Appendix E Park and Ride Survey

INFORMATION NOTE

Project Name:	**East Lothian STAG Appraisal**
Project Ref:	**45214**
Note Number:	**1**
Note Title:	**Park and Ride Surveys Analysis**
Date:	**21/05/19**
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Approved By:	**Alec Knox**

1 Introduction

1.1 Overview

1.1.1 This note sets out the findings of analysis on parking surveys undertaken at Park and Ride sites in East Lothian.

1.1.2 Parking counts were carried out at all rail stations in East Lothian including Drem, Dunbar, Longniddry, Musselburgh, North Berwick, Prestonpans, and Wallyford. The counts were carried out in the station car parks and on streets surrounding each of these rail stations to assess the extent to which overflow parking was occurring.

1.1.3 The counts were carried out on neutral weekdays from 6am – 8pm on the 23rd April (Longniddry & Wallyford), 24th April (Drem & Musselburgh), 25th April (North Berwick & Prestonpans) and the 1st May (Dunbar).

1.1.4 The method used was 30-minute parking beats, i.e. every 30 minutes the car parks and streets were surveyed to see whether cars had departed or arrived.

2 Drem

2.1 Car Park

2.1.1 Table 2.1 shows the breakdown of parking spaces at Drem car park.

Table 2.1 Breakdown of parking spaces at Drem car park

Type of Bay	Number of Spaces
Marked Bay	71
Disabled Bay	4
Electric Charging Bay	1
Motorcycle Bay	1

2.1.2 Drem's marked bays reach full capacity at 1pm as shown in Figure 2.1 and only stays fully occupied for 0.5 hours. However, it reached 98.6% occupancy at 9am (1 space unoccupied)

showing that the majority of the demand is in the AM peak period. Neither the electric charging bay nor the disabled bays are fully occupied at any point in the day.

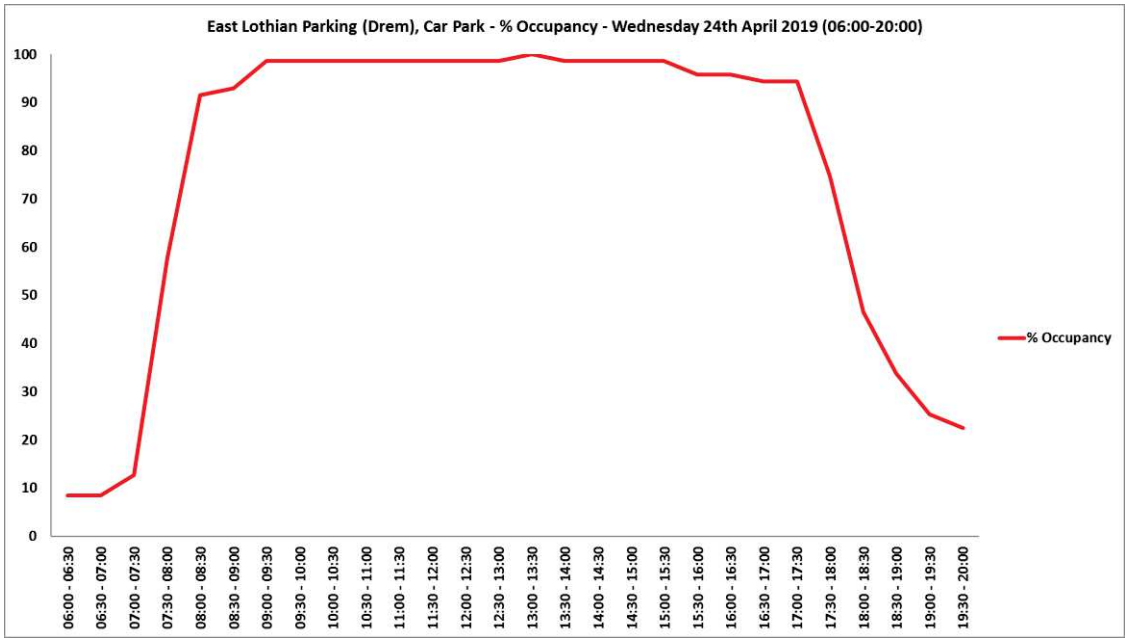

Figure 2.1 Drem: % Occupancy of Car Park

2.1.3 Vehicle turnover is on average between 1 and 1.5 highlighting the fact that most parking is long stay, this is shown in Figure 2.2. Note that section 1E of the car park only contains motorcycle and disabled bays and has high turnover and low occupancy due to short stay parking (up to 0.5 hours) in disabled bays, this is likely a pickup or drop off.

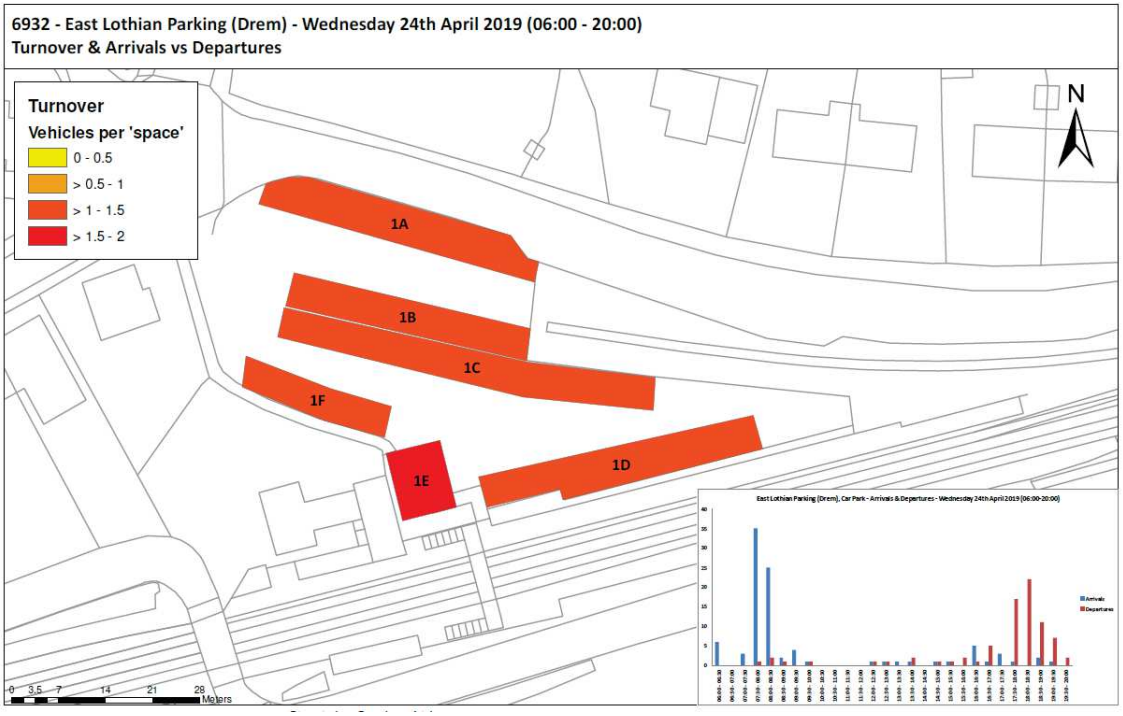

Figure 2.2 Drem: Vehicle Turnover of Car Park

2.2 On-Street Parking

2.2.1 Figure 2.3 and Figure 2.4 show that there is some long stay parking on B1377 and the road off B1345.

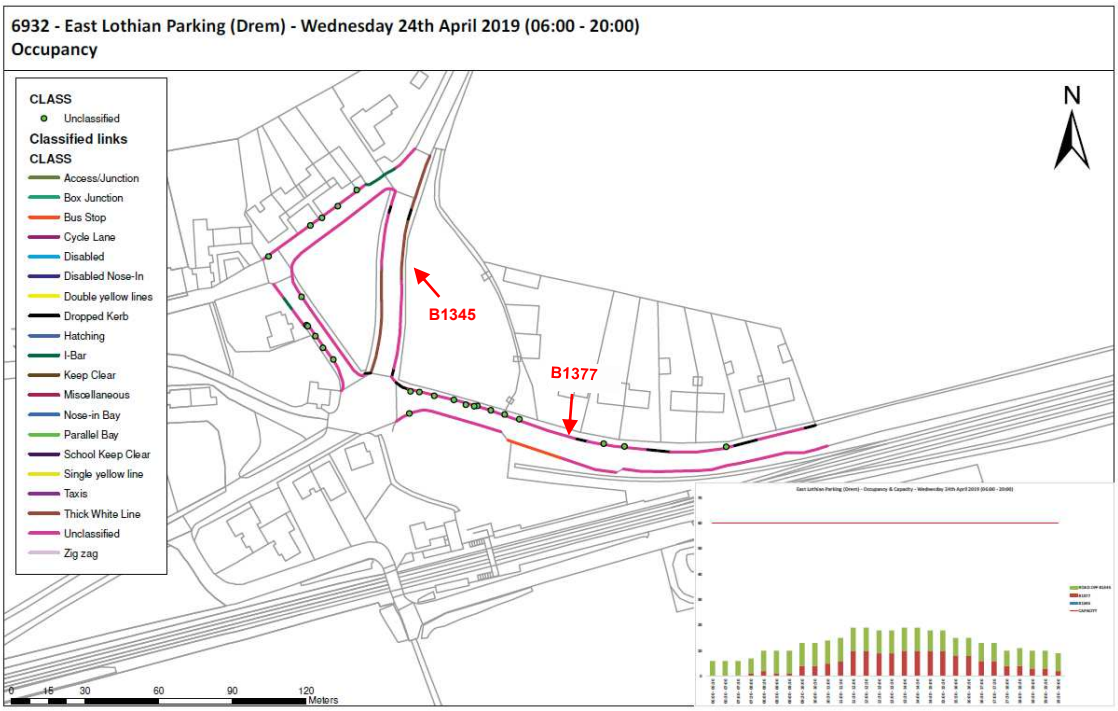

Figure 2.3 Drem: Classification of streets and on-street parking

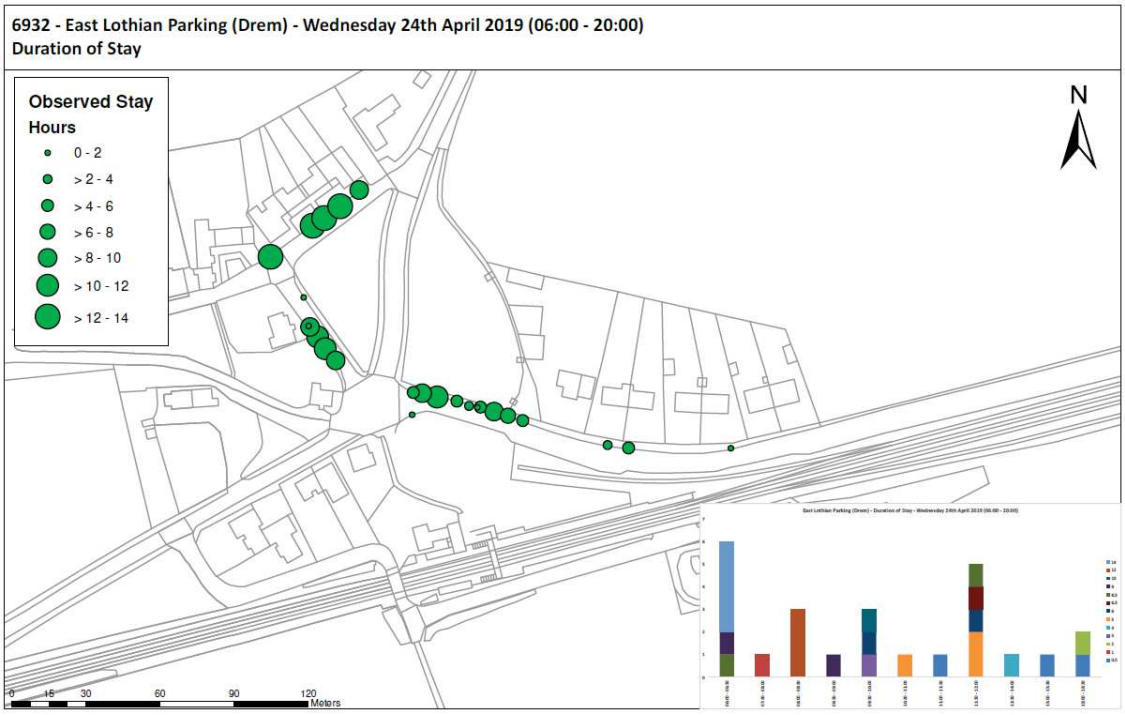

Figure 2.4 Drem: Duration of Stay for on-street parking

2.2.2 Figure 2.5 shows that the occupancy for B1377 follows a commute pattern (occupancy rising from 9am and decreasing after 3:30pm) and is likely due to overflow from the rail station. The road off B1345 remains at a similar occupancy throughout the day indicating that they are residents.

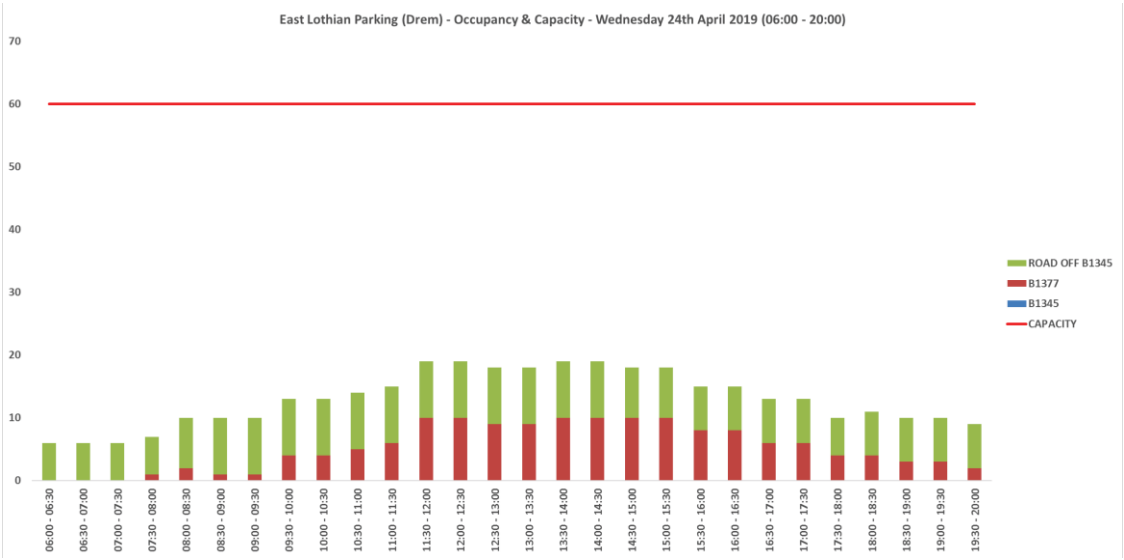

Figure 2.5 Drem: Occupancy & capacity of on-street parking

2.2.3 Since the volume of on-street parking is low, and there is no illegal parking there is likely to be little impact on residents in the area.

3 Dunbar

3.1 Car Park

3.1.1 Table 3.1 shows the breakdown of parking spaces at Dunbar car park.

Table 3.1 Breakdown of parking spaces at Dunbar car park

Type of Bay	Number of Spaces
Marked Bay	42
Disabled Bay	6
Electric Charging Bay	2
Motorcycle Bay	1

3.1.2 Dunbar's marked bays are being used to full capacity, with only disabled and motorcycle bays not being fully utilised. It should be noted that electric charging bays are also being fully occupied by vehicles for 11-14 hours. Since they become occupied early in the morning before the station reaches capacity, it is expected that they are being used for charging and not by overflow demand. Full capacity is reached by 8:30am and remains fully occupied for 8.5 hours until 5pm, as shown in Figure 3.1.

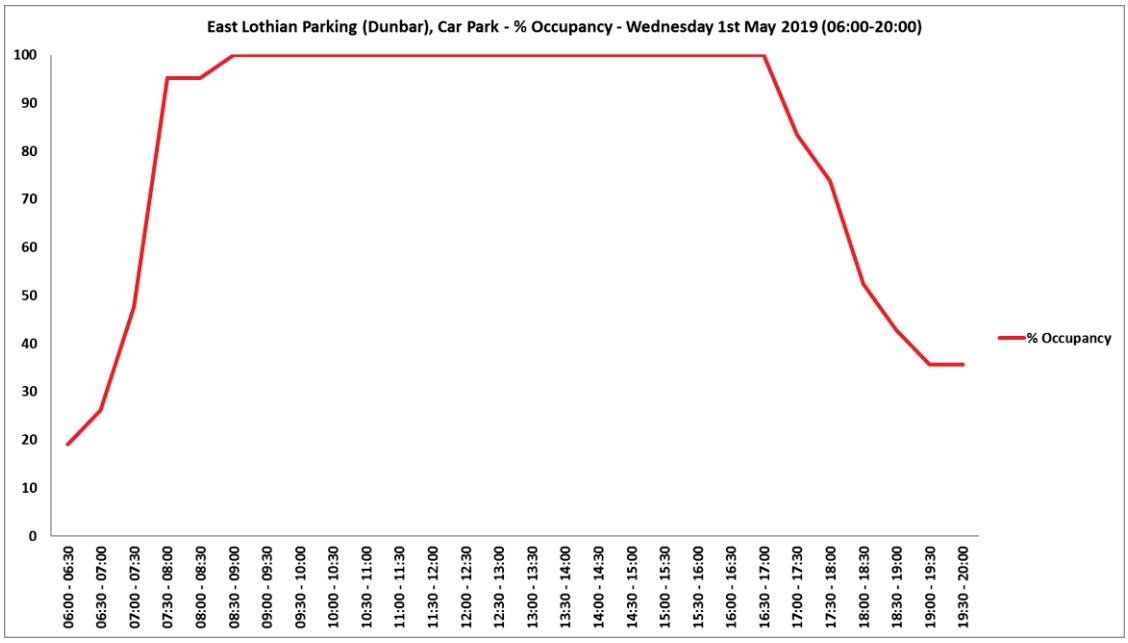

Figure 3.1 Dunbar: % Occupancy of Car Park

3.1.3 Figure 3.2 shows the vehicle turnover, which is typically low due to long stay parking. Section 1F has very low turnover since the occupancy is low as they are disabled bays.

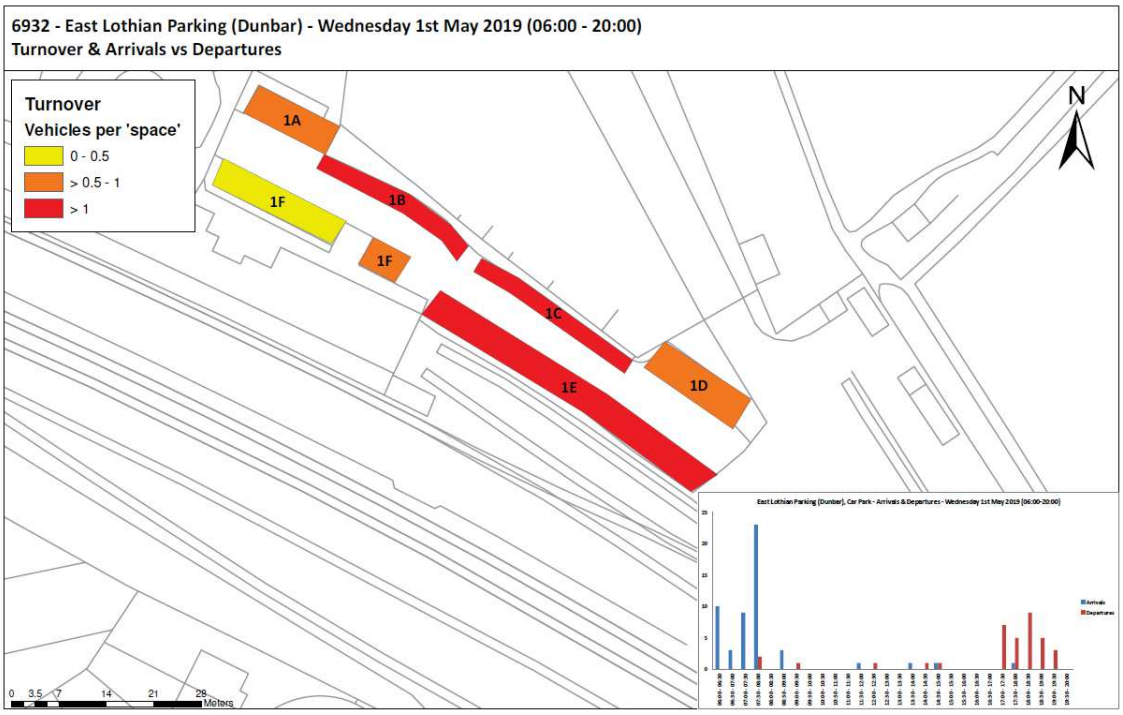

Figure 3.2 Dunbar: Vehicle Turnover of Car Park

3.2 On-Street Parking

3.2.1 Figure 3.3 and Figure 3.4 show evidence of long stay parking on Station Road, Countess Road, E Links Road and the road off A1087.

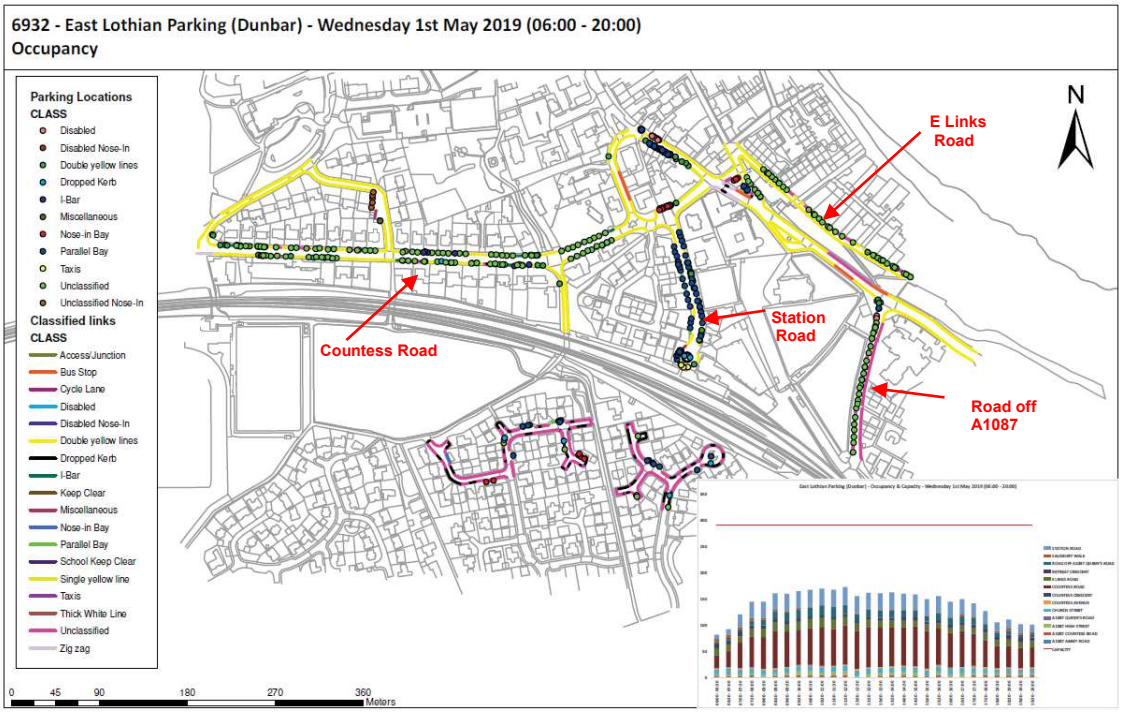

Figure 3.3 Dunbar: Classification of streets and on-street parking

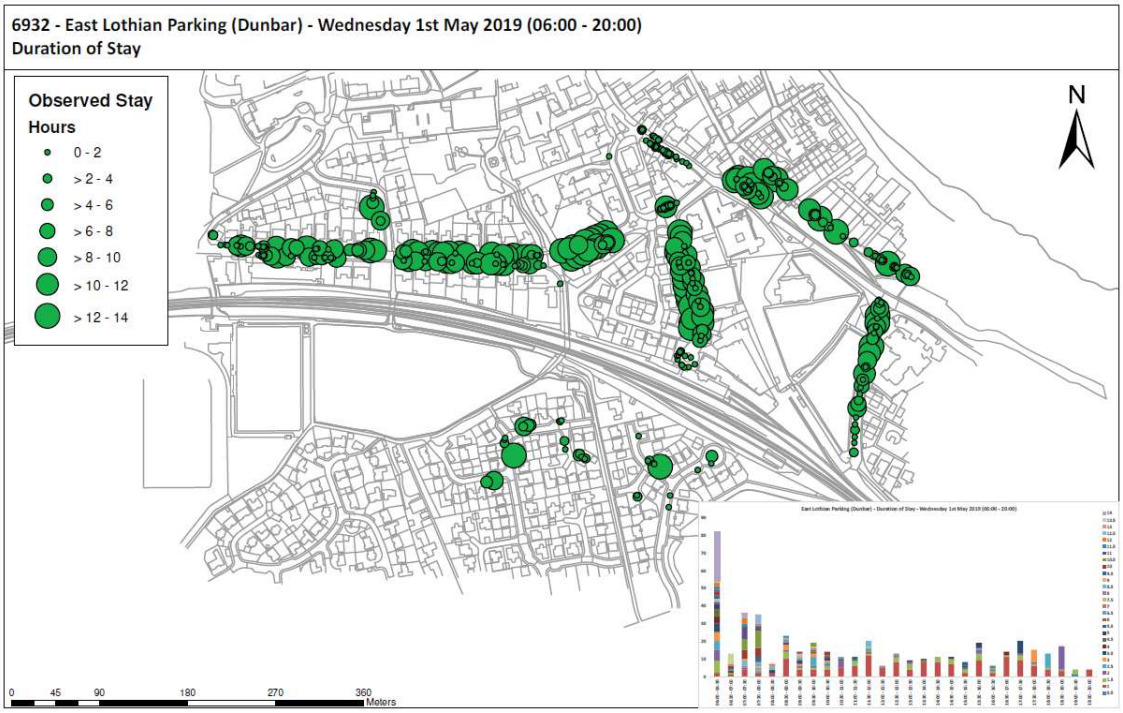

Figure 3.4 Dunbar: Duration of Stay for on-street parking

3.2.2 Figure 3.5 shows that the occupancy for Station Road, Countess Road and the Road off A1087 follows a commute pattern (occupancy rising until approximately 9am and decreasing after 5pm) and is likely due to overflow from the rail station. The other roads remain at a similar occupancy throughout the day indicating that they are residents.

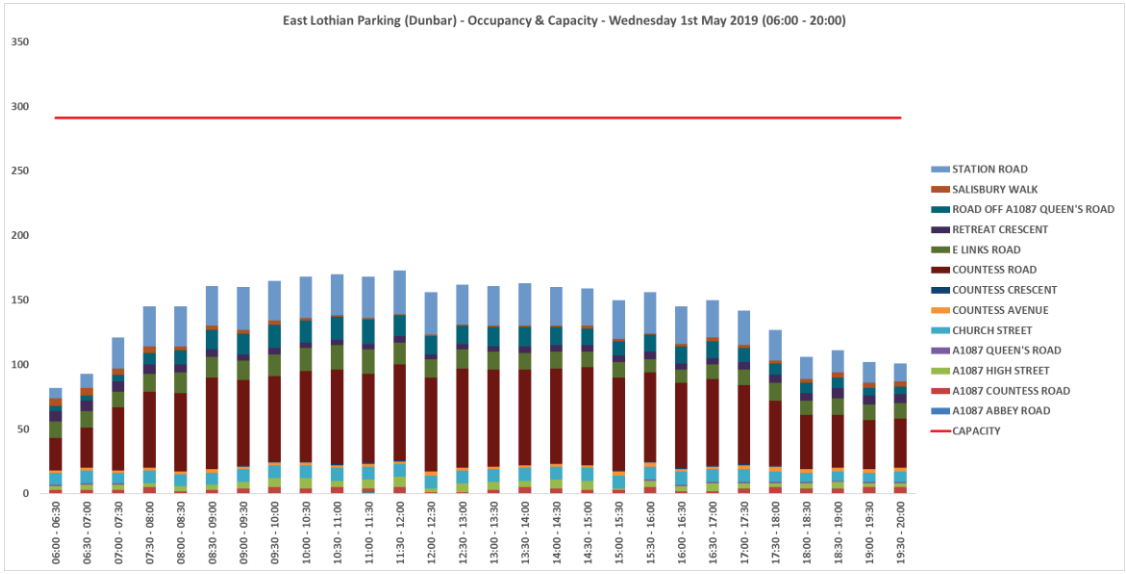

Figure 3.5 Dunbar: Occupancy & capacity of on-street parking

3.2.3 Parking on Station Road and the road off A1087 is most likely overflow parking from the rail station. However, parking on Countess Road could also be attributed to Dunbar Primary or Dunbar Grammar School.

3.2.4 Illegal parking (on double yellow lines) occurs on Station Road and Countess Road. On Countess Road these are generally short length stays of around 0.5 hours. Whereas on Station Road the length of stay is typically longer, averaging 2 hours.

3.2.5 Countess Road is a residential street meaning that long stay parking can be a nuisance for residents. Additionally, the volume of vehicles parked for long durations might be the cause of vehicles parking illegally for short durations.

4 Longniddry

4.1 Car Park

4.1.1 Table 4.1 shows the breakdown of parking spaces at Longniddry car park.

Table 4.1 Breakdown of parking spaces at Longniddry car park

Type of Bay	Number of Spaces
Marked Bay	68
Disabled Bay	3
Electric Charging Bay	2

4.1.2 Longniddry's marked bays are being used to full capacity, with only disabled and electric charging bays not being fully utilised. Full capacity is reached by 8am and remains fully occupied for 7 hours until 3pm, as shown in Figure 4.1.

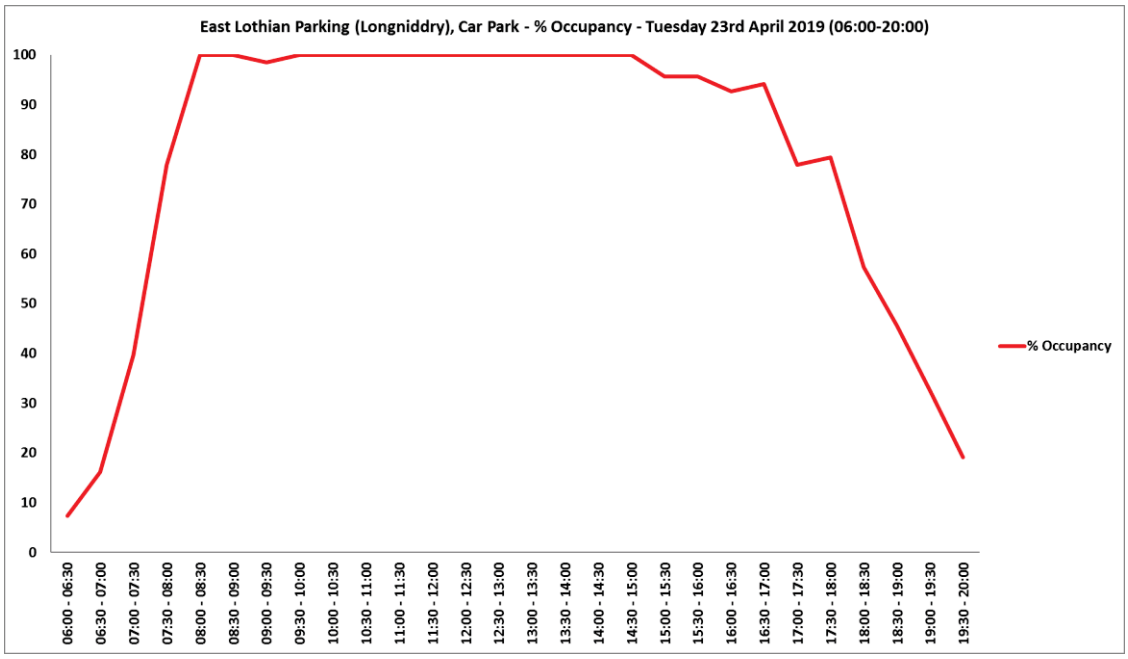

Figure 4.1 Longniddry: % Occupancy of Car Park

4.1.3 Figure 4.2 shows the vehicle turnover, which is between 1 and 2 cars/space due to long stay parking.

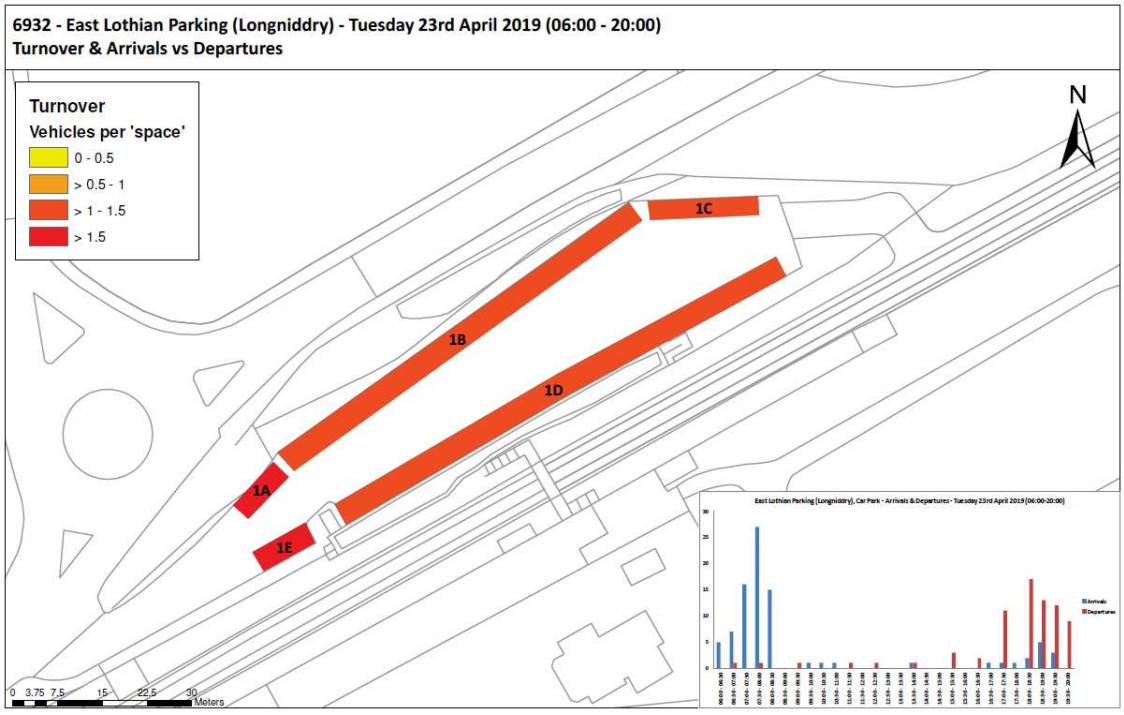

Figure 4.2 Longniddry: Vehicle Turnover of Car Park

4.2 On-Street Parking

4.2.1 Figure 4.3 and Figure 4.4 show evidence of long stay parking particularly on the A918 Lyars Road, Park View and Wemyss Terrace.

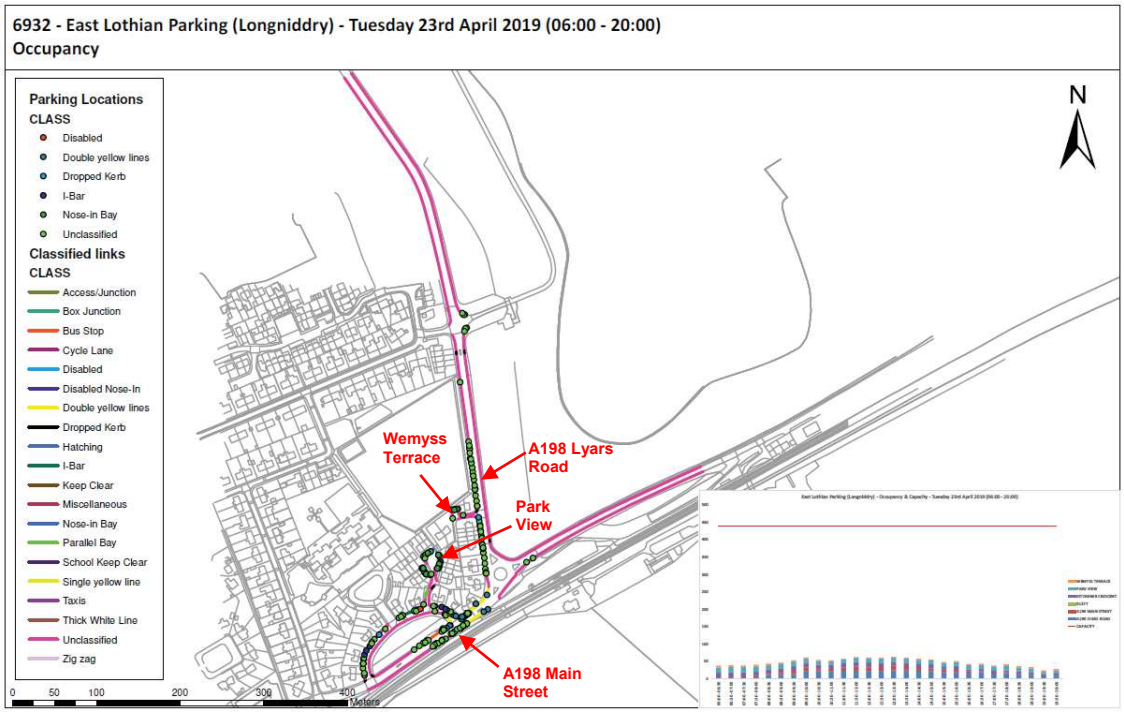

Figure 4.3 Longniddry: Classification of streets and on-street parking

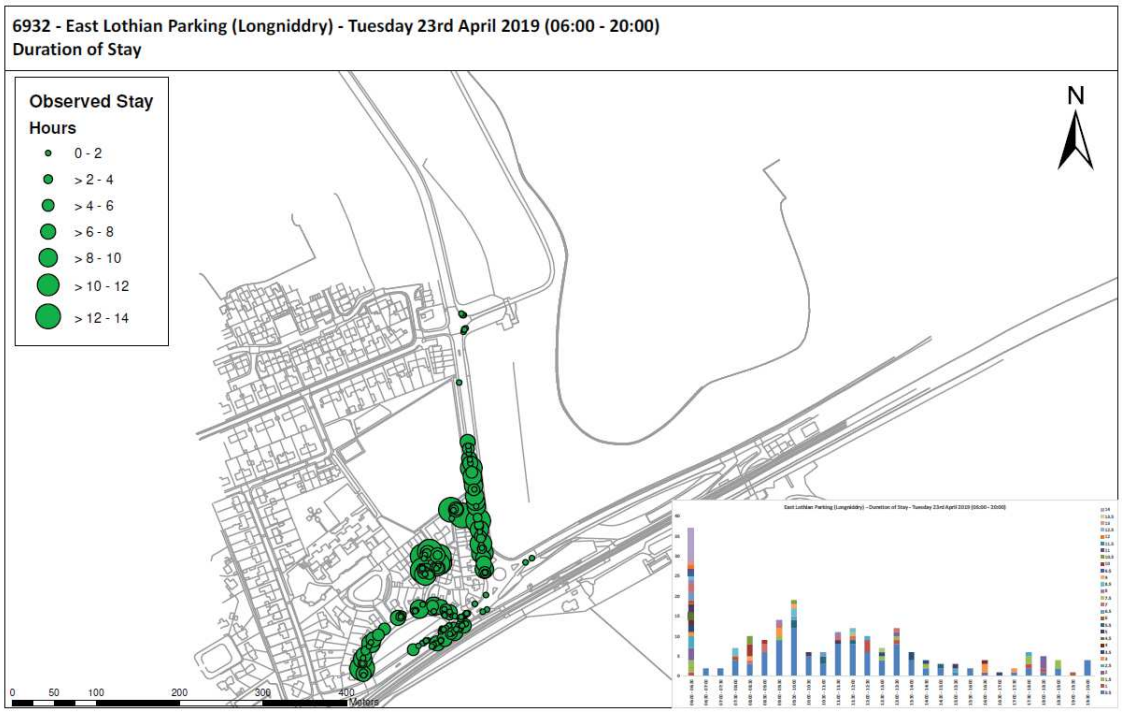

Figure 4.4 Longniddry: Duration of Stay for on-street parking

4.2.2 Figure 4.5 shows that the occupancy for A198 Lyars Road, and A198 Main Street follows a commute pattern (occupancy increasing until approximately 9:30am and then decreasing after 3pm) and is likely due to overflow from the rail station, however some demand could originate from employees at Longniddry Primary School. Other roads surveyed remain at a similar occupancy level throughout the day indicating that they could be residents.

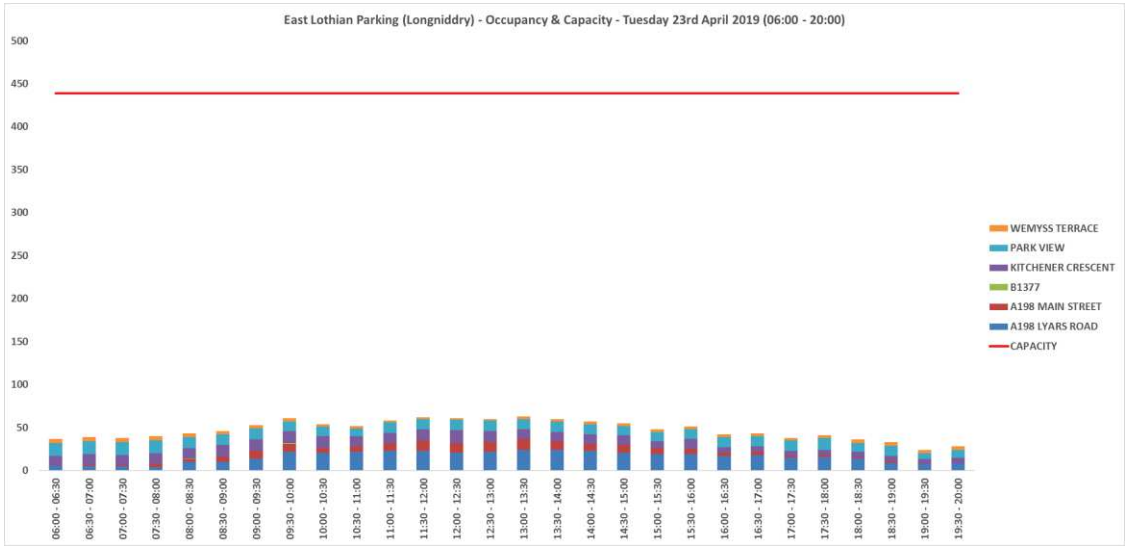

Figure 4.5 Longniddry: Occupancy & capacity of on-street parking

4.2.3 There is no adjacent land use on Lyars Road therefore there should not be negative impacts caused by the overflow parking. Illegal parking (on double yellow lines) is occurring on A198 Main Street, however these are generally short length stays of 0.5 hours and likely due to the shops nearby rather than being attributed to the rail station.

5 Musselburgh

5.1 Car Park

5.1.1 Table 5.1 shows the breakdown of parking spaces at Musselburgh car park.

Table 5.1 Breakdown of parking spaces at Musselburgh car park

Type of Bay	Number of Spaces
Marked Bay	112
Disabled Bay	6
Electric Charging Bay	2
Drop Off Bay	2

5.1.2 Musselburgh car park does not reach capacity. Occupancy of marked bays reached 94.6%, as shown in Figure 5.1. It should be noted that electric charging bays are fully occupied by vehicles for 7-11 hours. Disabled bays are not being fully occupied.

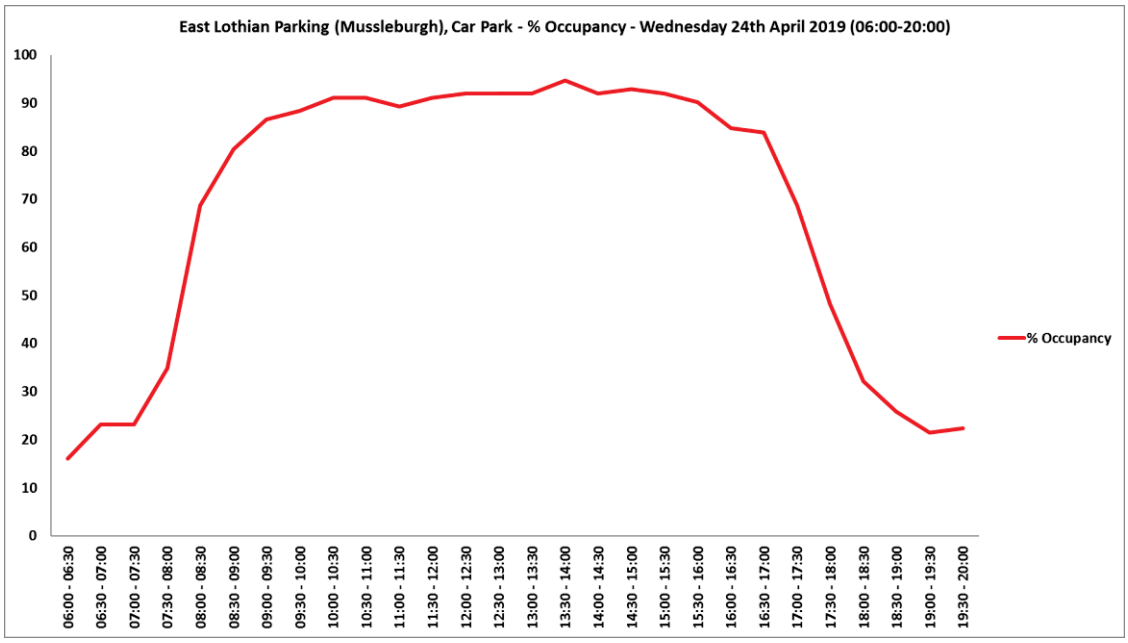

Figure 5.1 Musselburgh: % Occupancy of Car Park

5.1.3 Figure 5.2 shows the vehicle turnover, which is between 1 and 1.5 cars/space due to long stay parking. Car park sections 1B and 1D have very low turnover as they have very low occupancy. Section 1B is for drop off only, and section D contains only disabled bays.

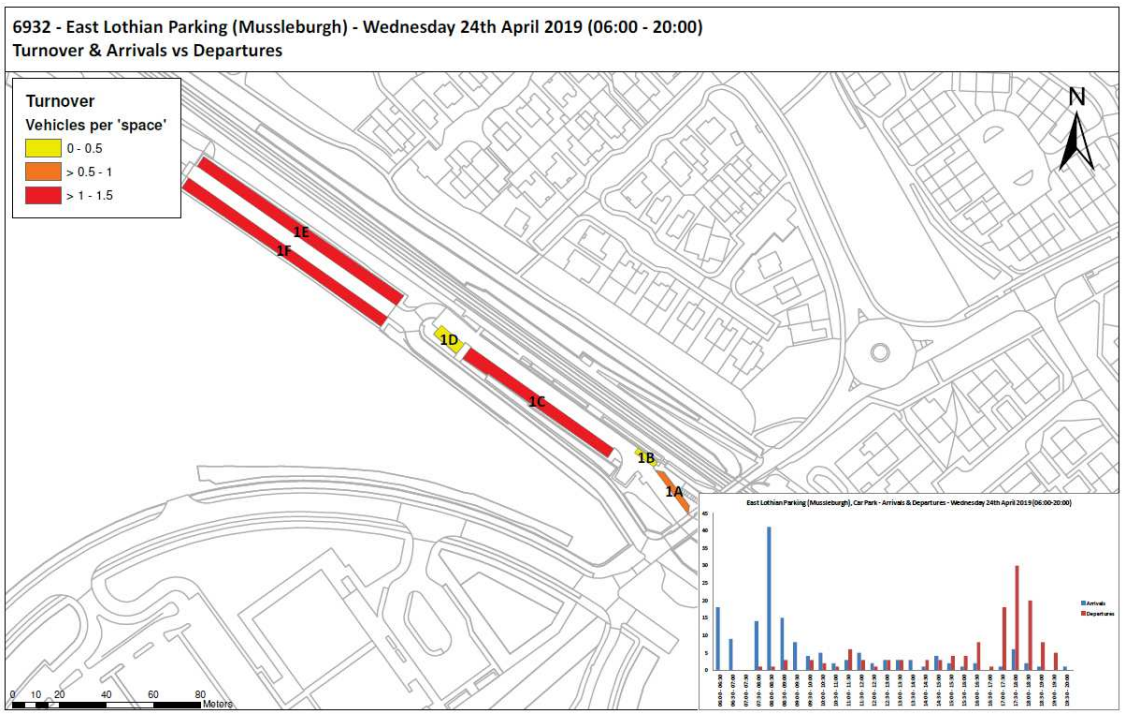

Figure 5.2 Musselburgh: Vehicle Turnover of Car Park

5.2 On-Street Parking

5.2.1 Since the car park did not reach full capacity it is not expected that there would be overflow onto streets. This is supported by Figure 5.3 which shows the on-street parking occupancy decreases during the day for most streets indicating that those parked are residents. However, occupancy

for Station Access Road follows a commute pattern (occupancy rising from 10am and decreasing after 4pm).

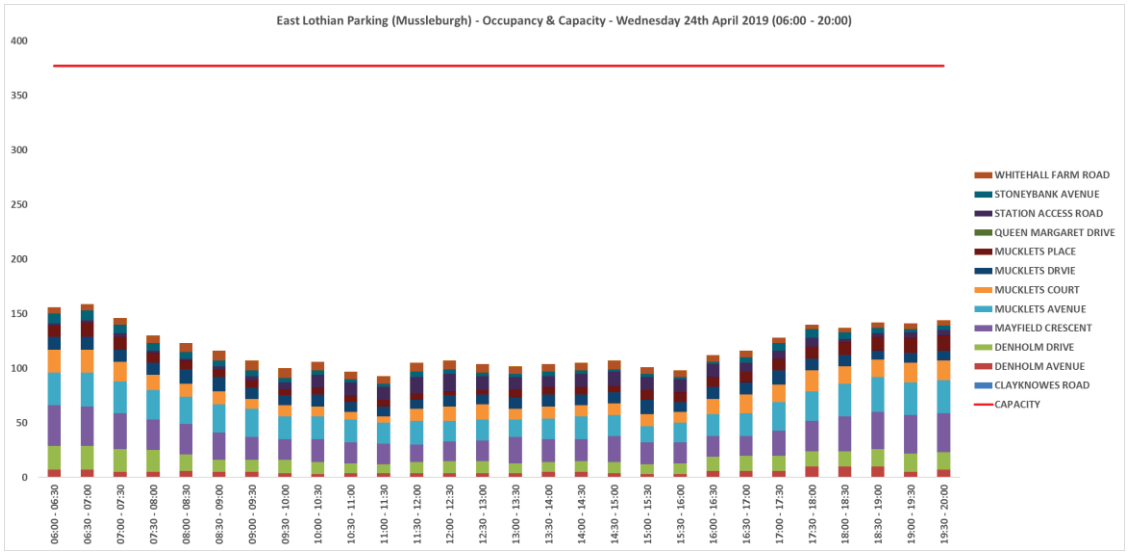

Figure 5.3 Musselburgh: Occupancy & capacity of on-street parking

5.2.2 Upon further inspection, the parking on Station Access Road only occurs on double yellow lines. The survey date was at the beginning of the University exam period so overflow could likely be attributed to students or staff.

6 North Berwick

6.1 Car Park

6.1.1 Table 6.1 shows the breakdown of parking spaces at North Berwick car park.

Table 6.1 Breakdown of parking spaces at North Berwick car park

Type of Bay	Number of Spaces
Marked Bay	85
Disabled Bay	3
Electric Charging Bay	2

6.1.2 North Berwick marked bays are being used to full capacity, with only disabled and electric charging bays not being fully utilised. Full capacity is reached by 10am and remains almost fully occupied for 7 hours until 5pm, as shown in Figure 6.1.

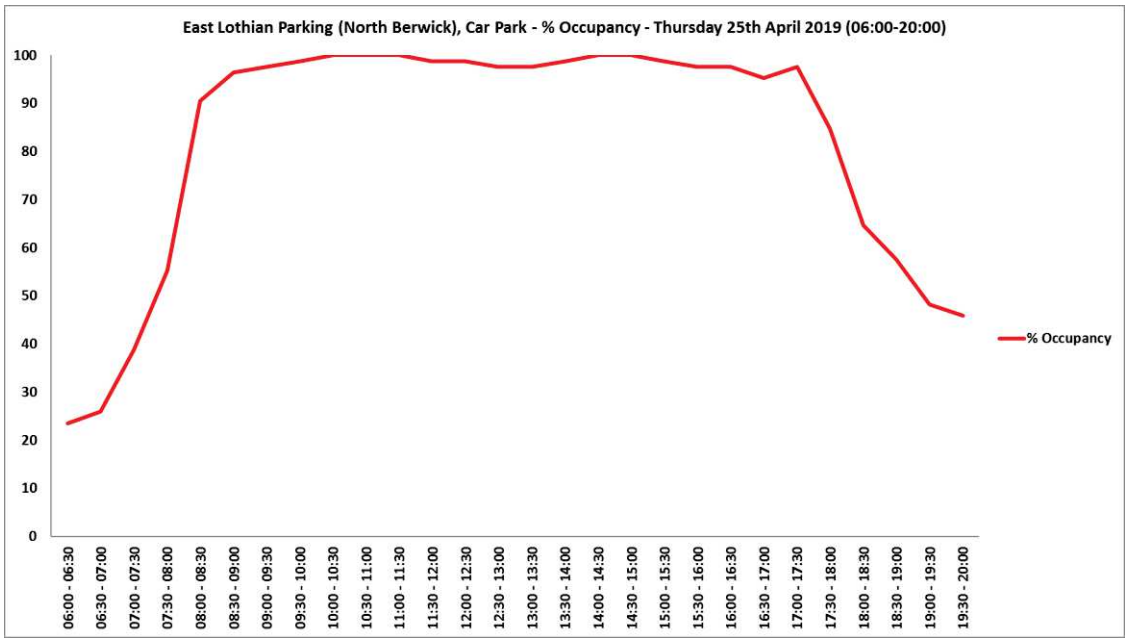

Figure 6.1 North Berwick: % Occupancy of Car Park

6.1.3 Figure 6.2 shows the vehicle turnover, which is mostly between 1 and 1.5 cars/space due to long stay parking.

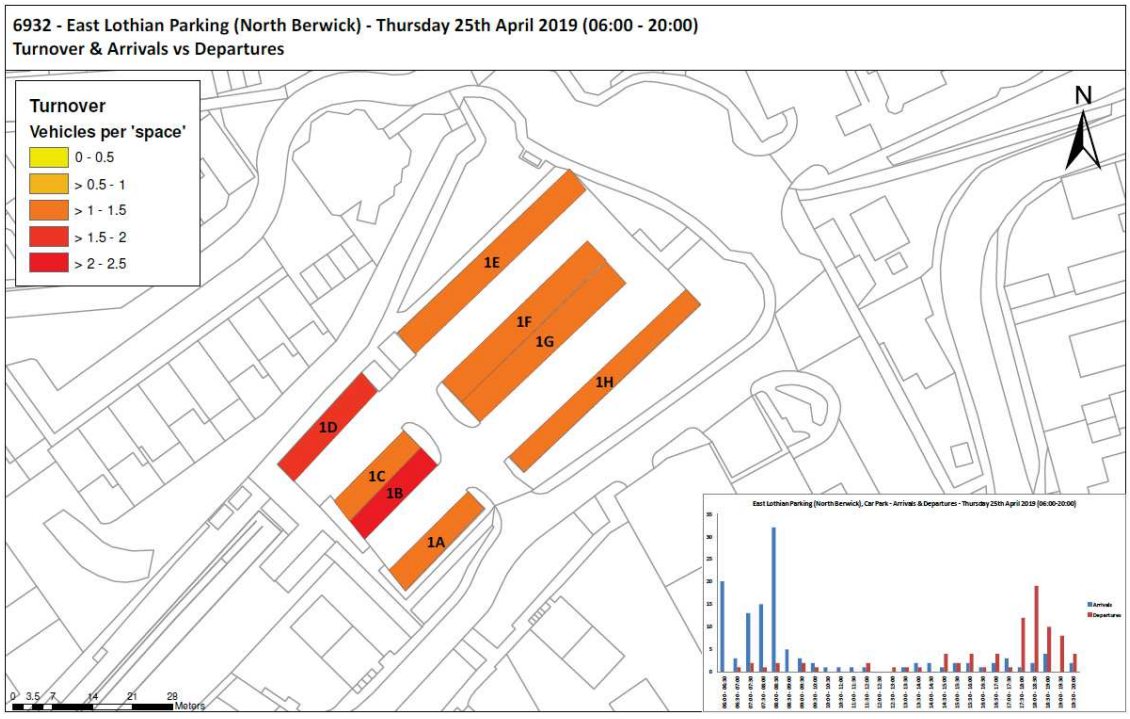

Figure 6.2 North Berwick: Vehicle Turnover of Car Park

6.2 On-Street Parking

6.2.1 Figure 6.3 and Figure 6.4 show evidence of long stay parking in all roads surveyed.

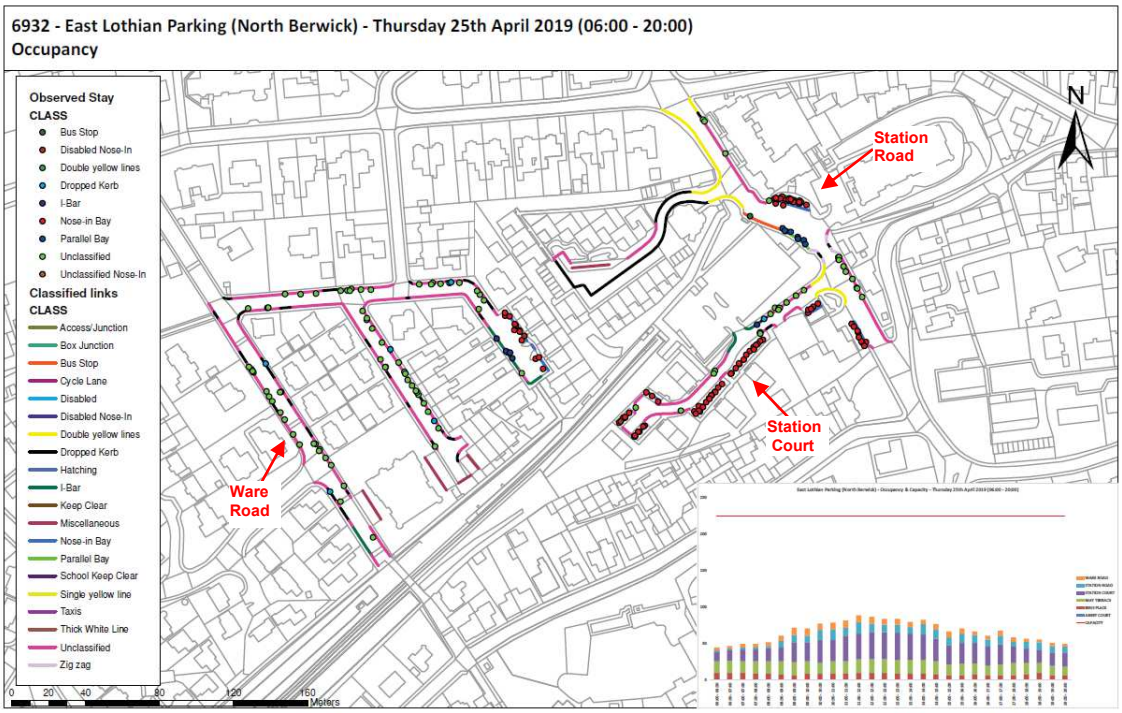

Figure 6.3 North Berwick: Classification of streets and on-street parking

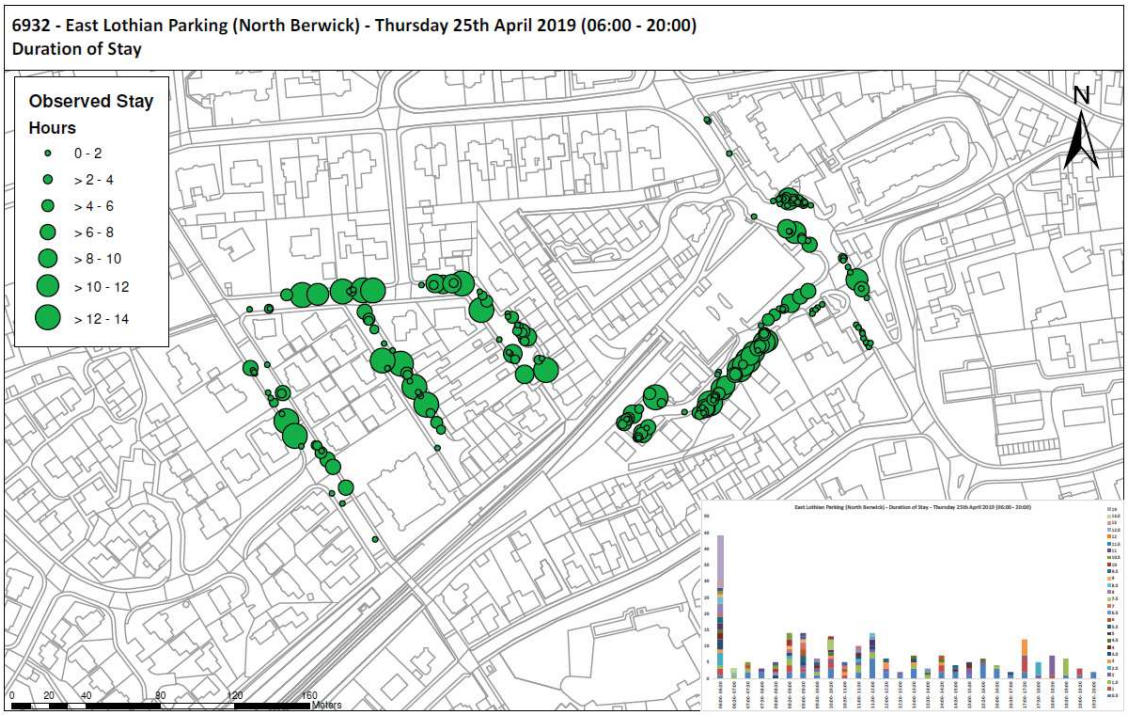

Figure 6.4 North Berwick: Duration of Stay for on-street parking

6.2.2 Figure 6.5 shows that the occupancy for Ware Road, Station Road and Station Court follows a commute pattern (occupancy rising until approximately 10am and decreasing after 2:30pm) and is likely due to overflow from the rail station. The other roads remain at a similar occupancy throughout the day indicating that they are residents.

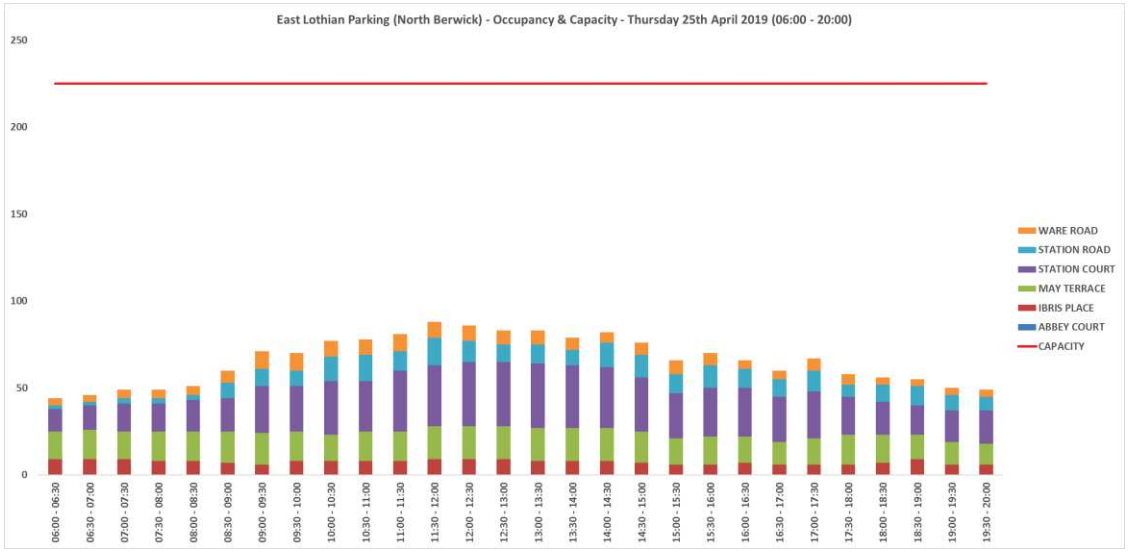

Figure 6.5 North Berwick: Occupancy & capacity of on-street parking

6.2.3 Most on-street parking that could be attributed to the rail station occurs on Station Court. This is a residential area so the overflow parking could have a negative impact on residents. No illegal parking occurs.

7 Prestonpans

7.1 Car Parks

7.1.1 Table 7.1 shows the breakdown of parking spaces at Prestonpans car parks.

Table 7.1 Breakdown of parking spaces at Prestonpans car parks

Type of Bay	Number of Spaces (Car Park 1)	Number of Spaces (Car Park 2)
Marked Bay	88	69
Disabled Bay	6	5
Electric Charging Bay	2	0

7.1.2 Prestonpans rail station has two car parks, both of which reach full capacity for their marked bays, as shown in Figure 7.1 and Figure 7.2. Overall capacity is reached by 10:30am and remains fully occupied for 3 hours until 1:30pm. It should be noted that electric vehicle bays also reach full capacity with users spending 5-11.5 hours in the space. Since they become occupied early in the morning before the station reaches capacity, it is expected that they are being used for charging and not by overflow demand. It should also be noted that disabled bays in car park 1 also reach full capacity, however those in car park 2 do not.

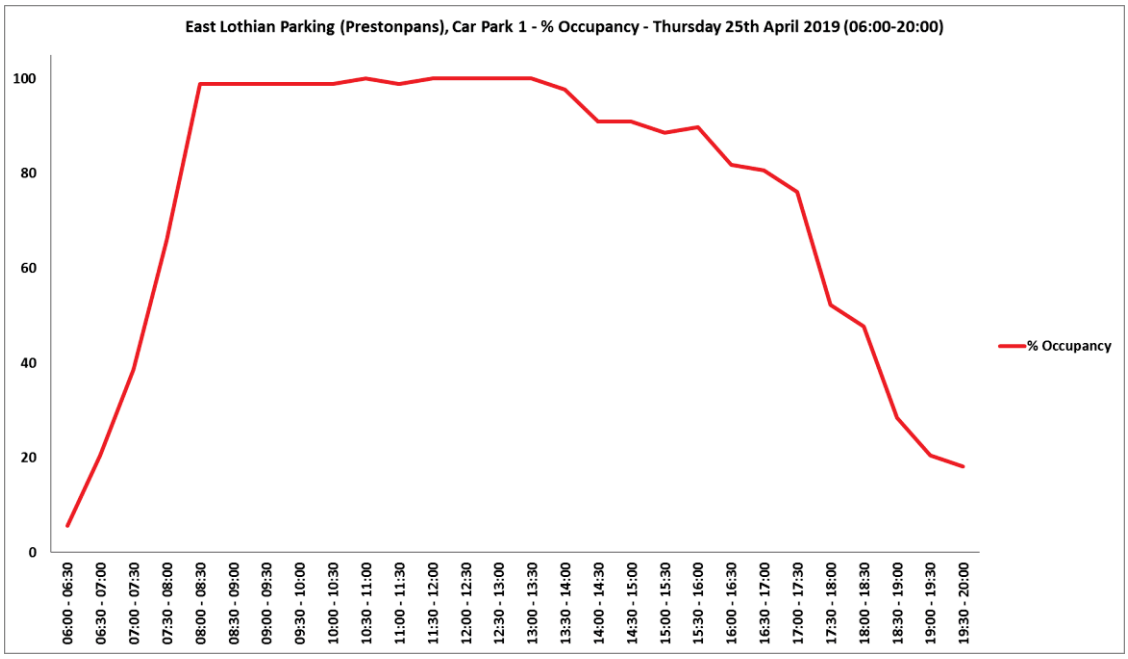

Figure 7.1 Prestonpans: % Occupancy of Car Park (Car park 1)

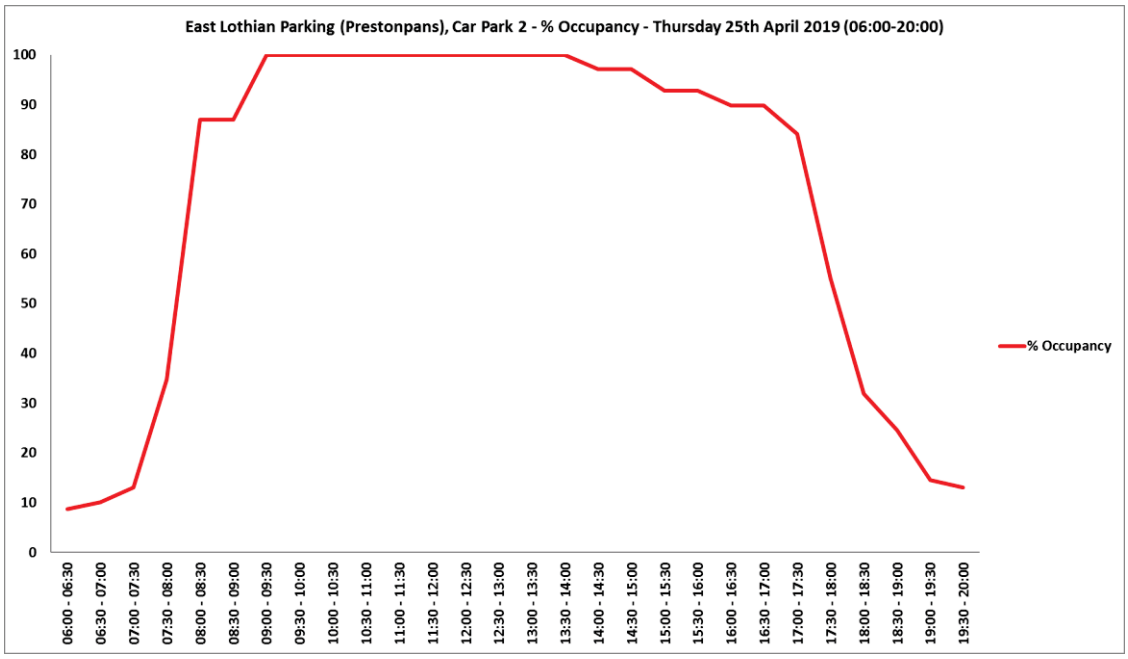

Figure 7.2 Prestonpans: % Occupancy of Car Park (Car park 2)

7.1.3 Figure 7.3 and Figure 7.4 show the vehicle turnover for both car parks, which is mostly between 1 and 1.5 cars/space due to long stay parking.

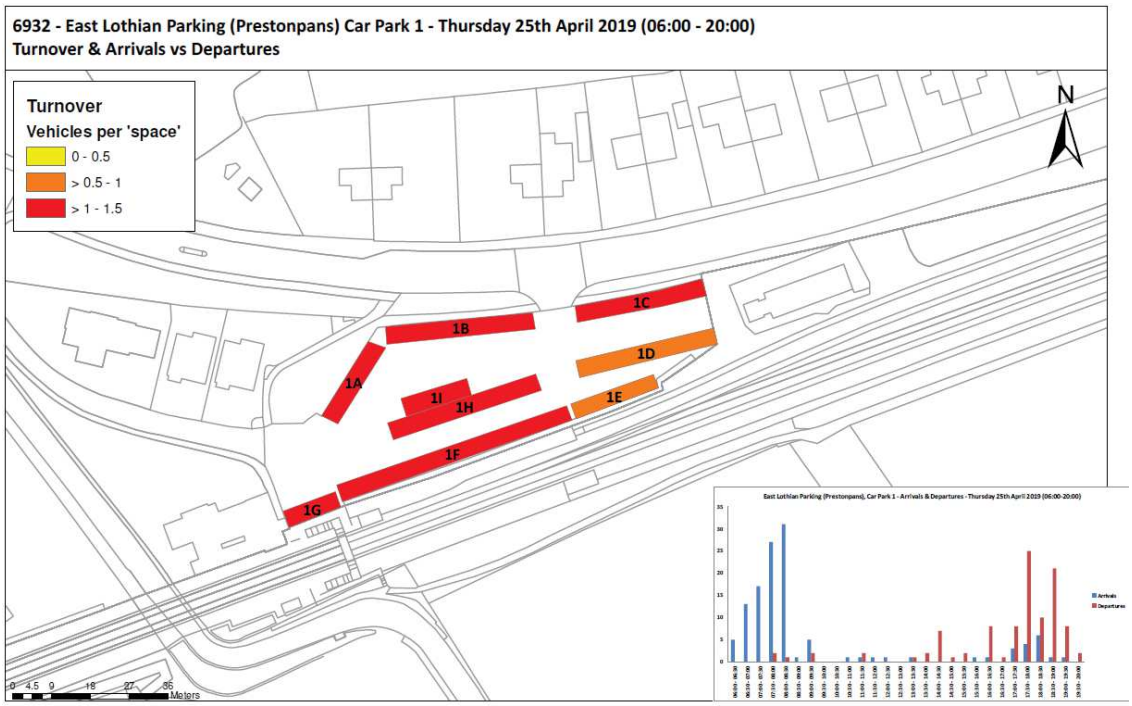

Figure 7.3 Prestonpans: Vehicle Turnover of Car Park (Car park 1)

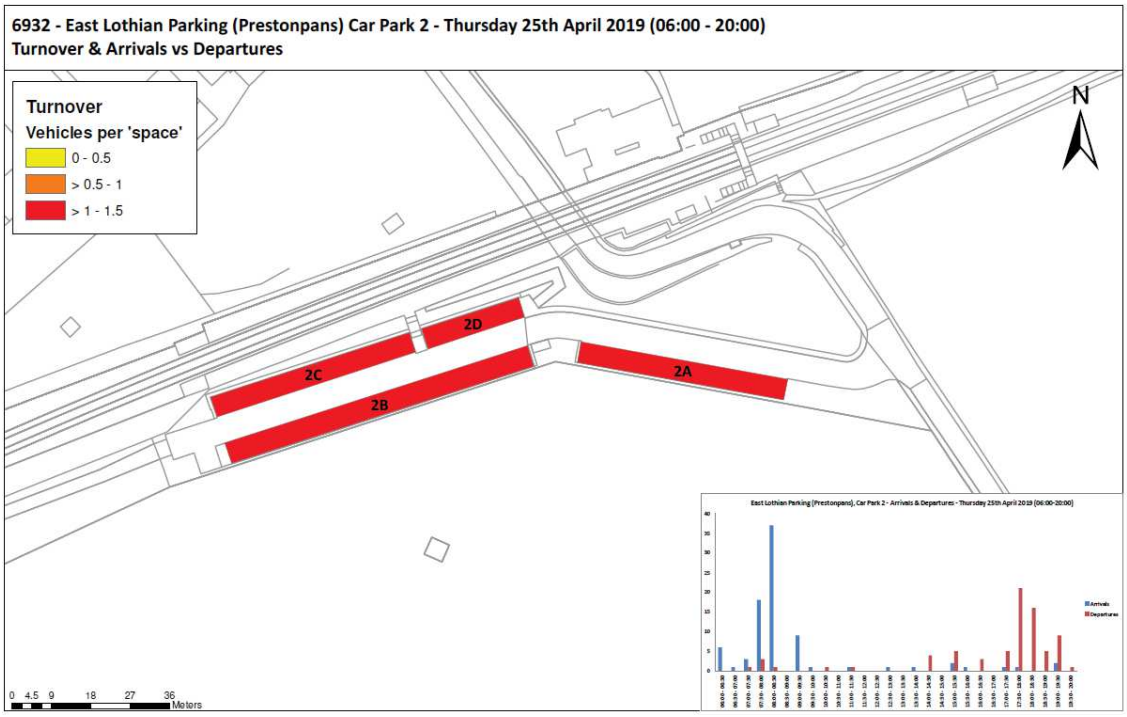

Figure 7.4 Prestonpans: Vehicle Turnover of Car Park (Car park 2)

7.2 On-Street Parking

7.2.1 Figure 7.5 and Figure 7.6 show evidence of long stay parking in all roads surveyed, particularly in Gardiner Terrace, Polwarth Terrace, and Station Road.

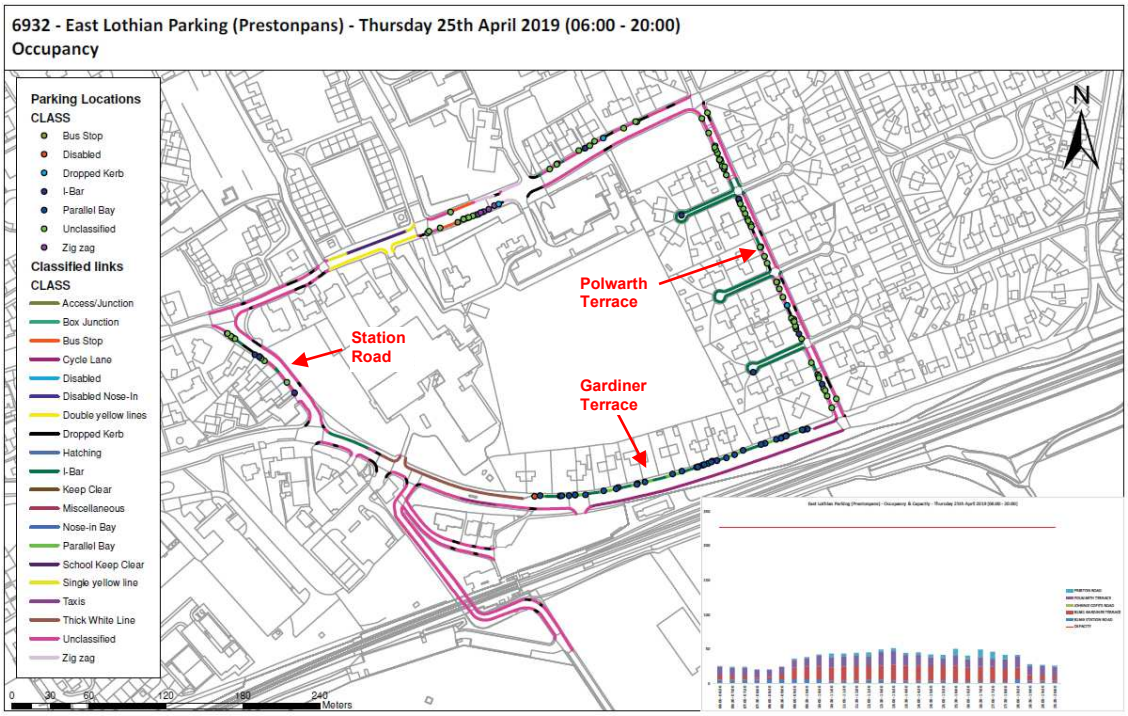

Figure 7.5 Prestonpans: Classification of streets and on-street parking

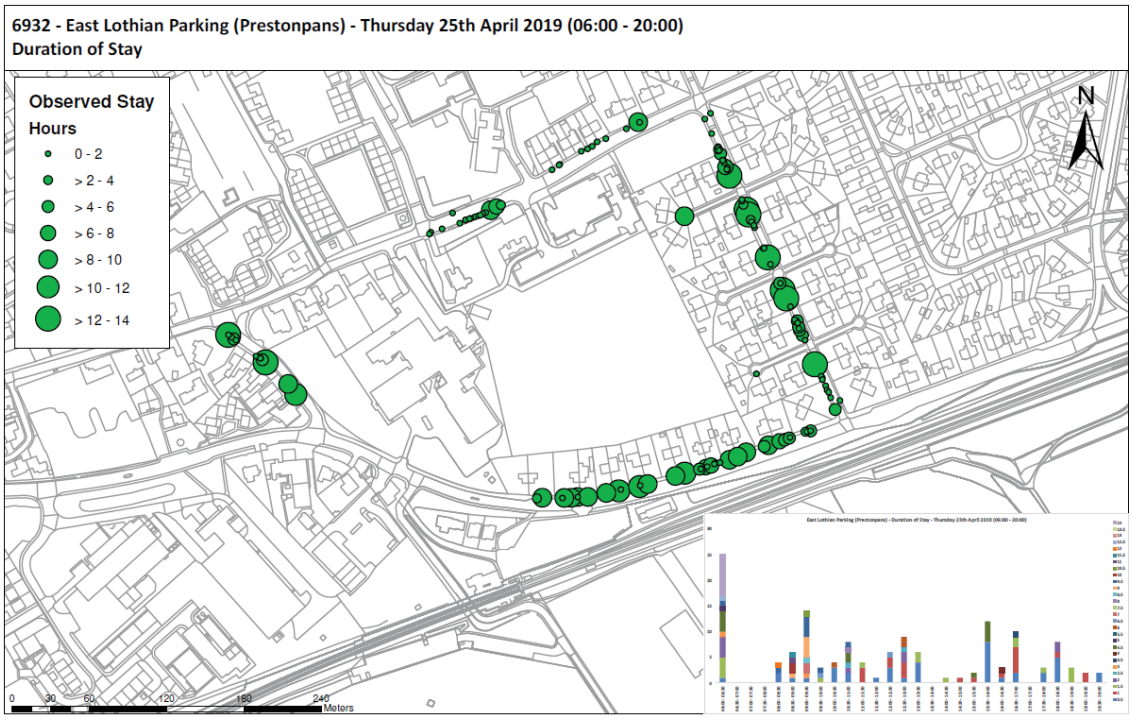

Figure 7.6 Prestonpans: Duration of Stay for on-street parking

7.2.2 Figure 7.7 shows that the occupancy for Gardiner Terrace follows a commute pattern (occupancy rising until approximately 9am and decreasing after 6pm), this could originate from overflow parking. The other streets either have constant occupancy which suggests it can be attributed to residents or fluctuating occupancy which is not likely to be overflow from the rail station.

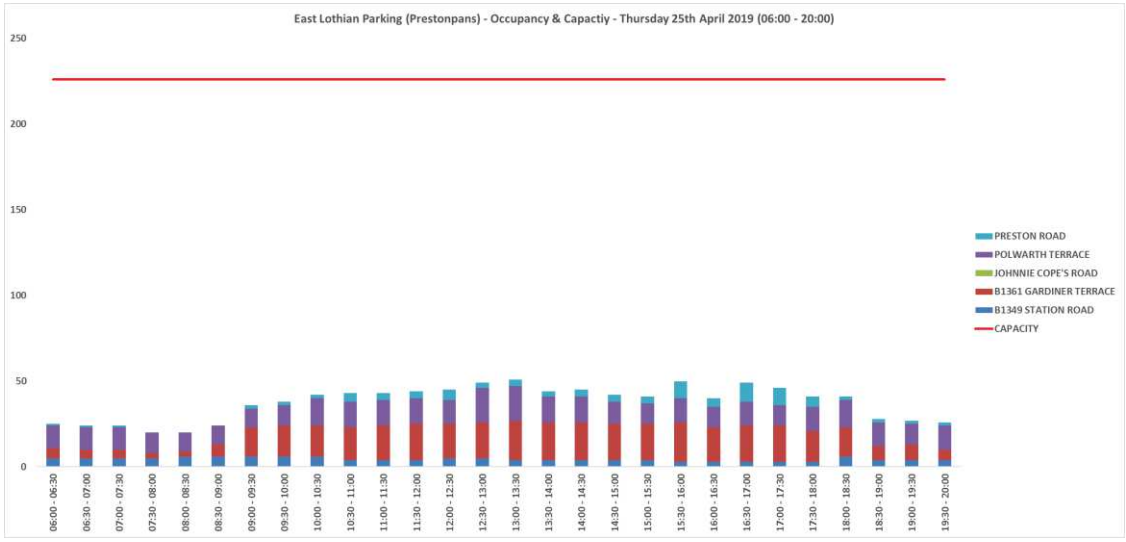

Figure 7.7 Prestonpans: Occupancy & capacity of on-street parking

7.2.3 Gardiner Terrace is a residential street therefore overflow parking from the rail station may have a negative impact on residents. Illegal parking does not occur.

8 Wallyford

8.1 Car Parks

8.1.1 Wallyford train station has 2 car parks: one directly at the station (car park 1) and the other a park and ride site slightly further away (car park 2) which also serves buses.

8.1.2 Table 8.1 shows the breakdown of parking spaces at Wallyford car parks.

Table 8.1 Breakdown of parking spaces at Wallyford car parks

Type of Bay	Number of Spaces (Car Park 1)	Number of Spaces (Car Park 2)
Marked Bay	55	311
Disabled Bay	2	13
Electric Charging Bay	0	7

8.1.3 It should be noted that construction works were being done on the day of the survey, meaning 12 spaces in car park 1 were unusable.

8.1.4 Car park 1 reaches full capacity, however car park 2 does not, shown in Figure 8.1 and Figure 8.2. Electric charging bays are not fully utilised. Car park 1 reaches full capacity by 7am, which is also when we see demand for car park 2 rise. It remains fully occupied for 7.5 hours until 2:30pm.

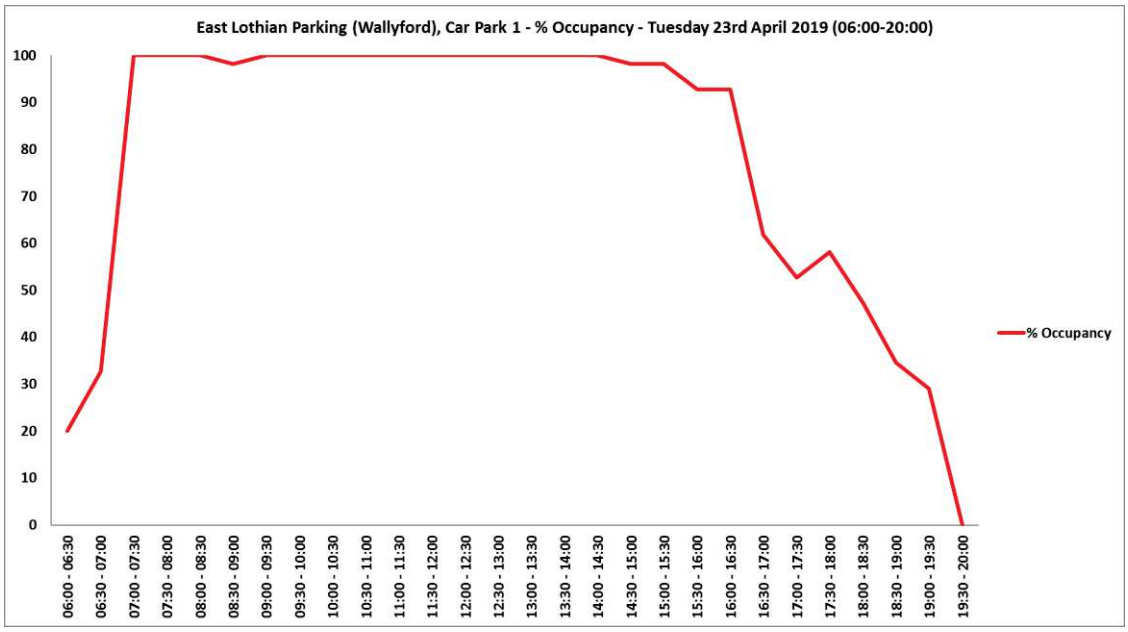

Figure 8.1 Wallyford: % Occupancy of Car Park (Car park 1)

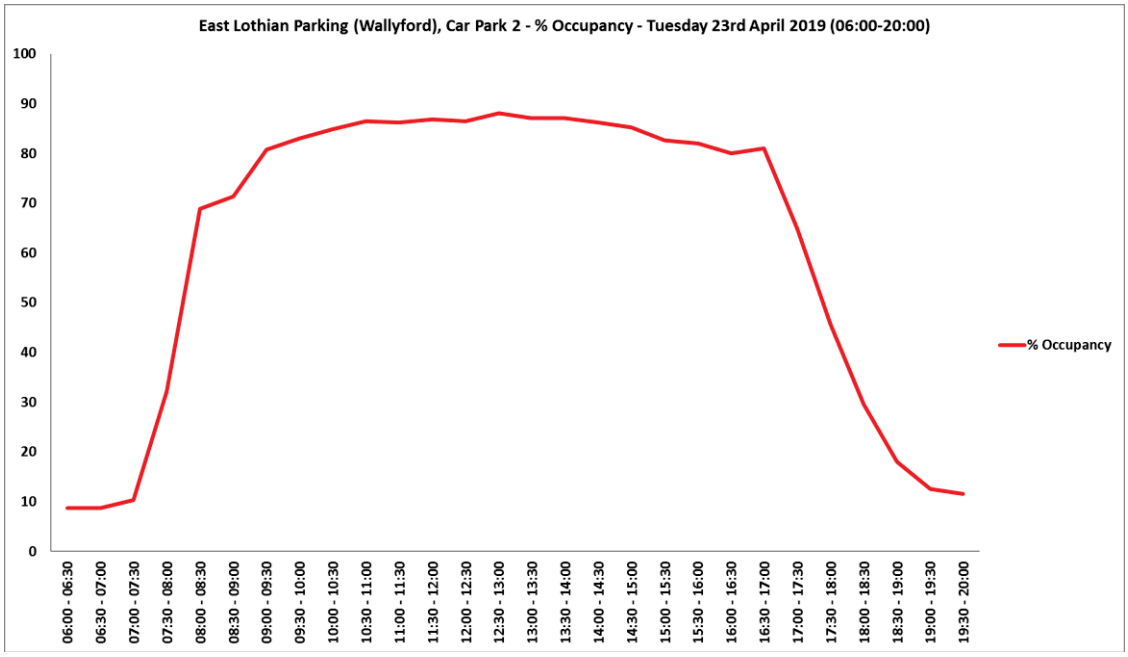

Figure 8.2 Wallyford: % Occupancy of Car Park (Car park 2)

8.1.5 Figure 8.3 and Figure 8.4 show the vehicle turnover for both car parks, which is between 1 and 2 cars/space for car park 1 due to long stay parking, and between 0.5 and 2 for car park 2. Noting that section 2E only contains disabled and electric charging bays and does not reach high occupancy.

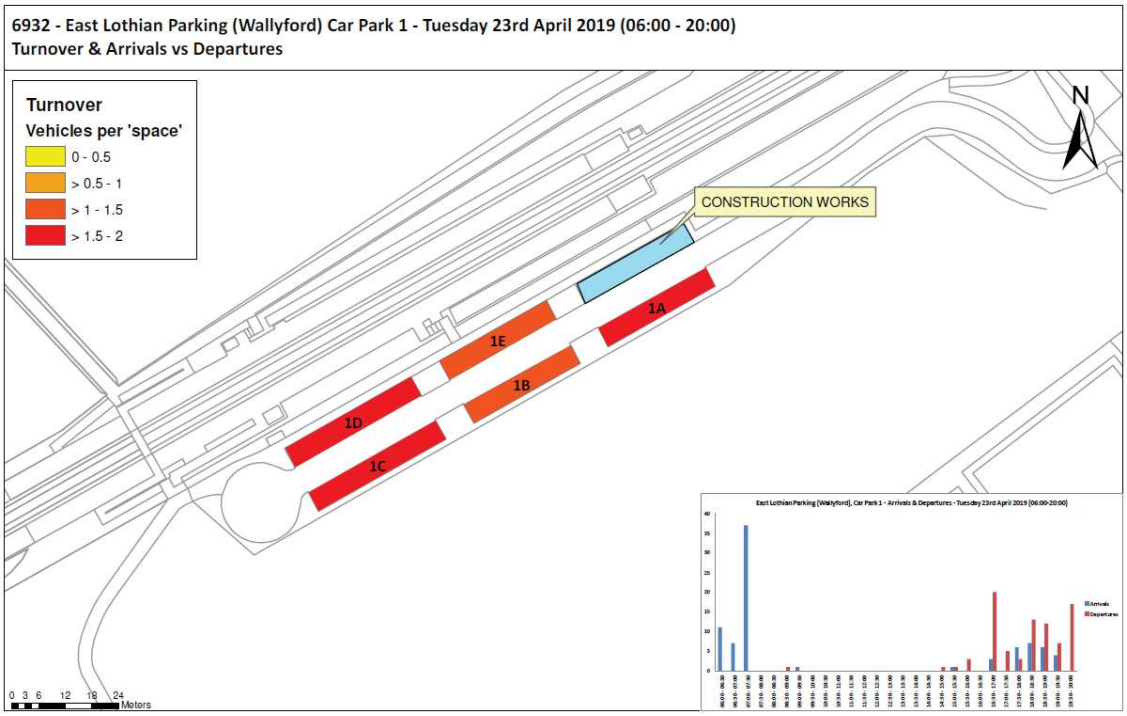

Figure 8.3 Wallyford: Vehicle Turnover of Car Park (Car park 1)

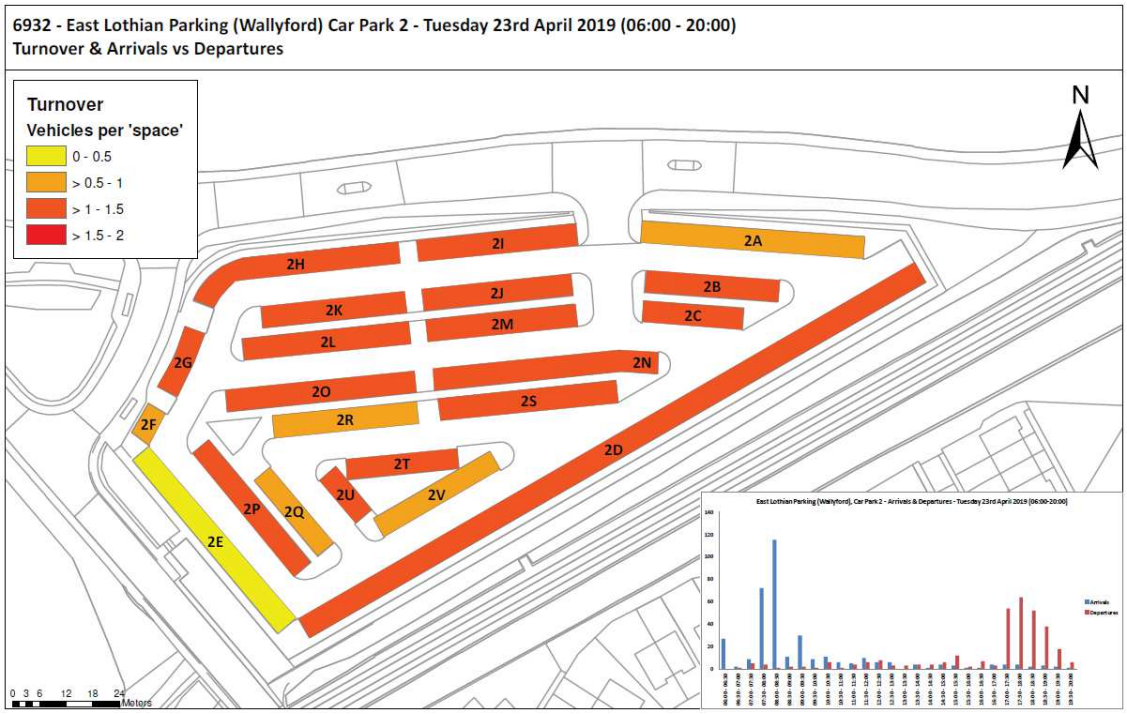

Figure 8.4 Wallyford: Vehicle Turnover of Car Park (Car park 2)

8.2 On-Street Parking

8.2.1 Since car park 2 does not reach full capacity on-street parking is not expected, however Figure 8.5 shows that there is a commuting pattern on the A6094 (occupancy rising until 8am and decreasing after 4:30pm). Figure 8.6 shows that this parking is typically long stay. This parking

is not high in volume and is assumed to be caused by local employment such as Wallyford Community Education Centre.

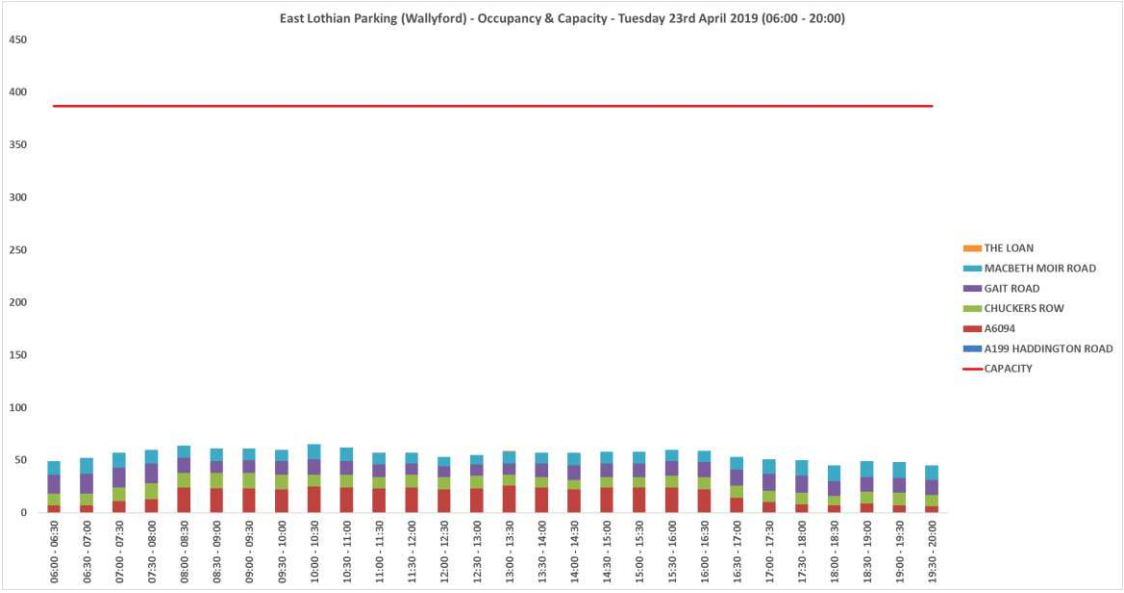

Figure 8.5 Wallyford: Occupancy & capacity of on-street parking

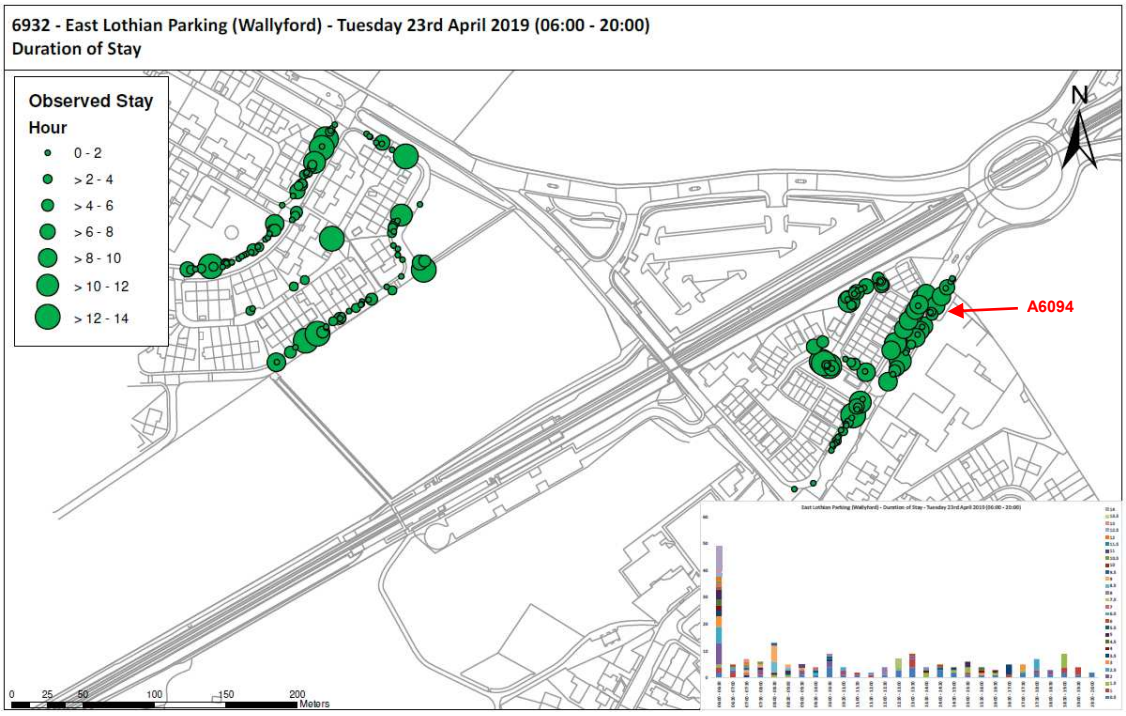

Figure 8.6 Wallyford: Duration of Stay for on-street parking

8.2.2 Illegal parking did not occur.

9 Comparison of Stations

9.1 Comparisons

9.1.1 Musselburgh and Wallyford are the only stations that do not reach full capacity. Musselburgh reached a maximum of 94.6% occupancy at 1:30pm (6 spaces unoccupied), and Wallyford reached a maximum of 88.1% at 12:30pm (37 spaces unoccupied).

9.1.2 Some stations experience more use of electric charging bays than others: Dunbar, Musselburgh and Prestonpans reach full capacity.

9.1.3 The peak arrival time is 7:30am in Drem, Dunbar and Longniddry and 8am elsewhere. This is intuitive as those sites further away arrive earlier, except for North Berwick which has an express service to Edinburgh. For those where it's 7:30am the majority are parked for 10.5 hours or longer, and for those where it's 8am the majority are parked for 9.5 - 10 hours.

9.1.4 All car parks have low turnover due to vehicles parked for long periods of time.

9.1.5 Overflow parking is likely occurring in all the areas where full capacity is reached, however it is only occurring with potential high volumes in Dunbar (Station Road- 26 cars, Countess Road- 50 cars) and North Berwick (Station Court - 24 cars). Note that although some of this will be attributed to the rail station, it is unlikely to be the case for all of it.

9.1.6 Dunbar and Longniddry are the only sites to experience illegal parking that could be directly or indirectly attributed to the rail station. They are also the stations that reach full capacity first (8am, and 8:30am respectively) highlighting their high demand.

10 Conclusions

10.1 Key points

10.1.1 Drem, Dunbar, North Berwick, Longniddry and Prestonpans are operating at full capacity and most reach full capacity by the end of the AM peak period. Therefore, these are the stations that should be prioritised for investment in increased park and ride where the site is not physically constrained.

10.1.2 Longniddry and Dunbar experience the worst impacts due to possible overflow parking on nearby streets causing some illegal parking (on double yellow lines) to occur. North Berwick also experiences high volumes of on-street parking but no illegal parking.

10.1.3 Overflow parking is mostly taking place in residential areas close to the stations, this could have negative impacts on residents.

10.1.4 Illegal parking (on double yellow lines) is typically for short length stays of around 0.5 hours, indicating that those parking illegally are not using the train station. However, Station Road in Dunbar experiences some long stay illegal parking indicating that this originates from the rail station.

10.1.5 It is possible that the existing capacity of parking is constraining rail use particularly in Dunbar, North Berwick, Longniddry and Prestonpans. Longniddry recently got an extension, so it would be interesting to see if it still reaches capacity.

10.1.6 Low occupancy at Musselburgh and Wallyford stations is possibly due to overcrowded trains at this point causing people to use a different mode or drive to stations further up the line such as Prestonpans or Longniddry.

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