK RAIL'S PARKING STRATEGY	87
6.1	Introduction	87
6.2	Family 1 – Gleneagles, Dunblane, Bridge of Allan, Stirling	88
6.3	Family 2 – Montrose, Arbroath	109
6.4	Summary	123
7	SUMMARY AND RECOMMENDATIONS	125
7.1	Summary	125
7.2	Recommendations	125
A	PASSENGER AND PARKING SURVEY DATA	127
B	FACE-TO-FACE QUESTIONNAIRE	129



TACTRAN RAIL USE SURVEYS REPORT – FINAL DRAFT

FIGURES :

	Page
Figure 2.1 : Station Locations	4
Figure 5.1 : Mode Share of Arbroath Passengers	20
Figure 5.2 : Arbroath Passenger Origins	21
Figure 5.3 : Arbroath Passenger Origins in relation to the rail station	21
Figure 5.4 : Reason for Choosing Arbroath Rail Station	22
Figure 5.5 : Car Parking Location for Arbroath Passengers	23
Figure 5.6 :Reason for Choosing Car Parking Location for Arbroath Passengers	24
Figure 5.7 :Destination Station for Arbroath Passengers	25
Figure 5.8 :Final Destination for Arbroath Passengers	26
Figure 5.9 : Journey Purpose of Arbroath Passengers	27
Figure 5.10 : Mode Share of Bridge of Allan Passengers	28
Figure 5.11 : Bridge of Allan Passenger Origins	29
Figure 5.12 : Bridge of Allan Passenger Origins in relation to the rail station	29
Figure 5.13 : Reason for Choosing Bridge of Allan Rail Station	30
Figure 5.14 : Car Parking Location for Bridge of Allan Passengers	31
Figure 5.15 : Reason for Choosing Car Parking Location for Bridge of Allan Passengers	32
Figure 5.16 :Destination Station for Bridge of Allan Passengers	33
Figure 5.17 :Final destination for Bridge of Allan Passengers	34
Figure 5.18 : Journey Purpose of Bridge of Allan Passengers	35
Figure 5.19 : Mode Share of Carnoustie Passengers	36
Figure 5.20 : Carnoustie Passenger Origins	37
Figure 5.21 : Carnoustie Passenger Origins in relation to the rail station	37
Figure 5.22 : Reason for Choosing Carnoustie Rail Station	38
Figure 5.23 : Car Parking Location for Carnoustie Passengers	39
Figure 5.24 : Reason for Choosing Car Parking Location for Carnoustie Passengers	40
Figure 5.25 :Destination Station for Carnoustie Passengers	41
Figure 5.26 :Final destination for Carnoustie Passengers	42
Figure 5.27 : Journey Purpose of Carnoustie Passengers	43
Figure 5.28 : Mode Share of Dunblane Passengers	44
Figure 5.29 : Dunblane Passenger Origins	45
Figure 5.30 : Dunblane Passenger Origins in relation to the rail station	45



Figure 5.31 : Reason for Choosing Dunblane Rail Station	46
Figure 5.32 : Car Parking Location for Dunblane Passengers	47
Figure 5.33 : Reason for Choosing Car Parking Location for Dunblane Passengers	48
Figure 5.34 : Destination Station for Dunblane Passengers	49
Figure 5.35 : Final destination for Dunblane Passengers	50
Figure 5.36 : Journey Purpose of Dunblane Passengers	51
Figure 5.37 : Mode Share of Dundee Passengers	52
Figure 5.38 : Dundee Passenger Origins	53
Figure 5.39 : Dundee Passenger Origins in relation to the rail station	53
Figure 5.40 : Reason for Choosing Dundee Rail Station	54
Figure 5.41 : Car Parking Location for Dundee Passengers	55
Figure 5.42 : Reason for Choosing Car Parking Location for Dundee Passengers	56
Figure 5.43 : Destination Station for Dundee Passengers	57
Figure 5.44 : Final destination for Dundee Passengers	58
Figure 5.45 : Journey Purpose of Dundee Passengers	59
Figure 5.46 : Mode Share of Montrose Passengers	61
Figure 5.47 : Montrose Passenger Origins	62
Figure 5.48 : Montrose Passenger Origins in relation to the rail station	62
Figure 5.49 : Reason for Choosing Montrose Rail Station	63
Figure 5.50 : Car Parking Location for Montrose Passengers	64
Figure 5.51 : Reason for Choosing Car Parking Location for Montrose Passengers	65
Figure 5.52 : Destination Station for Montrose Passengers	66
Figure 5.53 : Final destination for Montrose Passengers	67
Figure 5.54 : Journey Purpose for Montrose Passengers	68
Figure 5.55 : Mode Share of Perth Passengers	69
Figure 5.56 : Perth Passenger Origins	70
Figure 5.57 : Perth Passenger Origins in relation to the rail station	70
Figure 5.58 : reason for Choosing Perth Rail Station	71
Figure 5.59 : Car Parking Location for Perth Passengers	72
Figure 5.60 : Reason for Choosing Car Parking Location for Perth Passengers	73
Figure 5.61 : Destination Station for Perth Passengers	74
Figure 5.62 : Final destination for Perth Passengers	75
Figure 5.63 : Journey Purpose of Perth Passengers	76
Figure 5.64 : Mode Share of Stirling Passengers	77
Figure 5.65 : Stirling Passenger Origins	78
Figure 5.66 : Stirling Passenger Origins in relation to the rail station	78
Figure 5.67 : Reason for Choosing Stirling Rail Station	79
Figure 5.68 : Car Parking Location for Stirling Passengers	80



Figure 5.69 : Reason for Choosing Car Parking Location for Stirling Passengers	81
Figure 5.70 :Destination Station for Stirling Passengers	82
Figure 5.71 :Final Destination for Stirling Passengers	83
Figure 5.72 : Journey Purpose of Stirling Passengers	84
Figure 6.1 : Dunblane Passenger Origins	89
Figure 6.2 : Dunblane Passenger Origins in Relation to the Rail Station	89
Figure 6.3 : Parking Location	90
Figure 6.4 : Reason for Parking at Chosen Location	91
Figure 6.5 :Reason for Choosing to Travel from Dunblane	92
Figure 6.6 :Destination Station for Dunblane Passengers	93
Figure 6.7 : Frequency of Travel for Dunblane Passengers	94
Figure 6.8 : Bridge of Allan Passenger Origins	95
Figure 6.9 : Bridge of Allan Passenger Origins in Relation to the Rail Station	95
Figure 6.10 : Parking Location	96
Figure 6.11 : Reason for Parking at Chosen Location	97
Figure 6.12 :Reason for Choosing to Travel from Bridge of Allan	98
Figure 6.13 :Destination Station for Bridge of Allan Passengers	99
Figure 6.14 : Frequency of Travel for Bridge of Allan Passengers	100
Figure 6.15 : Stirling Passenger Origins	101
Figure 6.16 : Stirling Passenger Origins in Relation to the Rail Station	101
Figure 6.17 : Parking Location	102
Figure 6.18 : Reason for Parking at Chosen Location	103
Figure 6.19 :Reason for Choosing to Travel from Stirling	104
Figure 6.20 :Destination Station for Stirling Passengers	105
Figure 6.21 : Frequency of Travel for Stirling Passengers	106
Figure 6.22 : Origins of Passengers – Family 1	107
Figure 6.23 : Montrose Passenger Origins	109
Figure 6.24 : Montrose Passenger Origins in Relation to the Rail Station	110
Figure 6.25 : Parking Location	111
Figure 6.26 : Reason for Parking at Chosen Location	112
Figure 6.27 : Reason for Choosing to Travel from Montrose Station	113
Figure 6.28 :Destination Station for Montrose Passengers	114
Figure 6.29 : Frequency of Travel for Montrose Passengers	115
Figure 6.30 : Arbroath Passenger Origins	116
Figure 6.31 : Arbroath Passenger Origins in Relation to the Rail Station	116
Figure 6.32 : Parking Location	117
Figure 6.33 : Reason for Parking at Chosen Location	118
Figure 6.34 :Reason for Choosing to Travel from Arbroath	119



Figure 6.35 :Destination Station for Arbroath Passengers	120
Figure 6.36 : Frequency of Travel for Arbroath Passengers	121
Figure 6.37 : Origins of Passengers – Family 2	122



TACTRAN RAIL USE SURVEYS REPORT – FINAL DRAFT

TABLES :

	Page
Table 2.1 : Rail Services from Arbroath	4
Table 2.2 : Rail Services from Balmossie	5
Table 2.3 : Rail Services from Barry Links	5
Table 2.4 : Rail Services from Blair Atholl	5
Table 2.5 : Rail Services from Bridge of Allan	6
Table 2.6 : Rail Services from Broughty Ferry	6
Table 2.7 : Rail Services from Carnoustie	7
Table 2.8 : Rail Services from Criarlarich	7
Table 2.9 : Rail Services from Dunblane	7
Table 2.10 : Rail Services from Dundee	8
Table 2.11 : Rail Services from Dunkeld & Birnam	8
Table 2.12 : Rail Services from Gleneagles	9
Table 2.13 : Rail Services from Golf Street	9
Table 2.14 : Rail Services from Invergowrie	9
Table 2.15 : Rail Services from Monifieth	10
Table 2.16 : Rail Services from Montrose	10
Table 2.17 : Rail Services from Perth	11
Table 2.18 : Rail Services from Pitlochry	11
Table 2.19 : Rail Services from Rannoch	11
Table 2.20 : Rail Services from Stirling	12
Table 2.21 : Rail Services from Tyndrum Lower	12
Table 2.22 : Rail Services from Upper Tyndrum	13
Table 4.1 : Survey Sample Rate	17
Table 4.2 : Survey Types	18
Table 5.1 : Final destination for Passengers Travelling From Arbroath	26
Table 5.2 : Final destination for passengers travelling from Bridge of Allan	34
Table 5.3 : Final destination for Passengers Travelling from Carnoustie	42
Table 5.4 : Final destination for Passengers Travelling From Dunblane	50
Table 5.5 : Final destination for Passengers Travelling from Dundee	58
Table 5.6 : Final destination for Passengers Travelling from Montrose	67
Table 5.7 : Final destination for Passengers Travelling from Perth	75



Table 5.8 : Final Destination for Passengers Travelling from Stirling	83
Table 6.1 : Car Driver Mode Share	87
Table 6.2 :Prediction of Car Parking Usage	91
Table 6.3 :Prediction of Car Parking Usage	97
Table 6.4 :Prediction of Car Parking Usage	103
Table 6.5 :Prediction of Car Parking Usage	112
Table 6.6 :Prediction of Car Parking Usage	118



1 INTRODUCTION

SIAS Limited (SIAS) has been commissioned by the Tayside and Central Scotland Transport Partnership (TACTRAN) to undertake rail passenger travel habit surveys at all 22 stations in the TACTRAN area.

It is intended that the data which has been collected on the travel habits of rail passengers, will be used to inform a number of future studies in the TACTRAN area. This includes assisting in informing possible future Tay Estuary Rail Study requirements and obtaining data to inform the emerging Car Parking Strategy which is currently being prepared by Network Rail.

Passenger travel habit surveys were undertaken in March 2009 with data obtained through face-to-face surveys and car park occupancy surveys. This Report summarises the key data which has been collated with the complete set of results contained on a disc included at Appendix A. The form of the questionnaire was developed in association with and approved by TACTRAN and its partner Councils prior to undertaking the surveys.





2 DESCRIPTION OF STATIONS

2.1 Introduction

The TACTRAN area comprises Stirling, Perth & Kinross, Dundee City and Angus Council areas. The following 22 rail stations are located in the TACTRAN area and have been surveyed to inform the study:

- Arbroath
- Balmossie
- Barry Links
- Blair Atholl
- Bridge of Allan
- Broughty Ferry
- Carnoustie
- Crianlarich
- Dunblane
- Dundee
- Dunkeld & Birnam
- Gleneagles
- Golf Street
- Invergowrie
- Monifieth
- Montrose
- Perth
- Pitlochry
- Rannoch
- Stirling
- Tyndrum Lower
- Upper Tyndrum

The location of the stations is displayed graphically in Figure 2.1.



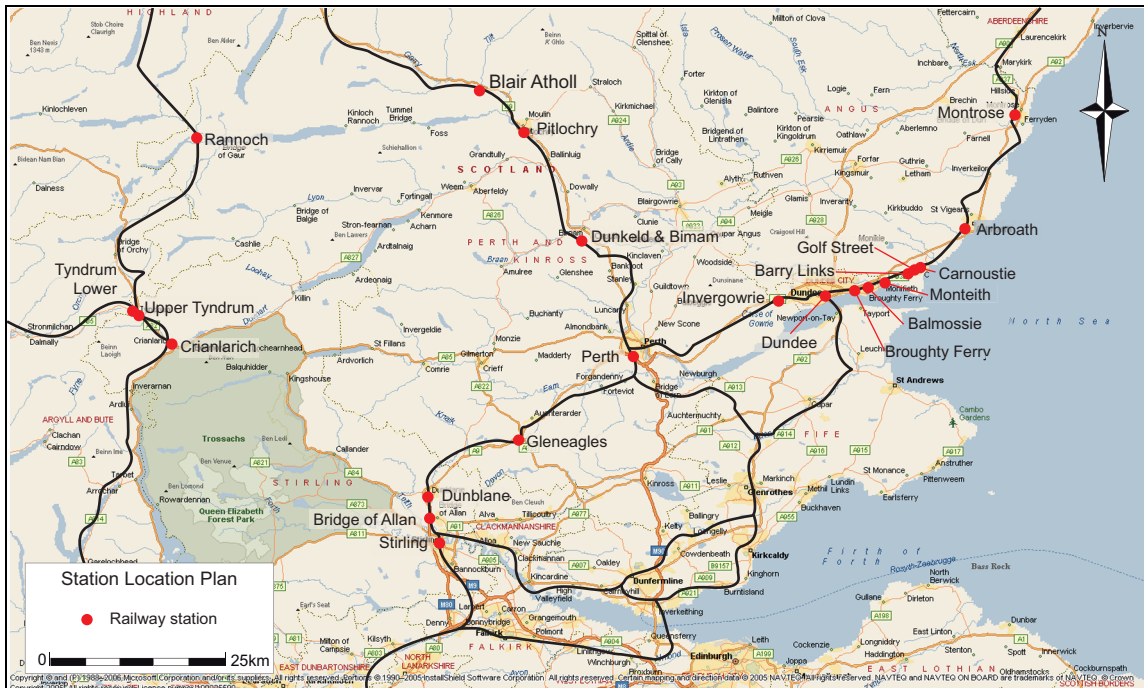


Figure 2.1 : Station Locations

The stations vary significantly in scale from larger stations serving Perth, Dundee and Stirling, to small scale stations which are served by only a few trains every day (e.g. Rannoch Station, Tyndrum Lower and Golf Street).

The following paragraphs provide a description of the rail stations in the TACTRAN area.

2.2 Arbroath Rail Station

Arbroath rail station is located in the centre of Arbroath in the vicinity of the town’s bus station. The station has a ticket office and is staffed for all trains. A 15 space car park is provided at the station including 3 spaces provided for blue badge holders. Parking charges are in operation at the station. Cycle racks are provided for 15 cycles.

First ScotRail, National Express and Cross Country operate services from Arbroath during the survey period, providing connection to Aberdeen to the north and Dundee, Edinburgh, Glasgow London and Penzance to the south. Office of Rail Regulation figures confirm that a total of 427,820 passengers travelled to and from Arbroath rail station in 2007/2008 and Table 2.1 confirms the services which depart from the station on a weekday between 06:00 - 10:00 (information correct as of March 2009).

Table 2.1 : Rail Services from Arbroath

Destination	Services		
GLASGOW QUEEN STREET	06:31	07:28	08:32
INVERURIE	06:41	09:02	09:53
EDINBURGH	06:50	08:08	10:00
ABERDEEN	06:56	07:11	09:23
DYCE	07:39		
LONDON KINGS CROSS	08:48		
PENZANCE	09:15		



2.3 Balmossie Rail Station

Balmossie rail station is located to the east of Broughty Ferry. It is an unstaffed rail halt with no spaces provided for vehicles to park at the station. Cycle racks are provided for 3 cycles.

First ScotRail operate one service per day in each direction connecting the station with Dundee to the west and Carnoustie to the east. Office of Rail Regulation figures confirm that a total of 615 passengers travelled to and from Balmossie rail station in 2007/2008. Table 2.2 confirms the time of the service which departs from the station on a weekday between 06:00 – 10:00.

Table 2.2 : Rail Services from Balmossie

Destination	Services
DUNDEE	06:25

2.4 Barry Links Rail Station

Barry Links rail station is located to the west of Carnoustie. Barry Links is an unstaffed rail halt which provides no spaces for vehicles to park at the station. Cycle racks are provided for 3 cycles.

First ScotRail operate one service per day in each direction connecting the station with Dundee to the west and Carnoustie to the east. Office of Rail Regulation figures confirm that a total of 98 passengers travelled to and from Barry Links rail station in 2007/2008. Table 2.3 confirms the time of the service which departs from the station on a weekday between 06:00 – 10:00.

Table 2.3 : Rail Services from Barry Links

Destination	Services
DUNDEE	06:18

2.5 Blair Atholl Rail Station

Blair Atholl rail station is located to the north of Pitlochry. The station is an unstaffed rail halt which has an unlined car park provided adjacent to the halt with a capacity to accommodate 15 cars. Cycle racks are provided for 5 cycles.

First ScotRail operate services from the station during the survey period, providing direct connection to Inverness to the north and Perth and Edinburgh to the south. Office of Rail Regulation figures confirm that a total of 10,443 passengers travelled to and from Blair Atholl rail station in 2007/2008. Table 2.4 confirms the services which depart from the station on a weekday between 06:00 - 10:00.

Table 2.4 : Rail Services from Blair Atholl

Destination	Services
INVERNESS	06:42 08:52
EDINBURGH	07:12

2.6 Bridge of Allan Rail Station

Bridge of Allan rail station is located on the western edge of the town, which itself is located to the north of Stirling. The station is an unstaffed rail halt which has ticket vending machines provided for rail passengers. A 138 space car park is provided for passengers, 8 of which are set



aside for blue badge holders. Cycle racks are provided for 4 cycles and 6 cycle lockers are provided at the station.

First ScotRail operate services from Bridge of Allan during the survey period, providing direct connection to Dunblane to the north, and Edinburgh and Glasgow to the south. Office of Rail Regulation figures confirm that a total of 224,140 passengers travelled to and from Bridge of Allan rail station in 2007/2008. Table 2.5 confirms the services which depart from the station on a weekday between 06:00 – 10:00.

Table 2.5 : Rail Services from Bridge of Allan

Destination	Services					
GLASGOW						
QUEEN STREET	06:43	07:33	07:48	08:16	09:16	
EDINBURGH	07:11	07:25	07:57	08:31	09:00	
DUNBLANE	06:13	07:43	07:57	08:27	08:35	08:57 09:28

2.7 Broughty Ferry Rail Station

Broughty Ferry rail station is located in the east of Dundee in the centre of Broughty Ferry. It is an unstaffed rail halt with no spaces provided for vehicles to park at the station, however, a local authority car park is located adjacent to the station offering space for around 100 cars to park. Cycle racks are provided for 5 cycles.

First ScotRail operate a limited service from the station during the survey period, with direct connection provided to Dundee to the west and to Carnoustie to the east. Office of Rail Regulation figures confirm that a total of 6,277 passengers travelled to and from Broughty Ferry rail station in 2007/2008. Table 2.6 confirms the services which depart from the station on a weekday between 06:00 – 10:00.

Table 2.6 : Rail Services from Broughty Ferry

Destination	Services
DUNDEE	06:29

2.8 Carnoustie Rail Station

Carnoustie rail station is located in the centre of the town. It is an unstaffed rail halt which has a ticket vending machine provided for rail passengers. A 15 space car park is provided at the station including 2 spaces set aside for blue badge holders. Cycle racks are provided for 5 cycles.

First ScotRail operate services from Carnoustie during the survey period, providing direct connection to Aberdeen to the north and Dundee, Perth, Edinburgh and Glasgow to the west and south. Office of Rail Regulation figures confirm that a total of 145,700 passengers travelled to and from Carnoustie rail station in 2007/2008 (Note this is due to the Open Golf being held at Carnoustie in 2007. In year 2006/07 the total passengers were circa 72,000). Table 2.7 confirms the services which depart from the station on a weekday between 06:00 – 10:00.



Table 2.7 : Rail Services from Carnoustie

Destination	Services		
EDINBURGH	06:14	06:57	08:14
ABERDEEN	07:04	09:16	
GLASGOW QUEEN STREET	07:35	08:38	09:38

2.9 Crianlarich Rail Station

Crianlarich rail station is located on the southern edge of the village. It is an unstaffed rail halt with the station forecourt of a size which can accommodate 10 cars.

First ScotRail operate services from Crianlarich during the survey period, providing direct connection to Glasgow to the south and Fort William to the north. Office of Rail Regulation figures confirm that a total of 11,163 passengers travelled to and from Crianlarich rail station in 2007/2008. Table 2.8 confirms the services which depart from the station on a weekday between 06:00 – 10:00.

Table 2.8 : Rail Services from Crianlarich

Destination	Services
FORT WILLIAM	07:43
GLASGOW QUEEN STREET	09:36

2.10 Dunblane Rail Station

Dunblane rail station is located in the centre of the town. The station has a ticket office and is staffed part time with a ticket vending machine provided for passengers. An 8 space car park is provided at the station, 2 of which are set aside for blue badge holders. Approximately 20 spaces are located adjacent to the station car park. A public car park (Tesco Lower) located immediately to the south of the rail line provides a further 60 parking spaces. Cycle racks are provided for 4 cycles and 3 cycle lockers are provided at the station.

First ScotRail operate services from Dunblane during the survey period, providing direct connection to Perth and Inverness to the north, and Edinburgh and Glasgow to the south. Office of Rail Regulation figures confirm that a total of 511,622 passengers travelled to and from Dunblane rail station in 2007/2008. Table 2.9 confirms the services which depart from the station on a weekday between 06:00 – 10:00.

Table 2.9 : Rail Services from Dunblane

Destination	Services								
EDINBURGH	06:28	07:09	07:22	07:56	08:28	08:57	09:28	09:58	
GLASGOW QUEEN STREET	06:40	07:29	07:44	08:12	09:11				
INVERNESS	07:39	07:50							

2.11 Dundee Rail Station

Dundee rail station is located in the centre of the city. The station has a ticket office which is staffed for all trains. A 9 space short stay car park is provided at the station with local authority operated car parks located adjacent to the rail station providing a substantial number of parking spaces to which parking charges apply. Cycle racks are provided for 8 cycles.



First ScotRail, National Express and Cross Country operate services from Dundee during the survey period, providing direct connection to Aberdeen to the north, Perth to the west and Stirling, Edinburgh, Glasgow, London and Penzance to the south. Office of Rail Regulation figures confirm that a total of 1,600,066 passengers travelled to and from Dundee rail station in 2007/2008. Table 2.10 confirms the services which depart from the station on a weekday between 06:00 – 10:00.

Table 2.10 : Rail Services from Dundee

Destination	Services				
EDINBURGH	06:04	07:09	07:20	08:27	09:42
INVERURIE	06:24	08:45	09:37		
PLYMOUTH	06:32	07:35			
ABERDEEN	06:40	06:53	09:04	10:00	
GLASGOW QUEEN STREET	06:52	07:51	08:18	08:53	09:52
DYCE	07:23				
LONDON KINGS CROSS	09:06				
PENZANCE	09:33				

2.12 Dunkeld & Birnam Rail Station

Dunkeld & Birnam rail station is located on the western edge of the village. It is an unstaffed rail halt which has an unlined car park with the capacity to accommodate 30 cars. Cycle racks are provided for 5 cycles and 2 lockers are provided at the station.

First ScotRail operate services from Dunkeld & Birnam during the survey period, providing direct connection to Inverness to the north and Perth and Edinburgh to the south. Office of Rail Regulation figures confirm that a total of 20,856 passengers travelled to and from Dunkeld & Birnam rail station in 2007/2008. Table 2.11 confirms the services which depart from the station on a weekday between 06:00 – 10:00.

Table 2.11 : Rail Services from Dunkeld & Birnam

Destination	Services	
INVERNESS	06:00	08:29
EDINBURGH	07:38	08:28

2.13 Gleneagles Rail Station

Gleneagles rail station is located to the south-west of Auchterarder to the east of the A9(T). It is an unstaffed rail halt which has a 40 space car park provided for passengers including 2 spaces set aside for blue badge holders. Cycle racks are provided for 5 cycles.

First ScotRail operate services from Gleneagles during the survey period, providing direct connection to Perth, Dundee, and Aberdeen to the north, and Stirling, Edinburgh and Glasgow to the south. Office of Rail Regulation figures confirm that a total of 27,432 passengers travelled to and from Gleneagles rail station in 2007/2008. Table 2.12 confirms the services which depart from the station on a weekday between 06:00 – 10:00.



Table 2.12 : Rail Services from Gleneagles

Destination	Services			
GLASGOW QUEEN STREET	06:26	07:17	07:31	08:56
DYCE	06:43			
EDINBURGH	06:55			

2.14 Golf Street Rail Station

Golf Street is located to the west of Carnoustie and is an unstaffed rail halt which provides no facilities for either vehicles or cycles to park at the station.

First ScotRail operate one service per day in each direction connecting the station with Dundee to the west and Carnoustie to the east. Office of Rail Regulation figures confirm that a total of 135 passengers travelled to and from Golf Street rail station in 2007/2008. Table 2.13 confirms the time of the service which departs from the station on a weekday between 06:00 – 10:00.

Table 2.13 : Rail Services from Golf Street

Destination	Services
DUNDEE	06:16

2.15 Invergowrie Rail Station

Invergowrie is located to the west of Dundee. It is an unstaffed rail halt which provides no facilities for vehicles to park at the station. Cycle racks are provided for 3 cycles.

First ScotRail operate a limited service from Invergowrie during the survey period providing direct connection to Perth and Glasgow to the west and south, and Dundee to the east. Office of Rail Regulation figures confirm that a total of 1,664 passengers travelled to and from Invergowrie rail station in 2007/2008. Table 2.14 confirms the services which depart from the station on a weekday between 06:00 – 10:00.

Table 2.14 : Rail Services from Invergowrie

Destination	Services
GLASGOW QUEEN STREET	08:23
DUNDEE	08:05

2.16 Monifieth Rail Station

Monifieth rail station is located on the southern edge of Monifieth. It is an unstaffed rail halt with space for 5 cars to park in the station forecourt. Cycle racks are provided for 5 cycles.

First ScotRail operate one service per day in each direction connecting the station with Dundee to the west and Carnoustie to the east. Office of Rail Regulation figures confirm that a total of 2,106 passengers travelled to and from Monifieth rail station in 2007/2008. Table 2.15 confirms the services which depart from the station on a weekday between 06:00 – 10:00.



Table 2.15 : Rail Services from Monifieth

Destination	Services
DUNDEE	06:23

2.17 Montrose Rail Station

Montrose rail station is located in the centre of Montrose. The station has a ticket office and is staffed for all trains. A 50 space car park is provided at the station including 6 spaces provided for blue badge holders. Cycle racks are provided for 5 cycles.

First ScotRail, National Express and Cross Country operate services from Montrose during the survey period, providing direct connection to Aberdeen and Inverness to the north and Dundee, Edinburgh, Glasgow, London and Penzance to the south. Office of Rail Regulation figures confirm that a total of 369,377 passengers travelled to and from Montrose rail station in 2007/2008 and Table 2.16 confirms the services which depart from the station on a weekday between 06:00 – 10:00.

Table 2.16 : Rail Services from Montrose

Destination	Services			
GLASGOW				
QUEEN STREET	06:17	07:14	08:16	09:18
INVERNESS	06:25			
EDINBURGH	06:36	07:54	09:46	
INVERURIE	06:57	09:16		
ABERDEEN	07:11	07:24	09:38	
DYCE	07:54			
LONDON				
KINGS CROSS	08:32			
PENZANCE	08:59			

2.18 Perth Rail Station

Perth rail station is located on the south-western edge of the city centre close to Perth bus station. The station has a ticket office and is staffed for all trains. Two car parks are provided at the station providing a total of 100 spaces. Parking charges apply at the station car parks. Cycle racks are provided for 4 cycles and 5 cycle lockers are provided at the station.

First ScotRail and National Express operate services from Perth during the survey period providing direct connection to Inverness and Aberdeen to the north, Dundee to the east, and Edinburgh, Glasgow and London to the south. Office of Rail Regulation figures confirm that a total of 763,415 passengers travelled to and from Perth rail station in 2007/2008. Table 2.17 confirms the services which depart from the station on a weekday between 06:00 – 10:00.



Table 2.17 : Rail Services from Perth

Destination	Services					
INVERURIE	06:03					
GLASGOW QUEEN STREET	06:09	07:03	07:15	08:12	08:41	09:15
EDINBURGH	06:14	06:40	06:55	07:59	08:47	09:51
LONDON KINGS CROSS	09:55					
DYCE	07:00					
DUNDEE	07:47					
INVERNESS	08:03	09:50				
ABERDEEN	08:41	09:36				

2.19 Pitlochry Rail Station

Pitlochry rail station is located in the centre of the town. The station has a ticket office and is staffed for all trains. A 12 space car park is provided at the station including 2 spaces provided for blue badge holders. Parking charges apply at the station car park. Cycle racks are provided for 5 cycles and 2 cycle lockers are provided at the station.

First ScotRail and National Express operate services from Pitlochry during the survey period, providing direct connection to Inverness to the north and Perth, Edinburgh and London to the south. Office of Rail Regulation figures confirm that a total of 78,776 passengers travelled to and from Pitlochry rail station in 2007/2008. Table 2.18 confirms the services which depart from the station on a weekday between 06:00 – 10:00.

Table 2.18 : Rail Services from Pitlochry

Destination	Services	
EDINBURGH	07:26	08:15
INVERNESS	08:42	
LONDON KINGS CROSS	09:23	

2.20 Rannoch Rail Station

Rannoch rail station is located approximately 33km to the west of Pitlochry. It is an unstaffed rail halt which has a 30 space car park for passengers with 2 spaces provided for blue badge holders. Cycle racks are provided for 3 cycles.

First ScotRail operate services from Rannoch during the survey period, providing direct connection to Fort William to the north and Glasgow to the south. Office of Rail Regulation figures confirm that a total of 17,093 passengers travelled to and from Rannoch rail station in 2007/2008. Table 2.19 confirms the services which depart from the station on a weekday between 06:00 – 10:00.

Table 2.19 : Rail Services from Rannoch

Destination	Services
GLASGOW QUEEN STREET	08:43
FORT WILLIAM	08:45



2.21 Stirling Rail Station

Stirling rail station is located on the eastern edge of the city centre. The station has a ticket office and is staffed for all trains. A 276 space car park is provided for passengers, 9 of which are set aside for blue badge holders. Parking charges apply at the station car park. Cycle racks are provided for 6 cycles and 20 cycle lockers are provided at the station.

First ScotRail operate services from Stirling during the survey period, providing direct connection to Inverness, Aberdeen and Perth to the north, and Edinburgh and Glasgow to the south. Office of Rail Regulation figures confirm that a total of 2,027,750 passengers travelled to and from Stirling rail station in 2007/2008. Table 2.20 confirms the services which depart from the station on a weekday between 06:00 – 10:00.

Table 2.20 : Rail Services from Stirling

Destination	Services						
GLASGOW	06:21	06:52	07:22	07:38	07:53	08:06	08:21
QUEEN STREET	08:43	08:51	09:13	09:21	09:44	09:51	
DYCE	06:24						
EDINBURGH	06:36	07:29	07:49	08:05	08:36	09:06	09:36
EDINBURGH	07:17						
ALLOA	06:51	08:07	09:00	10:00			
INVERNESS	07:32						
DUNBLANE	07:38	07:53	08:23	08:30	09:23	09:30	09:53
ABERDEEN	08:07	09:07					

2.22 Tyndrum Lower Rail Station

Tyndrum Lower rail station is located on the western edge of Tyndrum. The station is an unstaffed rail halt with no car park provided for passengers. Cycle racks are provided for 4 cycles.

First ScotRail operate services from Tyndrum Lower rail station during the survey period, providing direct connection to Oban to the north. Office of Rail Regulation figures confirm that a total of 4,587 passengers travelled to and from Tyndrum Lower rail station in 2007/2008. Table 2.21 confirms the services which depart from the station on a weekday between 06:00 – 10:00.

Table 2.21 : Rail Services from Tyndrum Lower

Destination	Services
OBAN	09:15

2.23 Upper Tyndrum Rail Station

Upper Tyndrum rail station is located on the eastern edge of Tyndrum. The station is an unstaffed rail halt with a 20 space car park provided for passengers. Cycle racks are provided for 3 cycles.

First ScotRail operate services from Upper Tyndrum rail station during the survey period, providing direct connection to Glasgow to the south and Fort William to the north. Office of Rail Regulation figures confirm that a total of 3,237 passengers travelled to and from Upper Tyndrum rail station in 2007/2008. Table 2.22 confirms the services which depart from the station on a weekday between 06:00 – 10:00.



Table 2.22 : Rail Services from Upper Tyndrum

Destination	Services
FORT WILLIAM	07:56
GLASGOW QUEEN STREET	09:19





3 SURVEY DETAILS

The travel habits of passengers using all 22 rail stations in the TACTRAN area was surveyed in March 2009. The number of stations required the survey to be split into the following three days:

- Wednesday 4 March:
 - Bridge of Allan
 - Dunblane
 - Gleneagles
 - Perth
 - Stirling
- Thursday 5 March:
 - Arbroath (Additional survey undertaken on Thursday 12 March)
 - Balmossie
 - Barry Links
 - Broughty Ferry
 - Carnoustie
 - Dundee
 - Golf Street
 - Invergowrie
 - Monifieth
 - Montrose
- Wednesday 11 March:
 - Blair Atholl
 - Criankarich
 - Dunkeld & Birnam
 - Pitlochry
 - Rannoch Station
 - Tyndrum Lower
 - Upper Tyndrum

The surveys were undertaken between 06:00 – 10:00 on the weekdays to capture the travel habits of commuting rail passengers. Given the extent of the rail network and locations of the stations which were included in the survey, a 4hr period was specified to ensure that all commuting journeys were identified.

Sky High Data Collection (Sky High) were commissioned as a sub-contractor to undertake surveys at the 22 rail stations, with SIAS supervising the surveys at various points throughout the survey period.





4 DATA CAPTURE METHODOLOGY

A range of data was captured on the travel habits of rail users in the morning peak for the TACTRAN rail use study.

4.1 Face-to-Face Surveys

Face-to-face surveys were undertaken with passengers as they waited for their train on the station platform in order to identify passenger travel habits. The survey included a total of 13 primary questions and a number of supplementary questions. A copy of the questionnaire which was completed by enumerators on behalf of the surveyed passengers, is contained in Appendix B. The questionnaire was developed in consultation with TACTRAN and its partner Councils.

4.2 Passenger Counts

To supplement the data obtained through the face-to-face passenger surveys, passenger counts were undertaken during the survey to determine the number of passengers boarding and alighting from each rail service.

A sample rate was determined for each rail service based on the number of completed questionnaires. This data has been used to factor data obtained through the passenger surveys, to provide an estimate of the total number of passengers for all questions asked. Table 4.1 summarises the sample rates recorded at all surveyed stations.

Table 4.1 : Survey Sample Rate

Station Name:	Passengers Boarding	Passengers Alighting	Interviews	Sample Rate
Arbroath	282	74	133	47%
Balmossie	1	0	0	0%
Barry Links	1	0	1	100%
Blair Atholl	2	0	1	50%
Bridge of Allan	182	38	95	52%
Broughty Ferry	3	0	3	100%
Camoustie	123	6	46	37%
Crianlarich	1	0	1	100%
Dunblane	378	10	118	31%
Dundee	490	537	170	35%
Dunkeld and Birnam	12	6	12	100%
Gleneagles	10	0	8	80%
Golf Street, Camoustie	1	0	1	100%
Invergowrie	3	1	3	100%
Monifieth	0	0	0	-
Montrose	257	43	99	39%
Perth	424	276	138	33%
Pitlochry	27	2	18	67%
Rannoch	2	2	1	50%
Stirling	781	787	260	33%
Tyndrum Lower	0	0	0	-
Upper Tyndrum	0	1	0	-

Questionnaires were collated for each rail service with details of the service's scheduled and actual departure time noted in addition to the final destination of the service.



4.3 Car Park Surveys

Car park occupancy surveys were undertaken at rail stations where car parks, or areas for vehicles to park, are provided. The variation in facilities provided at rail stations located in the TACTRAN area, has resulted in four survey types being specified. These can be summarised as follows:

- Survey Type 1: Car park occupancy surveys to be undertaken at 06:00 – 10:00 on the station access road
- Survey Type 2: Car park occupancy surveys to be undertaken at 06:00 – 10:00 at the car park and on the station access road
- Survey Type 3: Car park occupancy surveys to be undertaken at 30min intervals at the car park and on the station access road
- Miscellaneous surveys

Table 4.2 confirms the parking survey type which is applicable to each of the 22 rail stations.

Table 4.2 : Survey Types

Survey Type 1	Survey Type 2	Survey Type 3	Miscellaneous
Balmossie	Blair Atholl	Arbroath	Broughty Ferry
Barry Links	Carnoustie	Bridge of Allan	Dunblane
Golf Street	Crianlarich	Gleneagles	Dundee
Invergowrie	Dunkeld & Birnam	Montrose	
	Monifieth	Perth	
	Pitlochry	Stirling	
	Rannoch		
	Tyndrum Lower		
	Upper Tyndrum		

The adjacent local authority car park was surveyed at Broughty Ferry at the start and end of the passenger survey. A 30min survey was undertaken at both the Dunblane rail station car park and the adjacent Springfield Terrace (Tesco Lower) car park. No car parking survey was undertaken at Dundee due to the short stay nature of the car park.



5 RAIL PASSENGER SURVEYS

5.1 Introduction

The following chapter summarises key statistics from the results of the face-to-face passenger surveys. As highlighted earlier in this report, rail passengers were asked a total of 13 questions aimed at obtaining details of their revealed travel habits. The data obtained through the surveys is contained on a disc at Appendix A, with a copy of the questionnaire contained in Appendix B.

This chapter summarises the following statistics for each of the 22 rail stations in the TACTRAN area:

- General demographics of rail passengers travelling from rail station
- Mode share for journeys to rail station
- Origin of passengers travelling to rail station
- Reason for choosing to travel from rail station
- Car park location for those who drove to the station
- Reason for choosing car park location for those who drove to the station
- Destination station of passengers travelling from rail station
- Final destination of passengers travelling from rail station
- Final destination of passengers travelling to most popular final destination stations
- Journey purpose

For ease of reference, the majority of the data summary has been presented graphically in the form of pie and bar charts. It has not been possible to identify trends for a number of stations due to the small size of the dataset generated by rail passenger surveys.

A summary of the number of passengers boarding or alighting from train services is presented for each station in addition to details of the achieved sample rate.

The full survey response dataset is provided on a CD which is contained in Appendix A. This will enable a more detailed analysis of the data to be undertaken if required.

5.2 Arbroath Rail Station

Arbroath rail station was surveyed on Thursday 5 March 2009, with an additional survey undertaken on the northbound platform on Thursday 12 March to obtain data which was not collected on the original day of survey.

A total of **282** passengers were observed to board all rail services that departed from the station in the 4hr survey period with 74 passengers observed to alight from rail services. A total of **133** boarding passengers were interviewed which equates to a sample rate of 47%.

In terms of the demographics of passengers travelling from Arbroath rail station in the survey period, a 53%/47% male/female split was recorded. The majority of passengers were aged between 16 and 60 with 4% aged over 60 and no passengers aged under 16 surveyed to travel from the station during the survey period.



Figure 5.1 confirms the surveyed mode share of passengers travelling to Arbroath rail station in the morning peak period.

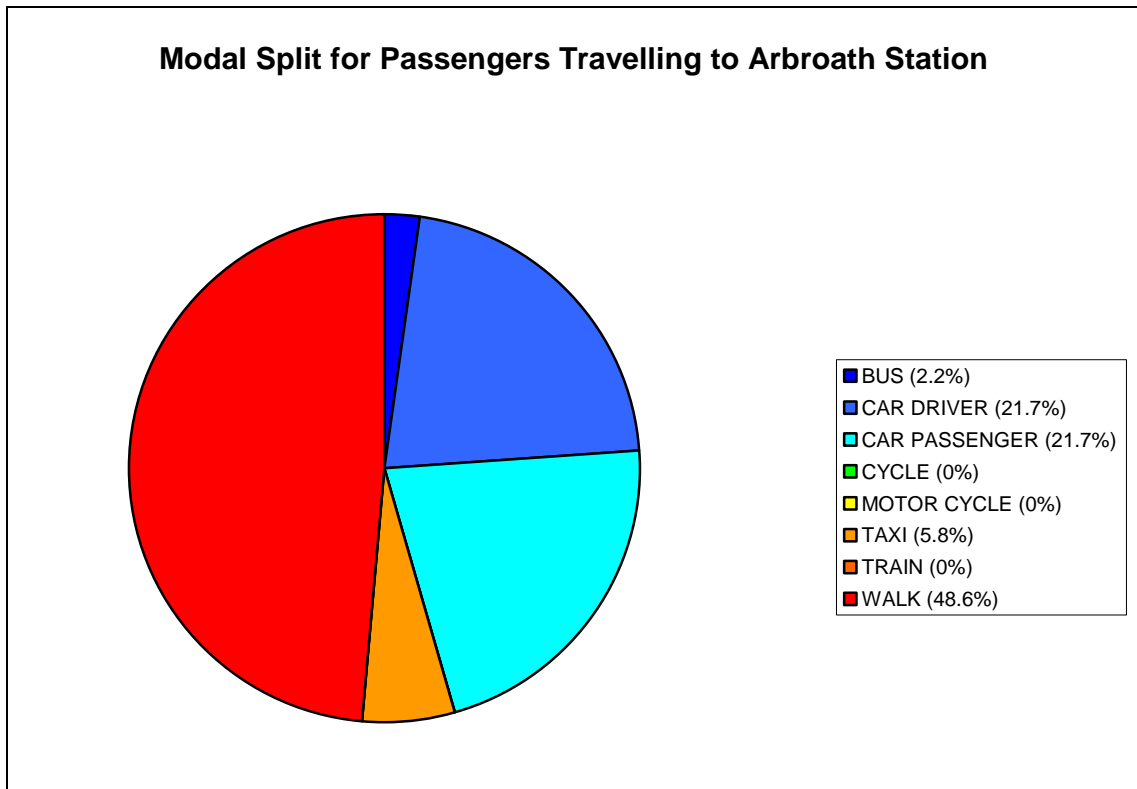


Figure 5.1 : Mode Share of Arbroath Passengers

As can be seen from Figure 5.1, the greatest proportion of passengers (49%) reported to walk to the rail station. This may be a reflection of the accessible location of the station in the centre of Arbroath. 22% of passengers are reported to drive to the station with 22% arriving as a car passenger.

Figure 5.2 confirms the origins of passengers travelling to Arbroath rail station and Figure 5.3 shows a spatial plot of the passengers' origins in relation to the rail station.

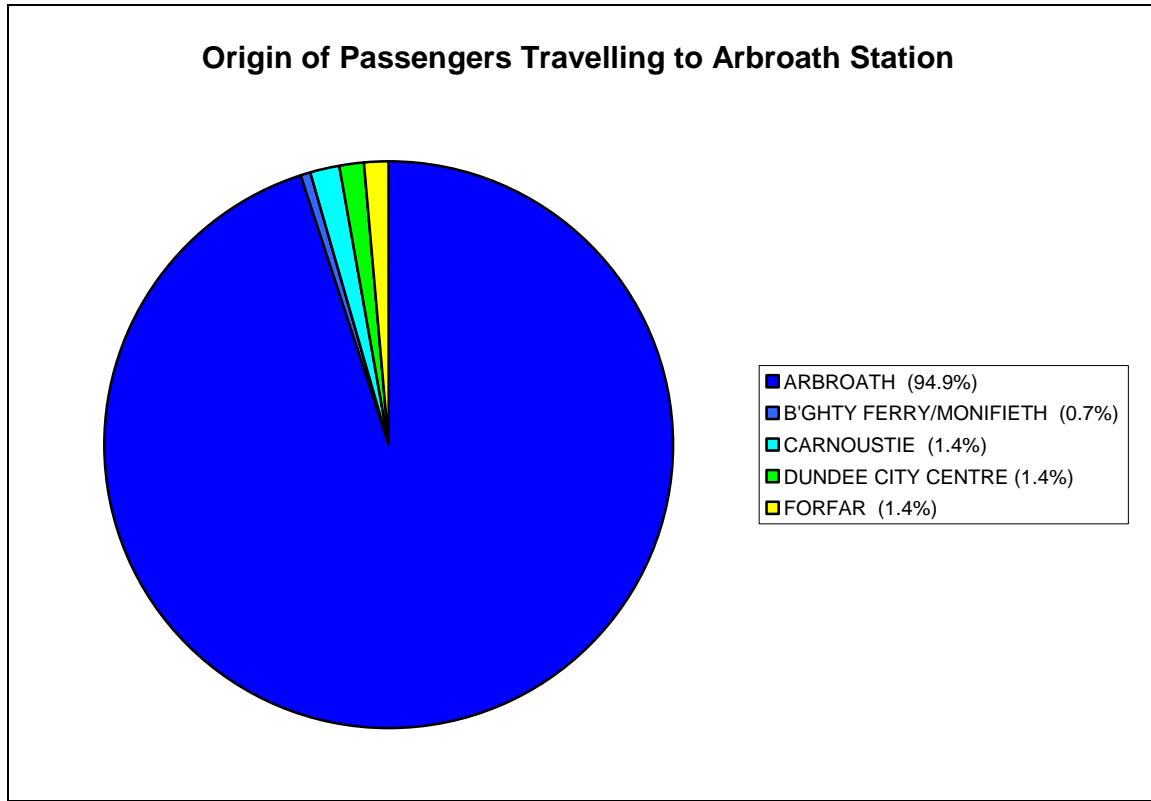


Figure 5.2 : Arbroath Passenger Origins

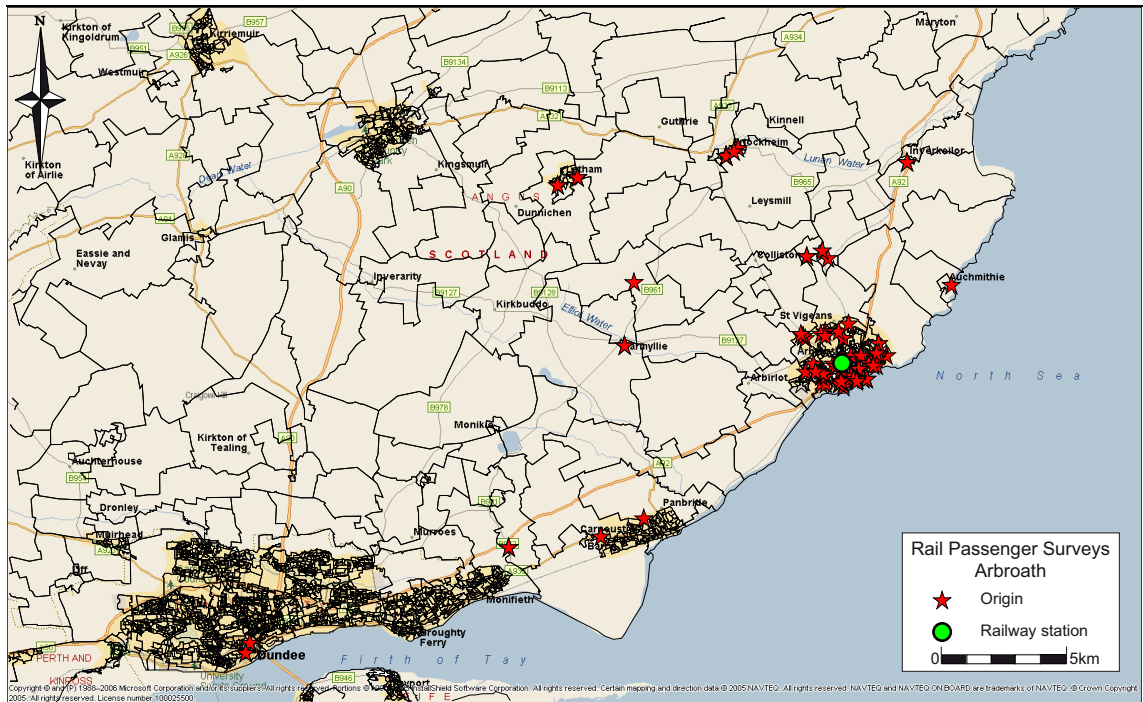


Figure 5.3 : Arbroath Passenger Origins in relation to the rail station



As can be seen from the origins of Arbroath rail station passengers, the majority of passenger journeys (91%) are reported to originate in Arbroath and it is suggested that this has resulted in a significant proportion of passengers travelling on foot to the rail station as shown in Figure 5.1.

Figure 5.4 summarises the main reason passengers choose to travel from Arbroath rail station.

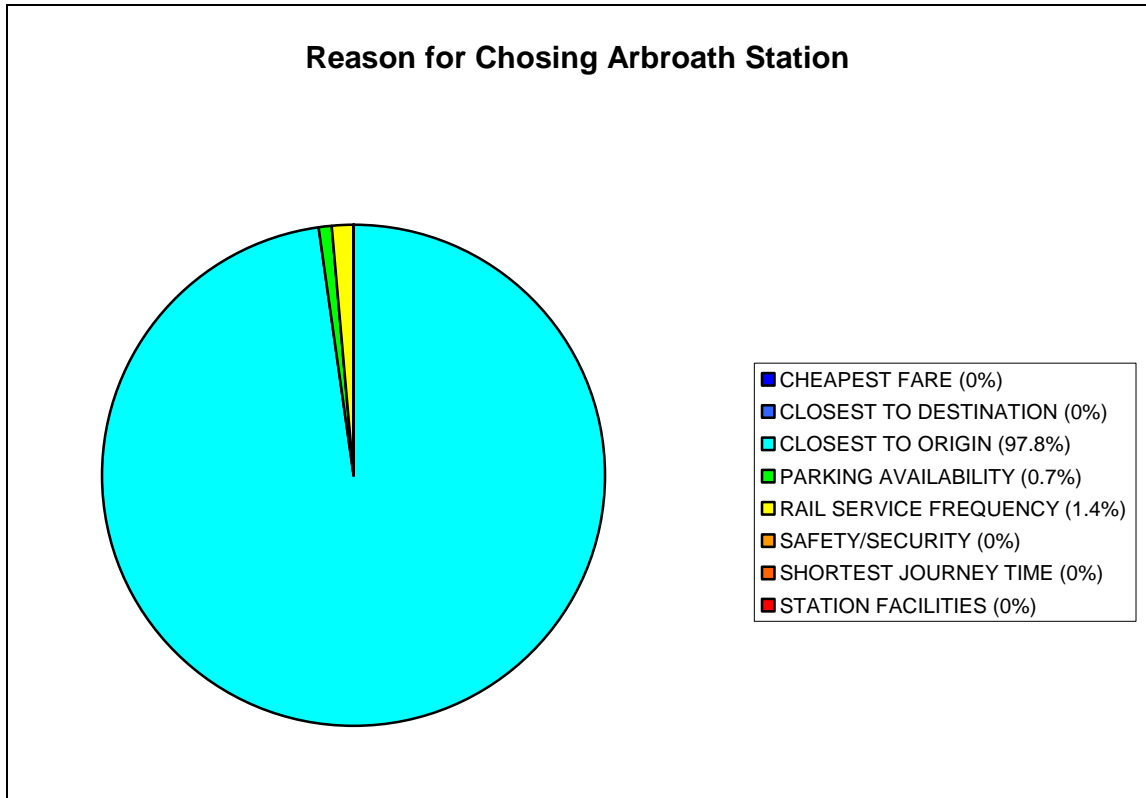


Figure 5.4 : Reason for Choosing Arbroath Rail Station

As can be seen from the above summary, the majority of passengers confirmed that they travel from this station as it is located closest to their origin.



In terms of passenger parking, Figure 5.5 confirms the locations where passengers parked when travelling from Arbroath rail station.

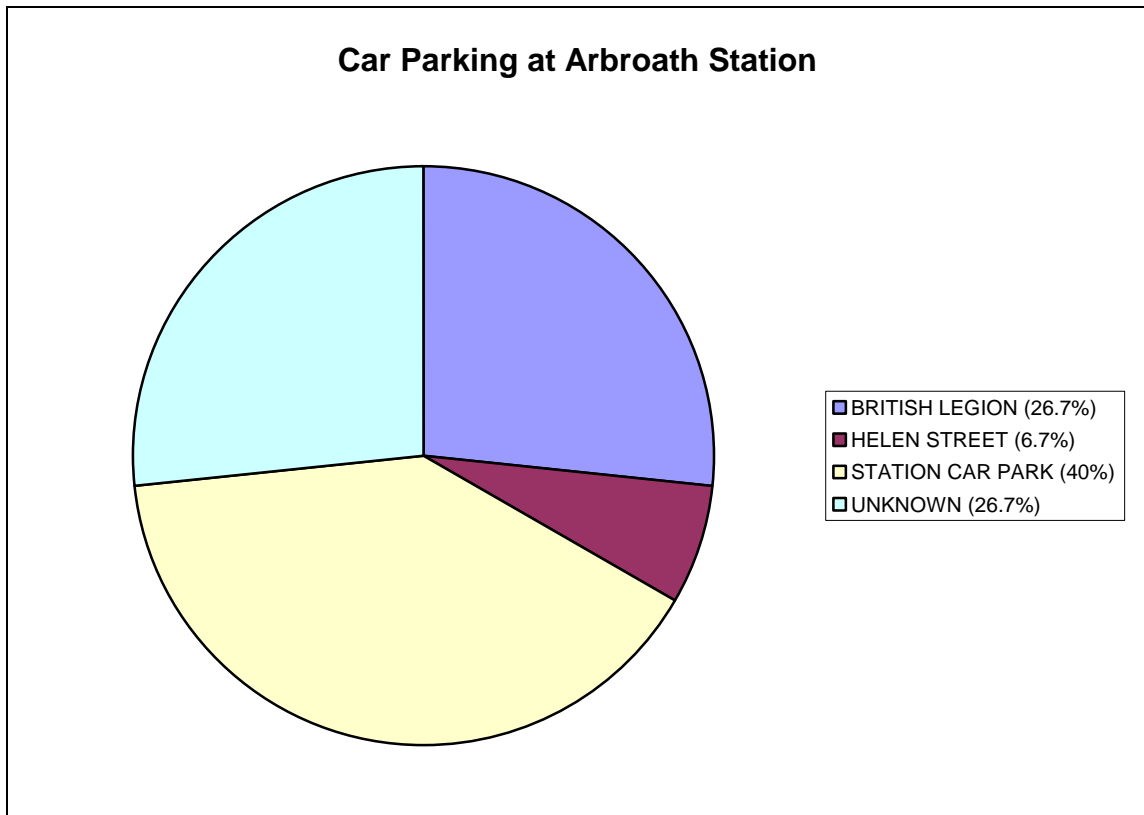


Figure 5.5 : Car Parking Location for Arbroath Passengers

Figure 5.5 confirms that the greatest proportion of passengers who drove to the rail station parked in the station car park, with the next most popular area for parking being located in the British Legion car park.

Figure 5.6 summarises passengers’ main reason for parking in the chosen location for the most popular parking areas.

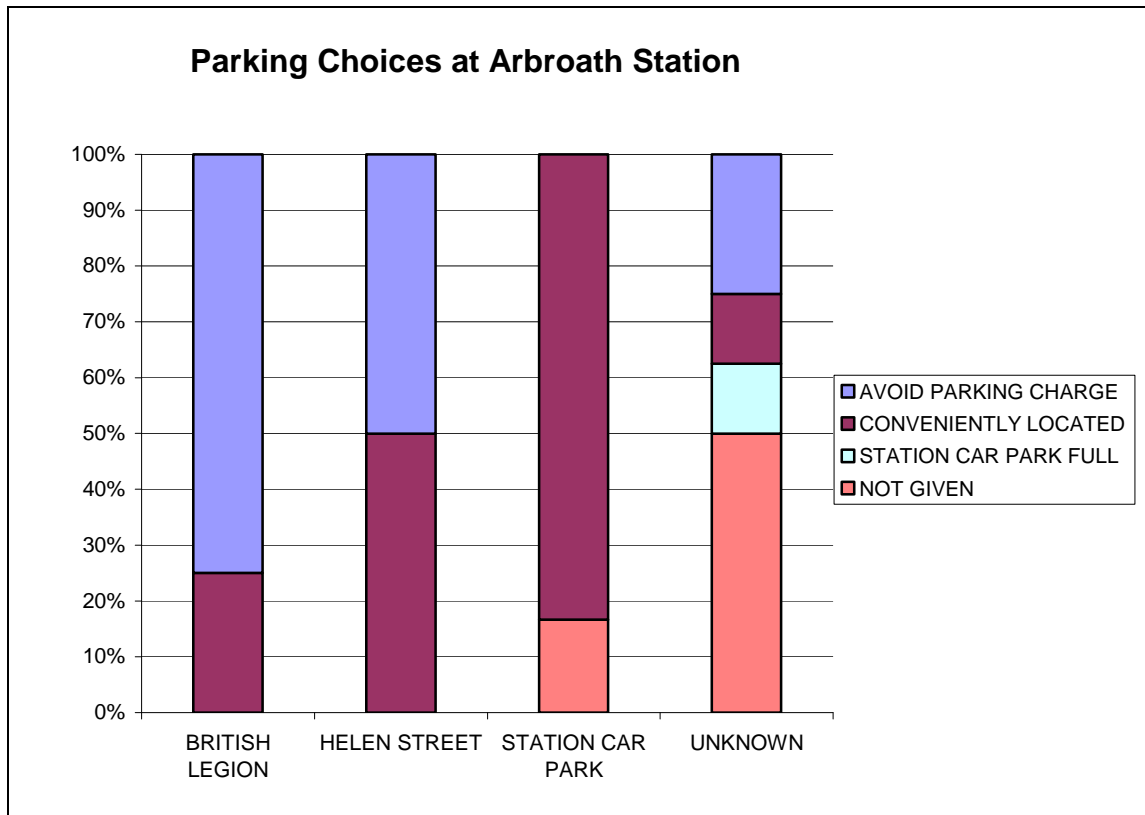


Figure 5.6 :Reason for Choosing Car Parking Location for Arbroath Passengers

As can be seen from the above summary, the majority of passengers who park in the station car park confirm that they parked there for reasons of convenience. Whereas the majority of passengers who parked in the British Legion car park did so to avoid paying for parking throughout the day.



Figure 5.7 shows the destination station for passengers travelling from Arbroath station.

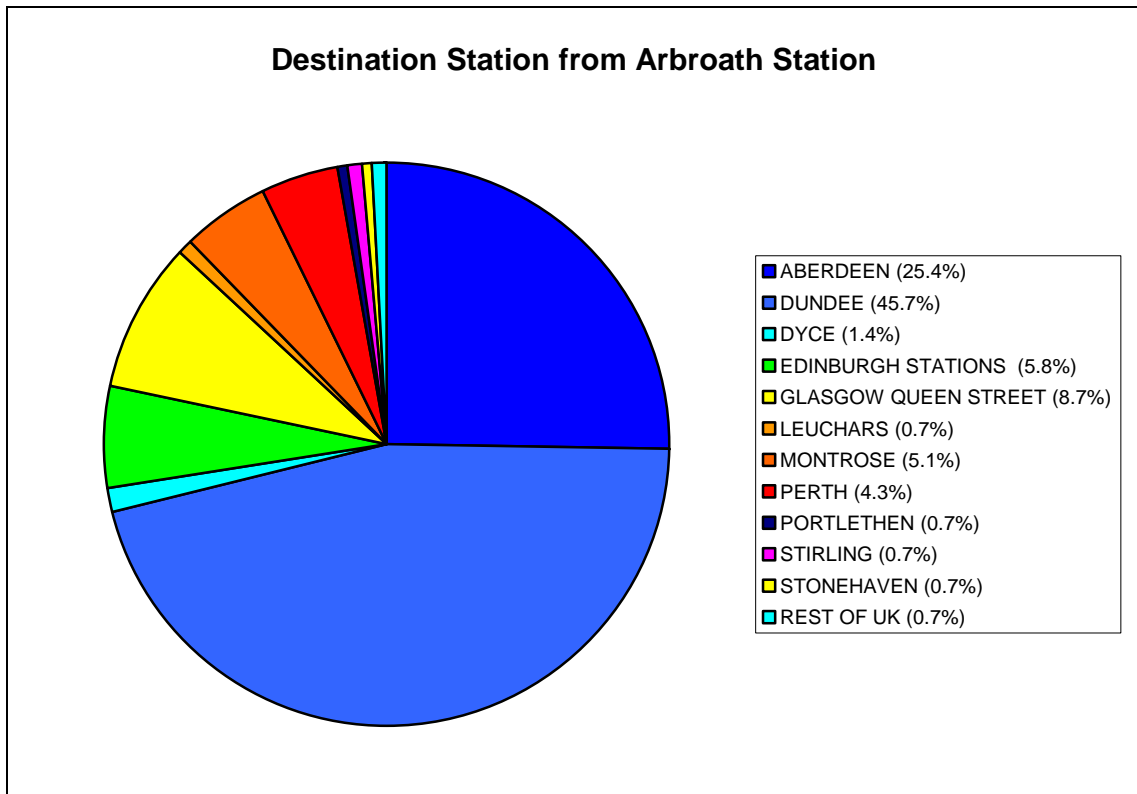


Figure 5.7 :Destination Station for Arbroath Passengers

Figure 5.7 confirms that the greatest proportion of passengers (46%) who access the rail network at Arbroath rail station, travel to Dundee rail station, 25% are reported to travel to Aberdeen and 9% to Glasgow Queen Street.



Figure 5.8 summarises the final destinations for passengers who board a train at Arbroath and confirms that the greatest proportion of passengers are travelling to Dundee and Aberdeen in the morning peak period.

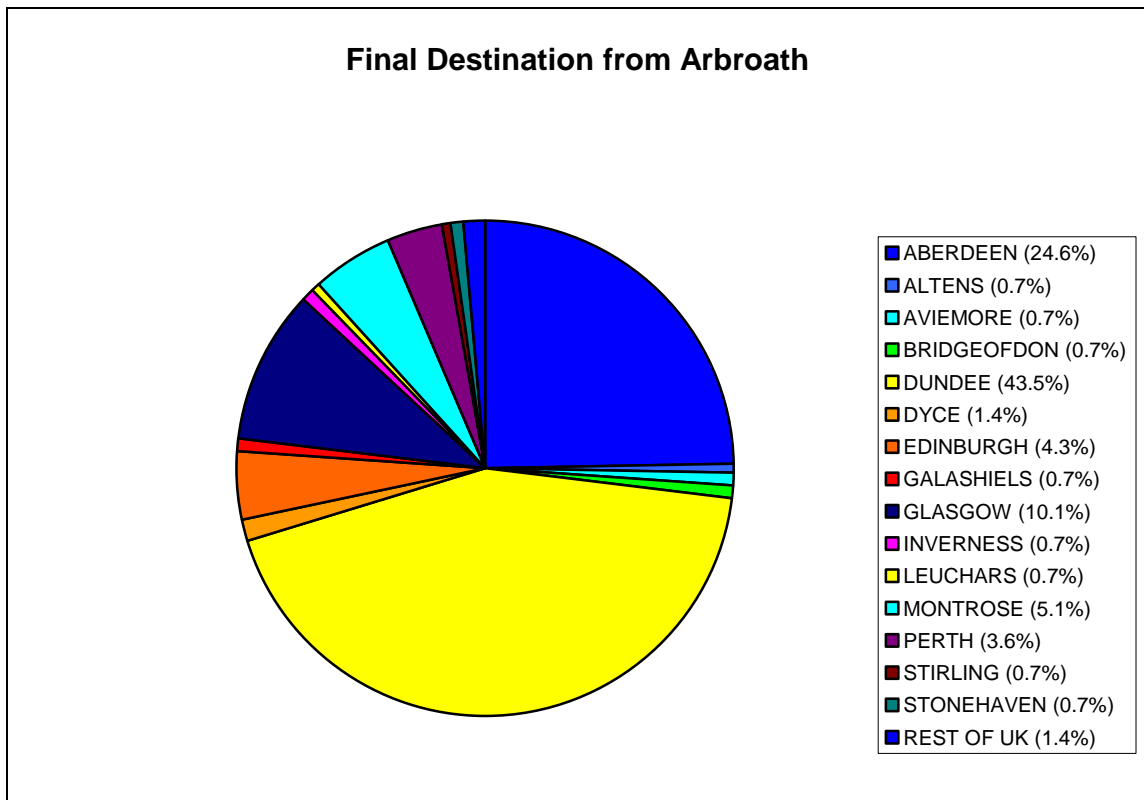


Figure 5.8 :Final Destination for Arbroath Passengers

Table 5.1 confirms the final destinations for passengers that alight at the main destination stations of Dundee and Aberdeen.

Table 5.1 : Final destination for Passengers Travelling From Arbroath

ABERDEEN	DUNDEE
ABERDEEN HARBOUR (5.9%)	CITY CENTRE (25%)
ABERDEEN NORTH (14.7%)	DUNDEE WEST (6.7%)
ABERDEEN SOUTH (8.8%)	HOSPITAL (3.3%)
ABERDEEN WEST (5.9%)	RETAIL PARK (1.7%)
BADENTOY (2.9%)	UNIVERSITY (5%)
CITY CENTRE (55.9%)	NOT GIVEN (58.3%)
COVE (2.9%)	
NOT GIVEN (2.9%)	

As can be seen from Table 5.1, of those passengers that choose to answer, the greatest proportion of passengers who travel from Arbroath to Dundee are shown to have their final destination in the centre of Dundee. Similarly, the greatest proportion of passengers who travel to Aberdeen, are shown to have their final destination in the centre of Aberdeen.



Figure 5.9 summarises the journey purpose for passengers travelling from Arbroath rail station.

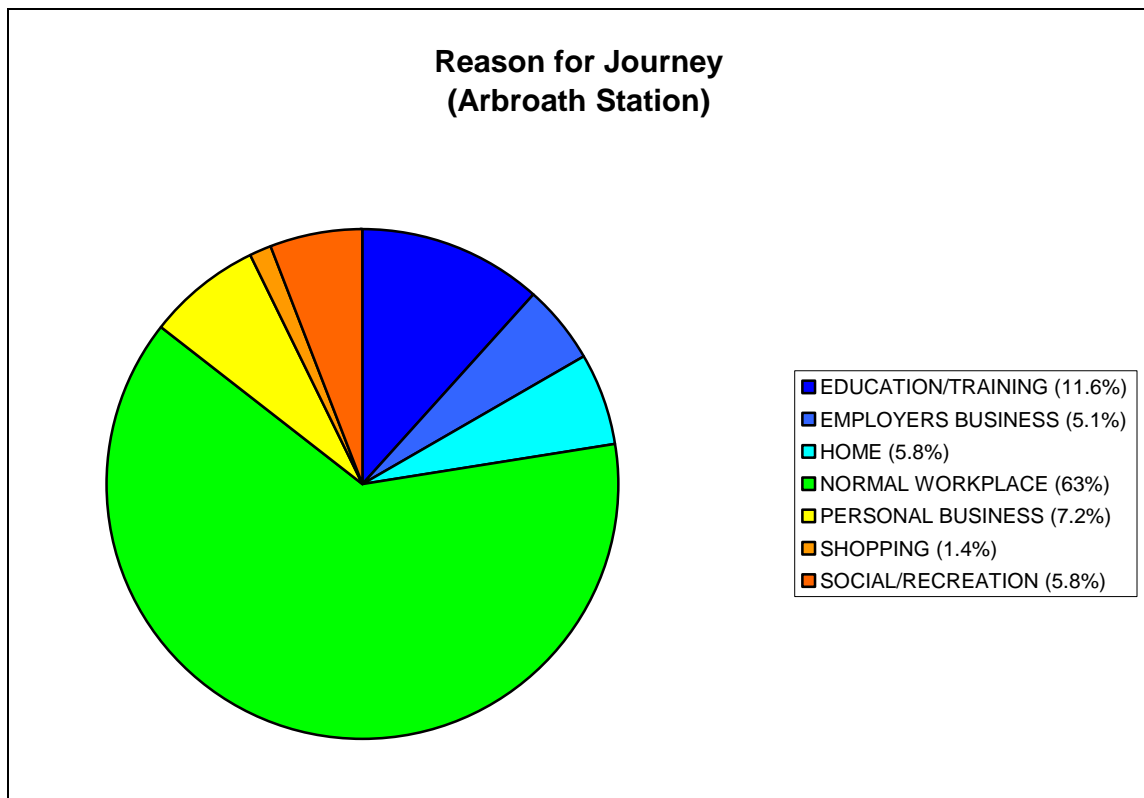


Figure 5.9 : Journey Purpose of Arbroath Passengers

Figure 5.9 confirms that the greatest proportion of surveyed Arbroath passengers were travelling to their normal workplace.

In summary, a high proportion of passengers currently arrive at Arbroath rail station on foot. This may reflect the accessible location of the station and that the majority of those travelling to the station currently live in Arbroath. The most popular destinations from the station are Dundee and Aberdeen, with the majority of final destinations being located in the centre of the cities.

The majority of passengers who drive to the rail station park in the station car park due to its convenient location, however, a significant proportion park in the British Legion's car park to avoid paying for parking throughout the day. The greatest proportion of surveyed Arbroath passengers were travelling to their normal workplace.

5.3 Balmossie Rail Station

Balmossie rail station was surveyed Thursday 5 March 2009. One passenger was observed to board the 06:25 service to Dundee however they declined to complete the questionnaire.

5.4 Barry Links Rail Station

Barry Links rail station was surveyed Thursday 5 March 2009. One passenger was observed to board the 06:18 service to Dundee with their final destination recorded to be Perth. Although they agreed to complete the survey, it is not possible to identify trends from such a small dataset.



5.5 Blair Atholl Rail Station

Blair Atholl rail station was surveyed Wednesday 11 March 2009. Two passengers were observed to board the 07:12 service to Edinburgh, however, only one agreed to complete the questionnaire. They confirmed that their final destination was Edinburgh. It is again not possible to identify trends from such a small dataset.

5.6 Bridge of Allan Rail Station

Bridge of Allan rail station was surveyed on Wednesday 4 March 2009. A total of **182** passengers were observed to board all rail services that departed from the station in the 4hr survey period with 38 passengers observed to alight from rail services. A total of **95** boarding passengers were interviewed which equates to a sample rate of 52%.

In terms of the demographics of passengers travelling from Bridge of Allan rail station in the survey period, a 61%/39% male/female split was recorded. The majority of passengers were aged between 16 and 60 with 3% aged over 60 and 4% aged under 16 surveyed to travel from the station during the survey period.

Figure 5.10 confirms the surveyed mode share of passengers travelling to Bridge of Allan rail station in the morning peak period.

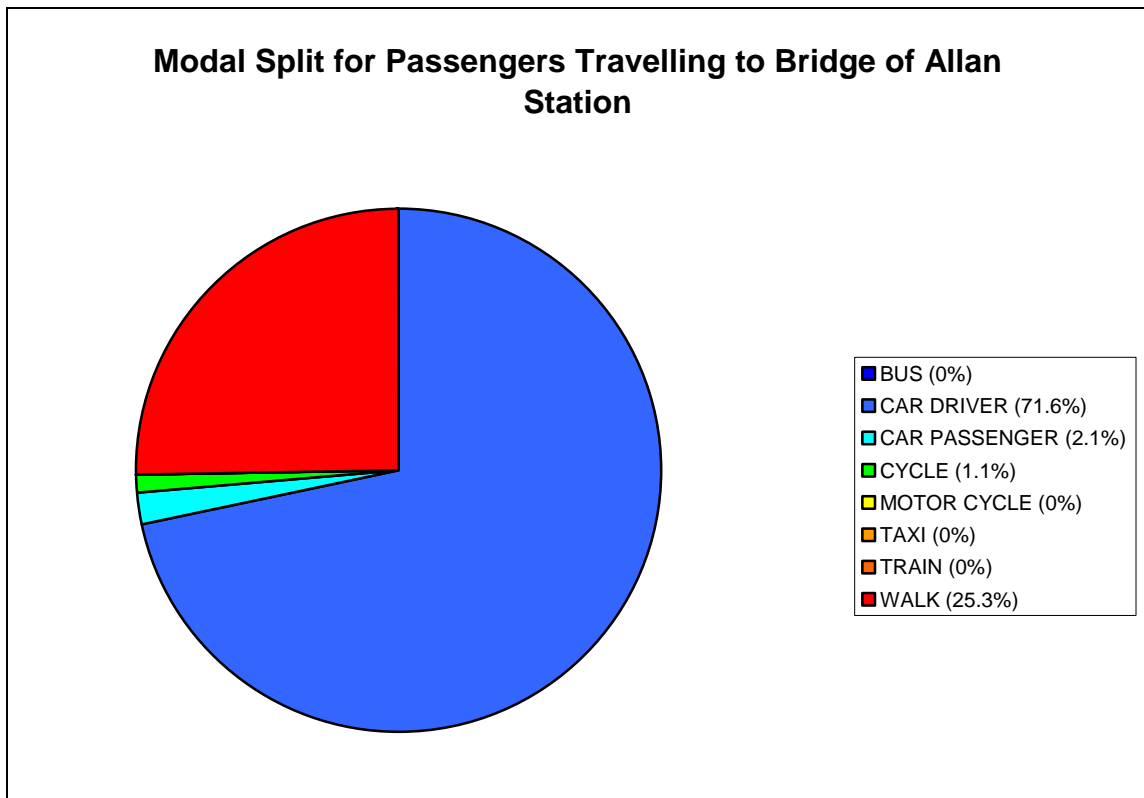


Figure 5.10 : Mode Share of Bridge of Allan Passengers

As can be seen from Figure 5.10, the greatest proportion of passengers (72%) reported to drive to the rail station. 25% of passengers are reported to walk to the station..



Figure 5.11 confirms the origins of passengers travelling to Bridge of Allan rail station and Figure 5.12 shows a spatial plot of the passengers' origins in relation to the rail station.

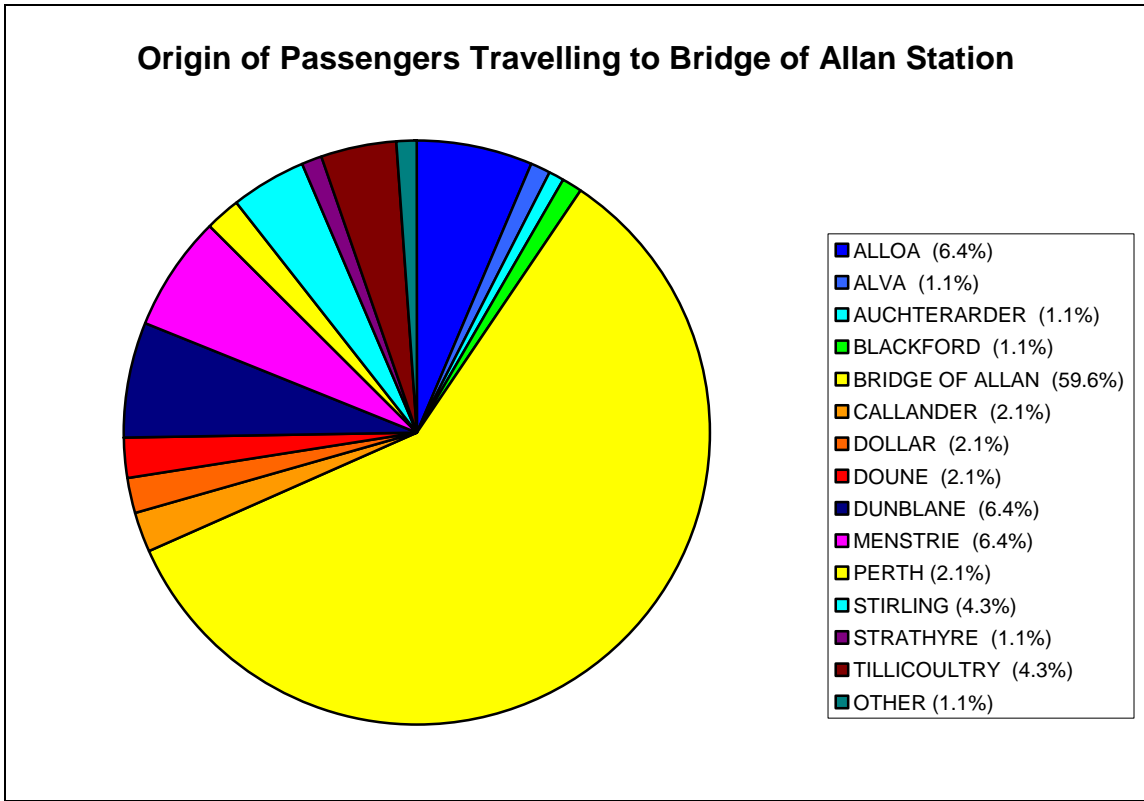


Figure 5.11 : Bridge of Allan Passenger Origins

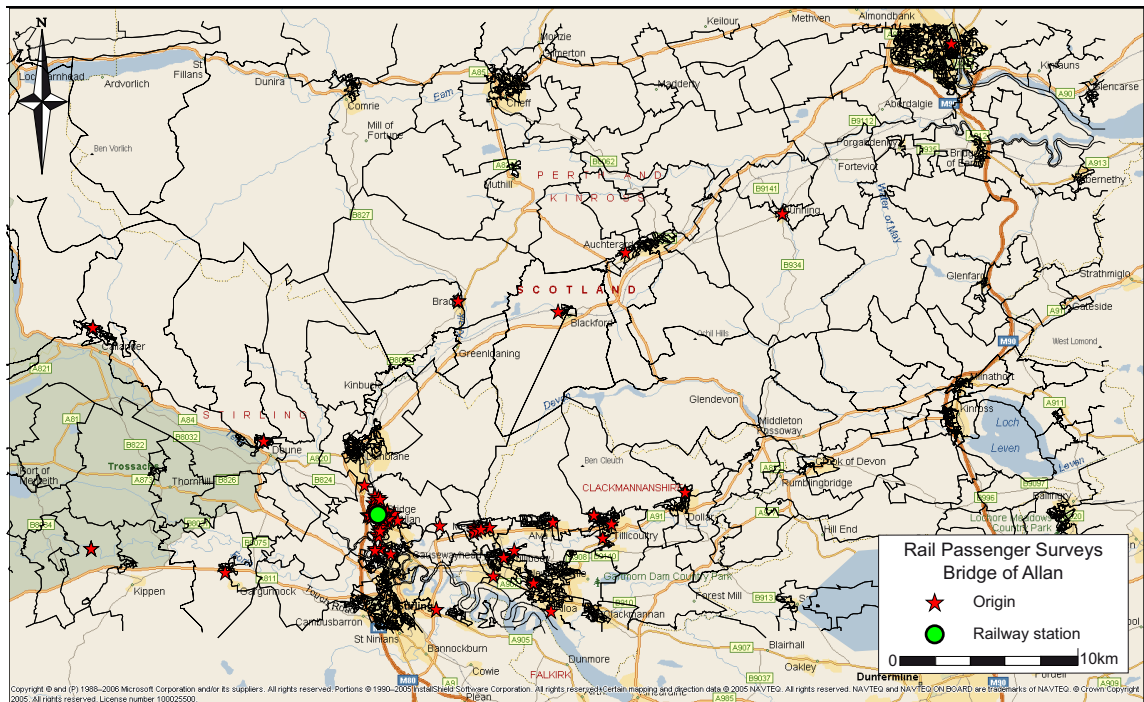


Figure 5.12 : Bridge of Allan Passenger Origins in relation to the rail station



As can be seen from the origins of Bridge of Allan rail station passengers, the majority of passenger journeys (59%) are reported to originate in Bridge of Allan and it is suggested that this has resulted in a significant proportion of passengers travelling on foot to the rail station as shown in Figure 5.10. Passengers are also shown to originate from Clackmannanshire and from the north of Bridge of Allan along the A9(T) corridor.

Figure 5.13 summarises the main reason passengers choose to travel from Bridge of Allan rail station.

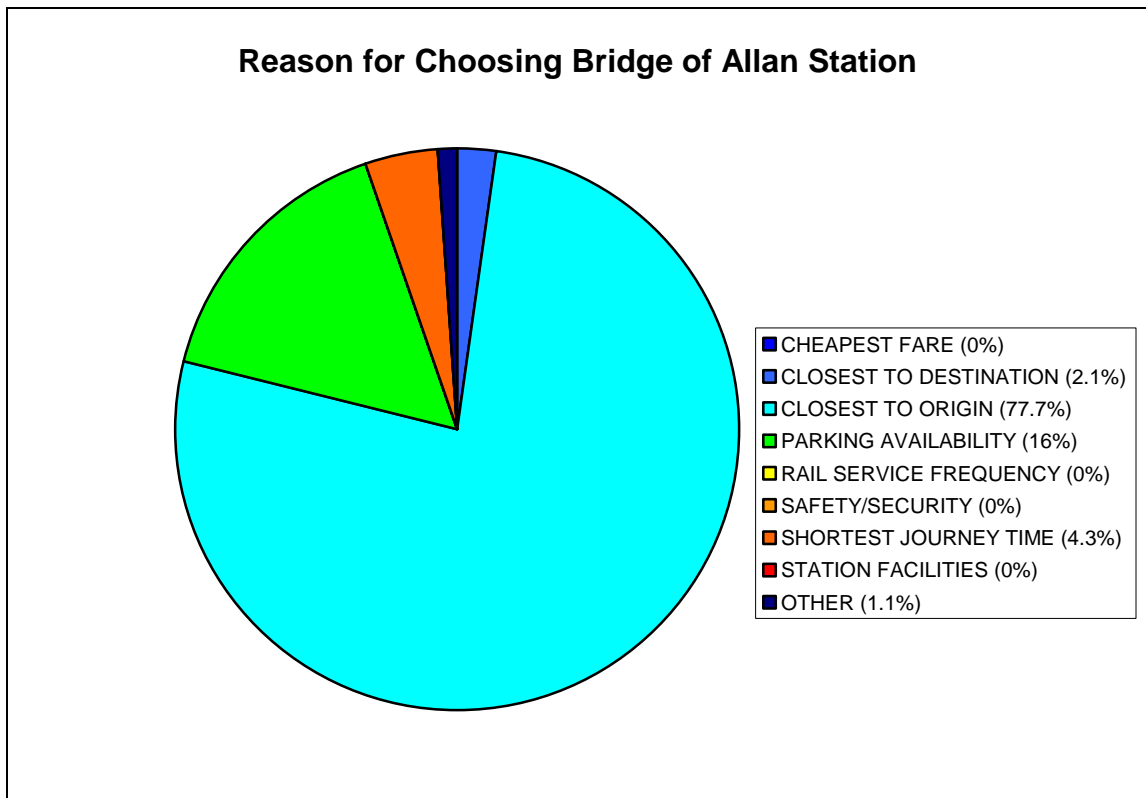


Figure 5.13 : Reason for Choosing Bridge of Allan Rail Station

As can be seen from the above summary, the majority of passengers confirmed that they travel from this station as it is located closest to their origin. Parking availability was also cited by a significant proportion of passengers as a reason for choosing to travel from Bridge of Allan station.



In terms of passenger parking, Figure 5.14 confirms the locations where passengers parked when travelling from Bridge of Allan rail station.

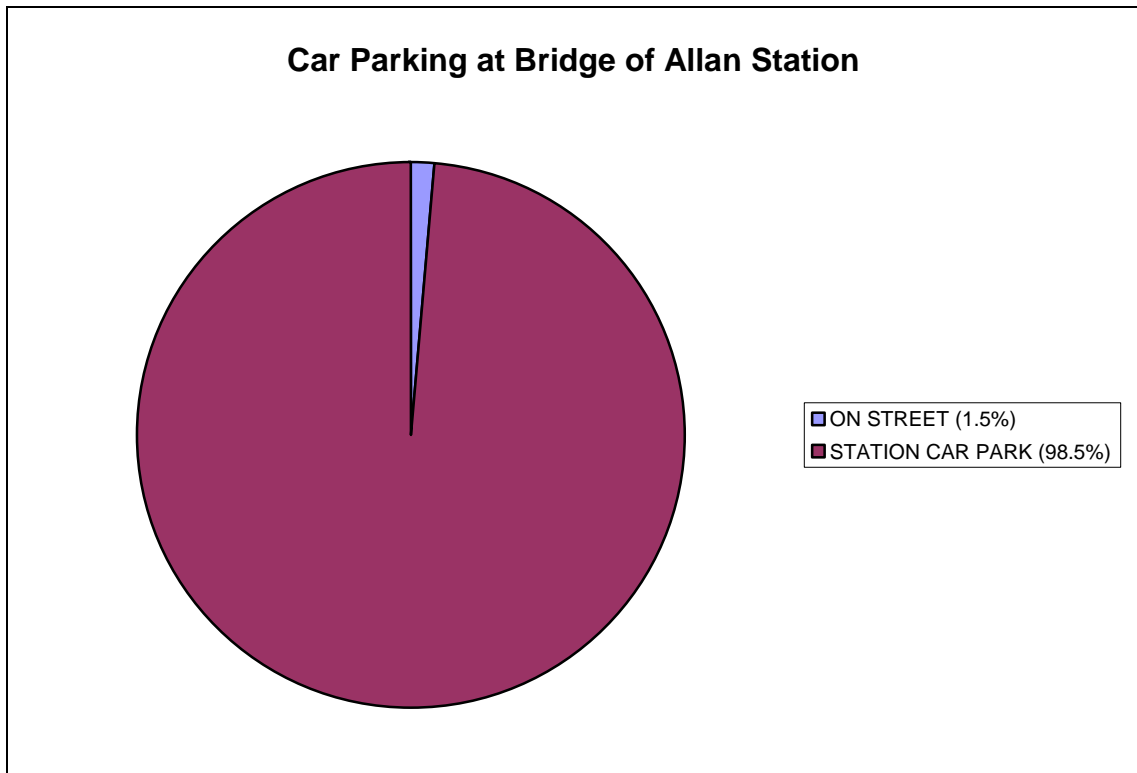


Figure 5.14 : Car Parking Location for Bridge of Allan Passengers

Figure 5.14 confirms that the majority of passengers who drove to the rail station parked in the station car park.



Figure 5.15 summarises passengers' main reason for parking in their chosen location.

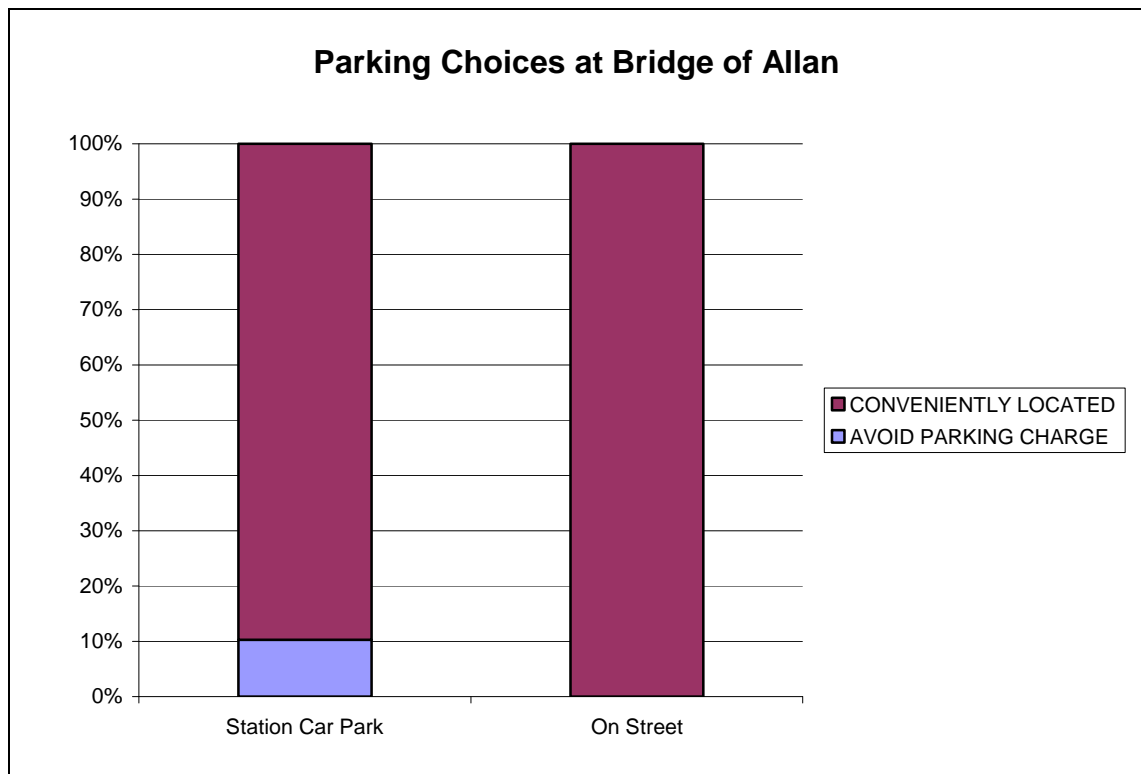


Figure 5.15 : Reason for Choosing Car Parking Location for Bridge of Allan Passengers

As can be seen from the above summary, the majority of passengers who park in the station car park confirm that they parked there for reasons of convenience.



Figure 5.16 shows the destination station for passengers travelling from Bridge of Allan station.

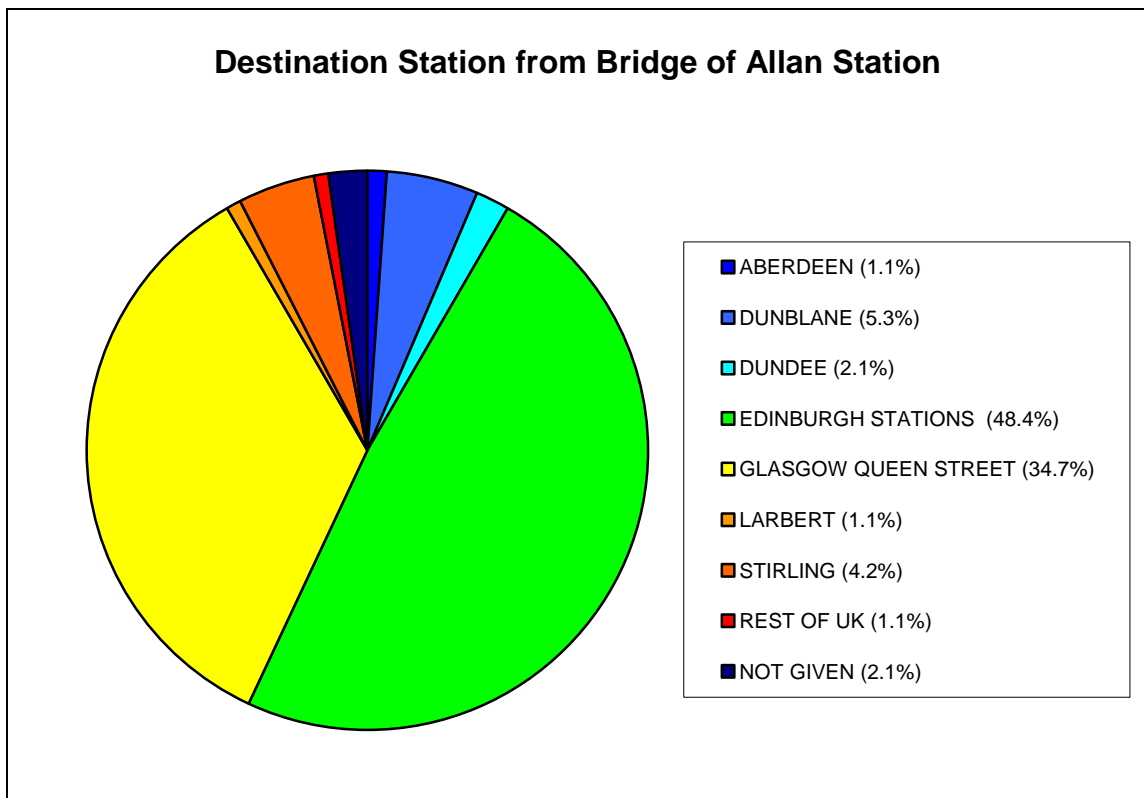


Figure 5.16 :Destination Station for Bridge of Allan Passengers

Figure 5.16 confirms that the greatest proportion of passengers (48%) who access the rail network at Bridge of Allan rail station travel to Edinburgh rail stations with 35% reported to travel to Glasgow Queen Street.



Figure 5.17 summarises the final destinations for passengers who board a train at Bridge of Allan and confirms that the greatest proportion of passengers are travelling to Edinburgh and Glasgow in the morning peak period.

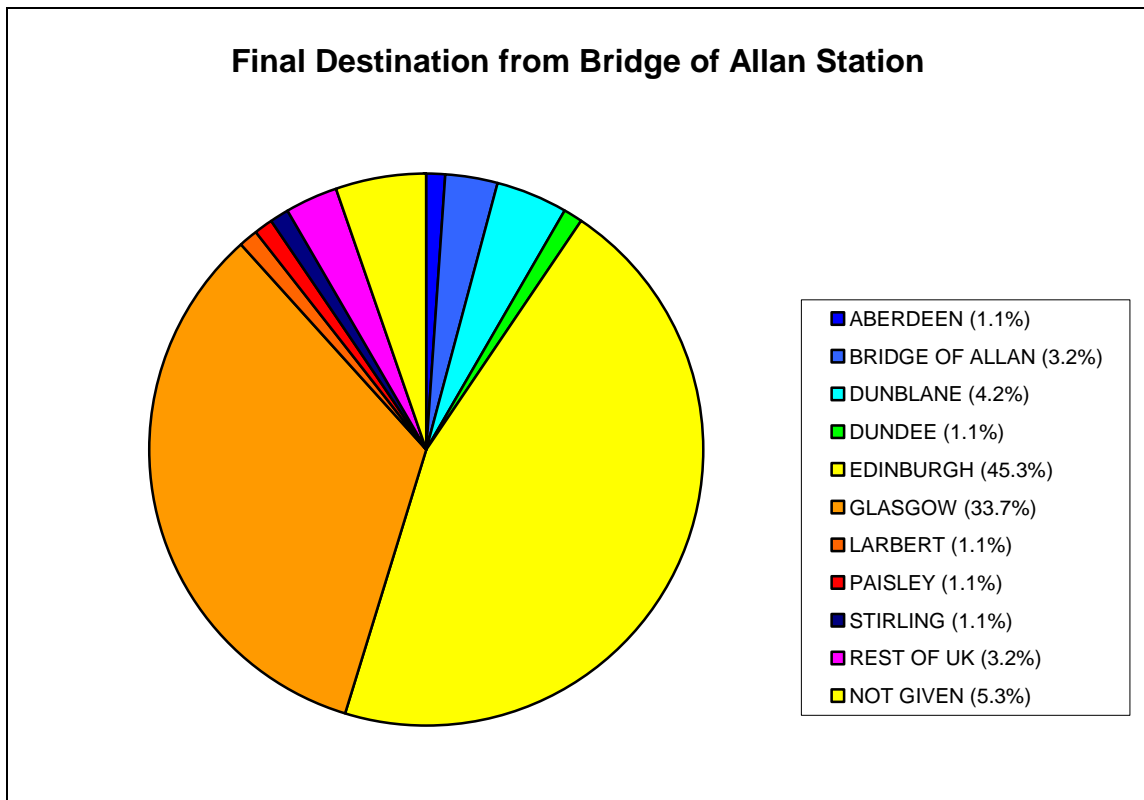


Figure 5.17 :Final destination for Bridge of Allan Passengers

Table 5.2 confirms the final destinations for passengers that alight at the main destination stations of Edinburgh and Glasgow.

Table 5.2 : Final destination for passengers travelling from Bridge of Allan

EDINBURGH	GLASGOW
CITY CENTRE (69.8%)	CITY CENTRE (81.3%)
EDINBURGH PARK (4.7%)	GLASGOW EAST (3.1%)
EDINBURGH SOUTH (2.3%)	NOT GIVEN (15.6%)
EDINBURGH WEST (2.3%)	
GOGARBURN (2.3%)	
GYLE SQUARE (2.3%)	
ROSEWELL (2.3%)	
NOT GIVEN (14%)	

As can be seen from Table 5.2, of those passengers who choose to answer, the greatest proportion of passengers who travel from Bridge of Allan to Edinburgh are shown to have their final destination in the centre of Edinburgh. Similarly, the greatest proportion of passengers who travel to Glasgow are shown to have their final destination in the centre of Glasgow.



Figure 5.18 summarises the journey purpose for passengers travelling from Bridge of Allan rail station.

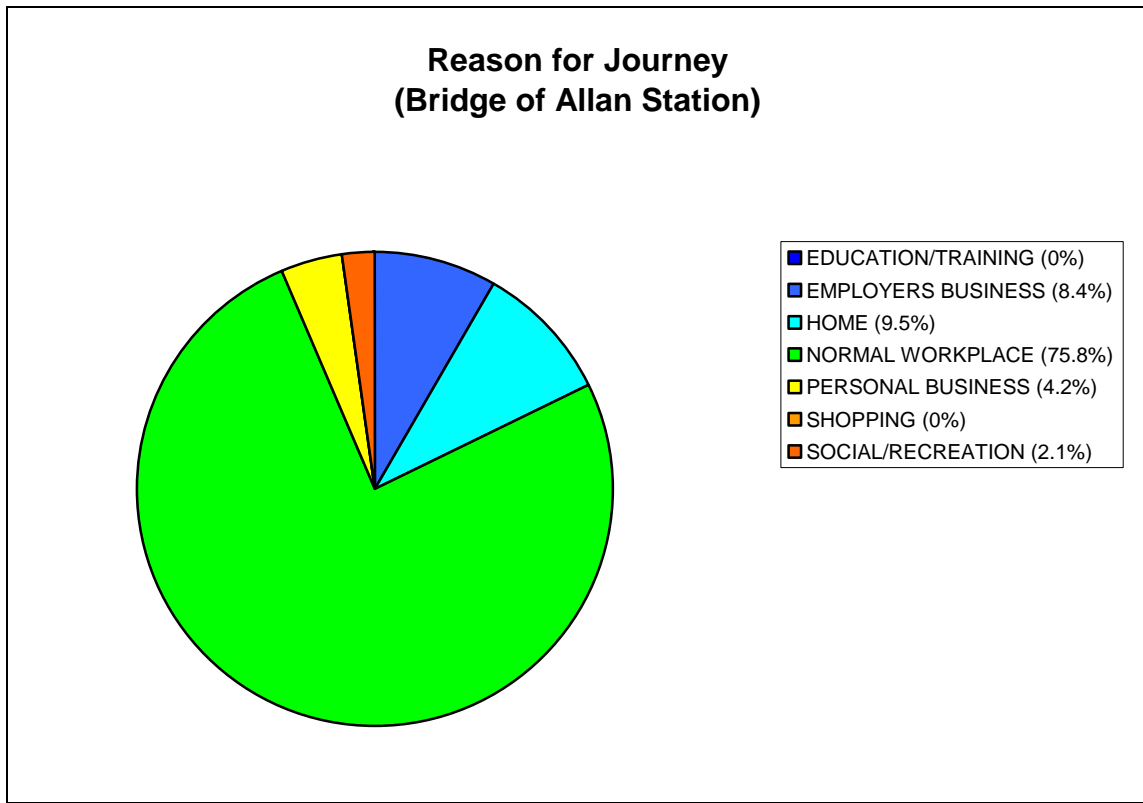


Figure 5.18 : Journey Purpose of Bridge of Allan Passengers

Figure 5.18 confirms that the greatest proportion of surveyed Bridge of Allan passengers were travelling to their normal workplace.

In summary, a high proportion of passengers currently arrive at Bridge of Allan rail station on foot. However, the majority of passengers arrive by car. The most popular destinations from the station are Edinburgh and Glasgow, with the majority of final destinations being located in the centre of the cities.

The majority of drivers are reported to park in the station car park with convenience cited as the main reason for parking at the station. The greatest proportion of surveyed Bridge of Allan passengers were travelling to their normal workplace.

5.7 Broughty Ferry Rail Station

Broughty Ferry rail station was surveyed Thursday 5 March 2009. Three passengers were observed to board the 06:29 service to Dundee. The three passengers reported to be travelling to Edinburgh, Glasgow and Aberdeen. Although they agreed to complete the survey, it is not possible to identify trends from such a small dataset.

5.8 Carnoustie Rail Station

Carnoustie rail station was surveyed on Thursday 5 March 2009. A total of **123** passengers were observed to board all rail services that departed from the station in the 4hr survey period with 6 passengers observed to alight from rail services. A total of **46** boarding passengers were interviewed which equates to a sample rate of 37%.



In terms of the demographics of passengers travelling from Carnoustie rail station in the survey period, a 48%/52% male/female split was recorded. The majority of passengers were aged between 16 and 60 with 9% aged over 60 and no passengers aged under 16 surveyed to travel from the station during the survey period.

Figure 5.19 confirms the surveyed mode share of passengers travelling to Carnoustie rail station in the morning peak period.

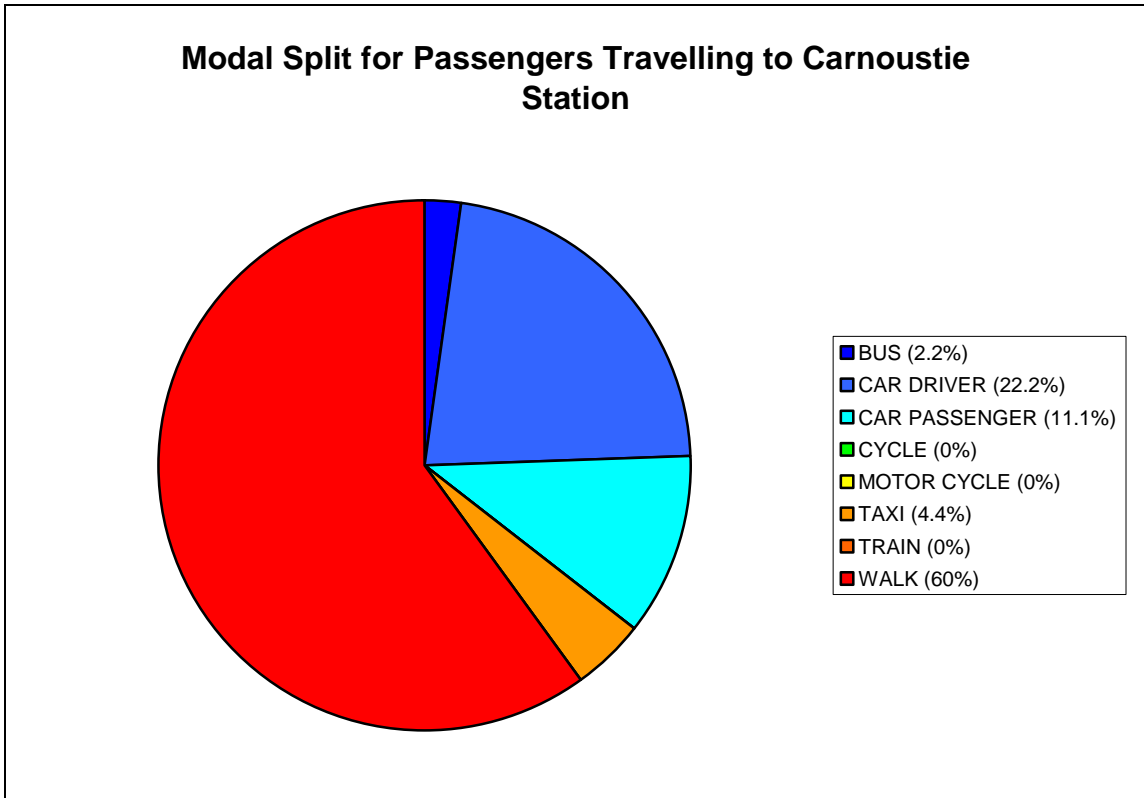


Figure 5.19 : Mode Share of Carnoustie Passengers

As can be seen from Figure 5.19, the greatest proportion of passengers (60%) reported to walk to the rail station. This is may be a reflection of the accessible location of the station in the centre of Carnoustie. 22% of passengers are reported to drive to the station with 11% arriving as a car passenger.



Figure 5.20 confirms the origins of passengers travelling to Carnoustie rail station and Figure 5.21 shows a spatial plot of the passengers' origins in relation to the rail station.

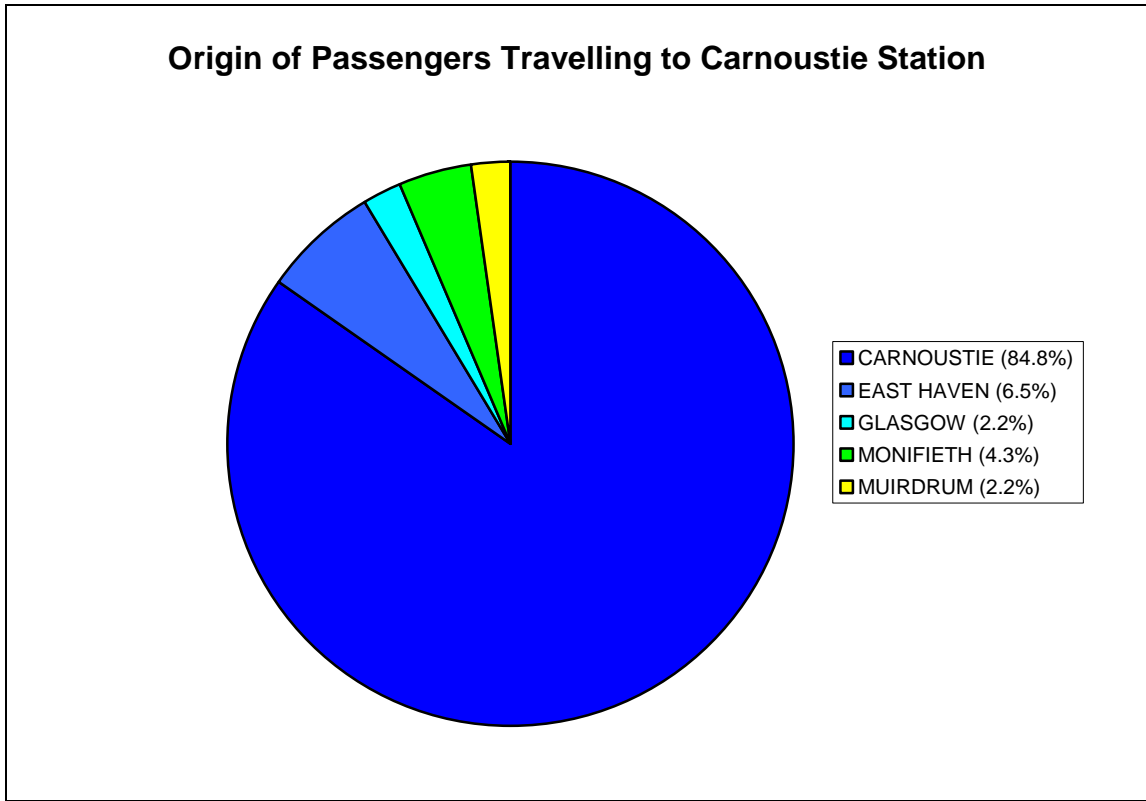


Figure 5.20 : Carnoustie Passenger Origins

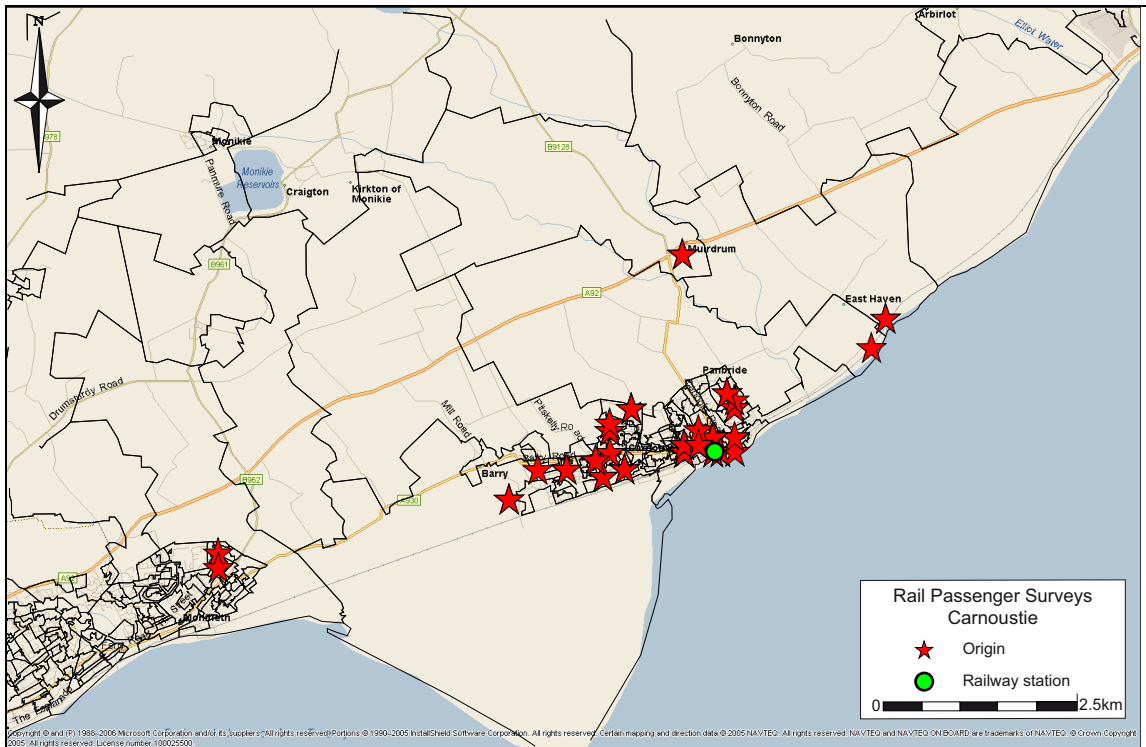


Figure 5.21 : Carnoustie Passenger Origins in relation to the rail station



As can be seen from the origins of Carnoustie rail station passengers, the majority of passengers (89%) are reported to live in Carnoustie and it is suggested that this has resulted in a significant proportion of passengers travelling on foot to the rail station as shown in Figure 5.19.

Figure 5.22 summarises the main reason passengers choose to travel from Carnoustie rail station.

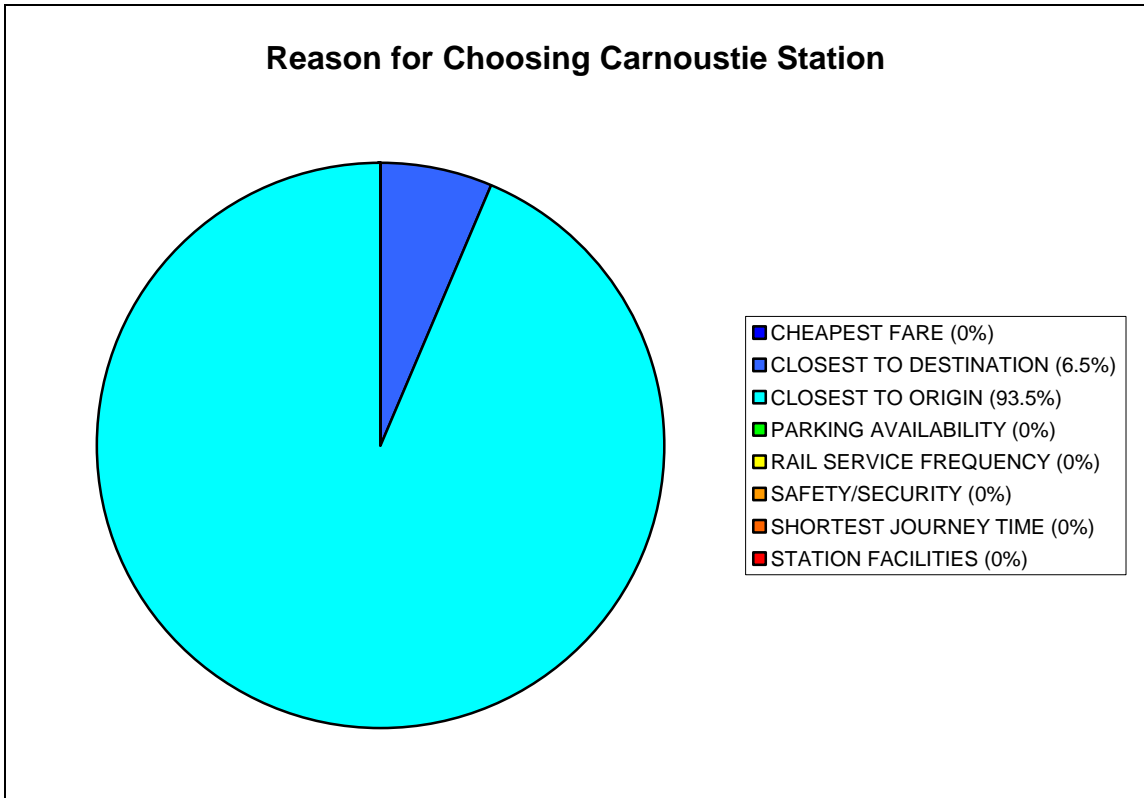


Figure 5.22 : Reason for Choosing Carnoustie Rail Station

As can be seen from the above summary, the majority of passengers confirmed that they travel from this station as it is located closest to their origin.



In terms of passenger parking, Figure 5.23 confirms the locations where passengers parked when travelling from Carnoustie rail station.

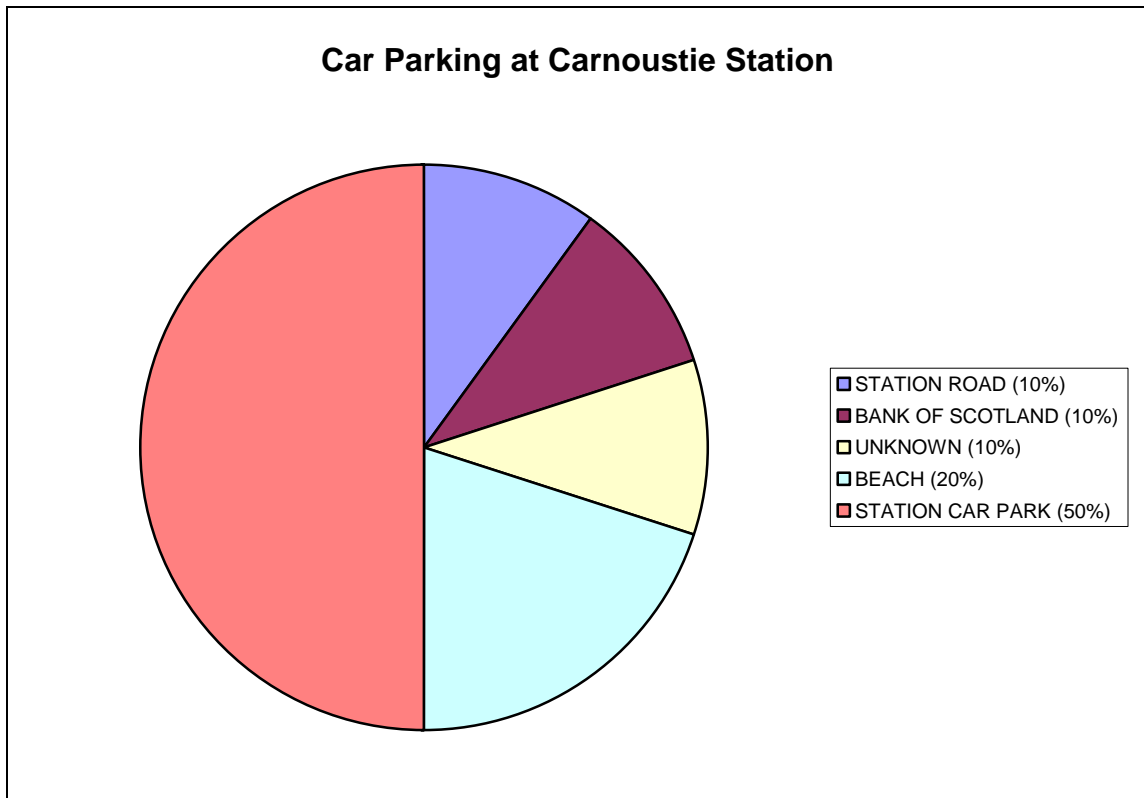


Figure 5.23 : Car Parking Location for Carnoustie Passengers

Figure 5.23 confirms that the greatest proportion of passengers who drove to the rail station parked in the station car park.



Figure 5.24 summarises passengers’ main reason for parking in their chosen car park.

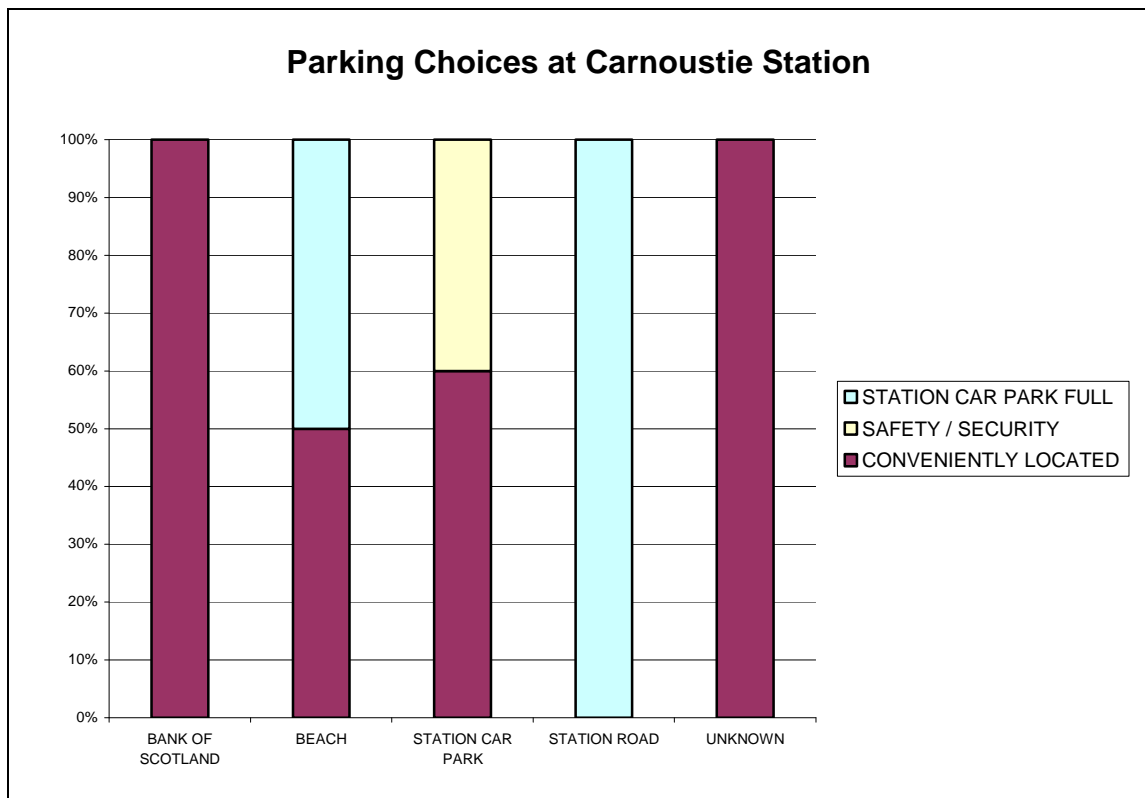


Figure 5.24 : Reason for Choosing Car Parking Location for Carnoustie Passengers

As can be seen from the above summary, passengers who park in the station car park confirm that they parked there due to the convenience and safety and security of the car park. Convenience of location and the station car park being full was cited by passengers who parked outwith the station car park.

Figure 5.25 shows the destination station for passengers travelling from Carnoustie station.

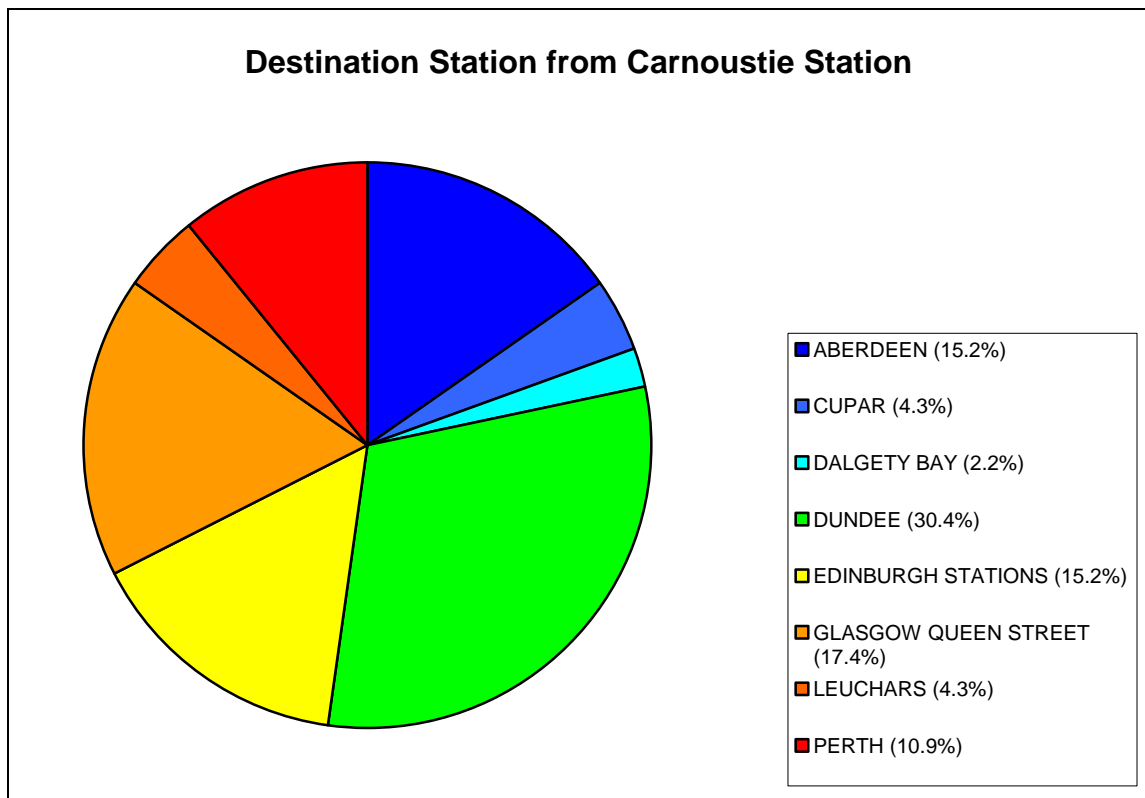


Figure 5.25 :Destination Station for Carnoustie Passengers

Figure 5.25 confirms that the greatest proportion of passengers (30%) who access the rail network at Carnoustie rail station travel to Dundee rail station with 17% reported to travel to Glasgow Queen Street, 15% travelling to Aberdeen and 15% to Edinburgh rail stations.



Figure 5.26 summarises the final destinations for passengers who board a train at Carnoustie and confirms that the greatest proportion of passengers are travelling to Dundee, Glasgow, Aberdeen and Edinburgh in the morning peak period.

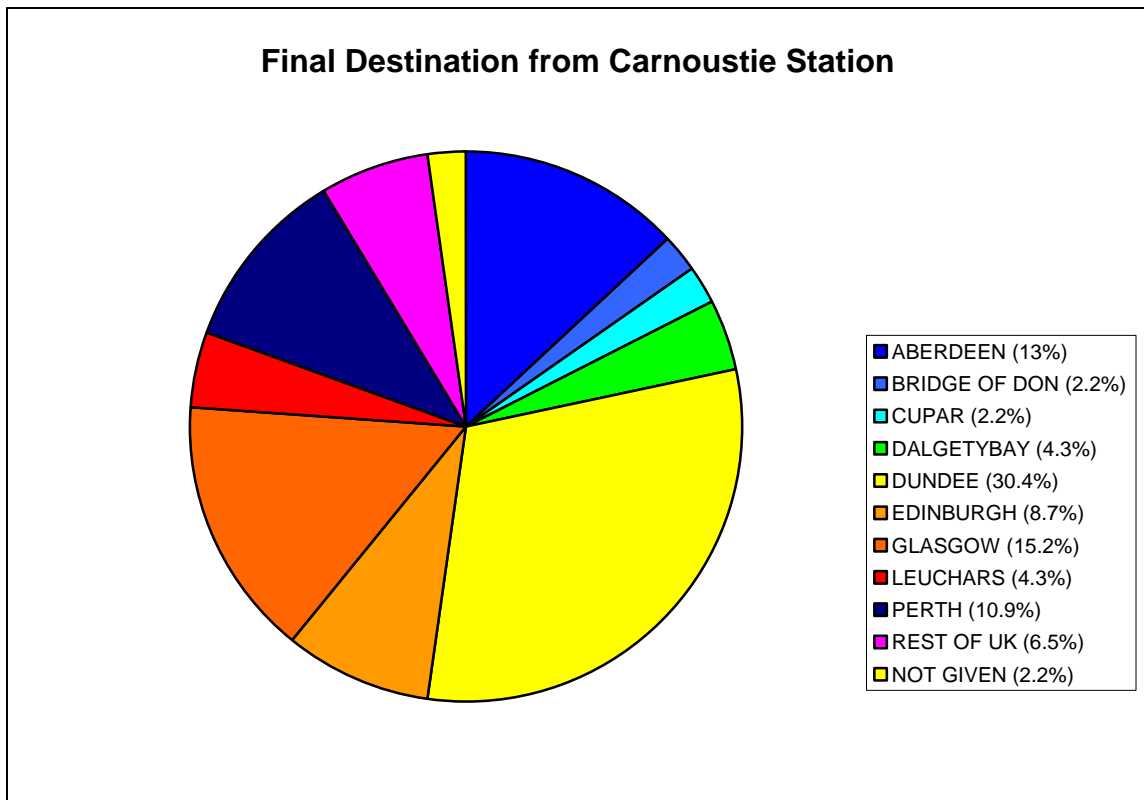


Figure 5.26 :Final destination for Carnoustie Passengers

Table 5.3 confirms the final destinations for passengers that alight at the main destination stations of Dundee, Glasgow, Aberdeen and Edinburgh.

Table 5.3 : Final destination for Passengers Travelling from Carnoustie

ABERDEEN		DUNDEE	
ABERDEEN NORTH (14.3%)		CITY CENTRE (100%)	
BRIDGE OF DON (14.3%)			
CITY CENTRE (57.1%)			
NOT GIVEN (14.3%)			
EDINBURGH		GLASGOW	
CITY CENTRE (100%)		CITY CENTRE (100%)	

As can be seen from Table 5.3, of those passengers that choose to answer, the greatest proportion of passengers who travel from Carnoustie to the above destinations are shown to have their final destination in the centre of the cities.



Figure 5.27 summarises the journey purpose for passengers travelling from Carnoustie rail station.

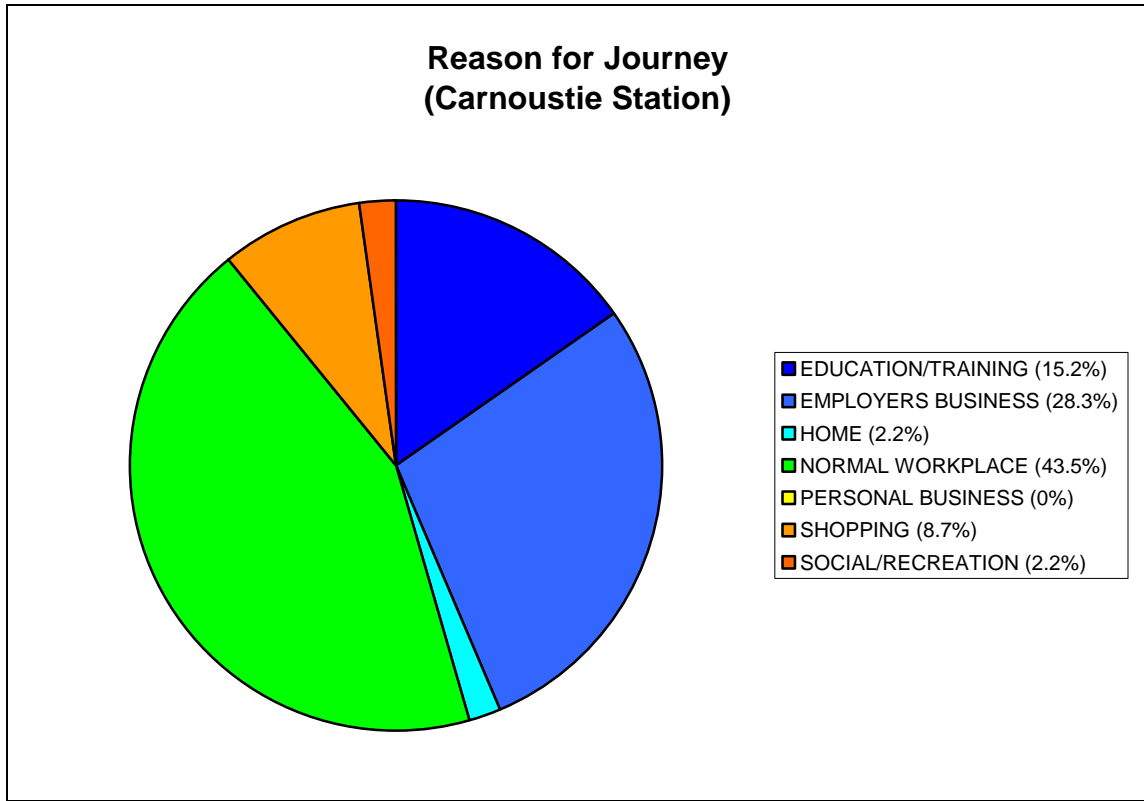


Figure 5.27 : Journey Purpose of Carnoustie Passengers

Figure 5.27 confirms that the greatest proportion of surveyed Carnoustie passengers were travelling to their normal workplace. A large proportion of passengers were also reported to be travelling on employer business on the day of the survey.

In summary, a high proportion of passengers currently arrive at Carnoustie rail station on foot. This may reflect the accessible location of the station and that the majority of journeys to the station originate in Carnoustie. The most popular destinations from the station are Dundee, Glasgow, Aberdeen and Edinburgh, with the majority of final destinations being located in the centre of the cities.

The greatest proportion of drivers are reported to park in the station car park with convenience cited as the main reason for parking at the station. The greatest proportion of surveyed Carnoustie passengers were travelling to their normal workplace.

5.9 Crianlarich Rail Station

Crianlarich rail station was surveyed Thursday 12 March 2009. One passenger was observed to board the 09:36 service to Glasgow with their final destination located within the city. Although they agreed to complete the survey, it is not possible to identify trends from such a small dataset.

5.10 Dunblane Rail Station

Dunblane rail station was surveyed on Wednesday 4 March 2009. A total of **378** passengers were observed to board all rail services that departed from the station in the 4hr survey period



with 10 passengers observed to alight from rail services. A total of **118** boarding passengers were interviewed which equates to a sample rate of 31%.

In terms of the demographics of passengers travelling from Dunblane rail station in the survey period, a 59%/41% male/female split was recorded. The majority of passengers were aged between 16 and 60 with 6% aged over 60 and no passengers aged under 16 surveyed to travel from the station during the survey period.

Figure 5.28 confirms the surveyed mode share of passengers travelling to Dunblane rail station in the morning peak period.

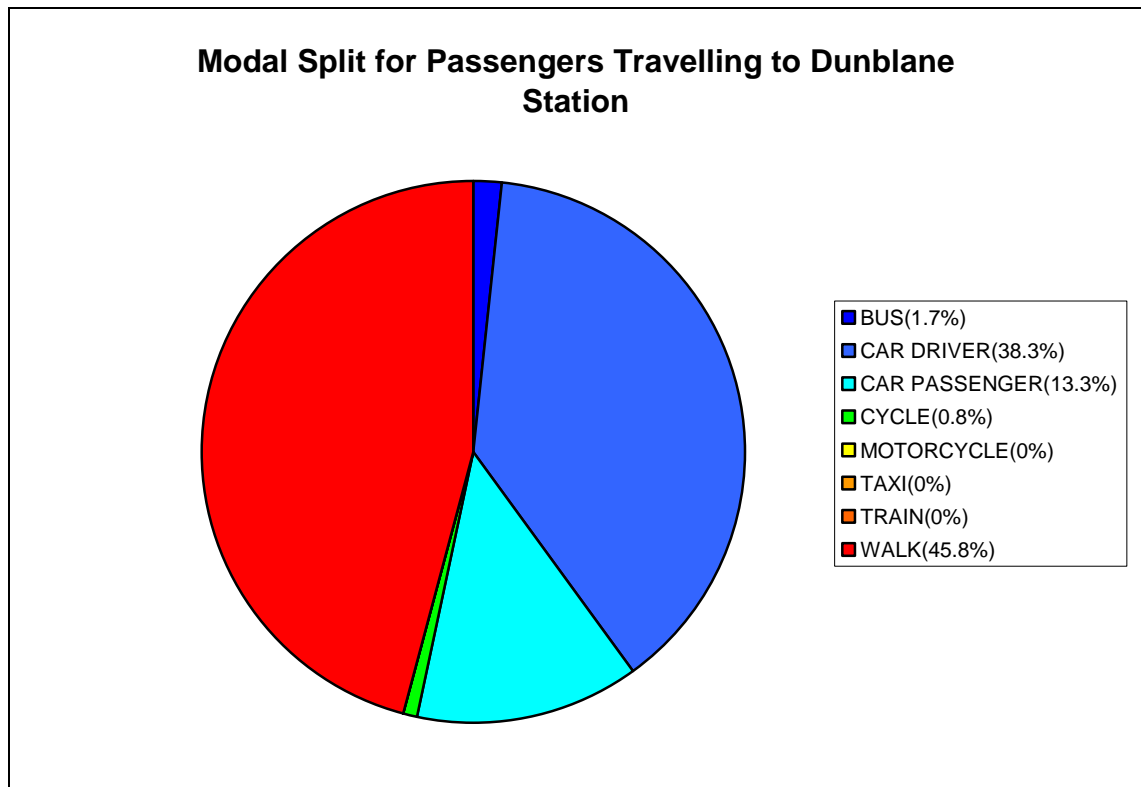


Figure 5.28 : Mode Share of Dunblane Passengers

As can be seen from Figure 5.28, the greatest proportion of passengers (46%) reported to walk to the rail station. This is expected to be a reflection of the accessible location of the station in the centre of Dunblane. 38% of passengers are reported to drive to the station with 13% arriving as a car passenger.



Figure 5.29 confirms the origins of passengers travelling to Dunblane rail station and Figure 5.30 shows a spatial plot of the passengers' origins in relation to the rail station.

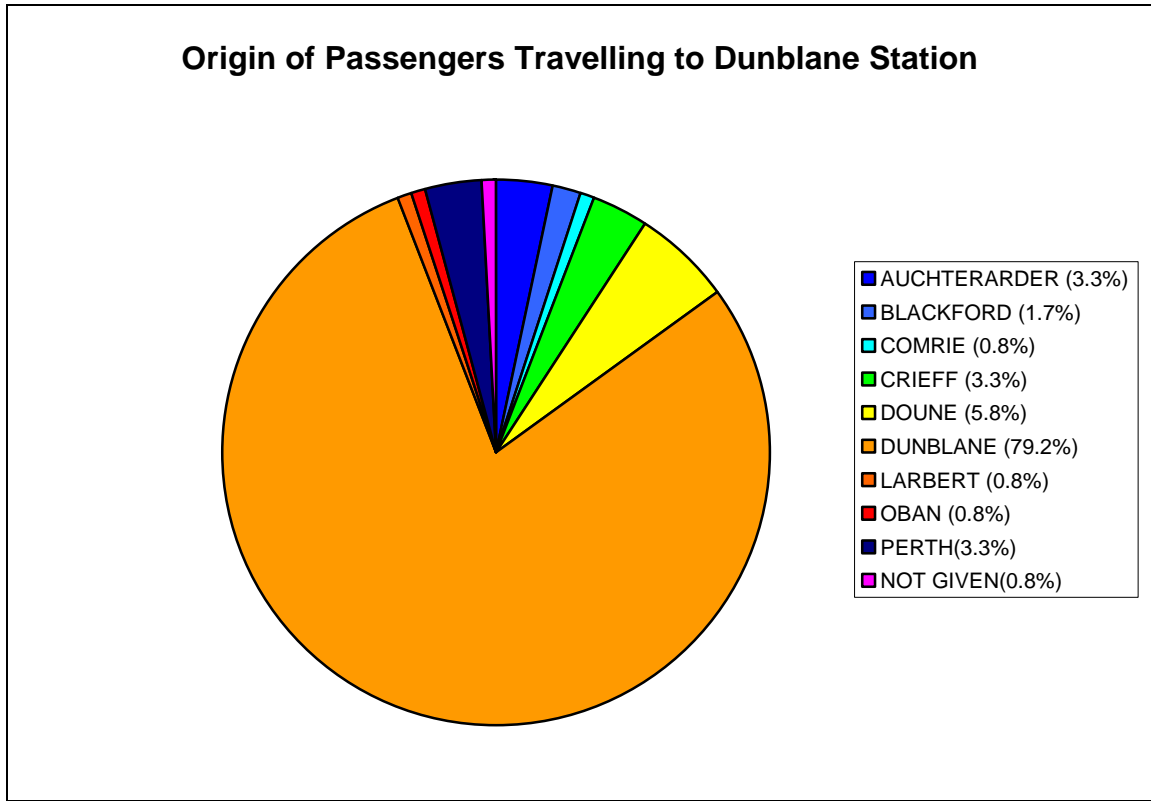


Figure 5.29 : Dunblane Passenger Origins

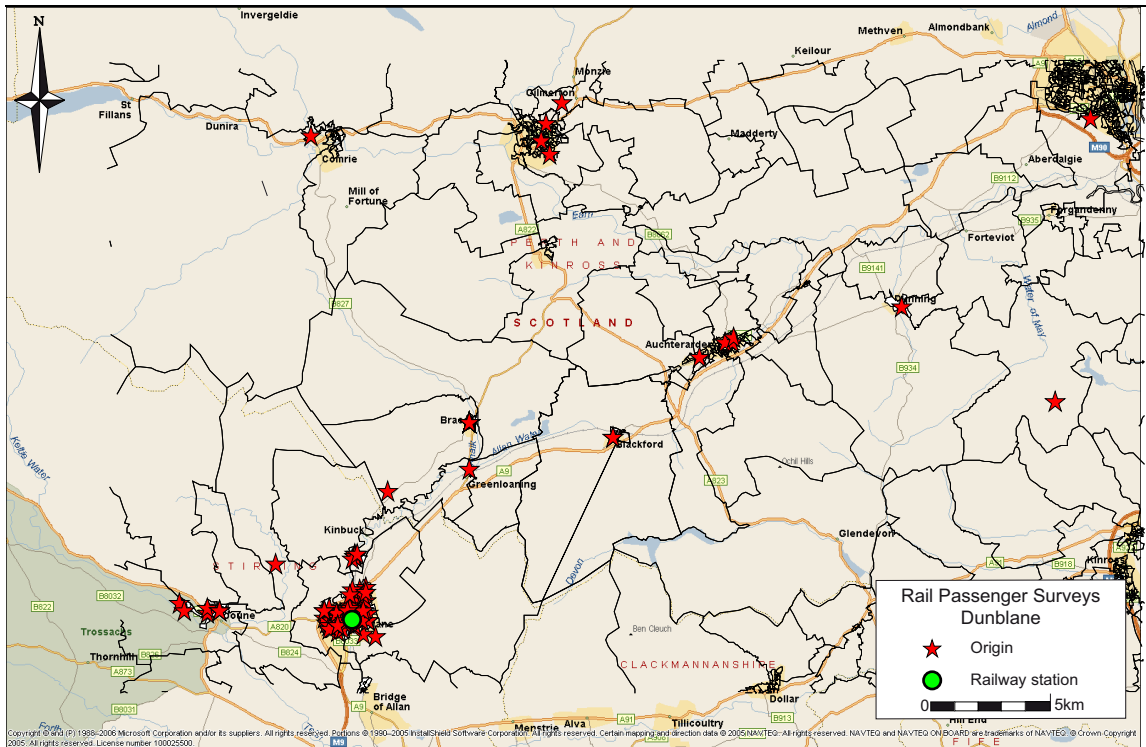


Figure 5.30 : Dunblane Passenger Origins in relation to the rail station



As can be seen from the origins of Dunblane rail station passengers, the majority of passenger journeys (79%) are reported to originate in Dunblane and it is suggested that this has resulted in a significant proportion of passengers travelling on foot to the rail station as shown in Figure 5.28. A number of passengers are also shown to live to the north of the station in towns that include Crieff, Perth and Auchterarder.

Figure 5.31 summarises the main reason passengers choose to travel from Dunblane rail station.

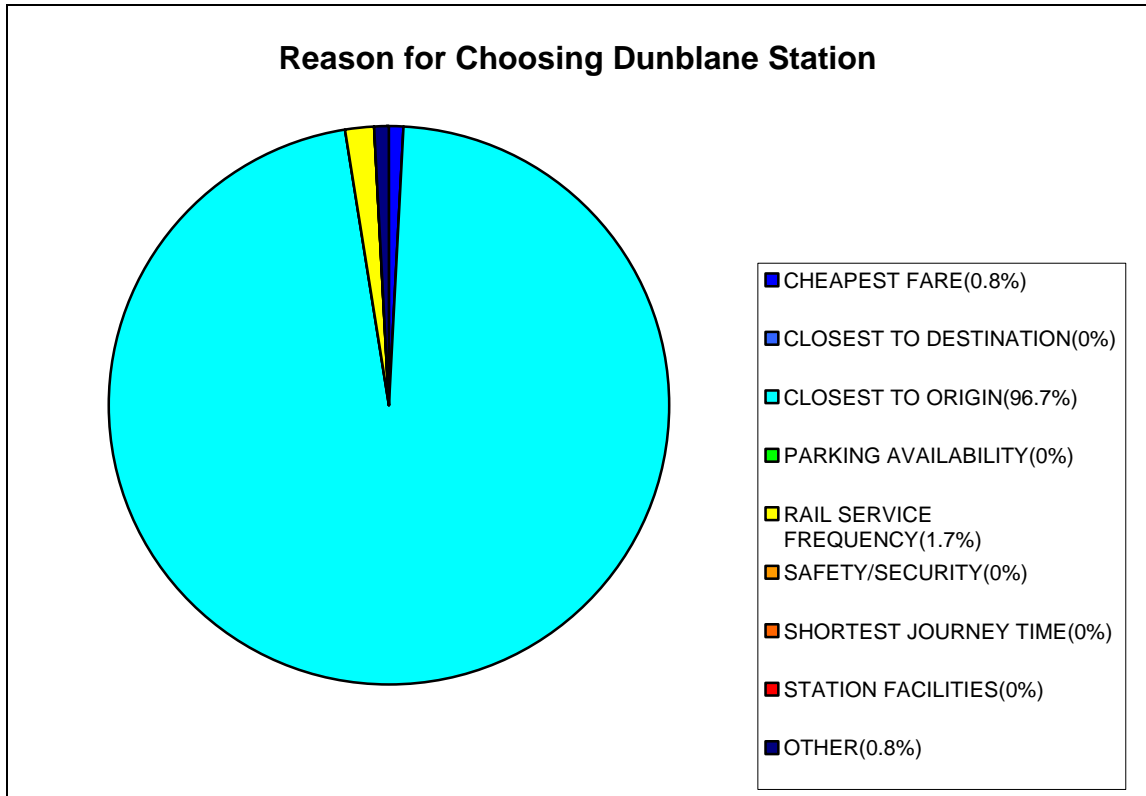


Figure 5.31 : Reason for Choosing Dunblane Rail Station

As can be seen from the above summary, the majority of passengers confirmed that they travel from this station as it is located closest to their origin.



In terms of passenger parking, Figure 5.32 confirms the locations where passengers parked when travelling from Dunblane rail station.

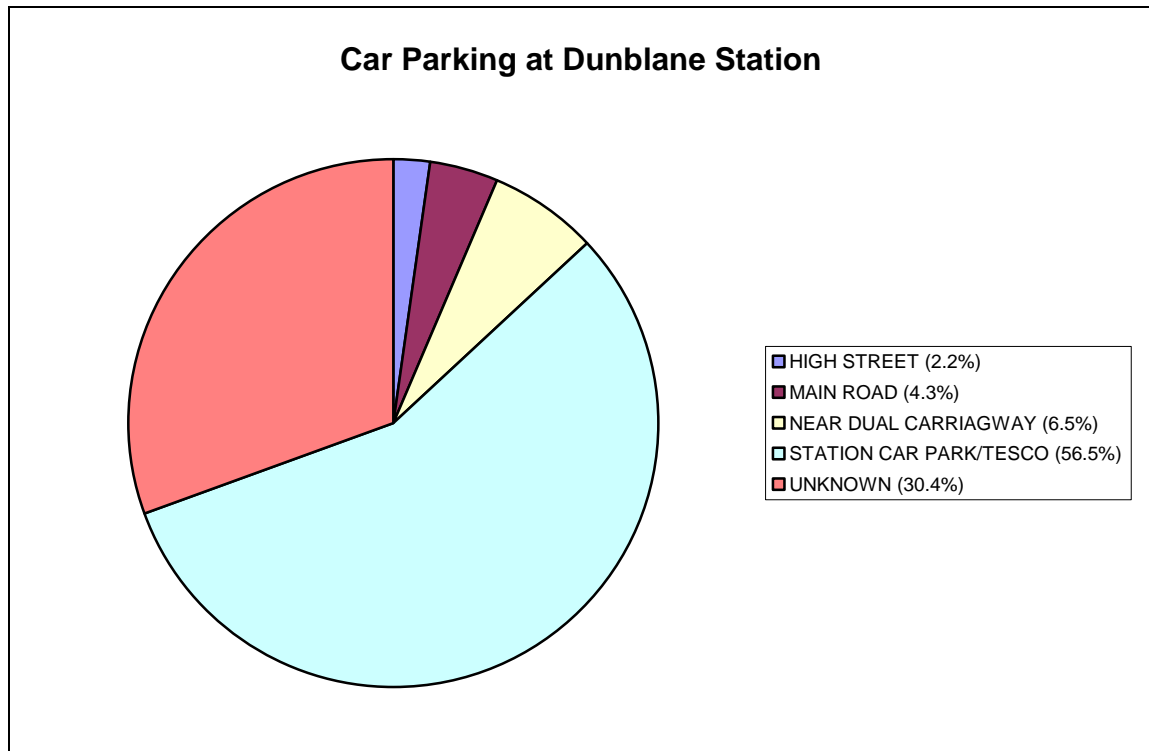


Figure 5.32 : Car Parking Location for Dunblane Passengers

Figure 5.32 confirms that the greatest proportion of passengers who drove to the rail station parked in the station car park or Tesco Lower car park.

Figure 5.33 summarises passengers’ main reason for parking in the chosen location for the most popular parking areas.

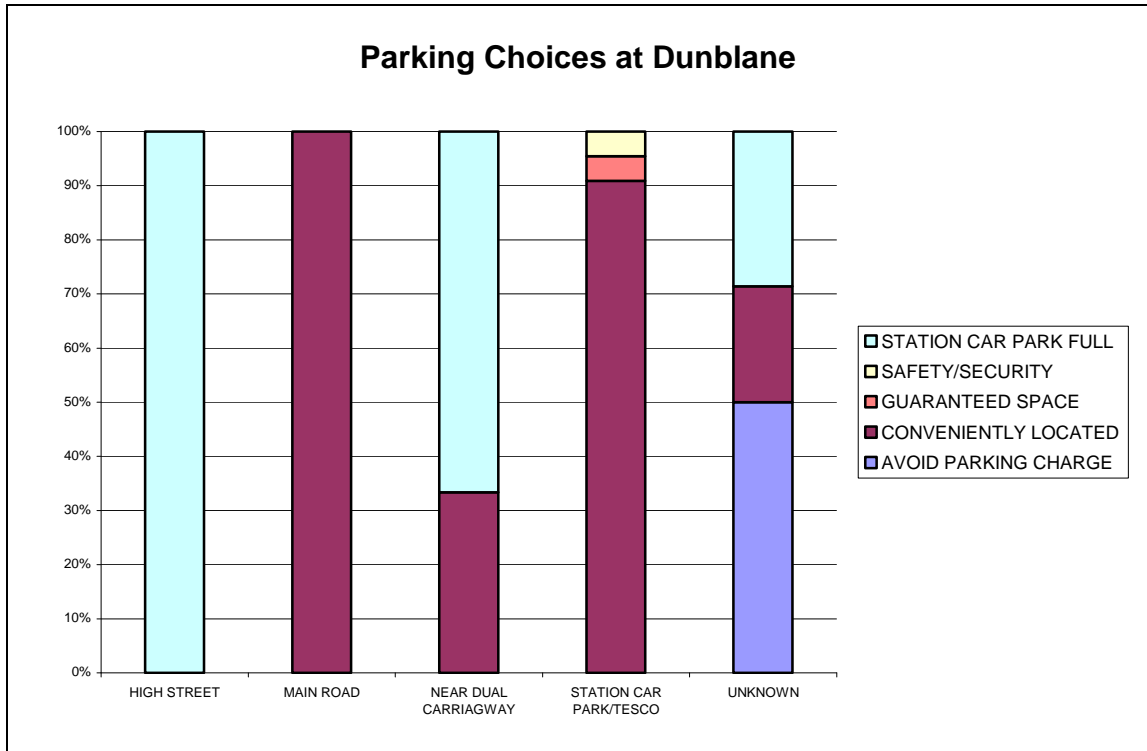


Figure 5.33 : Reason for Choosing Car Parking Location for Dunblane Passengers

As can be seen from the above summary, the greatest proportion of passengers who park in the station/Tesco car park confirm that they parked there for reasons of convenience. Convenience of location and the station car park being full were cited as the main reasons for parking elsewhere.

Figure 5.34 shows the destination station for passengers travelling from Dunblane station.



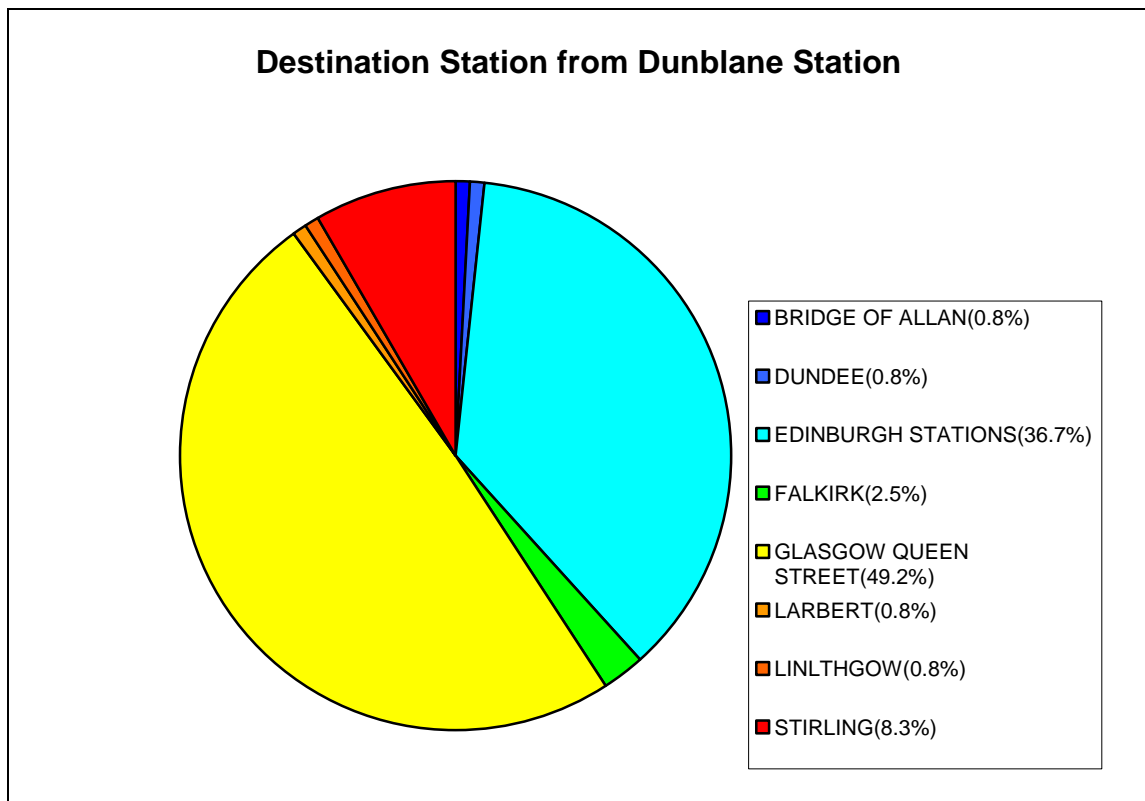


Figure 5.34 :Destination Station for Dunblane Passengers

Figure 5.34 confirms that the greatest proportion of passengers who access the rail network at Dunblane rail station travel to Glasgow Queen Street rail station with the next largest proportion reported to travel to Edinburgh rail stations.

Figure 5.35 summarises the final destinations for passengers who board a train at Dunblane and confirms that the greatest proportion of passengers are travelling to Glasgow and Edinburgh in the morning peak period.

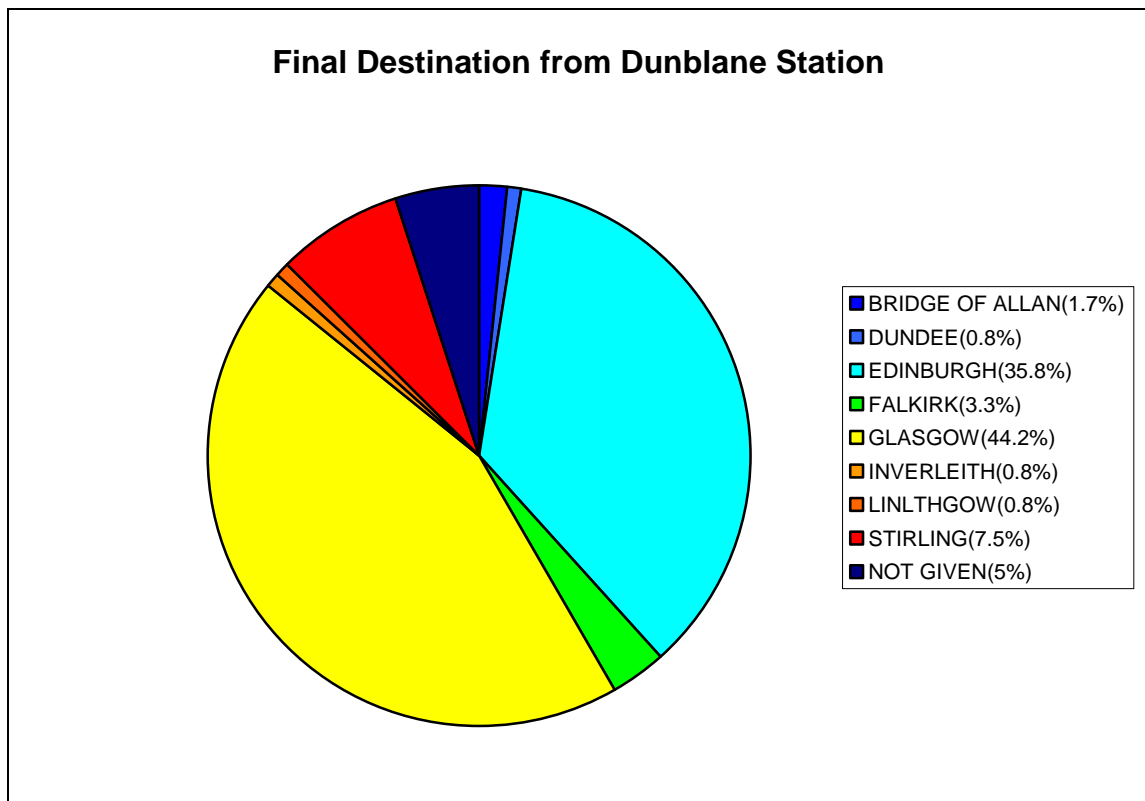


Figure 5.35 :Final destination for Dunblane Passengers

Table 5.4 confirms the final destinations to which passengers travel from the main destination stations of Glasgow and Edinburgh.

Table 5.4 : Final destination for Passengers Travelling From Dunblane

EDINBURGH	GLASGOW
CITY CENTRE (83.7%)	ATLANTIC QUAY (1.9%)
EDINBURGH UNIVERSITY (2.3%)	CITY CENTRE (71.7%)
LEITH (2.3%)	NOT GIVEN (26.4%)
ROBB'S LOAN (2.3%)	
SIGHTHILL (2.3%)	
WEST MAINS ROAD (2.3%)	
NOT GIVEN (4.7%)	

As can be seen from Table 5.4, of those passengers who choose to answer, the greatest proportion of passengers who travel from Dunblane to Glasgow are shown to have their final destination in the centre of Glasgow. Similarly, the greatest proportion of passengers who travel to Edinburgh are shown to have their final destination in the centre of Edinburgh.

Figure 5.36 summarises the journey purpose for passengers travelling from Dunblane rail station.



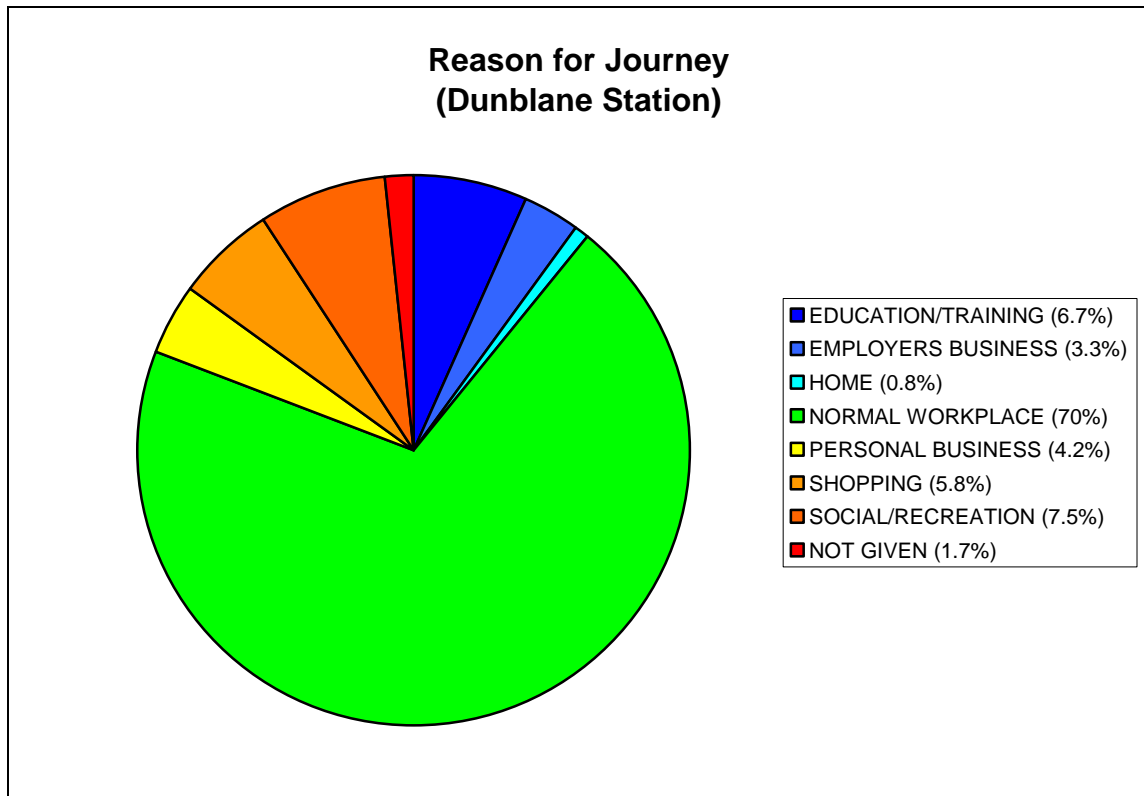


Figure 5.36 : Journey Purpose of Dunblane Passengers

Figure 5.36 confirms that the greatest proportion of surveyed Dunblane passengers were travelling to their normal workplace.

In summary, a high proportion of passengers currently arrive at Dunblane rail station on foot. This reflects the accessible location of the station and that the majority of journeys to the station originate in Dunblane. The most popular destinations from the station are Glasgow and Edinburgh, with the majority of final destinations being located in the centre of the cities.

Passengers cite convenience as the main reason for parking in the station car park with the station car park being full cited as the main reason for parking elsewhere. The greatest proportion of surveyed Dunblane passengers were travelling to their normal workplace.

5.11 Dundee Rail Station

Dundee rail station was surveyed on Thursday 5 March 2009. A total of **490** passengers were observed to board all rail services that departed from the station in the 4hr survey period with 537 passengers observed to alight from rail services. A total of **170** boarding passengers were interviewed which equates to a sample rate of 35%.

In terms of the demographics of passengers travelling from Dundee rail station in the survey period, a 51%/49% male/female split was recorded. The majority of passengers were aged between 16 and 60 with 6% aged over 60 and less than 1% of passengers aged under 16 surveyed to travel from the station during the survey period.

Figure 5.37 confirms the surveyed mode share of passengers travelling to Dundee rail station in the morning peak period.



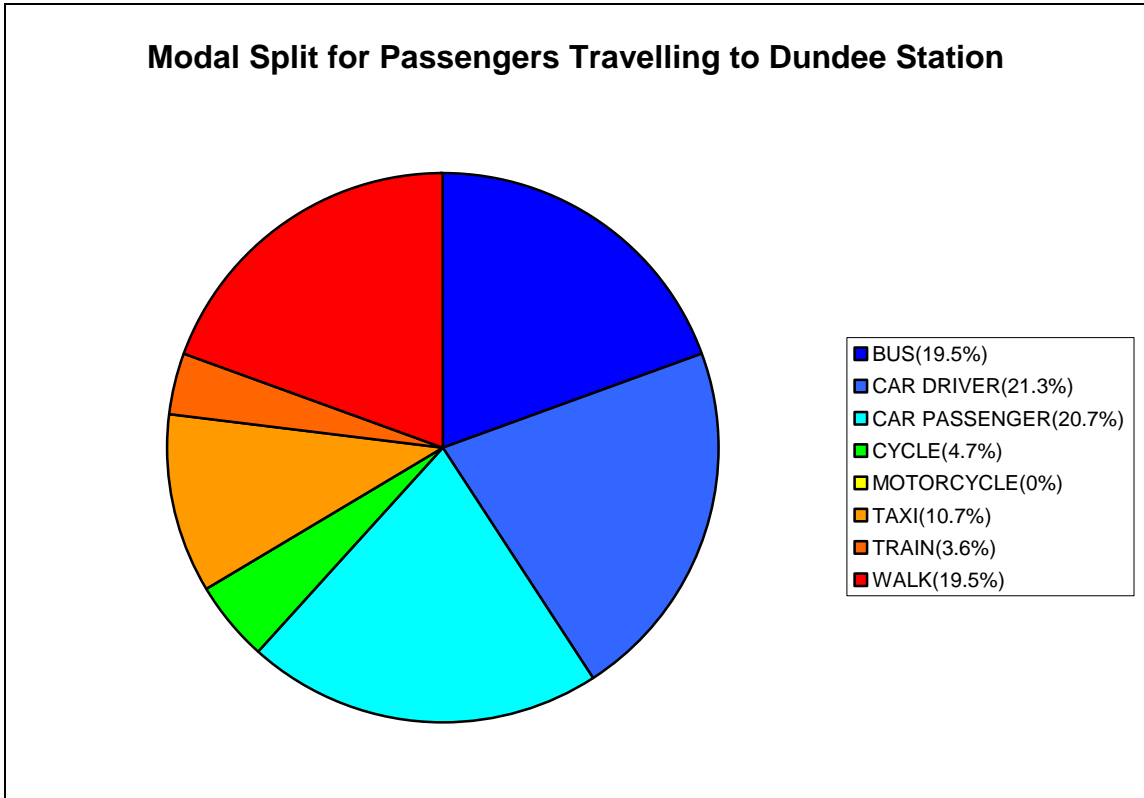


Figure 5.37 : Mode Share of Dundee Passengers

As can be seen from Figure 5.37, the greatest proportion of passengers (42%) reported to arrive by car to access the rail station, 21% of which are car drivers. 20% of passengers are reported to walk, 20% travel by bus to the station with a further 11% arriving by taxi. As can be seen from the survey results, passengers use a range of modes to access Dundee rail station, reflecting the stations location in relation to local residents and the adjacent city centre bus hub.

Figure 5.38 confirms the origins of passengers travelling to Dundee rail station and Figure 5.39 shows a spatial plot of the passengers' origins in relation to the rail station.



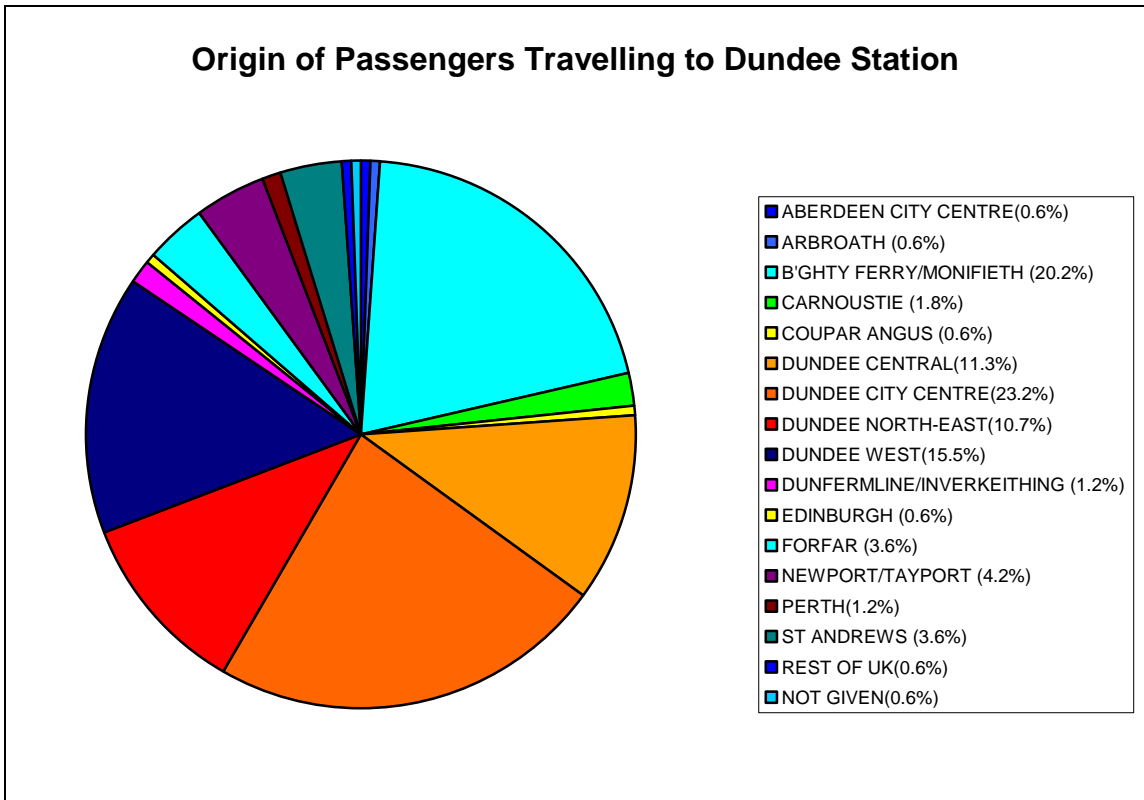


Figure 5.38 : Dundee Passenger Origins

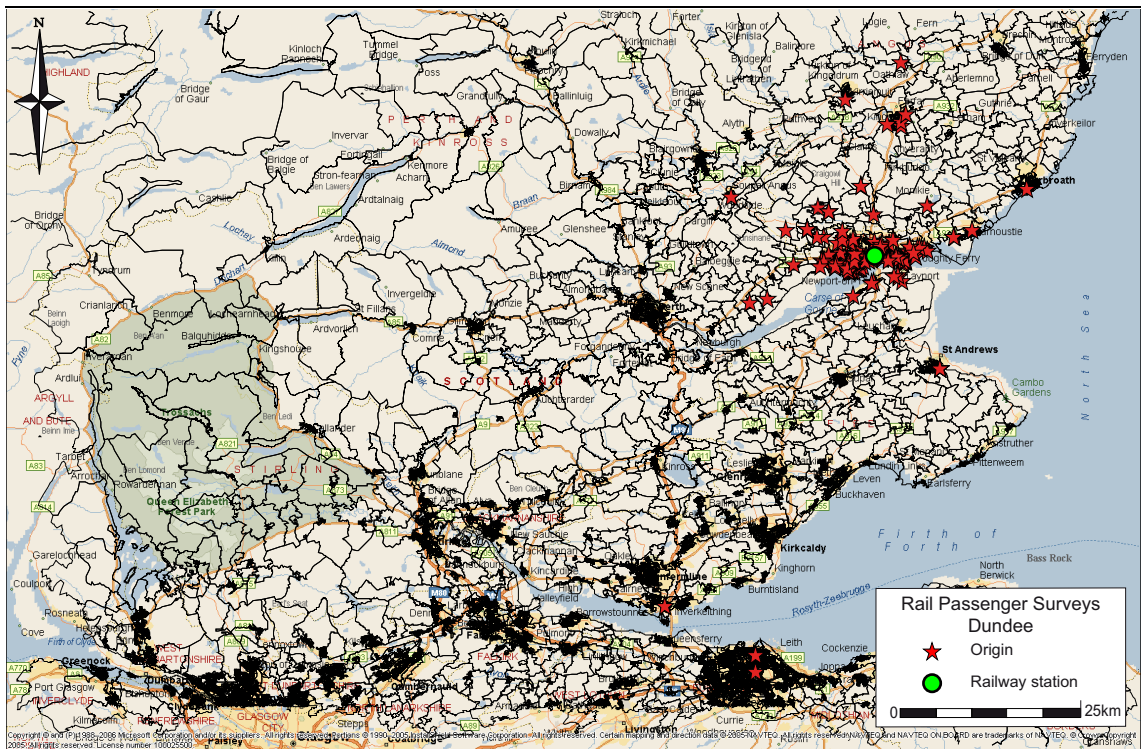


Figure 5.39 : Dundee Passenger Origins in relation to the rail station



As can be seen from the origins of Dundee rail station passengers, the majority of passenger journeys (around 60%) are reported to originate in Dundee and it is suggested that this is expected to have resulted in a significant proportion of passengers travelling by sustainable modes of transport to the rail station as shown in Figure 5.37. Significant passenger numbers are also shown to originate from the east at Broughty Ferry and Monifieth.

Figure 5.40 summarises the main reason passengers choose to travel from Dundee rail station.

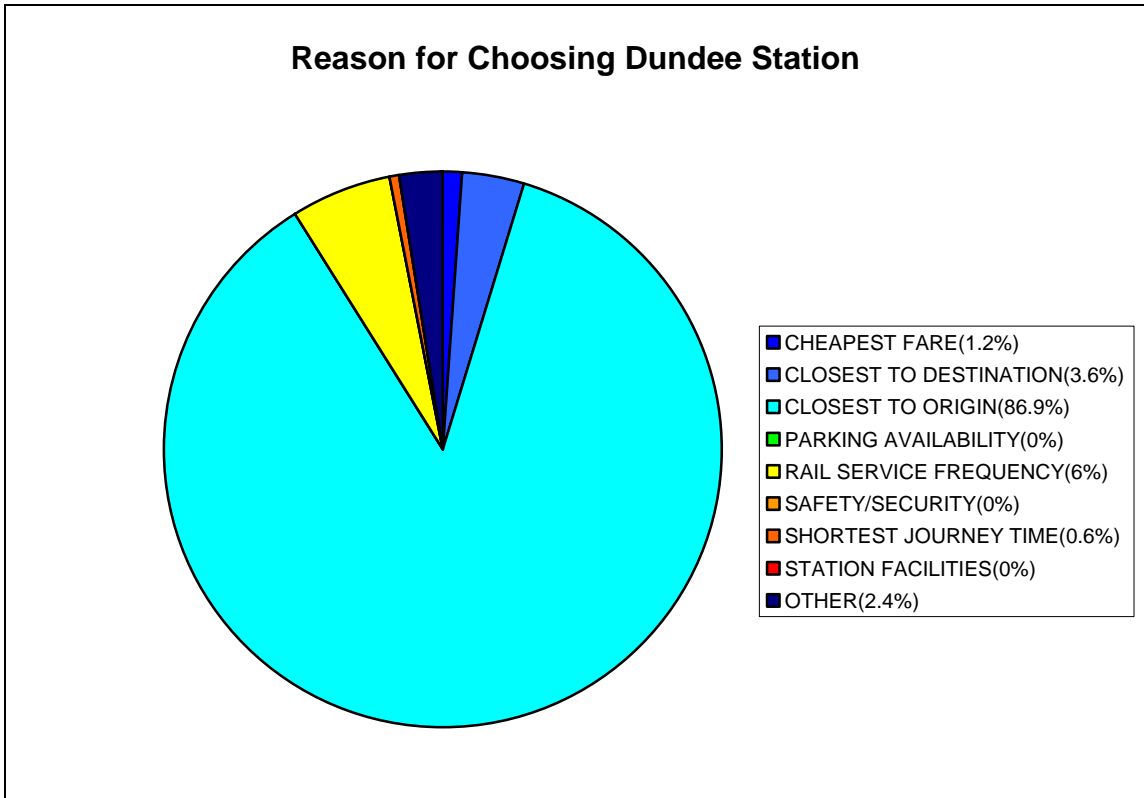


Figure 5.40 : Reason for Choosing Dundee Rail Station

As can be seen from the above summary, the majority of passengers confirmed that they travel from this station as it is located closest to their origin.



In terms of passenger parking, Figure 5.41 confirms the locations where passengers parked when travelling from Dundee rail station.

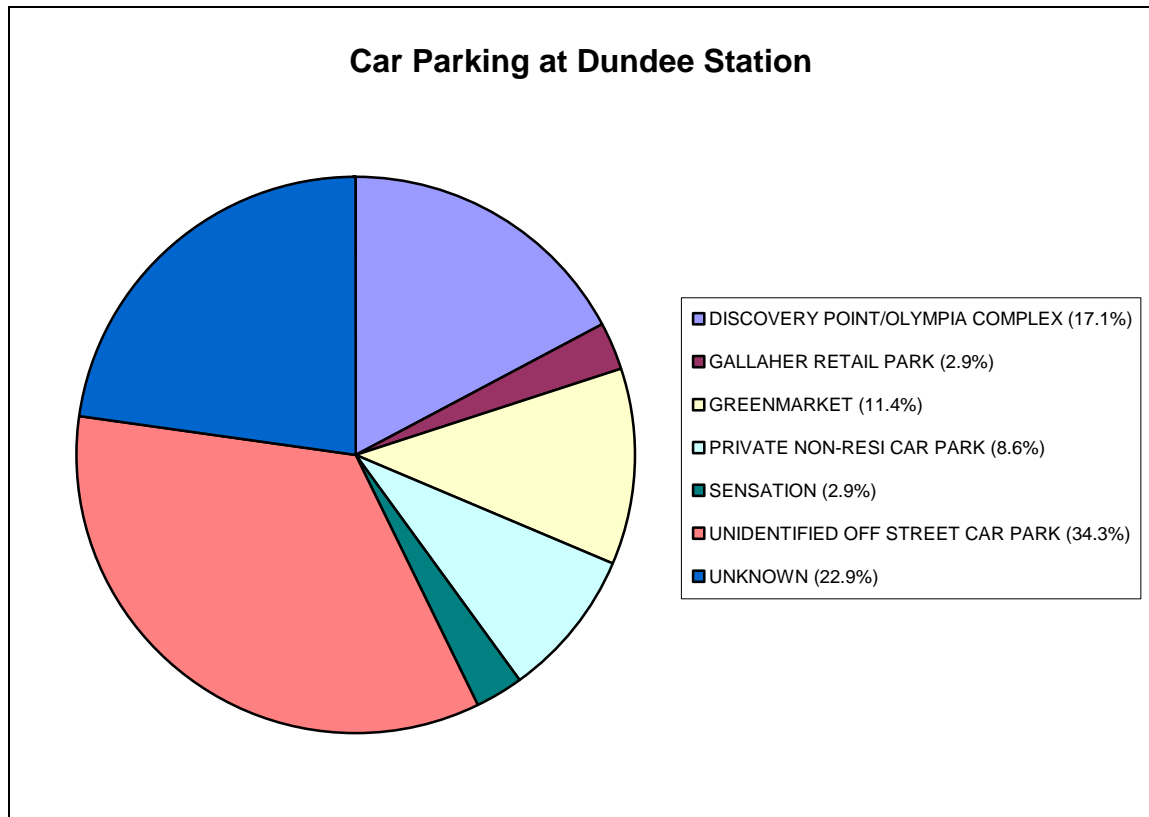


Figure 5.41 : Car Parking Location for Dundee Passengers

Figure 5.41 confirms that the greatest proportion of passengers parked in unidentified off-street car parks when travelling from Dundee rail station. The Discovery Point/Olympia Complex and Greenmarket car parks were shown to be used by a significant proportion of Dundee passengers.



Figure 5.42 summarises passengers’ main reason for parking in the chosen location for the most popular parking areas.

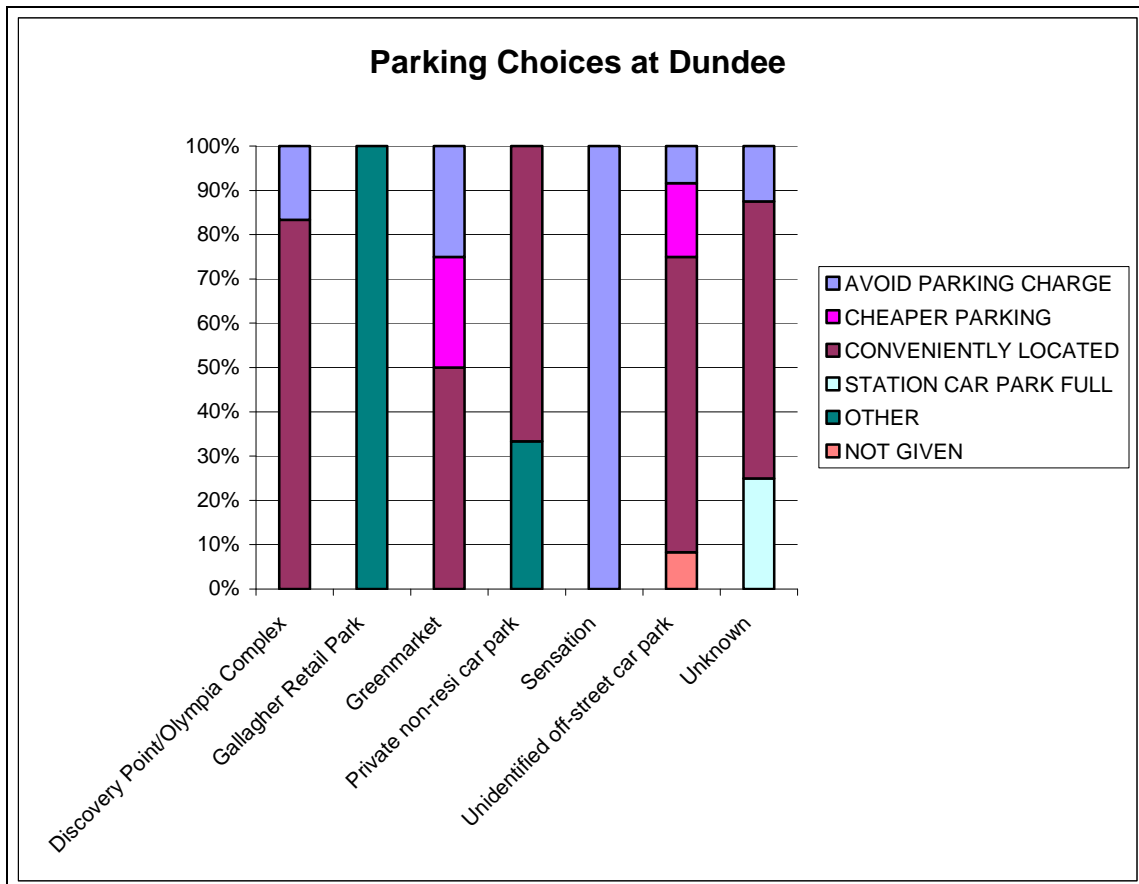


Figure 5.42 : Reason for Choosing Car Parking Location for Dundee Passengers

As can be seen from the above summary, convenience of location was given as a common reason for choosing to park in a particular location.

Figure 5.43 shows the destination station for passengers travelling from Dundee station.

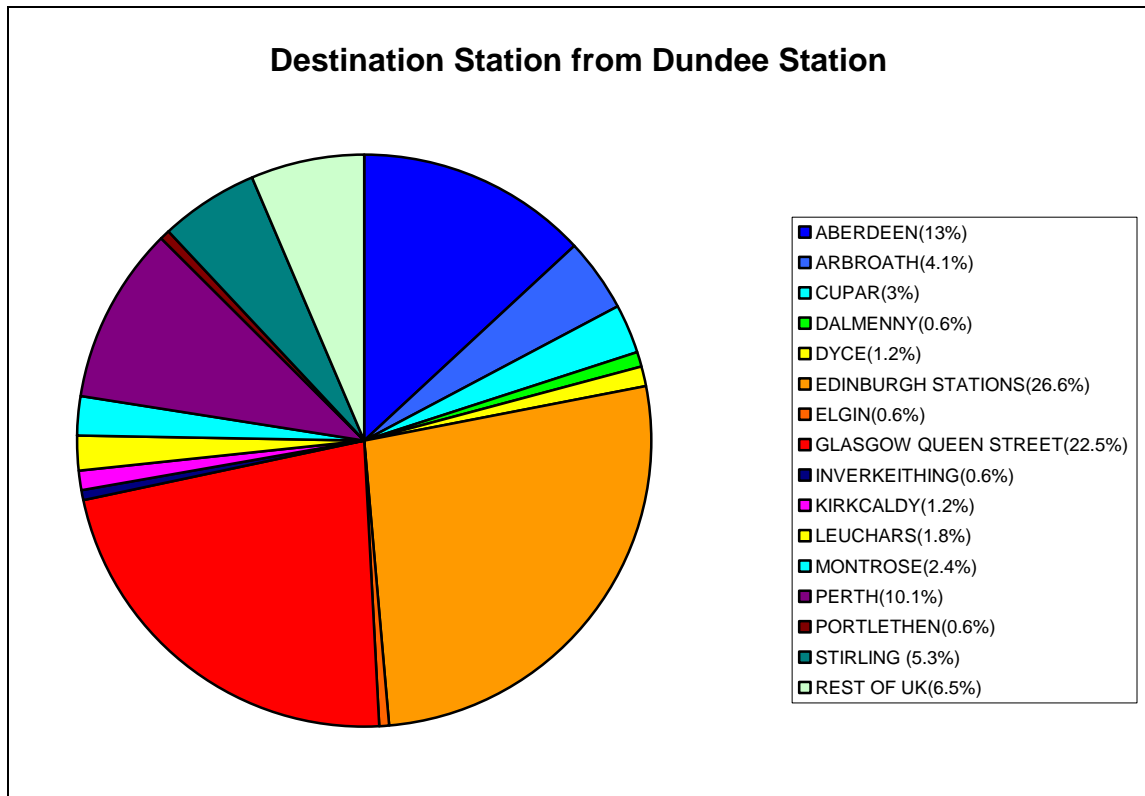


Figure 5.43 :Destination Station for Dundee Passengers

Figure 5.43 highlights the range of destinations that are accessible from Dundee. The greatest proportion of passengers (27%) who access the rail network at Dundee rail station travel to Edinburgh rail stations with 23% reported to travel to Glasgow Queen Street.



Figure 5.44 summarises the final destinations for passengers who board a train at Dundee and confirms that the greatest proportion of passengers are travelling to Edinburgh and Glasgow in the morning peak period.

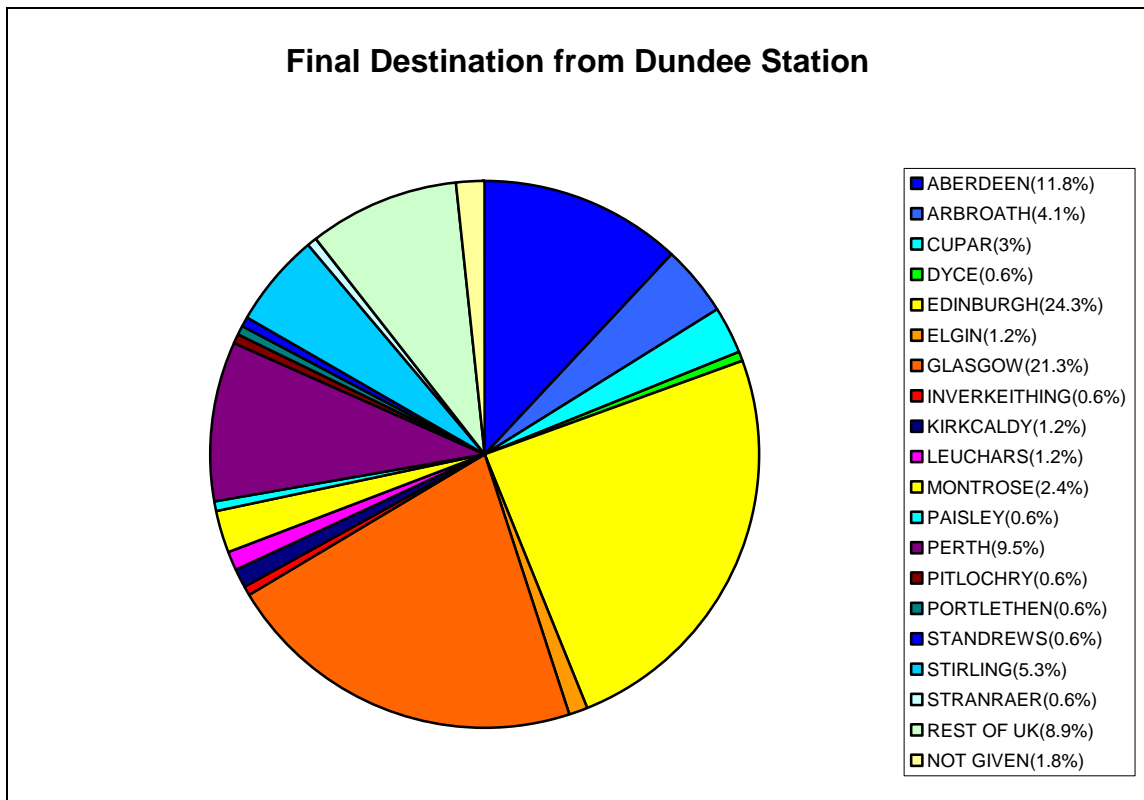


Figure 5.44 :Final destination for Dundee Passengers

Table 5.5 confirms the final destinations for passengers that alight at the main destination stations of Edinburgh and Glasgow.

Table 5.5 : Final destination for Passengers Travelling from Dundee

EDINBURGH	GLASGOW
CITY CENTRE (70%)	GLASGOW WEST (2.8%)
EDINBURGH AIRPORT (5%)	CITY CENTRE (52.8%)
VICTORIA QUAY (2.5%)	CITY PARK (2.8%)
NOT GIVEN (22.5%)	GLASGOW EAST (2.8%)
	GLASGOW SOUTH (2.8%)
	NEWTON MEARNES (2.8%)
	PAISLEY (2.8%)
	SECC (2.8%)
	NOT GIVEN (27.8%)

As can be seen from the above summaries, for those who choose to answer, the greatest proportion of passengers who travel from Dundee to Edinburgh are shown to have their final destination in the centre of Edinburgh. Similarly, the greatest proportion of passengers who travel to Glasgow are shown to have their final destination in the centre of Glasgow.



Figure 5.45 summarises the journey purpose for passengers travelling from Dundee rail station.

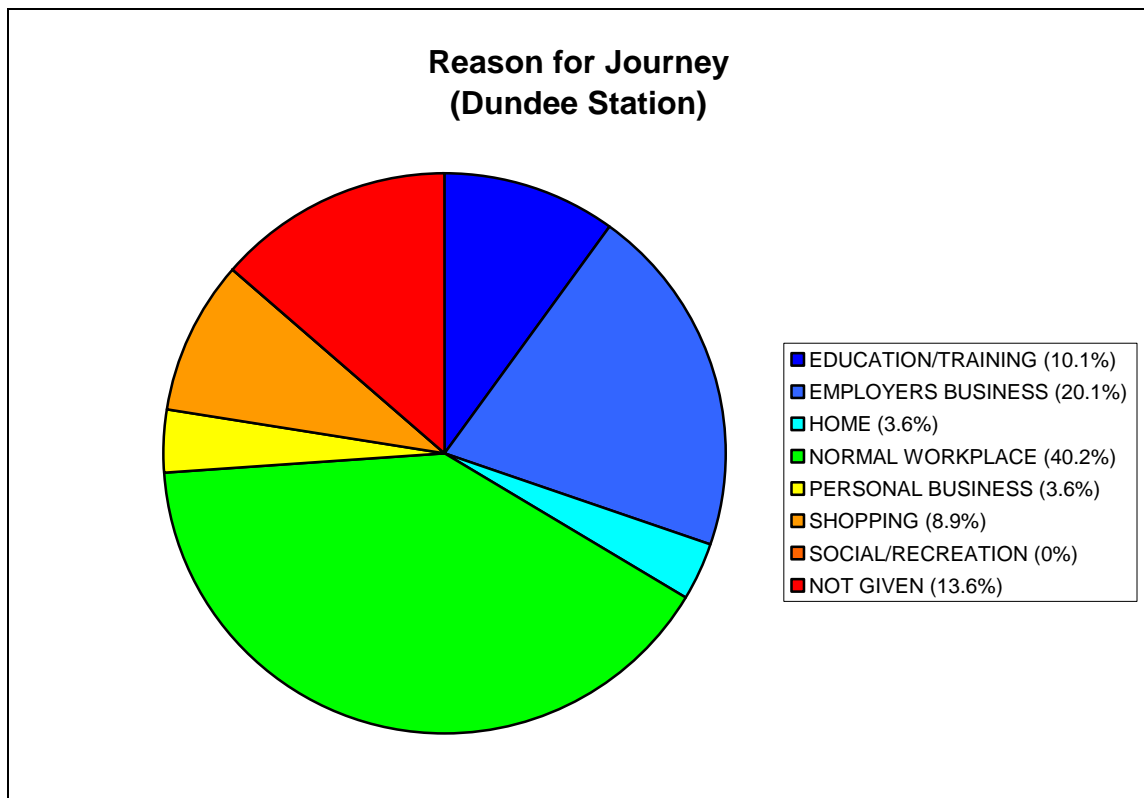


Figure 5.45 : Journey Purpose of Dundee Passengers

Figure 5.45 confirms that the greatest proportion of surveyed Dundee passengers were travelling to their normal workplace, with a significant proportion (20%) on employers business.

In summary, the greatest proportion of passengers are reported to arrive by car, however, car passengers make up approximately half of this number and the majority of passengers travelling to the station currently live in Dundee. The station's location also results in a high proportion of passengers accessing the station on foot or by bus. The most popular destinations from the station are Edinburgh and Glasgow, with the greatest proportion of passengers final destinations being located in the centre of the cities.

Passengers arriving by car are shown to park in a wide range of locations when accessing Dundee rail station, with convenience of location being the most popular reason for parking in their chosen location. The greatest proportion of surveyed Dundee passengers were travelling to their normal workplace.

5.12 Dunkeld and Birnam Rail Station

Dunkeld and Birnam rail station was surveyed on Thursday 12 March. A total of **12** passengers boarded trains in the survey period, with seven travelling to Edinburgh on the 07:38 and 08:28 services and five travelling to Inverness on the 08:29 service.

In terms of the demographics of passengers travelling from Dunkeld & Birnam rail station in the survey period, a 58%/42% male/female split was recorded. The majority of passengers were aged between 16 and 60 with 8% aged over 60 and no passengers aged under 16 surveyed to travel from the station during the survey period.

Of the 12 passengers, nine arrived by car and three were reported to walk to the station, with half of surveyed passengers reported to originate from Dunkeld. The greatest proportion of passengers (33%) that were surveyed, travelled to Edinburgh in the survey period and 25% to Stirling, however, it is not possible to identify trends from such a small dataset.

5.13 Gleneagles Rail Station

Gleneagles rail station was surveyed on Wednesday 4 March 2009. A total of 10 passengers boarded trains in the survey period. Of the 8 passengers interviewed 6 travelled to Glasgow and 2 travelled to Stirling.

In terms of the demographics of passengers travelling from Gleneagles rail station in the survey period, a 63%/37% male/female split was recorded. All passengers were aged between 16 and 60.

Of the 8 passengers, six arrived by car, one by taxi and one was reported to walk to the station, with the majority of passengers (63%) reported to live in the Auchterarder area. The majority of passengers (75%) who access the rail network at Gleneagles rail station travel to Glasgow Queen Street and 25% are reported to travel Stirling. It is not possible to identify trends from such a small dataset.

5.14 Golf Street Rail Station

Golf Street rail station was surveyed Thursday 5 March 2009. One passenger was observed to board the 06:16 service to Dundee with their final destination surveyed to be Perth. Although they agreed to complete the survey, it is not possible to identify trends from such a small dataset.

5.15 Invergowrie Rail Station

Invergowrie rail station was surveyed Thursday 5 March 2009. Three passengers were observed to board the 0823 service to Glasgow. Two passengers confirmed that Glasgow was their final destination with the remaining passenger travelling to Perth. Although they agreed to complete the survey, it is not possible to identify trends from such a small dataset.

5.16 Monifieth Rail Station

This rail station was surveyed on Thursday 5 March 2009. No passengers were observed to board from this station during the survey period.

5.17 Montrose Rail Station

Montrose rail station was surveyed on Thursday 5 March 2009. A total of **257** passengers were observed to board all rail services which departed from the station in the 4hr survey period with 43 passengers observed to alight from rail services. A total of **99** boarding passengers were interviewed which equates to a sample rate of 39%.

In terms of the demographics of passengers travelling from Montrose rail station in the survey period, a 55%/45% male/female split was recorded. The majority of passengers were aged between 16 and 60 with 1% aged over 60 and 2% aged under 16 surveyed to travel from the station during the survey period.



Figure 5.46 confirms the surveyed mode share of passengers travelling to Montrose rail station in the morning peak period.

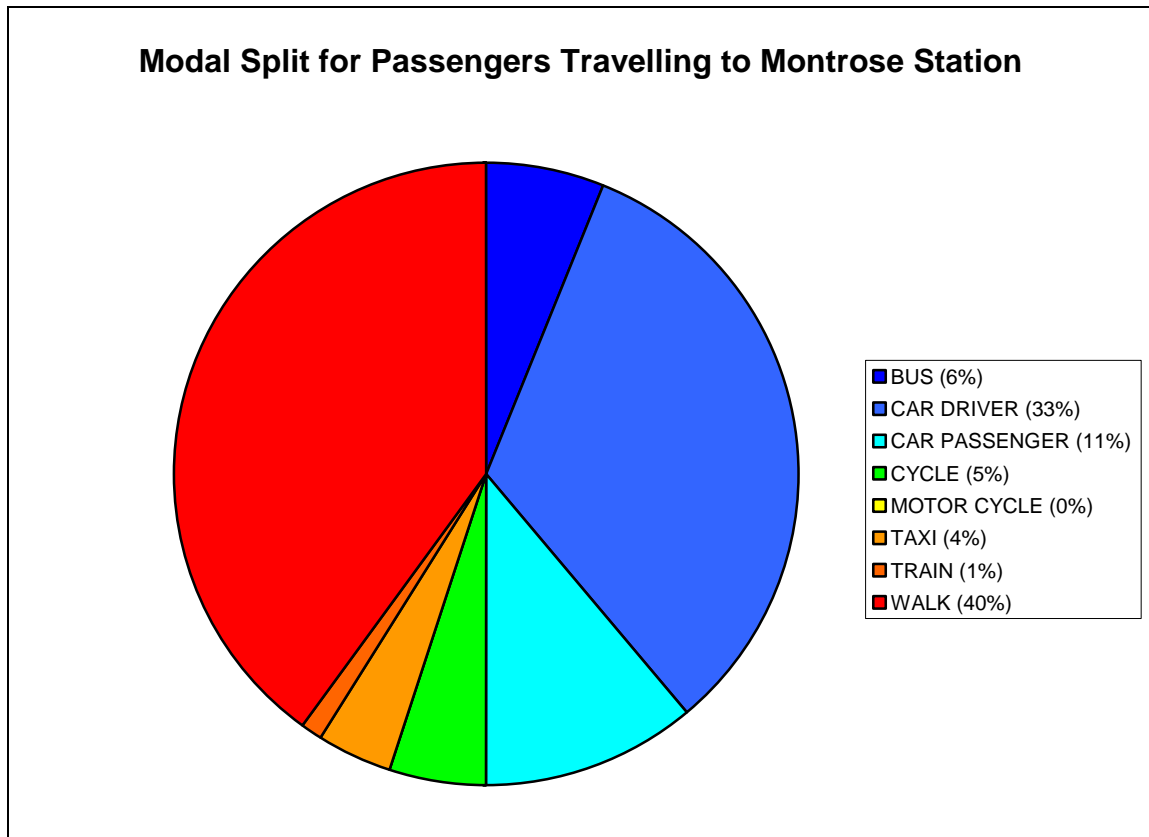


Figure 5.46 : Mode Share of Montrose Passengers

As can be seen from Figure 5.46, the greatest proportion of passengers (40%) reported to walk to the rail station. This may be a reflection of the accessible location of the station in relation to residential areas of Montrose. 33% of passengers are reported to drive to the station with 11% arriving as a car passenger.



Figure 5.47 confirms the origins of passengers travelling to Montrose rail station and Figure 5.48 shows a spatial plot of the passengers' origins in relation to the rail station.

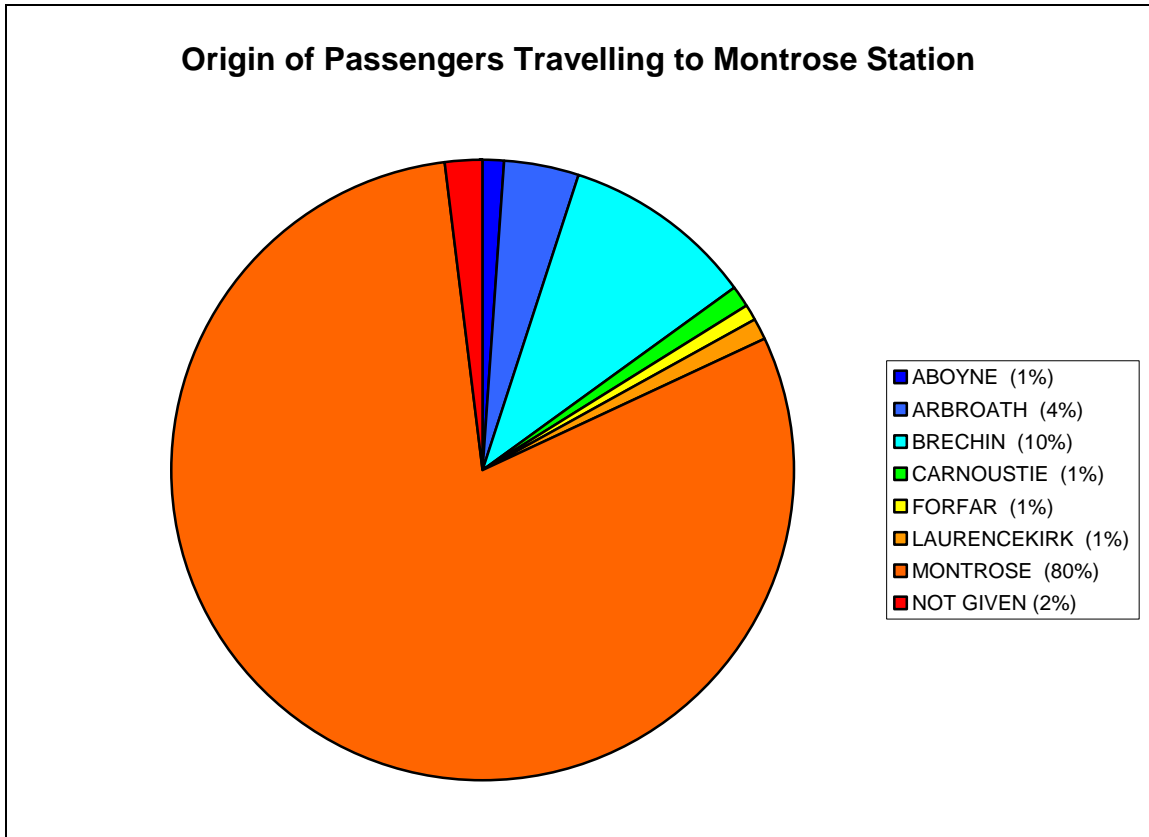


Figure 5.47 : Montrose Passenger Origins

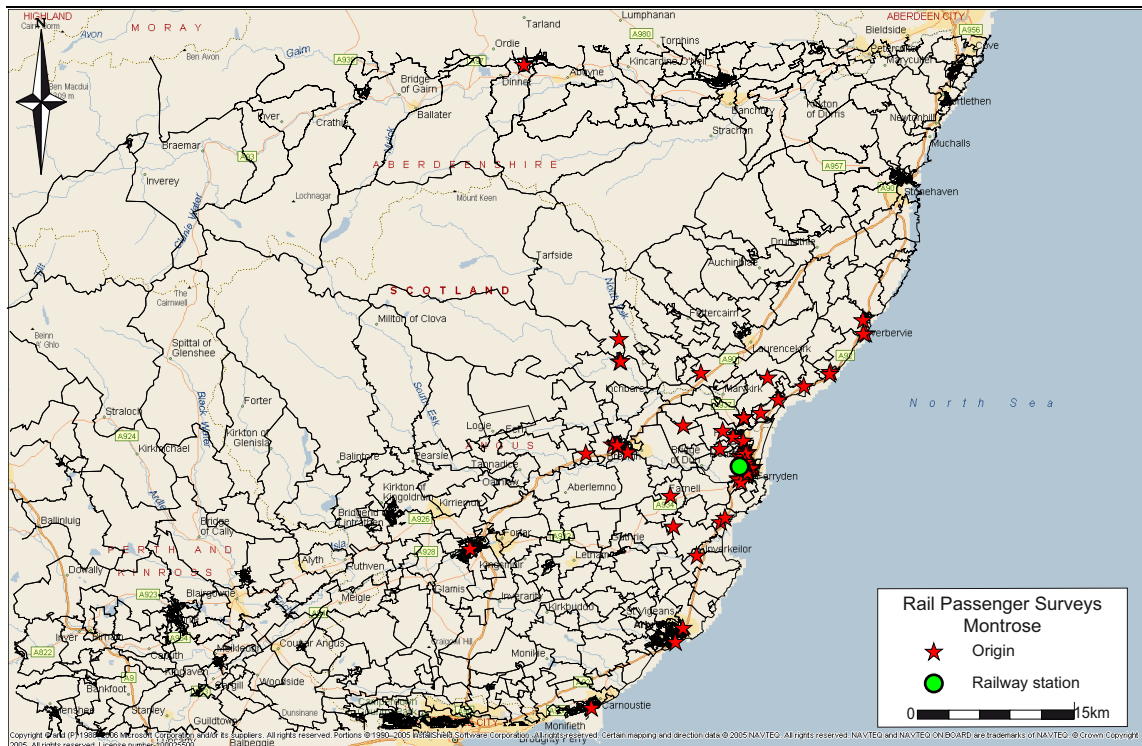


Figure 5.48 : Montrose Passenger Origins in relation to the rail station



As can be seen from the origins of Montrose rail station passengers, the majority of passengers (80%) are reported to live in Montrose and it is suggested that this has contributed to a significant proportion of passengers travelling on foot to the rail station as shown in Figure 5.46.

Figure 5.49 summarises the main reason passengers choose to travel from Montrose rail station.

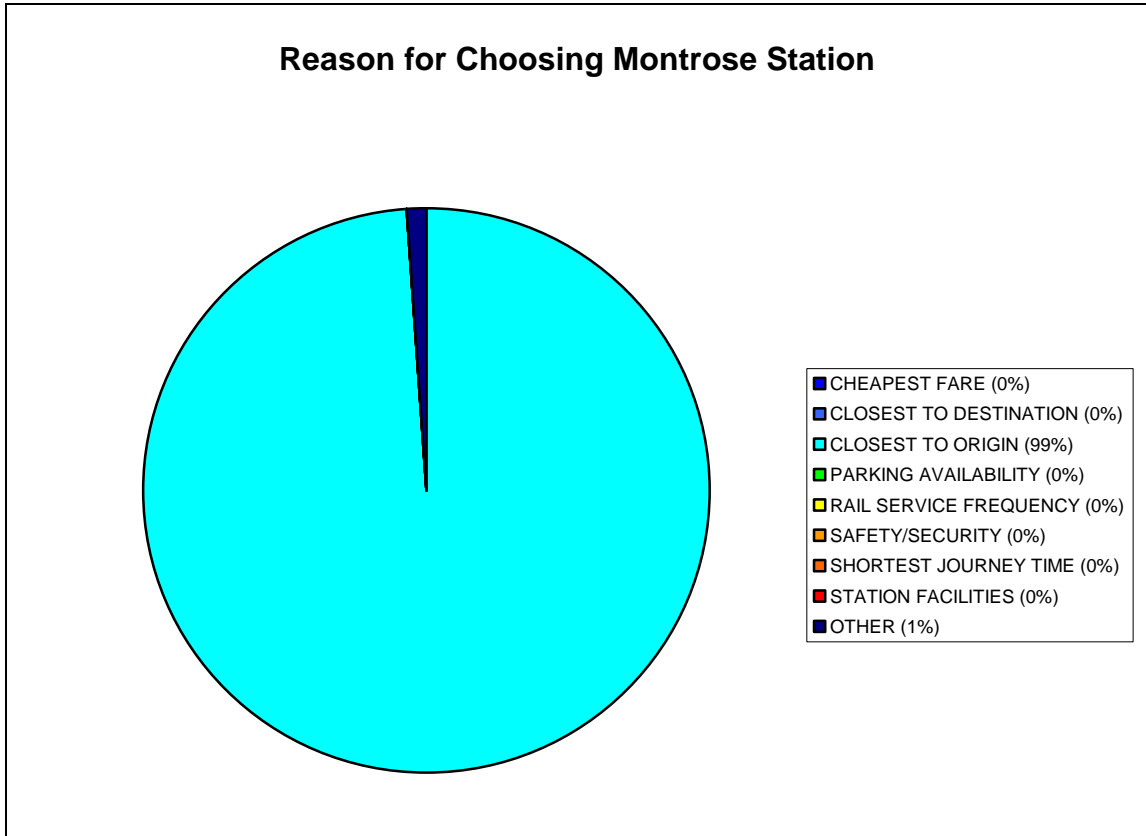


Figure 5.49 : Reason for Choosing Montrose Rail Station

As can be seen from the above summary, the majority of passengers confirmed that they travel from this station as it is located closest to their origin.



In terms of passenger parking, Figure 5.50 confirms the locations where passengers parked when travelling from Montrose rail station.

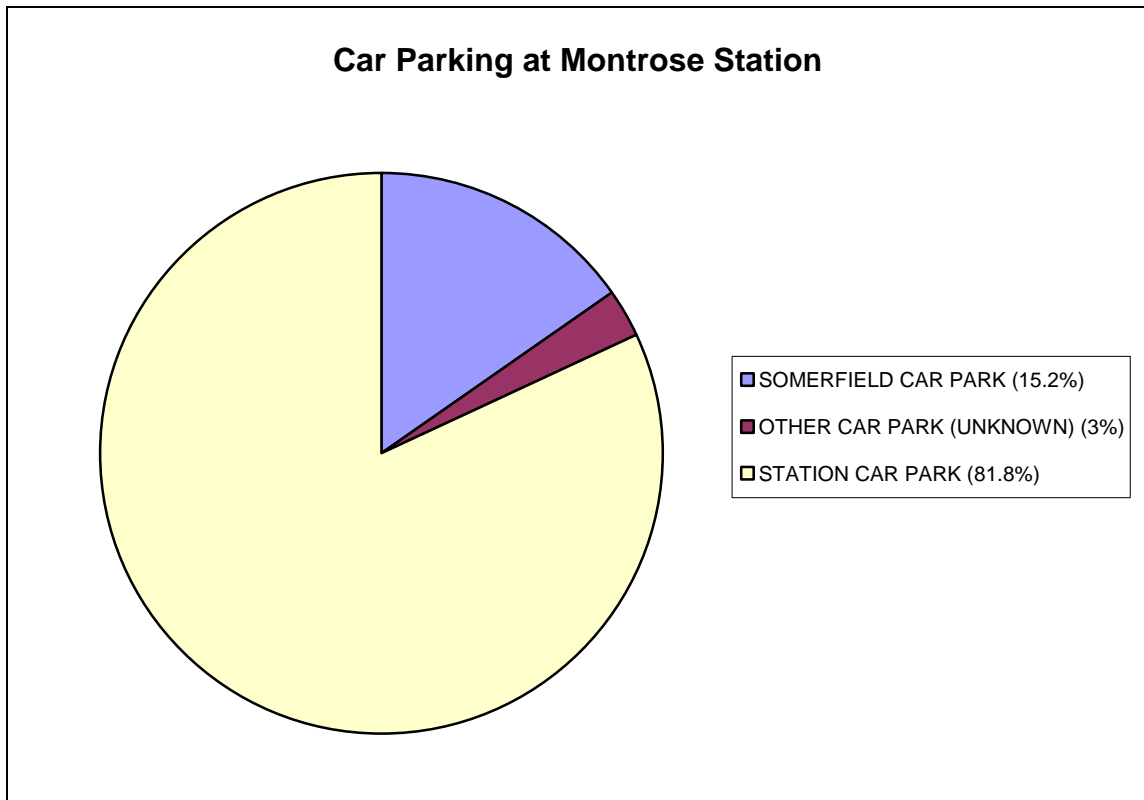


Figure 5.50 : Car Parking Location for Montrose Passengers

Figure 5.50 confirms that the greatest proportion of passengers who drove to the rail station parked in the station car park, with the next most popular area for parking being located in the adjacent Somerfield car park.



Figure 5.51 summarises passengers’ main reason for parking in the chosen location for the most popular parking areas.

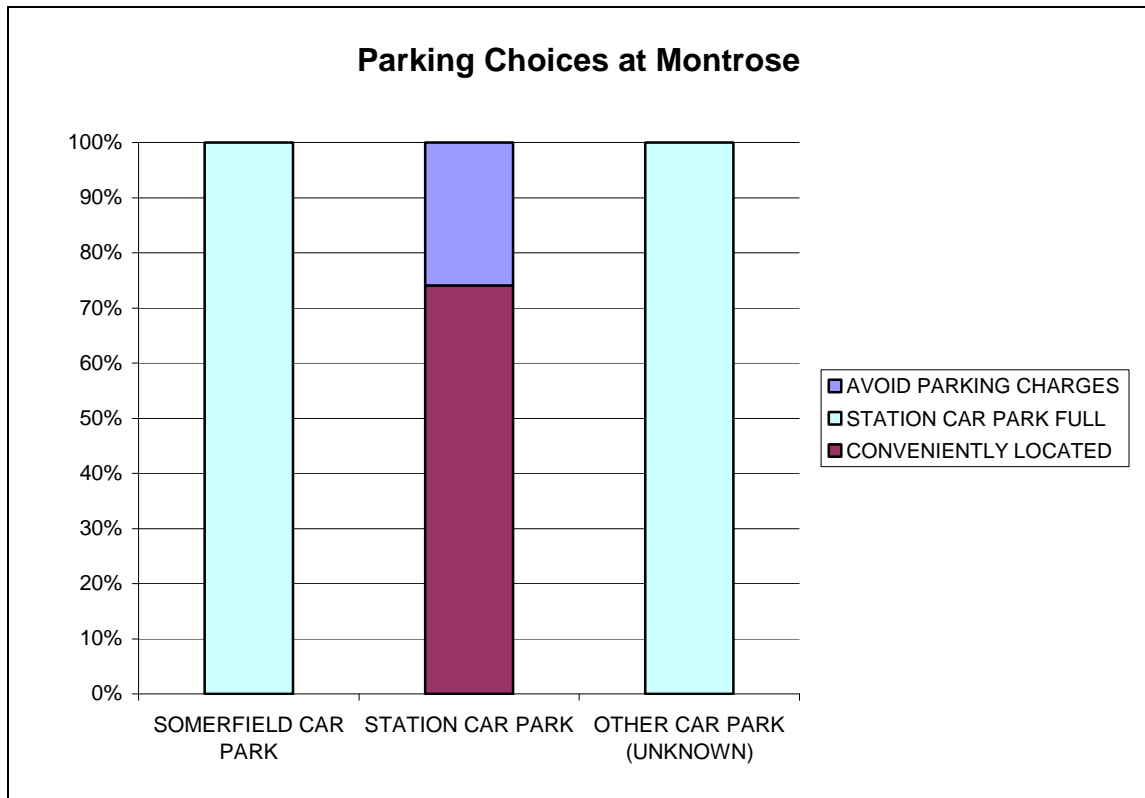


Figure 5.51 : Reason for Choosing Car Parking Location for Montrose Passengers

As can be seen from the above summary, the majority of passengers who park in the station car park confirm that they parked there for reasons of convenience. All passengers who parked in the Somerfield car park did so due to the station car park being full.

Figure 5.52 shows the destination station for passengers travelling from Montrose station.

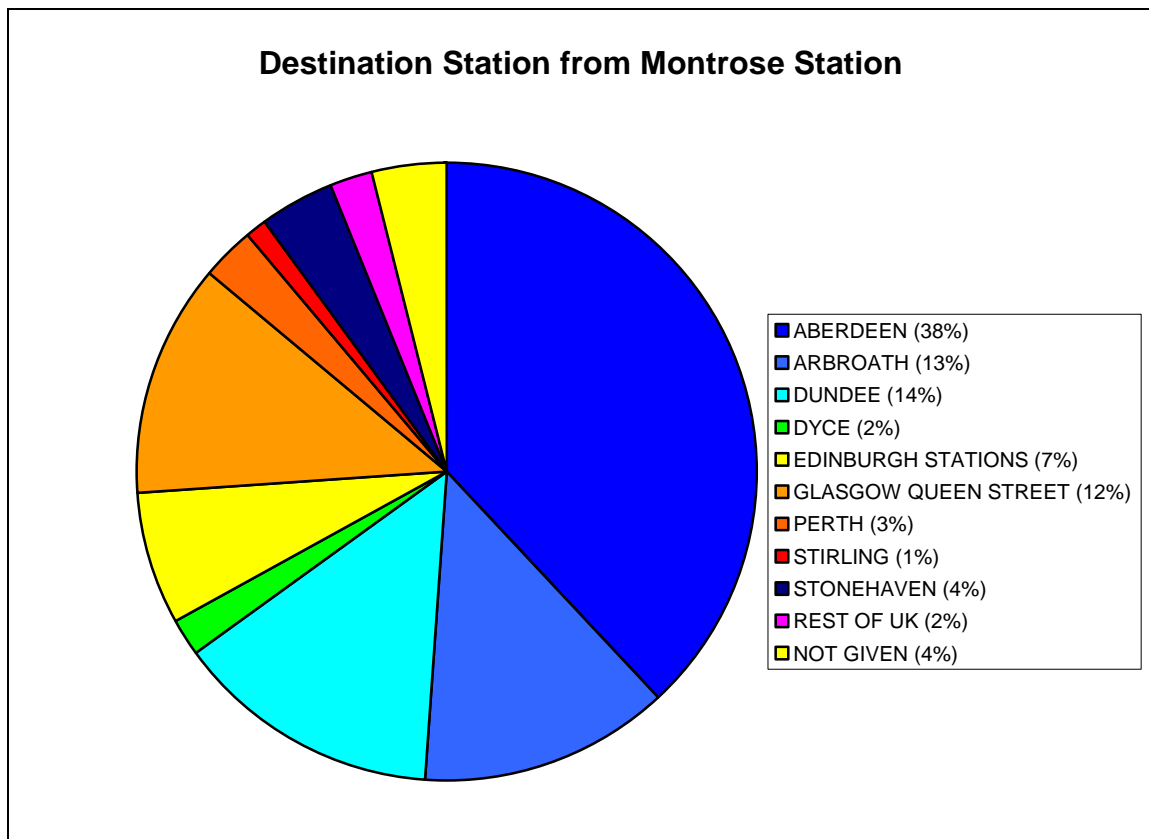


Figure 5.52 :Destination Station for Montrose Passengers

The above figure confirms that the greatest proportion of passengers (38%) who access the rail network at Montrose rail station travel to Aberdeen rail station. 14% are reported to travel to Dundee, 13% to Arbroath and 12% to Glasgow Queen Street.



Figure 5.53 summarises the final destinations for passengers who board a train at Montrose and confirms that the greatest proportion of passengers are travelling to Aberdeen in the morning peak period.

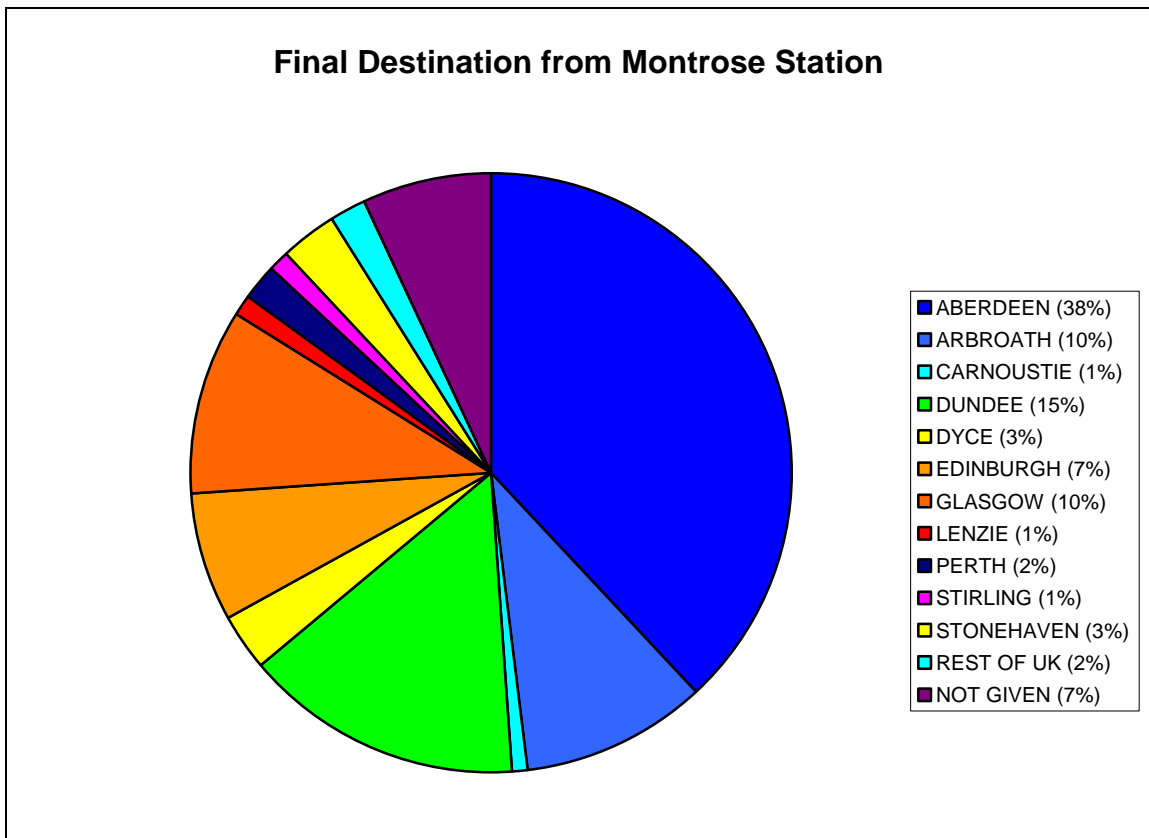


Figure 5.53 :Final destination for Montrose Passengers

Table 5.6 confirms the final destinations for passengers that alight from the main destination station of Aberdeen.

Table 5.6 : Final destination for Passengers Travelling from Montrose

ABERDEEN	
ABERDEEN WEST	(2.6%)
CITY CENTRE	(44.7%)
STONEHAVEN	(2.6%)
NOT GIVEN	(50%)

As can be seen from the above summary, the greatest proportion of passengers who travel from Montrose to Aberdeen and responded to the questionnaire are shown to have their final destination in the centre of Aberdeen.



Figure 5.54 summarises the journey purpose for passengers travelling from Montrose rail station.

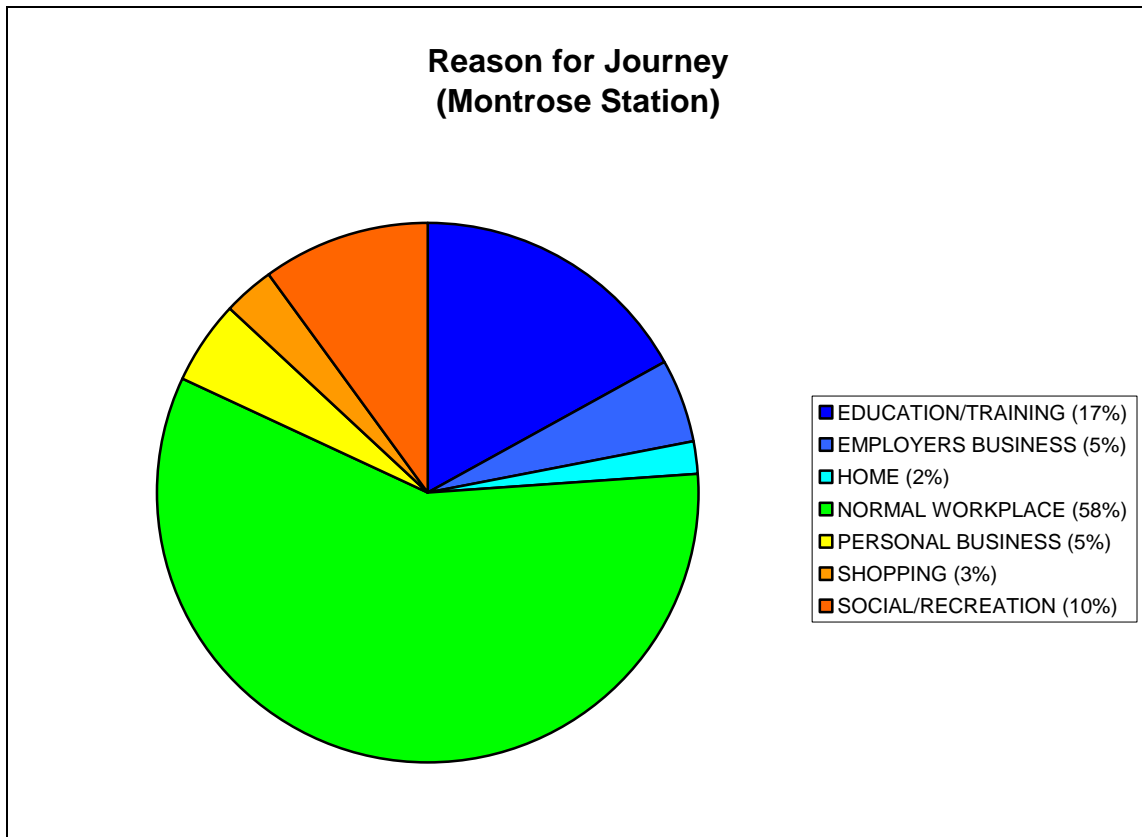


Figure 5.54 : Journey Purpose for Montrose Passengers

Figure 5.54 confirms that the greatest proportion of surveyed Montrose passengers were travelling to their normal workplace.

In summary, a high proportion of passengers currently arrive at Montrose rail station on foot. This may reflect the accessible location of the station and that the majority of journeys to the station originate in Montrose. The most popular destination from the station is Aberdeen, with the majority of passengers travelling to the centre of the city.

All passengers who park in the station car park do so due to its convenient location. Passengers also park in the adjacent Somerfield car park due to the station car park being full. The greatest proportion of surveyed Montrose passengers were travelling to their normal workplace.

5.18 Perth Rail Station

Perth rail station was surveyed on Wednesday 4 March 2009. A total of **424** passengers were observed to board all rail services that departed from the station in the 4hr survey period with 276 passengers observed to alight from rail services. A total of **138** boarding passengers were interviewed which equates to a sample rate of 33%.

In terms of the demographics of passengers travelling from Perth rail station in the survey period, a 52%/48% male/female split was recorded. The majority of passengers were aged between 16 and 60 with 7% aged over 60 and less than 1% aged under 16 surveyed to travel from the station during the survey period.



Figure 5.55 confirms the surveyed mode share of passengers travelling to Perth rail station in the morning peak period.

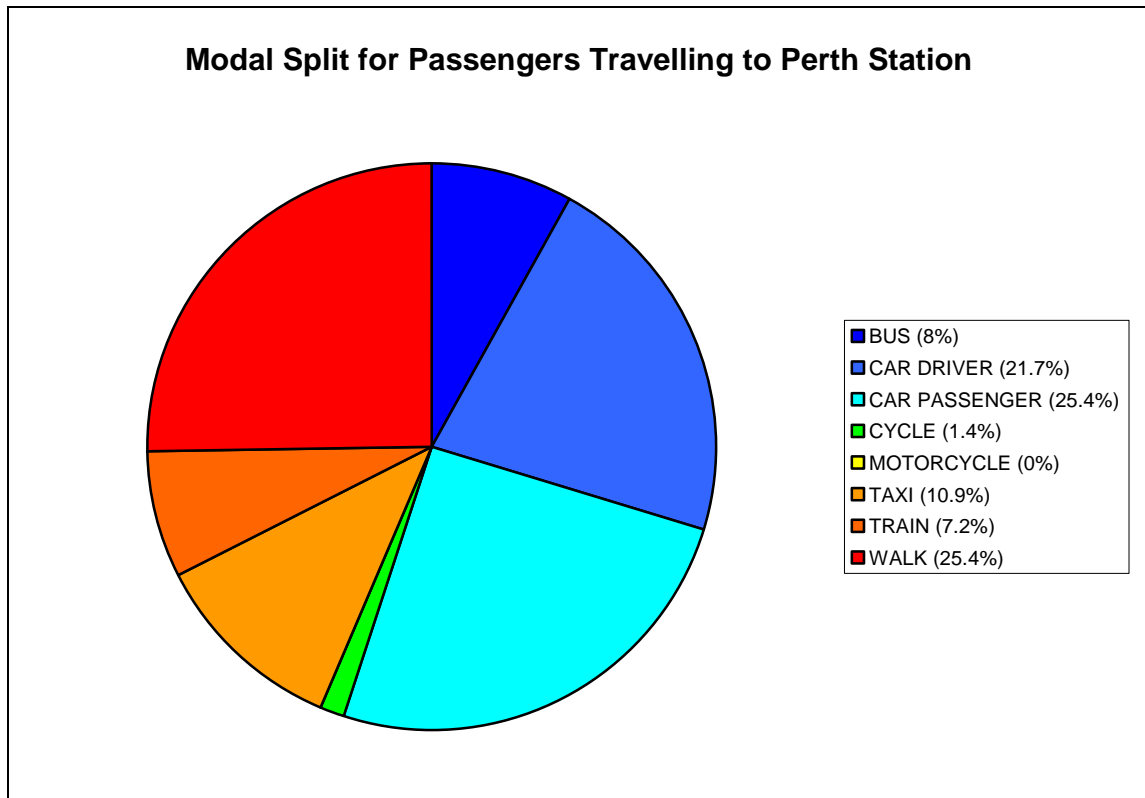


Figure 5.55 : Mode Share of Perth Passengers

As can be seen from Figure 5.55, the greatest proportion of passengers (47%) stated that they had travelled to the station by car, with 25% accessing the rail station on foot. The reported proportion of passengers who access the rail station on foot may be as a result of the accessible location of the station in Perth.



Figure 5.56 confirms the origins of passengers travelling to Perth rail station and Figure 5.57 shows a spatial plot of the passengers' origins in relation to the rail station.

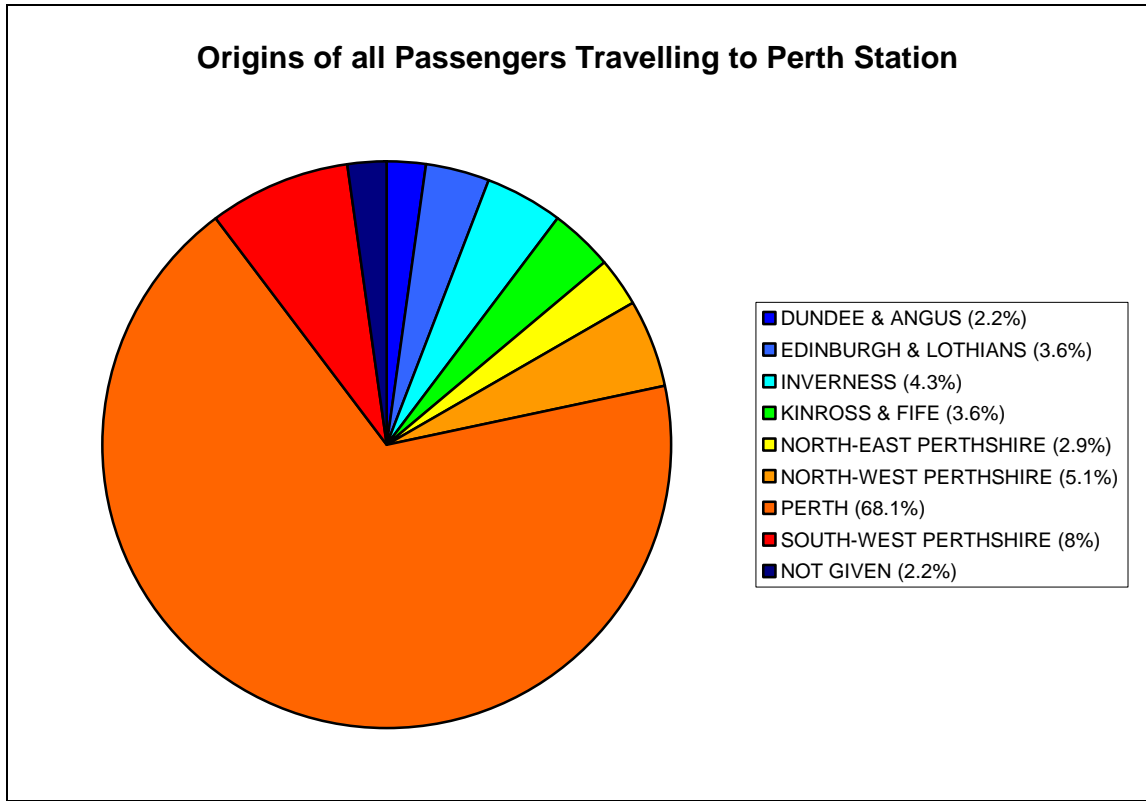


Figure 5.56 : Perth Passenger Origins

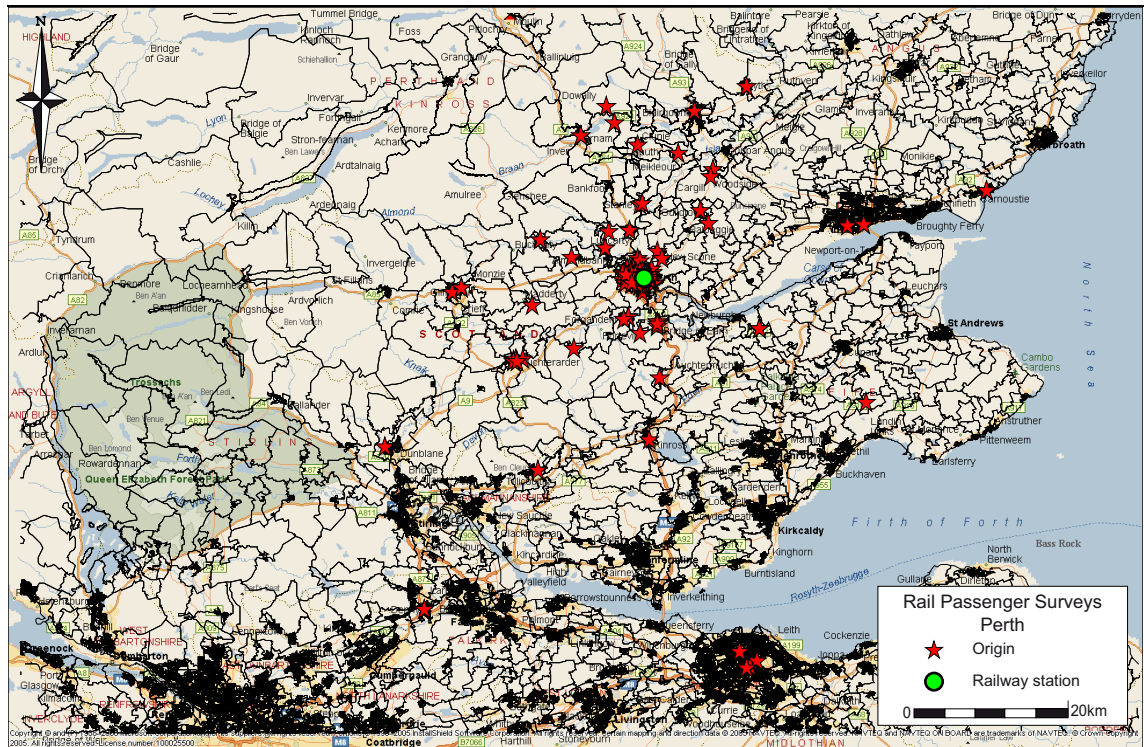


Figure 5.57 : Perth Passenger Origins in relation to the rail station



As can be seen from the origins of Perth rail station passengers, the greatest proportion of passenger journeys (68%) are reported to originate in Perth and it is suggested that this has resulted in a significant proportion of passengers travelling on foot to the rail station as shown in Figure 5.55.

Figure 5.58 summarises the main reason passengers choose to travel from Perth rail station.

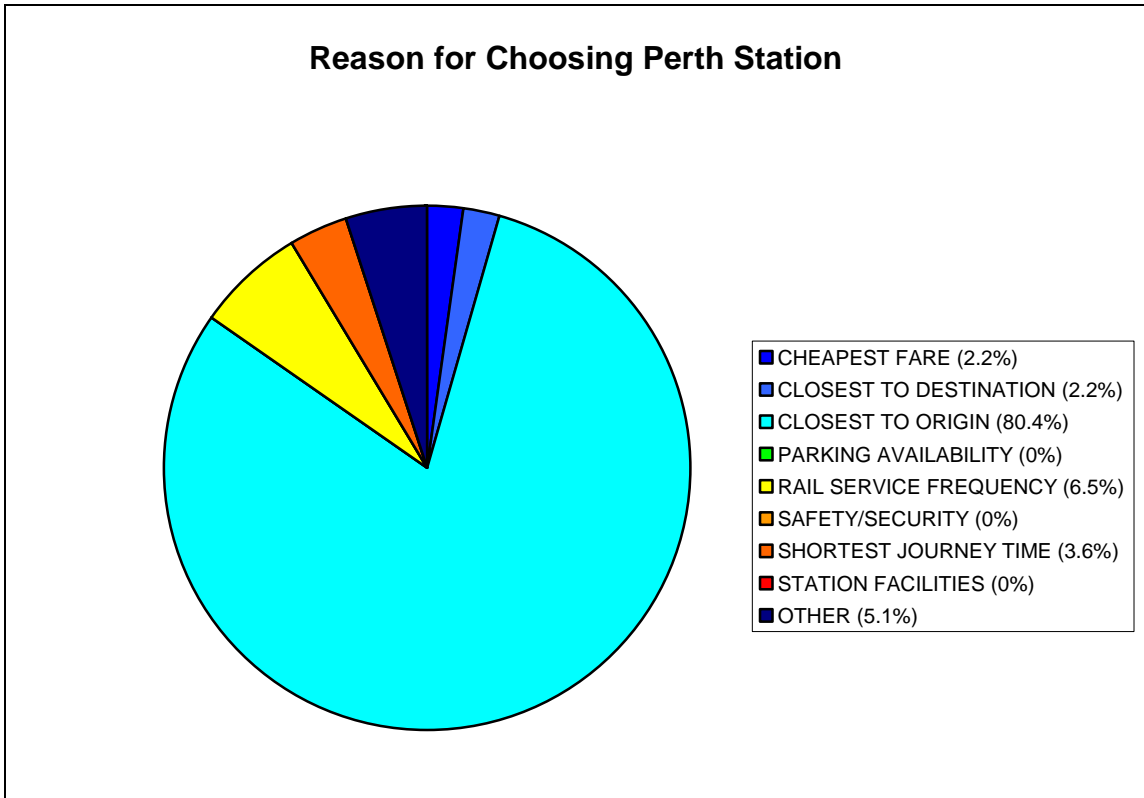


Figure 5.58 : reason for Choosing Perth Rail Station

As can be seen from the above summary, the majority of passengers confirmed that they travel from this station as it is located closest to their origin.



In terms of passenger parking, Figure 5.59 confirms the locations where passengers parked when travelling from Perth rail station.

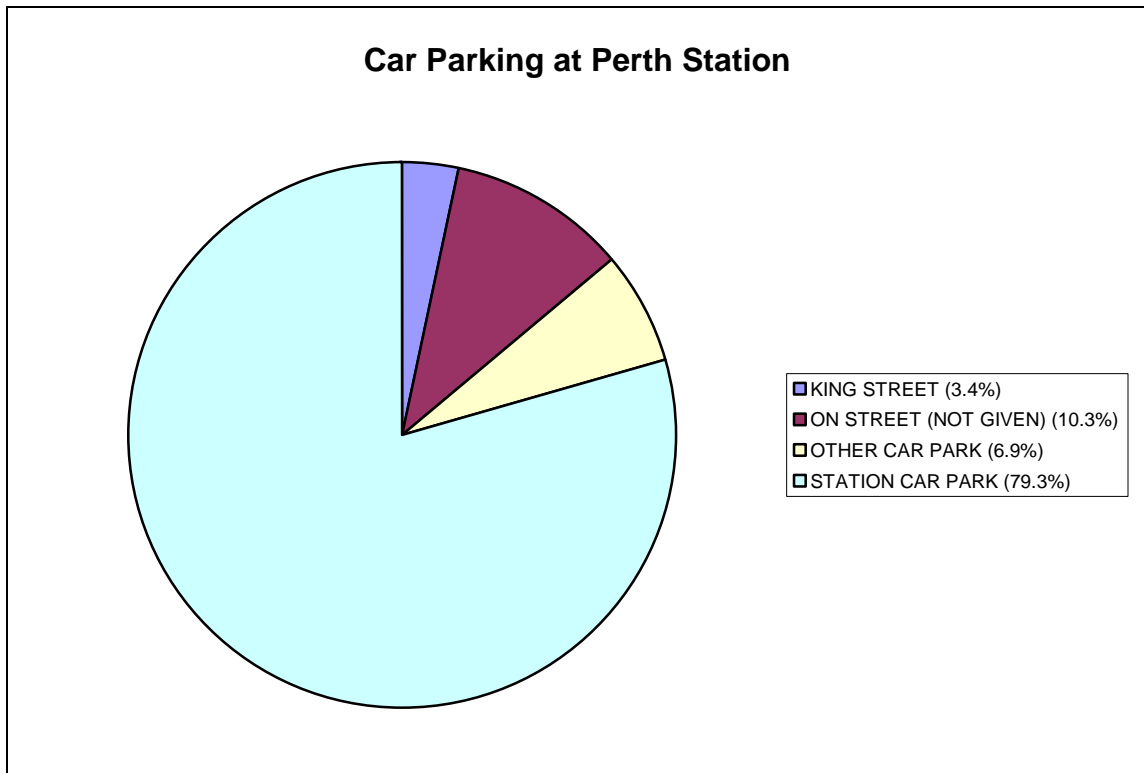


Figure 5.59 : Car Parking Location for Perth Passengers

Figure 5.59 confirms that the majority of passengers who drove to the rail station parked in the station car park.

Figure 5.60 summarises passengers’ main reason for parking in the chosen location for the most popular parking areas.

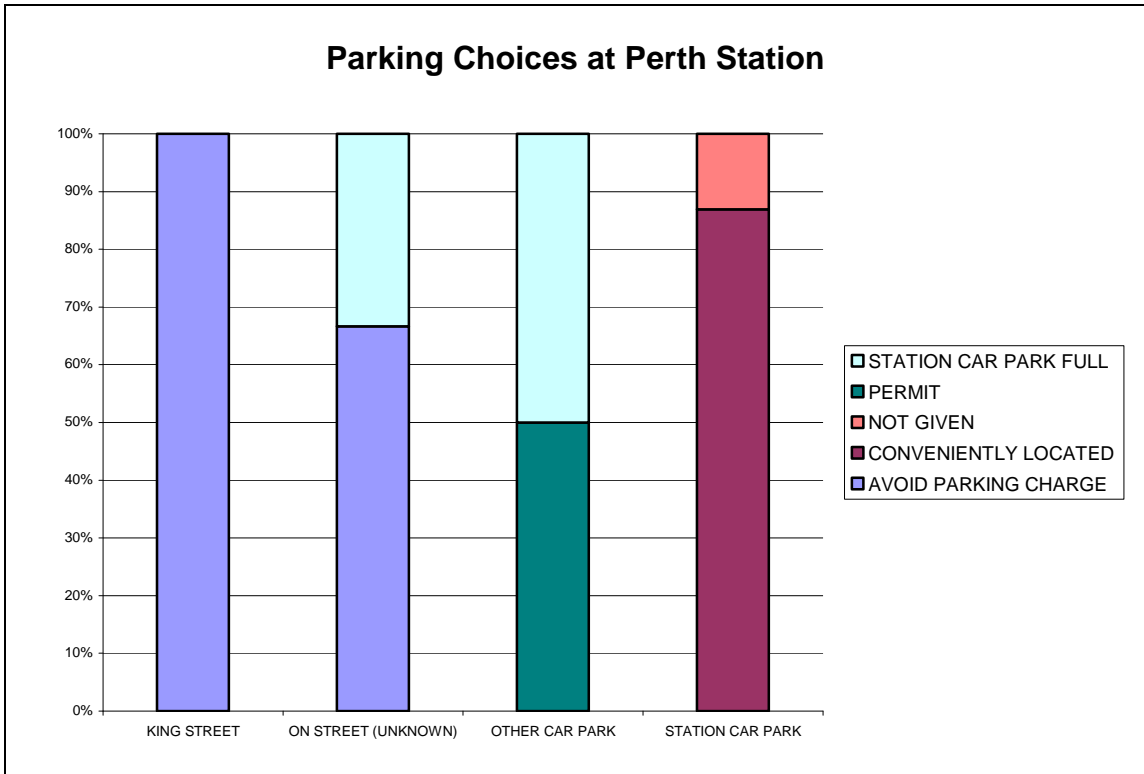


Figure 5.60 : Reason for Choosing Car Parking Location for Perth Passengers

As can be seen from the above summary, the majority of passengers who park in the station car park confirm that they parked there for reasons of convenience. Passengers were reported to park outwith the station car park to avoid paying the parking charge or as a result of the car park being full.



Figure 5.61 shows the destination station for passengers travelling from Perth station.

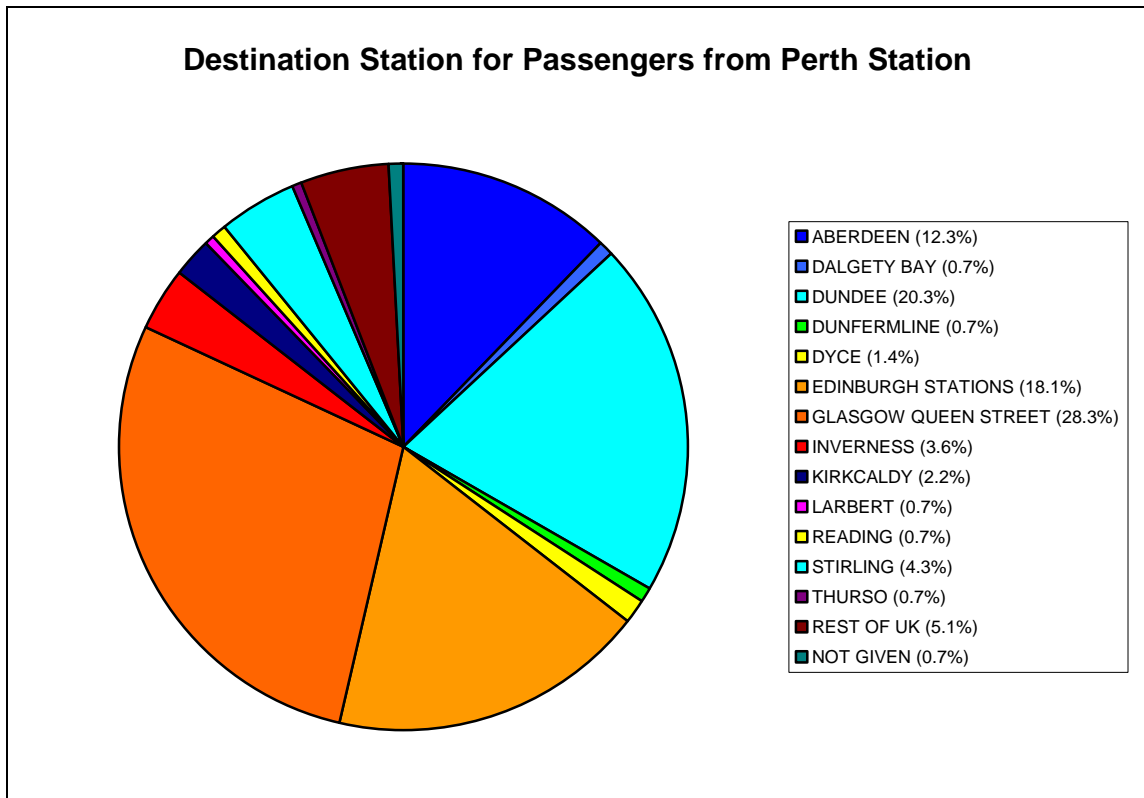


Figure 5.61 :Destination Station for Perth Passengers

Figure 5.61 confirms that the greatest proportion of passengers (28%) who access the rail network at Perth rail station travel to Glasgow Queen Street rail station, 20% are reported to travel to Dundee and 18% to Edinburgh rail stations.



Figure 5.62 summarises the final destinations for passengers who board a train at Perth and confirms that the greatest proportion of passengers are travelling to Dundee, Edinburgh and Glasgow in the morning peak period.

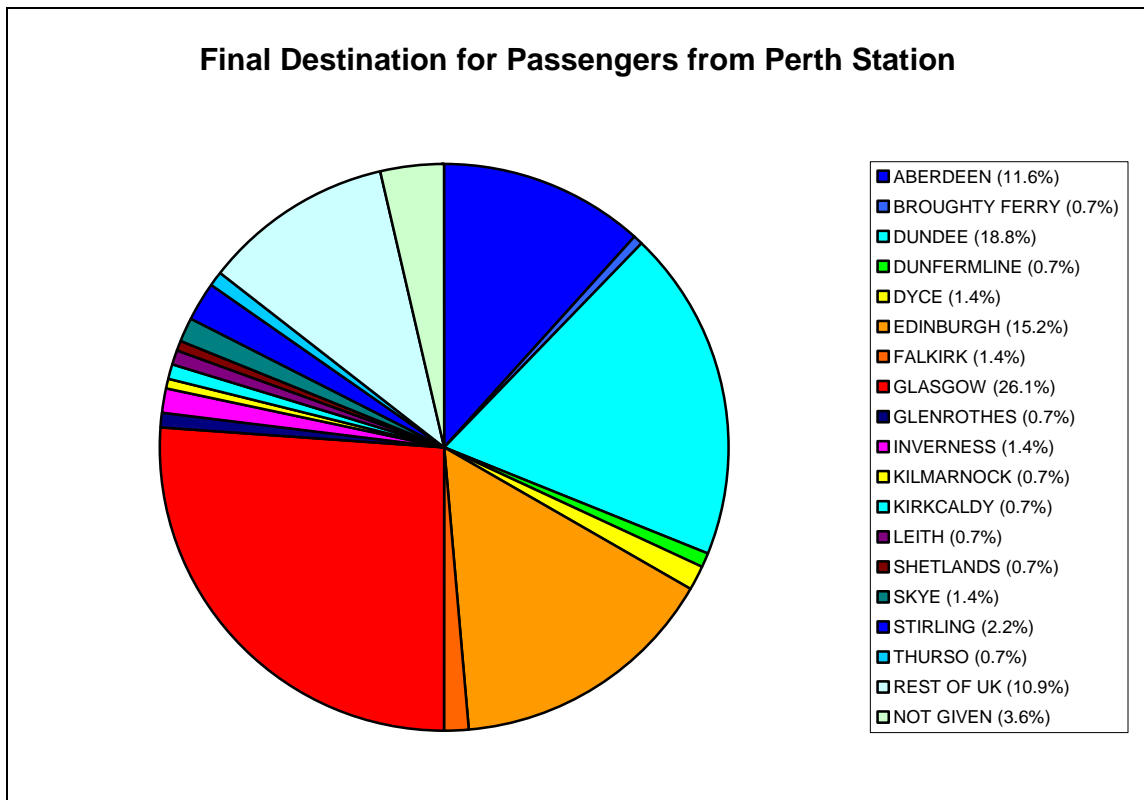


Figure 5.62 :Final destination for Perth Passengers

Table 5.7 confirms the final destinations for passengers that alight at the main destination stations of Dundee, Edinburgh and Glasgow.

Table 5.7 : Final destination for Passengers Travelling from Perth

DUNDEE	EDINBURGH	GLASGOW
CITY CENTRE (76%)	CITY CENTRE (36.8%)	CITY CENTRE (71.4%)
NINEWELLS (4%)	NOT GIVEN (63.2%)	NOT GIVEN (28.6%)
WHITFIELD (4%)		
NOT GIVEN (16%)		

As can be seen from the above summaries, the greatest proportion of passengers who responded to the questionnaire and travel from Perth to Dundee are shown to have their final destination in the centre of Dundee. All passengers who travelled to Edinburgh and Glasgow and were willing to provide detail with regard to their final destination, stated that their final destination was the city centres.



Figure 5.63 summarises the journey purpose for passengers travelling from Perth rail station.

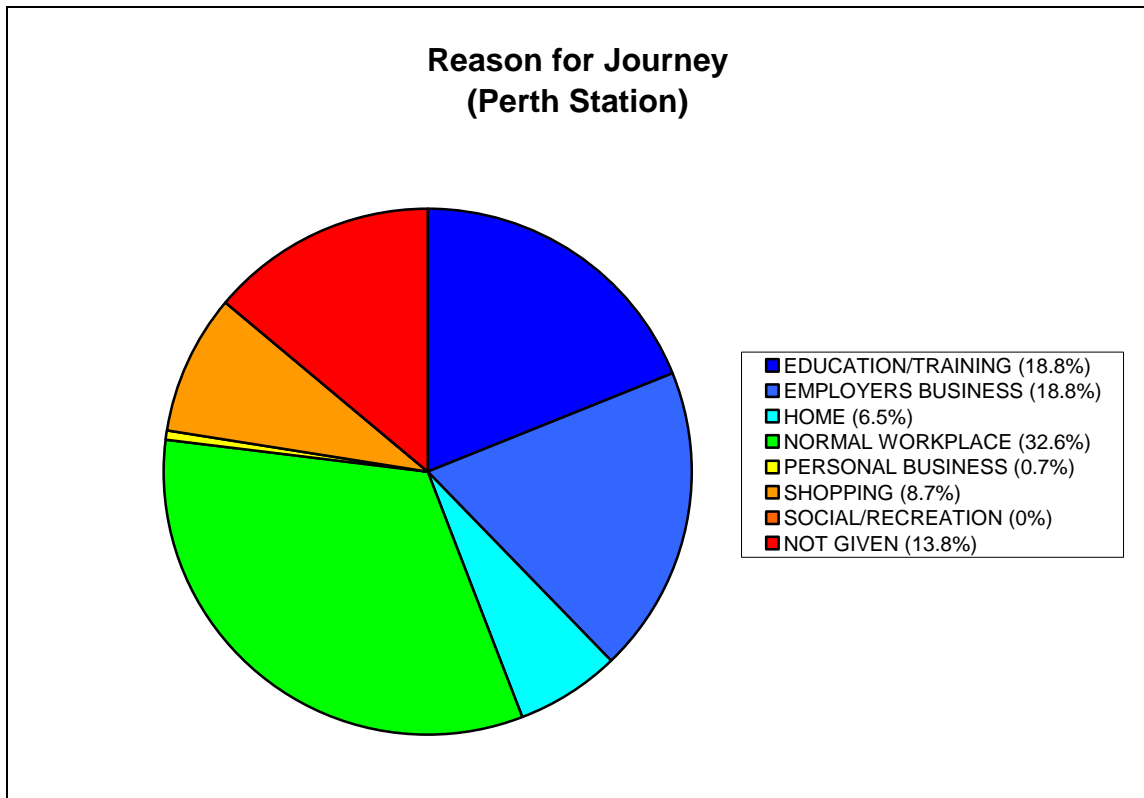


Figure 5.63 : Journey Purpose of Perth Passengers

Figure 5.63 confirms that the greatest proportion of surveyed Perth passengers were travelling to their normal workplace. A large proportion of passengers were also travelling for education/training purposes or on employers business.

In summary, a high proportion of passengers currently arrive at Perth rail station on foot. The high proportion of passengers who are reported to access Perth rail station on foot may be as a result of the accessible location of the station and the fact that the majority of journeys to the station originate in Perth. The most popular destinations from the station are Dundee, Edinburgh and Glasgow with the greatest proportion of passengers who travelled to Dundee, listing the city centre as their final destination. All passengers who travelled to Edinburgh and Glasgow and who were willing to provide information with regard to their final destination were reported to have the city centres as their final destination.

The majority of passengers park in the station car park for reasons of convenience. The greatest proportion of surveyed Perth passengers were travelling to their normal workplace.

5.19 Pitlochry Rail Station

Pitlochry rail station was surveyed on Thursday 12 March. While a total of 27 passengers were observed to board services from this station in the survey period, 18 boarded the 09:25 National Express services to Kings Cross. 32% of respondents gave there final destination as outwith Scotland, with a large proportion of travelling for social or leisure purposes. 27% of passengers were reported to be travelling to Edinburgh, with 27% travelling to Perth. It is not possible to identify trends from such a small dataset.



5.20 Stirling Rail Station

Stirling rail station was surveyed on Wednesday 4 March 2009. A total of **781** passengers were observed to board all rail services that departed from the station in the 4hr survey period with 787 passengers observed to alight from rail services. A total of **260** boarding passengers were interviewed which equates to a sample rate of 33%.

In terms of the demographics of passengers travelling from Stirling rail station in the survey period, a 50%/50% male/female split was recorded. The majority of passengers were aged between 16 and 60 with less than 1% aged over 60 and no passengers aged under 16 surveyed to travel from the station during the survey period.

Figure 5.64 confirms the surveyed mode share of passengers travelling to Stirling rail station in the morning peak period.

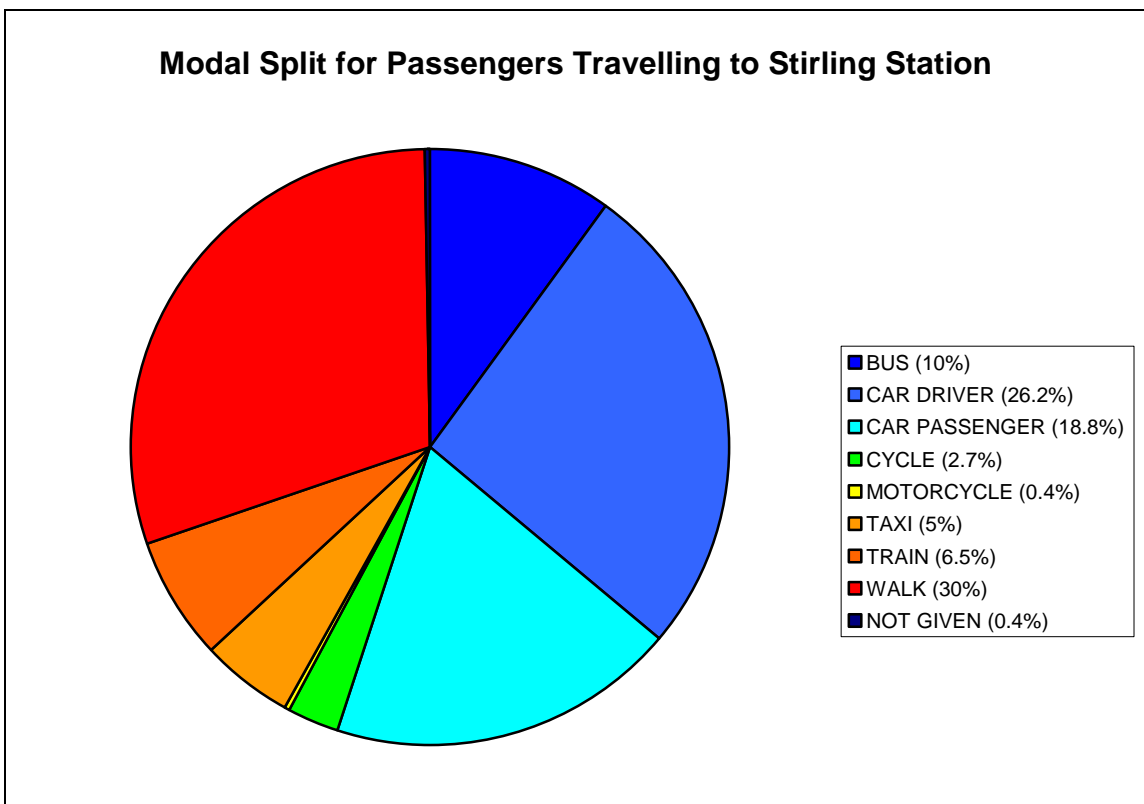


Figure 5.64 : Mode Share of Stirling Passengers

As can be seen from Figure 5.64, the greatest proportion of passengers (45%) reported to arrive at the rail station by car. 30% of passengers are reported to walk to the station potentially reflecting the accessible location of the station in relation to the centre of Stirling.



Figure 5.65 confirms the origins of passengers travelling to Stirling rail station and Figure 5.66 shows a spatial plot of the passengers' origins in relation to the rail station.

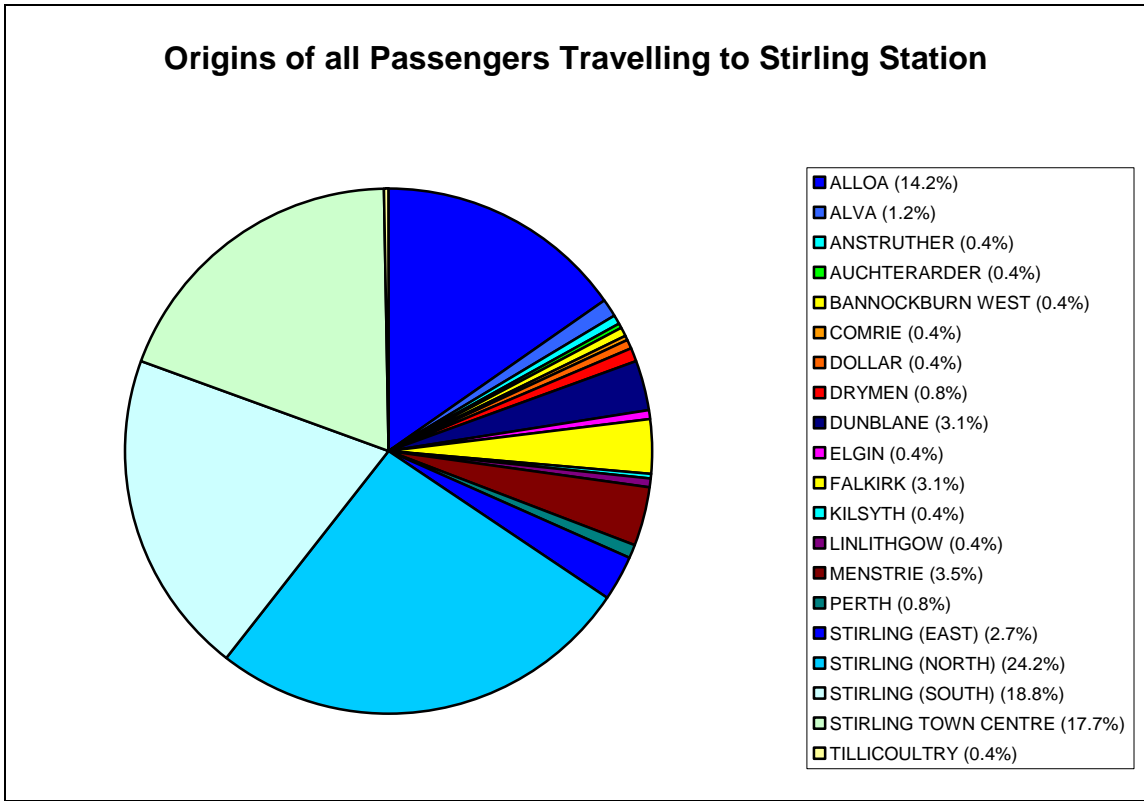


Figure 5.65 : Stirling Passenger Origins

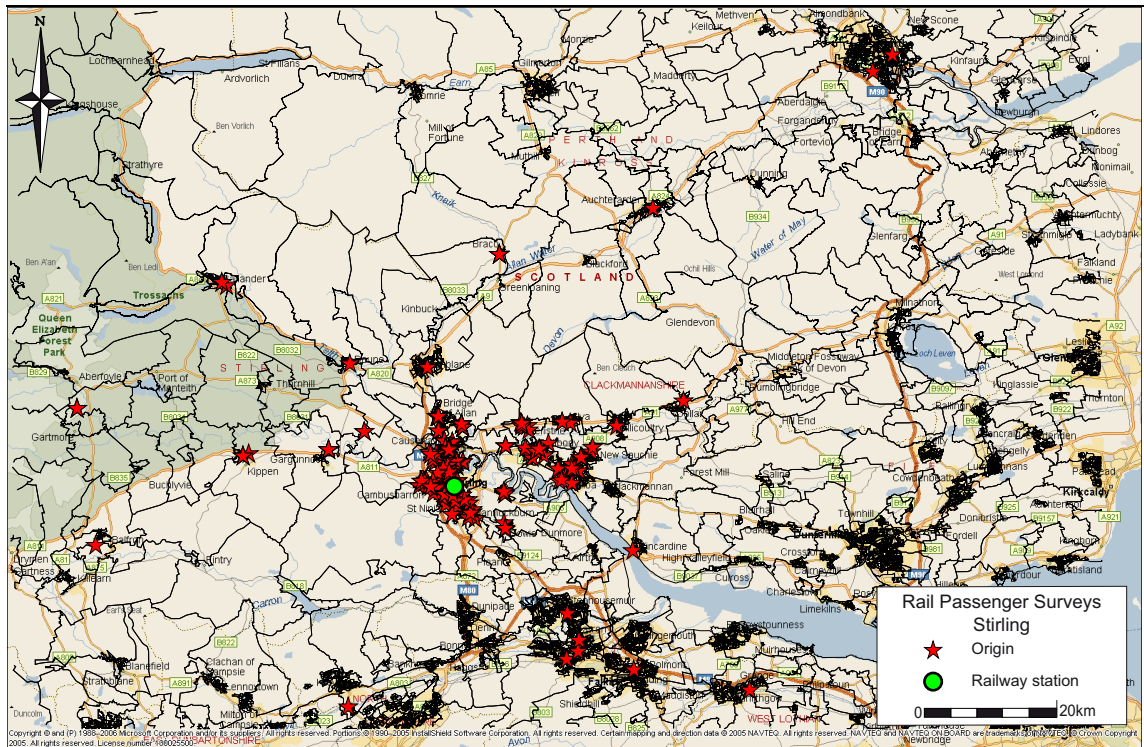


Figure 5.66 : Stirling Passenger Origins in relation to the rail station



As can be seen from the origins of Stirling rail station passengers, the greatest proportion of passengers (44%) are reported to originate in Stirling. 24% of passengers are reported to originate in Bridge of Allan and 14% in Alloa.

Figure 5.67 summarises the main reason passengers choose to travel from Stirling rail station.

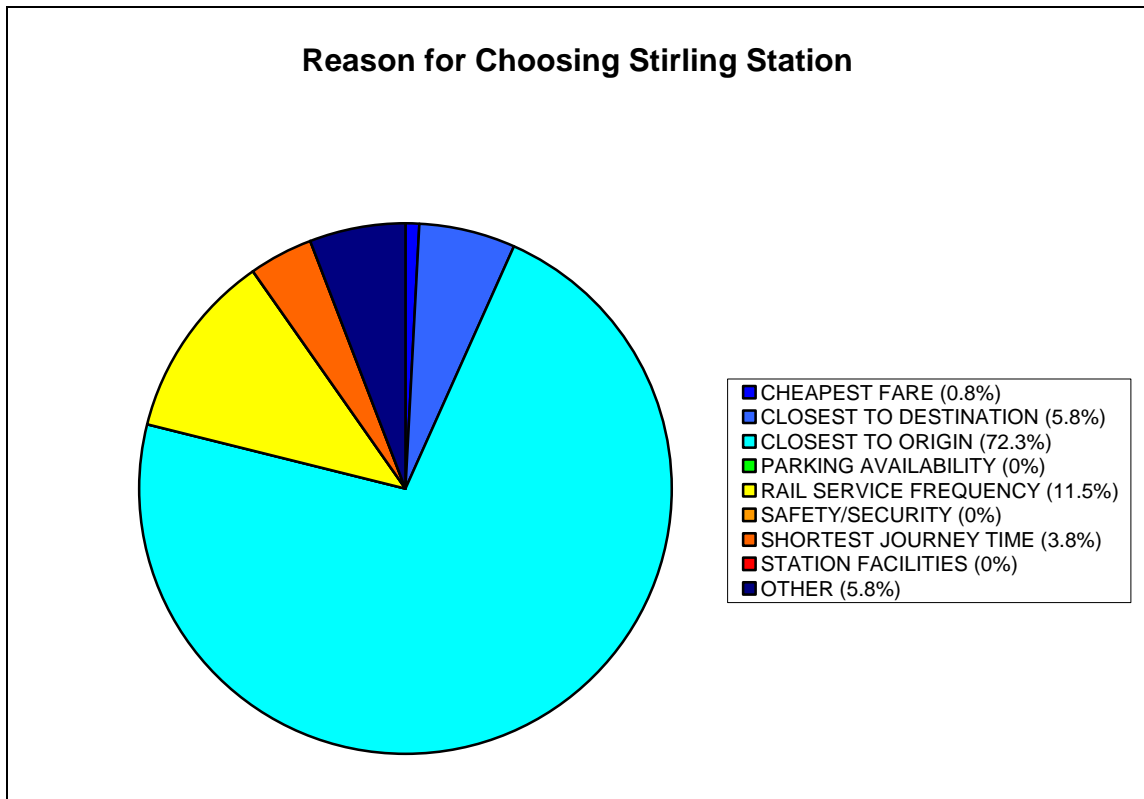


Figure 5.67 : Reason for Choosing Stirling Rail Station

As can be seen from the above summary, the majority of passengers confirmed that they travel from this station as it is located closest to their origin. Rail service frequency was also cited by a significant proportion of passengers as a reason for choosing to travel from Stirling station.



In terms of passenger parking, Figure 5.68 confirms the locations where passengers parked when travelling from Stirling rail station.

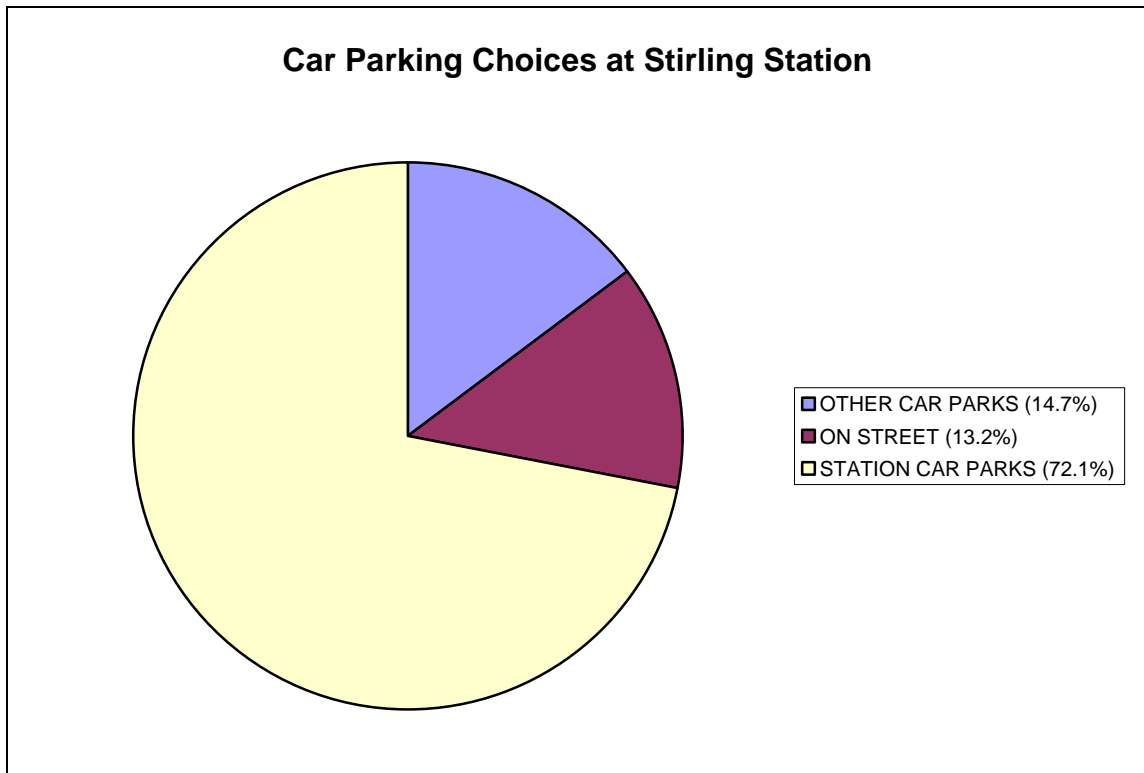


Figure 5.68 : Car Parking Location for Stirling Passengers

Figure 5.68 confirms that the greatest proportion of passengers who drove to the rail station parked in the station car park.

Figure 5.69 summarises passengers’ main reason for parking in the chosen location for the most popular parking areas.

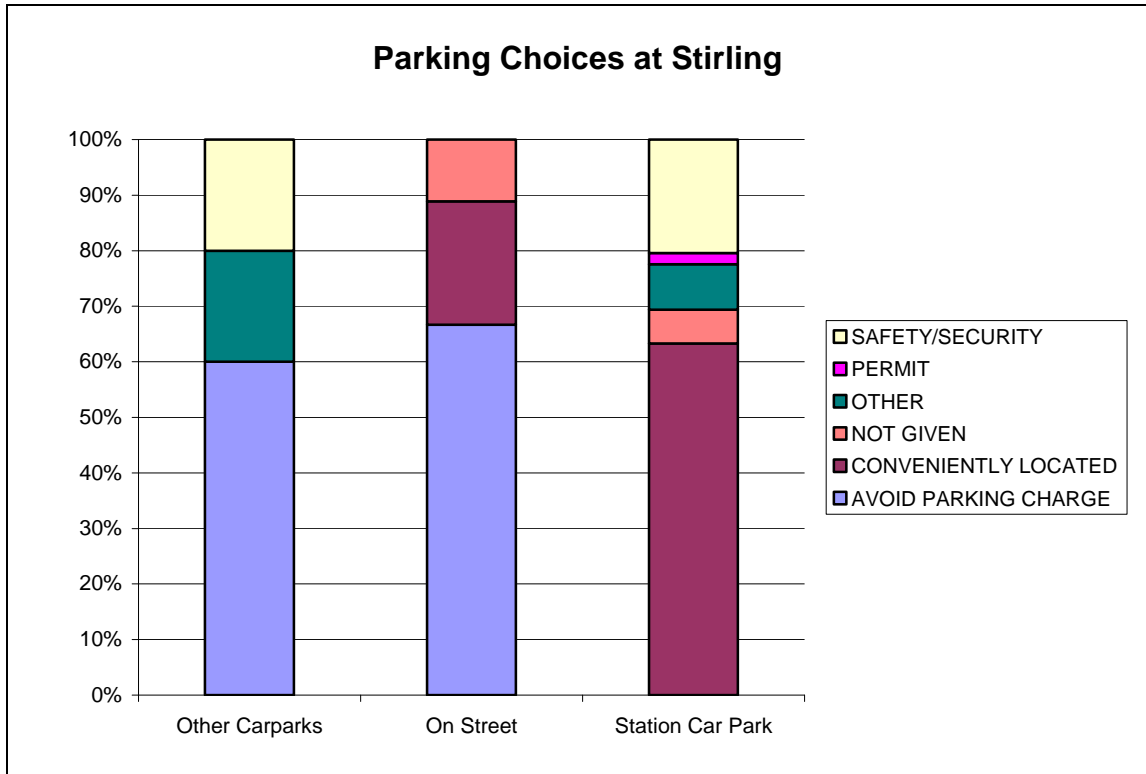


Figure 5.69 : Reason for Choosing Car Parking Location for Stirling Passengers

As can be seen from the above summary, the majority of passengers who park in the station car park confirm that they parked there for reasons of convenience. A high proportion of passengers who parked outwith the station car park did so to avoid the parking charge.



Figure 5.70 shows the destination station for passengers travelling from Stirling station.

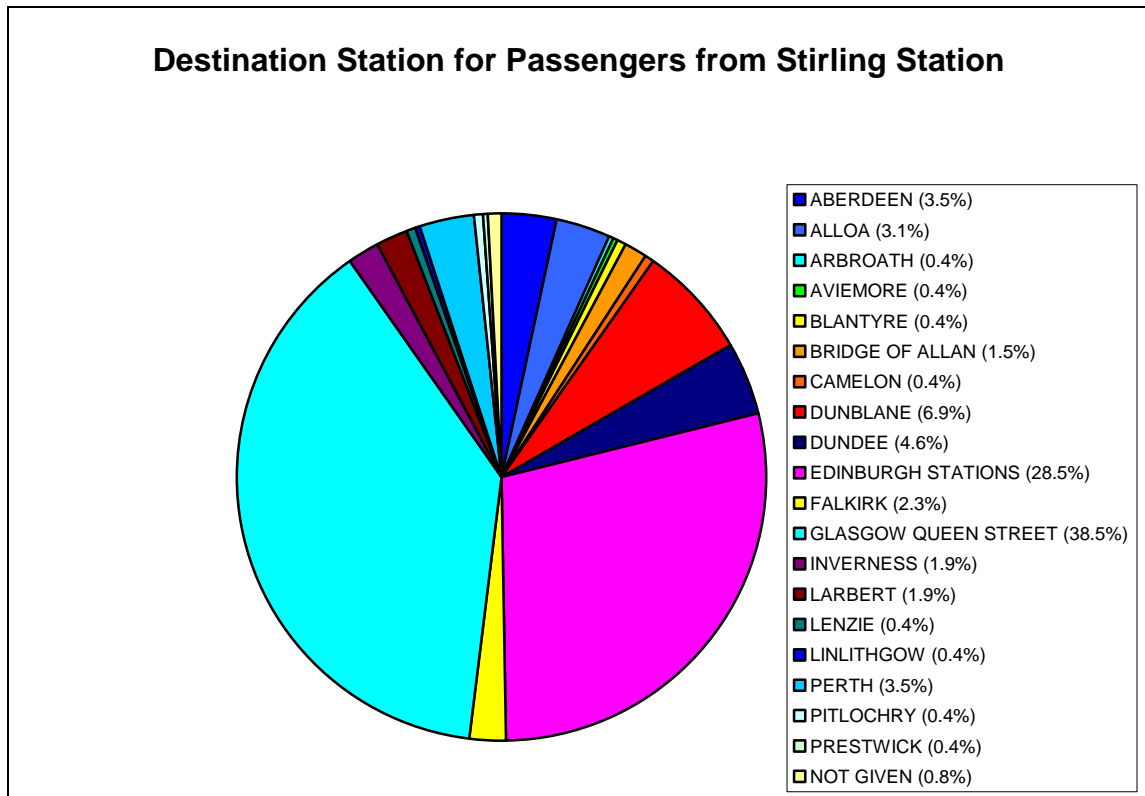


Figure 5.70 :Destination Station for Stirling Passengers

Figure 5.70 confirms that the greatest proportion of passengers (39%) who access the rail network at Stirling rail station travel to Glasgow Queen Street rail station with 29% reported to travel to Edinburgh rail stations.

Figure 5.71 summarises the final destinations for passengers who board a train at Stirling and confirms that the greatest proportion of passengers are travelling to Glasgow and Edinburgh in the morning peak period.

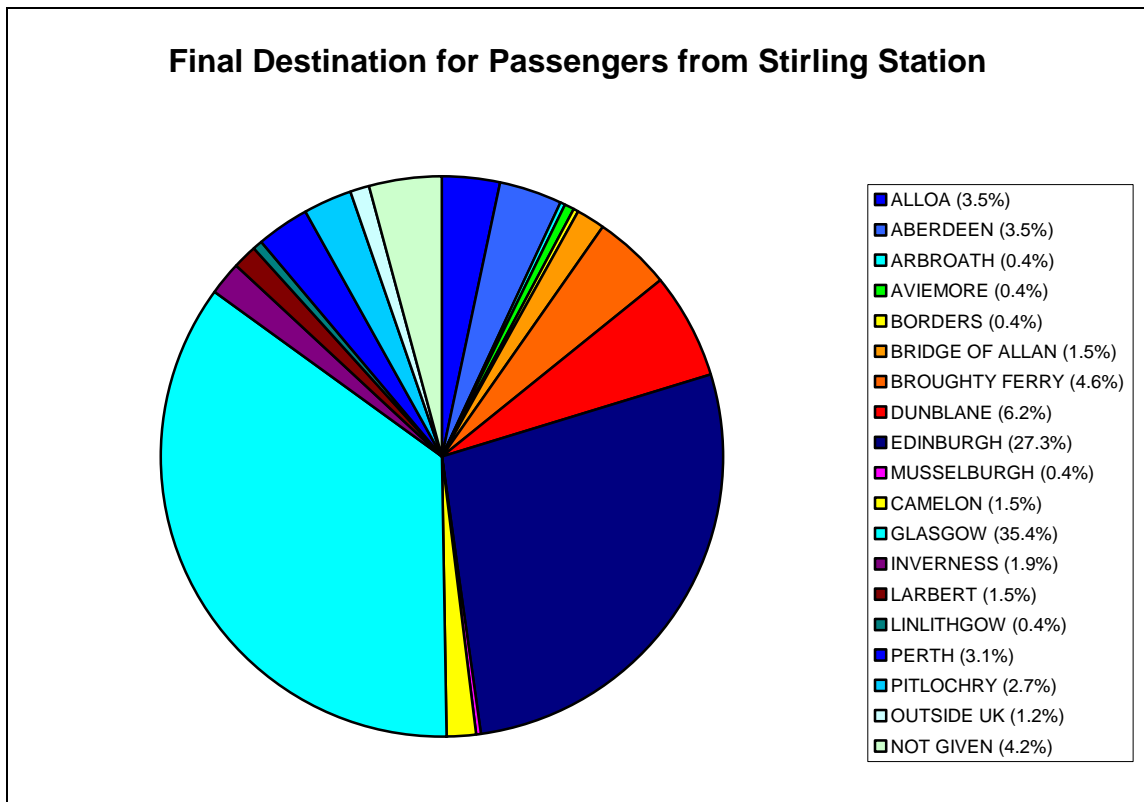


Figure 5.71 :Final Destination for Stirling Passengers

Table 5.8 confirms the final destinations for passengers that alight at the main destination stations of Glasgow and Edinburgh.

Table 5.8 : Final Destination for Passengers Travelling from Stirling

EDINBURGH	GLASGOW
CITY CENTRE (70.4%)	ATLANTIC QUAY (1.1%)
DALMENY (1.4%)	CENTRAL QUAY (1.1%)
EDINBURGH PARK (1.4%)	CITY CENTRE (70.8%)
EDINBURGH SOUTH (1.4%)	GLASGOW EAST (1.1%)
NOT GIVEN (25.4%)	GLASGOW WEST (11.2%)
	ROYAL INFIRMARY (1.1%)
	NOT GIVEN (13.5%)

As can be seen from the above summaries, of those who choose to answer, the greatest proportion of passengers who travel from Stirling to Glasgow are shown to have their final destination in the centre of Glasgow. Similarly, the greatest proportion of passengers who travel to Edinburgh are shown to have their final destination in the centre of Edinburgh.



Figure 5.72 summarises the journey purpose for passengers travelling from Stirling rail station.

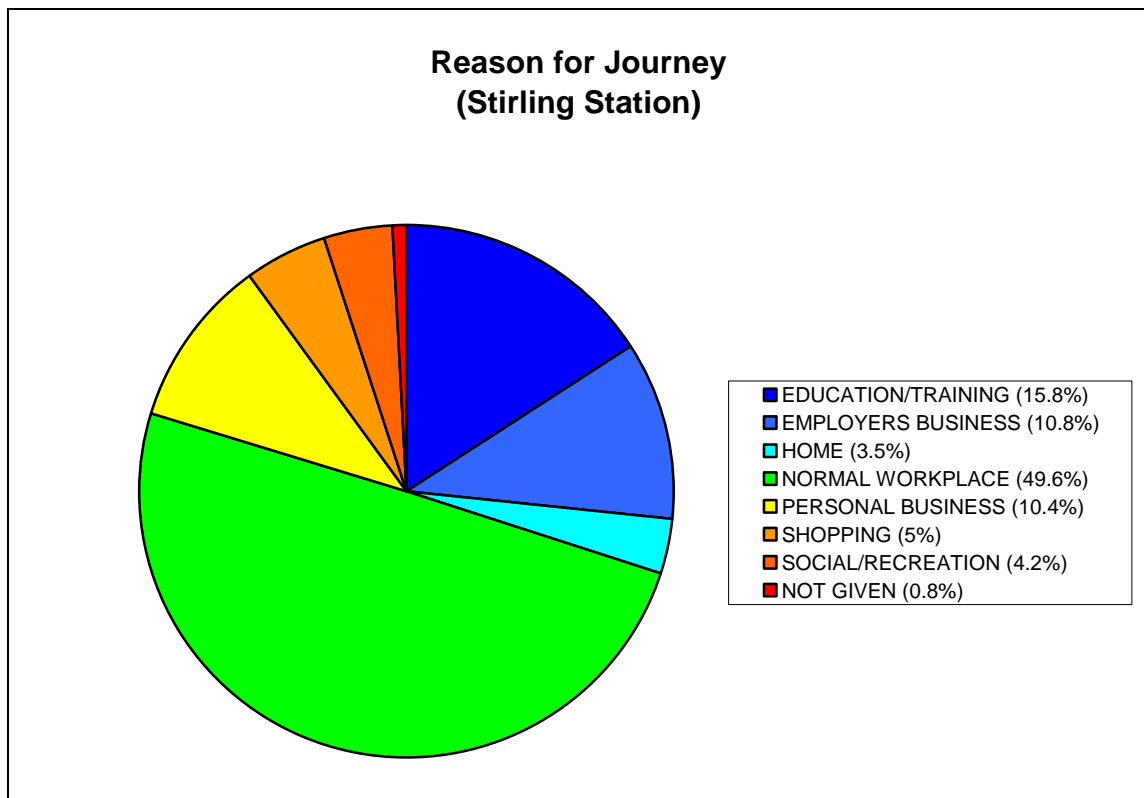


Figure 5.72 : Journey Purpose of Stirling Passengers

Figure 5.72 confirms that the greatest proportion of surveyed Stirling passengers were travelling to their normal workplace.

In summary, a high proportion of passengers currently arrive at Stirling rail station by car and on foot. The accessible location of the station and the fact that a large proportion of journeys to the station originate in Stirling, results in a significant proportion of passengers accessing the station on foot. The most popular destinations from the station are Glasgow and Edinburgh, with the majority of final destinations being located in the centre of the cities.

The majority of passengers park in the station car park for reasons of convenience. The greatest proportion of surveyed Stirling passengers were travelling to their normal workplace.

5.21 Rannoch Rail Station

Rannoch rail station was surveyed Wednesday 11 March 2009. Two passengers were observed to board services from this station, with one passenger boarding the 08:43 to Glasgow Queen Street and the second boarding the 08:45 to Fort William. Only one passenger agreed to complete the questionnaire and they confirmed that their final destination after boarding the Glasgow Queen Street 08:43 service was Glasgow. It is not possible to identify trends from such a small dataset.

5.22 Tyndrum Lower Rail Station

This rail station was surveyed on Thursday 12 March 2009. No passengers were observed to board from this station during the survey period.



5.23 Upper Tyndrum Rail Station

Upper Tyndrum rail station was surveyed Thursday 12 March 2009. One passenger was observed to board the 07:56 service to Fort William, however, they declined to complete the questionnaire.

5.24 Summary

Passenger surveys were undertaken at all 22 rail stations in the TACTRAN area to provide travel habit data for rail travel from and within the TACTRAN area.

It is considered that a reasonable sample rate has been achieved by the surveys with between 31% - 52% of all boarding passengers surveyed at the busier stations in the TACTRAN area.

It has not been possible to extract a dataset of a suitable size for a number of the smaller stations, to enable travel habit trends to be identified for the stations.

Passenger travel habit survey data suggests that a large proportion of passengers access the rail network via a particular station as it is located closest to their journey origin.

A large proportion of passengers travel to Aberdeen, Dundee, Edinburgh and Glasgow with destinations described as the main workplace for a large proportion of surveyed rail passengers.





6 DATA ANALYSIS TO SUPPORT NETWORK RAIL'S PARKING STRATEGY

6.1 Introduction

The rail use surveys have obtained a range of data on the travel habits of passengers travelling from stations in the TACTRAN area. Data pertaining to passengers who travelled to six of the TACTRAN rail stations as car drivers has been appraised in detail to inform the emerging Car Parking Strategy which is currently being prepared by Network Rail.

The car parking strategy is considering travel habits at two families of stations:

- Family 1 – Gleneagles, Dunblane, Bridge of Allan and Stirling
- Family 2 – Montrose and Arbroath

Table 6.1 summarises the proportion of a surveyed passengers who drove to the above stations.

Table 6.1 : Car Driver Mode Share

Rail Station	Car Driver Mode Share
Gleneagles	37.5%
Dunblane	38.3%
Bridge of Allan	71.6%
Stirling	26.2%
Montrose	33.0%
Arbroath	21.7%

The following chapter summarises key statistics from the results of the face-to-face surveys for passengers who drove to the rail station and the results of car park occupancy surveys. The data that was obtained from the surveys is contained on a disc at Appendix A.

This chapter summarises the following statistics for the six rail stations which are of particular relevance to Network Rail's Car Parking Strategy:

- Origin of passengers travelling to rail station
- Car park location for those who drove to the station
- Reason for choosing car park location for those who drove to the station
- Reason for choosing to travel from rail station
- Destination station of passengers travelling from rail station
- Frequency of journey from station

For ease of reference, the majority of the data has been presented graphically in the form of pie and bar charts, however, it has not been possible to identify trends at Gleneagles station due to the small size of the dataset generated by rail passenger survey.

The recorded sample rate has been applied to the total number of rail passengers who travel to the rail station as car drivers to provide an estimate of the number of passengers parking at specific locations in and around the rail station.



The following sections summarise the results of the passenger travel habit surveys in terms of individual rail stations and the interaction between stations within the family.

6.2 Family 1 – Gleneagles, Dunblane, Bridge of Allan, Stirling

6.2.1 Gleneagles Rail Station

Gleneagles rail station was surveyed on Wednesday 4 March 2009. Ten passengers boarded services of which eight were surveyed. A total of three passengers that were surveyed stated that they drove to the station on the day of the survey. It has not been possible to undertake a full appraisal of passenger travel habits from such a small dataset.

Of the three car driver journeys that completed the survey, two are reported to originate in Auchterarder and one is reported to originate in Dunning. Two car drivers stated that they commuted to Glasgow and one to Stirling.

In providing a reason for accessing the rail network at Gleneagles station, one confirmed that they choose to drive from the station due to the service frequency provided from the station and two confirmed that the station was located closest to their journey origin.

All passengers who drove to the rail station confirmed that they parked in the station car park. Two of the three car drivers confirmed that they travelled from Gleneagles 5 times a week with one travelling 4 times per week.

In summary, three passengers were surveyed to drive to Gleneagles rail station in the morning peak period and all parked in the station car park. Two originated from Auchterarder and one from Dunning. It has not been possible to identify trends from such a small dataset.

6.2.2 Dunblane Rail Station

Dunblane rail station was surveyed on Wednesday 4 March 2009. A total of 378 passengers were observed to board all rail services that departed from the station in the 4hr survey period. A total of 118 boarding passengers were interviewed giving a sample rate of 31%. From the passengers interviewed 38.3% were car drivers. Using the sample rate this gives a factored value of 147 cars parked.



Figure 6.1 confirms the origins of passengers driving to Dunblane rail station and Figure 6.2 shows a spatial plot of the passengers' origins in relation to the rail station.

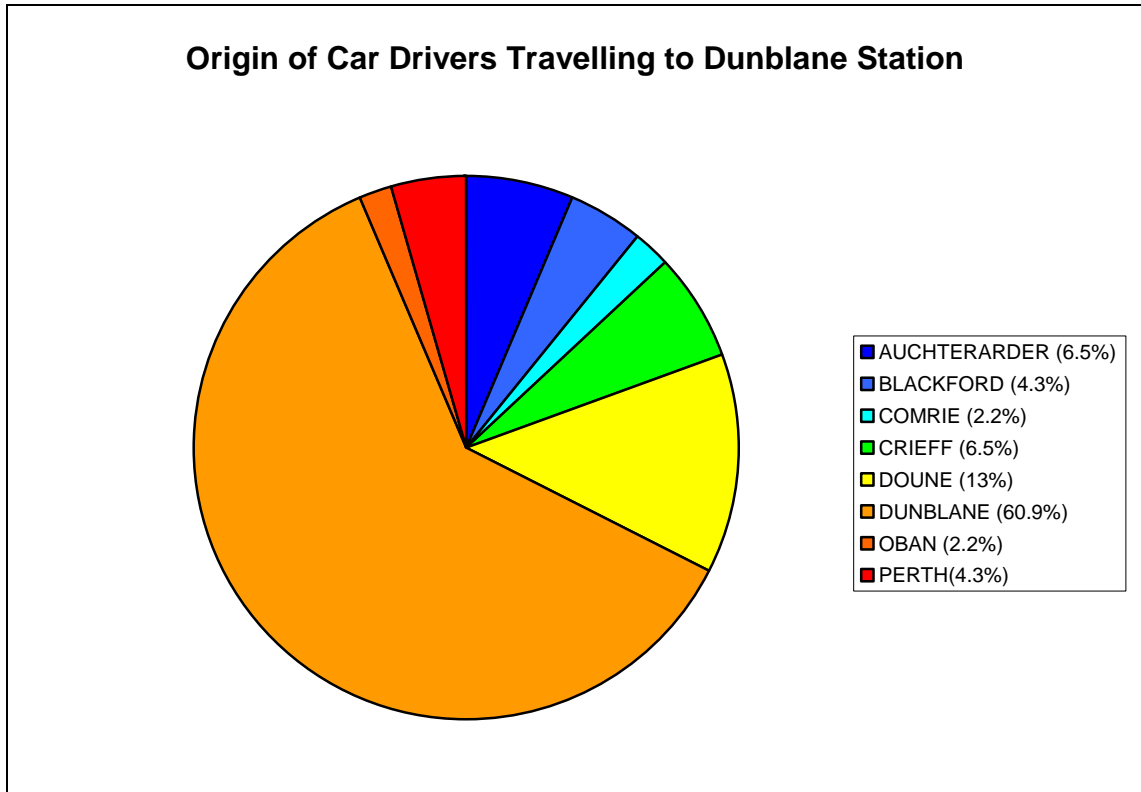


Figure 6.1 : Dunblane Passenger Origins

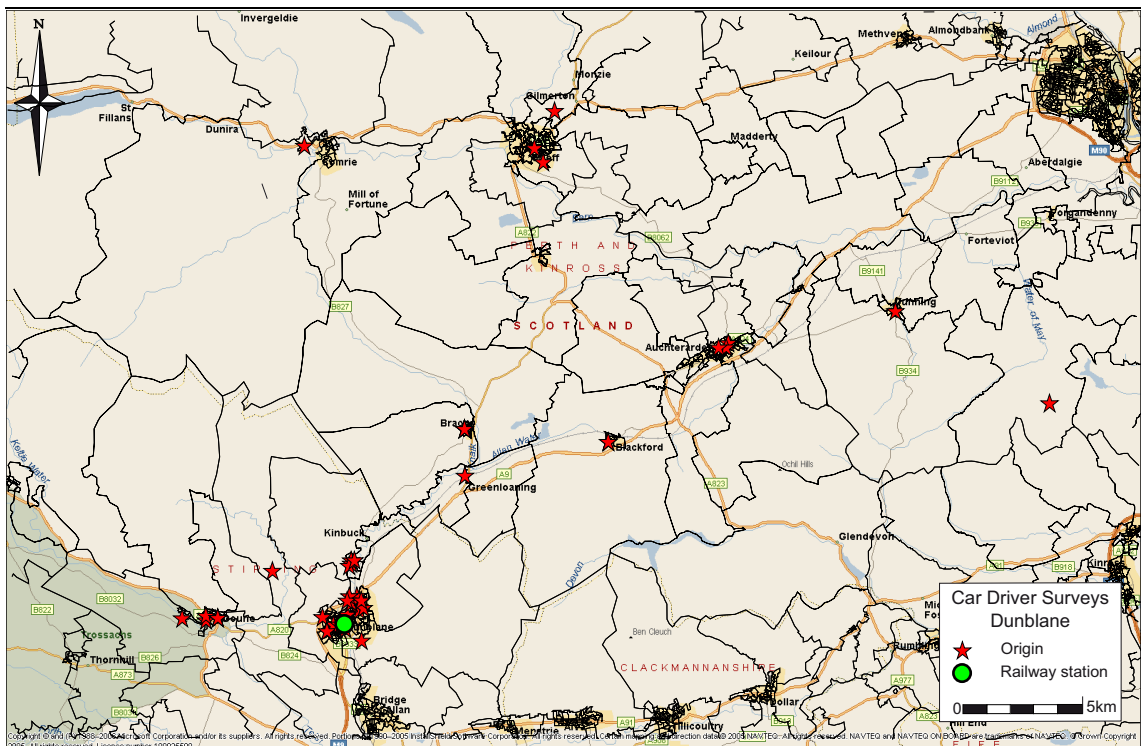


Figure 6.2 : Dunblane Passenger Origins in Relation to the Rail Station



As can be seen from the origins of Dunblane rail station passengers, the majority of car driver journeys (61%) are reported to originate in Dunblane.

In terms of passenger parking, Figure 6.3 confirms the locations where passengers parked when travelling from Dunblane rail station.

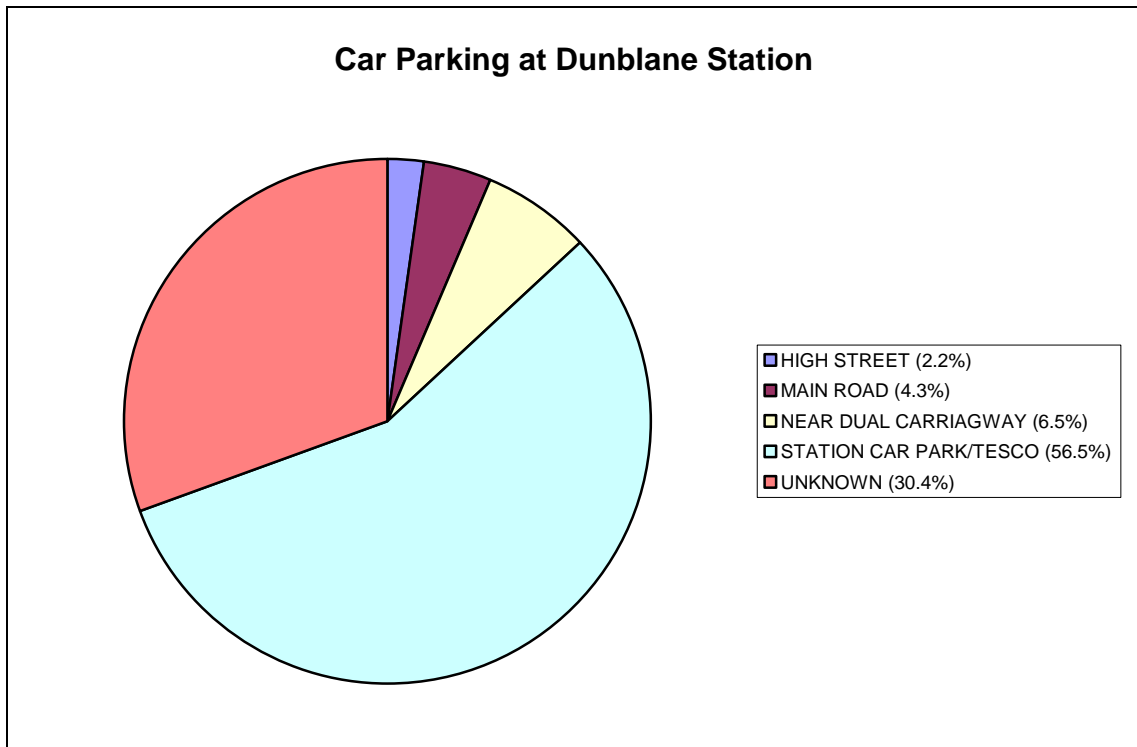


Figure 6.3 : Parking Location

Figure 6.3 confirms that the greatest proportion of passengers who drove to the rail station parked in the station car park and in the Springfield Terrace (Tesco) car park.

Figure 6.4 summarises passengers’ main reason for parking in their chosen location for the most popular parking areas.



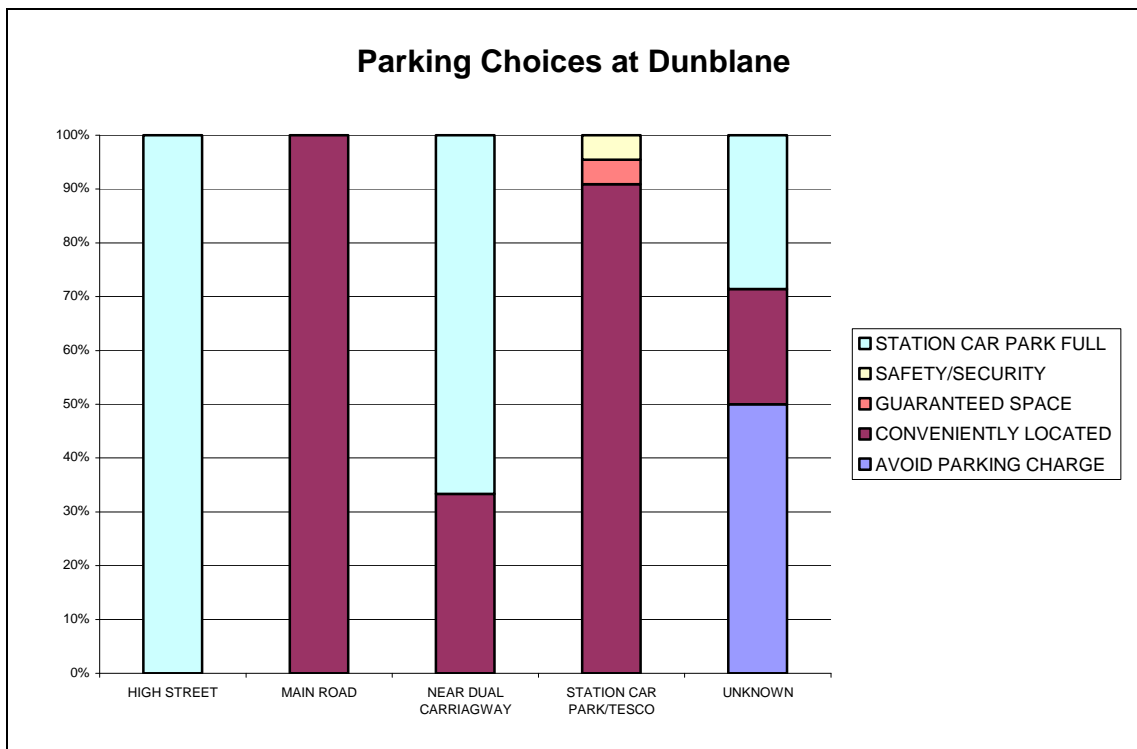


Figure 6.4 : Reason for Parking at Chosen Location

As can be seen from the above summary, the greatest proportion of passengers who park in the station/Tesco car park confirm that they parked there for reasons of convenience. Whereas the majority of passengers who parked outwith the station car park did so due to the station car park being full or to avoid paying for parking throughout the day.

To quantify the number of vehicles parked in the most popular locations, the survey capture rate was applied to the response to the surveys. This calculation is summarised in Table 6.2.

Table 6.2 :Prediction of Car Parking Usage

Car Parking at Dunblane Station	Parking Numbers from Interviews		Maximum Observed Parking Numbers
	Car Drivers Interviewed	Factored by Sample Rate	
HIGH STREET	1	3	-
MAIN ROAD	2	6	-
NEAR DUAL CARRIAGWAY	3	10	-
STATION CAR PARK/TESCO	26	83	67
UNKNOWN	14	45	-
Total	46	147	

Dunblane station car park has 8 spaces with approximately 20 spaces are located adjacent to the station car park. A public car park (Tesco Lower) located immediately to the south of the rail line provides a further 60 parking spaces.

Figure 6.5 summarises the main reason passengers choose to travel from Dunblane rail station.



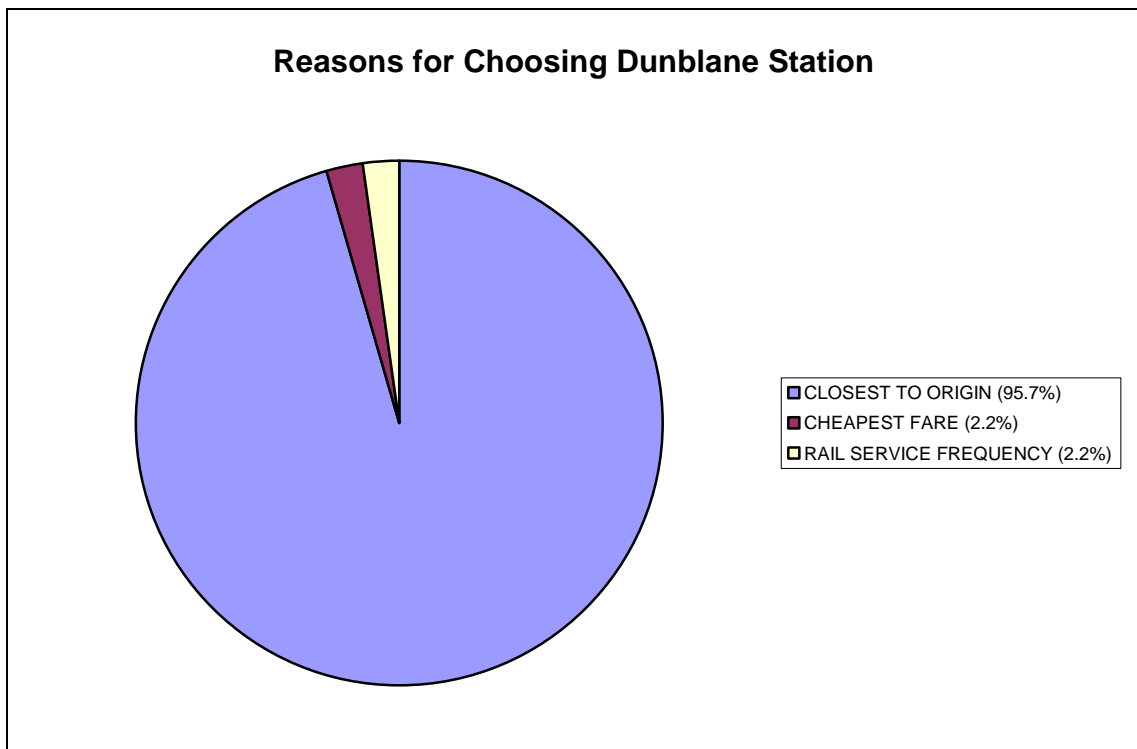


Figure 6.5 :Reason for Choosing to Travel from Dunblane

As can be seen from the above summary, the majority of car drivers confirmed that they travel from this station as it is located closest to their origin.

Figure 6.6 shows the destination station for passengers travelling from Dunblane station.



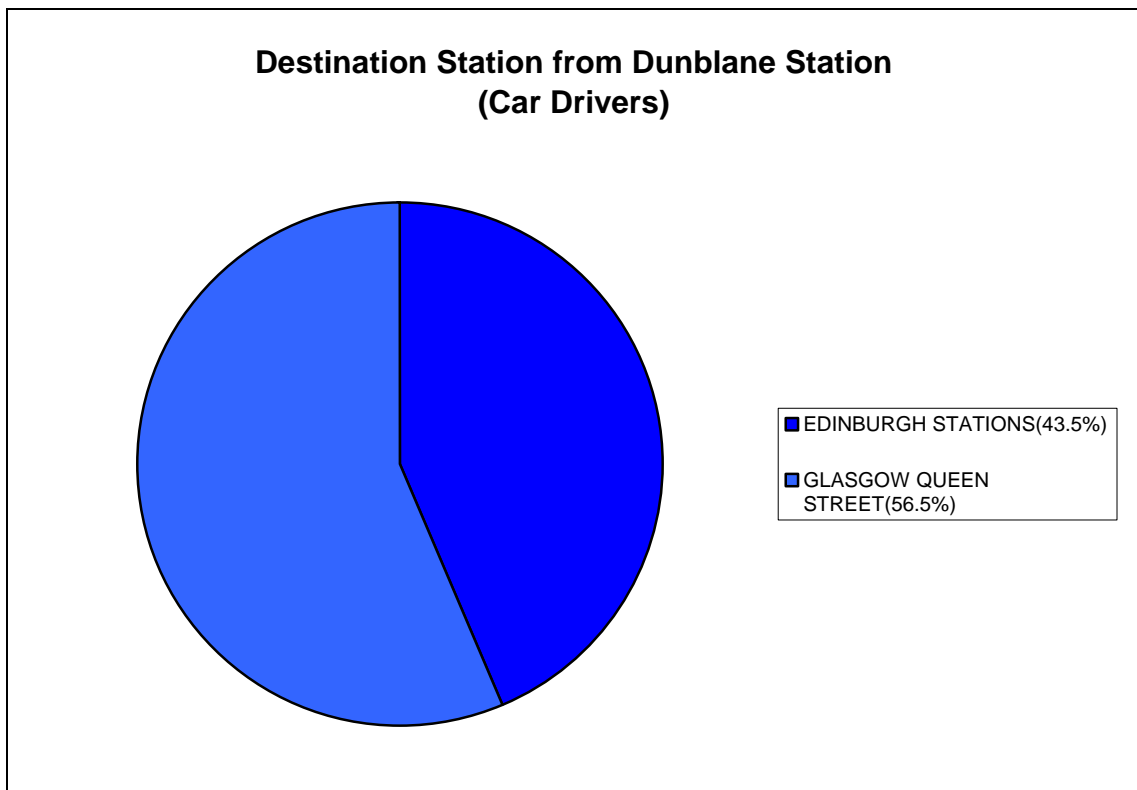


Figure 6.6 :Destination Station for Dunblane Passengers

Figure 6.6 confirms that the majority of car drivers (56%) who access the rail network at Dunblane rail station travel to Glasgow Queen Street rail station with 44% reported to travel to Edinburgh rail stations.

Figure 6.7 confirms the frequency which surveyed rail passengers travel from Dunblane rail station.

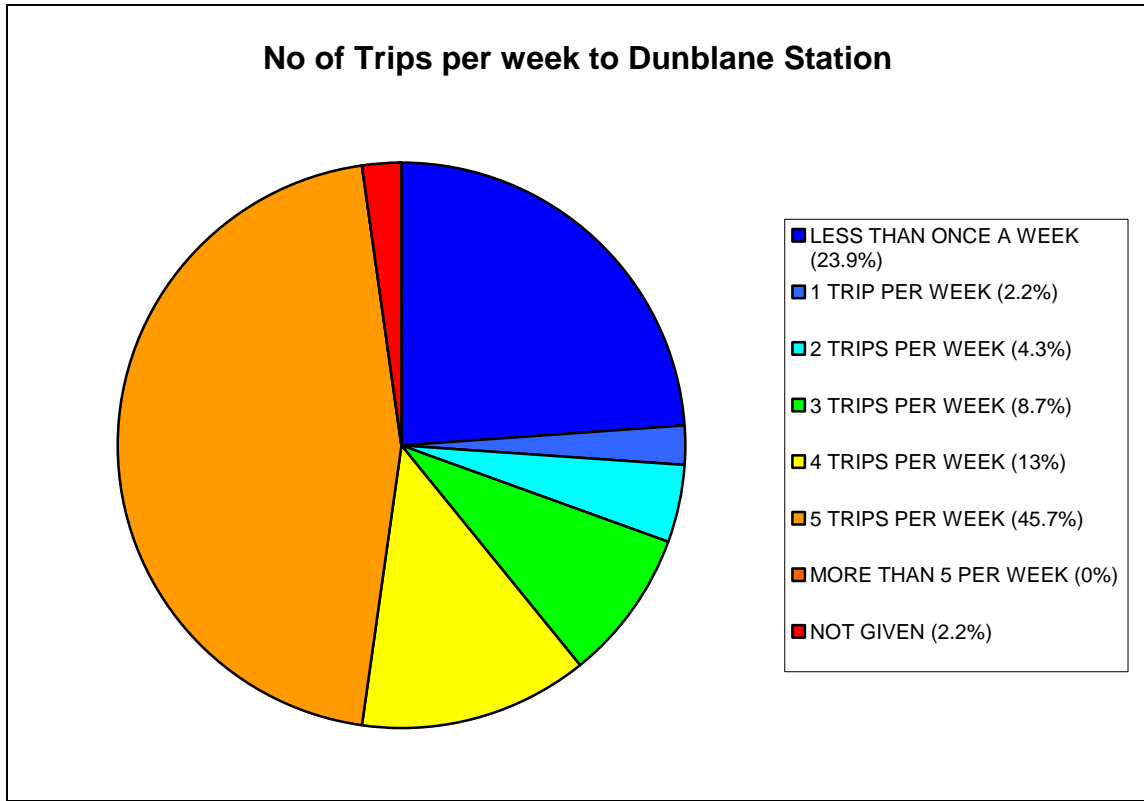


Figure 6.7 : Frequency of Travel for Dunblane Passengers

As can be seen from the above summary, the greatest proportion of surveyed passengers travelled from Dunblane rail station 5 days a week. A high proportion of passengers were, however, surveyed to travel from the station less than once a week.

In summary, the greatest proportion of passengers who drive to Dunblane rail station are shown to originate in Dunblane. Passengers park in the station car park due to its convenient location, however, a large proportion of passengers are forced to park elsewhere due to the car park being full, including in the Springfield Terrace (Tesco) car park. The greatest proportion of surveyed passengers travelled from Dunblane rail station 5 days a week.

6.2.3 Bridge of Allan Rail Station

Bridge of Allan rail station was surveyed on Wednesday 4 March 2009. A total of 182 passengers were observed to board all rail services that departed from the station in the 4hr survey period. A total of 95 boarding passengers were interviewed giving a sample rate of 52.2%. From the passengers interviewed 71.6% were car drivers. Using the sample rate this gives a factored value of 130 cars parked.

Figure 6.8 confirms the origins of passengers driving to Bridge of Allan rail station and Figure 6.9 shows a spatial plot of the passengers' origins in relation to the rail station.

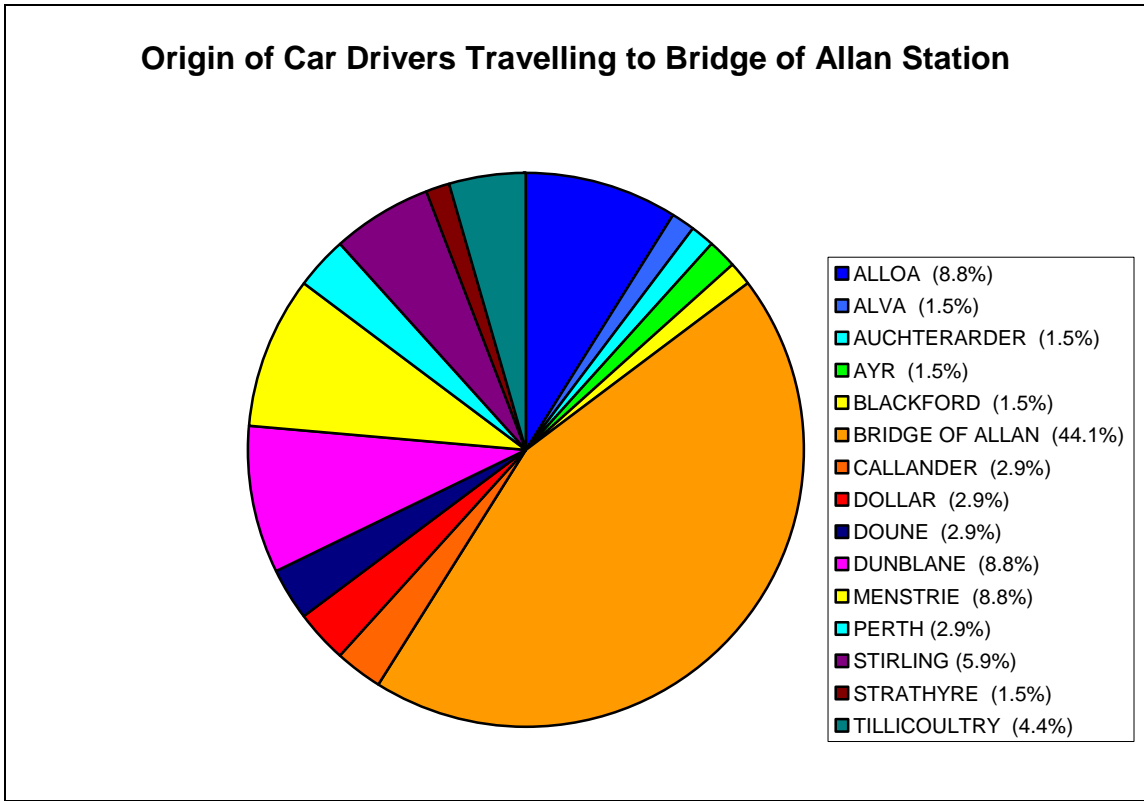


Figure 6.8 : Bridge of Allan Passenger Origins

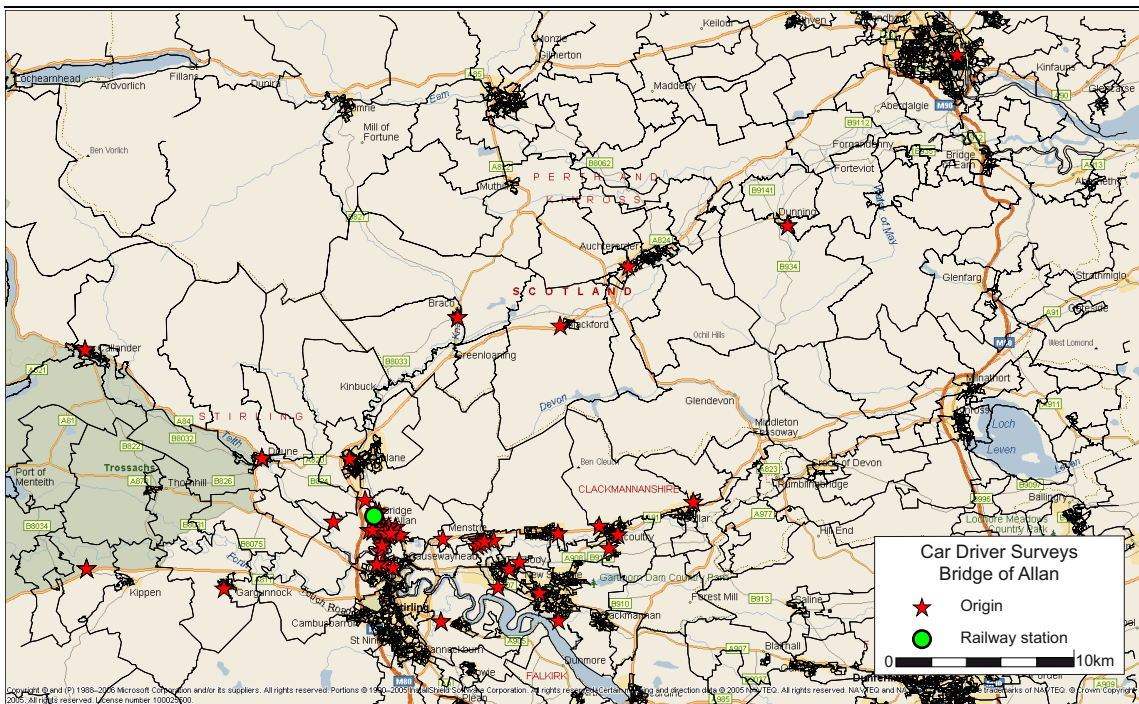


Figure 6.9 : Bridge of Allan Passenger Origins in Relation to the Rail Station

As can be seen from the origins of Bridge of Allan rail station passengers, the greatest proportion of car driver journeys are reported to originate in Bridge of Allan.



In terms of passenger parking, Figure 6.10 confirms the locations where car drivers parked when travelling from Bridge of Allan rail station.

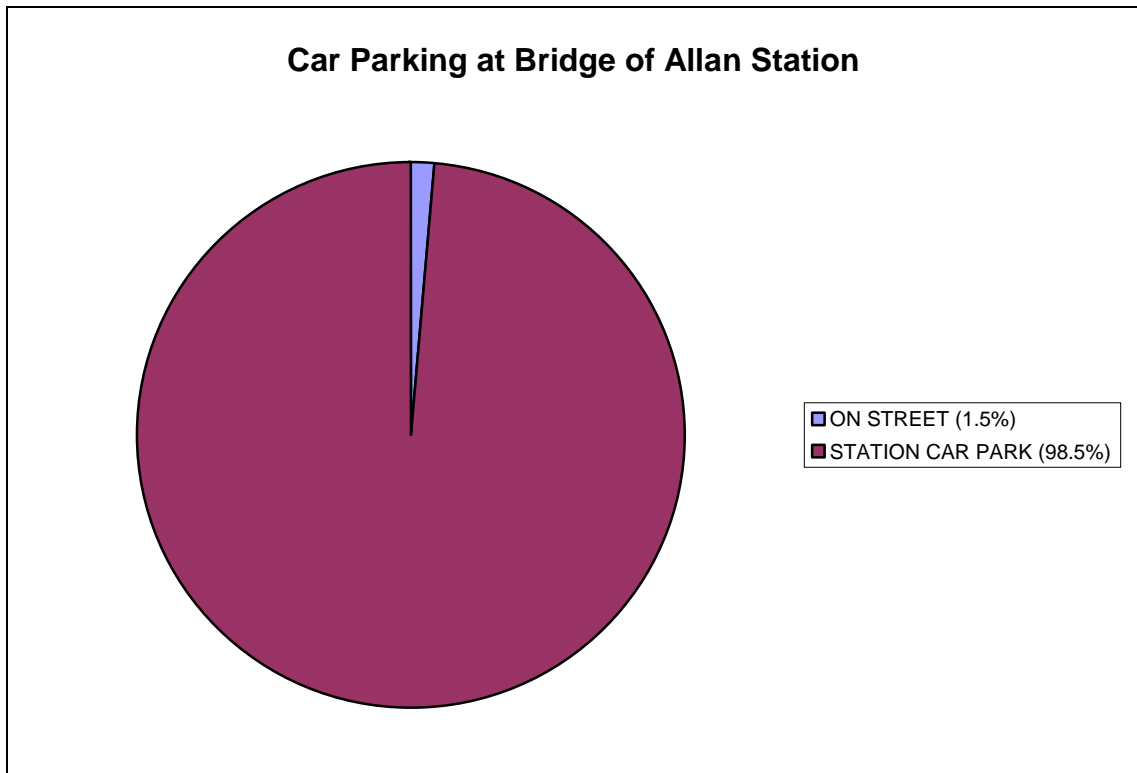


Figure 6.10 : Parking Location

Figure 6.10 confirms that the majority (98%) of passengers who drove to the rail station parked in the station car park.

Figure 6.11 summarises passengers’ main reason for parking in their chosen location.

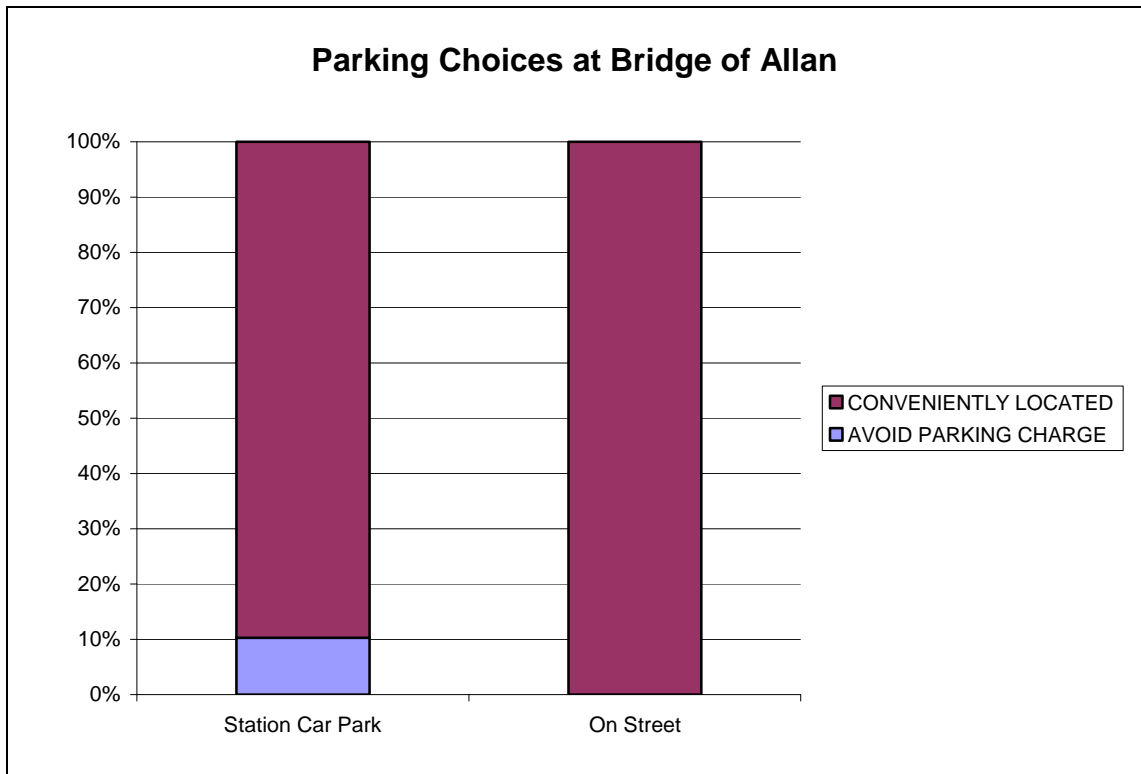


Figure 6.11 : Reason for Parking at Chosen Location

As can be seen from the above summary, the majority of passengers who park in the station car park confirm that they parked there for reasons of convenience.

To quantify the number of vehicles parked in the most popular locations, the survey capture rate was applied to the response to the surveys. This calculation is summarised in Table 6.3.

Table 6.3 :Prediction of Car Parking Usage

Car Parking at Bridge of Allan Station	Parking Numbers from Interviews		Maximum Observed Parking Numbers
	Car Drivers Interviewed	Factored by Sample Rate	
ON STREET	1	2	7
STATION CAR PARK	67	128	108
Total	68	130	

Bridge of Allan car park has 138 car parking spaces.



Figure 6.12 summarises the main reason car drivers choose to travel from Bridge of Allan rail station.

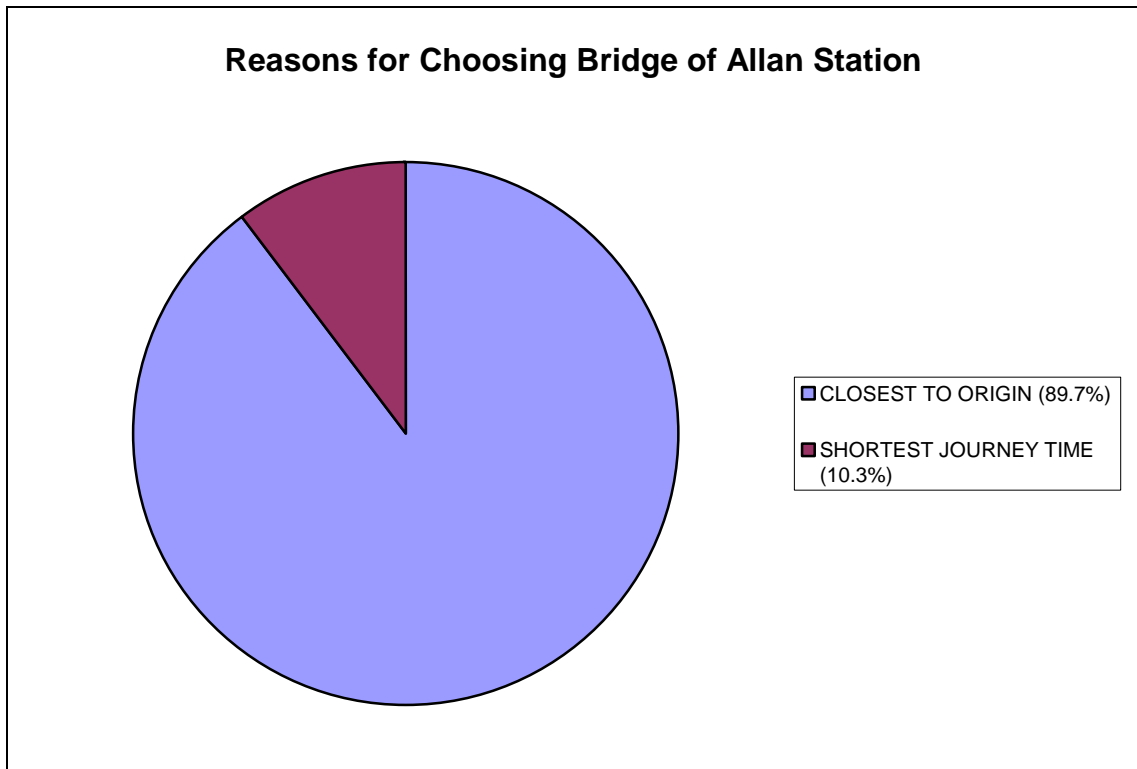


Figure 6.12 :Reason for Choosing to Travel from Bridge of Allan

As can be seen from the above summary, the majority of passengers confirmed that they travel from this station as it is located closest to their journey origin.



Figure 6.13 shows the destination station for passengers travelling from Bridge of Allan station.

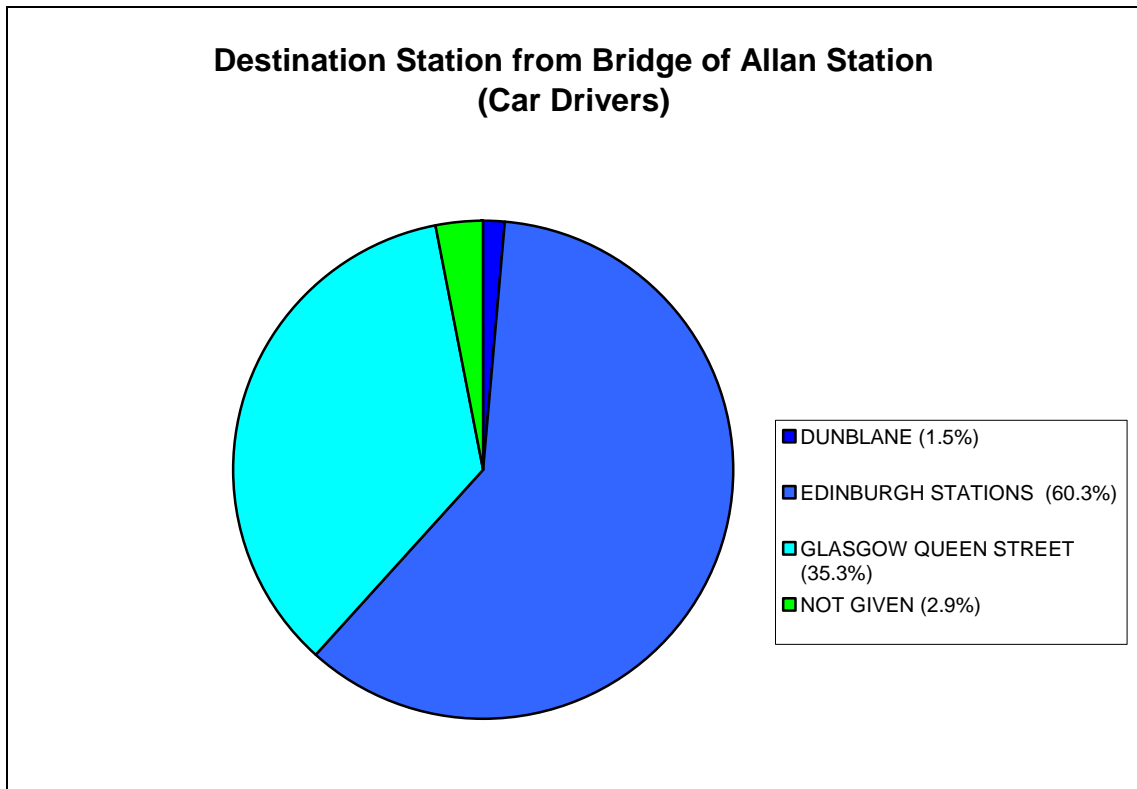


Figure 6.13 :Destination Station for Bridge of Allan Passengers

Figure 6.13 confirms that the majority of passengers (60%) who drive to Bridge of Allan rail station travel to Edinburgh rail stations with 35% reported to travel to Glasgow Queen Street.

Figure 6.14 confirms the frequency which surveyed rail passengers travel from Bridge of Allan rail station.

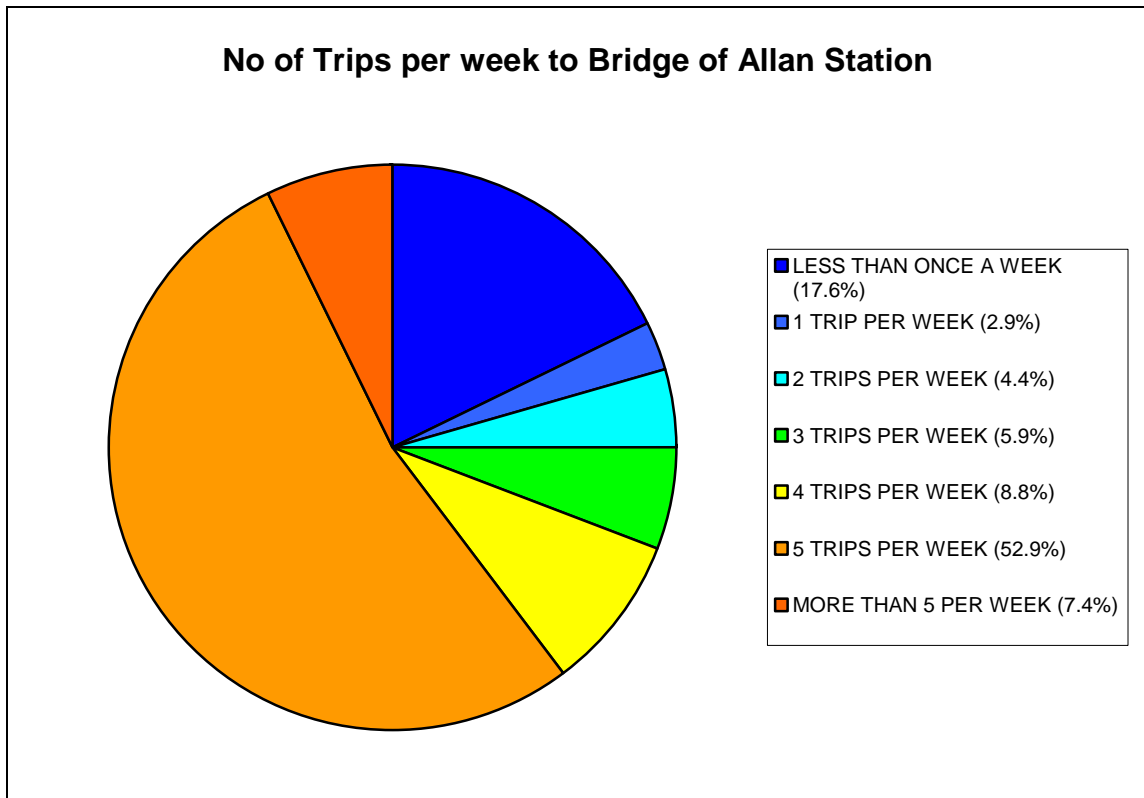


Figure 6.14 : Frequency of Travel for Bridge of Allan Passengers

As can be seen from the above summary, the greatest proportion of surveyed passengers travelled from Bridge of Allan rail station 5 days per week.

In summary, the greatest proportion of passengers who drive to Bridge of Allan rail station are shown to originate in Bridge of Allan. Almost all drivers are reported to park in the station car park with convenience reported as the main reason for parking at the station. The greatest proportion of surveyed passengers travelled from Bridge of Allan rail station 5 days per week.

6.2.4 Stirling Rail Station

Stirling rail station was surveyed on Wednesday 4 March 2009. A total of 781 passengers were observed to board all rail services that departed from the station in the 4hr survey period. A total of 260 boarding passengers were interviewed giving a sample rate of 33.3%. From the passengers interviewed 26.2% were car drivers. Using the sample rate this gives a factored value of 205 cars parked.



Figure 6.15 confirms the origins of passengers driving to Stirling rail station and Figure 6.16 shows a spatial plot of the passengers' origins in relation to the rail station.

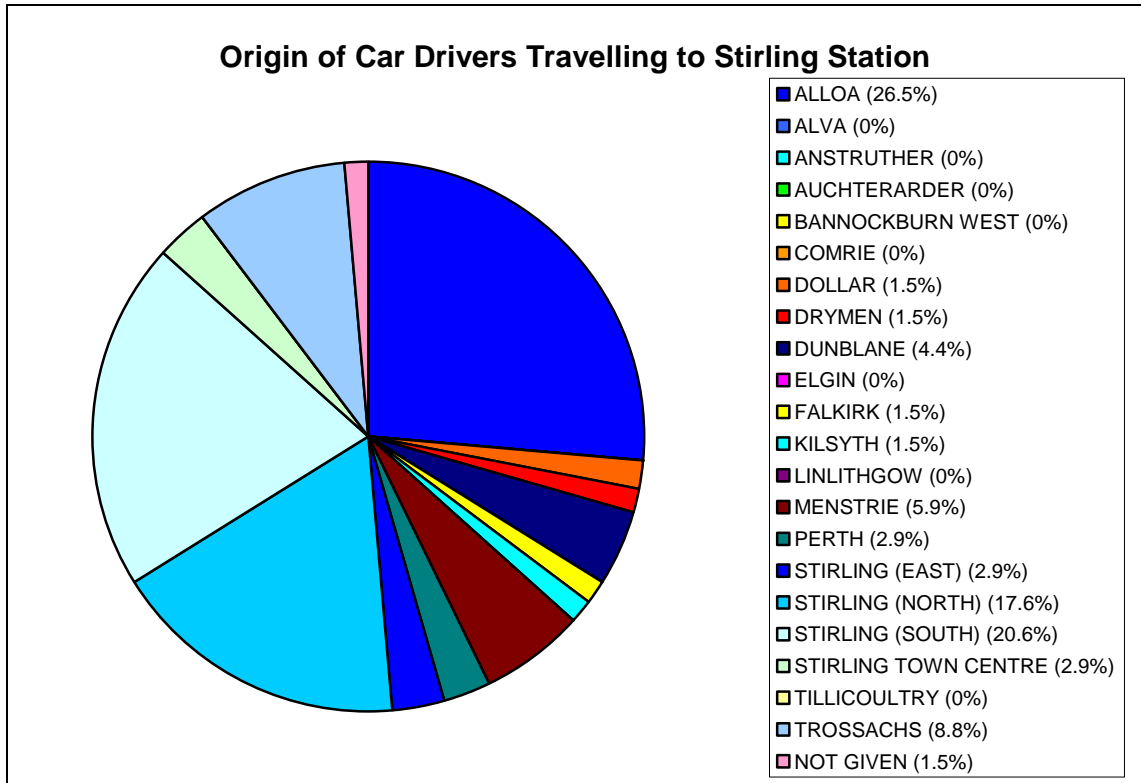


Figure 6.15 : Stirling Passenger Origins

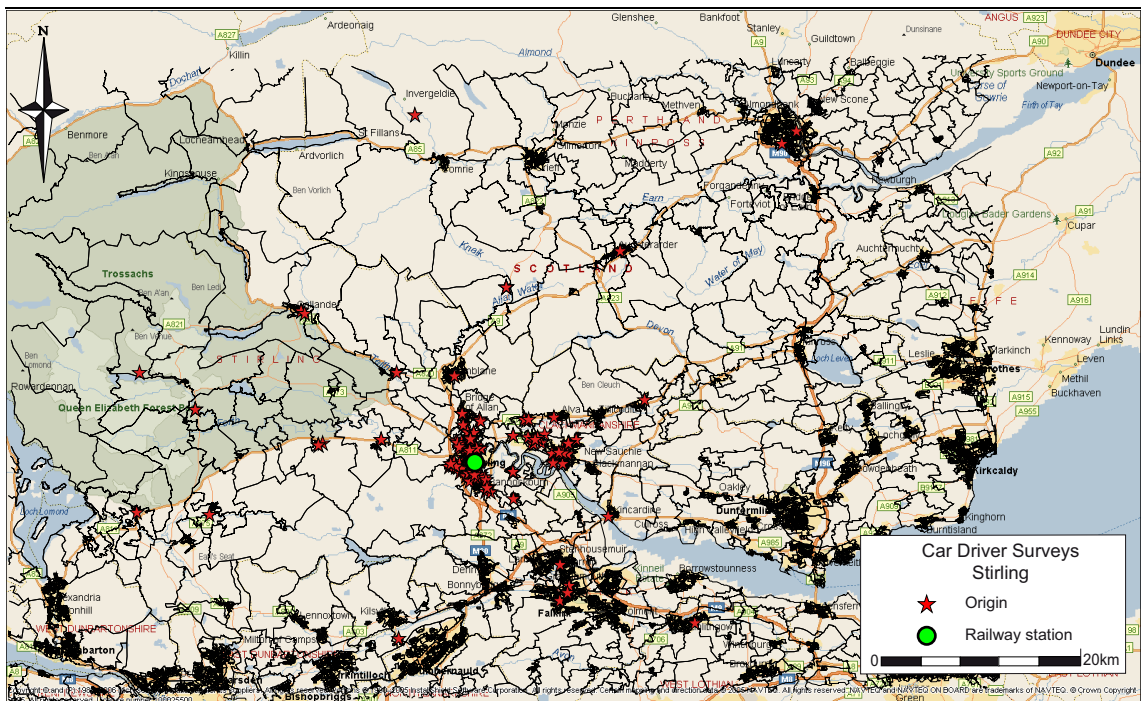


Figure 6.16 : Stirling Passenger Origins in Relation to the Rail Station



As can be seen from the origins of Stirling rail station passengers, the greatest proportion of car driver journeys (44%) are reported to originate in Stirling, 27% are reported to originate from Alloa and 18% from Bridge of Allan.

Figure 6.17 confirms the locations where passengers parked when travelling from Stirling rail station.

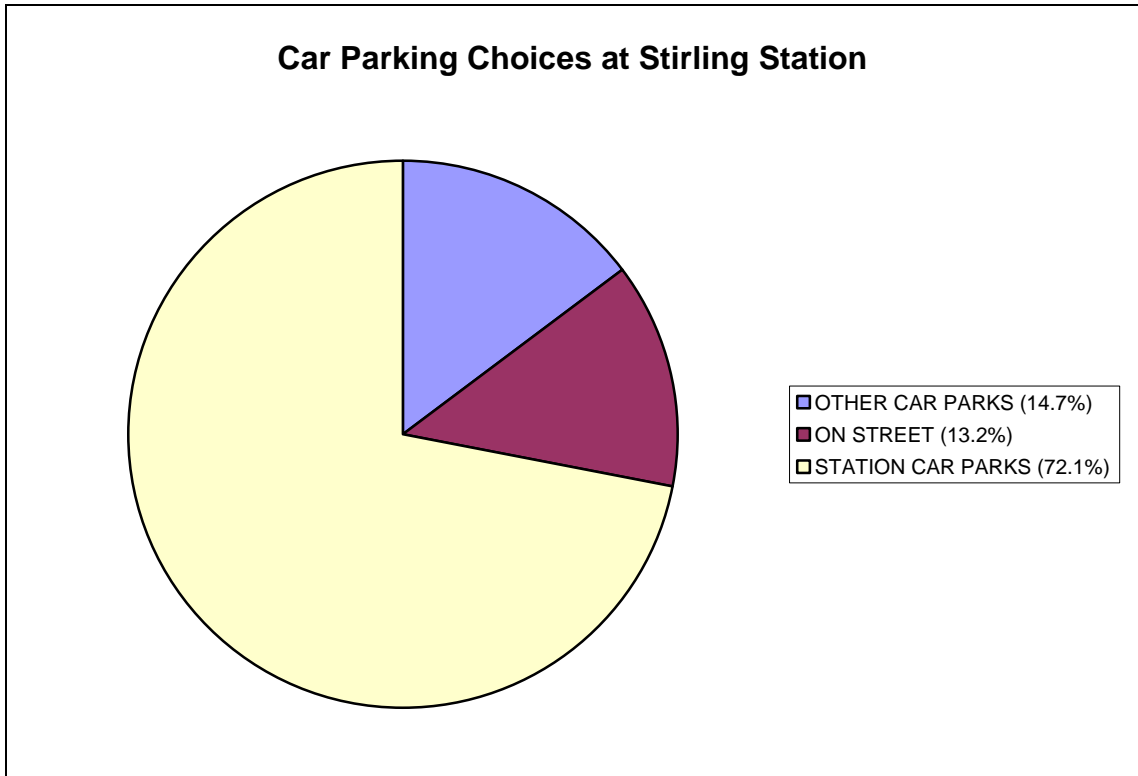


Figure 6.17 : Parking Location

Figure 6.17 confirms that the greatest proportion of passengers who drove to the rail station parked in the station car park (72%).



Figure 6.18 summarises passengers’ main reason for parking in their chosen location for the most popular parking areas.

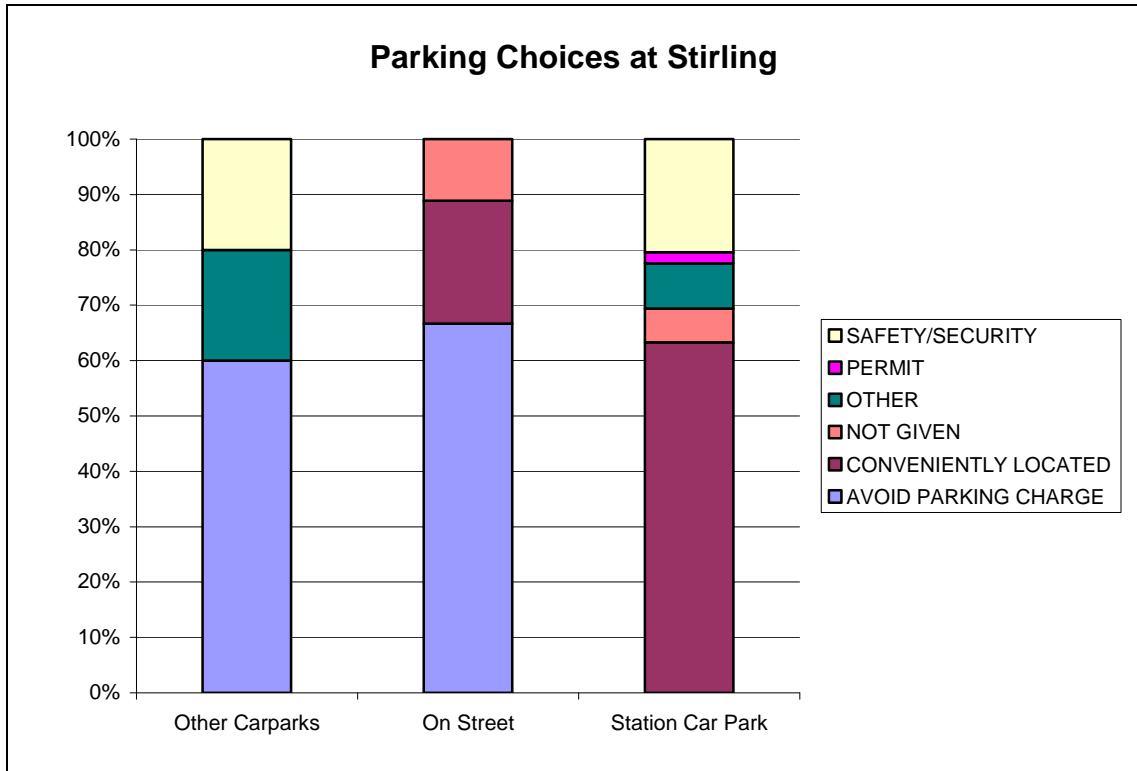


Figure 6.18 : Reason for Parking at Chosen Location

As can be seen from the above summary, the majority of passengers who park in the station car park confirm that they parked there for reasons of convenience. Whereas the majority of passengers who parked in the other car parks or on street parked there to avoid paying for parking throughout the day.

To quantify the number of vehicles parked in the most popular locations, the survey capture rate was applied to the response to the surveys. This calculation is summarised in Table 6.4.

Table 6.4 :Prediction of Car Parking Usage

Car Parking at Stirling Station	Parking Numbers from Interviews Car Drivers Interviewed	Factored by Sample Rate	Maximum Observed Parking Numbers
OTHER CAR PARKS	10	30	-
ON STREET PARKING	9	27	-
STATION CAR PARK	49	147	163
Total	68	204	

Stirling station car park has 276 spaces.



Figure 6.19 summarises the main reason passengers choose to travel from Stirling rail station.

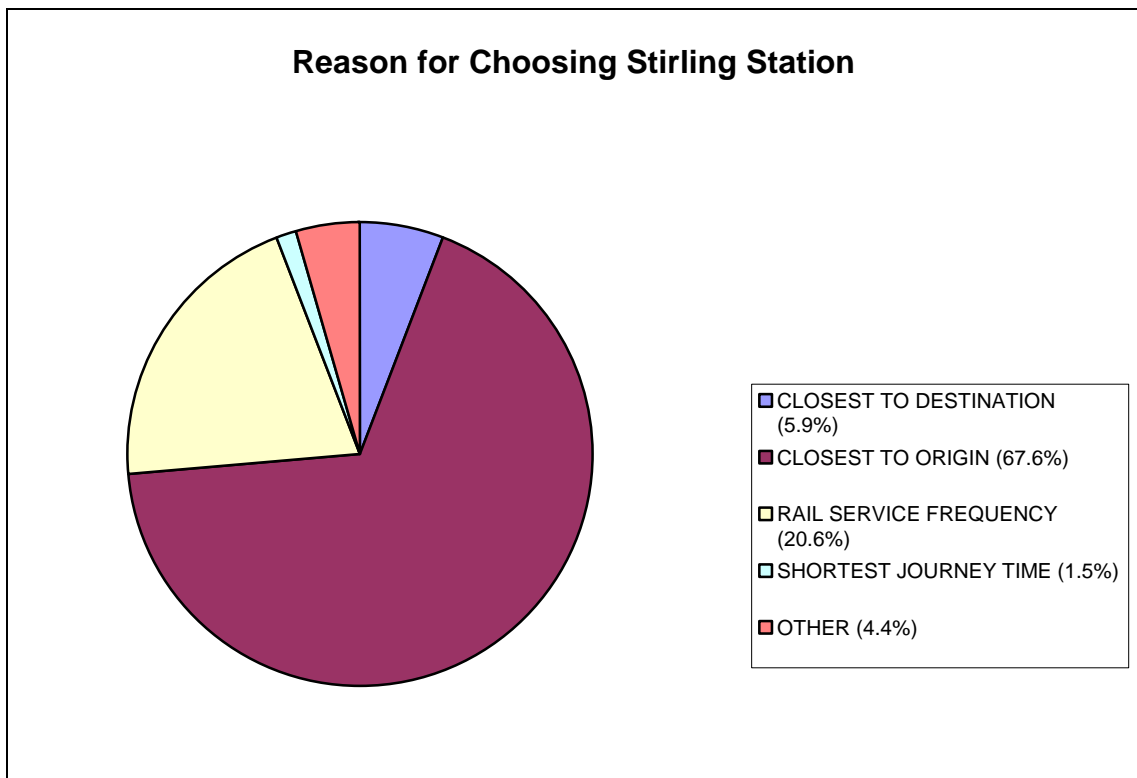


Figure 6.19 :Reason for Choosing to Travel from Stirling

As can be seen from the above summary, the greatest proportion of car drivers confirmed that they travel from this station as it is located closest to their origin, with a significant number given rail service frequency as their reason for using Stirling rail station.

Figure 6.20 shows the destination station for passengers travelling from Stirling station.

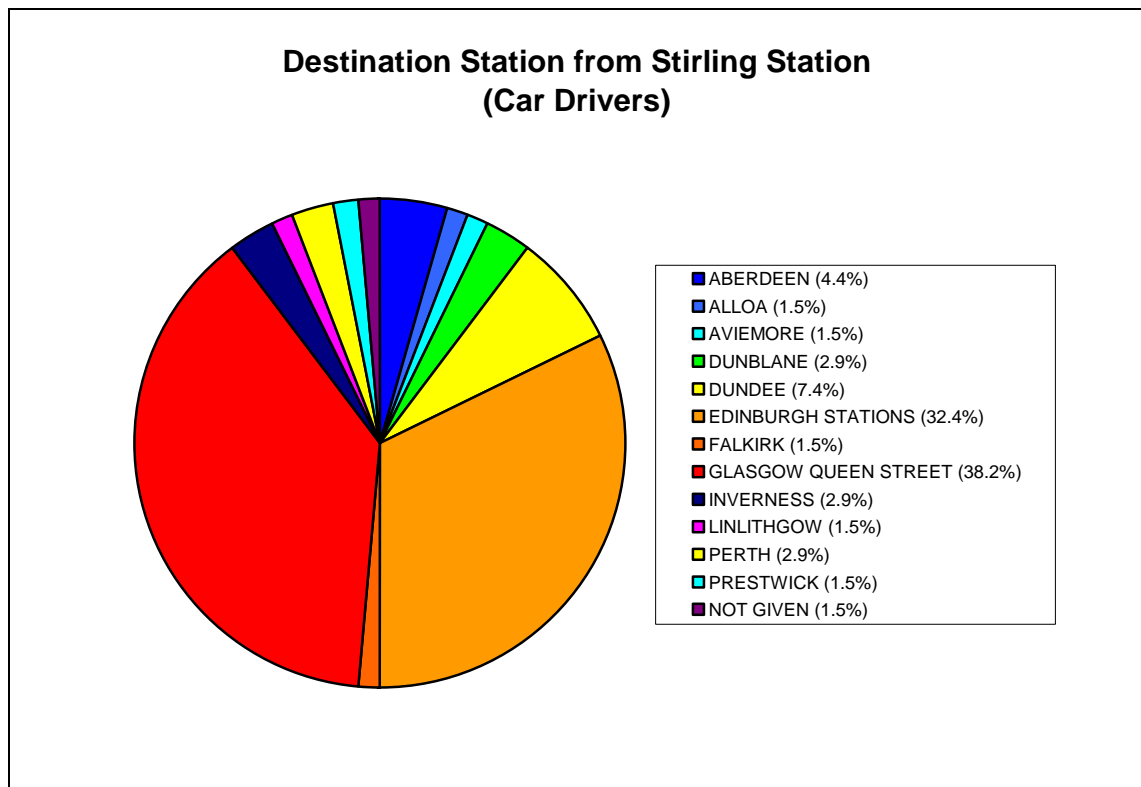


Figure 6.20 :Destination Station for Stirling Passengers

Figure 6.20 confirms that the greatest proportion of car drivers (38%) who access the rail network at Stirling rail station travel to Glasgow Queen Street with 32% reported to travel to Edinburgh rail stations.



Figure 6.21 confirms the frequency which surveyed rail passengers travel from Stirling rail station.

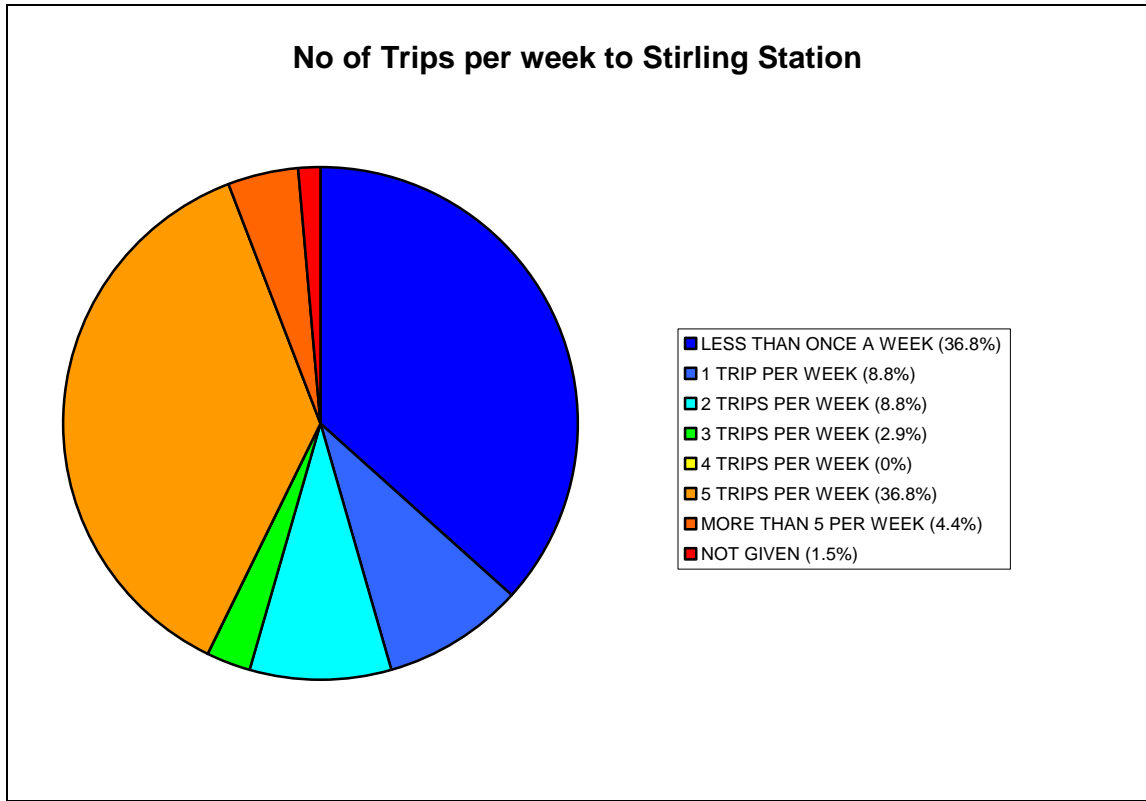


Figure 6.21 : Frequency of Travel for Stirling Passengers

As can be seen from the above summary, the greatest proportion of surveyed passengers travelled from Stirling rail station 5 days a week, with a similarly high proportion of passengers travelling from the station less than once a week.

In summary, the greatest proportion of passengers who drive to Stirling rail station are shown to originate in Stirling. The majority park in the station car park due to its convenient location. The greatest proportion of surveyed passengers travelled from Stirling rail station 5 days a week.

6.2.5 Interaction Between Stations

Rail stations which are included in this family provide direct access to a range of destinations including Inverness and Aberdeen to the north, and Edinburgh and Glasgow to the south. The larger stations are served by both local and national express services.

Figure 6.22 confirms the origins of all passengers who drive to the four rail stations in Family 1.



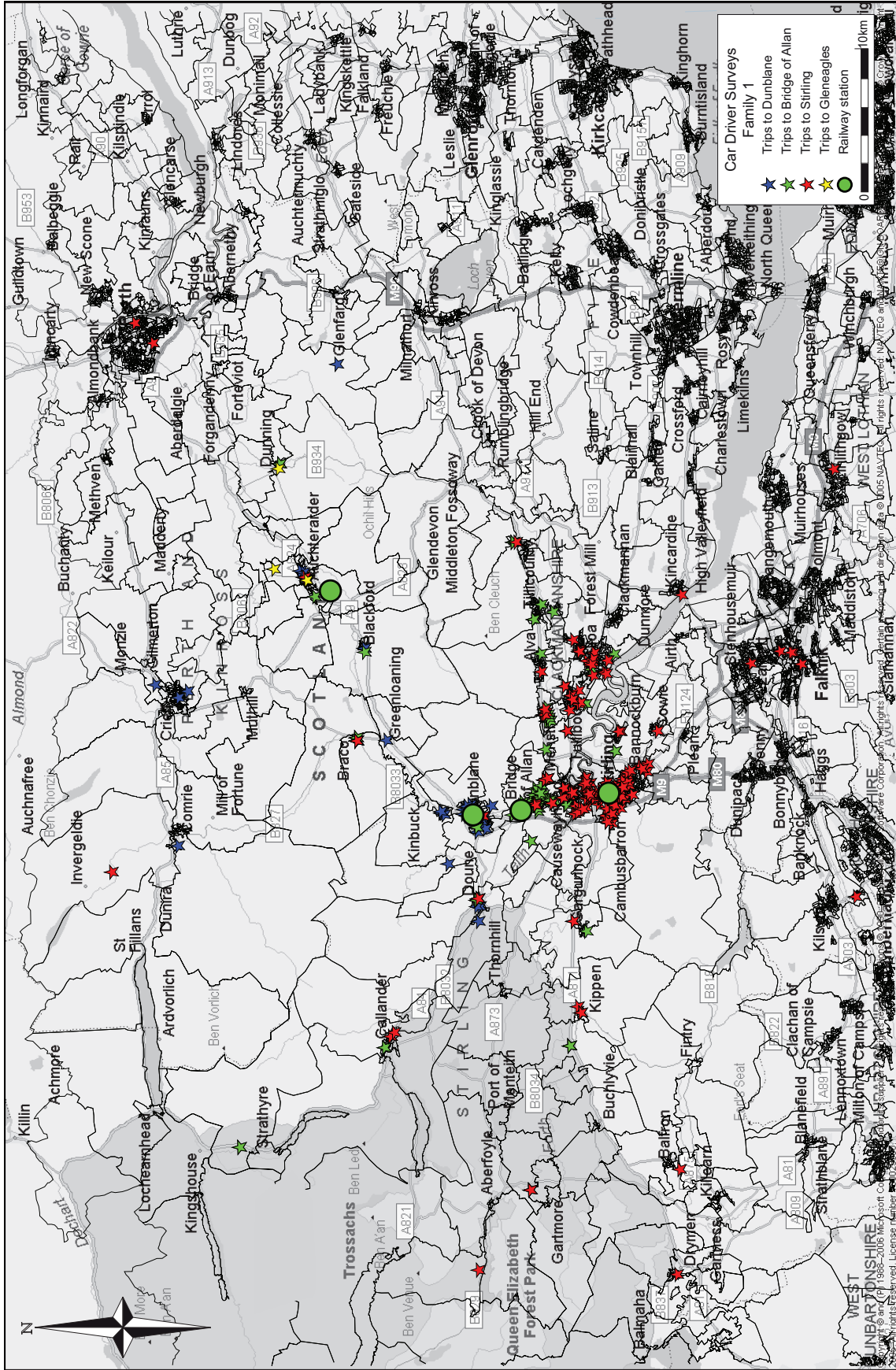


Figure 6.22 : Origins of Passengers – Family 1



As can be seen from Figure 6.22, all passengers who travel to Gleneagles rail station by car are shown to have their journey origin closest to Gleneagles rail station.

Of those who are shown to start their rail journey at Dunblane, a proportion are shown to drive from Crieff travelling past Gleneagles rail station to access Dunblane. While the majority of these drivers stated that the reason for using Dunblane was that the station is located closest to their journey origin, the following reasons were cited for using Dunblane in preference to the nearer Gleneagles station:

- Cheapest Fare
- Rail Service Frequency

A large proportion of driver journeys to Bridge of Allan rail station originate to the north of Bridge of Allan routeing past Dunblane rail station to access rail services from Bridge of Allan. The following reasons were supplied to explain why the station was used in preference to stations which are closer to the journey origin:

- Shortest Journey Time
- Parking Availability

Of those reported to drive to Stirling rail station, a proportion of passengers are reported to originate in Clackmannanshire and to a lesser extent, Falkirk. The following reasons were supplied to explain why the station was used:

- Closest to origin
- Rail service frequency



6.3 Family 2 – Montrose, Arbroath

6.3.1 Montrose Rail Station

Montrose rail station was surveyed on Thursday 5 March 2009. A total of 257 passengers were observed to board all rail services that departed from the station in the 4hr survey period. A total of 99 boarding passengers were interviewed giving a sample rate of 38.5%. From the passengers interviewed 33.0% were car drivers. Using the sample rate this gives a factored value of 85 cars parked.

Figure 6.23 confirms the origins of passengers driving to Montrose rail station and Figure 6.24 shows a spatial plot of the passengers’ origins in relation to the rail station.

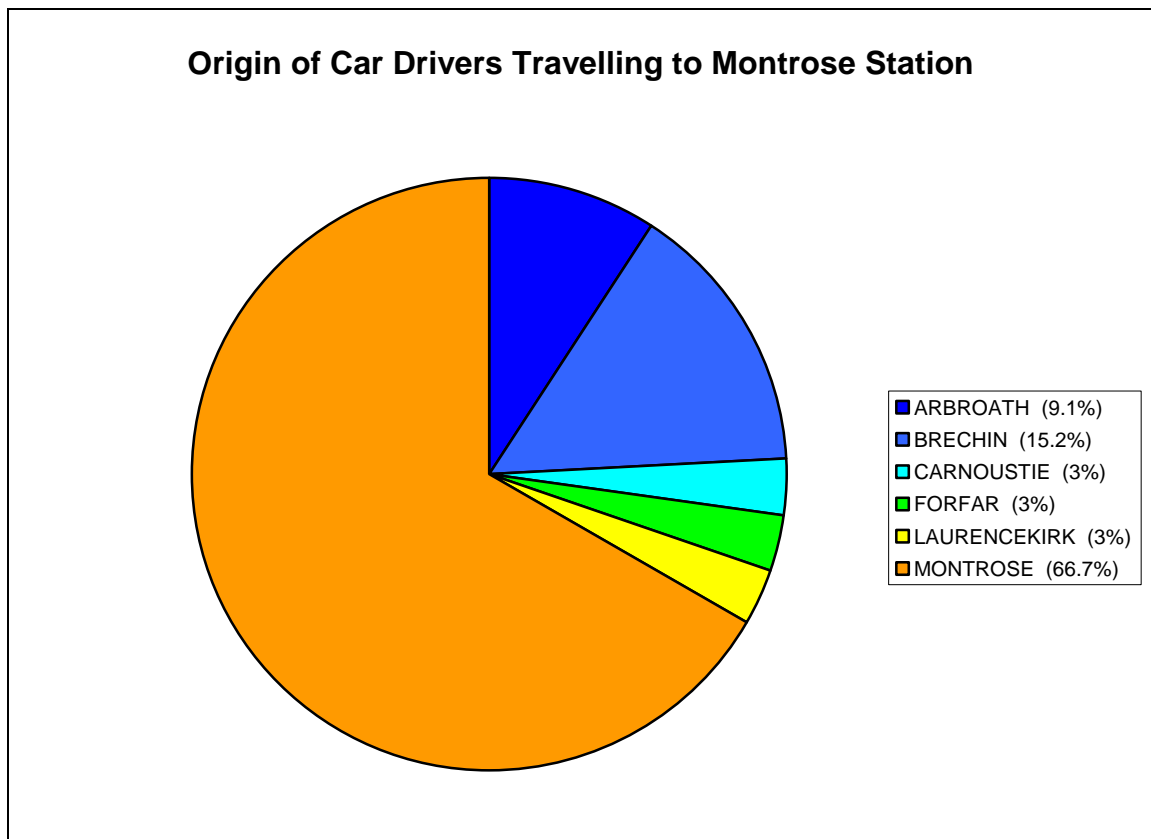


Figure 6.23 : Montrose Passenger Origins



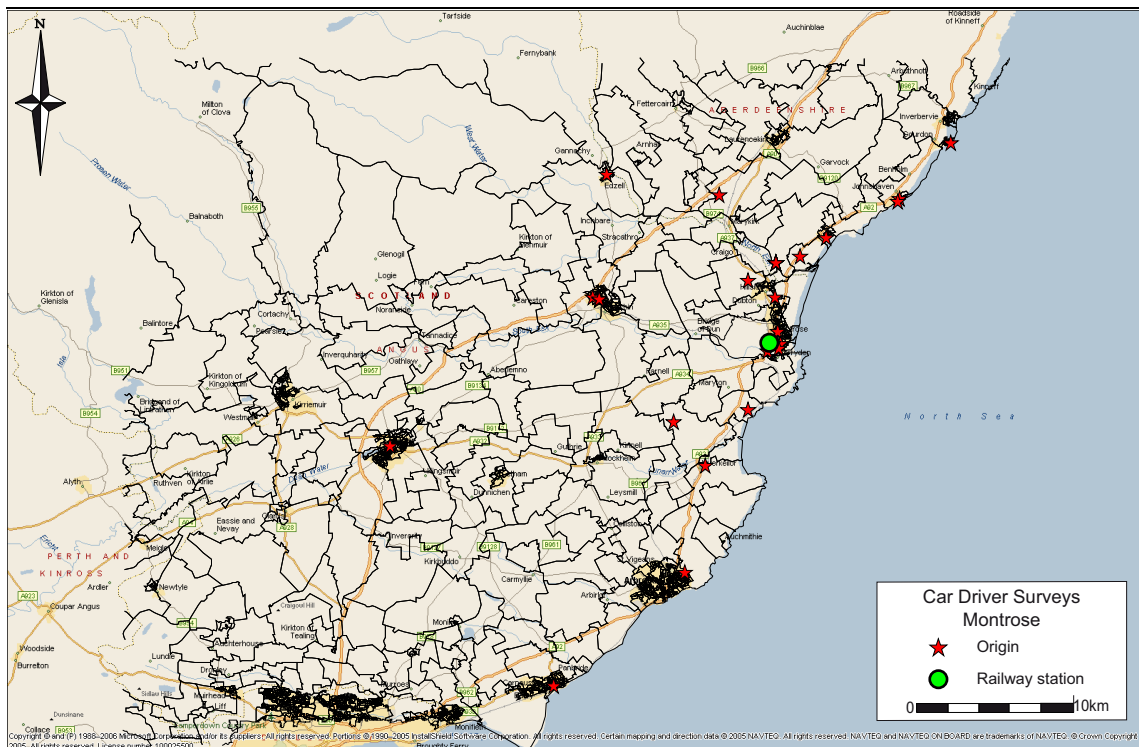


Figure 6.24 : Montrose Passenger Origins in Relation to the Rail Station

As can be seen from the origins of Montrose rail station passengers, the majority of passengers (67%) are reported to live in Montrose.



Figure 6.25 confirms the locations where passengers parked when travelling from Montrose rail station.

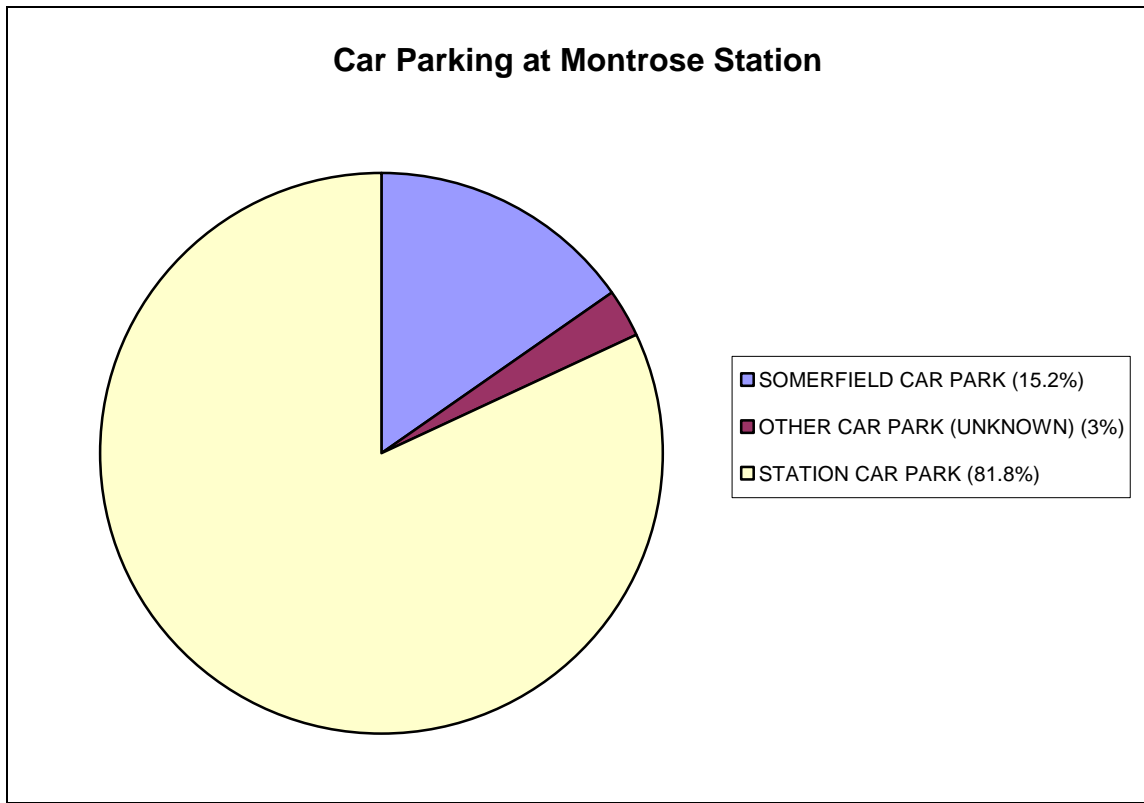


Figure 6.25 : Parking Location

Figure 6.25 confirms that the majority of passengers who drove to the rail station parked in the station car park, with the next most popular area for parking being located in the adjacent Somerfield car park.



Figure 6.26 summarises passengers’ main reason for parking in their chosen location for the most popular parking areas.

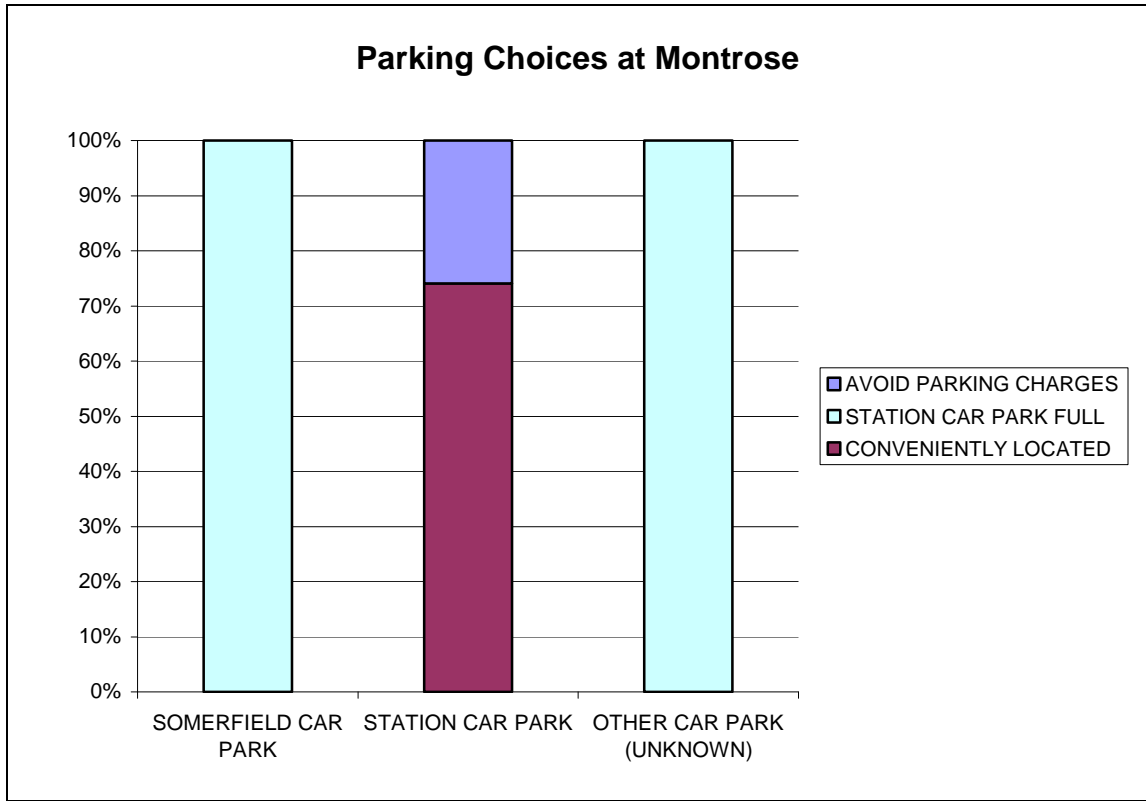


Figure 6.26 : Reason for Parking at Chosen Location

As can be seen from the above summary, the greatest proportion of passengers who park in the station car park confirm that they parked there for reasons of convenience. Whereas all of the passengers who parked in the Somerfield car park parked there due to the station car park being full.

To quantify the number of vehicles parked in the most popular locations, the survey capture rate was applied to the response to the surveys. This calculation is summarised in Table 6.5.

Table 6.5 :Prediction of Car Parking Usage

Car Parking at Montrose Station	Parking Numbers from Interviews		Observed Parking Numbers
	Car Drivers Interviewed	Factored by Sample Rate	
SOMERFIELD CAR PARK	5	13	-
OTHER CAR PARK (UNKNOWN)	1	3	-
STATION CAR PARK	27	70	58
Total	33	86	

Montrose station car park has 50 car parking spaces.



Figure 6.27 summarises the main reason car drivers choose to travel from Arbroath rail station.

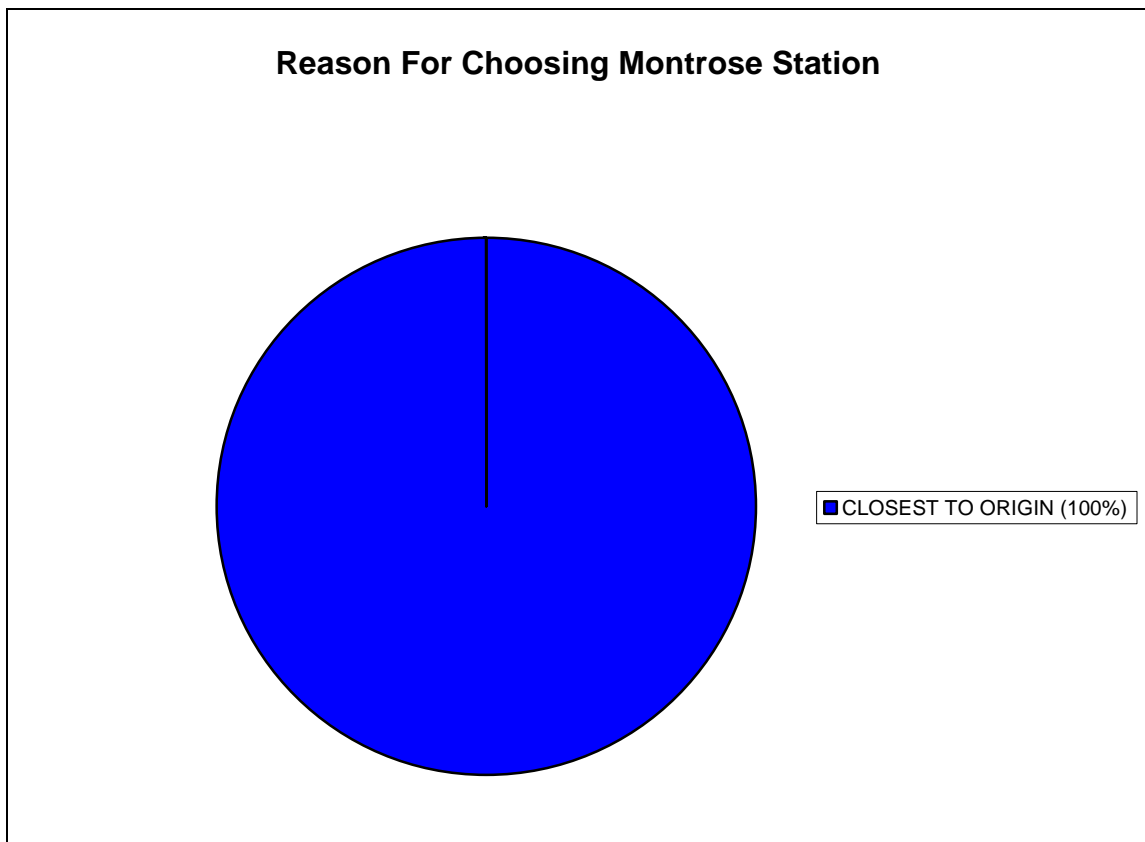


Figure 6.27 : Reason for Choosing to Travel from Montrose Station

All passengers who drove to Montrose rail station choose to do so because it is the station closest to their trip origin.



Figure 6.28 shows the destination station for passengers travelling from Montrose station.

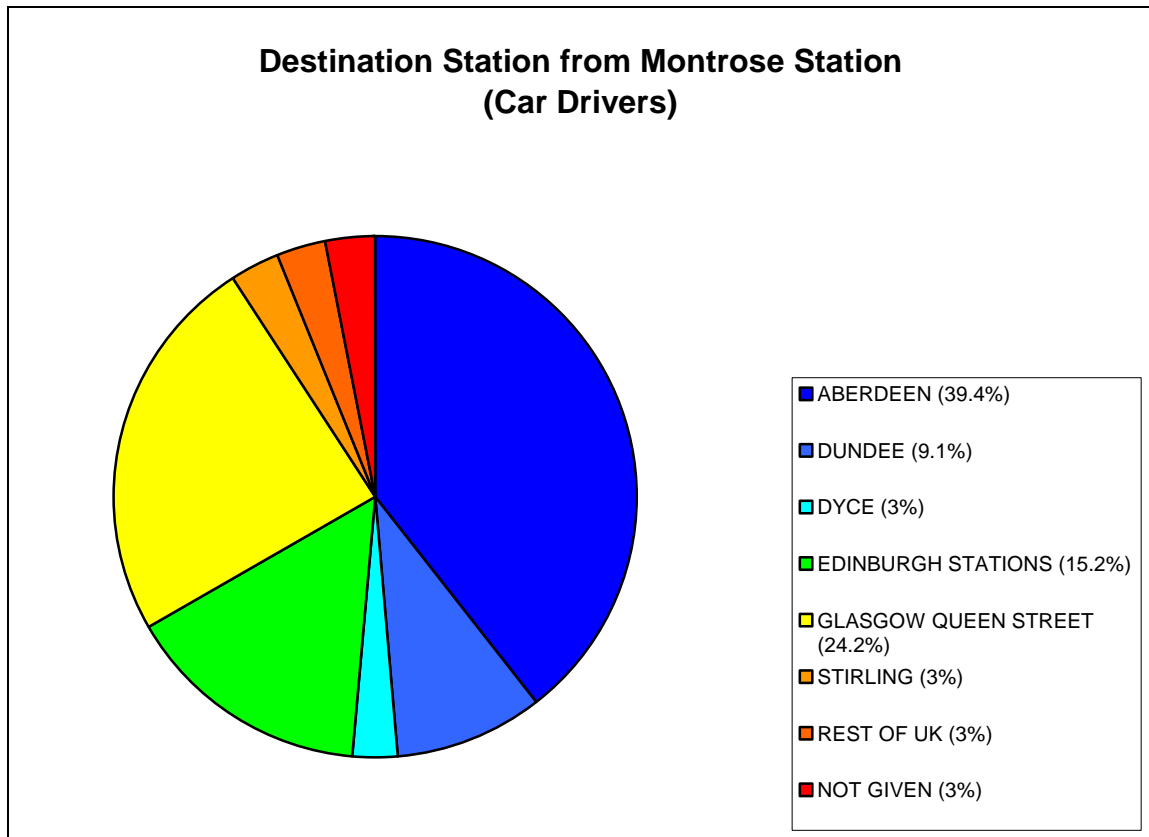


Figure 6.28 :Destination Station for Montrose Passengers

Figure 6.28 confirms that the greatest proportion of car drivers (39%) who access the rail network at Montrose rail station travel to Aberdeen rail station, 24% are reported to travel to Glasgow Queen Street and 15% to Edinburgh stations.



Figure 6.29 confirms the frequency at which surveyed rail passengers travel from Montrose rail station.

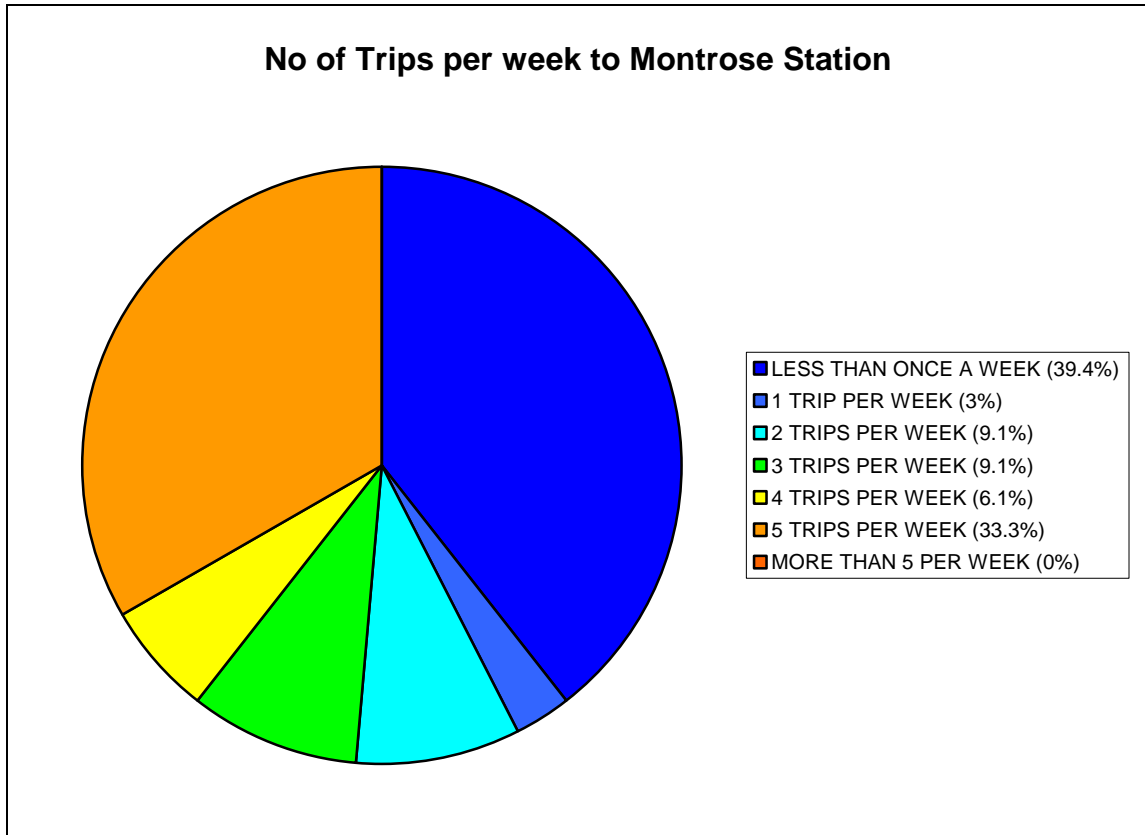


Figure 6.29 : Frequency of Travel for Montrose Passengers

As can be seen from the above summary, the greatest proportion of surveyed passengers travelled from Montrose rail station less than 1 day per week, with the next highest being 5 trips per week.

In summary, the greatest proportion of passengers who drive to Montrose rail station are shown to originate in Montrose. The majority park in the station car park due to its convenient location, however all passengers who parked in the Somerfield car park did so due to the station car park being full. The greatest proportion of surveyed passengers travelled from Montrose rail station less than 1 day per week.

6.3.2 Arbroath Rail Station

Arbroath rail station was surveyed on Thursday 5 March 2009, with an additional survey undertaken on the northbound platform on Thursday 12 March to obtain data which was not collected on the original day of survey. A total of 282 passengers were observed to board all rail services that departed from the station in the 4hr survey period. A total of 133 boarding passengers were interviewed giving a sample rate of 47.2%. From the passengers interviewed 21.7% were car drivers. Using the sample rate this gives a factored value of 61 cars parked.



Figure 6.30 confirms the origins of passengers driving to Arbroath rail station and Figure 6.31 shows a spatial plot of the passengers' origins in relation to the rail station.

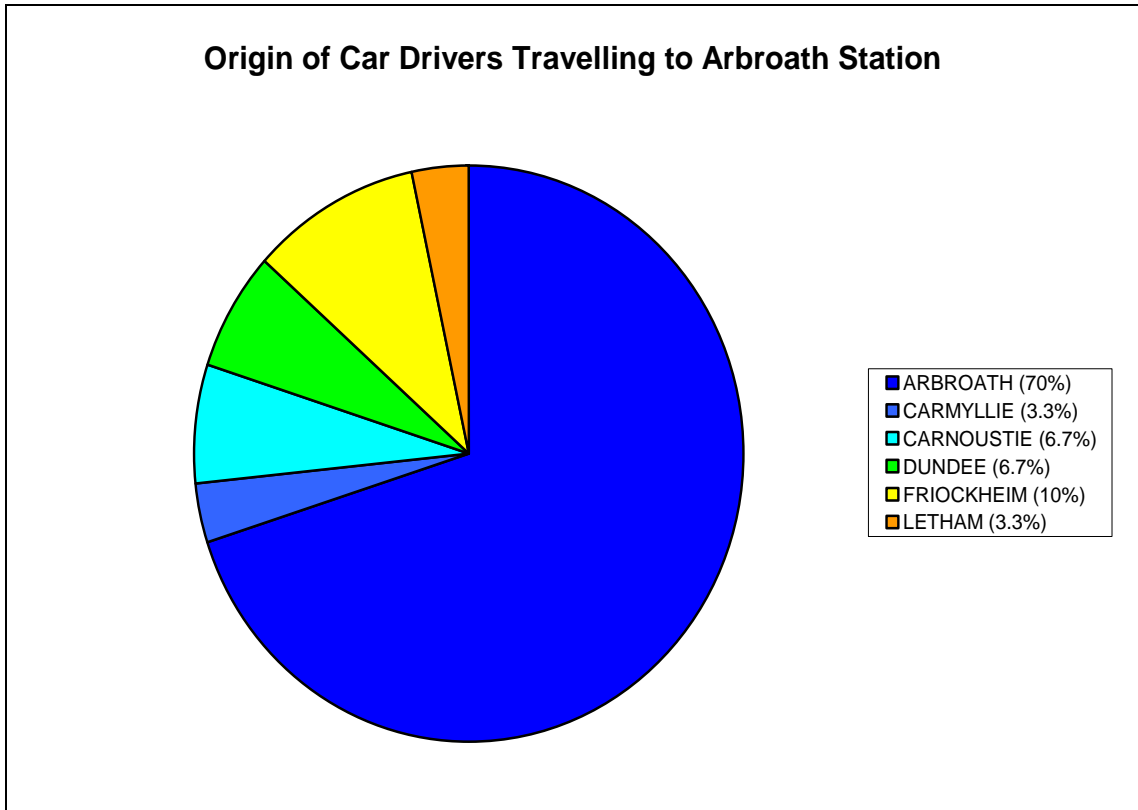


Figure 6.30 : Arbroath Passenger Origins

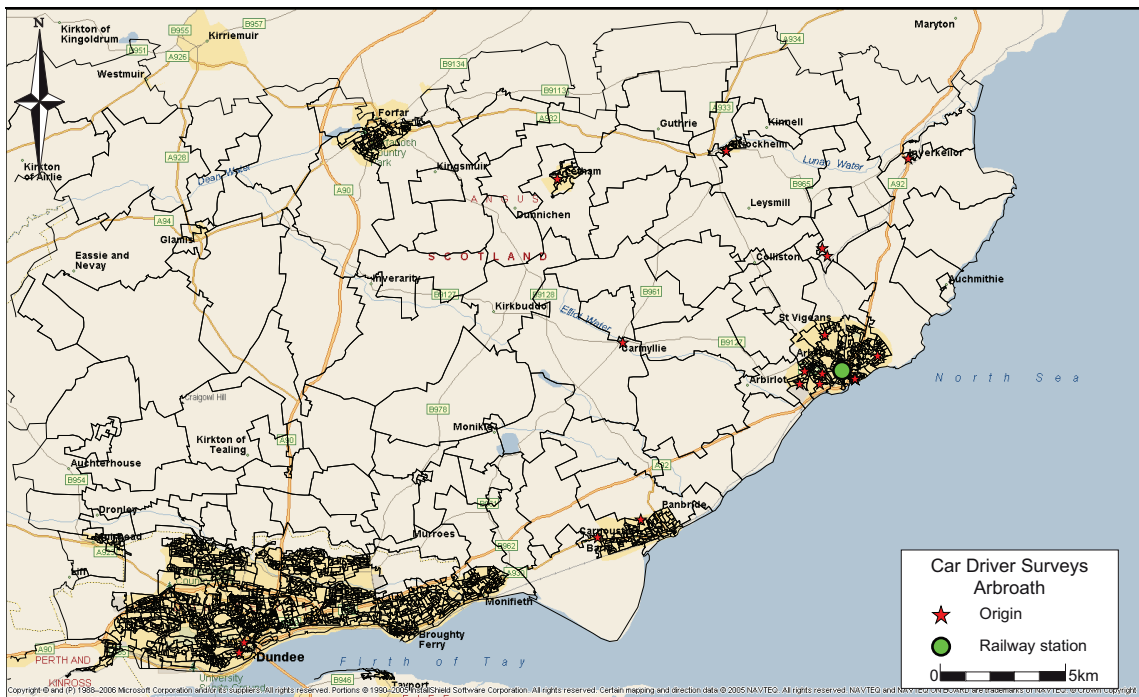


Figure 6.31 : Arbroath Passenger Origins in Relation to the Rail Station



As can be seen from the origins of Arbroath rail station car drivers, the majority of car drivers (70%) are reported to originate in Arbroath.

In terms of passenger parking, Figure 6.32 confirms the locations where car drivers parked when travelling from Arbroath rail station.

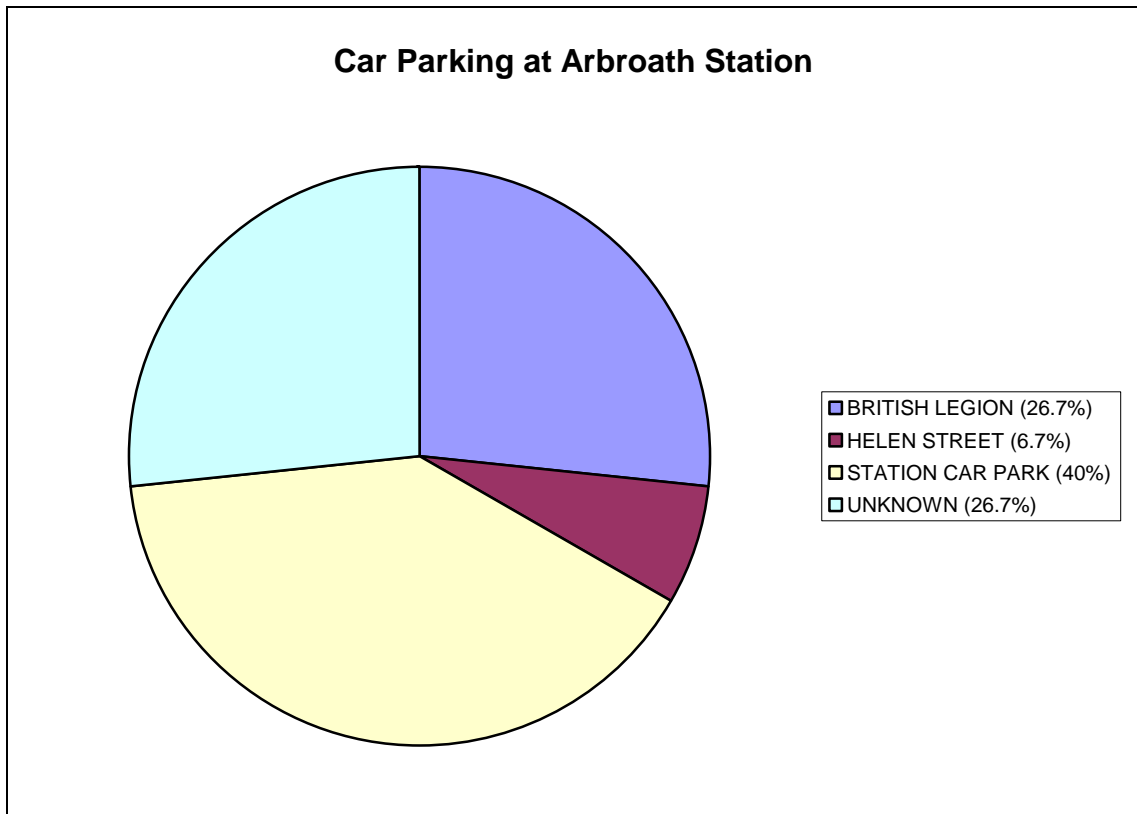


Figure 6.32 : Parking Location

Figure 6.32 confirms that the greatest proportion of passengers who drove to the rail station parked in the station car park, with the next most popular area for parking being located in the British Legion car park.

Figure 6.33 summarises passengers’ main reason for parking in their chosen location for the most popular parking areas.

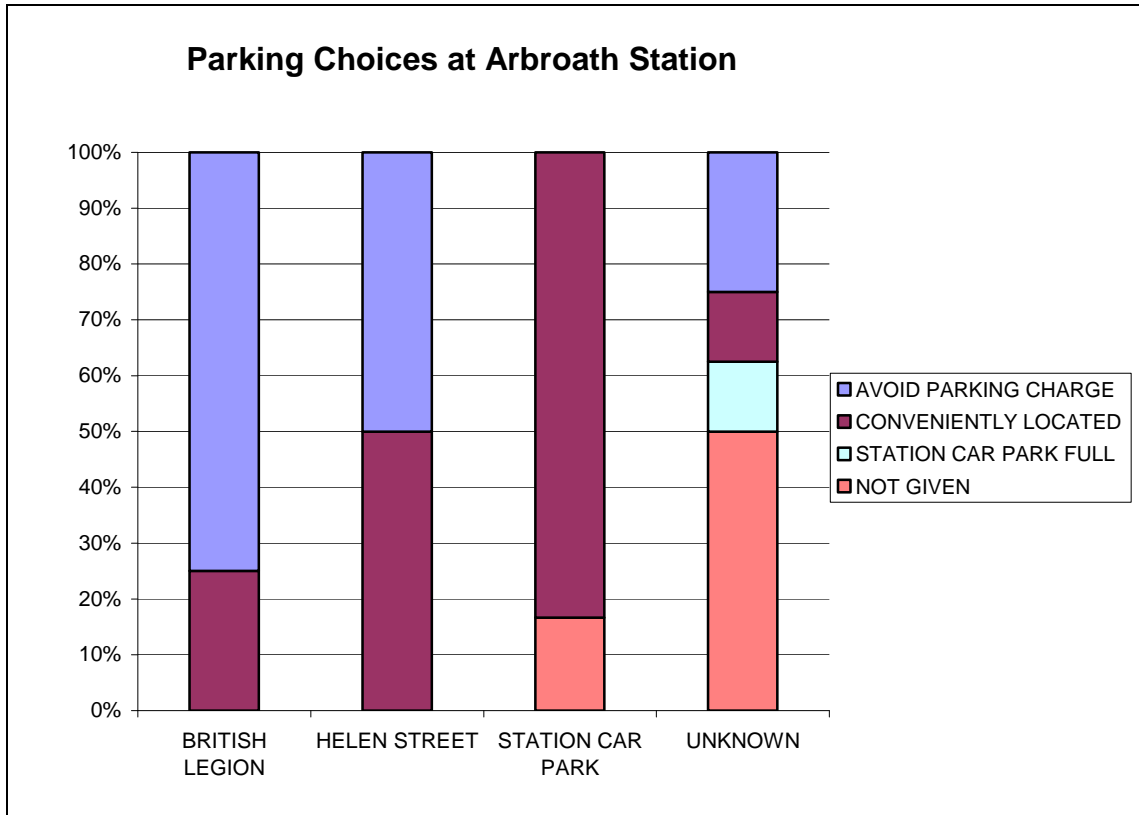


Figure 6.33 : Reason for Parking at Chosen Location

As can be seen from the above summary, the greatest proportion of passengers who park in the station car park confirm that they parked there for reasons of convenience. Whereas the majority of passengers who parked in the British Legion car park did so to avoid paying for parking throughout the day.

To quantify the number of vehicles parked in the most popular locations, the survey capture rate was applied to the response to the surveys. This calculation is summarised in Table 2.1.

Table 6.6 :Prediction of Car Parking Usage

Car Parking at Arbroath Station	Parking Numbers from Interviews		Maximum Observed Parking Numbers
	Car Drivers Interviewed	Factored by Sample Rate	
BRITISH LEGION	8	17	-
HELEN STREET	2	4	-
UNKNOWN	8	17	-
STATION CAR PARK	12	25	12
Total	30	63	

Arbroath station car park has 15 car parking spaces.



Figure 6.34 summarises the main reason car drivers choose to travel from Arbroath rail station.

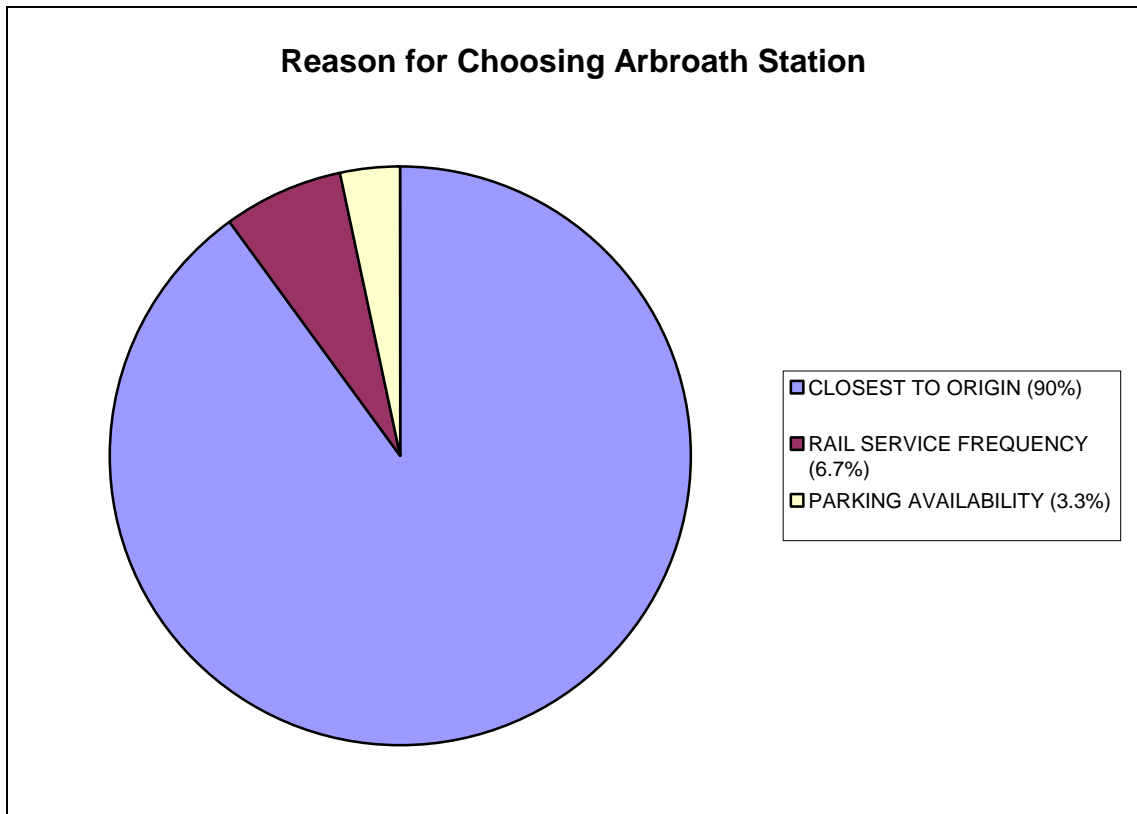


Figure 6.34 :Reason for Choosing to Travel from Arbroath

As can be seen from the above summary, the majority of passengers confirmed that they travel from this station as it is located closest to their origin.



Figure 6.35 shows the destination station for passengers travelling from Arbroath station.

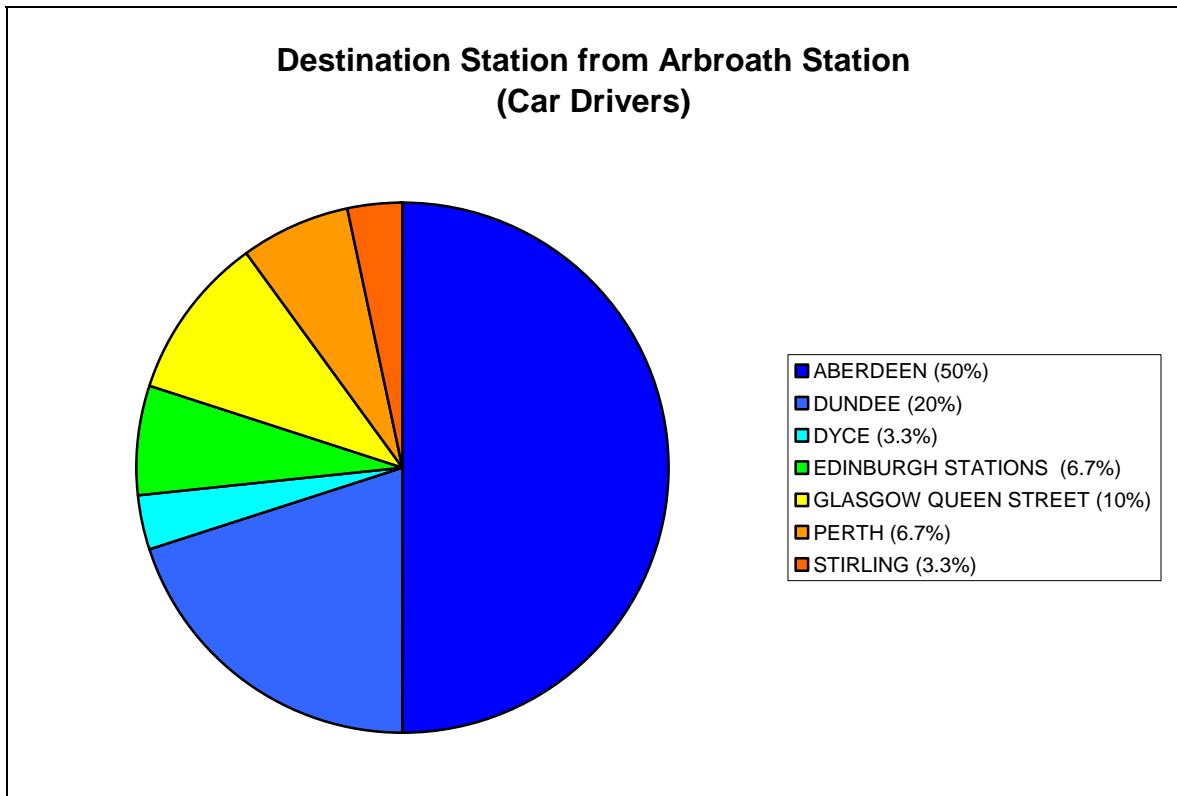


Figure 6.35 :Destination Station for Arbroath Passengers

Figure 6.35 confirms that the greatest proportion of car drivers (50%) who access the rail network at Arbroath rail station travel to Aberdeen rail station, 20% are reported to travel to Dundee and 10% to Glasgow Queen Street.



Figure 6.36 confirms the frequency at which surveyed rail passengers travel from Arbroath rail station.

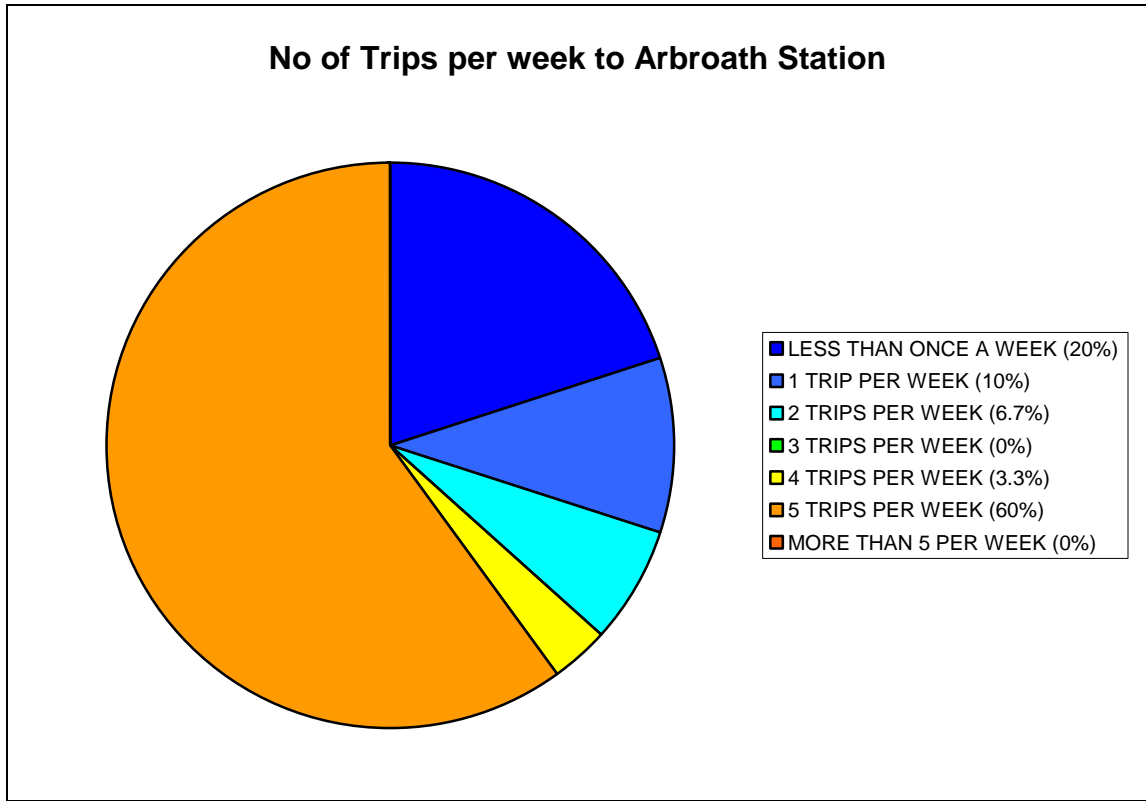


Figure 6.36 : Frequency of Travel for Arbroath Passengers

As can be seen from the above summary, the greatest proportion of surveyed passengers travelled from Arbroath rail station 5 days per week.

In summary, the greatest proportion of passengers who drive to Arbroath rail station are shown to originate in Arbroath. The greatest proportion park in the station car park due to its convenient location, however a significant proportion park in the British Legion’s car park to avoid paying for parking throughout the day. The greatest proportion of surveyed passengers travelled from Arbroath rail station 5 days per week.

6.3.3 Interaction Between Stations

The second family of stations comprises Montrose and Arbroath rail stations. Both stations are located on the Aberdeen – Edinburgh/Glasgow rail line and are served by local and national express services.

Figure 6.37 confirms the origins of all passengers who drive to the two rail stations which have been included in Family 2.

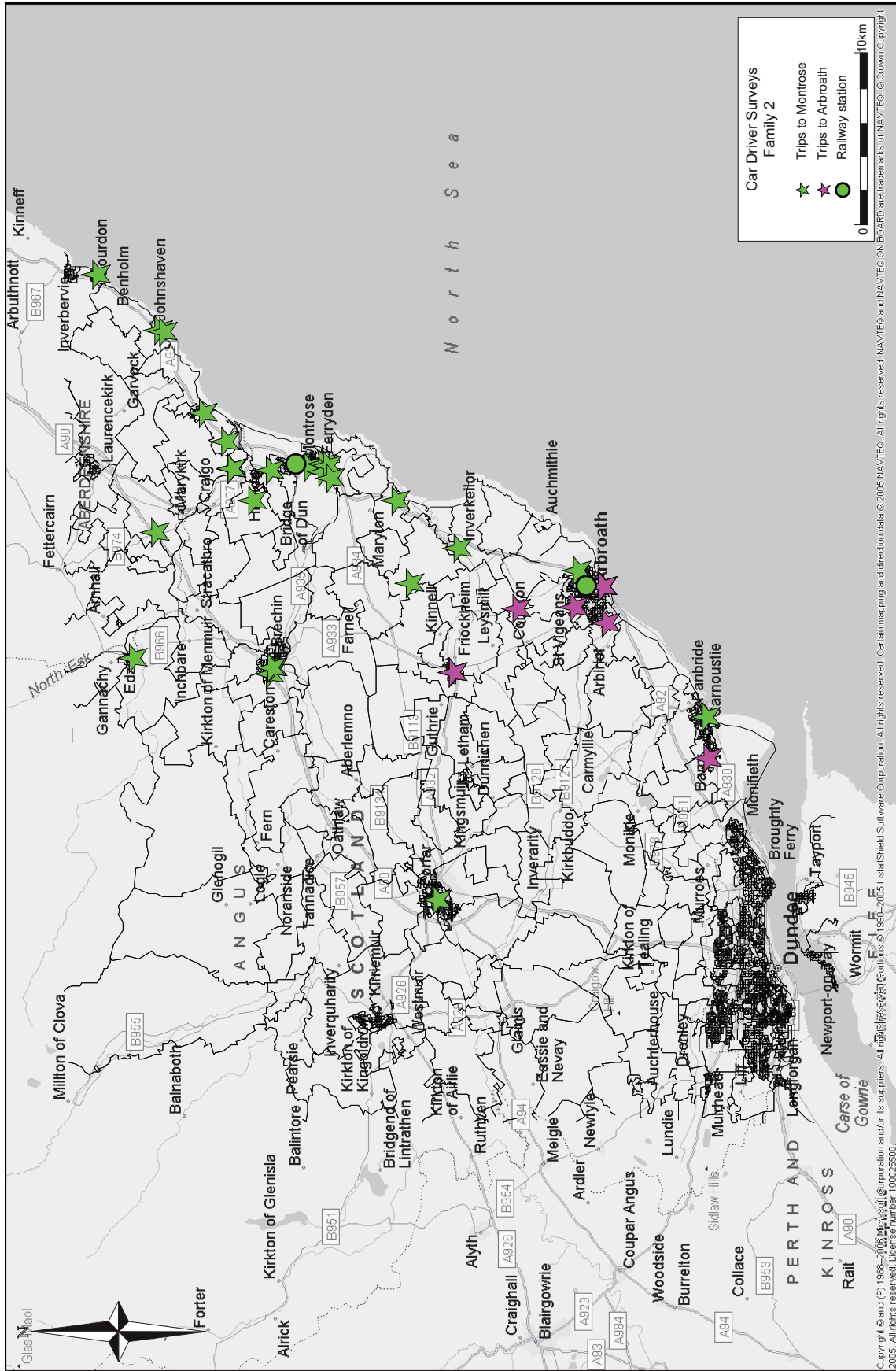


Figure 6.37 : Origins of Passengers – Family 2



Of those who are shown to drive to Montrose rail station, the majority are reported to originate from the town with a proportion reported to originate from Arbroath and Carnoustie. All drivers stated that the reason for using Montrose was that the station is located closest to their journey origin.

The majority of those who drive to Arbroath rail station are reported to originate from the town. A proportion of driver journeys are also reported to originate in Carnoustie and Montrose. The following reasons were supplied to explain why the station was used in preference to stations which are located close to their journey origins:

- Rail service frequency
- Parking availability

6.4 Summary

Passenger surveys were undertaken at all 22 stations in the TACTRAN area with data extracted for passengers who drove to the following rail stations to provide input into Network Rail's emerging Car Parking Strategy:

- Family 1 – Gleneagles, Dunblane, Bridge of Allan and Stirling
- Family 2 – Montrose and Arbroath

6.4.1 Family 1

Gleneagles passengers were shown to drive to the station which was located closest to their origin, however a proportion of passengers who accessed the rail network at Dunblane, Bridge of Allan and Stirling stations were shown to travel to a station which was not located closest to their origin.

The following reasons were given for accessing the rail network via a specific station:

- Closest to origin
- Rail service frequency
- Cheapest Fare
- Shortest Journey Time
- Parking Availability

A high proportion of passengers parked in the rail station car parks with convenience of car park location cited as the main reason for parking at the stations. The station car park being full and avoiding parking charges were the main reason for parking elsewhere.

The greatest proportion of passengers was reported to travel to destinations in Edinburgh and Glasgow with a high proportion of passengers travelling 5 days a week on the rail network.

6.4.2 Family 2

The majority of Montrose car driver passengers were shown to drive to the station which was located closest to their origin, however a proportion of passengers who accessed the rail network at Arbroath were reported to live in Carnoustie and Montrose.



The following reasons were supplied to explain why the station was used in preference to stations which are located close to their journey origins:

- Rail service frequency
- Parking availability

A high proportion of car driver passengers parked in the rail station car parks with convenience of car park location cited as the main reason for parking at the stations. The station car park being full and avoiding parking charges were the main reason for parking elsewhere.

The greatest proportion of surveyed car driver passengers confirmed that they travelled less than once a week from Montrose station and the main destination station was reported to be Aberdeen.

The greatest proportion of surveyed car driver passengers confirmed that they travelled five days a week from Arbroath station and the main destination station was reported to be Aberdeen.



7 SUMMARY AND RECOMMENDATIONS

7.1 Summary

SIAS Limited (SIAS) has been commissioned by the Tayside and Central Scotland Transport Partnership (TACTRAN) to undertake rail passenger travel habit surveys at all 22 stations in the TACTRAN area.

It is intended that the data which has been collected on the travel habits of rail passengers, will be used to inform a number of future studies in the TACTRAN area. This includes assisting in informing possible future Tay Estuary Rail Study requirements and obtaining data to inform the emerging Car Parking Strategy which is currently being prepared by Network Rail.

Passenger travel habit surveys were undertaken in March 2009 with data obtained through face-to-face surveys and car park occupancy surveys. It is considered that a reasonable sample rate has been achieved by the surveys with 31% - 52% of all boarding passengers surveyed at the busier stations in the TACTRAN area.

It has not been possible to extract a dataset of a suitable size for a number of the smaller stations, to enable travel habit trends to be identified for the stations.

Passenger travel habit survey data suggests that a large proportion of passengers access the rail network via a particular station as it is located closest to their journey origin. The following reasons were given for accessing the rail network via a specific station which was potentially not located closest to the journey origin:

- Rail service frequency
- Cheapest Fare
- Shortest Journey Time
- Parking Availability

A large proportion of passengers travel to Aberdeen, Dundee, Edinburgh and Glasgow with destinations described as the main workplace for a large proportion of surveyed rail passengers.

The response to the travel habit survey suggests that the location of a rail station has an impact on the mode choice for passengers accessing the rail station.

A high proportion of passengers parked in the rail station car parks with convenience of car park location cited as the main reason for parking at the stations. The station car park being full and avoiding parking charges were the main reason for parking elsewhere.

7.2 Recommendations

This study has obtained a large amount of data on the travel habits of passengers boarding rail services from stations located in the TACTRAN area. The full dataset has been included in Appendix A of this Report with the intention for it to inform future studies in the TACTRAN area.

This report summarises a number of key trends from the surveyed passenger travel habit data and a more detailed analysis of collected data can be undertaken at any particular station by analysing the dataset included on a disc at Appendix A.



The parking surveys that were undertaken at specific TACTRAN rail stations could be used in conjunction with relevant passenger travel habit survey data, to focus any future parking surveys on the local road network in the vicinity of stations at which there is known to be a current issue with parking.

Additional sifting of the dataset could be undertaken to identify and remove passengers who travel on the rail network on an irregular basis.

Further analysis could be undertaken of the demographics of rail passengers, with key trends (e.g. the rail service's use by school children) identified at specific stations.



A PASSENGER AND PARKING SURVEY DATA

See enclosed CD.





B FACE-TO-FACE QUESTIONNAIRE







Interviewer Name: _____
 Time of Interview:
 Train Service - Time Due -
 Destination _____

Q1a – Where did your journey start today? (postcode or full address)

Q1b - What was your reason for being at this address?

Home Normal Workplace Employer's business Education / Training
 Shopping Personal Business Social / Recreation
 Other (Please Specify) _____

Q2a - How did you travel to the station today?

Car Driver Car Passenger Motorcycle Bus
 Cycle Walk Taxi Train
 Other (Please Specify) _____

Q2b - How long did it take you to travel to the station today?

Less than 15 mins 15 - 30 mins 30 - 45 mins More than 45 mins

Q3a - If the answer to Q2a was car driver / passenger, where is the car parked?

Station Car Park Other Car Park name/location _____
 Dropped off On-Street name/location _____

Q3b - What was the main reason for parking there?

Avoid parking charge Station car park full No station car park Conveniently located
 Safety / Security Other (Please specify) _____

Q3c - How many people were in the car (including yourself)?

1 2 3 4
 5 more than 5

Q4 - Why did you choose to travel to this rail station?

Closest to origin Closest to destination Shortest journey time Cheapest fare
 Rail service frequency Parking availability Station facilities Safety / Security
 Other (Please Specify) _____

Q5a - What rail station are you travelling to? _____

Q5b - What type of rail ticket are you using for your journey?

Single Return Season
 Advance Anytime Off-Peak
 Concession (Please Specify) _____ Other (Please Specify) _____

Q6a - What is the final destination of your journey? (postcode or full address)

Q6b - What is the main reason for travelling to this address?

Home Normal Workplace Employer's business Education / Training
 Shopping Personal Business Social / Recreation
 Other (Please Specify) _____

Q6c - How often do you make this trip per week?

more than 5 5 4 3
 2 1 Less than once a week

Personal Details

Gender Male Female
Age 15 or under 16 - 24 25 - 35
 36 - 45 46 - 60 Over 60