



Greater Exeter Transport Reporting

Devon County Council

Observed Trip Rates From New and Existing Developments In and Around Exeter

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Appendix A. Trip Rates Internal to Exeter

Appendix B. Trip Rates External to Exeter

1. Introduction

1.1 Introduction

- 1.1.1 This report is part of the transportation evidence base for the joint Strategic Plan being undertaken collaboratively by Local Authorities in the Exeter Housing Market Area. This area covers the Local Planning Authority areas of Exeter, East Devon, Mid Devon and Teignbridge. This area is referred to in this report as the 'Greater Exeter Area'.
- 1.1.2 The joint Strategic Plan will cover the period up to 2040 in the context of evidence to 2045. Over this period, a potential need for significant residential and employment development land in the Greater Exeter Area has been identified. However the growth comes forward, the level of development is likely to have a significant impact on the transport network.

1.2 Purpose of Report

- 1.2.1 This report summarises trip rates recorded at various residential developments in the city of Exeter and settlements in the Greater Exeter Area.
- 1.2.2 Understanding the magnitude of trips from residential areas is critical when assessing the impact of new developments and will ultimately help to inform future development strategy.
- 1.2.3 Typically, trip rate estimates are obtained from TRICS (Trip Rate Information Computer System), a national database of transport surveys for a variety of development types. Although a valuable and helpful tool, the use of local data will further assist in helping to validate the trip rate assumptions used to assess the impact of new residential development in the Greater Exeter Strategic Plan.
- 1.2.4 Furthermore, trip volumes appear to be changing¹ and the use of up to date survey information will further assist in providing the most suitable estimate of trip generation from new developments.
- 1.2.5 Initially this report presents the recorded trip rates from five residential developments in Exeter and five from towns in the surrounding area. Although not exhaustive, the surveyed information provides a helpful steer on some key traits and how travel characteristics vary by development location, dwelling type, and development completion.
- 1.2.6 The data within this document also provides the baseline for understanding how trips to and from Cranbrook, a new community to the east of Exeter, change as the town expands and new infrastructure and travel initiatives are implemented.

¹ Evidenced in "Greater Exeter Study; Trip Patterns and Trends Report" produced by Devon County Council, December 2016.

2. Survey Sites

- 2.1.1 Trip rates have been calculated from count data at five residential developments in Exeter and five towns in the surrounding area. The locations of these survey sites are shown below in Figure 1.

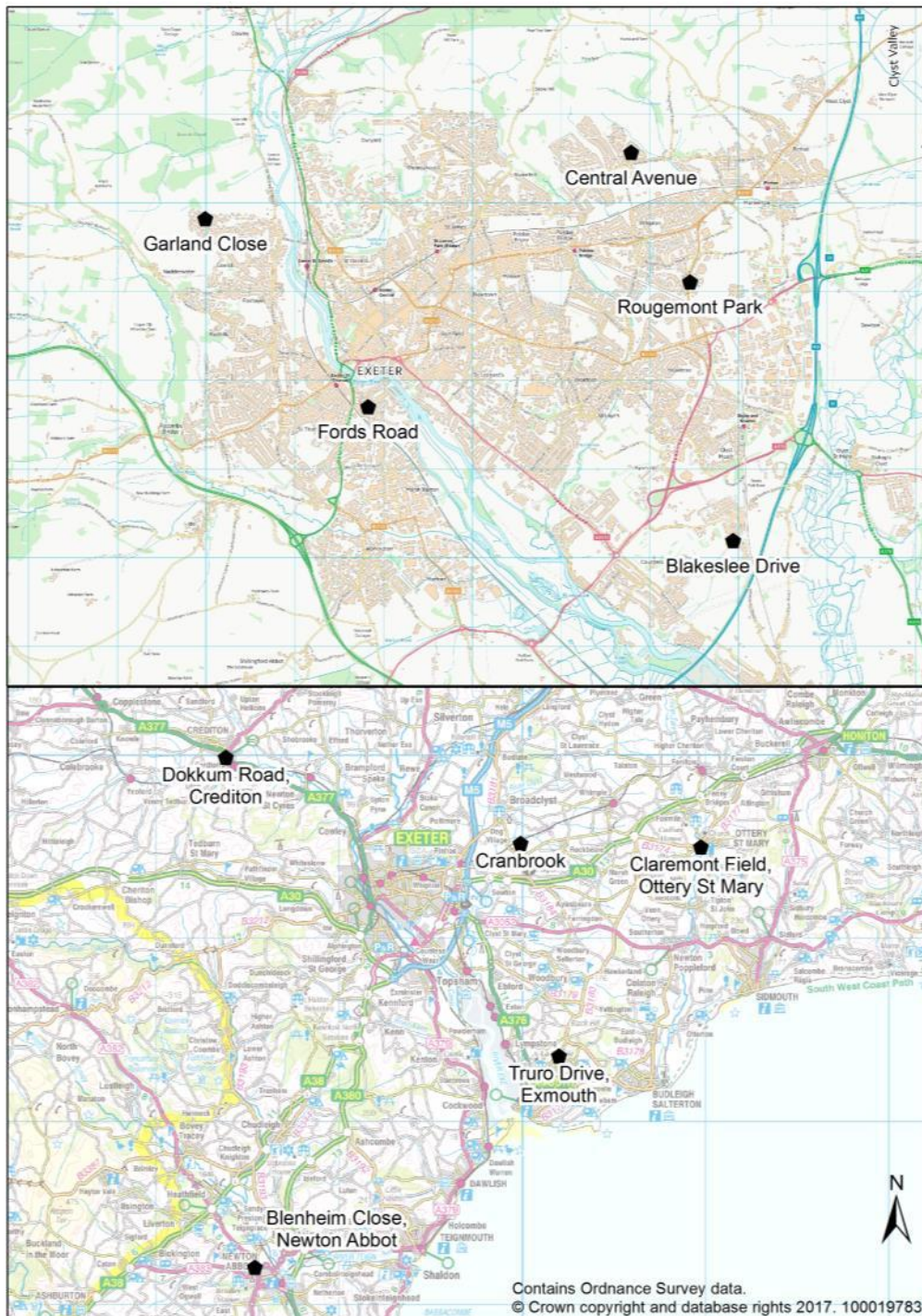


Figure 1 Survey Site Locations

3. Exeter Sites

3.1 Exeter Survey Sites

3.1.1 Surveys within Exeter were undertaken at the following sites:

- Fords Road, St Thomas
- Garland Close, Exwick
- Blakeslee Drive, Newcourt
- Rougemont Park, Hill Barton Road
- Central Avenue, Beacon Heath

3.1.2 A brief description of each of the sites, including date of survey and key characteristics are also given in the following paragraphs.

City Centre Development – Fords Road, St Thomas

3.1.3 Fords Road is a residential street of 60 dwellings close to Exeter quay. The site is within walking distance of the city centre and riverside employment sites. In addition, journey times by bicycle to a number of key destinations in Exeter are competitive with that of the car (Table A.1.1 of Appendix A). Reflecting the proximity of the St Thomas ward to the city centre, 29%² of St Thomas residents do not own a car.

3.1.4 Trip rate surveys were undertaken between 08:00 and 09:00 on Thursday 11th February 2016. The count data and resultant trip rates are shown in Table A.1.2 of Appendix A. It should be noted that the count was undertaken at the single vehicular access and therefore pedestrians and pedal cyclists, who have an alternate access, may have been undercounted.

3.1.5 It is considered that these trip rates could be applied when estimating the number of trips generated by developments close to Exeter city centre.

Edge of Exeter Development – Garland Close, Exwick

3.1.6 Garland Close is located towards the north western edge of Exeter and comprises 60 residential properties. Garland Close is located 3-6km from many of Exeter's city centre amenities and employment sites, and the surrounding Exwick area is largely residential with steep topography. Bus stops for services to the city centre and mainline railway station can be accessed easily by foot.

3.1.7 Trip rate surveys were undertaken in 2013 between 07:00-19:00. The count data and resultant trip rates derived from the survey data for the AM peak hour is shown in Table A.2.1 of Appendix A. The AM peak hour is identified as 07:30-08:30.

3.1.8 It is expected that some of the walking trips would actually have been multi modal trips utilising local bus services, however these are not disaggregated in the survey (and just recorded as walking trips).

3.1.9 The pedestrian and vehicle trip rates for Garland Close could form a useful model when predicting future flows from similar edge of city developments. The cycle trip rate may be influenced by the local topography and therefore may not be reliable for predicting future flows for similar developments in flatter areas.

² Haven Banks Transportation Access Strategy, Water Lane Regeneration Area, October 2016, Devon County Council

New Development – Blakeslee Drive, Newcourt

- 3.1.10 Newcourt is a Strategic Allocation of 3700 dwellings and 20 hectares of employment land located on the outskirts of Exeter. The Newcourt area includes the provision of Newcourt Rail Station, bus links to the city centre and key employment and education sites. Blakeslee Drive includes 104 dwellings, all of which are within 350 metres from the rail station and local bus stops.
- 3.1.11 Trip rate surveys were undertaken on Wednesday 16th November 2016 between 08:00-09:30 at Blakeslee Drive and at Newcourt Rail Station. The peak hour was identified as 08:00-09:00 and the count data and trip rates during this time from both sites combined can be seen in Table A.3.1 of Appendix A. It is considered that there may be some pedestrian and cycle trips that pass through both count sites.
- 3.1.12 The observed trip rates form a good baseline for monitoring future flows from the development, particularly how trip numbers and mode-share may change as demographics change and further infrastructure is delivered.
- 3.1.13 The number of bus and rail trips during the peak period is significant, and is characteristic of an urban extension with good rail and bus provision. These trip rates could be cited when predicting flows at similar developments and as an example of rail modal shares for sites close to stations.

Central Avenue, Exeter

- 3.1.14 Central Avenue, leading to Fox Road and Brookside Crescent, is an established development of 148 two and three bedroom residential properties on the northern fringe of Exeter. There is a single vehicle, pedestrian and cycle access onto Beacon Lane and primary and secondary schools are within walking distance of Central Avenue.
- 3.1.15 Trip rate surveys were undertaken on 8th February 2017 between 07:45-09:15 at the junction of Central Avenue and Beacon Heath. The peak hour was identified as 08:00-09:00 and the count data and trip rates during this time are shown in Table A.4.1 of Appendix A.
- 3.1.16 The vehicle trip rate for Central Avenue largely fulfils the expectations for an established edge of city development, particularly as employment sites are not in close proximity. It forms a useful model when predicting future flows from similar developments. The pedestrian trip rate should be used with caution due to the proximity of both a primary and secondary school.

New Development – Rougemont Park, Hill Barton, Monkerton

- 3.1.17 Rougemont Park is located within the Monkerton Strategic Allocation to the east of Exeter near the Met Office. When complete, Rougemont Park will comprise 132 dwellings. At the time of survey 66 properties were occupied.
- 3.1.18 The site has a single vehicle access via Peppercombe Avenue forming the minor arm of a priority junction on Hill Barton Road. Pedestrian and cycle access is also available via Greenpark Avenue.
- 3.1.19 Automatic Traffic Counts (ATCs) were undertaken between the 17th and the 23rd September 2015 on Peppercombe Avenue. ATCs only count vehicles hence no pedestrian or cycle data is available. As construction was ongoing during the survey, a deduction for construction related HGVs based on information from the site developer has been made. The resulting total number of vehicles over a 12 hour period (07:00-19:00) is given in Table A.5.1. The calculated trip rates are an average of the 12 hour ATC count. Trip rates for individual hours could not be calculated due to lack of data therefore the indicated trip rates shown in Table A.5.2 of Appendix A may be of limited use if comparing with peak hours trip rates from other developments.

3.2 Access to Services & Amenities

- 3.2.1 An overview of distances to local employment, education and welfare facilities is provided in Table 1. Many of the developments are too far from city centre amenities to access easily by foot, although there are regular bus services connecting each to the city centre.

Driving Distance (km) From Development To Local Amenities				
Development	City Centre (km)	Nearest Train Station (km)	Nearest School (km)	
			Primary	Secondary
Fords Road	2.0	1.1 (Exeter St Thomas)	1.6 (St Thomas')	1.8 (West Exe)
Garland Close	2.8	1.9 (Exeter St David's)	1.9 (Exwick Heights)	4.4 (West Exe)
Blakeslee Drive	6.2	0.3 (Newcourt)	1.8 (Countess Wear Community)*	3.4 (Isca)
Central Avenue	4.6	1.5 (Polsloe Bridge)	1.0 (Willowbrook)	0.5 (St James)
Rougemont Park	5.8	2 (Pinhoe)	1.2 (Whipton Barton Junior)	0.7 (St Lukes)

*Trinity C of E Primary School, Newcourt accepts students September 2017 approximately 0.9km from Blakeslee Drive

Table 1: Access to amenities for development sites internal to Exeter

3.3 Trip Rates

- 3.3.1 A summary of the resulting trip rates for the AM peak (where available) are shown in Table 2 below.

AM Peak Hour Trip Rates (Two Way) Trips per dwelling					
Trip type	Fords Road	Garland Close	Blakeslee Drive	Central Avenue	Rougemont Park
Pedestrians	0.31 ¹	0.25 ²	0.19	0.22	-
Bicycles	0.06 ¹	0.00	0.06	0.01	-
Vehicles	0.35	0.55	0.58	0.45	0.54 ³
Bus passengers	-	2	0.18	0.05	-
Rail passengers	-	-	0.13	-	-
Total	0.72¹	0.80	1.14	0.73	-

Table 2: Trip rates at developments internal to Exeter

¹Fords Road count likely to underestimate pedestrian and cycle numbers

²Garland Close pedestrians includes bus passengers

³Trip rate based on average hour over 12 hour period

- 3.3.2 Although vehicular and overall trip rates vary between the sites, the recorded two way vehicular trip rates are all within the range of 0.35 - 0.6 trips per dwelling. The highest levels of overall movement are recorded at the newest residential areas.
- 3.3.3 At Fords Road the sustainable movements exceed the volume of vehicle movements and at Blakeslee Drive the sustainable movements are approximately equal to the number of vehicle movements.
- 3.3.4 The trip rates at Blakeslee Drive suggest that where developments are in close proximity to rail and bus services, these modes (accounting for 28% of all recorded trips) are well used.

4. Sites outside of Exeter

4.1 Survey Sites

4.1.1 Surveys at residential developments outside of Exeter were undertaken at the following sites:

- Claremont Field, Ottery St Mary
- Dokkum Road, CREDITON
- Truro Drive, Exmouth
- Blenheim Close, Newton Abbot
- Cranbrook New Community

4.1.2 A brief description of each of the sites, including date of survey and key characteristics are given in the following paragraphs.

Claremont Field, Ottery St Mary

4.1.3 Claremont Field is an established residential development of 94 residences located on the southern fringe of Ottery St Mary. A priority junction with Sidmouth Road is the only vehicular access, and also the main pedestrian and pedal cycle access. A pedestrian access at the opposite end of the development leads to a public right of way adjacent to the River Otter.

4.1.4 Trip rate surveys were undertaken on 25th January 2017 between 07:30-09:15 at the junction of Claremont Field and Sidmouth Road. The peak hour was identified as 07:45-08:45 and the count data and trip rates during this time are shown in Table B.1.1 of Appendix B.

4.1.5 Vehicle movements dominate the trip rates. This is expected in a semi-rural town with limited employment sites. No cycle trips were recorded. The trip rates are considered typical of the trips generated by a rural edge of town development.

Dokkum Road, CREDITON

4.1.6 Dokkum Road Estate, including Saxon Close, Fulda Crescent, and Kirton Drive, is a development of approximately 108 mixed residential properties, located on the southern fringe of CREDITON. Vehicle access is from a single priority junction with Park Road, although there is an additional pedestrian access onto Four Mills Lane which leads to CREDITON Rail Station.

4.1.7 Trip rate surveys were undertaken on 25th January 2017 between 07:45-09:15 at the junction of Dokkum Road and Park Road. The peak hour for vehicular and rail movements was 07:45-08:45, although there is a spike in pedestrian demand likely relating to the nearby Haywards primary school from 08:45-09:00. The count data and trip rates between 07:45-08:45 are shown in Table B.2.1 of Appendix B. The vehicle departure trip rate is as expected and could be used as a baseline for similar developments.

Truro Drive, Gloucester Road and Canterbury Way, Exmouth

4.1.8 Truro Drive, Gloucester Road and Canterbury Way are established, interconnected developments of approximately 108 mixed residential properties, generally of three or four bedrooms, located on the northern fringe of Exmouth. Vehicle access is provided by two priority junctions (Truro Drive and Gloucester Road accessed off Bystock Road). Bus stops are located less than a five minute walk from the development on Dinan Way, providing services to Exmouth and Exeter.

4.1.9 Trip rate surveys were undertaken on 8th February 2017 between 07:30-09:15 at the junctions of both Truro Drive and Gloucester Road with Bystock Road. The count data and derived trip rates are shown in Table B.3.1 of Appendix B. The peak hour was identified as 08:00 – 09:00.

- 4.1.10 The AM Peak is dominated by vehicular traffic from the development. The majority of vehicles turn towards Dinan Way indicating that they are accessing the town itself. No pedal cyclists were observed during the survey period, and it is noted that cycle infrastructure in the vicinity is limited. Low trip rates were observed for pedestrians arriving and departing the development. The high vehicle departure trip rate and low sustainable mode splits could be expected for similar edge of large town developments with limited local amenities and employment sites in the vicinity.

Blenheim Close, Newton Abbot

- 4.1.11 Blenheim Close is a development of 41 varying sized detached houses and bungalows located on the northern outskirts of Newton Abbot. Blenheim Close is accessed via a priority junction with The Churchills. Blenheim Close is a linear cul-de-sac development with no pedestrian permeability and the closest bus stop is on Ashburton Road, an approximate ten minute walk.
- 4.1.12 Trip rate surveys were undertaken on 1st February 2017 between 07:30-09:15 at the junction of Blenheim Close and The Churchills. The peak hour was identified as 07:30-08:30 and the count data and derived trip rates are shown in Table B.4.1 of Appendix B.
- 4.1.13 Recorded movements at Blenheim Close were lower than other surveyed sites, with 35 movements being recorded in the survey period. No pedal cyclists were recorded. Across the survey period seven pedestrians were recorded however only two of these trips took place in the AM peak period. Given the sites proximity to two local primary and secondary schools this is surprising, although it is noted that the overall trip rate for this site was much lower than other surveyed sites.

New Community Development – Cranbrook

- 4.1.14 Cranbrook is a new community being developed to the east of Exeter. Construction is ongoing, and currently approximately 1300 homes are occupied. Two schools and numerous shops have now opened. Good walking and cycling infrastructure is provided, with parking facilities for cycles and scooters at key education and leisure sites. The half hourly '4' bus service links Cranbrook with Exeter city centre, Ottery St Mary and Axminster. Cranbrook rail station opened in December 2015.
- 4.1.15 Car park and passenger surveys were undertaken at Cranbrook Station on Thursday 11th February 2016, when 1244 dwellings were occupied. These are detailed in B.5.1 and B.5.2. Traffic surveys were undertaken on Friday 13th May 2016 at the three development access roundabouts on London Road (Younghayes Road, Mayfield Way, and Court Royal Roundabout), and at Cranford House Bridge located to the northeast of Cranbrook on the road leading to Broadclyst. The count data is presented in Table B.5.3. 1296 dwellings were occupied at the time of survey. Trip rates for vehicles and pedal cycles have been calculated by combining the number of trips from all these accesses. The trip rates can be seen in Table B.5.4 of Appendix B.
- 4.1.16 As development is ongoing it is highly likely that some of the observed vehicles from the traffic surveys are construction traffic. Due to the location of the survey sites it is likely that the majority of the trips observed start or finish outside of Cranbrook and do not represent internal journeys.
- 4.1.17 The observed trip rates show an example of the baseline flows generated by trips to and from a new community. These trip rates will likely change significantly over the coming years as further infrastructure is developed, more dwellings are occupied and construction traffic falls. These rates can be a useful tool in monitoring the change in trip rates as the community grows and testing the impact of new sustainable infrastructure and initiatives. Further counts should be undertaken to investigate the mode break down for internal trips and the impact of construction traffic on trip rates before being applied to other new community developments, particularly when applied over longer durations.

4.2 Access to Services & Amenities

- 4.2.1 An overview of distances to local employment, education and welfare facilities is provided in Table 3. All of the sites are in close proximity to primary schools with an average distance of 0.7km.

Driving Distance (km) From Development To Local Amenities					
Development	Exeter City Centre (km)	Local Town Centre (km)	Nearest Rail Station (km)	Nearest School (km)	
				Primary	Secondary
Claremont Field, Ottery St Mary	21.5	0.7	5.3 (Feniton)	0.9 (Ottery St Mary)	2.0 (The King's School)
Dokkum Road, Crediton	13.0	1.0	1.0 (Crediton)	0.3 (Haywards Primary)	1.6 (Queen Elizabeth's)
Truro Drive, Exmouth	17.7	4.5	4.8 (Exmouth)	1.4 (Brixington Primary)	3.5 (Exmouth Community College)
Blenheim Close, Newton Abbot	28.0	2.3	3.3 (Newton Abbot)	0.6 (St Joseph's Catholic)	0.7 (Coombeshead Academy)
Cranbrook	10.6	0.6	0.6 (Cranbrook)	0.2 (St Martin's C of E)	1.6 (Cranbrook Education Campus)

Table 3: Access to amenities for development sites external to Exeter

4.3 Trip Rates

- 4.3.1 A summary of the resulting trip rates for the AM peak (where available) are shown in Table 4 and more detailed tables are given Appendix B.

AM Peak Hour Trip Rates (Two Way) Trips per dwelling					
Trip type	Claremont Field, Ottery St Mary	Dokkum Road, Crediton	Truro Drive, Exmouth	Blenheim Close, Newton Abbot	Cranbrook
Pedestrians	0.07	0.65	0.14	0.04	
Bicycles	0.00	0.02	0.00	0.00	0.01
Vehicles	0.65	0.54	0.74	0.46	1.00
Bus passengers					
Rail passengers		0.04			0.02
Total	0.72	1.25	0.88	0.50	1.03⁴

Table 4: Trip rates at developments external to Exeter

⁴Data also includes construction traffic

- 4.3.2 Vehicular movements are the dominant movement for each of the sites considered, with two way vehicular trip rates within the range of 0.45-0.65 trips per dwelling (excluding Cranbrook).
- 4.3.3 The sites on the edge of Exmouth and Ottery St Mary exhibit extremely car dominant movement profiles.

5. Conclusion

- 5.1.1 The observations in this note identify some key characteristics of the travel patterns from developments in different locations. These key findings are that:
- **Total person trips vary considerably from site to site.**
 - Typically newer developments exhibit higher overall trip numbers.
 - **Two way AM peak vehicle trip rates of 0.35 – 0.65 trips per dwelling were recorded (excluding Cranbrook).** These can generally be attributed as:
 - 0.35 in a central location in Exeter
 - 0.45- 0.54 for central locations in towns
 - 0.55 at sites toward the edge of Exeter
 - 0.65 at small towns (Ottery St Mary)
 - 0.65 at edge of large towns (Exmouth)
 - **It would therefore not be appropriate to apply a standard set of person or vehicle trip rates to all new developments.**
 - **Walking was the second most popular mode choice** for the vast majority of sites.
 - **Walking numbers were highest at sites with amenities nearby, especially schools.**
 - **Cycle usage was very low in the surveyed towns and edge of city locations with steep topography.**
 - **A rail mode share of over 10% was recorded at the site (Newcourt) in closest proximity to a rail station.**
 - **Bus modal shares, where recorded, were between 7-17%.**
 - **Data for sites still under construction (Cranbrook and Rougemont Park) are likely skewed by construction traffic.**
- 5.1.2 A number of the identified travel characteristics and trip rates provide a useful guide for validating the assumptions used to assess the transport impacts of future residential development proposals.
- 5.1.3 They also provide evidence of how modal choice can be influenced through the provision of amenities and infrastructure for future developments.
- 5.1.4 The findings of this note could be further enhanced with 12 hour counts across all access points for the developments above and an investigation into the change in trip rates at new developments over time, such as Newcourt and Cranbrook.

Appendix A. Trip Rates Internal to Exeter

A.1 Fords Road, St Thomas

A.1.1 Comparison of Journey Times by Car and Cycle

Comparison of Journey Times (by car and cycle) from Fords Road				
Destinations	Cycling Distance (km)	Cycling Time (mins)	Driving Distance (km)	Driving Time (mins)
Exeter St David's Station	2.1	7	2.4	8
City Centre	1.6	9	1.6	5
County Hall	1.6	8	2.4	6
Hospital	2.6	12	3.0	9
University	3.4	15	3.4	9

Observed Trip Rates From New and Existing Developments In and Around Exeter



A.1.2 Trip Rate and Traffic Count Data

Number of Houses	60
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AM Peak Hour - 08:00 to 09:00	Mode	Pedestrians	Bicycles	Vehicles	Buses	Total
	Arrivals	0.03	0.03	0.07	0.00	0.13
	Departures	0.28	0.03	0.28	0.00	0.60
	2-way	0.31	0.06	0.35	0.00	0.72

Departure Mode Split	0.47	0.06	0.47	0.00
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Time	IN					OUT					Two Way Total
	Pedestrians	Bicycles	Vehicles	Buses	Total	Pedestrians	Bicycles	Vehicles	Buses	Total	
0800-0815	0	0	1	0	1	2	0	3	0	5	6
0815-0830	1	1	1	0	3	2	2	10	0	14	17
0830-0845	0	1	2	0	3	9	0	4	0	13	16
0845-0900	1	0	0	0	1	4	0	0	0	4	5
Total	2	2	4	0	8	17	2	17	0	36	44
Peak Hour Total	2	2	4	0	8	17	2	17	0	36	44

A.2 Garland Close, Exwick

A.2.1 Trip Rate and Traffic Count Data

Number of Houses	60
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AM Peak Hour - 07:30 to 08:30	Mode	Pedestrians	Bicycles	Vehicles	Buses	Total
	Arrivals	0.03	0.00	0.10	0.00	0.13
	Departures	0.22	0.00	0.45	0.00	0.67
	2-way	0.25	0.00	0.55	0.00	0.80

Departure Mode Split	0.33	0.00	0.68	0.00
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Time	IN					OUT					Two Way Total
	Pedestrians	Bicycles	Vehicles	Buses	Total	Pedestrians	Bicycles	Vehicles	Buses	Total	
0730-0745	0	0	1	0	1	2	0	7	0	9	10
0745-0800	0	0	4	0	4	1	0	6	0	7	11
0800-0815	2	0	1	0	3	8	0	7	0	15	18
0815-0830	0	0	0	0	0	2	0	7	0	9	9
0830-0845	0	0	1	1	2	1	0	4	1	6	8
0845-0900	0	0	2	0	2	0	0	0	0	0	2
0900-0915	0	0	1	0	1	0	0	2	0	2	3
Total	2	0	10	1	13	14	0	33	1	48	61
Peak Hour Total	2	0	6	0	8	13	0	27	0	40	48

A.3 Blakeslee Drive, Newcourt

A.3.1 Trip Rate and Traffic Count Data

Number of Houses	104
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AM Peak Hour - 08:00 to 09:00	Mode	Pedestrians	Bicycles	Vehicles	Buses	Rail	Total
	Arrivals	0.07	0.00	0.11	0.00	0.00	0.17
	Departures	0.12	0.06	0.47	0.18	0.13	0.96
	2-way	0.19	0.06	0.58	0.18	0.13	1.14

Departure Mode Split	0.12	0.06	0.19	0.49	0.14
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Time	IN						OUT						Two Way Total
	Pedestrians	Cycle	Bus	Car	Rail	Total	Pedestrians	Cycle	Bus	Car	Rail	Total	
0800-0815	1	0	0	1	0	2	4	1	0	7	6	18	20
0815-0830	1	0	0	6	0	7	4	1	12	14	1	32	39
0830-0845	1	0	0	3	0	4	3	4	7	20	6	40	44
0845-0900	4	0	0	1	0	5	1	0	0	8	1	10	15
0900-0915	4	0	0	9	0	13	2	1	0	5	1	9	22
0915-0930	3	0	0	8	0	11	2	0	0	4	1	7	18
Total	14	0	0	28	0	42	16	7	19	58	16	116	158
Peak Hour Total	7	0	0	11	0	18	12	6	19	49	14	100	118

A.4 Central Avenue, Exeter

A.4.1 Trip Rate and Traffic Count Data

Number of Houses	148
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AM Peak Hour - 08:00 to 09:00	Mode	Pedestrians	Bicycles	Vehicles	Buses	Total
	Arrivals	0.01	0.00	0.11	0.00	0.11
	Departures	0.22	0.01	0.34	0.05	0.61
	2-way	0.22	0.01	0.45	0.05	0.72

Departure Mode Split	0.36	0.01	0.56	0.08
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Time	IN					OUT					Two Way Total
	Pedestrians	Cycle	Vehicles	Buses	Total	Pedestrians	Cycle	Vehicles	Buses	Total	
0745-0800	0	0	3	0	3	3	0	7	0	10	13
0800-0815	1	0	6	0	7	5	0	15	4	20	27
0815-0830	0	0	1	0	1	15	0	13	0	28	29
0830-0845	0	0	3	0	3	11	0	15	2	26	29
0845-0900	0	0	6	0	6	1	1	7	1	9	15
0900-0915	3	0	8	0	11	2	0	6	0	8	19
Total	4	0	27	0	31	37	1	63	7	101	132
Peak Hour Total	1	0	16	0	17	32	1	50	7	83	100

A.5 Rougemont Park, Hill Barton³

A.5.1 Traffic Count Data

Rougemont Park Count Data, 12 Hour Period (07:00 – 19:00)			
Mode	Arrivals	Departures	Total
Vehicles (adjusted to remove construction traffic)	228	196	424

A.5.2 Trip Rate Data

Rougemont Park, Average Hour (07:00 – 19:00) (Trips per dwelling)			
Trip type	Arrivals	Departures	Total
Vehicles (adjusted to remove construction traffic)	0.29	0.25	0.54

³ Automatic Traffic Counts (ATCs) were undertaken between the 17th and the 23rd September 2015 on Peppercombe Avenue. ATCs only count vehicles hence no pedestrian or cycle data is available. As construction was ongoing during the survey, a deduction for construction related HGVs based on information from the site developer has been made. The resulting total number of vehicles over a 12 hour period (07:00-19:00) is given in Table A.5.1. The calculated trip rates are an average of the 12 hour ATC count. Trip rates for individual hours could not be calculated due to lack of data therefore the indicated trip rates shown in Table A.5.2 of Appendix A may be of limited use if comparing with peak hours trip rates from other developments.

Appendix B. Trip Rates External to Exeter

B.1 Claremont Field, Ottery St Mary

B.1.1 Trip Rate and Traffic Count Data

Number of Houses	94
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AM Peak Hour - 07:45 to 08:45	Mode	Pedestrians	Bicycles	Vehicles	Total
	Arrivals	0.03	0.00	0.16	0.19
	Departures	0.04	0.00	0.49	0.53
	2-way	0.07	0.00	0.65	0.72

Departure Mode Split	0.08	0	0.92
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Time	IN				OUT				Two Way Total
	Pedestrians	Cycle	Vehicles	Total	Pedestrians	Cycle	Vehicles	Total	
0730-0745	0	0	3	3	1	0	15	16	19
0745-0800	0	0	6	6	1	0	7	8	14
0800-0815	2	0	2	4	1	0	14	15	19
0815-0830	1	0	3	4	1	0	10	11	15
0830-0845	0	0	4	4	1	0	15	16	20
0845-0900	1	0	3	4	4	0	4	8	12
0900-0915	1	0	3	4	1	0	9	10	14
Total	5	0	24	29	10	0	74	84	113
Peak Hour Total	3	0	15	18	4	0	46	50	68

B.2 Dokkum Road, Crediton

B.2.1 Trip Rate and Traffic Count Data

Number of Houses	106
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AM Peak Hour - 07:45 to 08:45	Mode	Rail	Pedestrians	Bicycles	Vehicles	Total
	Arrivals	0.00	0.20	0.02	0.13	0.35
	Departures	0.04	0.45	0.00	0.41	0.86
	2-way	0.04	0.65	0.02	0.54	1.25

Departure Mode Split	0.05	0.53	0	0.47
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Time	Rail	IN				OUT					Two Way Total
		Pedestrians	Cycle	Vehicles	Total	Rail	Pedestrians	Cycle	Vehicles	Total	
0745-0800	0	6	0	0	6	4	7	0	12	19	25
0800-0815	0	4	2	2	8	0	3	0	8	11	19
0815-0830	0	5	0	7	12	0	19	0	11	30	42
0830-0845	0	6	0	5	11	0	19	0	12	31	42
0845-0900	0	7	0	4	11	0	56	0	4	60	71
0900-0915	0	15	0	1	16	0	7	0	4	11	27
Total	0	43	2	19	64	4	111	0	51	162	226
Peak Hour Total	0	21	2	14	37	4	48	0	43	91	128

B.3 Truro Drive, Exmouth

B.3.1 Trip Rate and Traffic Count Data

Number of Houses	108
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AM Peak Hour - 08:00 to 09:00	Mode	Pedestrians	Bicycles	Vehicles	Total
	Arrivals	0.06	0.00	0.18	0.23
	Departures	0.08	0.00	0.56	0.65
	2-way	0.14	0.00	0.74	0.88

Departure Mode Split	0.13	0.00	0.87
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Time	IN				OUT				Two Way Total
	Pedestrians	Cycle	Vehicles	Total	Pedestrians	Cycle	Vehicles	Total	
0730-0745	0	0	1	1	1	0	7	8	9
0745-0800	2	0	3	5	2	0	7	9	14
0800-0815	0	0	6	6	4	0	16	20	26
0815-0830	2	0	4	6	2	0	18	20	26
0830-0845	3	0	6	9	1	0	14	15	24
0845-0900	1	0	3	4	2	0	13	15	19
0900-0915	0	0	4	4	1	0	8	9	13
Total	8	0	27	35	13	0	83	96	131
Peak Hour Total	6	0	19	25	9	0	61	70	95

B.4 Blenheim Close, Newton Abbot

B.4.1 Trip Rate and Traffic Count Data

Number of Houses	41
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AM Peak Hour - 7:30 to 08:30	Mode	Pedestrians	Bicycles	Vehicles	Total
	Arrivals	0.02	0.00	0.07	0.10
	Departures	0.02	0.00	0.39	0.41
	2-way	0.04	0.00	0.46	0.51

Departure Mode Split	0.06	0.00	0.94
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Time	IN				OUT				Two Way Total
	Pedestrians	Bicycles	Vehicles	Total	Pedestrians	Bicycles	Vehicles	Total	
0730-0745	1	0	0	1	1	0	3	4	5
0745-0800	0	0	0	0	0	0	5	5	5
0800-0815	0	0	1	1	0	0	4	4	5
0815-0830	0	0	2	2	0	0	4	4	6
0830-0845	0	0	0	0	2	0	2	4	4
0845-0900	1	0	1	2	1	0	2	3	5
0900-0915	1	0	2	3	0	0	2	2	5
Total	3	0	6	9	4	0	22	26	35
Peak Hour Total	1	0	3	4	1	0	16	17	21

B.5 Cranbrook

B.5.1 Car Park Data, Cranbrook Station

Time	Number of vehicles in car park
09:30	9
13:00	14
16:00	11
19:00	8
20:00	8

B.5.2 Entries and Exits, Cranbrook Station

Hour Beginning	Entries (Number of people)	Exits (Number of people)
06:00	3	0
07:00	10	3
08:00	15	3
09:00	20	1
10:00	15	7
11:00	10	5
12:00	2	3
13:00	3	13
14:00	8	6
15:00	5	10
16:00	6	8
17:00	5	25
18:00	4	9
19:00	2	7

B.5.3 Traffic Count Data

Cranbrook Arrivals Count Data, AM Peak (07:45 – 08:45) & PM Peak (17:15 – 18:15)				
Time	Mode	Bicycles	Vehicles (excl. Buses)	Buses
AM Peak (07:45 – 08:45)	Younghayes	1	147	2
	Mayfield	0	52	0
	Cranford House Bridge	0	40	1
	London Road	0	212	5
	Total	1	451	8
PM Peak (17:15 – 18:15)	Younghayes	0	558	6
	Mayfield	1	167	0
	Cranford House Bridge	0	30	0
	London Road	7	260	3
	Total	8	1015	9

Cranbrook Departures Count Data, AM Peak (07:45 – 08:45) & PM Peak (17:15 – 18:15)				
Time	Mode	Bicycles	Vehicles (excl. Buses)	Buses
AM Peak (07:45 – 08:45)	Younghayes	5	318	4
	Mayfield	2	198	0
	Cranford House Bridge	0	38	0
	London Road	4	294	4
	Total	11	848	8
PM Peak (17:15 – 18:15)	Younghayes	1	120	2
	Mayfield	0	59	0
	Cranford House Bridge	0	22	0
	London Road	0	171	3
	Total	1	372	5

B.5.4 Trip Rate Data

Cranbrook, AM Peak (07:45 – 08:45) & PM Peak (17:15 – 18:15) (Trips per Dwelling)				
Time	Mode	Arrivals	Departures	Total
AM Peak (07:45 – 08:45)	Bicycles	0.00	0.01	0.01
	Vehicles	0.35	0.65	1.00
	Rail passengers	0.00	0.01	0.02
PM Peak (17:15 – 18:15)	Bicycles	0.01	0.00	0.01
	Vehicles	0.78	0.29	1.07
	Rail passengers	0.02	0.00	0.02