



# PERTH & KINROSS SPACES FOR PEOPLE SURVEY REPORT 2020/21



**SYSTRA**

# PERTH & KINROSS COUNCIL AREA

## MODE SHARE SURVEYS 2020/2021

### IDENTIFICATION TABLE

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Version	Name	Position	Date	Modifications
1	Author	Alasdair Kay	Principal Transportation Engineer	13/12/2021
	Checked	Alasdair Kay	Principal Transportation Engineer	13/12/2021
	Approved	Iain Clement	Associate Director	13/12/2021
2	Author			DD/MM/YY
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## 1. INTRODUCTION

### 1.1 Background

- 1.1.1 SYSTRA Ltd (SYSTRA) was commissioned by regional transport authority Tactran in June 2020 in response to the *Spaces for People* initiative, to undertake a comprehensive survey programme to capture changes in active travel behaviour and mode share as the people of Angus, Dundee, Perth & Kinross and Stirling change travel behaviours following the Covid-19 outbreak.
- 1.1.2 The results of the surveys will inform decisions on the benefits of the temporary infrastructure measures being brought forward by the four local authorities Dundee City Council, Perth & Kinross Council, Stirling Council and Angus Council.
- 1.1.3 This report summarises the outcomes from surveys undertaken across the Perth & Kinross Council area.

### 1.2 Spaces for People

- 1.2.1 The *Spaces for People* programme is funded by the Scottish Government and managed by Sustrans Scotland. The aim of the initiative is to enable statutory bodies to implement measures focused on protecting public health by enabling pedestrians and cyclists to social distance safely on public roads physical distancing.
- 1.2.2 The initiative focuses on essential journeys, which might include:
- Journeys to and from hospitals and health services
  - Journeys to shops, pharmacies, schools, and other returning workplaces
  - Journeys for recommended exercise, for example neighbourhoods and local parks.
- 1.2.3 The measures being investigated by the authorities will provide temporary walking and cycling infrastructure that helps to protect public health by enabling safe physical distancing for essential journeys and exercise for everyone, in particular where there are space constraints or user safety concerns. The measures might include, but are not limited to:
- Physical interventions
  - Selective road closures using planters or cones
  - Reallocating road space for wider footway
  - Reallocating road space for cycle tracks
  - Reallocating parking and loading
  - Reduced speed limits and/or traffic calming measures
  - Removal of barriers to open up constrained spaces and remove pinch points.
- 1.2.4 This Report details the traffic surveys undertaken in four phases between October 2020 and September 2021, and the mode share summary information for each location.

### 1.3 Spaces for People Intervention Summary

- 1.3.1 A summary of the *Spaces for People* programme interventions within the Perth & Kinross Council area is given in Table 1 below.

**Table 1. Spaces for People Interventions Summary**

Intervention	Type of Intervention	Date installed	Date of removal (if applicable)	Permanent Intervention?
Coupar Angus	Speed reduction - 20mph	TBC		Yes
Abernyte	Speed reduction - 20mph	01/09/2020		Yes
Airtully	Speed reduction - 20mph	01/09/2020		Yes
Alyth	Speed reduction - 20mph	06/11/2020		Yes
Ardler	Speed reduction - 20mph	01/09/2020		Yes
Auchterarder	Speed reduction - 20mph	06/11/2020		Yes
Ballintuim	Speed reduction - 20mph	01/09/2020		Yes
Blairgowrie	Speed reduction - 20mph	06/11/2020		Yes
Bridge of Cally	Speed reduction - 20mph	01/09/2020		Yes
Bridge of Earn	Speed reduction - 20mph	06/11/2020		Yes
Butterstone	Speed reduction - 20mph	01/09/2020		Yes
Campmuir	Speed reduction - 20mph	01/09/2020		Yes
Cleish	Speed reduction - 20mph	01/09/2020		Yes
Collace	Speed reduction - 20mph	01/09/2020		Yes
Comrie	Speed reduction - 20mph	TBC		No
Crieff	Speed reduction - 20mph	TBC		No
Dunning	Speed reduction - 20mph	01/09/2020		Yes
Errol Station	Speed reduction - 20mph	01/09/2020		Yes
Forneth	Speed reduction - 20mph	01/09/2020		Yes
Forteviot	Speed reduction - 20mph	01/09/2020		Yes
Glenfarg	Speed reduction - 20mph	01/09/2020		Yes
Grandtully	Speed reduction - 20mph	01/09/2020		Yes
Grange	Speed reduction - 20mph	01/09/2020		Yes
Kettins	Speed reduction - 20mph	01/09/2020		Yes
Kinloch	Speed reduction - 20mph	01/09/2020		Yes
Kinnaird	Speed reduction - 20mph	01/09/2020		Yes
Kinross	Speed reduction - 20mph	01/09/2020		Yes
Kinrossie	Speed reduction - 20mph	01/09/2020		Yes
Kirkmichael	Speed reduction - 20mph	01/09/2020		Yes
Maryburgh & Keltybridge	Speed reduction - 20mph	01/09/2020		Yes
Meiklour	Speed reduction - 20mph	06/11/2020		Yes
Milnathort	Speed reduction - 20mph	01/09/2020		Yes
Pitcairngreen	Speed reduction - 20mph	01/09/2020		Yes
Pitlochry	Speed reduction - 20mph	01/09/2020		Yes
Rait	Speed reduction - 20mph	01/09/2020		Yes
Scone	Speed reduction - 20mph	06/11/2020		Yes
Scotlandwell	Speed reduction - 20mph	01/09/2020		Yes
Spittalfield	Speed reduction - 20mph	01/09/2020		Yes
Strathtay	Speed reduction - 20mph	01/09/2020		Yes
Tummel Bridge	Speed reduction - 20mph	01/09/2020		Yes
Wolfhill	Speed reduction - 20mph	01/09/2020		Yes
High Street, Perth	Street closure	02/08/2020	26/09/2020	No
Route signage and road marking	Installation of signage and markings.	02/07/2020		No
Muirton, Perth	Speed reduction - 20mph	26/06/2020		No
City centre, Perth	Speed reduction - 20mph	26/06/2020		No
Royal Infirmary, Perth	Speed reduction - 20mph	26/06/2020		No
Temporary toucan, Charlotte St., Perth	Crossing upgrade	13/07/2020		Yes
Cycle parking	Cycle Parking	01/09/2020		Yes
Temporary Footway Widening Glover St., Perth	Footpath widening	07/07/2020	01/02/2020	No
Temporary Footway Widening Leonards Pl./Kings Pl., Perth	Footpath widening	07/07/2020	01/02/2020	No
Craigie Pl./Gillespie Pl., Perth	School Exclusion Zone	TBC		No
Pitlochry	Footpath widening	28/07/2020		No
Temporary footpath, St Leonards Bridge, Perth	Footpath widening	07/07/2020	01/02/2020	No
Wellmeadow and Tannage St., Blairgowrie	Street closure	15/08/2020	TBC	No
SEZ Balhousie Primary School, Perth	School Exclusion Zone	TBC		No
SEZ Guildtown Primary School	School Exclusion Zone	TBC		No
SEZ Kinloch Rannoch Primary School	School Exclusion Zone	TBC		No
SEZ Newhill Primary School, Blairgowrie	School Exclusion Zone	TBC		No
SEZ Tulloch Primary School, Perth	School Exclusion Zone	TBC		No
SEZ Viewlands Primary/Fairview Primary/Perth Academy, Perth	School Exclusion Zone	TBC		No
Dalchonzie and Dalrannoch Cycling and Walking Friendly Route	40mph speed limit	06/07/2020		No
Glenfoot Cycling and Walking Friendly Route	40mph speed limit	08/07/2020		No
Marshall Place Toucan Crossing	Crossing upgrade	01/08/2020		Yes
Stewart Tower 40mph Speed Limit	40mph Speed Limit	14/09/2020		Yes
Disabled Parking Bays	Disabled Parking Bays	02/08/2020		Yes



## 2. DATA COLLATION

### 2.1 Overview of Traffic Surveys

2.1.1 A programme of traffic surveys for all the locations was undertaken by specialists Nationwide Data Collection (NDC).

2.1.2 The types of surveys undertaken in the Perth area were:

- Pedestrian Behaviour and volume counts
- Link count and speed surveys
- Classified Turning Counts (including cyclists & pedestrians)
- Mode Share Counts

2.1.3 Data was recorded over a 16 hour period (06:00-22:00) and analysis undertaken for the following time periods:

- AM Peak Period – 06:30 – 09:30
- Inter Peak Period – 09:30 – 15:30
- PM Peak Period – 15:30 – 18:30.

2.1.4 The surveys were undertaken on the following dates:

- October 2020 – Thursday 22<sup>nd</sup> to Saturday 24<sup>th</sup> October 2020
- February 2021 – Thursday 25<sup>th</sup> to Saturday 27<sup>th</sup> February 2021
- May 2021 – Thursday 4<sup>th</sup> to Saturday 6<sup>th</sup> May 2021
- September 2021 - Thursday 9<sup>th</sup> to Saturday 11<sup>th</sup> September 2021.

## 2.2 Pedestrian Behaviour and Volume Counts

### Perth

2.2.1 Seven locations within Perth were selected in discussion with Tactran for pedestrian volume counts and behaviour surveys. These are detailed below and in Figure 1:

- Pedestrian 1 – Tay Street (north of High Street, west footpath)
- Pedestrian 2 – Tay Street (north of High Street, east footpath)
- Pedestrian 3 – Tay Street (north of South Street, west footpath)
- Pedestrian 4 – Tay Street (north of South Street, east footpath)
- Pedestrian 5 – Tay Street (south of South Street, east footpath)
- Pedestrian 6 – Tay Street (north of Marshall Place, west footpath)
- Pedestrian 7 – Tay Street (north of Marshall Place, east footpath)

2.2.2 Classified turn counts were carried out within the study section, to include both pedestrians and cyclists. Results were categorised as follows:

- Pedestrians
- Wheeled pedestrians (on scooters etc)
- Pedal Cycles
- Motorcycles
- Cars/Taxis
- LGVs
- OGV1
- OGV2
- Service Buses
- Private Coaches.

2.2.3 Figure 1 below illustrates the locations of the pedestrian surveys and classified turn count surveys.

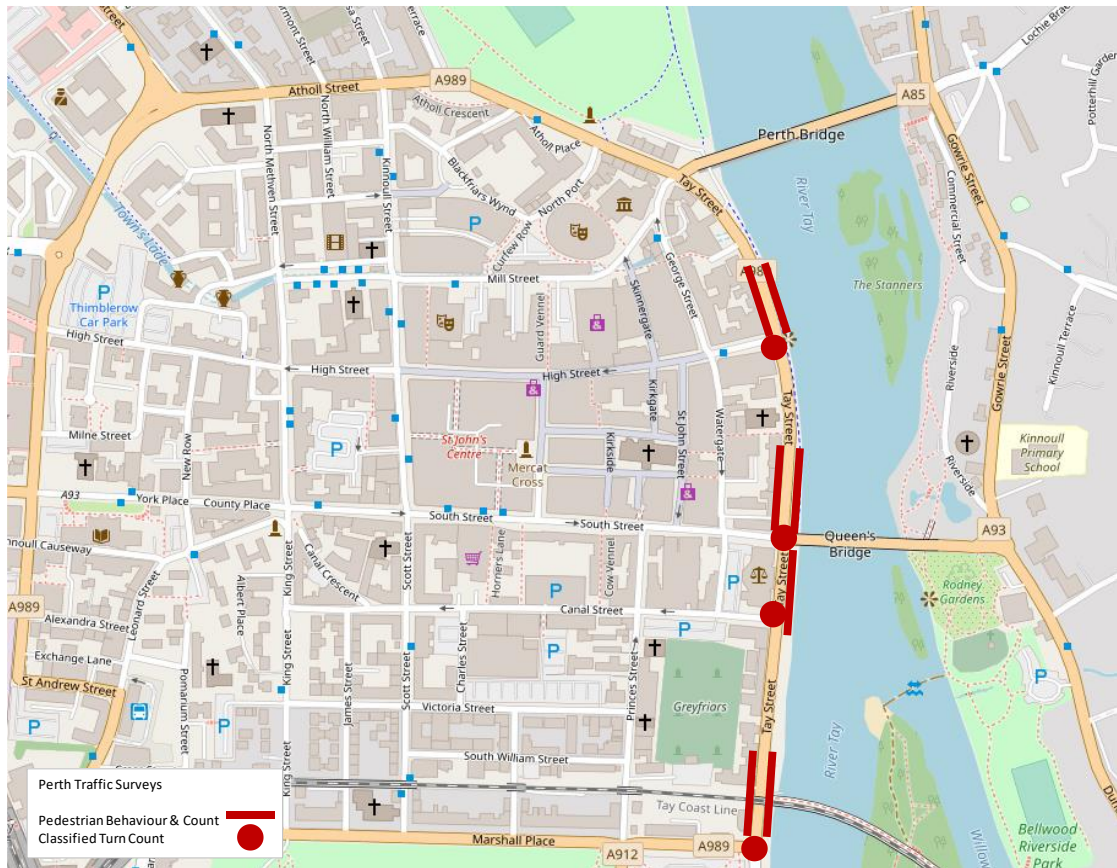


Figure 1. Pedestrian Surveys - Perth

## 2.3 Link Count and Speed Surveys

### Perth

2.3.1 Two locations within Perth were selected for link count and speed surveys over a seven day period. These are detailed below and in Figure 2:

- Link Count 1 – Tay Street (north of South Street)
- Link Count 2 – Tay Street (south of Canal Street)

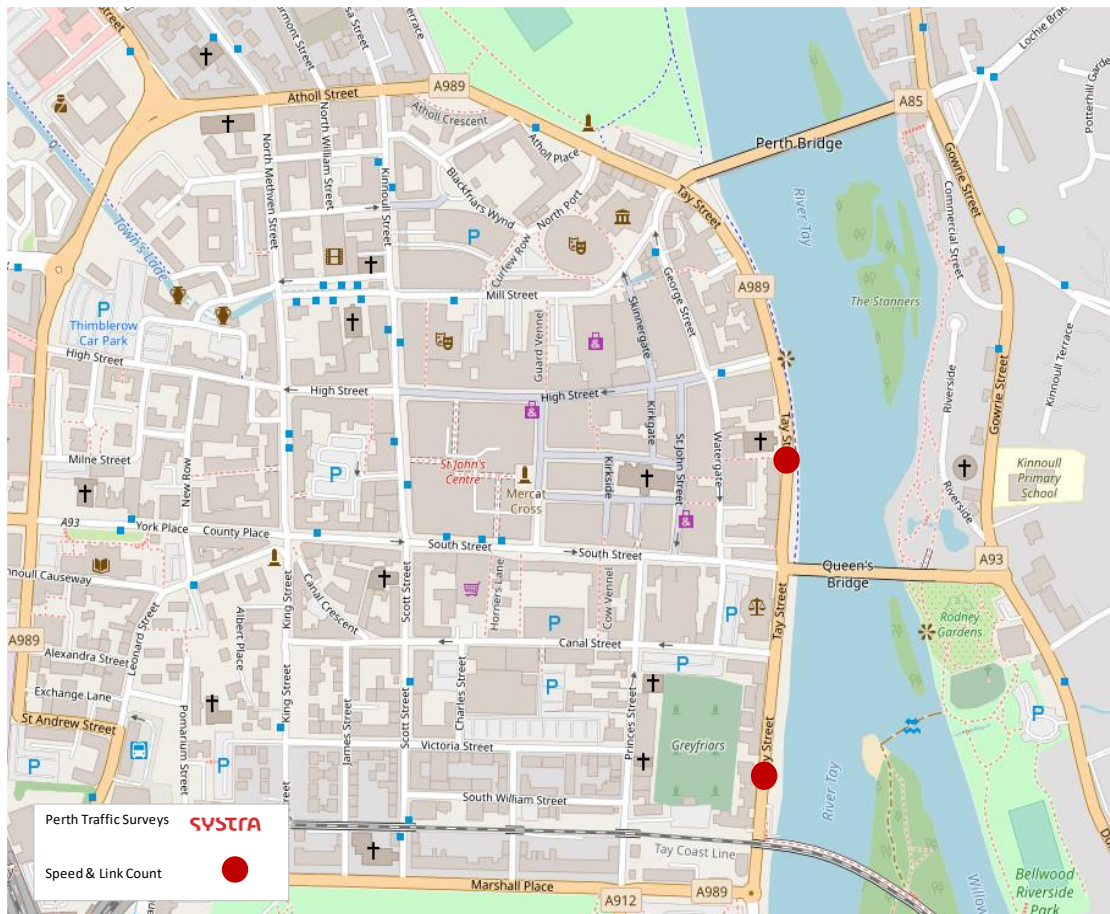


Figure 2. Link Count & Speed Surveys - Perth

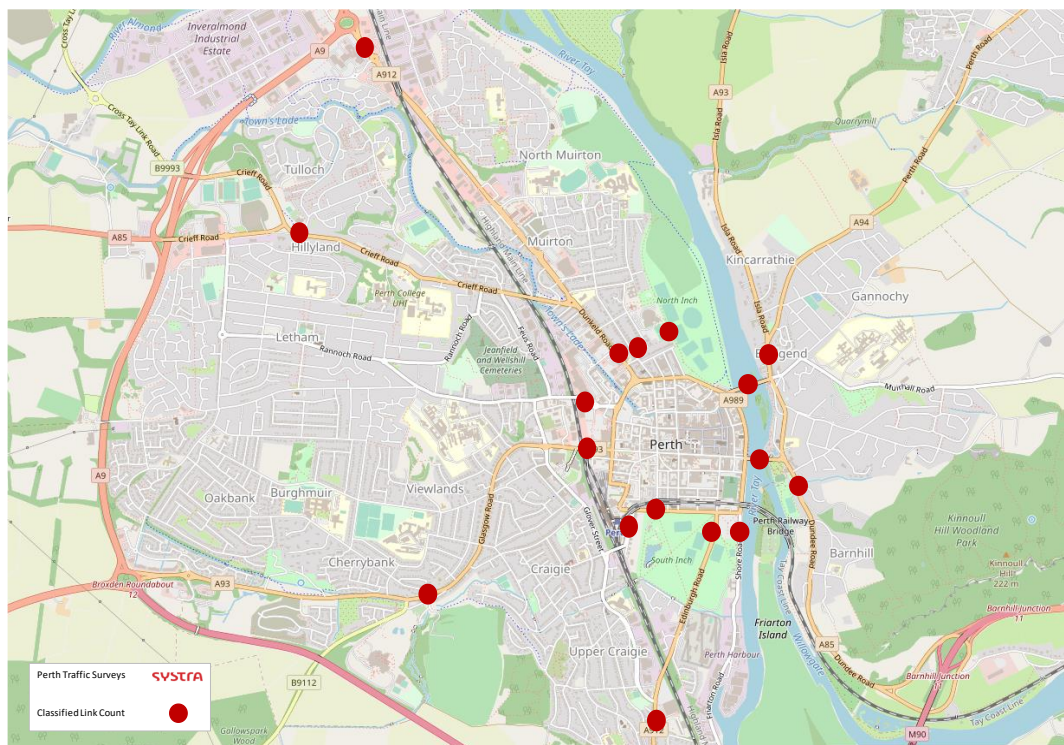


## 2.4 Classified Link Counts

### Perth

2.4.1 Seventeen locations within Perth were selected for classified link counts. These are detailed below and in Figure 3. The mode share cordon counts were undertaken on the Thursday of each survey period between 06:00 and 22:00:

- CC1 – Barrack Street
- CC2 – Cycle path east of Balhousie Street
- CC3 – Main Street
- CC4 – Perth Bridge
- CC5 – Queens Bridge
- CC6 – Shore Road
- CC7 – Edinburgh Road (north)
- CC8 – Marshall Place
- CC9 – St Leonards Bridge
- CC10 – Glasgow Road (east)
- CC11 – Dunkeld Road
- CC12 – Crieff Road
- CC13 – Glasgow Road (west)
- CC14 - Edinburgh Road (south)
- CC15 – Dundee Road south of Manse Road
- CC16 – Long Causeway, east of Old Market Road
- CC17 – Melville Street, south of Low Street



**Figure 3. Classified Link Count Surveys – Perth**

2.4.2 At each site, link count data was collated into the following categories:

- Pedestrians
- Pedal Cycles
- Motorcycles
- Horses
- Cars/Taxis
- LGVs
- OGV1
- OGV2
- Service Buses
- Private Coaches.

## 2.5 Mode Share Surveys

### Rail Station Barrier Counts

2.5.1 Barrier counts were conducted at Perth rail station over the 16 hour period (06:00-22:00) on Tuesday 4th May 2021 with pedestrian movements captured at both entrances/exits to the station.

### Bus Occupancy Surveys

2.5.2 Bus occupancy counts were undertaken at all 17 sites shown in Figure 3, over the 16 hour period (06:00-22:00) on Tuesday 4th May 2021.

### Bus Station/Stop Counts

2.5.3 Boarding and alighting counts were undertaken at a number of stops in Perth city centre over the 16 hour period (06:00-22:00) on Wednesday 4<sup>th</sup> May 2021, with movements captured at the following stops:

- Perth Bus Station Stance 1
- Perth Bus Station Stance 2
- Perth Bus Station Stance 10
- South Street eastbound (bus stop K)
- South Street immediately east of Scott Street
- South Street outside St Johns shopping centre
- Scott Street southbound (bus stop X)
- Broxden Park and Ride (Megabus/Citylink stop)
- Broxden Park and Ride (local services stop)
- Canal Street westbound (behind Tesco)

### Vehicle Occupancy Counts

2.5.4 Vehicle occupancy counts were undertaken at all 17 sites shown in Figure 3, over the 16 hour period (06:00-22:00) on Tuesday 4th May 2021.

## 2.6 Summary

2.6.1 A summary of survey programme undertaken across the Perth & Kinross Council area is given in Table 2 below.

**Table 2. Traffic Survey Summary**

Survey Requirement	Oct-20	Feb-21	May-21	Sep-21
Perth - Pedestrian Surveys	✓	✓	✓	✓
Perth - Link Counts	✓	✓	✓	✓
Perth - Speed Surveys	✓	✓	✓	✓
Perth - Cordon Counts	✓	✓	✓	✓
Perth - Occupancy Surveys			✓	

### 3. PEDESTRIAN BEHAVIOUR REVIEW

#### 3.1 Pedestrian Behaviour Surveys

3.1.1 Summary tables below present the results of the pedestrian behaviour surveys in the Perth and Kinross Council area.

3.1.2 Following discussion with TACTRAN analysis was undertaken for the following site in November 2020 only:

- Pedestrian 3 – Tay Street (north of South Street, west footpath)
- Pedestrian 4 – Tay Street (north of South Street, east footpath)

3.1.3 Data on Tay Street was only recorded for one day as the intention here was originally to monitor the number of cyclists using

#### 3.2 Results of Pedestrian Behaviour Surveys

3.2.1 Table 3 below presents the results of the pedestrian behaviour data on the west side of Tay Street in Perth, between South Street and High Street.

**Table 3. Tay Street north of South St (west footpath) Pedestrian Behaviour Summary**



**Site 3 Tay Street Step Out Analysis West Footpath (Thursday 19th November 2020)**

Thursday 22nd Oct 2020	2-Way Ped Count	2-Way Cyclist on Bike	2-Way Cyclist on Foot	No Conflict Required	Pass with space under 2 m (on footpath)	Pass with space over 2 m (on footpath)	Build Out	Step out into live road	Cross
0600-2200	304	3	0	300	37	1	0	0	0
AM Peak Pd 0700-1000	54	1	0	52	9	0	0	0	0
AM Peak Hr 0800-0900	25	1	0	26	6	0	0	0	0
IP Peak Pd 1000-1600	148	0	0	144	22	1	0	0	0
IP Peak Hr 1200-1300	36	0	0	24	5	0	0	0	0
PM Peak Pd 1600-1900	56	0	0	66	6	0	0	0	0
PM Peak Hr 1700-1800	29	0	0	32	1	0	0	0	0
0600-2200 Behaviour Proportion (%)	-	-	-	89%	11%	0%	0%	0%	0%



3.2.2 Table 3 shows that on the west side footpath of Tay Street in Perth, on average 89% of pedestrians did not conflict with oncoming pedestrians, whilst 11% passed on the footpath within a space of 2m or less.

3.2.3 Table 4 below presents the results of the pedestrian behaviour data on the east side of Tay Street in Perth, between South Street and High Street.

**Table 4. Tay Street north of South St (east footpath) Pedestrian Behaviour Summary**



**Site 4 Tay Street Step Out Analysis East Footpath (Thursday 19th November 2020)**

Thursday 22nd Oct 2020	2-Way Ped Count	2-Way Cyclist on Bike	2-Way Cyclist on Foot	No Conflict Required	Pass with space under 2 m (on footpath)	Pass with space over 2 m (on footpath)	Build Out	Step out into live road	Cross
0600-2200	551	93	0	314	51	37	0	0	0
AM Peak Pd 0700-1000	76	17	0	58	4	1	0	0	0
AM Peak Hr 0800-0900	23	7	0	23	0	0	0	0	0
IP Peak Pd 1000-1600	304	54	0	157	37	27	0	0	0
IP Peak Hr 1200-1300	44	14	0	23	3	2	0	0	0
PM Peak Pd 1600-1900	117	15	0	57	10	9	0	0	0
PM Peak Hr 1700-1800	24	8	0	14	3	2	0	0	0
0600-2200 Behaviour Proportion (%)	-	-	-	78%	13%	9%	0%	0%	0%

3.2.4 Table 4 shows that on the east side footpath of Tay Street in Perth, on average 78% of pedestrians did not conflict with oncoming pedestrians, whilst 13% passed on the footpath within a space of 2m or less. The remaining 9% passed with over 2m between them.

## 4. LINK COUNT & SPEED REVIEW

### 4.1 Overview

4.1.1 Summary tables below present the results of the speed surveys in the Perth & Kinross Council area.

4.1.2 For each survey, the summary information is as follows:

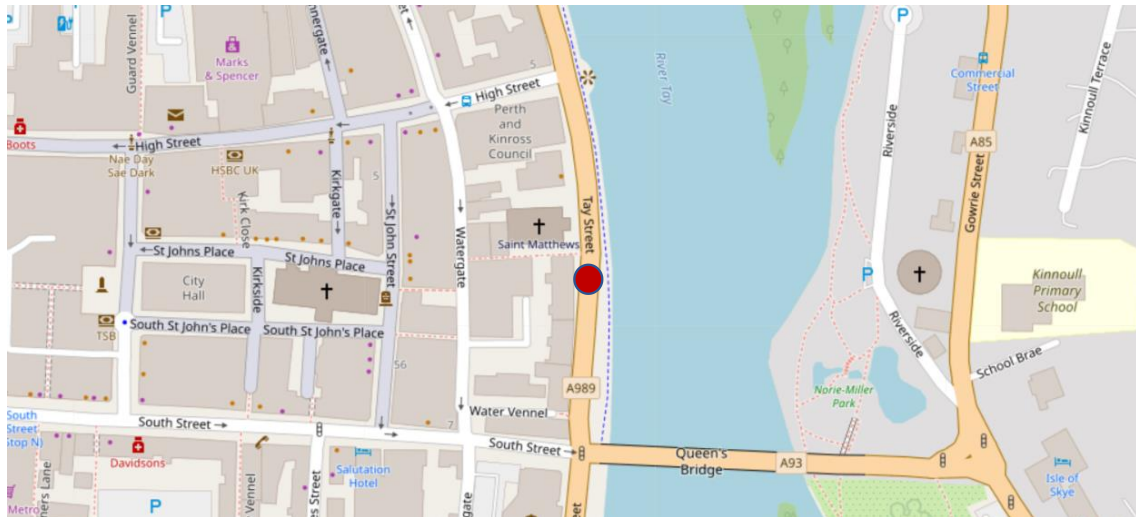
- Site Number
- Site Location
- Total Flow – Directional daily flow
- Mean Speed (mph) – Mean or average speed of all vehicles in either direction
- 85%ile Speed (mph) – Speed at, or below, which 85% of vehicles were travelling. The remaining 15% were recorded travelling at a higher speed
- Number of vehicles travelling at a speed greater than the 20mph limit
- Proportion of vehicles travelling at a speed greater than the 20mph limit
- Number of vehicles travelling at a speed greater than 35mph
- Proportion of vehicles travelling at a speed greater than 35mph.

## 4.2 Results of Link Counts and Speed Surveys

### Perth

4.2.1 Table 5 below presents a comparison of the results of the link flow and speed data on Tay Street, north of South Street (northbound).

**Table 5. Tay Street north of South St (Northbound)**

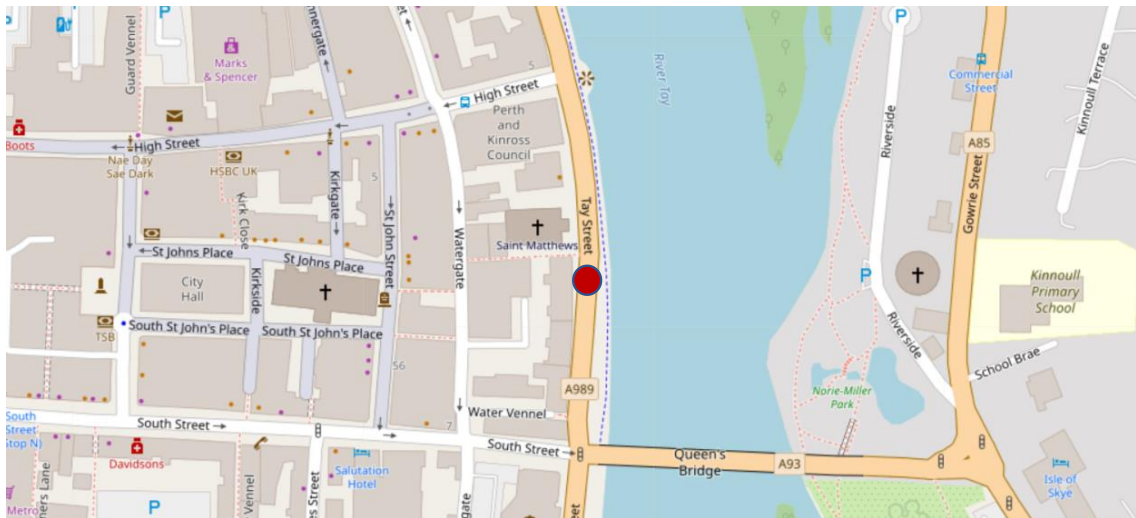


Site 1 Tay St between South Street and High Street Northbound									
November 2020	Mon 23/11/20	Tue 24/11/20	Wed 25/11/20	Thu 19/11/20	Fri 20/11/20	Sat 21/11/20	Sun 22/11/20	5 Day Mean	7 Day Mean
0000-2400 Vehicle Flow	2529	2584	2562	2722	2832	2539	1749	2646	2502
Mean Speed (mph)	22.7	21.8	22.7	22.5	22.2	23.0	22.7	22.4	22.5
85%ile Speed (mph)	26.1	25.9	26.5	26.4	25.8	26.8	26.6	26.1	26.3
No. Vehicles > 20 MPH Limit	2002	1811	1987	2088	2107	2066	1357	1999	1917
% Vehicles > 20 MPH Limit	79.2%	70.1%	77.6%	76.7%	74.4%	81.4%	77.6%	75.6%	76.7%
No. Vehicles > 35 MPH	8	7	14	9	10	6	7	10	9
% Vehicles > 35 MPH	0.3%	0.3%	0.5%	0.3%	0.4%	0.2%	0.4%	0.4%	0.3%
February 2021	Mon 22/02/21	Tue 23/02/21	Wed 24/02/21	Thu 25/02/21	Fri 26/02/21	Sat 20/02/21	Sun 21/02/21	5 Day Mean	7 Day Mean
0000-2400 Vehicle Flow	2179	2040	2123	2239	2540	1952	1734	2224	2115
Mean Speed (mph)	22.8	22.5	22.6	22.9	22.7	22.4	22.0	22.7	22.6
85%ile Speed (mph)	26.5	26.1	26.3	26.7	26.3	26.1	25.5	26.4	26.2
No. Vehicles > 20 MPH Limit	1678	1528	1630	1778	1969	1436	1274	1717	1613
% Vehicles > 20 MPH Limit	77.0%	74.9%	76.8%	79.4%	77.5%	73.6%	73.5%	77.1%	76.1%
No. Vehicles > 35 MPH	8	3	6	11	7	10	3	7	7
% Vehicles > 35 MPH	0.4%	0.1%	0.3%	0.5%	0.3%	0.5%	0.2%	0.3%	0.3%
May 2021	Mon 03/05/21	Tue 04/05/21	Wed 05/05/21	Thu 06/05/21	Fri 07/05/21	Sat 08/05/21	Sun 09/05/21	5 Day Mean	7 Day Mean
0000-2400 Vehicle Flow	2648	3000	2982	3018	3432	2927	1980	3016	2855
Mean Speed (mph)	21.9	22.1	22.2	21.7	22.2	21.9	22.1	22.0	22.0
85%ile Speed (mph)	25.6	25.8	26.1	25.8	25.8	25.7	26.2	25.8	25.9
No. Vehicles > 20 MPH Limit	1877	2186	2161	2061	2532	2043	1417	2163	2040
% Vehicles > 20 MPH Limit	70.9%	72.9%	72.5%	68.3%	73.8%	69.8%	71.6%	71.7%	71.4%
No. Vehicles > 35 MPH	6	5	10	8	13	10	5	8	8
% Vehicles > 35 MPH	0.2%	0.2%	0.3%	0.3%	0.4%	0.3%	0.3%	0.3%	0.3%
September 2021	Mon 06/09/21	Tue 07/09/21	Wed 08/09/21	Thu 09/09/21	Fri 10/09/21	Sat 11/09/21	Sun 12/09/21	5 Day Mean	7 Day Mean
0000-2400 Vehicle Flow	2881	2984	2953	2987	3328	3193	2058	3027	2912
Mean Speed (mph)	21.4	21.5	22.3	21.2	21.7	21.6	22.2	21.6	21.7
85%ile Speed (mph)	25.3	25.6	26.2	25.4	25.7	25.7	26.2	25.6	25.7
No. Vehicles > 20 MPH Limit	1875	1984	2152	1939	2248	2085	1454	2040	1962
% Vehicles > 20 MPH Limit	65.1%	66.5%	72.9%	64.9%	67.5%	65.3%	70.7%	67.4%	67.4%
No. Vehicles > 35 MPH	5	3	8	4	9	10	11	6	7
% Vehicles > 35 MPH	0.2%	0.1%	0.3%	0.1%	0.3%	0.3%	0.5%	0.2%	0.2%

- 4.2.2 Table 5 indicates that the 5-day average traffic flows were lowest in February 2021 when Scotland was in a period of lockdown. Conversely, the 5-day mean speed was highest at 22.7 mph. The flows in May 2021 and September 2021 were very similar, with the lowest average speeds being recorded in September 2021.
- 4.2.3 The proportion of vehicles exceeding 20mph was slightly lower in May 2021 compared with October 2020, but was lowest in September 2021.

4.2.5 Table 6 presents the results for Tay Street, north of South Street (southbound).

**Table 6. Tay Street north of South St (Southbound)**



Site 1 Tay St between South Street and High Street Southbound									
November 2020	Mon 23/11/20	Tue 24/11/20	Wed 25/11/20	Thu 19/11/20	Fri 20/11/20	Sat 21/11/20	Sun 22/11/20	5 Day Mean	7 Day Mean
0000-2400 Vehicle Flow	2738	2623	2670	2931	2951	2384	1955	2783	2607
Mean Speed (mph)	20.9	20.8	21.0	20.4	20.6	21.5	21.3	20.7	20.9
85%ile Speed (mph)	24.7	24.9	24.8	24.4	24.7	25.4	25.3	24.7	24.9
No. Vehicles > 20 MPH Limit	1593	1507	1582	1538	1617	1520	1242	1567	1514
% Vehicles > 20 MPH Limit	58.2%	57.5%	59.3%	52.5%	54.8%	63.8%	63.5%	56.4%	58.5%
No. Vehicles > 35 MPH	8	9	13	9	7	6	8	9	9
% Vehicles > 35 MPH	0.3%	0.3%	0.5%	0.3%	0.2%	0.3%	0.4%	0.3%	0.3%
February 2021	Mon 22/02/21	Tue 23/02/21	Wed 24/02/21	Thu 25/02/21	Fri 26/02/21	Sat 20/02/21	Sun 21/02/21	5 Day Mean	7 Day Mean
0000-2400 Vehicle Flow	2541	2256	2483	2592	2679	1918	2372	2510	2406
Mean Speed (mph)	20.2	21.0	20.7	20.8	20.3	20.9	19.5	20.6	20.5
85%ile Speed (mph)	23.9	24.8	24.6	24.5	24.2	24.8	23.7	24.4	24.4
No. Vehicles > 20 MPH Limit	1337	1384	1448	1539	1472	1134	1072	1436	1341
% Vehicles > 20 MPH Limit	52.6%	61.3%	58.3%	59.4%	54.9%	59.1%	45.2%	57.3%	55.8%
No. Vehicles > 35 MPH	4	3	6	3	6	4	12	4	5
% Vehicles > 35 MPH	0.2%	0.1%	0.2%	0.1%	0.2%	0.2%	0.5%	0.2%	0.2%
May 2021	Mon 03/05/21	Tue 04/05/21	Wed 05/05/21	Thu 06/05/21	Fri 07/05/21	Sat 08/05/21	Sun 09/05/21	5 Day Mean	7 Day Mean
0000-2400 Vehicle Flow	2855	3257	3146	3152	3331	2790	2425	3148	2994
Mean Speed (mph)	20.8	20.5	21.0	20.8	20.7	21.0	21.0	20.8	20.8
85%ile Speed (mph)	24.4	24.2	24.7	24.4	24.6	24.7	25.2	24.5	24.6
No. Vehicles > 20 MPH Limit	1631	1823	1812	1834	1870	1625	1387	1794	1712
% Vehicles > 20 MPH Limit	57.1%	56.0%	57.6%	58.2%	56.1%	58.2%	57.2%	57.0%	57.2%
No. Vehicles > 35 MPH	9	10	11	7	11	8	13	10	10
% Vehicles > 35 MPH	0.3%	0.3%	0.3%	0.2%	0.3%	0.3%	0.5%	0.3%	0.3%
September 2021	Mon 06/09/21	Tue 07/09/21	Wed 08/09/21	Thu 09/09/21	Fri 10/09/21	Sat 11/09/21	Sun 12/09/21	5 Day Mean	7 Day Mean
0000-2400 Vehicle Flow	3351	3316	3365	3264	3480	3148	2527	3355	3207
Mean Speed (mph)	21.2	21.4	21.7	21.4	21.6	21.5	22.1	21.5	21.6
85%ile Speed (mph)	25.2	25.2	25.4	25.3	25.4	25.4	26.4	25.3	25.5
No. Vehicles > 20 MPH Limit	2088	2176	2311	2110	2294	2035	1777	2196	2113
% Vehicles > 20 MPH Limit	62.3%	65.6%	68.7%	64.6%	65.9%	64.6%	70.3%	65.4%	65.9%
No. Vehicles > 35 MPH	9	8	10	15	19	15	12	12	13
% Vehicles > 35 MPH	0.3%	0.2%	0.3%	0.5%	0.5%	0.5%	0.5%	0.4%	0.4%

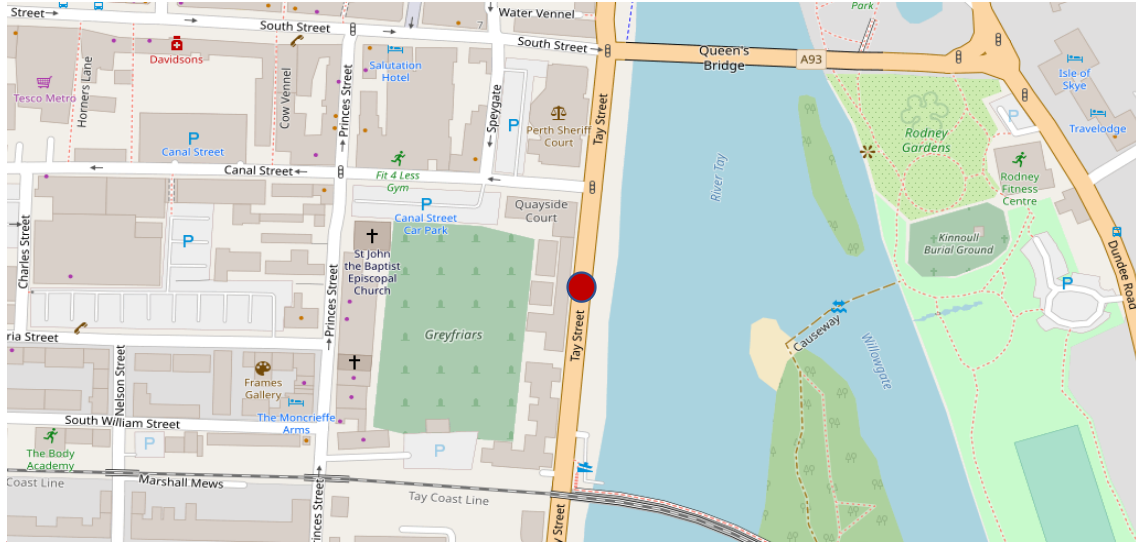
4.2.6 Table 6 shows that the 5-day average traffic flows were lowest in February 2021 when Scotland was in a period of lockdown. The 5-day mean speed was relatively consistent across all survey periods, with the exception of September 2021 when both the flows and average speed increased.

- 4.2.7 The proportion of vehicles exceeding 20mph was higher in May 2021 compared with October 2020. The proportion of vehicles exceeding the 20mph speed limit in September 2021 was higher still.



4.2.8 Table 7 presents the results for Tay Street between the railway bridge and Canal Street (northbound) in Perth.

**Table 7. Tay Street south of Canal Street (Northbound)**



Site 2 Tay St between rail bridge and Canal St Northbound									
November 2020	Mon 23/11/20	Tue 24/11/20	Wed 25/11/20	Thu 19/11/20	Fri 20/11/20	Sat 21/11/20	Sun 22/11/20	5 Day Mean	7 Day Mean
0000-2400 Vehicle Flow	2675	2562	2840	-	-	2327	1699	2692	2421
Mean Speed (mph)	23.7	23.6	23.5	-	-	24.0	24.0	23.6	23.8
85%ile Speed (mph)	27.3	27.5	27.3	-	-	28.1	27.8	27.4	27.6
No. Vehicles > 20 MPH Limit	2272	2138	2325	-	-	1990	1454	2245	2036
% Vehicles > 20 MPH Limit	84.9%	83.5%	81.9%	-	-	85.5%	85.6%	83.4%	84.3%
No. Vehicles > 35 MPH	15	13	13	-	-	14	7	14	12
% Vehicles > 35 MPH	0.6%	0.5%	0.5%	-	-	0.6%	0.4%	0.5%	0.5%
February 2021	Mon 22/02/21	Tue 23/02/21	Wed 24/02/21	Thu 25/02/21	Fri 26/02/21	Sat 20/02/21	Sun 21/02/21	5 Day Mean	7 Day Mean
0000-2400 Vehicle Flow	2620	2369	2482	2606	2843	2035	2038	2584	2428
Mean Speed (mph)	23.8	24.2	24.1	24.1	23.8	24.0	23.5	24.0	23.9
85%ile Speed (mph)	27.9	28.4	28.2	28.1	28.1	28.0	27.6	28.1	28.0
No. Vehicles > 20 MPH Limit	2179	2051	2090	2205	2368	1730	1630	2179	2036
% Vehicles > 20 MPH Limit	83.2%	86.6%	84.2%	84.6%	83.3%	85.0%	80.0%	84.4%	83.8%
No. Vehicles > 35 MPH	20	27	24	23	25	29	27	24	25
% Vehicles > 35 MPH	0.8%	1.1%	1.0%	0.9%	0.9%	1.4%	1.3%	0.9%	1.0%
May 2021	Mon 03/05/21	Tue 04/05/21	Wed 05/05/21	Thu 06/05/21	Fri 07/05/21	Sat 08/05/21	Sun 09/05/21	5 Day Mean	7 Day Mean
0000-2400 Vehicle Flow	2748	3322	3349	3235	3428	2546	2086	3216	2959
Mean Speed (mph)	24.0	22.8	23.1	23.4	22.5	24.1	24.3	23.2	23.5
85%ile Speed (mph)	28.0	27.0	27.4	27.5	27.1	28.3	28.4	27.4	27.7
No. Vehicles > 20 MPH Limit	2333	2539	2646	2608	2521	2182	1833	2529	2380
% Vehicles > 20 MPH Limit	84.9%	76.4%	79.0%	80.6%	73.5%	85.7%	87.9%	78.6%	80.4%
No. Vehicles > 35 MPH	27	20	16	22	10	32	18	19	21
% Vehicles > 35 MPH	1.0%	0.6%	0.5%	0.7%	0.3%	1.3%	0.9%	0.6%	0.7%
September 2021	Mon 06/09/21	Tue 07/09/21	Wed 08/09/21	Thu 09/09/21	Fri 10/09/21	Sat 11/09/21	Sun 12/09/21	5 Day Mean	7 Day Mean
0000-2400 Vehicle Flow	3238	3342	3525	3308	3712	3009	2328	3425	3209
Mean Speed (mph)	21.9	21.5	21.8	21.7	20.1	21.9	23.4	21.4	21.8
85%ile Speed (mph)	26.7	26.6	26.7	26.5	25.6	26.7	27.7	26.4	26.6
No. Vehicles > 20 MPH Limit	2225	2172	2303	2242	2001	2055	1826	2189	2118
% Vehicles > 20 MPH Limit	68.7%	65.0%	65.3%	67.8%	53.9%	68.3%	78.4%	63.9%	66.0%
No. Vehicles > 35 MPH	19	16	31	21	15	15	25	20	20
% Vehicles > 35 MPH	0.6%	0.5%	0.9%	0.6%	0.4%	0.5%	1.1%	0.6%	0.6%

\* No data available for Thursday 19th & Friday 20th November 2020 due to vehicle parked on ATC tube

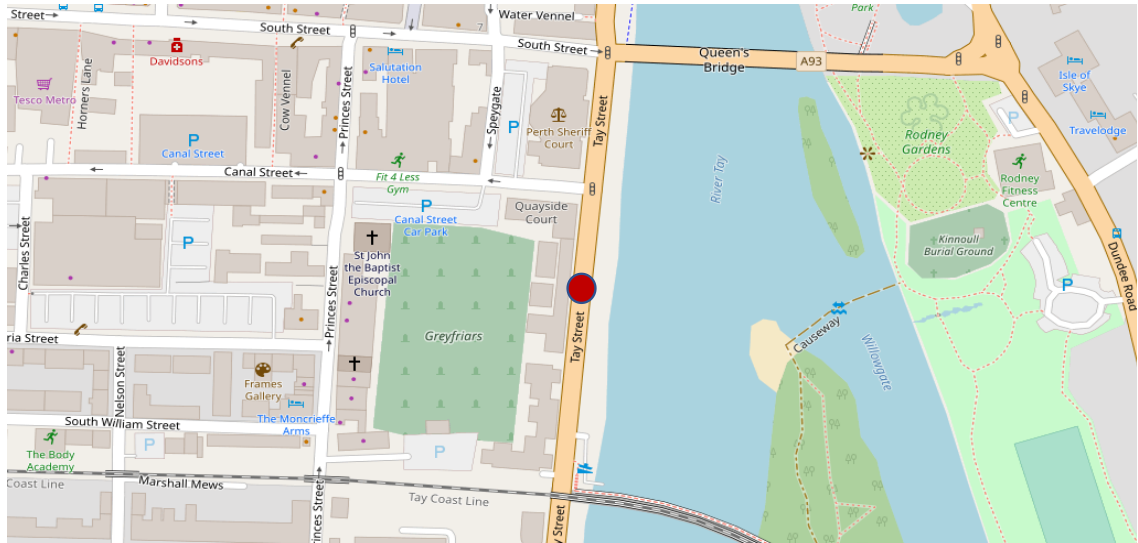
4.2.9 Table 7 shows that the 5-day average traffic flows were lowest in February 2021 when Scotland was in a period of lockdown, the mean speed also being highest at 24.0mph in February 2021. The highest flow was observed in September 2021.

4.2.10 The proportion of vehicles exceeding 20mph was highest in February 2021, and lowest in September 2021.



4.2.11 Table 8 presents the results for Tay Street south of Canal Street (southbound) in Perth.

**Table 8. Tay Street south of Canal Street (Southbound)**



Site 2 Tay St between rail bridge and Canal St Southbound									
November 2020	Mon 23/11/20	Tue 24/11/20	Wed 25/11/20	Thu 19/11/20	Fri 20/11/20	Sat 21/11/20	Sun 22/11/20	5 Day Mean	7 Day Mean
0000-2400 Vehicle Flow	4576	4352	4664	-	-	3776	2919	4531	4057
Mean Speed (mph)	24.6	24.3	24.1	-	-	24.5	24.8	24.3	24.5
85%ile Speed (mph)	28.3	28.0	28.1	-	-	28.5	28.9	28.1	28.4
No. Vehicles > 20 MPH Limit	4117	3784	4017	-	-	3333	2548	3973	3560
% Vehicles > 20 MPH Limit	90.0%	86.9%	86.1%	-	-	88.3%	87.3%	87.7%	87.7%
No. Vehicles > 35 MPH	45	40	28	-	-	49	32	38	39
% Vehicles > 35 MPH	1.0%	0.9%	0.6%	-	-	1.3%	1.1%	0.8%	1.0%
February 2021	Mon 22/02/21	Tue 23/02/21	Wed 24/02/21	Thu 25/02/21	Fri 26/02/21	Sat 20/02/21	Sun 21/02/21	5 Day Mean	7 Day Mean
0000-2400 Vehicle Flow	4445	3941	4372	4414	4798	3345	3499	4394	4116
Mean Speed (mph)	24.5	25.0	24.8	25.0	24.6	24.5	23.4	24.8	24.5
85%ile Speed (mph)	28.2	28.8	28.5	29.0	28.6	28.4	27.3	28.6	28.4
No. Vehicles > 20 MPH Limit	3846	3560	3895	3923	4172	2923	2681	3879	3571
% Vehicles > 20 MPH Limit	86.5%	90.3%	89.1%	88.9%	87.0%	87.4%	76.6%	88.4%	86.5%
No. Vehicles > 35 MPH	66	43	62	57	77	54	46	61	58
% Vehicles > 35 MPH	1.5%	1.1%	1.4%	1.3%	1.6%	1.6%	1.3%	1.4%	1.4%
May 2021	Mon 03/05/21	Tue 04/05/21	Wed 05/05/21	Thu 06/05/21	Fri 07/05/21	Sat 08/05/21	Sun 09/05/21	5 Day Mean	7 Day Mean
0000-2400 Vehicle Flow	4564	5412	5330	5289	5623	4204	3445	5244	4838
Mean Speed (mph)	24.1	23.9	23.9	24.4	23.8	24.7	24.4	24.0	24.2
85%ile Speed (mph)	27.8	27.6	27.9	28.0	27.5	28.3	28.2	27.8	27.9
No. Vehicles > 20 MPH Limit	3949	4636	4472	4578	4748	3702	3020	4477	4158
% Vehicles > 20 MPH Limit	86.5%	85.7%	83.9%	86.6%	84.4%	88.1%	87.7%	85.4%	85.9%
No. Vehicles > 35 MPH	32	33	57	54	42	51	39	44	44
% Vehicles > 35 MPH	0.7%	0.6%	1.1%	1.0%	0.7%	1.2%	1.1%	0.8%	0.9%
September 2021	Mon 06/09/21	Tue 07/09/21	Wed 08/09/21	Thu 09/09/21	Fri 10/09/21	Sat 11/09/21	Sun 12/09/21	5 Day Mean	7 Day Mean
0000-2400 Vehicle Flow	5594	5639	6000	6255	6252	5036	4324	5948	5586
Mean Speed (mph)	24.5	24.4	24.9	24.6	24.3	24.9	24.6	24.5	24.6
85%ile Speed (mph)	28.1	28.4	28.6	28.0	28.2	29.1	28.6	28.3	28.4
No. Vehicles > 20 MPH Limit	4988	4935	5403	5582	5437	4433	3790	5269	4938
% Vehicles > 20 MPH Limit	89.2%	87.5%	90.1%	89.2%	87.0%	88.0%	87.7%	88.6%	88.4%
No. Vehicles > 35 MPH	52	56	82	59	69	77	46	64	63
% Vehicles > 35 MPH	0.9%	1.0%	1.4%	0.9%	1.1%	1.5%	1.1%	1.1%	1.1%

\* No data available for Thursday 19th & Friday 20th November 2020 due to vehicle parked on ATC tube

4.2.12 Table 8 shows that the 5-day average traffic flows were lowest in February 2021 when Scotland was in a period of lockdown. The mean speed of traffic was greatest in February 2021 at 24.8mph. The highest flow was observed in September 2021.

- 4.2.13 The proportion of vehicles exceeding 20mph was higher in February 2021 compared with May 2021 and October 2020, but the highest proportion was observed in September 2021.

## 5. LINK COUNT REVIEW

### 5.1 Overview

- 5.1.1 Summary tables below present the results of the link count surveys in the Perth & Kinross Council area.

- 5.1.2 For motorised vehicle link count survey, the summary information is as follows:

- Site Number
- Site Location
- Total Flow – Directional surveyed flow (categorised as: Car, LGV, OGV1, OGV2, Bus, Coach, Motorcycle)
- 0600 - 2200 Northbound
- 0600 - 2200 Southbound
- AM Peak Pd 06:30-09:30 Northbound
- AM Peak Pd 06:30-09:30 Southbound
- IP Peak Pd 09:30-15:30 Northbound
- IP Peak Pd 09:30-15:30 Southbound
- PM Peak Pd 15:30-18:30 Northbound
- PM Peak Pd 15:30-18:30 Southbound.

- 5.1.3 For pedestrian link count (on pavement) each survey, the summary information is as follows:

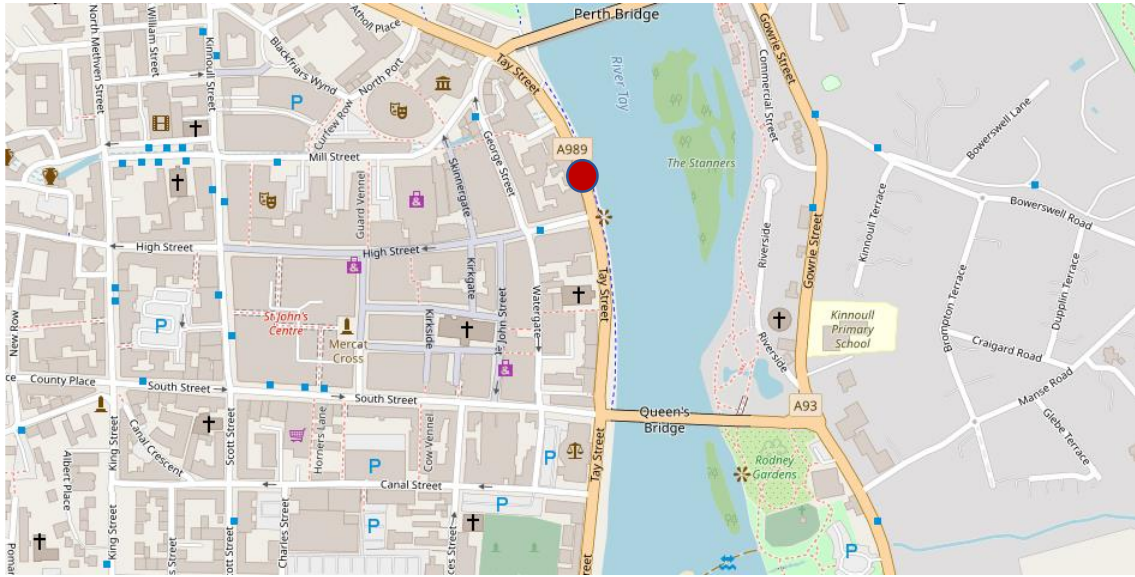
- Site Number
- Site Location
- Total Flow – Directional surveyed flow (categorised as: Adult, Adult & Child, Child, Elderly, Disabled, Cyclist on Road, Pavement Cyclist on Bike, Pavement Cyclist on Foot, Horses)
- 0600 - 2200 Northbound
- 0600 - 2200 Southbound
- AM Peak Pd 06:30-09:30 Northbound
- AM Peak Pd 06:30-09:30 Southbound
- IP Peak Pd 09:30-15:30 Northbound
- IP Peak Pd 09:30-15:30 Southbound
- PM Peak Pd 15:30-18:30 Northbound
- PM Peak Pd 15:30-18:30 Southbound.

### 5.2 Results of Link Counts Surveys

#### Perth

- 5.2.1 Table 9 below presents a comparison of the results of the link flow data on Tay Street, north of High Street.

**Table 9. Tay Street (North of High Street) Vehicular Link Flow**

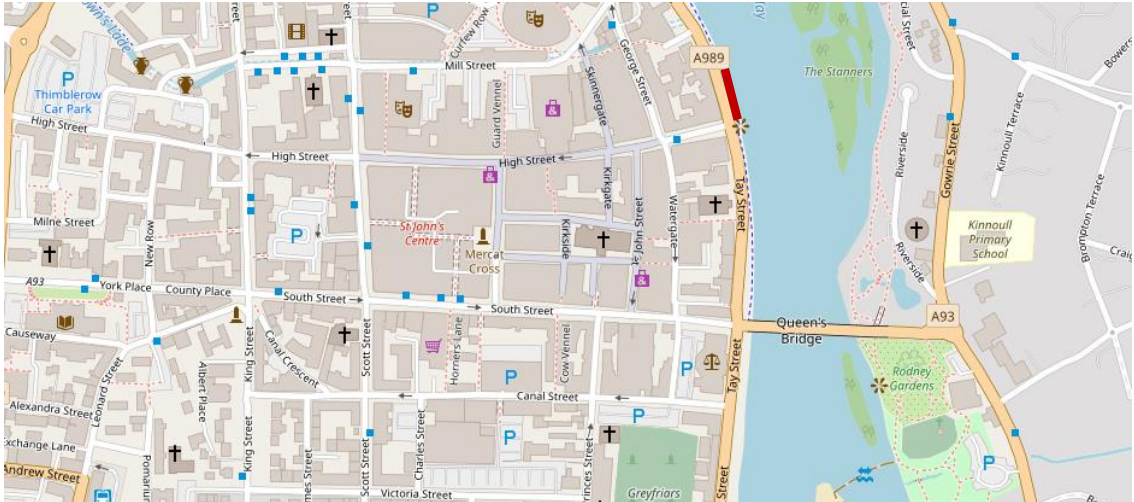


Tay Street (North of High Street)								
October 2020	Car	LGV	OGV1	OGV2	Bus	Coach	Motorcycle	Total
0600 - 2200 Northbound	1263	224	90	29	2	3	2	1613
0600 - 2200 Southbound	2755	456	155	81	23	11	6	3487
AM Peak Pd 0630-0930 Northbound	168	58	19	10	0	1	0	256
AM Peak Pd 0630-0930 Southbound	395	118	38	13	2	3	0	569
IP Peak Pd 0930-1530 Northbound	598	110	51	14	0	1	0	774
IP Peak Pd 0930-1530 Southbound	1294	219	97	46	18	6	3	1683
PM Peak Pd 1530-1830 Northbound	292	34	18	1	0	0	1	346
PM Peak Pd 1530-1830 Southbound	701	82	14	13	3	2	3	818
February 2021	Car	LGV	OGV1	OGV2	Bus	Coach	Motorcycle	Total
0600 - 2200 Northbound	1088	263	83	26	3	1	3	1467
0600 - 2200 Southbound	2267	475	150	49	26	4	4	2975
AM Peak Pd 0630-0930 Northbound	137	62	25	8	0	0	0	232
AM Peak Pd 0630-0930 Southbound	343	110	45	10	4	1	1	514
IP Peak Pd 0930-1530 Northbound	529	141	46	13	1	1	2	733
IP Peak Pd 0930-1530 Southbound	1065	243	79	19	19	2	2	1429
PM Peak Pd 1530-1830 Northbound	292	49	8	4	0	0	1	354
PM Peak Pd 1530-1830 Southbound	552	94	17	11	3	1	0	678
May 2021	Car	LGV	OGV1	OGV2	Bus	Coach	Motorcycle	Total
0600 - 2200 Northbound	1380	302	106	29	2	3	7	1829
0600 - 2200 Southbound	3039	598	157	53	22	9	6	3884
AM Peak Pd 0630-0930 Northbound	195	62	28	13	0	0	1	299
AM Peak Pd 0630-0930 Southbound	427	136	47	10	2	2	0	624
IP Peak Pd 0930-1530 Northbound	626	141	61	12	0	3	0	843
IP Peak Pd 0930-1530 Southbound	1407	308	88	28	19	6	2	1858
PM Peak Pd 1530-1830 Northbound	370	71	16	0	0	0	5	462
PM Peak Pd 1530-1830 Southbound	757	108	12	14	1	0	3	895
September 2021	Car	LGV	OGV1	OGV2	Bus	Coach	Motorcycle	Total
0600 - 2200 Northbound	1463	263	96	21	4	12	17	1876
0600 - 2200 Southbound	3087	510	150	34	22	16	30	3849
AM Peak Pd 0630-0930 Northbound	182	64	33	7	0	2	0	288
AM Peak Pd 0630-0930 Southbound	421	131	36	11	2	7	6	614
IP Peak Pd 0930-1530 Northbound	625	125	48	11	0	7	8	824
IP Peak Pd 0930-1530 Southbound	1345	247	95	18	18	6	11	1740
PM Peak Pd 1530-1830 Northbound	351	48	12	0	2	2	7	422
PM Peak Pd 1530-1830 Southbound	792	95	14	4	2	3	9	919

5.2.2 Table 9 indicates that vehicular flow in September 2021 was greater than February 2021 and October 2020 and similar to May 2021.

Table 10 below presents a comparison of the results of the pedestrian flow on Tay Street, north of High Street (east kerbside).

**Table 10. Tay Street (North of High Street) Pedestrian Flow**



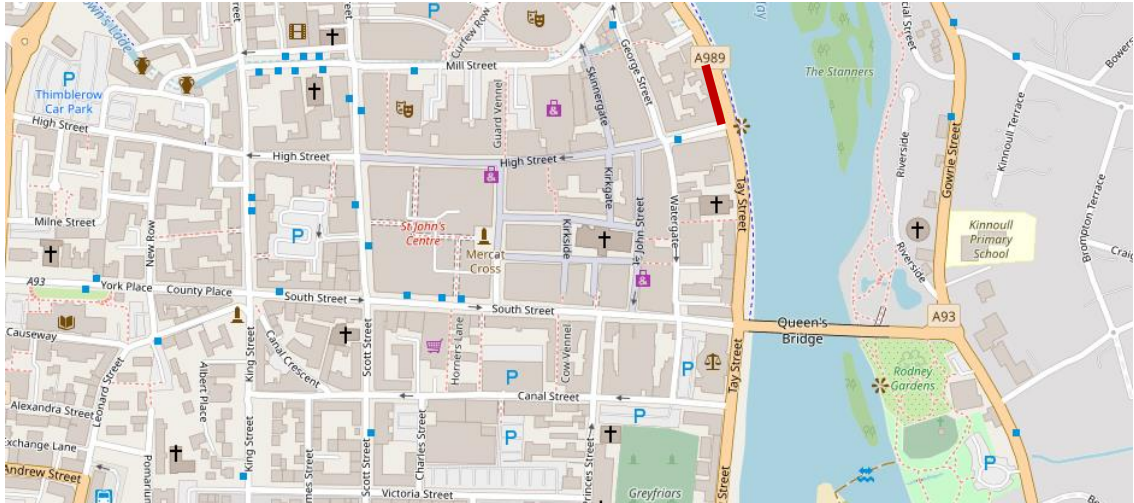
Site 1 Tay Street (North of High Street) East Kerbside										
October 2020	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	363	7	0	0	5	0	46	0	0	421
0600 - 2200 Southbound	326	18	0	3	6	0	43	7	0	403
AM Peak Pd 0630-0930 Northbound	44	2	0	0	0	0	5	0	0	51
AM Peak Pd 0630-0930 Southbound	37	0	0	0	0	0	8	0	0	45
IP Peak Pd 0930-1530 Northbound	213	0	0	0	4	0	29	0	0	246
IP Peak Pd 0930-1530 Southbound	180	0	0	2	5	0	27	0	0	214
PM Peak Pd 1530-1830 Northbound	66	0	0	0	0	0	7	0	0	73
PM Peak Pd 1530-1830 Southbound	63	13	0	1	0	0	3	7	0	87
February 2021	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	593	20	0	1	2	0	65	0	0	681
0600 - 2200 Southbound	586	14	0	1	2	0	60	0	0	663
AM Peak Pd 0630-0930 Northbound	55	5	0	0	0	0	6	0	0	66
AM Peak Pd 0630-0930 Southbound	47	0	0	0	0	0	7	0	0	54
IP Peak Pd 0930-1530 Northbound	338	2	0	1	2	0	33	0	0	376
IP Peak Pd 0930-1530 Southbound	302	8	0	1	2	0	27	0	0	340
PM Peak Pd 1530-1830 Northbound	119	11	0	0	0	0	19	0	0	149
PM Peak Pd 1530-1830 Southbound	157	4	0	0	0	0	19	0	0	180
May 2021	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	383	15	2	1	3	0	42	0	0	446
0600 - 2200 Southbound	408	13	0	1	1	0	58	0	0	481
AM Peak Pd 0630-0930 Northbound	29	2	0	0	0	0	3	0	0	34
AM Peak Pd 0630-0930 Southbound	32	0	0	0	0	0	8	0	0	40
IP Peak Pd 0930-1530 Northbound	170	10	2	0	3	0	10	0	0	195
IP Peak Pd 0930-1530 Southbound	175	6	0	0	1	0	23	0	0	205
PM Peak Pd 1530-1830 Northbound	102	3	0	1	0	0	22	0	0	128
PM Peak Pd 1530-1830 Southbound	109	7	0	1	0	0	17	0	0	134
September 2021	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	516	9	4	5	1	0	91	1	0	627
0600 - 2200 Southbound	429	11	0	6	1	0	108	0	0	555
AM Peak Pd 0630-0930 Northbound	41	0	0	0	0	0	10	0	0	51
AM Peak Pd 0630-0930 Southbound	41	0	0	0	0	0	10	0	0	51
IP Peak Pd 0930-1530 Northbound	271	2	4	4	0	0	40	1	0	322
IP Peak Pd 0930-1530 Southbound	216	2	0	3	1	0	52	0	0	274
PM Peak Pd 1530-1830 Northbound	115	4	0	1	1	0	32	0	0	153
PM Peak Pd 1530-1830 Southbound	93	2	0	3	0	0	28	0	0	126

5.2.4 Table 10 indicates that pedestrian flow in February 2021 was greater than September 2021, May 2021 and October 2020. More cyclists appeared in September 2021 than any other survey period.



5.2.6 Table 11 below presents a comparison of the results of the pedestrian flow data on Tay Street, north of High Street (west kerbside).

**Table 11. Tay Street (North of High Street) Pedestrian Flow**

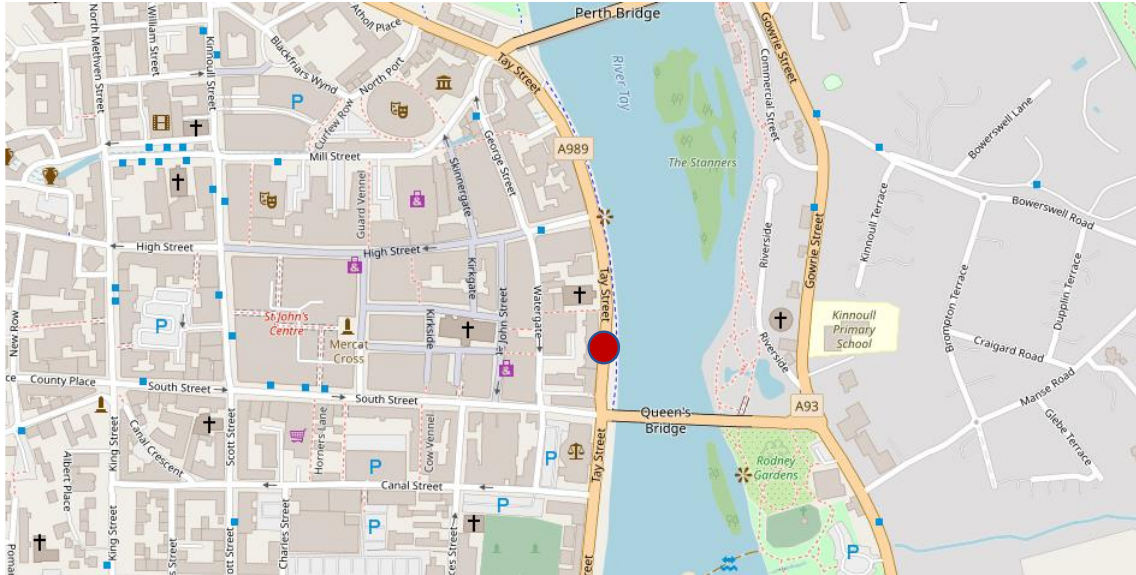


Site 2 Tay Street (North of High Street) West Kerbside										
October 2020	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	116	0	0	1	3	0	2	0	0	122
0600 - 2200 Southbound	169	0	0	7	4	0	0	0	0	180
AM Peak Pd 0700-1000 Northbound	12	0	0	0	0	0	1	0	0	13
AM Peak Pd 0700-1000 Southbound	21	0	0	0	0	0	0	0	0	21
IP Peak Pd 1000-1600 Northbound	65	0	0	1	1	0	1	0	0	68
IP Peak Pd 1000-1600 Southbound	105	0	0	5	4	0	0	0	0	114
PM Peak Pd 1600-1900 Northbound	25	0	0	0	2	0	0	0	0	27
PM Peak Pd 1600-1900 Southbound	24	0	0	2	0	0	0	0	0	26
February 2021	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	102	0	0	1	0	0	6	0	0	109
0600 - 2200 Southbound	139	0	0	0	0	0	2	0	0	141
AM Peak Pd 0700-1000 Northbound	9	0	0	0	0	0	0	0	0	9
AM Peak Pd 0700-1000 Southbound	17	0	0	0	0	0	1	0	0	18
IP Peak Pd 1000-1600 Northbound	50	0	0	1	0	0	2	0	0	53
IP Peak Pd 1000-1600 Southbound	61	0	0	0	0	0	1	0	0	62
PM Peak Pd 1600-1900 Northbound	27	0	0	0	0	0	4	0	0	31
PM Peak Pd 1600-1900 Southbound	35	0	0	0	0	0	0	0	0	35
May 2021	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	90	0	0	0	0	0	2	0	0	92
0600 - 2200 Southbound	134	0	0	0	0	0	3	0	0	137
AM Peak Pd 0700-1000 Northbound	10	0	0	0	0	0	1	0	0	11
AM Peak Pd 0700-1000 Southbound	15	0	0	0	0	0	1	0	0	16
IP Peak Pd 1000-1600 Northbound	35	0	0	0	0	0	0	0	0	35
IP Peak Pd 1000-1600 Southbound	63	0	0	0	0	0	1	0	0	64
PM Peak Pd 1600-1900 Northbound	21	0	0	0	0	0	1	0	0	22
PM Peak Pd 1600-1900 Southbound	24	0	0	0	0	0	1	0	0	25
September 2021	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	212	10	0	4	0	0	3	0	0	229
0600 - 2200 Southbound	265	0	0	2	0	0	4	0	0	271
AM Peak Pd 0700-1000 Northbound	29	0	0	0	0	0	0	0	0	29
AM Peak Pd 0700-1000 Southbound	29	0	0	0	0	0	1	0	0	30
IP Peak Pd 1000-1600 Northbound	80	10	0	3	0	0	3	0	0	96
IP Peak Pd 1000-1600 Southbound	114	0	0	1	0	0	0	0	0	115
PM Peak Pd 1600-1900 Northbound	52	0	0	1	0	0	0	0	0	53
PM Peak Pd 1600-1900 Southbound	79	0	0	0	0	0	2	0	0	81

5.2.7 Table 11 indicates that pedestrian flow in September 2021 was greater than May 2021, February 2021 and October 2020.

5.2.9 Table 12 below presents a comparison of the results of the vehicle flow data on Tay Street, north of South Street.

**Table 12. Tay Street (North of South Street) Vehicular Flow**



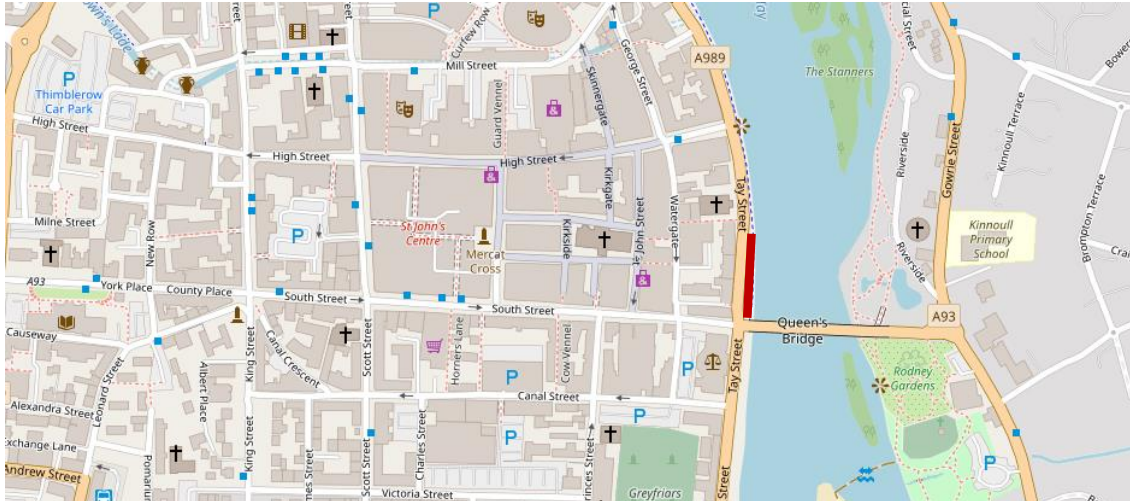
Tay Street (North of South Street)								
October 2020	Car	LGV	OGV1	OGV2	Bus	Coach	Motorcycle	Total
0600 - 2200 Northbound	1994	363	132	31	68	4	6	2598
0600 - 2200 Southbound	2149	366	139	81	0	8	6	2749
AM Peak Pd 0630-0930 Northbound	253	98	41	12	12	1	0	417
AM Peak Pd 0630-0930 Southbound	316	100	34	13	0	3	0	466
IP Peak Pd 0930-1530 Northbound	975	179	67	14	36	2	3	1276
IP Peak Pd 0930-1530 Southbound	976	171	86	46	0	3	3	1285
PM Peak Pd 1530-1830 Northbound	477	59	22	1	12	0	1	572
PM Peak Pd 1530-1830 Southbound	551	60	14	13	0	2	3	643
February 2021	Car	LGV	OGV1	OGV2	Bus	Coach	Motorcycle	Total
0600 - 2200 Northbound	1603	363	104	26	67	1	6	2170
0600 - 2200 Southbound	1847	380	135	49	1	4	3	2419
AM Peak Pd 0630-0930 Northbound	188	87	35	8	12	0	2	332
AM Peak Pd 0630-0930 Southbound	278	90	39	10	1	1	1	420
IP Peak Pd 0930-1530 Northbound	807	190	54	13	36	1	2	1103
IP Peak Pd 0930-1530 Southbound	857	188	72	19	0	2	2	1140
PM Peak Pd 1530-1830 Northbound	420	67	10	4	12	0	2	515
PM Peak Pd 1530-1830 Southbound	455	82	16	11	0	1	0	565
May 2021	Car	LGV	OGV1	OGV2	Bus	Coach	Motorcycle	Total
0600 - 2200 Northbound	2154	488	140	29	67	3	9	2890
0600 - 2200 Southbound	2415	463	139	53	0	8	3	3081
AM Peak Pd 0630-0930 Northbound	279	104	38	13	12	0	2	448
AM Peak Pd 0630-0930 Southbound	352	103	41	10	0	2	0	508
IP Peak Pd 0930-1530 Northbound	1053	245	81	12	36	3	0	1430
IP Peak Pd 0930-1530 Southbound	1068	233	80	28	0	5	2	1416
PM Peak Pd 1530-1830 Northbound	552	103	19	0	12	0	5	691
PM Peak Pd 1530-1830 Southbound	599	89	11	14	0	0	1	714
September 2021	Car	LGV	OGV1	OGV2	Bus	Coach	Motorcycle	Total
0600 - 2200 Northbound	2170	393	128	21	70	13	32	2827
0600 - 2200 Southbound	2537	399	133	34	0	16	21	3140
AM Peak Pd 0630-0930 Northbound	266	95	46	7	12	2	1	429
AM Peak Pd 0630-0930 Southbound	357	100	33	11	0	7	5	513
IP Peak Pd 0930-1530 Northbound	959	184	66	11	37	7	11	1275
IP Peak Pd 0930-1530 Southbound	1071	187	82	18	0	6	9	1373
PM Peak Pd 1530-1830 Northbound	516	79	12	0	14	3	13	637
PM Peak Pd 1530-1830 Southbound	666	83	14	4	0	3	3	773



5.2.10 Table 12 indicates that vehicular flow in May 2021 and September 2021 were consistent and both were greater than February 2021 and October 2020.

5.2.12 Table 13 below presents a comparison of the results of the pedestrian flow data on Tay Street, north of South Street (east kerbside).

**Table 13. Tay Street (North of South Street) Pedestrian Flow**

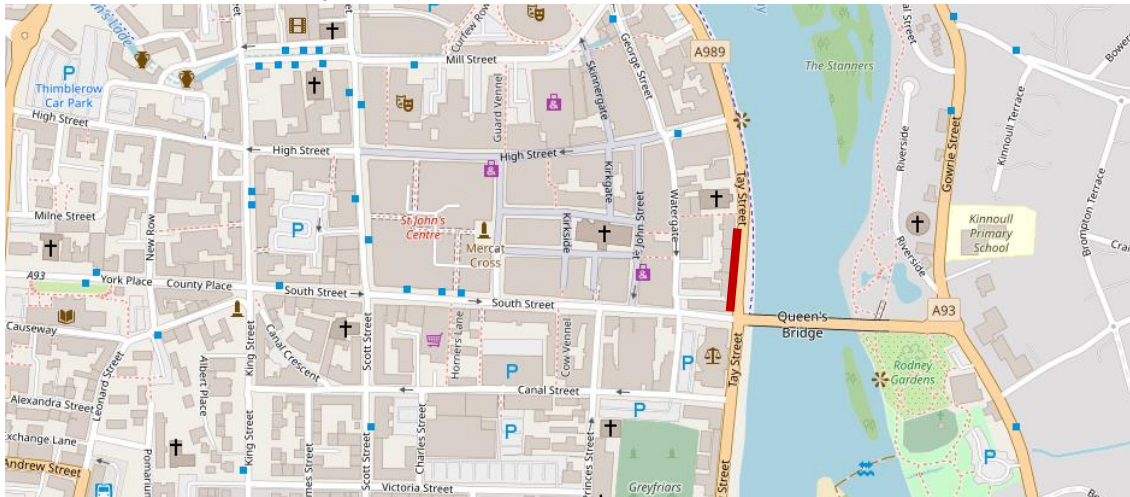


Site 3 Tay Street (North of South Street) East Kerbside										
October 2020	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	247	4	1	0	0	0	46	0	0	298
0600 - 2200 Southbound	307	5	0	0	2	0	45	0	0	359
AM Peak Pd 0700-1000 Northbound	36	4	0	0	0	0	5	0	0	45
AM Peak Pd 0700-1000 Southbound	27	0	0	0	0	0	10	0	0	37
IP Peak Pd 1000-1600 Northbound	140	0	1	0	0	0	29	0	0	170
IP Peak Pd 1000-1600 Southbound	166	0	0	0	2	0	23	0	0	191
PM Peak Pd 1600-1900 Northbound	47	0	0	0	0	0	8	0	0	55
PM Peak Pd 1600-1900 Southbound	73	5	0	0	0	0	6	0	0	84
February 2021	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	433	21	0	2	3	0	53	1	0	513
0600 - 2200 Southbound	545	8	3	1	1	0	49	1	0	608
AM Peak Pd 0700-1000 Northbound	44	0	0	0	0	0	5	0	0	49
AM Peak Pd 0700-1000 Southbound	41	0	0	0	0	0	5	0	0	46
IP Peak Pd 1000-1600 Northbound	216	4	0	2	3	0	27	0	0	252
IP Peak Pd 1000-1600 Southbound	288	6	0	1	1	0	26	0	0	322
PM Peak Pd 1600-1900 Northbound	104	10	0	0	0	0	17	1	0	132
PM Peak Pd 1600-1900 Southbound	148	2	3	0	0	0	15	1	0	169
May 2021	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	285	7	0	0	1	0	30	0	0	323
0600 - 2200 Southbound	364	5	0	0	0	0	35	0	0	404
AM Peak Pd 0700-1000 Northbound	23	2	0	0	0	0	4	0	0	29
AM Peak Pd 0700-1000 Southbound	27	0	0	0	0	0	6	0	0	33
IP Peak Pd 1000-1600 Northbound	122	3	0	0	1	0	9	0	0	135
IP Peak Pd 1000-1600 Southbound	145	0	0	0	0	0	17	0	0	162
PM Peak Pd 1600-1900 Northbound	58	2	0	0	0	0	13	0	0	73
PM Peak Pd 1600-1900 Southbound	89	5	0	0	0	0	6	0	0	100
September 2021	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	377	6	4	0	5	0	71	2	0	465
0600 - 2200 Southbound	448	2	4	1	3	0	86	3	0	547
AM Peak Pd 0700-1000 Northbound	44	0	0	0	0	0	6	0	0	50
AM Peak Pd 0700-1000 Southbound	39	0	0	1	0	0	8	0	0	48
IP Peak Pd 1000-1600 Northbound	183	4	4	0	4	0	34	2	0	231
IP Peak Pd 1000-1600 Southbound	217	0	3	0	3	0	39	0	0	262
PM Peak Pd 1600-1900 Northbound	62	2	0	0	0	0	22	0	0	86
PM Peak Pd 1600-1900 Southbound	99	2	1	0	0	0	25	3	0	130

5.2.13 Table 13 indicates that pedestrian flow in February 2021 was greater than September 2021, May 2021 and October 2020.

5.2.15 Table 14 below presents a comparison of the results of the pedestrian flow data on Tay Street, north of South Street (west kerbside).

**Table 14. Tay Street (North of South Street) Pedestrian Flow**

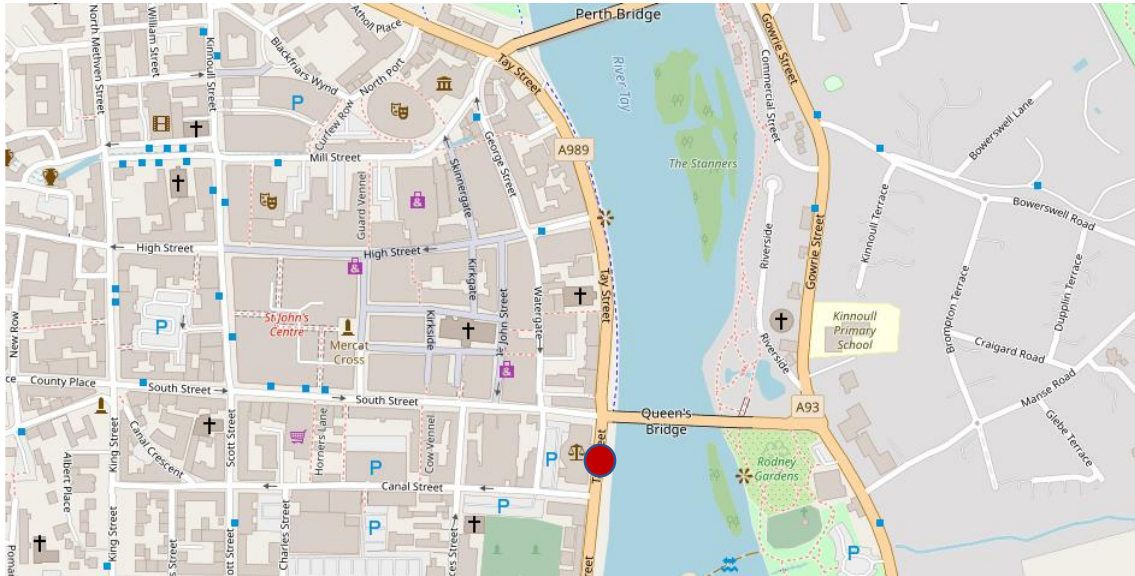


Site 4 Tay Street (North of South Street) West Kerbside										
October 2020	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	148	0	0	0	2	0	2	1	0	153
0600 - 2200 Southbound	152	0	0	0	2	0	2	0	0	156
AM Peak Pd 0700-1000 Northbound	35	0	0	0	0	0	2	0	0	37
AM Peak Pd 0700-1000 Southbound	13	0	0	0	0	0	0	0	0	13
IP Peak Pd 1000-1600 Northbound	66	0	0	0	1	0	0	1	0	68
IP Peak Pd 1000-1600 Southbound	81	0	0	0	2	0	0	0	0	83
PM Peak Pd 1600-1900 Northbound	30	0	0	0	1	0	0	0	0	31
PM Peak Pd 1600-1900 Southbound	22	0	0	0	0	0	1	0	0	23
February 2021	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	161	0	1	0	0	0	6	0	0	168
0600 - 2200 Southbound	174	2	0	1	0	0	8	0	0	185
AM Peak Pd 0700-1000 Northbound	24	0	0	0	0	0	0	0	0	24
AM Peak Pd 0700-1000 Southbound	15	0	0	0	0	0	1	0	0	16
IP Peak Pd 1000-1600 Northbound	77	0	0	0	0	0	1	0	0	78
IP Peak Pd 1000-1600 Southbound	82	0	0	1	0	0	3	0	0	86
PM Peak Pd 1600-1900 Northbound	41	0	1	0	0	0	5	0	0	47
PM Peak Pd 1600-1900 Southbound	55	2	0	0	0	0	4	0	0	61
May 2021	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	208	10	0	1	1	0	3	0	0	223
0600 - 2200 Southbound	188	10	0	0	1	0	1	2	0	202
AM Peak Pd 0700-1000 Northbound	28	0	0	0	0	0	1	0	0	29
AM Peak Pd 0700-1000 Southbound	13	0	0	0	0	0	0	0	0	13
IP Peak Pd 1000-1600 Northbound	95	0	0	1	1	0	0	0	0	97
IP Peak Pd 1000-1600 Southbound	104	0	0	0	1	0	0	0	0	105
PM Peak Pd 1600-1900 Northbound	55	10	0	0	0	0	1	0	0	66
PM Peak Pd 1600-1900 Southbound	39	10	0	0	0	0	1	1	0	51
September 2021	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	294	4	0	3	0	0	9	0	0	310
0600 - 2200 Southbound	294	2	0	0	2	0	6	0	0	304
AM Peak Pd 0700-1000 Northbound	33	0	0	0	0	0	2	0	0	35
AM Peak Pd 0700-1000 Southbound	30	0	0	0	0	0	1	0	0	31
IP Peak Pd 1000-1600 Northbound	142	2	0	1	0	0	4	0	0	149
IP Peak Pd 1000-1600 Southbound	129	0	0	0	2	0	3	0	0	134
PM Peak Pd 1600-1900 Northbound	67	0	0	1	0	0	3	0	0	71
PM Peak Pd 1600-1900 Southbound	75	2	0	0	0	0	2	0	0	79

5.2.16 Table 14 indicates that pedestrian flow in September 2021 was greater than May 2021, February 2021 and October 2020.

Table 15 below presents a comparison of the results of the vehicle flow data on Tay Street, south of South Street.

**Table 15. Tay Street (South of South Street) Vehicular Flow**



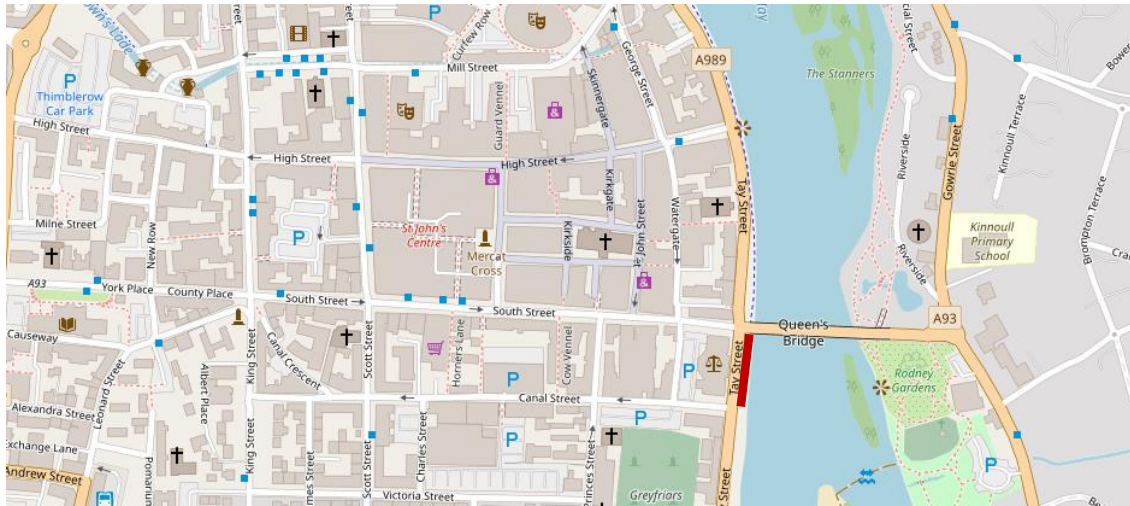
Tay Street (South of South Street)								
October 2020	Car	LGV	OGV1	OGV2	Bus	Coach	Motorcycle	Total
0600 - 2200 Northbound	2109	379	158	48	0	11	6	2711
0600 - 2200 Southbound	5372	947	311	133	23	54	14	6854
AM Peak Pd 0630-0930 Northbound	336	97	43	14	0	3	0	493
AM Peak Pd 0630-0930 Southbound	1088	242	62	30	9	13	0	1444
IP Peak Pd 0930-1530 Northbound	901	185	80	26	0	5	3	1200
IP Peak Pd 0930-1530 Southbound	2504	443	188	69	6	25	9	3244
PM Peak Pd 1530-1830 Northbound	567	66	31	2	0	0	1	667
PM Peak Pd 1530-1830 Southbound	1187	182	43	28	4	12	4	1460
February 2021	Car	LGV	OGV1	OGV2	Bus	Coach	Motorcycle	Total
0600 - 2200 Northbound	1789	420	165	48	0	2	9	2433
0600 - 2200 Southbound	4388	872	278	94	26	26	9	5693
AM Peak Pd 0630-0930 Northbound	271	106	57	15	0	0	0	449
AM Peak Pd 0630-0930 Southbound	885	250	69	21	10	4	2	1241
IP Peak Pd 0930-1530 Northbound	764	197	88	23	0	1	6	1079
IP Peak Pd 0930-1530 Southbound	1986	403	157	43	6	13	4	2612
PM Peak Pd 1530-1830 Northbound	534	98	14	6	0	0	3	655
PM Peak Pd 1530-1830 Southbound	1007	178	39	16	6	5	2	1253
May 2021	Car	LGV	OGV1	OGV2	Bus	Coach	Motorcycle	Total
0600 - 2200 Northbound	2320	507	174	48	0	6	11	3066
0600 - 2200 Southbound	5748	1133	338	99	25	45	22	7410
AM Peak Pd 0630-0930 Northbound	346	115	47	17	0	1	0	526
AM Peak Pd 0630-0930 Southbound	1149	260	84	17	10	11	1	1532
IP Peak Pd 0930-1530 Northbound	941	230	103	26	0	3	2	1305
IP Peak Pd 0930-1530 Southbound	2496	554	200	47	7	20	5	3329
PM Peak Pd 1530-1830 Northbound	700	118	20	1	0	1	8	848
PM Peak Pd 1530-1830 Southbound	1336	223	46	25	4	7	11	1652
September 2021	Car	LGV	OGV1	OGV2	Bus	Coach	Motorcycle	Total
0600 - 2200 Northbound	2527	437	155	45	0	17	29	3210
0600 - 2200 Southbound	6086	982	335	107	27	53	70	7660
AM Peak Pd 0630-0930 Northbound	372	87	48	11	0	3	0	521
AM Peak Pd 0630-0930 Southbound	1177	239	76	19	9	15	16	1551
IP Peak Pd 0930-1530 Northbound	997	199	87	21	0	9	12	1325
IP Peak Pd 0930-1530 Southbound	2494	486	203	62	11	23	29	3308
PM Peak Pd 1530-1830 Northbound	662	109	15	2	0	0	10	798
PM Peak Pd 1530-1830 Southbound	1413	192	46	21	3	11	11	1697

5.2.18 Table 15 indicates that vehicular flow in September 2021 was greater than May 2021, February 2021 and October 2020.



5.2.20 Table 16 below presents a comparison of the results of the pedestrian flow data on Tay Street, south of South Street (east kerbside). Please note: west kerbside was omitted from the survey programme due to proximity with Court House.

**Table 16. Tay Street (South of South Street) Pedestrian Flow**



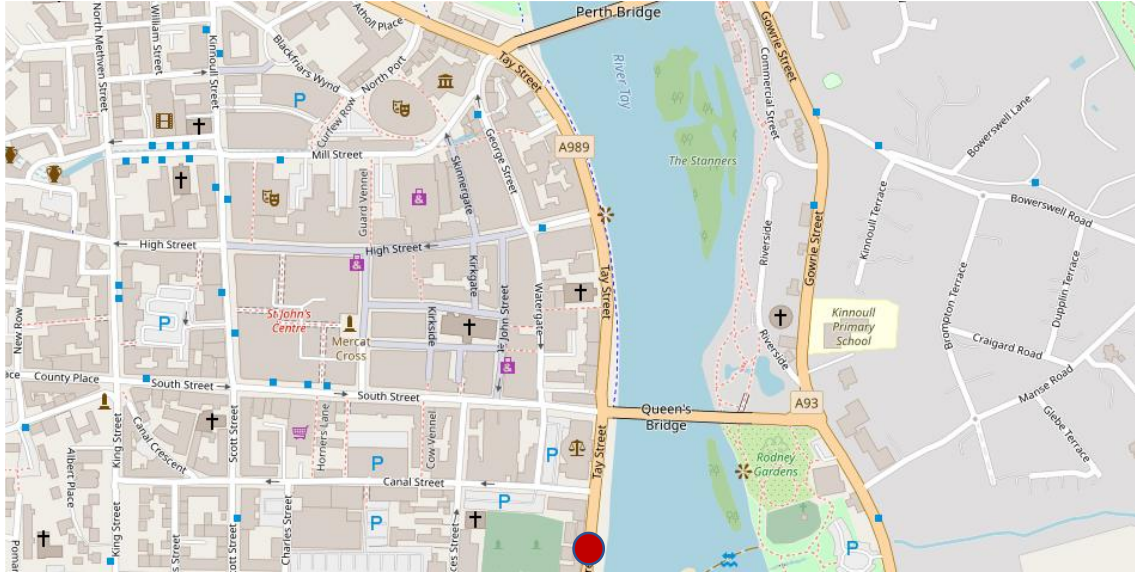
Site 5 Tay Street (South of South Street) East Kerbside										
October 2020	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	197	11	7	1	0	0	45	0	0	261
0600 - 2200 Southbound	219	9	10	2	2	0	41	1	0	284
AM Peak Pd 0700-1000 Northbound	22	3	4	0	0	0	4	0	0	33
AM Peak Pd 0700-1000 Southbound	19	0	4	0	0	0	10	0	0	33
IP Peak Pd 1000-1600 Northbound	116	8	3	1	0	0	29	0	0	157
IP Peak Pd 1000-1600 Southbound	114	6	5	2	2	0	25	0	0	154
PM Peak Pd 1600-1900 Northbound	34	0	0	0	0	0	7	0	0	41
PM Peak Pd 1600-1900 Southbound	43	3	1	0	0	0	1	0	0	48
February 2021	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	382	19	0	0	3	0	49	1	0	454
0600 - 2200 Southbound	392	22	2	1	4	0	54	0	0	475
AM Peak Pd 0700-1000 Northbound	44	0	0	0	0	0	5	0	0	49
AM Peak Pd 0700-1000 Southbound	28	0	0	0	0	0	7	0	0	35
IP Peak Pd 1000-1600 Northbound	191	7	0	0	2	0	31	0	0	231
IP Peak Pd 1000-1600 Southbound	207	15	2	1	3	0	28	0	0	256
PM Peak Pd 1600-1900 Northbound	89	10	0	0	1	0	13	1	0	114
PM Peak Pd 1600-1900 Southbound	97	5	0	0	1	0	16	0	0	119
May 2021	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	265	3	0	1	1	0	29	0	0	299
0600 - 2200 Southbound	270	4	0	0	0	0	34	0	0	308
AM Peak Pd 0700-1000 Northbound	25	0	0	0	0	0	5	0	0	30
AM Peak Pd 0700-1000 Southbound	25	0	0	0	0	0	9	0	0	34
IP Peak Pd 1000-1600 Northbound	108	0	0	0	1	0	8	0	0	117
IP Peak Pd 1000-1600 Southbound	97	0	0	0	0	0	12	0	0	109
PM Peak Pd 1600-1900 Northbound	69	3	0	1	0	0	11	0	0	84
PM Peak Pd 1600-1900 Southbound	72	4	0	0	0	0	3	0	0	79
September 2021	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	297	9	5	0	4	0	69	2	0	386
0600 - 2200 Southbound	334	7	4	0	2	0	77	2	0	426
AM Peak Pd 0700-1000 Northbound	28	2	0	0	0	0	9	0	0	39
AM Peak Pd 0700-1000 Southbound	32	0	0	0	0	0	9	0	0	41
IP Peak Pd 1000-1600 Northbound	144	0	5	0	4	0	30	2	0	185
IP Peak Pd 1000-1600 Southbound	162	2	4	0	2	0	30	0	0	200
PM Peak Pd 1600-1900 Northbound	61	2	0	0	0	0	26	0	0	89
PM Peak Pd 1600-1900 Southbound	78	0	0	0	0	0	24	2	0	104

5.2.21 Table 16 indicates that pedestrian flow in February 2021 was greater than September 2021, May 2021 and October 2020.



5.2.23 Table 17 below presents a comparison of the results of the vehicle flow data on Tay Street, north of Marshall Place.

**Table 17. Tay Street (North of Marshall Place) Vehicular Flow**

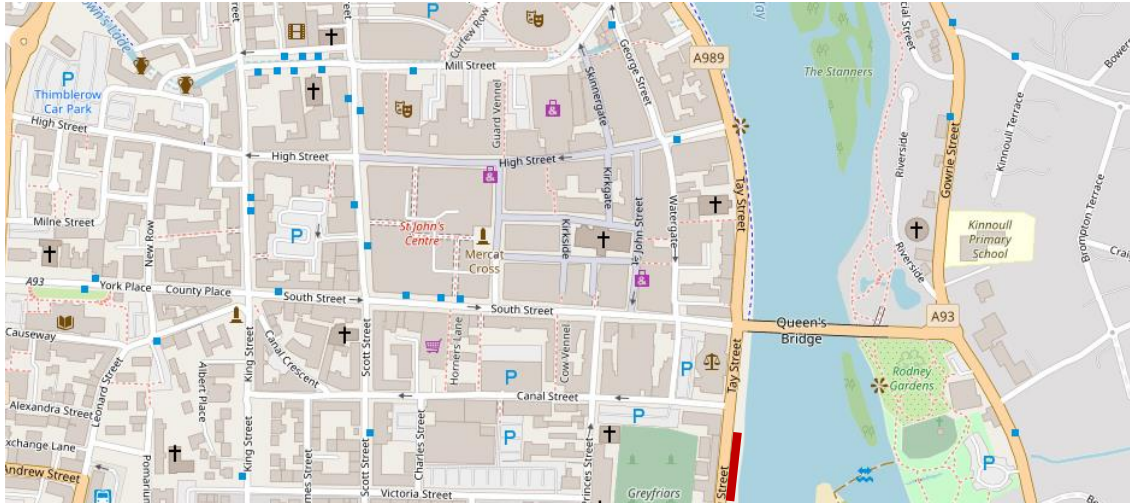


Tay Street (North of Marshall Place)								
October 2020	Car	LGV	OGV1	OGV2	Bus	Coach	Motorcycle	Total
0600 - 2200 Northbound	2219	397	163	50	0	11	6	2846
0600 - 2200 Southbound	3616	699	231	60	0	17	8	4631
AM Peak Pd 0630-0930 Northbound	351	104	44	15	0	3	0	517
AM Peak Pd 0630-0930 Southbound	751	183	43	16	0	7	0	1000
IP Peak Pd 0930-1530 Northbound	956	191	85	27	0	5	3	1267
IP Peak Pd 0930-1530 Southbound	1625	330	142	30	0	7	5	2139
PM Peak Pd 1530-1830 Northbound	593	68	31	2	0	0	1	695
PM Peak Pd 1530-1830 Southbound	813	136	35	11	0	3	2	1000
February 2021	Car	LGV	OGV1	OGV2	Bus	Coach	Motorcycle	Total
0600 - 2200 Northbound	1830	414	168	48	0	2	9	2471
0600 - 2200 Southbound	3206	663	214	65	0	2	8	4158
AM Peak Pd 0630-0930 Northbound	281	98	57	14	0	0	0	450
AM Peak Pd 0630-0930 Southbound	681	191	56	13	0	0	2	943
IP Peak Pd 0930-1530 Northbound	791	200	89	23	0	1	6	1110
IP Peak Pd 0930-1530 Southbound	1451	313	116	32	0	1	4	1917
PM Peak Pd 1530-1830 Northbound	546	91	16	7	0	0	3	663
PM Peak Pd 1530-1830 Southbound	741	130	32	12	0	1	2	918
May 2021	Car	LGV	OGV1	OGV2	Bus	Coach	Motorcycle	Total
0600 - 2200 Northbound	2397	520	180	48	0	7	13	3165
0600 - 2200 Southbound	4005	866	264	55	0	16	11	5217
AM Peak Pd 0630-0930 Northbound	351	122	50	17	0	1	0	541
AM Peak Pd 0630-0930 Southbound	836	213	66	10	0	5	1	1131
IP Peak Pd 0930-1530 Northbound	998	234	107	26	0	4	2	1371
IP Peak Pd 0930-1530 Southbound	1647	428	156	30	0	8	2	2271
PM Peak Pd 1530-1830 Northbound	722	122	19	1	0	1	10	875
PM Peak Pd 1530-1830 Southbound	956	162	38	15	0	1	5	1177
September 2021	Car	LGV	OGV1	OGV2	Bus	Coach	Motorcycle	Total
0600 - 2200 Northbound	2624	447	165	46	0	17	26	3325
0600 - 2200 Southbound	4166	712	246	64	0	20	49	5257
AM Peak Pd 0630-0930 Northbound	387	95	51	12	0	3	0	548
AM Peak Pd 0630-0930 Southbound	851	177	59	14	0	7	14	1122
IP Peak Pd 0930-1530 Northbound	1021	207	93	21	0	9	12	1363
IP Peak Pd 0930-1530 Southbound	1643	355	152	40	0	9	14	2213
PM Peak Pd 1530-1830 Northbound	732	105	16	2	0	1	9	865
PM Peak Pd 1530-1830 Southbound	967	126	28	8	0	4	7	1140

5.2.24 Table 17 indicates that vehicular flow in May 2021 and September 2021 were relatively consistent, and both were greater than February 2021 and October 2020.

5.2.26 Table 18 below presents a comparison of the results of the pedestrian flow data on Tay Street, north of Marshall Place (east kerbside).

**Table 18. Tay Street (North of Marshall Place) Pedestrian Flow**

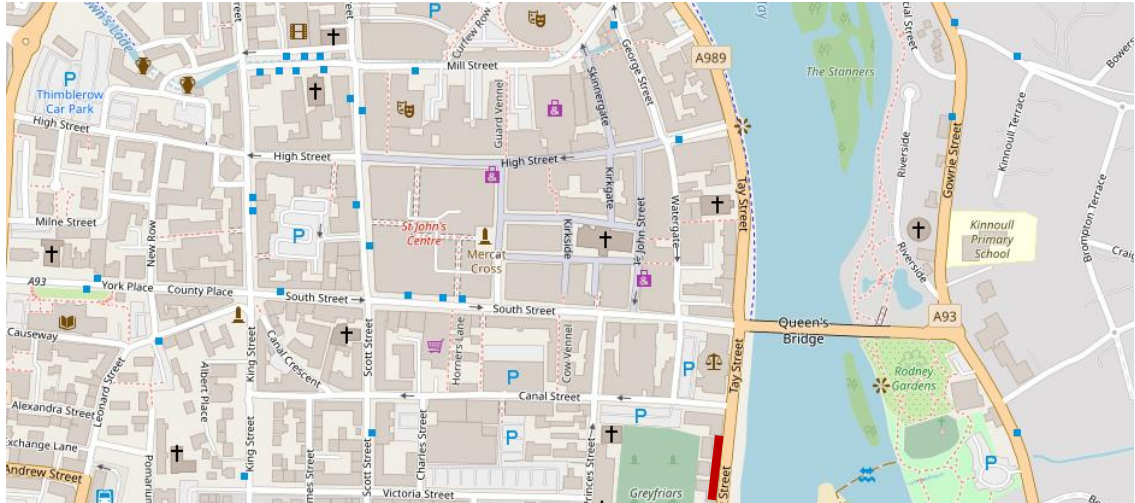


Site 6 Tay Street (North of Marshall Place) East Kerbside										
October 2020	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	127	4	4	1	0	0	33	0	0	169
0600 - 2200 Southbound	133	3	2	0	1	0	29	0	0	168
AM Peak Pd 0700-1000 Northbound	17	0	0	0	0	0	4	0	0	21
AM Peak Pd 0700-1000 Southbound	10	0	0	0	0	0	8	0	0	18
IP Peak Pd 1000-1600 Northbound	81	4	4	1	0	0	25	0	0	115
IP Peak Pd 1000-1600 Southbound	82	3	2	0	1	0	17	0	0	105
PM Peak Pd 1600-1900 Northbound	22	0	0	0	0	0	2	0	0	24
PM Peak Pd 1600-1900 Southbound	18	0	0	0	0	0	1	0	0	19
February 2021	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	252	15	2	1	0	0	32	0	0	302
0600 - 2200 Southbound	205	7	4	0	1	0	36	1	0	254
AM Peak Pd 0700-1000 Northbound	33	0	0	0	0	0	5	0	0	38
AM Peak Pd 0700-1000 Southbound	14	0	1	0	0	0	6	0	0	21
IP Peak Pd 1000-1600 Northbound	141	11	1	1	0	0	15	0	0	169
IP Peak Pd 1000-1600 Southbound	100	4	2	0	1	0	18	0	0	125
PM Peak Pd 1600-1900 Northbound	43	4	0	0	0	0	9	0	0	56
PM Peak Pd 1600-1900 Southbound	69	3	1	0	0	0	10	0	0	83
May 2021	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	210	0	0	0	0	0	22	0	0	232
0600 - 2200 Southbound	197	4	0	0	0	0	24	0	0	225
AM Peak Pd 0700-1000 Northbound	25	0	0	0	0	0	4	0	0	29
AM Peak Pd 0700-1000 Southbound	13	0	0	0	0	0	6	0	0	19
IP Peak Pd 1000-1600 Northbound	82	0	0	0	0	0	5	0	0	87
IP Peak Pd 1000-1600 Southbound	58	0	0	0	0	0	9	0	0	67
PM Peak Pd 1600-1900 Northbound	47	0	0	0	0	0	8	0	0	55
PM Peak Pd 1600-1900 Southbound	54	4	0	0	0	0	3	0	0	61
September 2021	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	362	2	2	0	1	0	16	0	0	383
0600 - 2200 Southbound	335	9	2	2	1	0	21	0	0	370
AM Peak Pd 0700-1000 Northbound	22	0	1	0	0	0	2	0	0	25
AM Peak Pd 0700-1000 Southbound	53	2	1	0	0	0	1	0	0	57
IP Peak Pd 1000-1600 Northbound	165	0	0	0	1	0	8	0	0	174
IP Peak Pd 1000-1600 Southbound	179	0	0	0	1	0	10	0	0	190
PM Peak Pd 1600-1900 Northbound	93	2	1	0	0	0	3	0	0	99
PM Peak Pd 1600-1900 Southbound	64	4	0	2	0	0	9	0	0	79

5.2.27 Table 18 indicates that pedestrian flow in September 2021 were greater than May 2021, February 2021 and October 2020.

5.2.29 Table 19 below presents a comparison of the results of the pedestrian flow data on Tay Street, north of Marshall Place (west kerbside).

**Table 19. Tay Street (North of Marshall Place) Pedestrian Flow**



Site 7 Tay Street (North of Marshall Place) West Kerbside										
October 2020	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	271	2	2	0	1	0	7	1	0	284
0600 - 2200 Southbound	255	0	3	0	3	0	6	0	0	267
AM Peak Pd 0700-1000 Northbound	66	0	0	0	0	0	1	0	0	67
AM Peak Pd 0700-1000 Southbound	28	0	0	0	0	0	2	0	0	30
IP Peak Pd 1000-1600 Northbound	123	2	2	0	1	0	3	1	0	132
IP Peak Pd 1000-1600 Southbound	135	0	2	0	3	0	2	0	0	142
PM Peak Pd 1600-1900 Northbound	52	0	0	0	0	0	2	0	0	54
PM Peak Pd 1600-1900 Southbound	56	0	1	0	0	0	0	0	0	57
February 2021	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	308	0	2	0	1	0	9	0	0	320
0600 - 2200 Southbound	324	11	19	0	0	0	6	0	0	360
AM Peak Pd 0700-1000 Northbound	46	0	0	0	0	0	0	0	0	46
AM Peak Pd 0700-1000 Southbound	20	0	3	0	0	0	1	0	0	24
IP Peak Pd 1000-1600 Northbound	149	0	0	0	1	0	4	0	0	154
IP Peak Pd 1000-1600 Southbound	169	11	16	0	0	0	4	0	0	200
PM Peak Pd 1600-1900 Northbound	83	0	2	0	0	0	4	0	0	89
PM Peak Pd 1600-1900 Southbound	81	0	0	0	0	0	1	0	0	82
May 2021	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	264	16	0	2	1	0	7	0	0	290
0600 - 2200 Southbound	284	8	0	5	1	0	2	0	0	300
AM Peak Pd 0700-1000 Northbound	46	0	0	0	0	0	0	0	0	46
AM Peak Pd 0700-1000 Southbound	24	0	0	0	0	0	0	0	0	24
IP Peak Pd 1000-1600 Northbound	115	3	0	2	1	0	1	0	0	122
IP Peak Pd 1000-1600 Southbound	127	3	0	4	1	0	1	0	0	136
PM Peak Pd 1600-1900 Northbound	61	13	0	0	0	0	5	0	0	79
PM Peak Pd 1600-1900 Southbound	84	5	0	1	0	0	1	0	0	91
September 2021	Adult	Adult & Child	Child	Elderly	Disabled	Cyclist on Road	Pavement Cyclist on Bike	Pavement Cyclist on Foot	Horses	Total
0600 - 2200 Northbound	188	4	2	0	2	0	49	2	0	247
0600 - 2200 Southbound	219	8	0	1	1	0	48	1	0	278
AM Peak Pd 0700-1000 Northbound	13	0	0	0	0	0	5	0	0	18
AM Peak Pd 0700-1000 Southbound	29	0	0	0	0	0	7	0	0	36
IP Peak Pd 1000-1600 Northbound	79	0	0	0	2	0	17	0	0	98
IP Peak Pd 1000-1600 Southbound	106	0	0	0	1	0	22	1	0	130
PM Peak Pd 1600-1900 Northbound	56	2	2	0	0	0	19	2	0	81
PM Peak Pd 1600-1900 Southbound	45	6	0	1	0	0	15	0	0	67

5.2.30 Table 19 indicates that pedestrian flow in February 2021 was greater than September 2021, May 2021 and October 2020.



## 6. MODE SHARE SURVEYS

### 6.1 Rail Station Counts

6.1.1 Entry and exit counts were undertaken at both the front and rear entrances of Perth Railway Station on Tuesday 4<sup>th</sup> May 2021. Surveys were undertaken between 06:00 and 22:00.

6.1.2 The results were classified by the following:

- Adult
- Adult & Child
- Child
- Elderly
- Disabled
- Cyclist on Bike
- Cyclist on Foot.

6.1.3 Table 20 presents a summary of the entry and exit counts.

**Table 20. Perth Railway Station Entry/Exit Counts**

Perth Rail Stn	Station Frnt Entrance	Station Front Exit	Station Rear Entrance	Station Rear Exit	Total Entry	Total Exit
06:00 - 22:00	504	486	240	203	744	689
06:30 - 09:30	106	85	19	38	125	123
09:30 - 15:30	227	212	98	102	325	314
15:30 - 18:30	114	134	57	26	171	160

6.1.4 Table 20 shows that over the 16 hour period (0600-2200hrs), there was a total of 744 pedestrians entering Perth Railway Station and 689 pedestrians exiting:

- In the AM peak period (06:30 – 09:30), 125 pedestrians entered the station and 123 departed the station.
- In the Off peak period (09:30 – 15:30), 325 pedestrians entered the station and 314 departed the station.
- In the PM peak period (15:30 – 18:30), 171 pedestrians entered the station and 160 departed the station.



## 6.2 Bus Occupancy Counts

- 6.2.1 Bus occupancy surveys were undertaken inbound towards Perth and outbound from Perth at each of the 14 classified link count sites, as shown in Figure 3.
- 6.2.2 Bus occupancy data was gathered for one day, Tuesday 4<sup>th</sup> May 2021, between 06:00 and 22:00.
- 6.2.3 The methodology used to gather the bus occupancy required manual enumerators to review the footage at each site – i.e. manual check and note if the bus was empty, ¼ full, ½ full, ¾ full, full or full with standing passengers.
- 6.2.4 The capacity of vehicles was the same as those used in a previous study for TACTRAN [*Mode Share Surveys 2019 – Draft, SYSTRA, Ref. GB01T19A57/4, 11/07/19*], namely:
- Midi bus 15 passengers
  - Mini bus 15 passengers
  - Single decker bus 30 passengers
  - Double decker bus 72 passengers
  - Coach 55 passengers
  - Mini Coach 14 passengers
  - Midi Coach 14 passengers
  - School Bus 40 passengers.
- 6.2.5 Vehicles where the occupancy was not visible (e.g. where coaches had dark tinted windows) were excluded from the analysis, and similarly where vehicles were subsequently observed at Perth Bus Station/city centre bus stops, these were excluded from the analysis to remove any element of double counting.
- 6.2.6 Table 21 below presents the bus occupancy at each of the cordon points around Perth city centre in the AM peak period (06:30 – 09:30).

**Table 21. Bus & Coach Cordon Occupancy (AM Peak 06:30 – 09:30)**

AM Peak Period (06:30-09:30)	Inbound				Outbound			
	Mode	Total Vehicles	Total Passengers	Average Occupancy	Mode	Total Vehicles	Total Passengers	Average Occupancy
CC1	Bus	31	266	9	Bus	28	208	7
	Coach	1	4	4	Coach	3	17	6
CC3	Bus	11	221	20	Bus	1	18	18
	Coach	0	0	0	Coach	0	0	0
CC4	Bus	9	99	11	Bus	2	26	13
	Coach	2	35	17	Coach	2	0	0
CC5	Bus	10	206	21	Bus	5	33	7
	Coach	4	14	4	Coach	4	4	1
CC6	Bus	0	0	0	Bus	0	0	0
	Coach	3	14	5	Coach	2	14	7
CC7	Bus	1	15	15	Bus	0	0	0
	Coach	2	4	2	Coach	2	7	4
CC8	Bus	8	60	8	Bus	9	68	8
	Coach	0	0	0	Coach	0	0	0
CC9	Bus	8	68	8	Bus	8	68	8
	Coach	0	0	0	Coach	0	0	0
CC10	Bus	18	119	7	Bus	33	413	13
	Coach	1	0	0	Coach	2	0	0
CC11	Bus	18	311	17	Bus	10	71	7
	Coach	1	4	4	Coach	5	14	3
CC12	Bus	19	134	7	Bus	18	134	7
	Coach	1	0	0	Coach	3	4	1
CC13	Bus	7	26	4	Bus	10	55	5
	Coach	1	4	4	Coach	1	0	0
CC14	Bus	1	8	8	Bus	1	8	8
	Coach	4	11	3	Coach	3	11	4
CC15	Bus	5	59	12	Bus	4	26	6
	Coach	4	35	9	Coach	2	4	2
CC16	Bus	0	0	0	Bus	0	0	0
	Coach	1	0	0	Coach	1	4	4
CC17	Bus	16	215	13	Bus	13	168	13
	Coach	1	0	0	Coach	2	21	10

6.2.7 The average inbound bus occupancy was 10 passengers and the average inbound coach had 3 passengers onboard. In the outbound direction, the average bus occupancy was 8 passengers and the average coach occupancy was 3 passengers.

6.2.8 Table 22 presents the same information for the Inter peak period (09:30 – 15:30).

**Table 22. Bus & Coach Cordon Occupancy (Inter Peak 09:30 – 15:30)**

Inter Peak Period (09:30-15:30)	Inbound				Outbound			
	Mode	Total Vehicles	Total Passengers	Average Occupancy	Mode	Total Vehicles	Total Passengers	Average Occupancy
CC1	Bus	62	628	10	Bus	59	747	13
	Coach	5	7	1	Coach	10	21	2
CC3	Bus	14	123	9	Bus	9	256	28
	Coach	8	21	3	Coach	2	4	2
CC4	Bus	14	141	10	Bus	9	160	18
	Coach	8	14	2	Coach	6	0	0
CC5	Bus	6	74	12	Bus	17	283	17
	Coach	2	4	2	Coach	2	4	2
CC6	Bus	0	0	0	Bus	0	0	0
	Coach	5	14	3	Coach	4	14	4
CC7	Bus	0	0	0	Bus	0	0	0
	Coach	2	7	4	Coach	2	4	2
CC8	Bus	23	180	8	Bus	25	173	7
	Coach	2	7	0	Coach	0	0	0
CC9	Bus	23	158	7	Bus	23	173	8
	Coach	0	0	0	Coach	0	0	0
CC10	Bus	46	515	11	Bus	42	244	6
	Coach	2	0	0	Coach	2	4	2
CC11	Bus	26	312	12	Bus	30	464	15
	Coach	6	11	2	Coach	5	21	4
CC12	Bus	35	279	8	Bus	37	413	11
	Coach	4	0	0	Coach	2	4	2
CC13	Bus	10	116	12	Bus	4	0	0
	Coach	2	4	2	Coach	4	4	1
CC14	Bus	0	0	0	Bus	0	0	0
	Coach	5	7	1	Coach	5	11	2
CC15	Bus	7	66	9	Bus	7	59	8
	Coach	1	0	0	Coach	3	4	1
CC16	Bus	0	0	0	Bus	0	0	0
	Coach	1	4	4	Coach	1	0	0
CC17	Bus	29	418	14	Bus	31	411	13
	Coach	1	0	0	Coach	2	21	10

6.2.9 Table 22 shows that bus and coach occupancy was again highest on corridor 3, Main Street, south of Isla Road.

6.2.10 The average inbound bus occupancy was 7 passengers and the average inbound coach had 2 passengers onboard. In the outbound direction, the average bus occupancy was 9 passengers and the average coach occupancy was 2 passengers.

6.2.11 No results are included for CC2 as this is a cycle path east of Balhousie Street.

6.2.12 Table 23 presents the same information for the PM peak (15:30 – 18:30).

**Table 23. Bus & Coach Cordon Occupancy (PM Peak 15:30 – 18:30)**

PM Peak Period (15:30-18:30)	Inbound				Outbound			
	Mode	Total Vehicles	Total Passengers	Average Occupancy	Mode	Total Vehicles	Total Passengers	Average Occupancy
CC1	Bus	20	78	4	Bus	14	104	7
	Coach	0	0	0	Coach	4	11	0
CC3	Bus	3	8	3	Bus	1	8	8
	Coach	0	0	0	Coach	0	0	0
CC4	Bus	5	11	2	Bus	6	96	16
	Coach	1	4	4	Coach	0	0	0
CC5	Bus	2	26	13	Bus	7	77	11
	Coach	0	0	0	Coach	1	0	0
CC6	Bus	0	0	0	Bus	0	0	0
	Coach	0	0	0	Coach	0	0	0
CC7	Bus	0	0	0	Bus	0	0	0
	Coach	0	0	0	Coach	0	0	0
CC8	Bus	8	56	7	Bus	9	38	4
	Coach	0	0	0	Coach	0	0	0
CC9	Bus	8	30	4	Bus	8	49	6
	Coach	0	0	0	Coach	0	0	0
CC10	Bus	19	122	6	Bus	15	93	6
	Coach	1	7	7	Coach	0	0	0
CC11	Bus	9	99	11	Bus	12	150	13
	Coach	1	4	4	Coach	1	4	4
CC12	Bus	18	162	9	Bus	18	173	10
	Coach	0	0	0	Coach	0	0	0
CC13	Bus	6	4	1	Bus	7	8	1
	Coach	3	4	1	Coach	4	4	1
CC14	Bus	2	0	0	Bus	2	15	8
	Coach	0	0	0	Coach	1	0	0
CC15	Bus	2	26	13	Bus	4	51	13
	Coach	3	17	6	Coach	2	0	0
CC16	Bus	0	0	0	Bus	0	0	0
	Coach	0	0	0	Coach	0	0	0
CC17	Bus	11	117	11	Bus	12	122	10
	Coach	0	0	0	Coach	1	4	0

6.2.13 Table 23 shows that bus occupancy during the PM Peak period was relatively consistent across each of the main corridors in Perth.

6.2.14 The average inbound bus occupancy was 5 passengers and the average inbound coach had 1 passenger onboard. In the outbound direction, the average bus occupancy was 7 passengers and the average coach occupancy was 1 passenger.

6.2.15 No results are included for CC2 as this is a cycle path east of Balhousie Street.

## 6.3 Bus Station/Stop Counts

6.3.1 Boarding (on bus) and alighting (off bus) counts were undertaken the following locations on Tuesday 4<sup>th</sup> May 2021. Surveys were undertaken between 06:00 and 22:00.

- Perth Bus Station Stance 1
- Perth Bus Station Stance 2
- Perth Bus Station Stance 10
- South Street eastbound (bus stop K)
- South Street immediately east of Scott Street
- South Street outside St Johns shopping centre
- Scott Street southbound (bus stop X)
- Broxden Park and Ride (Megabus/Citylink stop)
- Broxden Park and Ride (local services stop)
- Canal Street westbound (behind Tesco).

6.3.2 The results were classified by the following:

- Arrival Time
- Bus Number during arrival
- Operator
- Boarding (On bus)
- Alighting (Off bus)
- Bus Number during departure
- Departure Time
- Dwell Time.

6.3.3 Table 24 below summarises the results of the boarding and alighting counts in the AM Peak (06:30 – 09:30).

**Table 24. Perth Bus Station/Stops Boarding and Alighting Counts (AM Peak 06:30 – 09:30)**

AM Peak Period (06:30-09:30)	Boarding (On bus)	Alighting (Off bus)	Number of services	Average Boarding	Average Alighting	Average dwell time
Bus Station Stance 1	0	2	2	0	1	00:13:56
Bus Station Stance 2	9	3	5	2	1	00:12:11
Bus Station Stance 10	1	0	3	0	0	00:17:10
South St Stop K	9	45	24	0	2	00:00:16
South St Stop L	55	23	17	3	1	00:04:09
South St Stop M	40	4	12	3	0	00:05:10
Scott St Stop X	11	0	7	2	0	00:01:30
Canal St Stop ZP	8	62	13	1	5	00:01:34
Broxden P&R Express	41	24	15	3	2	00:07:02
Broxden P&R Local	7	5	16	0	0	00:01:01
<b>Average</b>	<b>18</b>	<b>17</b>	<b>11</b>	<b>1</b>	<b>1</b>	<b>00:06:24</b>

6.3.4 Table 24 shows that the busiest stop in Perth in terms of passengers was Canal Street stop ZP, where the majority of passengers on services from Dundee and Fife alight in the AM peak, which saw a total of 70 passengers either boarding or alighting.

- 6.3.5 In terms of the number of bus services, South Street stop K was busiest with 24 services, comprising the 2, 7, 13, 14, 17, 36, 56, X56, all operated by Stagecoach, and the 19, operated by Docherty's Midland Coaches.
- 6.3.6 The stance with the longest dwell time (17:10), was the bus station stance 10, whilst the average dwell time across all stances was over 6 minutes (06:24).
- 6.3.7 Table 25 presents the same information for the inter-peak period (09:30-15:30).

**Table 25. Perth Bus Station/Stops Boarding and Alighting Counts (Inter Peak 09:30 – 15:30)**

IP Peak Period (09:30-15:30)	Boarding (On bus)	Alighting (Off bus)	Number of services	Average Boarding	Average Alighting	Average dwell time
Bus Station Stance 1	16	3	9	2	0	00:04:31
Bus Station Stance 2	29	14	11	3	1	00:03:49
Bus Station Stance 10	10	11	9	1	1	00:07:55
South St Stop K	31	105	53	1	2	00:00:20
South St Stop L	214	94	39	5	2	00:04:16
South St Stop M	131	25	33	4	1	00:02:26
Scott St Stop X	36	0	18	2	0	00:00:57
Canal St Stop ZP	2	198	34	0	6	00:01:07
Broxden P&R Express	48	79	39	1	2	00:06:22
Broxden P&R Local	33	12	32	1	0	00:00:42
<b>Average</b>	<b>55</b>	<b>54</b>	<b>28</b>	<b>2</b>	<b>2</b>	<b>00:03:15</b>

- 6.3.8 Table 25 shows that the busiest stop in Perth in terms of passengers was South Street stop L which saw a total of 308 passengers either boarding or alighting during the inter-peak peak period. Stop L was used by services 7, 58 and 58 all of which are operated by Stagecoach.
- 6.3.9 In terms of the number of bus services, South Street stop K was busiest with 53 services, comprising the 2, 7, 13, 14, 17, 36, 56, X56, all operated by Stagecoach, and the 19, operated by Docherty's Midland Coaches.
- 6.3.10 The stance with the longest dwell time (07:55), was at Perth bus station (Stance 10), whilst the average dwell time across all stances was just over 3 minutes (03:15).



6.3.11 Table 26 presents the same information for the PM peak period (15:30-18:30).

**Table 26. Perth Bus Station Boarding and Alighting Counts (PM Peak 15:30 – 18:30)**

PM Peak Period (15:30-18:30)	Boarding (On bus)	Alighting (Off bus)	Number of services	Average Boarding	Average Alighting	Average dwell time
Bus Station Stance 1	15	2	7	2	0	00:07:49
Bus Station Stance 2	7	7	6	1	1	00:08:18
Bus Station Stance 10	0	1	2	0	1	00:26:21
South St Stop K	35	46	26	1	2	00:00:31
South St Stop L	136	62	20	7	3	00:05:52
South St Stop M	59	3	8	7	0	00:05:09
Scott St Stop X	32	2	14	2	0	00:01:16
Canal St Stop ZP	1	70	16	0	4	00:01:03
Broxden P&R Express	27	33	19	1	2	00:06:35
Broxden P&R Local	5	27	20	0	1	00:02:34
<b>Average</b>	<b>32</b>	<b>25</b>	<b>14</b>	<b>2</b>	<b>1</b>	<b>00:06:33</b>

6.3.12 Table 26 shows that the busiest stop in Perth in terms of passengers is South Street stop L which saw a total of 198 passengers either boarding or alighting in the PM peak period. Stop was used by services 7, 57 and 58, all of which are operated by Stagecoach.

6.3.13 In terms of the number of bus services, again South Street stop K was busiest with 26 services.

6.3.14 The stance with the longest dwell time (26:21), was the bus station (Stance 10), whilst the average dwell time across all stances was almost 7 minutes (06:33).

## 6.4 Vehicle Occupancy Counts

- 6.4.1 Vehicle occupancy counts were undertaken at each of the classified turning count sites, as shown in Figure 3.
- 6.4.2 Vehicle occupancy data was gathered for one day, Tuesday 4<sup>th</sup> May 2021, between 06:00 and 22:00.
- 6.4.3 Table 27 below presents the vehicle occupancy and sample rates at each of the inbound cordon points around Perth city centre in the AM peak period (06:30 – 09:30).

**Table 27. Vehicle Inbound Cordon Occupancy (AM Peak 06:30 – 09:30)**

AM Peak Period (06:30-09:30)	Mode	Vehicle Total	Observed Vehicles	Sample Rate	Number of Occupants	Average Occupancy		Mode	Vehicle Total	Observed Vehicles	Sample Rate	Number of Occupants	Average Occupancy
CC1	Car	1007	223	22.1%	278	1.25	CC10	Car	677	155	22.9%	209	1.35
	LGV	260	79	30.4%	97	1.23		LGV	140	55	39.3%	82	1.49
	OGV1	69	34	49.3%	39	1.15		OGV1	38	22	57.9%	26	1.18
	OGV2	11	9	81.8%	9	1.00		OGV2	11	9	81.8%	11	1.22
CC3	Car	1629	361	22.2%	430	1.19	CC11	Car	1541	332	21.5%	453	1.36
	LGV	325	103	31.7%	116	1.13		LGV	426	118	27.7%	165	1.40
	OGV1	48	28	58.3%	29	1.04		OGV1	88	51	58.0%	58	1.14
	OGV2	37	22	59.5%	23	1.05		OGV2	22	15	68.2%	15	1.00
CC4	Car	1389	297	21.4%	381	1.28	CC12	Car	715	174	24.3%	224	1.29
	LGV	267	73	27.3%	85	1.16		LGV	149	60	40.3%	62	1.03
	OGV1	24	19	79.2%	19	1.00		OGV1	28	15	53.6%	16	1.07
	OGV2	-	-	-	-	-		OGV2	7	6	85.7%	6	1.00
CC5	Car	896	242	27.0%	300	1.24	CC13	Car	898	210	23.4%	275	1.31
	LGV	157	56	35.7%	66	1.18		LGV	194	64	33.0%	65	1.02
	OGV1	44	26	59.1%	30	1.15		OGV1	31	19	61.3%	19	1.00
	OGV2	13	9	69.2%	9	1.00		OGV2	14	12	85.7%	12	1.00
CC6	Car	198	69	34.8%	86	1.25	CC14	Car	1092	255	23.4%	325	1.27
	LGV	106	37	34.9%	41	1.11		LGV	278	75	27.0%	83	1.11
	OGV1	61	30	49.2%	34	1.13		OGV1	47	29	61.7%	29	1.00
	OGV2	29	16	55.2%	16	1.00		OGV2	16	13	81.3%	13	1.00
CC7	Car	670	190	28.4%	215	1.13	CC15	Car	1026	235	22.9%	295	1.26
	LGV	187	63	33.7%	69	1.10		LGV	276	78	28.3%	96	1.23
	OGV1	49	32	65.3%	34	1.06		OGV1	56	32	57.1%	37	1.16
	OGV2	7	5	71.4%	5	1.00		OGV2	45	25	55.6%	26	1.04
CC8	Car	464	134	28.9%	156	1.16	CC16	Car	614	149	24.3%	170	1.14
	LGV	94	50	53.2%	52	1.04		LGV	130	41	31.5%	46	1.12
	OGV1	25	19	76.0%	22	1.16		OGV1	21	13	61.9%	14	1.08
	OGV2	4	3	75.0%	4	1.33		OGV2	2	2	100.0%	2	1.00
CC9	Car	303	80	26.4%	102	1.28	CC17	Car	333	93	27.9%	110	1.18
	LGV	57	34	59.6%	37	1.09		LGV	59	39	66.1%	49	1.26
	OGV1	2	2	100.0%	2	1.00		OGV1	8	6	75.0%	6	1.00
	OGV2	-	-	-	-	-		OGV2	-	-	-	-	-

- 6.4.4 Table 27 shows that in the AM peak period, inbound towards Perth city centre, the average car occupancy was 1.25 persons, LGV 1.17 persons, OGV1 1.08 persons and OGV2 1.05 persons.

6.4.5 Table 28 presents the vehicle occupancy and sample rates at each of the outbound cordon points around Perth city centre in the AM peak period (06:30 – 09:30).

**Table 28. Vehicle Outbound Cordon Occupancy (AM Peak 06:30 – 09:30)**

AM Peak Period (06:30-09:30)	Mode	Vehicle Total	Observed Vehicles	Sample Rate	Number of Occupants	Average Occupancy		Mode	Vehicle Total	Observed Vehicles	Sample Rate	Number of Occupants	Average Occupancy
CC1	Car	993	227	22.9%	293	1.29	CC10	Car	554	135	24.4%	197	1.46
	LGV	303	85	28.1%	95	1.12		LGV	111	51	45.9%	65	1.27
	OGV1	64	30	46.9%	35	1.17		OGV1	43	26	60.5%	32	1.23
	OGV2	20	12	60.0%	12	1.00		OGV2	12	8	66.7%	10	1.25
CC3	Car	904	208	23.0%	226	1.09	CC11	Car	1137	254	22.3%	351	1.38
	LGV	304	90	29.6%	102	1.13		LGV	479	138	28.8%	214	1.55
	OGV1	73	28	38.4%	31	1.11		OGV1	97	49	50.5%	60	1.22
	OGV2	54	30	55.6%	32	1.07		OGV2	16	12	75.0%	13	1.08
CC4	Car	661	163	24.7%	203	1.25	CC12	Car	658	174	26.4%	219	1.26
	LGV	142	51	35.9%	57	1.12		LGV	169	55	32.5%	56	1.02
	OGV1	25	16	64.0%	16	1.00		OGV1	25	17	68.0%	17	1.00
	OGV2	-	-	-	-	-		OGV2	13	9	69.2%	9	1.00
CC5	Car	702	176	25.1%	228	1.30	CC13	Car	699	177	25.3%	222	1.25
	LGV	234	78	33.3%	92	1.18		LGV	195	64	32.8%	76	1.19
	OGV1	71	47	66.2%	55	1.17		OGV1	39	23	59.0%	23	1.00
	OGV2	19	14	73.7%	14	1.00		OGV2	11	8	72.7%	8	1.00
CC6	Car	389	94	24.2%	121	1.29	CC14	Car	645	164	25.4%	203	1.24
	LGV	132	49	37.1%	60	1.22		LGV	225	74	32.9%	83	1.12
	OGV1	37	21	56.8%	22	1.05		OGV1	32	19	59.4%	20	1.05
	OGV2	18	13	72.2%	13	1.00		OGV2	14	12	85.7%	12	1.00
CC7	Car	505	164	32.5%	177	1.08	CC15	Car	775	178	23.0%	248	1.39
	LGV	133	62	46.6%	70	1.13		LGV	229	66	28.8%	82	1.24
	OGV1	37	23	62.2%	23	1.00		OGV1	70	32	45.7%	37	1.16
	OGV2	11	10	90.9%	10	1.00		OGV2	43	21	48.8%	22	1.05
CC8	Car	445	129	29.0%	139	1.08	CC16	Car	762	176	23.1%	200	1.14
	LGV	99	51	51.5%	52	1.02		LGV	120	51	42.5%	54	1.06
	OGV1	23	16	69.6%	18	1.13		OGV1	16	12	75.0%	12	1.00
	OGV2	2	2	100.0%	2	1.00		OGV2	3	2	66.7%	2	1.00
CC9	Car	268	75	28.0%	100	1.33	CC17	Car	523	124	23.7%	155	1.25
	LGV	62	33	53.2%	39	1.18		LGV	64	34	53.1%	37	1.09
	OGV1	10	8	80.0%	8	1.00		OGV1	10	9	90.0%	9	1.00
	OGV2	-	-	-	-	-		OGV2	-	-	-	-	-

6.4.6 Table 28 shows that in the AM peak period, outbound from Perth city centre, the average car occupancy was 1.25 persons, LGV 1.17 persons, OGV1 1.08 persons and OGV2 1.03 persons.

6.4.7 Table 29 presents the vehicle occupancy and sample rates at each of the inbound cordon points around Perth city centre in the inter peak period (09:30 – 15:30).

**Table 29. Vehicle Inbound Cordon Occupancy (Inter Peak 09:30 – 15:30)**

Int Peak Period (09:30-15:30)	Mode	Vehicle Total	Observed Vehicles	Sample Rate	Number of Occupants	Average Occupancy		Mode	Vehicle Total	Observed Vehicles	Sample Rate	Number of Occupants	Average Occupancy
CC1	Car	3244	669	20.6%	880	1.32	CC10	Car	2099	464	22.1%	649	1.40
	LGV	522	158	30.3%	191	1.21		LGV	272	107	39.3%	152	1.42
	OGV1	131	60	45.8%	66	1.10		OGV1	88	57	64.8%	67	1.18
	OGV2	42	28	66.7%	28	1.00		OGV2	29	20	69.0%	22	1.10
CC3	Car	3142	690	22.0%	869	1.26	CC11	Car	3368	722	21.4%	1137	1.57
	LGV	492	166	33.7%	182	1.10		LGV	839	223	26.6%	327	1.47
	OGV1	150	68	45.3%	68	1.00		OGV1	179	89	49.7%	95	1.07
	OGV2	143	79	55.2%	79	1.00		OGV2	62	38	61.3%	48	1.26
CC4	Car	2850	575	20.2%	762	1.33	CC12	Car	1898	457	24.1%	620	1.36
	LGV	387	139	35.9%	146	1.05		LGV	281	104	37.0%	111	1.07
	OGV1	59	38	64.4%	38	1.00		OGV1	73	54	74.0%	54	1.00
	OGV2	-	-	-	-	-		OGV2	23	18	78.3%	18	1.00
CC5	Car	1657	427	25.8%	533	1.25	CC13	Car	1927	459	23.8%	607	1.32
	LGV	334	129	38.6%	141	1.09		LGV	363	120	33.1%	123	1.03
	OGV1	132	66	50.0%	75	1.14		OGV1	81	56	69.1%	56	1.00
	OGV2	35	27	77.1%	29	1.07		OGV2	27	23	85.2%	23	1.00
CC6	Car	709	201	28.3%	256	1.27	CC14	Car	2501	565	22.6%	721	1.28
	LGV	275	100	36.4%	120	1.20		LGV	422	127	30.1%	137	1.08
	OGV1	128	67	52.3%	72	1.07		OGV1	80	52	65.0%	52	1.00
	OGV2	49	36	73.5%	39	1.08		OGV2	26	20	76.9%	20	1.00
CC7	Car	1856	496	26.7%	583	1.18	CC15	Car	1953	454	23.2%	566	1.25
	LGV	314	122	38.9%	131	1.07		LGV	416	126	30.3%	147	1.17
	OGV1	91	56	61.5%	59	1.05		OGV1	129	68	52.7%	73	1.07
	OGV2	31	27	87.1%	27	1.00		OGV2	99	53	53.5%	56	1.06
CC8	Car	1211	336	27.7%	394	1.17	CC16	Car	2345	518	22.1%	650	1.25
	LGV	207	106	51.2%	114	1.08		LGV	263	106	40.3%	119	1.12
	OGV1	58	42	72.4%	46	1.10		OGV1	27	22	81.5%	22	1.00
	OGV2	12	8	66.7%	8	1.00		OGV2	3	2	66.7%	2	1.00
CC9	Car	644	178	27.6%	234	1.31	CC17	Car	744	191	25.7%	229	1.20
	LGV	117	69	59.0%	73	1.06		LGV	106	60	56.6%	77	1.28
	OGV1	23	18	78.3%	18	1.00		OGV1	12	9	75.0%	9	1.00
	OGV2	-	-	-	-	-		OGV2	-	-	-	-	-

6.4.8 Table 29 shows that in the inter peak period, inbound towards Perth city centre, the average car occupancy was 1.29 persons, LGV 1.16 persons, OGV1 1.05 persons and OGV2 1.04 persons.

6.4.9 Table 30 below presents the vehicle occupancy and sample rates at each of the outbound cordon points around Perth city centre in the inter peak period (09:30 – 15:30).

**Table 30. Vehicle Outbound Cordon Occupancy (Inter Peak 09:30 – 15:30)**

Int Peak Period (09:30-15:30)	Mode	Vehicle Total	Observed Vehicles	Sample Rate	Number of Occupants	Average Occupancy		Mode	Vehicle Total	Observed Vehicles	Sample Rate	Number of Occupants	Average Occupancy
CC1	Car	3295	706	21.4%	876	1.24	CC10	Car	1728	396	22.9%	615	1.55
	LGV	472	154	32.6%	164	1.06		LGV	272	123	45.2%	144	1.17
	OGV1	157	64	40.8%	71	1.11		OGV1	78	44	56.4%	49	1.11
	OGV2	44	26	59.1%	26	1.00		OGV2	20	14	70.0%	18	1.29
CC3	Car	2870	620	21.6%	766	1.24	CC11	Car	3419	736	21.5%	1046	1.42
	LGV	475	149	31.4%	173	1.16		LGV	838	229	27.3%	322	1.41
	OGV1	128	62	48.4%	68	1.10		OGV1	212	103	48.6%	145	1.41
	OGV2	109	68	62.4%	68	1.00		OGV2	61	41	67.2%	48	1.17
CC4	Car	2122	482	22.7%	609	1.26	CC12	Car	1883	459	24.4%	603	1.31
	LGV	260	95	36.5%	106	1.12		LGV	266	106	39.8%	111	1.05
	OGV1	34	27	79.4%	27	1.00		OGV1	61	42	68.9%	44	1.05
	OGV2	-	-	-	-	-		OGV2	34	20	58.8%	20	1.00
CC5	Car	2235	575	25.7%	728	1.27	CC13	Car	1762	435	24.7%	578	1.33
	LGV	443	148	33.4%	170	1.15		LGV	342	111	32.5%	132	1.19
	OGV1	142	77	54.2%	84	1.09		OGV1	70	48	68.6%	49	1.02
	OGV2	48	35	72.9%	37	1.06		OGV2	22	15	68.2%	15	1.00
CC6	Car	741	201	27.1%	283	1.41	CC14	Car	2291	520	22.7%	675	1.30
	LGV	270	104	38.5%	127	1.22		LGV	387	138	35.7%	143	1.04
	OGV1	131	64	48.9%	78	1.22		OGV1	76	45	59.2%	45	1.00
	OGV2	43	29	67.4%	30	1.03		OGV2	27	22	81.5%	22	1.00
CC7	Car	1523	427	28.0%	483	1.13	CC15	Car	1893	409	21.6%	540	1.32
	LGV	271	115	42.4%	124	1.08		LGV	376	123	32.7%	141	1.15
	OGV1	84	54	64.3%	59	1.09		OGV1	165	71	43.0%	81	1.14
	OGV2	37	31	83.8%	31	1.00		OGV2	138	54	39.1%	55	1.02
CC8	Car	1224	332	27.1%	367	1.11	CC16	Car	2805	587	20.9%	750	1.28
	LGV	200	96	48.0%	104	1.08		LGV	273	109	39.9%	113	1.04
	OGV1	54	42	77.8%	43	1.02		OGV1	34	24	70.6%	24	1.00
	OGV2	12	10	83.3%	12	1.20		OGV2	6	5	83.3%	5	1.00
CC9	Car	731	189	25.9%	245	1.30	CC17	Car	1091	267	24.5%	329	1.23
	LGV	128	69	53.9%	77	1.12		LGV	178	79	44.4%	81	1.03
	OGV1	27	18	66.7%	19	1.06		OGV1	22	16	72.7%	16	1.00
	OGV2	-	-	-	-	-		OGV2	-	-	-	-	-

6.4.10 Table 30 shows that in the inter peak period, outbound from Perth city centre, the average car occupancy was 1.29 persons, LGV 1.13 persons, OGV1 1.09 persons and OGV2 1.06 persons.

6.4.11 Table 31 presents the vehicle occupancy and sample rates at each of the inbound cordon points around Perth city centre in the PM peak period (15:30 – 18:30).

**Table 31. Vehicle Inbound Cordon Occupancy (PM Peak 15:30 – 18:30)**

PM Peak Period (15:30-18:30)	Mode	Vehicle Total	Observed Vehicles	Sample Rate	Number of Occupants	Average Occupancy		Mode	Vehicle Total	Observed Vehicles	Sample Rate	Number of Occupants	Average Occupancy
CC1	Car	1769	364	20.6%	482	1.32	CC10	Car	1077	236	21.9%	313	1.33
	LGV	250	78	31.2%	89	1.14		LGV	118	47	39.8%	63	1.34
	OGV1	30	18	60.0%	19	1.06		OGV1	26	17	65.4%	20	1.18
	OGV2	18	10	55.6%	10	1.00		OGV2	11	8	72.7%	9	1.13
CC3	Car	1548	359	23.2%	453	1.26	CC11	Car	1702	369	21.7%	550	1.49
	LGV	289	85	29.4%	96	1.13		LGV	421	109	25.9%	153	1.40
	OGV1	47	30	63.8%	30	1.00		OGV1	50	30	60.0%	9	0.30
	OGV2	57	30	52.6%	30	1.00		OGV2	29	21	72.4%	26	1.24
CC4	Car	1336	273	20.4%	360	1.32	CC12	Car	1099	266	24.2%	364	1.37
	LGV	198	72	36.4%	75	1.04		LGV	171	59	34.5%	62	1.05
	OGV1	22	18	81.8%	18	1.00		OGV1	21	17	81.0%	17	1.00
	OGV2	-	-	-	-	-		OGV2	5	3	60.0%	3	1.00
CC5	Car	885	228	25.8%	268	1.18	CC13	Car	1060	241	22.7%	309	1.28
	LGV	153	53	34.6%	60	1.13		LGV	168	61	36.3%	62	1.02
	OGV1	34	24	70.6%	29	1.21		OGV1	23	14	60.9%	14	1.00
	OGV2	13	12	92.3%	13	1.08		OGV2	9	8	88.9%	8	1.00
CC6	Car	625	145	23.2%	193	1.33	CC14	Car	1325	295	22.3%	368	1.25
	LGV	105	43	41.0%	48	1.12		LGV	187	60	32.1%	64	1.07
	OGV1	28	16	57.1%	17	1.06		OGV1	22	13	59.1%	13	1.00
	OGV2	16	12	75.0%	12	1.00		OGV2	4	2	50.0%	2	1.00
CC7	Car	1050	275	26.2%	325	1.18	CC15	Car	1110	254	22.9%	334	1.31
	LGV	178	66	37.1%	71	1.08		LGV	219	65	29.7%	76	1.17
	OGV1	22	17	77.3%	19	1.12		OGV1	26	18	69.2%	18	1.00
	OGV2	5	4	80.0%	4	1.00		OGV2	29	14	48.3%	15	1.07
CC8	Car	781	199	25.5%	247	1.24	CC16	Car	1176	256	21.8%	322	1.26
	LGV	100	43	43.0%	49	1.14		LGV	118	44	37.3%	50	1.14
	OGV1	17	12	70.6%	12	1.00		OGV1	12	8	66.7%	8	1.00
	OGV2	3	2	66.7%	2	1.00		OGV2	-	-	-	-	-
CC9	Car	361	89	24.7%	121	1.36	CC17	Car	601	141	23.5%	185	1.31
	LGV	31	20	64.5%	20	1.00		LGV	75	45	60.0%	55	1.22
	OGV1	6	5	83.3%	6	1.20		OGV1	4	3	75.0%	3	1.00
	OGV2	-	-	-	-	-		OGV2	-	-	-	-	-

6.4.12 Table 31 shows that in the PM peak period, inbound towards Perth city centre, the average car occupancy was 1.30 persons, LGV 1.14 persons, OGV1 1.01 persons and OGV2 1.04 persons.



6.4.13 Table 32 presents the vehicle occupancy and sample rates at each of the outbound cordon points around Perth city centre in the PM peak period (15:30 – 18:30).

**Table 32. Vehicle Outbound Cordon Occupancy (PM Peak 15:30 – 18:30)**

PM Peak Period (15:30-18:30)	Mode	Vehicle Total	Observed Vehicles	Sample Rate	Number of Occupants	Average Occupancy		Mode	Vehicle Total	Observed Vehicles	Sample Rate	Number of Occupants	Average Occupancy
CC1	Car	1666	345	20.7%	426	1.23	CC10	Car	1063	236	22.2%	351	1.49
	LGV	256	88	34.4%	95	1.08		LGV	117	50	42.7%	63	1.26
	OGV1	50	22	44.0%	25	1.14		OGV1	19	13	68.4%	18	1.38
	OGV2	7	6	85.7%	6	1.00		OGV2	9	8	88.9%	8	1.00
CC3	Car	2033	427	21.0%	583	1.37	CC11	Car	2210	476	21.5%	661	1.39
	LGV	308	80	26.0%	97	1.21		LGV	377	109	28.9%	138	1.27
	OGV1	37	25	67.6%	28	1.12		OGV1	60	35	58.3%	41	1.17
	OGV2	39	25	64.1%	25	1.00		OGV2	25	17	68.0%	21	1.24
CC4	Car	1324	296	22.4%	377	1.27	CC12	Car	1083	253	23.4%	330	1.30
	LGV	190	62	32.6%	69	1.11		LGV	161	54	33.5%	54	1.00
	OGV1	17	13	76.5%	13	1.00		OGV1	25	19	76.0%	19	1.00
	OGV2	-	-	-	-	-		OGV2	4	4	100.0%	4	1.00
CC5	Car	1663	411	24.7%	526	1.28	CC13	Car	1230	280	22.8%	358	1.28
	LGV	241	81	33.6%	95	1.17		LGV	164	52	31.7%	58	1.12
	OGV1	27	21	77.8%	22	1.05		OGV1	22	16	72.7%	16	1.00
	OGV2	10	9	90.0%	9	1.00		OGV2	11	9	81.8%	9	1.00
CC6	Car	425	108	25.4%	150	1.39	CC14	Car	1630	337	20.7%	443	1.31
	LGV	88	41	46.6%	51	1.24		LGV	171	58	33.9%	61	1.05
	OGV1	35	19	54.3%	24	1.26		OGV1	24	22	91.7%	22	1.00
	OGV2	20	11	55.0%	11	1.00		OGV2	5	3	60.0%	3	1.00
CC7	Car	1045	269	25.7%	323	1.20	CC15	Car	1351	282	20.9%	374	1.33
	LGV	142	46	32.4%	51	1.11		LGV	271	76	28.0%	86	1.13
	OGV1	25	19	76.0%	22	1.16		OGV1	35	19	54.3%	20	1.05
	OGV2	4	3	75.0%	3	1.00		OGV2	53	30	56.6%	30	1.00
CC8	Car	741	206	27.8%	251	1.22	CC16	Car	1391	282	20.3%	360	1.28
	LGV	58	33	56.9%	35	1.06		LGV	150	61	40.7%	64	1.05
	OGV1	19	15	78.9%	17	1.13		OGV1	14	9	64.3%	9	1.00
	OGV2	4	3	75.0%	4	1.33		OGV2	-	-	-	-	-
CC9	Car	474	112	23.6%	162	1.45	CC17	Car	761	179	23.5%	216	1.21
	LGV	63	32	50.8%	38	1.19		LGV	94	45	47.9%	46	1.02
	OGV1	4	4	100.0%	6	1.50		OGV1	11	9	81.8%	9	1.00
	OGV2	-	-	-	-	-		OGV2	-	-	-	-	-

6.4.14 Table 32 shows that in the PM peak period, outbound from Perth city centre, the average car occupancy was 1.31 persons, LGV 1.13 persons, OGV1 1.12 persons and OGV2 1.05 persons.

## 6.5 Results of Mode Share Surveys

6.5.1 The results of the various mode share surveys can be analysed and presented in different ways. Through discussions previously with Tactran, the methodology developed for assessing and summarising the survey data for each site was agreed as follows:

- By Time Period
- By Mode – both by vehicle and by person.

### ***Mode Share By Time Period***

6.5.2 All traffic surveys were undertaken over a 16 hour period 06:00-22:00. The mode share data is presented into four separate time periods, namely:

- AM Peak 06:30 – 09:30
- Inter-peak 09:30 – 15:30
- PM Peak 15:30 – 18:30
- Full day 06:30 – 18:30

### ***Mode Share By Mode***

6.5.3 Mode share data can be presented from the perspective of the share of vehicles or by the share of people. Both these methodologies are presented in this report, and are detailed as follows:

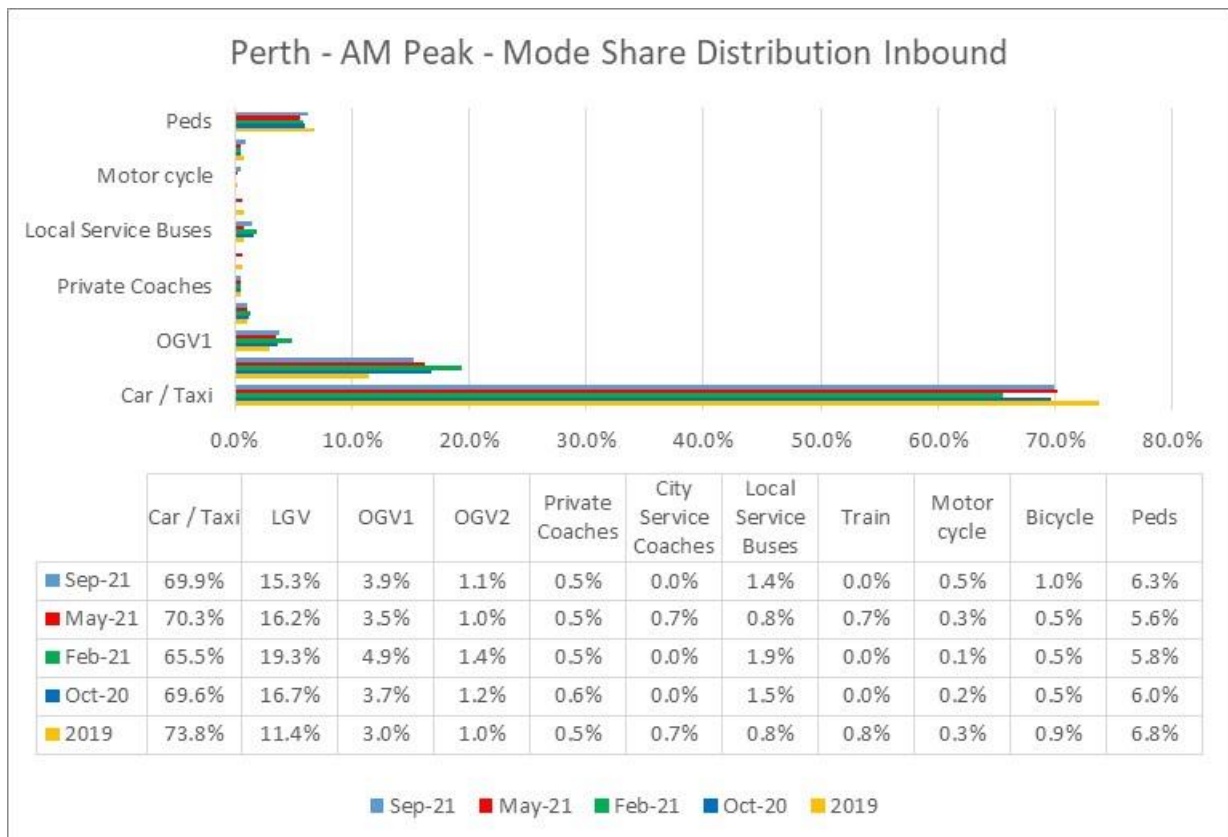
- ‘Mode Share Distribution’ – Each vehicle, including buses counts as 1 trip - this methodology does not take into account the number of people in a vehicle or a bus
- ‘Person Share Distribution’ – Each person counts as 1 trip, therefore the bus patronage and multi occupancy vehicle

6.5.4 In order to consider the volume of trips to and from Perth, the following assumptions and data usage was applied:

- Sites CC1 to CC17 were assessed to represent the points of entry/exit to the city.
- Bus/coach passengers which entered/left Perth were assumed to be destinating and originating in Perth

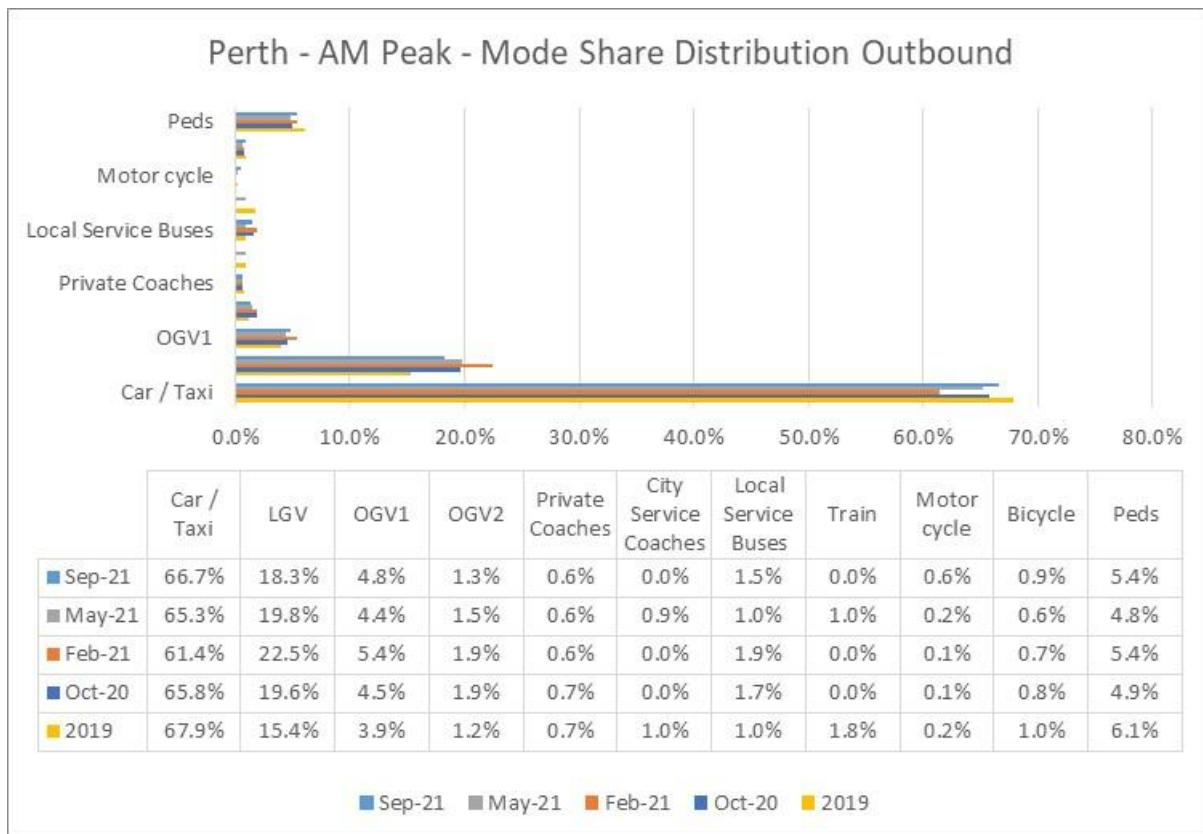
6.5.5 The following figures present the Perth mode share distribution, calculated from the survey data as detailed above. Figure 4 and Figure 5 present the AM peak mode share results by vehicle by direction and Figure 6 and Figure 7 present the AM Peak mode share results by person by direction.

6.5.6 Each figure presents the mode share by vehicle type for the four survey periods (October 2020, February 2021, May 2021 and September 2021) and compares to the previous survey undertaken in June/July 2019. The mode share by person is presented for May 2021 as this was the only survey that captured vehicle occupancy and is compared against the previous results in June/July 2019.



**Figure 4. Perth Mode Share Distribution Inbound – AM Peak**

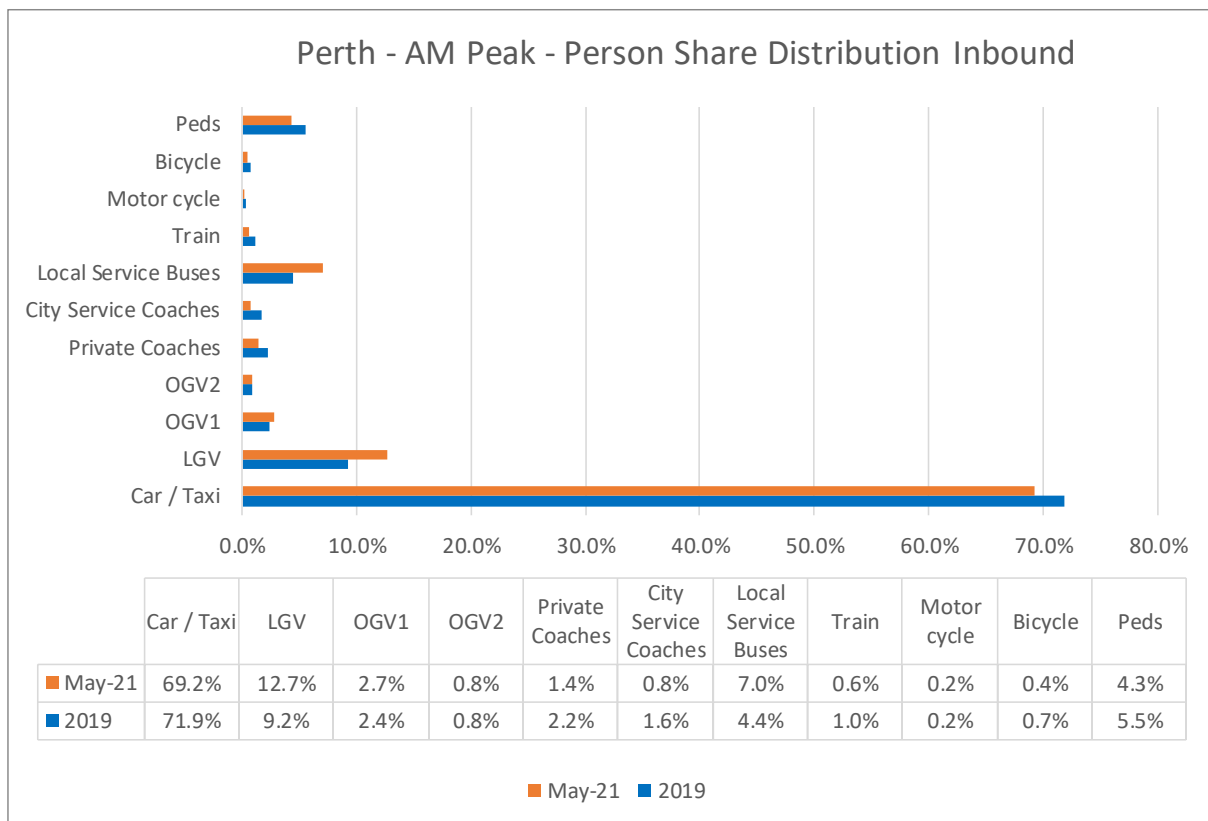
- 6.5.7 Figure 4 shows that the mode share of vehicles remained relatively consistent over the four survey periods. The results for rail are only included in May 2021 as rail station surveys were only undertaken at this point. It should be noted that the 2019 surveys were undertaken during school holidays so no school buses were observed at that point.
- 6.5.8 The proportion of LGVs has increased between 2019 and 2020/21, due to the increase in supermarket deliveries and online shopping deliveries.
- 6.5.9 The proportion of pedestrians was very similar across all of the surveys, whilst the proportion of cyclists was also similar across all survey periods.
- 6.5.10 The total number of vehicles and pedestrians observed as part of the mode surveys inbound in the AM peak period was 18,524 in June/July 2019, 16,262 in October 2020, 13,786 in February 2021, 17,132 in May 2021 and 18,032 in September 2021.



**Figure 5. Perth Mode Share Distribution Outbound – AM Peak**

6.5.11 Figure 5 shows that the majority of people heading out of Perth did so by car and taxi. Total bus usage was around 2.5% in the AM peak in each survey period, rail has decreased from around 2% to around 1%, bicycle around 0.7% and walking between 4% and 6%.

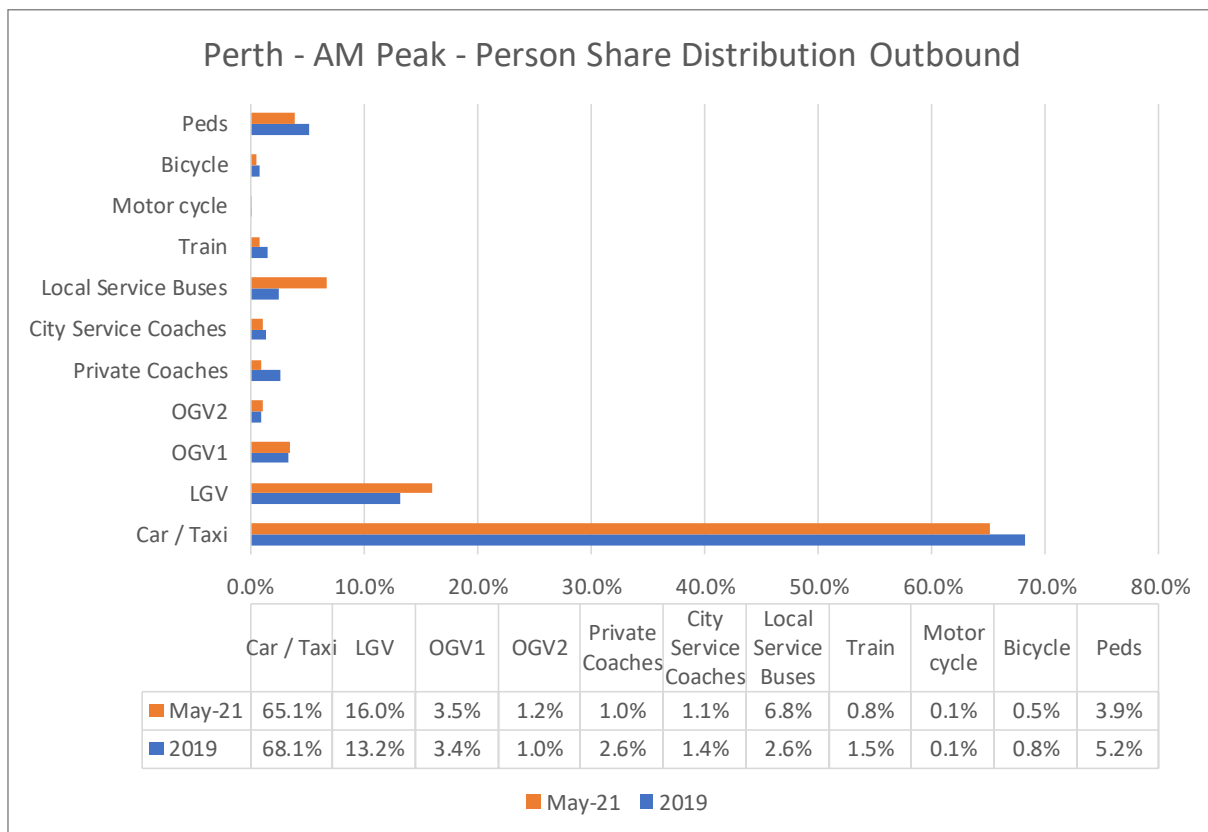
6.5.12 The total number of vehicles and pedestrians observed as part of the mode surveys outbound in the AM peak period was 13,522 in June/July 2019, 12,727 in October 2020, 10,925 in February 2021, 13,002 in May 2021 and 14,135 in September 2021.



**Figure 6. Perth Person Share Distribution Inbound – AM Peak**

6.5.13 Figure 6 shows that in the AM peak, the person mode share inbound remained relatively consistent over the survey periods. The results for local service buses are influenced by the 2019 surveys being undertaken during the school holidays, and rail shows a drop between 2019 and May 2021.

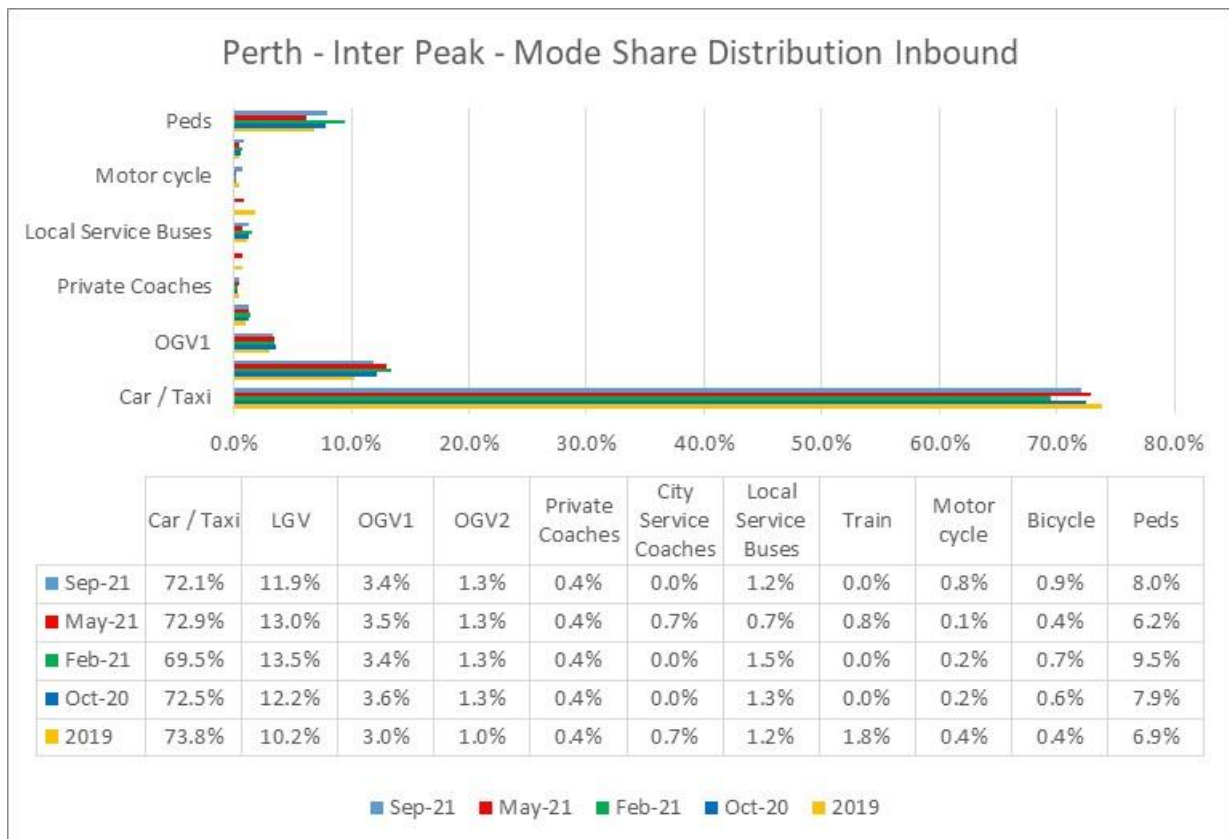
6.5.14 The total number of people recorded in the AM peak inbound was 23,076 in June/July 2019 and 21,925 in May 2021.



**Figure 7. Perth Person Share Distribution Outbound – AM Peak**

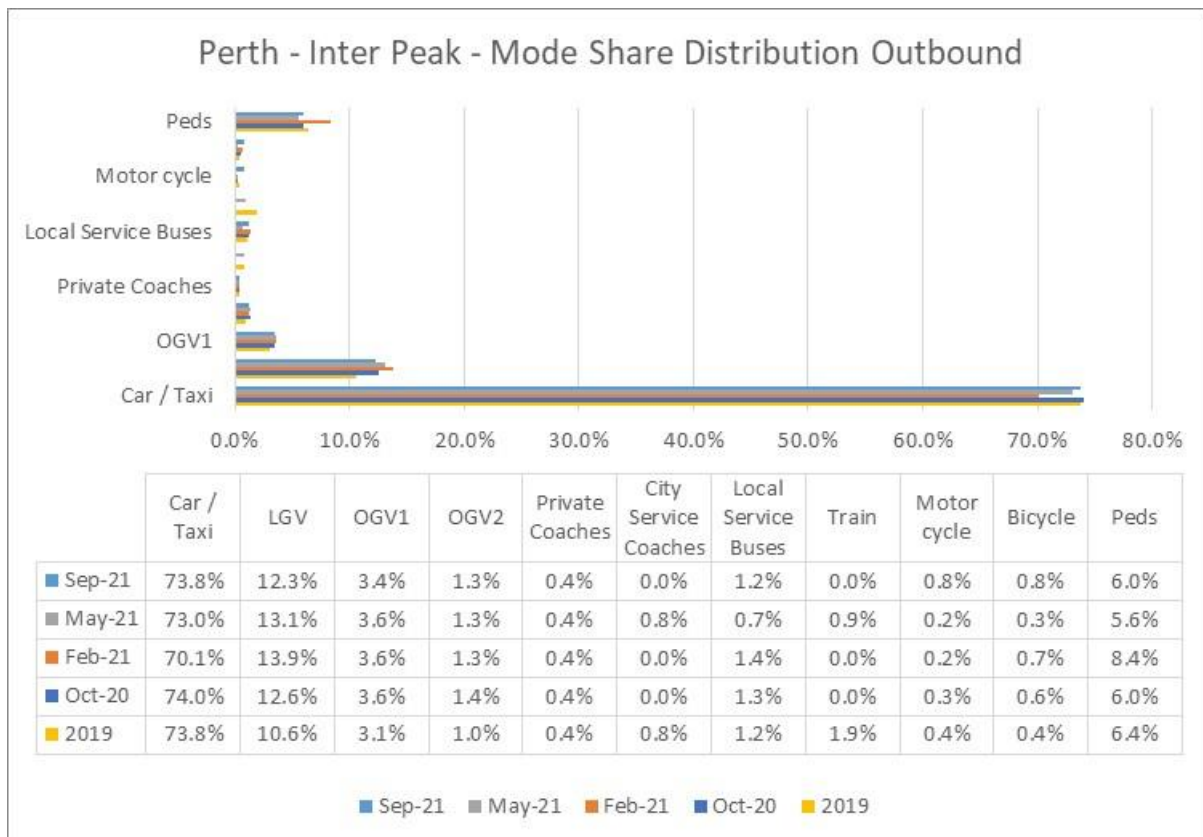
- 6.5.15 Figure 7 shows a similar result to the inbound direction.
- 6.5.16 The total number of people recorded in the AM peak outbound was 15,792 in June/July 2019 and 16,163 in May 2021
- 6.5.17 Figure 8 and Figure 9 present the Inter peak mode share results by vehicle by direction and Figure 10 and Figure 11 present the Inter Peak mode share results by person by direction.
- 6.5.18 Each figure presents the mode share by vehicle type for the four survey periods (October 2020, February 2021, May 2021 and September 2021) and compares to the previous survey in 2019. The mode share by person is presented for May 2021 as this was the only survey that captured vehicle occupancy and is compared against the previous results in 2019.





**Figure 8. Perth Mode Share Distribution Inbound – Inter Peak**

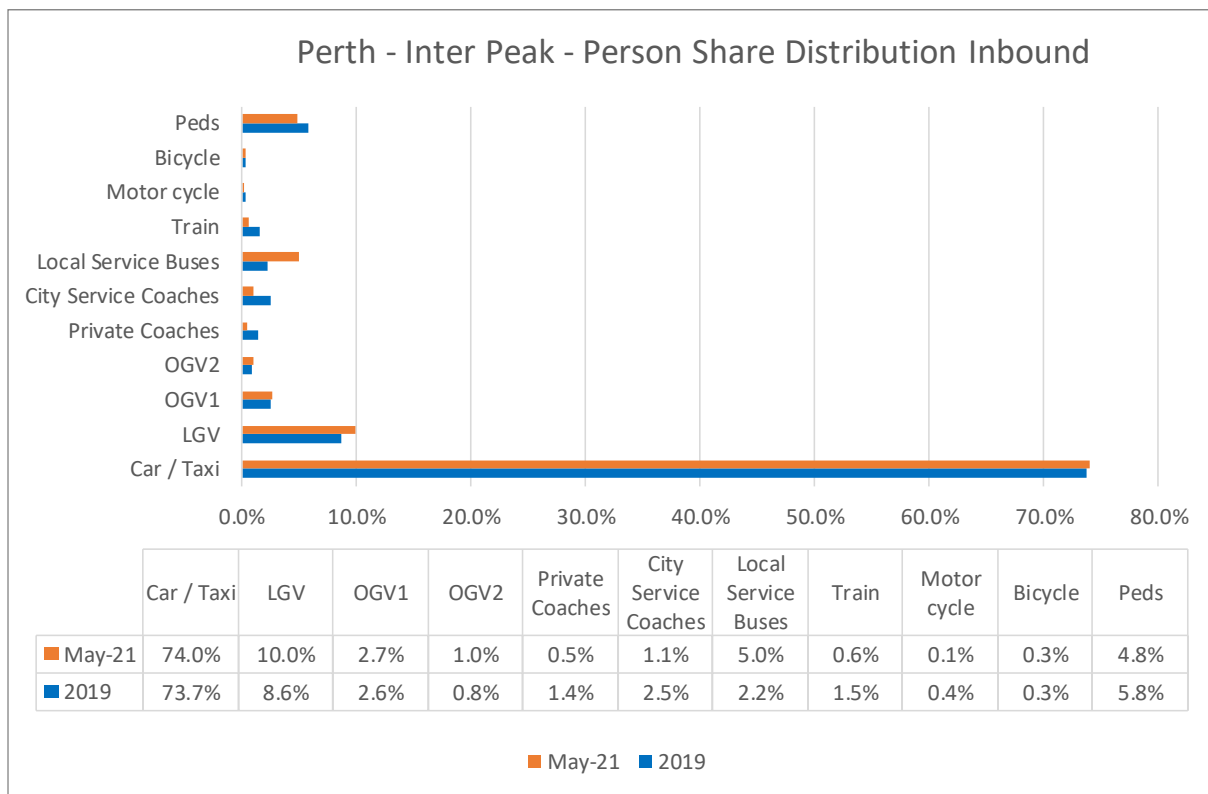
- 6.5.19 Figure 8 shows that the mode share of vehicles remained relatively consistent over the three survey periods. The results for rail are only included in May 2021 as rail station surveys were only undertaken at this point. It should be noted that the 2019 surveys were undertaken during school holidays so no school buses were observed at that point.
- 6.5.20 The proportion of LGVs has increased between 2019 and 2020/21, due to the increase in supermarket deliveries and online shopping deliveries.
- 6.5.21 The proportion of pedestrians was very similar across all of the surveys, with the exception of February 2021 when Scotland was in a period of lockdown and retail and leisure venues were closed, whilst the proportion of cyclists was also similar across all survey periods.
- 6.5.22 The total number of vehicles and pedestrians observed as part of the mode surveys inbound in the inter peak period was 42,757 in June/July 2019, 38,086 in October 2020, 32,448 in February 2021, 39,157 in May 2021 and 40,307 in September 2021.



**Figure 9. Perth Mode Share Distribution Outbound – Inter Peak**

6.5.23 Figure 9 shows that the majority of people heading out of Perth during the inter-peak did so by car and taxi. Total bus usage was around 2% in the inter peak, rail dropped from around 2% to 1%, bicycle 0.3% to 0.8% and walking between 5% and 8%.

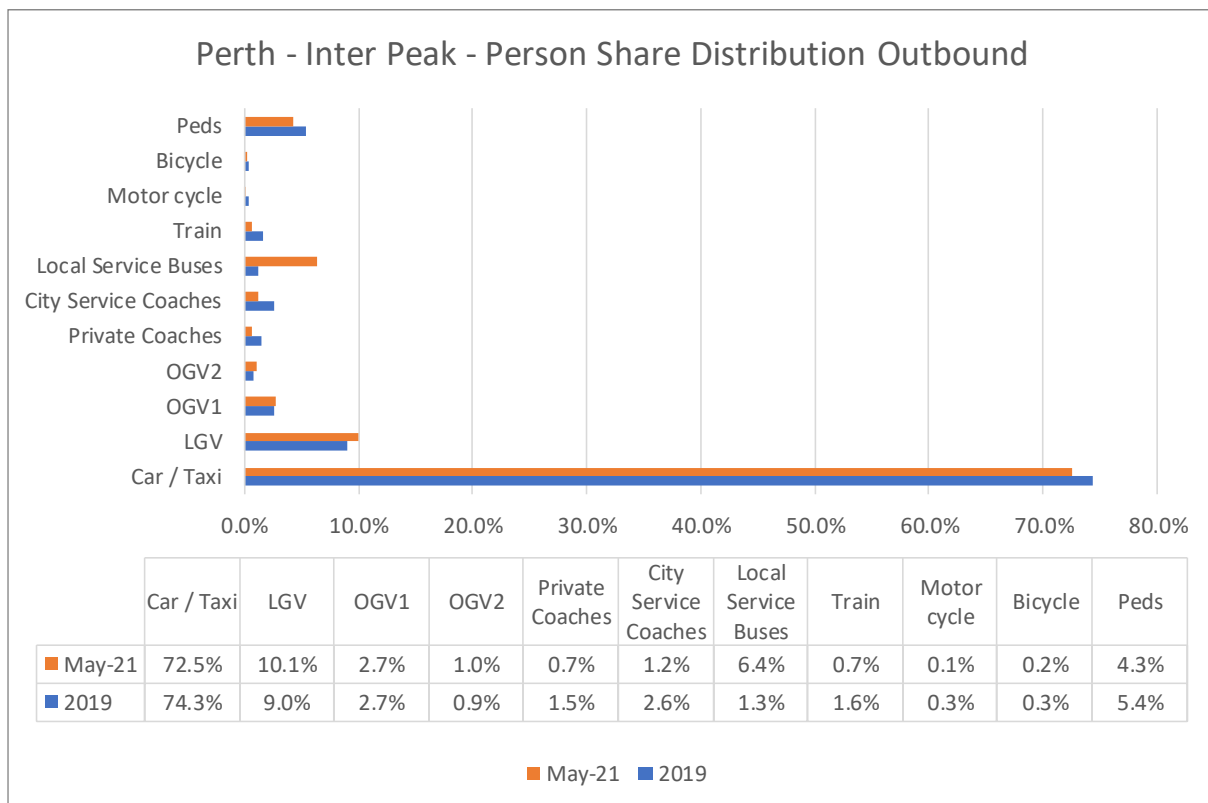
6.5.24 The total number of vehicles and pedestrians observed as part of the mode surveys outbound in the inter peak period was 39,878 in June/July 2019, 33,958 in October 2020, 29,731 in February 2021, 35,152 in May 2021 and 36,664 in September 2021.



**Figure 10. Perth Person Share Distribution Inbound – Inter Peak**

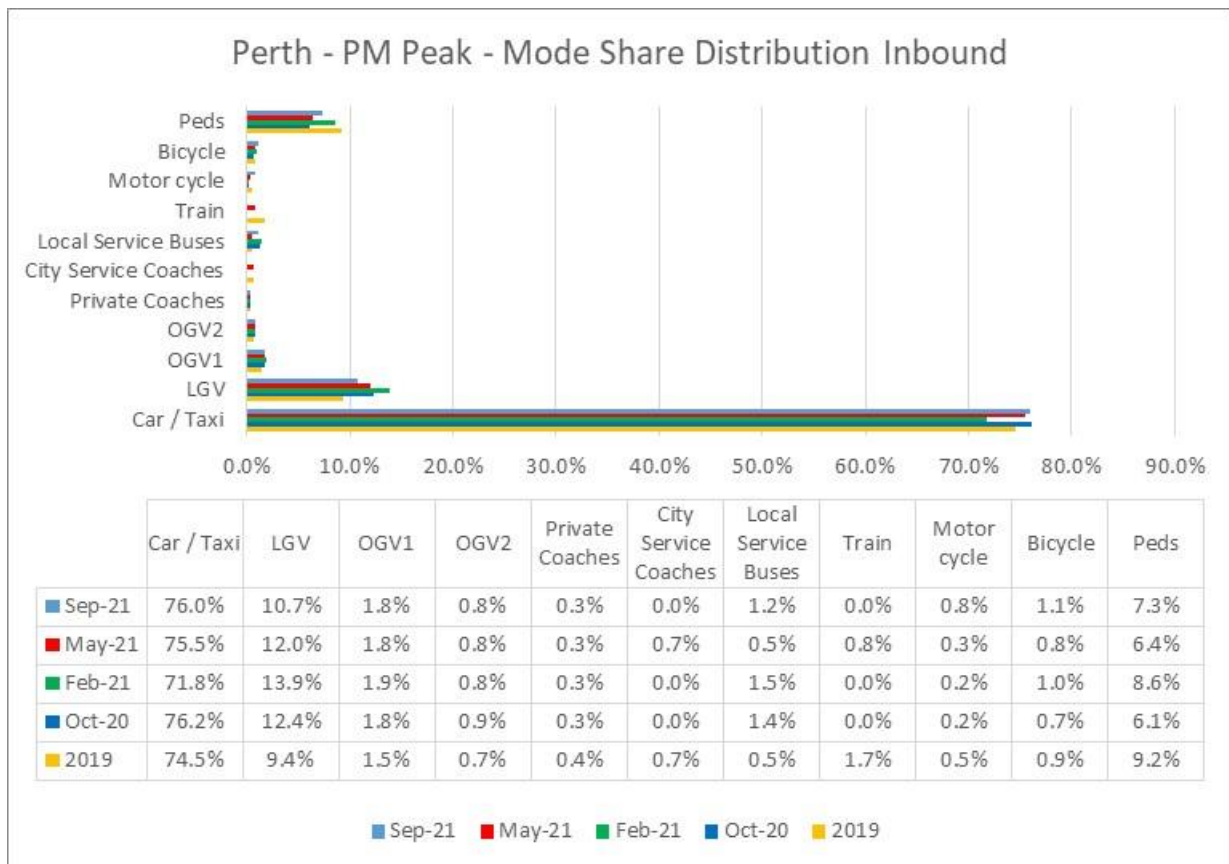
6.5.25 Figure 10 shows that in the inter peak, the person mode share inbound remained relatively consistent over the survey periods. The results for local service buses are influenced by the 2019 surveys being undertaken during the school holidays, with rail showing a drop between 2019 and May 2021.

6.5.26 The total number of people recorded in the inter peak inbound was 50,670 in June/July 2019 and 50,915 in May 2021.



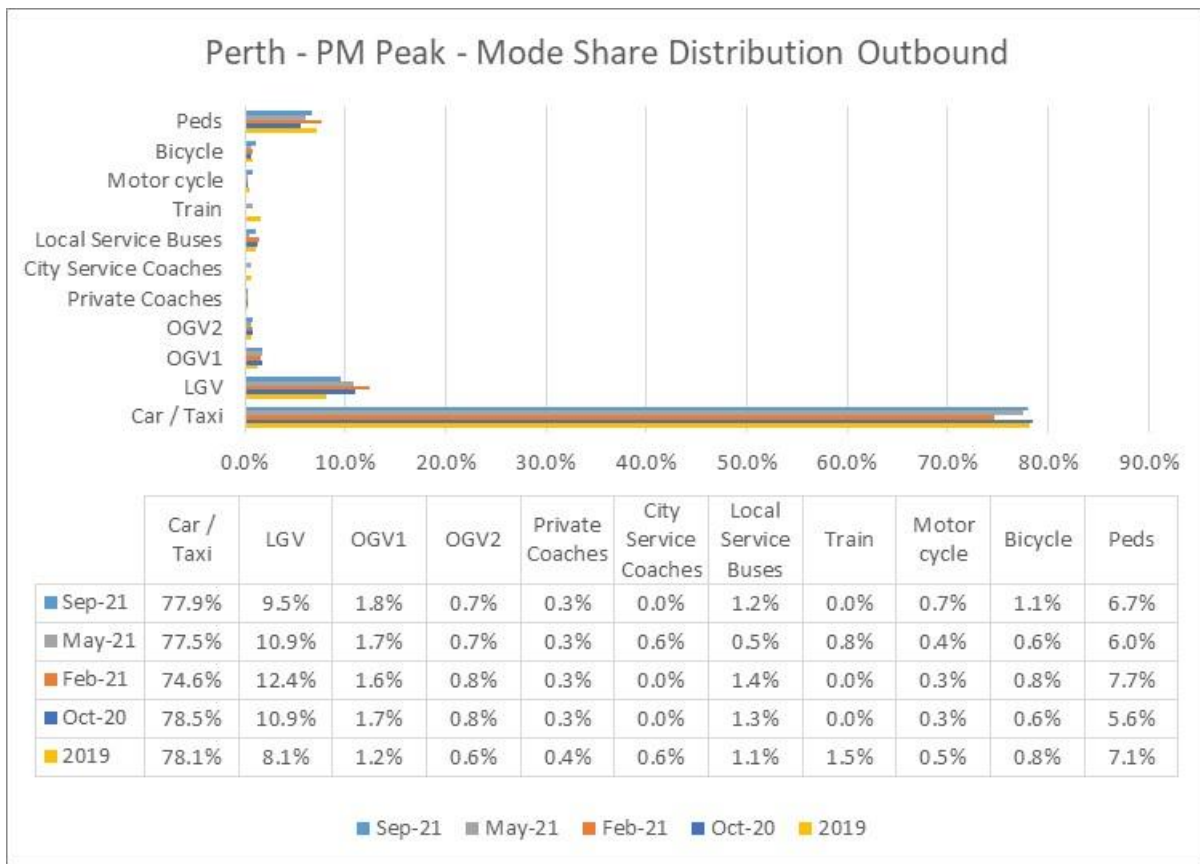
**Figure 11. Perth Person Share Distribution Outbound – Inter Peak**

- 6.5.27 Figure 11 shows a similar result to the inbound direction.
- 6.5.28 The total number of people recorded in the inter peak outbound was 46,873 in June/July 2019 and 45,790 in May 2021.
- 6.5.29 Figure 12 and Figure 13 present the PM peak mode share results by vehicle by direction and Figure 14 and Figure 15 present the PM Peak mode share results by person by direction.
- 6.5.30 Each figure presents the mode share by vehicle type for the four survey periods (October 2020, February 2021, May 2021 and September 2021) and compares to the previous survey in 2019. The mode share by person is presented for May 2021 as this was the only survey that captured vehicle occupancy and is compared against the previous results in 2019.



**Figure 12. Perth Mode Share Distribution Inbound – PM Peak**

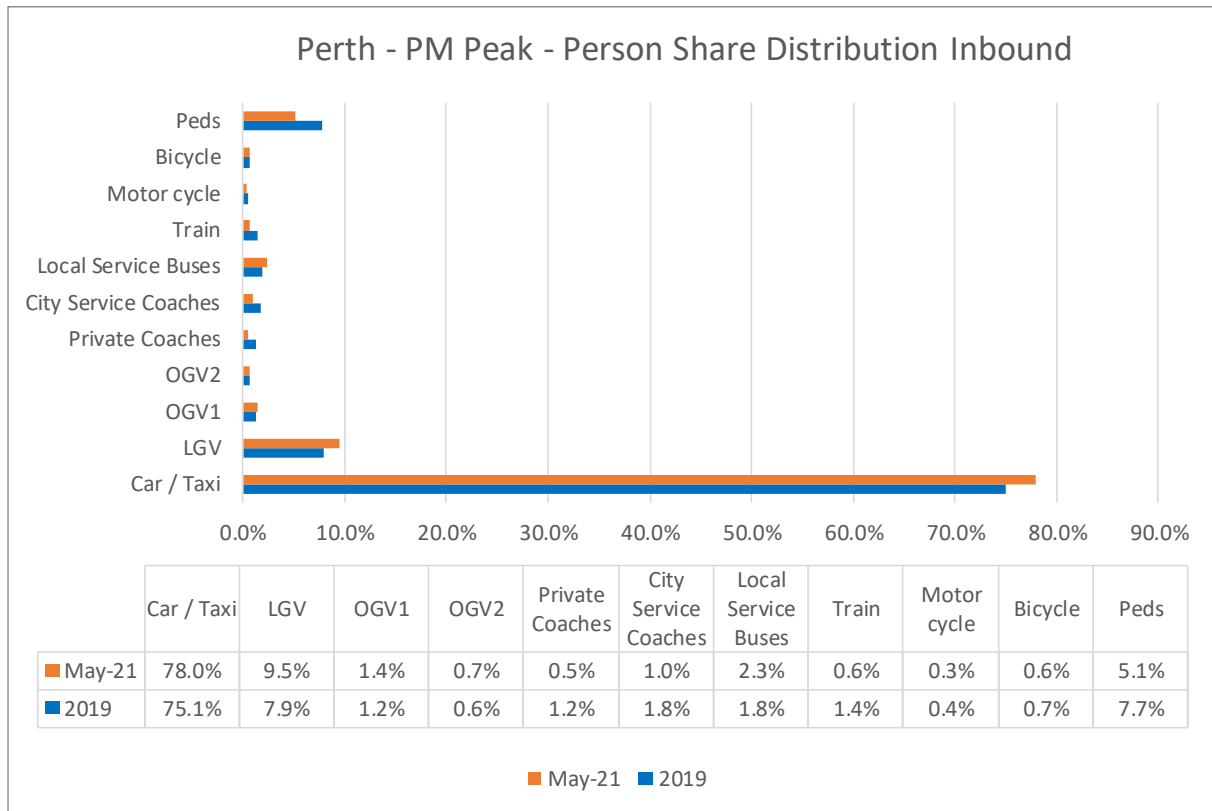
- 6.5.31 Figure 12 shows that the mode share of vehicles remained relatively consistent over the four survey periods. The results for rail are only included in May 2021 as rail station surveys were only undertaken at this point. It should be noted that the 2019 surveys were undertaken during school holidays so no school buses were observed at that point.
- 6.5.32 The proportion of LGVs has increased between 2019 and 2020/21, due to the increase in supermarket deliveries and online shopping deliveries, though a reduction is noted in September 2021.
- 6.5.33 The proportion of pedestrians has remained relatively consistent across all of the surveys, whilst the proportion of cyclists was also similar across all survey periods.
- 6.5.34 The total number of vehicles and pedestrians observed as part of the mode surveys inbound in the PM peak period was 23,700 in June/July 2019, 18,902 in October 2020, 16,498 in February 2021, 20,497 in May 2021 and 22,446 in September 2021.



**Figure 13. Perth Mode Share Distribution Outbound – PM Peak**

6.5.35 Figure 13 shows that the majority of people heading out of Perth in the PM Peak did so by car and taxi. Total bus usage was around 1.5% in the PM peak in each survey period, rail has decreased from around 1.5% to around 0.8%, bicycle remained stable at between 0.6% and 0.8% until September 2021 when it increased to 1.1%, and walking between 5.6% and 7.7%.

6.5.36 The total number of vehicles and pedestrians observed as part of the mode surveys outbound in the PM peak period was 26,003 in June/July 2019, 19,597 in October 2020, 16,908 in February 2021, 21,316 in May 2021 and 22,349 in September 2021.

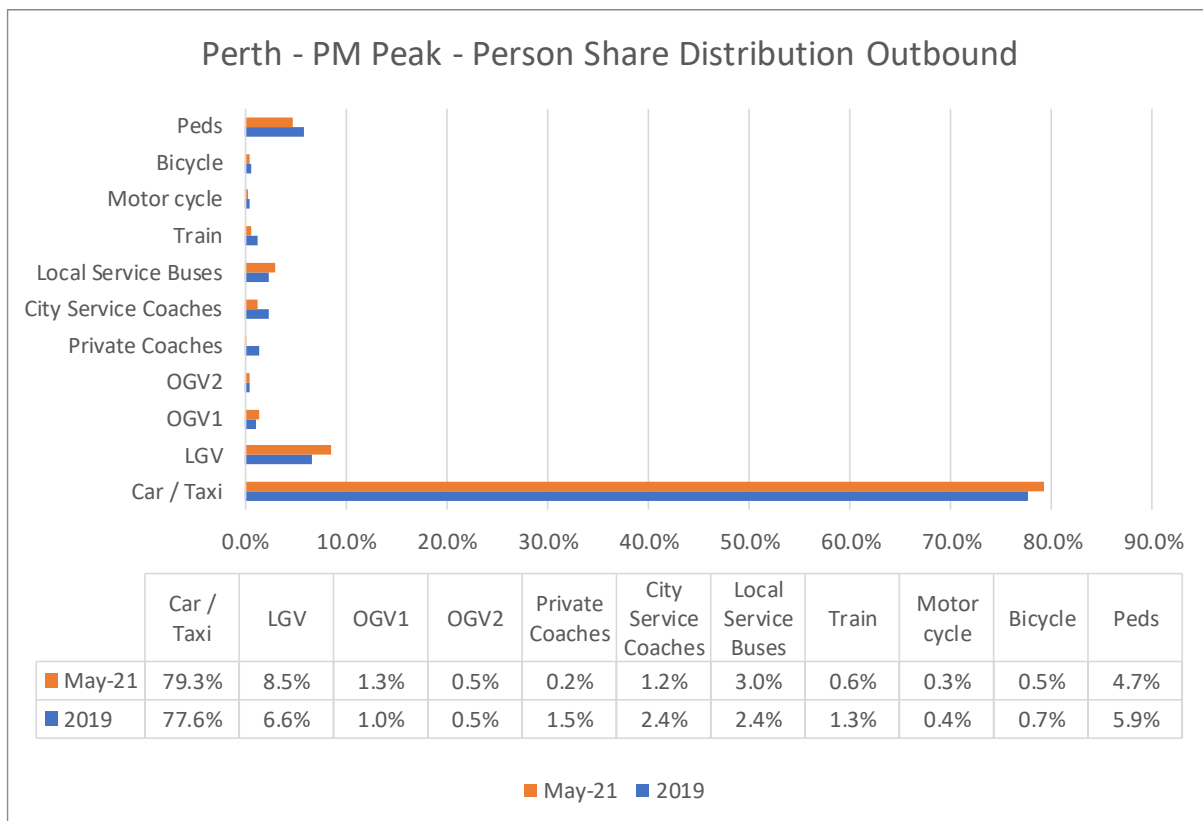


**Figure 14. Perth Person Share Distribution Inbound – PM Peak**

6.5.37 Figure 14 shows that in the PM peak, the person mode share inbound remained relatively consistent over the survey periods. The results for local service buses are influenced by the 2019 surveys being undertaken during the school holidays, and rail shows a drop between 2019 and May 2021.

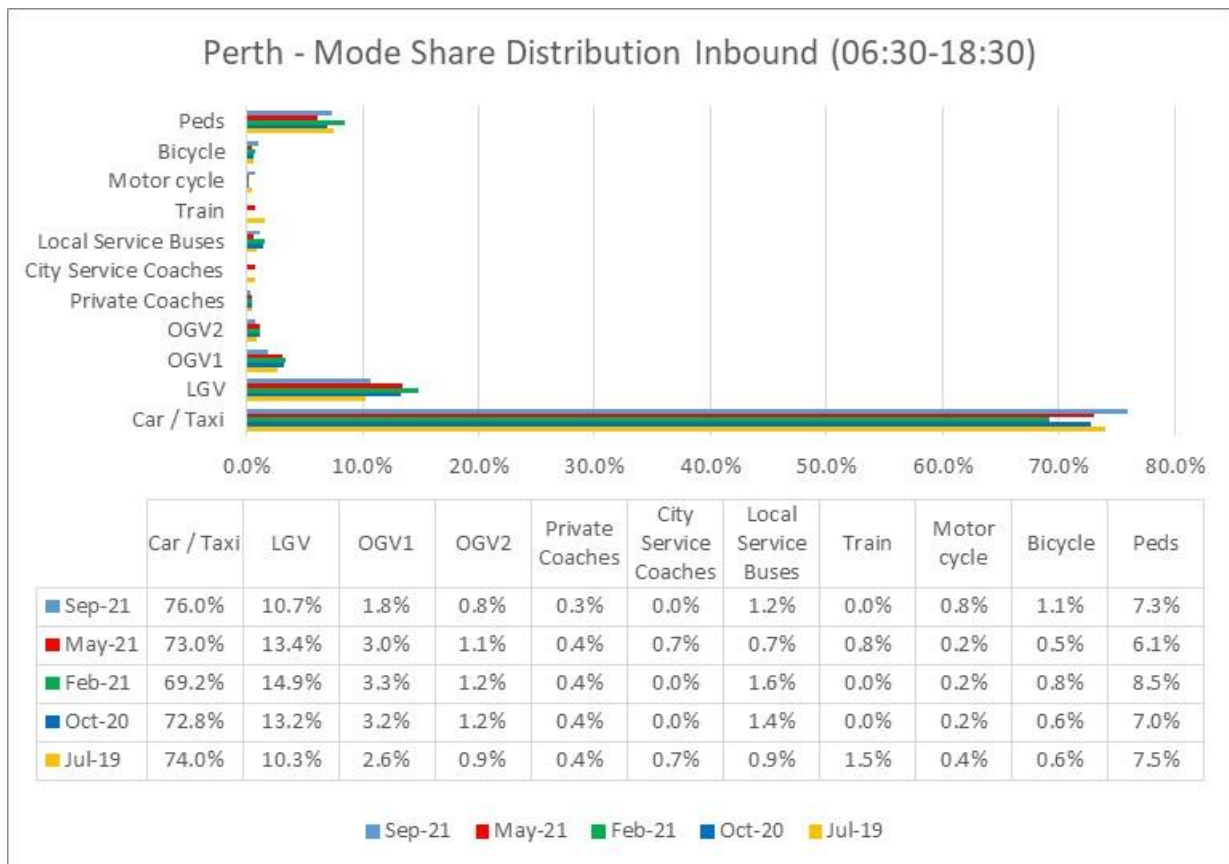
6.5.38 The total number of people recorded in the PM peak inbound was 28,166 in June/July 2019 and 25,875 in May 2021.





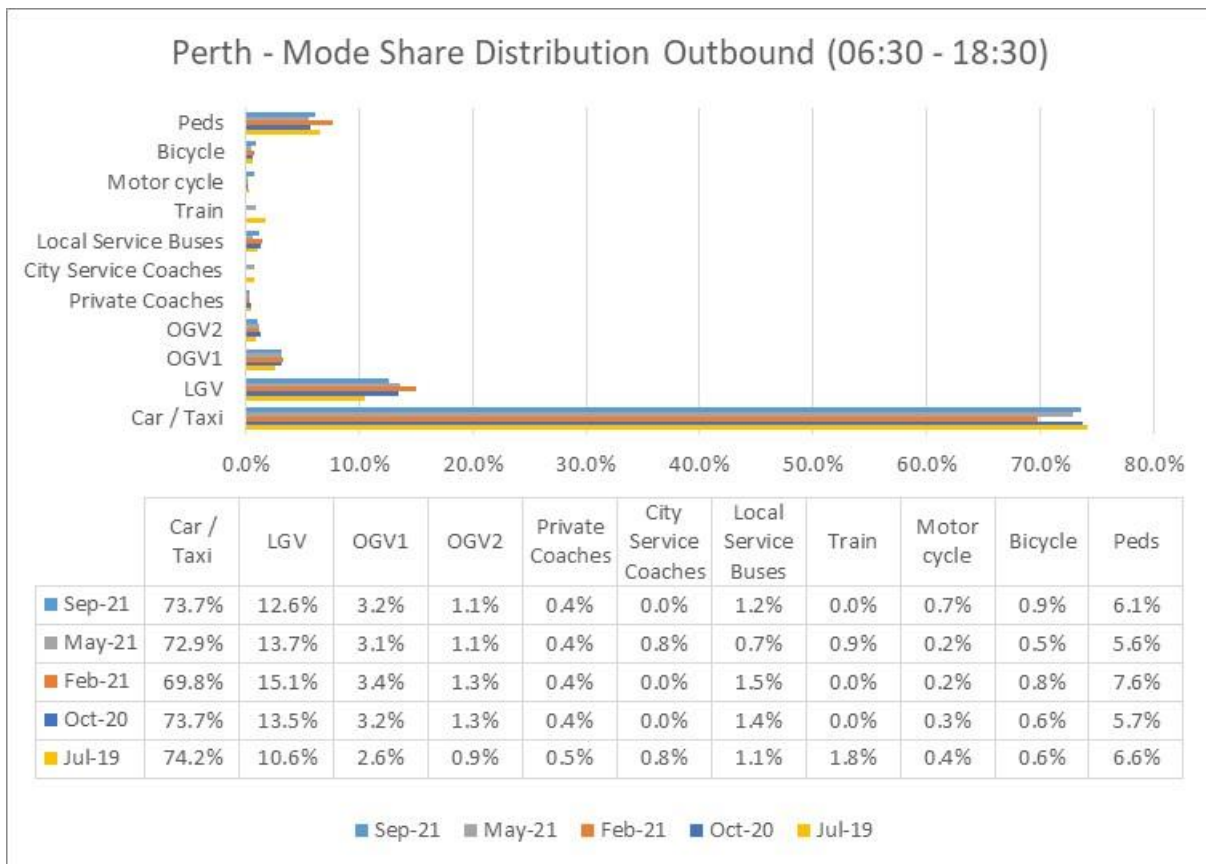
**Figure 15. Perth Person Share Distribution Outbound – PM Peak**

- 6.5.39 Figure 15 shows a similar result to the inbound direction.
- 6.5.40 The total number of people recorded in the PM peak outbound was 31,756 in June/July 2019 and 27,420 in May 2021
- 6.5.41 Figure 16 and Figure 17 present the full day (06:30-18:30) mode share results by vehicle by direction and Figure 18 and Figure 19 present the full day (06:30-18:30) mode share results by person by direction.
- 6.5.42 Each figure presents the mode share by vehicle type for the four survey periods (October 2020, February 2021, May 2021 and September 2021) and compares to the previous survey in June/July 2019. The mode share by person is presented for May 2021 as this was the only survey that captured vehicle occupancy and is compared against the previous results in June/July 2019.



**Figure 16. Perth Mode Share Distribution Inbound – Full Day**

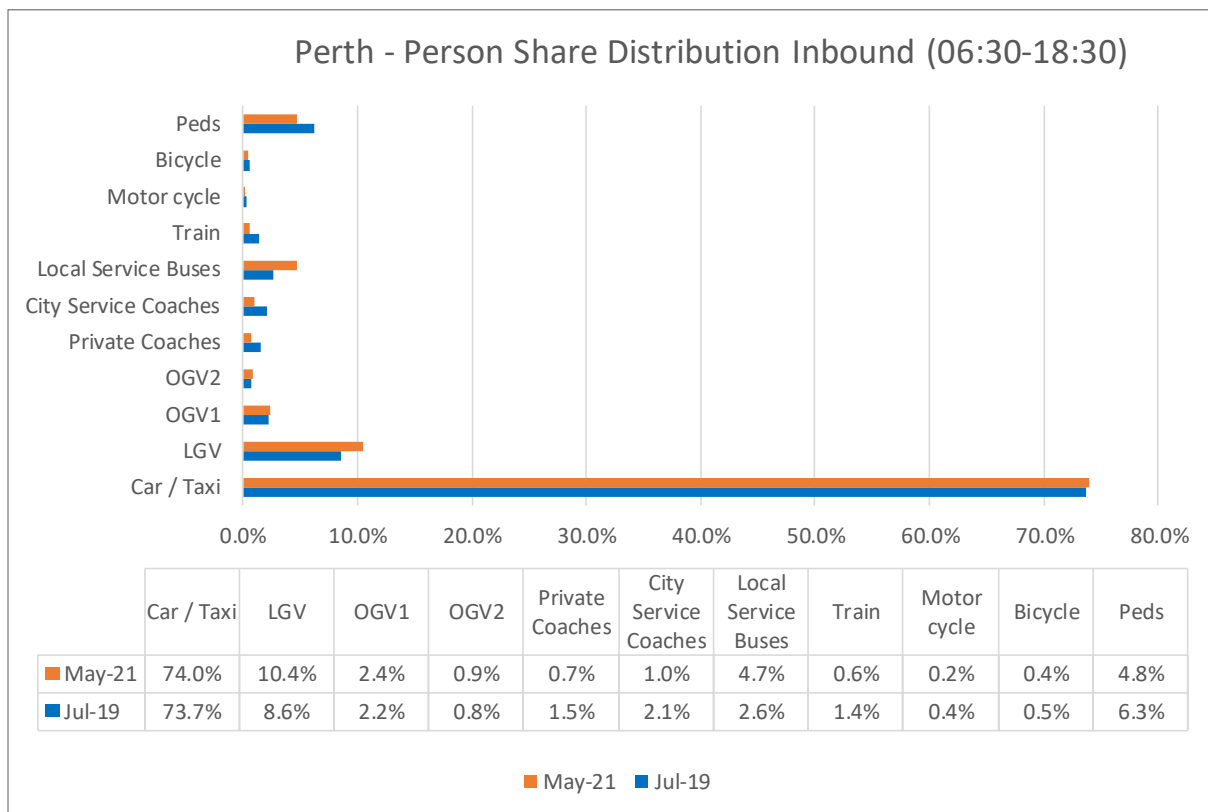
- 6.5.43 Figure 16 shows that the mode share of vehicles remained relatively consistent over the three survey periods. The results for rail are only included in May 2021 as rail station surveys were only undertaken at this point. It should be noted that the 2019 surveys were undertaken during school holidays so no school buses were observed at that point.
- 6.5.44 The proportion of LGVs has increased between 2019 and 2020/21, due to the increase in supermarket deliveries and online shopping deliveries, although the proportion observed in September 2021 was consistent with 2019.
- 6.5.45 The proportion of pedestrians has remained relatively consistent across all of the surveys, with the exception of a slight increase in February 2021, whilst the proportion of cyclists was also similar across all survey periods, with the exception of a slight increase in September 2021.
- 6.5.46 The total number of vehicles and pedestrians observed as part of the mode surveys inbound in the PM peak period was 84,981 in June/July 2019, 73,250 in October 2020, 62,732 in February 2021, 76,786 in May 2021 and 80,785 in September 2021.



**Figure 17. Perth Mode Share Distribution Outbound – Full Day**

6.5.47 Figure 17 shows that the majority of people heading out of Perth across the day did so by car and taxi. Total bus usage was around 2% in each survey period, rail has decreased from around 1.8% to around 0.9%, bicycle has remained stable at between 0.5% and 0.9%, and walking between 5.6% and 7.6%.

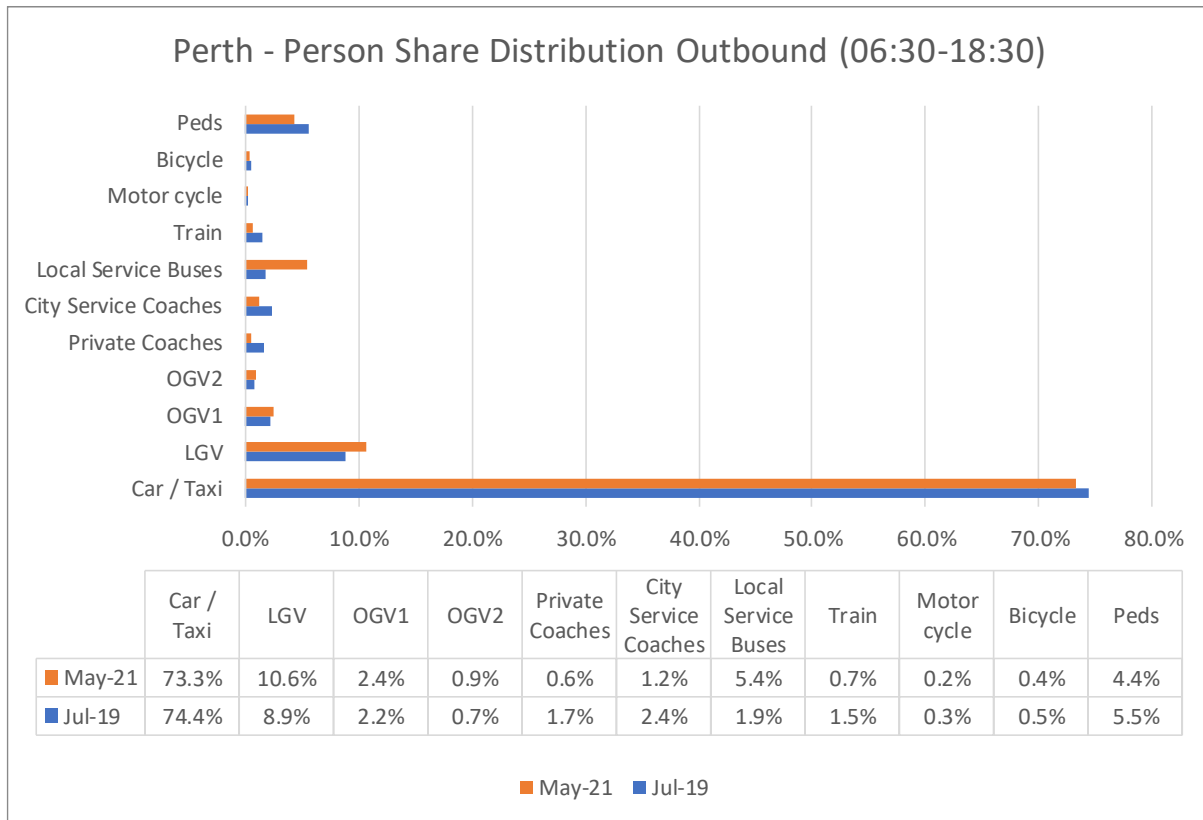
6.5.48 The total number of vehicles and pedestrians observed as part of the mode surveys outbound across the day was 79,403 in June/July 2019, 66,282 in October 2020, 57,564 in February 2021, 69,470 in May 2021 and 73,148 in September 2021.



**Figure 18. Perth Person Share Distribution Inbound – Full Day**

6.5.49 Figure 18 shows that across the day, the person mode share inbound remained relatively consistent over the survey periods. The results for local service buses are influenced by the 2019 surveys being undertaken during the school holidays, and rail shows a drop between June/July 2019 and May 2021.

6.5.50 The total number of people recorded in the PM peak inbound was 101,912 in June/July 2019 and 98,714 in May 2021.



**Figure 19. Perth Person Share Distribution Outbound – Full Day**

6.5.51 Figure 19 shows a similar result to the inbound direction.

6.5.52 The total number of people recorded in the PM peak outbound was 94,421 in June/July 2019 and 89,373 in May 2021

## 7. SUMMARY & FINDINGS

### 7.1 Summary

7.1.1 SYSTRA Ltd (SYSTRA) was commissioned by Tactran to undertake traffic surveys through various sites in the Angus, Dundee, Perth & Kinross, & Stirling area.

7.1.2 The types of surveys undertaken for this study were:

- Pedestrian Behaviour and volume counts
- Link count and speed surveys
- Classified Link Counts (including cyclists & pedestrians)
- Rail Station Counts
- Bus Occupancy Counts
- Vehicle Occupancy Counts.

7.1.3 All surveys were recorded over a 16 hour period (06:00-22:00) and the analysis was split into the following time periods:

- AM Peak Period – 06:30 – 09:30
- Inter Peak Period – 09:30 – 15:30
- PM Peak Period – 15:30 – 18:30

7.1.4 The mode share data was also considered from the perspective of the share of vehicles and by the share of people. Both these methodologies are presented in this report, and are detailed as follows:

- ‘Mode Share Distribution’ – Each vehicle, including buses counts as 1 trip - this methodology does not take into account the number of people in a vehicle or a bus
- ‘Person Share Distribution’ – Each person counts as 1 trip, therefore the bus patronage and multi occupancy vehicle.

### 7.2 Findings

#### Pedestrian Behaviour and Volume Counts

7.2.1 Pedestrian Behaviour on the west side footpath of Tay Street in Perth shows that, on average 89% of pedestrians did not conflict with oncoming pedestrians, whilst 11% passed on the footpath within a space of 2m or less .

7.2.2 Pedestrian Behaviour on the east side footpath of Tay Street in Perth shows that, on average 78% of pedestrians did not conflict with oncoming pedestrians, whilst 13% passed on the footpath within a space of 2m or less. The remaining 9% passed with over 2m between them.

7.2.3 The results of the pedestrian flow surveys demonstrate that flows were generally highest in February 2021 when Scotland was in a period of lockdown, or September 2021, depending upon the location.

## Link Count and Speed Surveys

7.2.4 The results of the wider link counts and speed surveys indicate:

- On Tay Street, between South Street and High Street, the mean speeds remained consistent in all three survey periods, around 22mph in the northbound direction and 21mph in the southbound direction
- On Tay Street, between Marshall Place and Canal Street, the mean speeds again remained consistent in all three survey periods, around 24mph in both directions.

## Mode Share Surveys

7.2.5 The results of the mode share surveys in Perth indicate that the mode share has remained consistent over the four surveys, car usage in each period has been around 70%, the volume of cyclists has remained below 1% and pedestrians have remained consistent at around 3% to 8%. The mode share by person surveys indicated:

- In the 2021 AM peak the majority of people travelling inbound were doing so by car/taxi (69.2%), LGV accounted for around 13% of people and HGV around 3%. In terms of public transport, bus accounted for around 9% of people and train under 1%. Cycling and walking accounted for just under 5%, cycling at 0.4% and walking at 4.3% of all people heading inbound towards Perth city centre.
- In the 2021 AM peak the majority of people travelling outbound were doing so by car/taxi (65.1%), LGV accounted for around 16% of people and HGV around 5%. In terms of public transport, bus accounted for around 9% of people and train under 1%. Cycling and walking accounted for just under 5%, cycling at 0.5% and walking at 3.9% of all people heading outbound from Perth city centre.
- In the 2021 inter-peak, the majority of people travelling inbound were doing so by car/taxi (74%), LGV accounted for 10% of people and HGV around 4%. In terms of public transport, bus accounted for around 7% of people and train under 1%. Cycling and walking accounted for just over 5%, cycling at 0.5% and walking at 4.8% of all people heading inbound towards Perth city centre.
- In the 2021 inter-peak, the majority of people travelling outbound were doing so by car/taxi (74%), LGV accounted for 10% of people and HGV around 4%. In terms of public transport, bus accounted for around 7% of people and train under 1%. Cycling and walking accounted for just over 5%, cycling at 0.5% and walking at 4.8% of all people heading outbound from Perth city centre.
- In the PM peak, the majority of people travelling inbound were doing so by car/taxi (78%), LGV accounted for slightly over 9% of people and HGV around 2%. In terms of public transport, bus accounted for around 4% of people and train under 1%. Cycling and walking accounted for just under 6%, cycling at 0.6% and walking at 5.1% of all people heading inbound towards Perth city centre.
- In the PM peak, the majority of people travelling outbound were doing so by car/taxi (79.3%), LGV accounted for 8.5% of people and HGV around 2%. In terms of public transport, bus accounted for around 4.4% of people and train under 1%. Cycling and walking accounted for just under 6%, cycling at 0.6% and walking at 5.1% of all people heading outbound from Perth city centre.
- Across the day, the majority of people travelling inbound were doing so by car/taxi (74%), LGV accounted for slightly over 10% of people and HGV around 3%. In terms of public transport, bus accounted for around 6% of people and train under 1%.



Cycling and walking accounted for just under 6%, cycling at 0.4% and walking at 4.8% of all people heading inbound towards Perth city centre.

- In the PM peak, the majority of people travelling outbound were doing so by car/taxi (73.3%), LGV accounted for almost 11% of people and HGV around 3%. In terms of public transport, bus accounted for around 7% of people and train 1%. Cycling and walking accounted for just under 5%, cycling at 0.4% and walking at 4.4% of all people heading outbound from Perth city centre



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**Birmingham – Newhall Street**

5th Floor, Lancaster House, Newhall St,  
Birmingham, B3 1NQ  
T: +44 (0)121 393 4841

**Birmingham – Edmund Gardens**

1 Edmund Gardens, 121 Edmund Street,  
Birmingham B3 2HJ  
T: +44 (0)121 393 4841

**Dublin**

2nd Floor, Riverview House, 21-23 City Quay  
Dublin 2, Ireland  
T: +353 (0) 1 566 2028

**Edinburgh – Thistle Street**

Prospect House, 5 Thistle Street, Edinburgh EH2 1DF  
United Kingdom  
T: +44 (0)131 460 1847

**Glasgow – St Vincent St**

Seventh Floor, 124 St Vincent Street  
Glasgow G2 5HF United Kingdom  
T: +44 (0)141 468 4205

**Glasgow – West George St**

250 West George Street, Glasgow, G2 4QY  
T: +44 (0)141 468 4205

**Leeds**

100 Wellington Street, Leeds, LS1 1BA  
T: +44 (0)113 360 4842

**London**

3<sup>rd</sup> Floor, 5 Old Bailey, London EC4M 7BA United Kingdom  
T: +44 (0)20 3855 0079

**Manchester – 16<sup>th</sup> Floor, City Tower**

16th Floor, City Tower, Piccadilly Plaza  
Manchester M1 4BT United Kingdom  
T: +44 (0)161 504 5026

**Newcastle**

Floor B, South Corridor, Milburn House, Dean Street, Newcastle, NE1  
1LE  
United Kingdom  
T: +44 (0)191 249 3816

**Reading**

Soane Point, 6-8 Market Place, Reading,  
Berkshire, RG1 2EG  
T: +44 (0)118 206 0220

**Woking**

Dukes Court, Duke Street  
Woking, Surrey GU21 5BH United Kingdom  
T: +44 (0)1483 357705

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