

Transport Assessment

The Meadway Precinct

Tilehurst, Reading

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1.0 Introduction

- 1.1 This Transport Assessment analyses the potential impacts of proposals to redevelop the Meadway Shopping Centre site at Tilehurst off Honey End Lane, Reading (Appendix A Location Plan). The complex is currently utilised for retail, leisure and residential purposes. The proposal is for new retail units with enhancement and expansion of some of the existing units and retention of the residential and leisure uses.
- 1.2 The Meadway Precinct comprises a purpose-built Shopping Centre of some 30 shops including Asda, Boots and Fitness First, with a large car park to the side and rear. A number of the units are currently empty. The overall core development strategy for the Borough involves a focus on a network and hierarchy of identified centres, of which The Meadway is one. As well as being a location for a significant range of local services and facilities, including retail, leisure and community provision, such centres should be places for people to live.
- 1.3 The existing site has a total of 4410 sq. m. retail space and 218 parking spaces. The proposal is for a total of 6776 sq m of new retail space with 204 parking spaces (which includes provision for blue badges, parent & child spaces and residents of the flats). There are 27 two-bed flats, which will be retained.
- 1.4 The scope of this Assessment has been discussed with the local highway authority. They have advised that traffic flow counts should be undertaken at the main junctions at either end of Honey End Lane and at the access to the precinct. Parking beat counts have also been requested for the precinct car park. These have been completed and form the basis of this Assessment.

2.0 Site Audit

- 2.1 The Meadway is a district centre located in West Reading. The centre is split into two parts. The northern part of the centre is a purpose-built precinct opened in 1967, containing retail and leisure uses and 27 flats, with an area of car parking. The southern part of the centre is made up of an Asda superstore and its car park. The planning brief prepared by the Borough Council (2012) states the precinct “is now dated and in poor condition, as well as being physically unappealing and failing to make the most of its location in design terms.”
- 2.2 The site lies close to Prospect Park, approximately 3 km west of the centre of Reading, and 3 km from Junction 12 of the M4. It serves a residential area around the streets of Honey End Lane, the Meadway, Cockney Hill and Usk Road.
- 2.3 The site comprises 4410 sq m of retail space split into 32 separate units and 27 2-bed flats. In total there are 207 pay & display parking spaces and 11 garage spaces, with 6 cycle stands. Of these 110 are located in the side car park at the western end of the site, 79 at the front car park adjacent to the access road and 18 plus the garages at the rear along the north service road. Observations show that some casual parking also takes place in the shop service areas and along the service road. The ASDA car park has approximately 161 spaces. Drivers who use the precinct side car park can redeem the cost of parking in the ASDA store.
- 2.4 Vehicle access is from two access points off Honey End Lane. At the northern end of the site a service road runs behind the back of the units to the side car park from a simple priority junction. At the southern end a 4-arm roundabout provides a shared (private) access road to the development site and to the ASDA store car parks on the opposite side. Vehicles can enter or leave by either route as they are connected at the side car park. The roundabout arm opposite the precinct serves the Prospect Park Hospital and terminates in a cul-de-sac at the hospital car park. The other two arms

connect Honey End Lane to The Meadway and Bath Road (A4). There are splitter islands on three arms but not the access road to the development site.

- 2.5 The front precinct car park runs alongside the carriageway, without any physical segregation between the end bays and passing traffic. There is a footpath to the main entrance, linked to the ASDA store by a zebra crossing. The zebra has no controlled zone markings or belisha beacons, which is permissible on a private road but would be unacceptable on the adopted highway. Immediately beyond the crossing is the access to the main ASDA car park opposite the precinct.
- 2.6 The Meadway and Bath Road are distributor roads which converge just at the edge of the town centre. Both are main bus routes. Bath Road connects to the M4 and The Meadway leads to the centre of Tilehurst. There is a traffic signal junction at The Meadway/Honey End Lane with a car wash on one corner. There are traffic calming speed humps in the vicinity of the development site and pedestrian guard railing adjacent to the edge of the carriageway. There is a zebra crossing prior to the roundabout with guard railing on all sides. Beyond the roundabout is a school in a residential setting and the speed limit drops from 30 mph to 20 mph. A humped zebra crossing is located adjacent to the school, close to bus stops on both sides of the road. There is a shared pedestrian/cycle path along one side of the road. The junction with Bath Road is formed by a mini roundabout.
- 2.7 Bath Road and The Meadway are two of the three main roads connecting Reading town centre with the areas to the west of the town. Bath Road carries approximately 20,500 motor vehicles (AADTF) in the vicinity of the proposal site and The Meadway approximately 18,000 according to the DfT classification counts (2013). The precinct is bounded on the northern and western sides by a steep hill comprising grass and trees and there is evidence of pedestrian desire lines through this very difficult terrain.

2.8 Trip Rates

2.8.1 On the busiest day of the week (Saturday) the centre attracts 1787 vehicle arrival trips and 1712 departure trips via the main site access road. In addition 185 vehicles arrived via the rear service road and 256 departed via the same route. The parking accumulation survey reveals that during peak occupancy (12.15 hrs) the car park was 85% occupied, with 168 vehicles parked.

2.8.2 However, according to our TRICS analysis (Appendix B), if the existing shopping centre copied patterns of trip generation found in the database, the site would attract more trips than currently recorded via the Parking Survey. This is undoubtedly because so many of the existing units are currently unoccupied.

For a local shopping centre of 4,410sqm retail floor area, the following daily trip rates were estimated via TRICS;

Mode	2-Way Trip Rate	Number
Vehicles	11,597	5,799
Servicing/Delivery Vehicles	99	50
Cyclists	307	154
Pedestrians	10,162	5,081
Bus Passengers	111	56

2.8.3 This has additional implications for the impact of a regenerated and enlarged shopping precinct of the type proposed. However it also highlights that the existing precinct could generate a significant number of additional trips under existing planning consent if it was fully occupied. Therefore it is proposed that the TRICS rates should be used as the existing baseline but the existing trip rates should be utilised to highlight any potential problems due to increased traffic flows.

2.8.4 A TRICS analysis has been run for the flats as requested by the local highway authority (Appendix C). This demonstrates that the 27 flats will generate **80** vehicle trips per day. As would be expected the trips are split equally between arrivals and departures. It is

assumed these trips are reflected in the parking survey and, as the flats will remain, their impact on future traffic flows is not considered a significant factor.

- 2.8.5 The parking survey demonstrates that 698 of the drivers (35%) who parked in the precinct car park went straight into ASDA, effectively using it as an overspill facility. However the number of ASDA customers using the precinct car park may actually be even higher, as the survey could not record people who might have gone to ASDA later on.

2.9 Traffic Flow Analysis

- 2.9.1 Traffic counts were undertaken at each junction at the end of Honey End Lane and at the roundabout leading to the site access. These were taken over a 27-hour period to include the Friday evening peak and the peak-customer period of Saturday lunchtime, as directed by the Borough Council. It must be noted that this is not a reflection of actual daily flow as the standard 24-hour flow count (i.e. from midnight to midnight) was not used.

2.9.2 Honey End Lane Roundabout

The data shows that during the Friday evening peak period (17:00 – 18:00 hrs) a total of 1262 vehicles passed through the roundabout junction and of these 361 entered from the precinct/ASDA access road. During the same period 344 vehicles drove into the access road from the other 3 arms, demonstrating roughly equal rates of arrival and departure. It is evident that traffic enters the precinct access road in equal proportions from the northern and southern arms of Honey End Lane; 168 and 174 vehicles respectively. It can therefore be deduced that approximately 56% of the peak-hour traffic passing through the roundabout junction is generated by the precinct/ASDA.

- 2.9.3 Traffic flows for the peak-customer period (Saturday 12:00 – 13:00 hrs) demonstrate that 983 vehicles drove into the access road and of these 627 parked in the precinct car park; the remainder parked in ASDA. It is known that at least 35% of those who do

park in the precinct do so to visit the ASDA store so it can be deduced that only the remaining 407 are visiting the precinct.

2.10 Public Transport Services

2.10.1 Reading has a comprehensive bus network (Appendix D), in which services have been extensively upgraded with main routes re-branded as Premier Routes. New, low-floor vehicles have been introduced and bus stop infrastructure has been improved. These measures offer a high quality, inclusive service, with frequent, colour-coded buses that are tracked by satellite technology.

- Bus service 1 operates between Newbury and Reading seven days a week from early morning until late at night and runs up to every half hour, passing Prospect Park on Bath Road.
- Bus service 2/2a operates between Mortimer and Reading (Central) Station seven days a week from 5.40 am – midnight at frequencies of up to every half hour. Buses stop at Bath Road adjacent to Prospect Park.
- Bus service 33 operates between Central Reading and Turnham's Farm via Tilehurst seven days a week from early morning to late night and runs at frequencies of up to every ten minutes. Buses stop on The Meadway close to the junction with Honey End Lane.
- The 28/28a operates on routes between Purley and Caversham via the town centre Monday - Saturday. The routes vary and services run up to ten times a day. Buses stop at Bath Road close to Honey End Lane.

2.10.2 There are bus stops along Honey End Lane on both sides of the road adjacent to the precinct but there are no details to show that any services are currently using this route. It does demonstrate that the infrastructure is already in place for direct bus service access and the regeneration of the precinct will make provision of bus services more viable.

2.11 Cycle Routes

- 2.11.1 Reading's cycle network connects all the town's major public facilities, employment and leisure areas with almost 37 miles of principal routes, of which 17 miles are segregated from general traffic (Appendix E).
- 2.11.2 The proposal site sits at the junction of the R6 (Coley Park and Southcote) and the R50 (Tilehurst and Prospect Park) Reading Cycle Routes. There are direct Linking Routes to the R5 and R60 Routes and to the Town Centre Route.
- 2.11.3 The R50 uses many quiet, traffic-calmed roads and a route through Prospect Park with destinations including Prospect School and the Meadway along the way. The R6 is a quiet, on-road route between Coley and Southcote, avoiding Reading's busy main roads via a path along and under the railway, which has been recently widened to provide a more attractive link to schools and other local destinations. Access to the town centre and South Reading routes is via the off-road cycle path under the Inner Distribution Road (IDR). The R60 gives priority to cyclists from south-west Reading to Reading Station via the shared path on Bath Road, toucan crossings of Bath Road and Oxford Road and a link through quiet streets like Downshire Square and Great Knollys Street.

2.12 Safety Analysis

- 2.12.1 Three-year collision data was obtained from Reading Borough Council for the period 01/01/2012 and 31/12/2014 for the area around the site (Appendix F).
- 2.12.2 A cluster of nine incidents occurred at the junction of Honey End Lane and The Meadway. Of these four resulted in serious injuries and the other five resulted in slight injuries; each incident resulted in a single casualty. Five of the collisions involved single pedestrians at or near the crossing and of these three sustained serious injuries. All of these were attributed to errors by the pedestrians, who failed to look properly or crossed against the signals. Of the five pedestrians one was aged over 80 and two 12 or under.

- 2.12.3 The remaining four collisions include an incident involving a drunk driver and one involving a cyclist who experienced brake failure. Both of these are considered random events which have no bearing on location or highway characteristics. The other two involved careless turning manoeuvres by car drivers. It is considered that the only significant recurring pattern at this location is the number of pedestrians struck by vehicles while attempting to cross the road but the police reports attribute all of these to pedestrian error or behaviour.
- 2.12.4 Four collisions took place in the vicinity of the roundabout at the main entrance to the precinct. In total six personal injuries from these incidents; one serious and five slight including three in one collision. Two of the collisions involved cyclists who were struck while making turning manoeuvres; one sustaining serious injuries in a collision which occurred in dark, wet conditions and one sustaining slight injuries in daylight on a wet day. The other two incidents involved a driver who entered the roundabout without giving way and another incident in which a car shunted another waiting to enter the roundabout.
- 2.12.5 The collision rate at the roundabout is within normal expectation and all of the incidents can be attributed to driver error of judgement and/or failure to look properly. There is nothing to suggest any highway defects or that the road layout contributed to any of these incidents and this was confirmed by observations during the site visit
- 2.12.6 The only other collision near the precinct occurred at the junction of Honey End Lane and Cockney Hill and involved a car making a poor turning manoeuvre which caused a cyclist to collide with the car and fall off, sustaining slight injuries.
- 2.12.7 In summary it is concluded there are no adverse safety impacts associated with the development proposal and no significant, undue hazards caused by the character or layout of the highway.

3.0 Policy Analysis

- 3.1 The Borough Council's Core Strategy Vision states; "The district and local centres will perform an increasing role of providing services to local populations."

The strategy also refers to existing district retail centres; *"The vitality and viability of these District centres (which includes Meadway) should be maintained and enhanced. This will include widening the range of uses, environmental enhancements and improvements to access."*

- 3.2 It is conventional to undertake analysis of the Local Transport Plan, National Planning Policy Framework, Local Development Framework and other material transport planning policies and strategies as part of the policy analysis in any Transport Assessment. However in this instance the local authority has produced a planning brief for the site which makes reference to elements of these documents.

3.3 The Planning Brief

- 3.3.1 The planning brief prepared by the Borough Council set out key principles related to transport and travel issues. An increase in overall number of trips to the Centre is anticipated, and is acknowledged as a sign of a successful development. However, it is stressed that impacts upon the transport network are to be fully mitigated, in line with policy. This will mean that the development, if it generates additional trips, will need to incorporate enhanced provision for non-car modes of transport.
- 3.3.2 Honey End Lane is a classified road, and the Council's policy is that there should be no new entrances onto classified roads. The roundabout at the junction of Honey End Lane and the entrance to the Meadway Centre should be retained as it provides an important highways function for u-turns. It also provides a convenient point for buses to turn, if a more direct bus service were to be provided.
- 3.3.3 Car parking should be provided in line with the Council's Parking Standards and Design Supplementary Planning Document 5. New areas of public car parking should

represent an improvement over the current public parking area. In particular, it should avoid significant slopes, and pedestrian movement within the car park should be safe. Terracing of car parking may be one means to deal with the slope issue.

- 3.3.4 Redevelopment of the site should enhance the facilities and access for cycling. Cycle access to the site should be planned into any development from the outset, and should be safe and secure. Cycle parking should be also provided in line with the Council's Parking Standards and Design SPD.
- 3.3.5 Provision should be made to ensure good quality pedestrian access to bus stops on The Meadway and Honey End Lane. This could potentially include a footpath through the woodland to the west of Victory Court, which would offer a more direct route to the bus stop - this should be well-lit and laid out in a way to mitigate the slope. This is subject to land ownership issues. If such a path is proposed as part of development, it should be ensured that the Centre does not turn its back on this entrance to the precinct and allows for a safe and attractive link.
- 3.3.6 The centre should benefit from good quality pedestrian access to and from Prospect Park, which would include signage. Improved lighting along Honey End Lane is one measure which will be important to improve both pedestrian and cycle access to the centre. Lighting should be to the most recent standards of the highways authority.
- 3.3.7 Servicing arrangements will need to be in compliance with the policy set out in the Council's Parking Standards and Design SPD. Development should avoid servicing arrangements that are directly adjacent to residential gardens, in particular those along the north side of Cockney Hill.

4.0 Development Proposal

4.1 Proposed Site Access and Layout

- 4.1.1 The existing vehicle access points will be retained without the need for any new ones, as per the brief (Appendix G). The connection between them will be severed, which will remove the existing hazard and nuisance. The northern access will be for residents and service & delivery vehicles only. The southern access will serve the car parks with some limited access for service vehicles to the rear of the adjacent units. This will achieve significantly greater segregation of cars and service vehicles, which will improve safety and convenience for all concerned.
- 4.1.2 The crossing between the precinct and ASDA is to be converted into a raised speed table crossing, which will limit vehicle speeds across the site and improve safety for pedestrians. The pedestrian guard railing outside the precinct will be removed but the planter will be retained.

4.2 Parking Provision

- 4.2.1 The precinct is in Zone 3 of the Reading parking hierarchy (secondary core area). The maximum parking provision standards for this zone which are relevant to the proposal are as follows;

• A1 Food Retail	30m ²
• A1 Non-Food Retail Up to 1,000m ²	40m ²
• A1 Non-Food Retail Over 1,000m ²	30m ²
• Hot Food Take-Away	40m ²
• Health Clubs/Gymnasiums	30 m ²

- 4.2.2 As the nature of the final end users of the units is unknown it has been assumed that there will be a 50:50 split between food and non-food retail with some hot food takeaway use retained. For this reason an 'average' parking requirement of 1 space per 35 sq m has been assumed. This equates to an overall *maximum* provision of up to

193 spaces for the retail units. Parking provision for the flats is 1.5 spaces per flat and 1 visitor space per 4 dwellings. This equates to a *requirement* of approximately 47 spaces.

- 4.2.3 Council policy advises that where comprehensive and mixed-use development schemes are likely, developers are encouraged to provide shared parking for facilities which are likely to generate peak parking levels during different periods of the day.
- 4.2.4 The proposal is for 183 spaces serving the precinct with a further 21 spaces for the residents of the flats. The residents' spaces are located at the northern side of the site off the service road so that shoppers will not be able to reach them. The shoppers' car park will be along the southern side of the site off the shared access road. The provision for the residents is below the required standard but they will be able to use the shoppers' car park and the heaviest demand for residents' parking will be during the evenings when the shops are closed, making sharing a viable option. Therefore the proposal is deemed to comply with the council's parking standards.
- 4.2.5 A total of 77 cycle stands are proposed; 50 for the retail units and 27 for the residents. This is a very significant increase above current provision and given the excellent cycle links in the area will be a major incentive for people to cycle. Four public motorcycle spaces are also proposed.

5.0 Impact Analysis

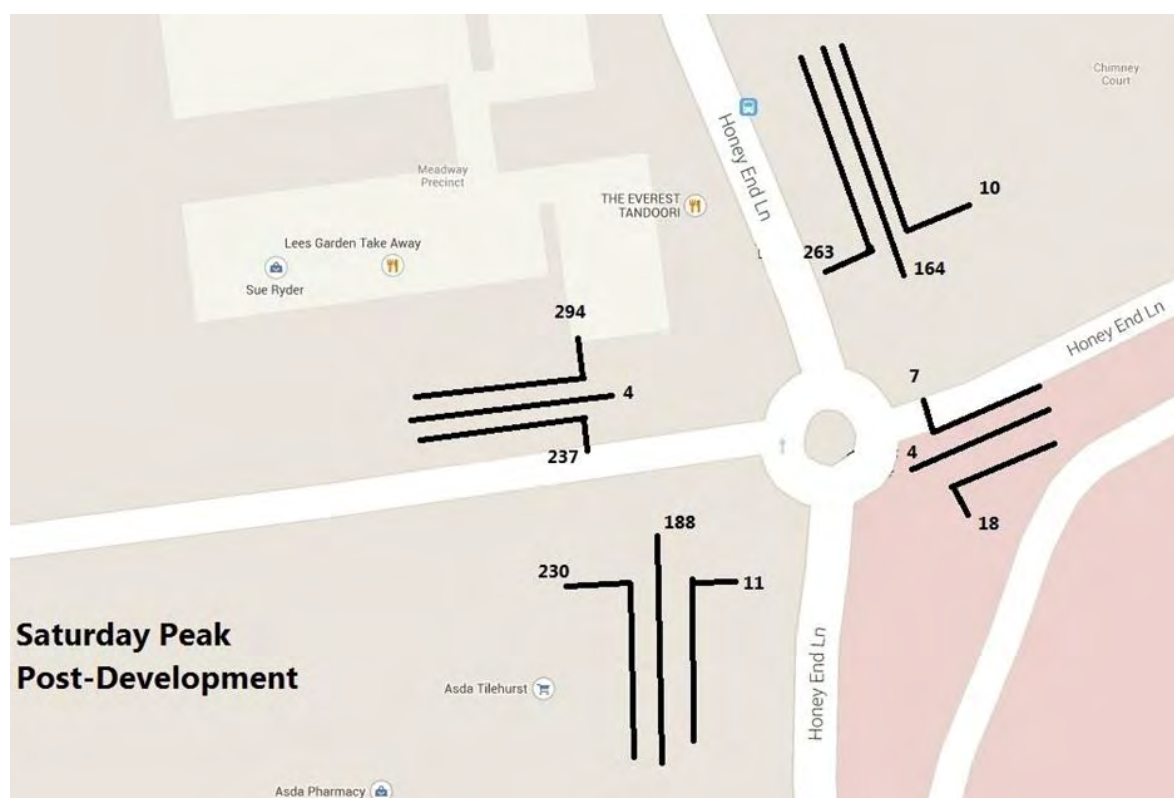
5.1 Trip Rates

5.1.1 Further discussions with the Borough Council resolved that a TRICS analysis was to be undertaken for a shopping centre of the size proposed (6,776sqm), which provided the projected daily trip rates shown in table 1. Figures illustrate the projected trip rates for the peak customer and peak traffic flow periods.

Table 1; Projected Trip Rates after Redevelopment

Mode	2-Way Trip Rate	Number
Vehicles	17,708	8,854
Servicing/Delivery Vehicles	151	76
Cyclists	469	235
Pedestrians	15,518	7,759
Bus Passengers	170	85

Fig 1; Peak Period Trip Rates



Peak Hour Trip Rates

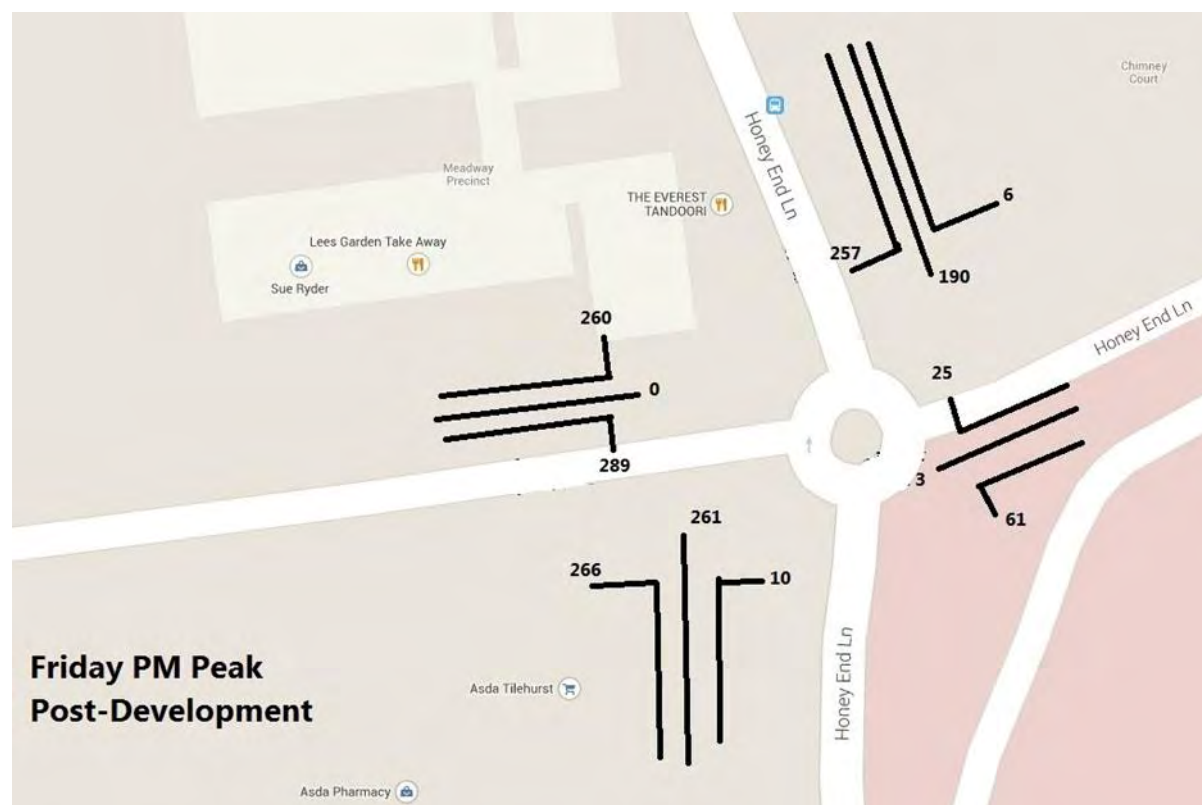


Table 2; Predicted Peak time Trip Rates

Mode	Friday PM peak (17:00-18:00)		Saturday Lunchtime peak (12:00-13:00)	
	Arrivals	Departures	Arrivals	Departures
Vehicles	591.78	622.63	756.23	732.73
Servicing/Delivery Vehicles	0	1.48	5.86	5.86
Cyclists	19.06	24.98	7.34	8.82
Pedestrians	437.58	549.16	666.67	585.86
Bus Passengers	0	4.38	13.20	7.34
TOTAL TRIPS	1,048.42	1,202.63	1,449.30	1,340.61

5.1.2 The difference between vehicle trip generation following development and *current* trip rates is shown to illustrate predicted traffic flow increases, although it must be remembered that current trip rates are significantly lower than the precinct could generate under existing consent if it were fully utilised:

- Friday PM peak arrivals: 72% increase
- Friday PM peak departures: 73% increase
- Saturday peak arrivals: 133% increase
- Saturday peak departures: 109% increase

5.2 Given that current trip rates do not reflect the potential attraction of the centre due to the high number of unoccupied units a calculation has also been carried out to assess the percentage increases in trip generation between the proposed development and the existing TRICS trip generation data;

Table 3; Current Potential Trip Rates

Mode	PM peak (17:00-18:00)		Lunchtime peak (12:00-13:00)	
	Arrivals	Departures	Arrivals	Departures
Vehicles	387.55	407.75	495.24	479.85

5.3 Effectively this demonstrates that the predicted trip rates after redevelopment will increase in direct proportion to the proposed expansion of the site compared to its current potential attraction, as would be expected.

- Friday PM peak arrivals: 53% increase
- Friday PM peak departures: 52% increase
- Saturday peak arrivals: 53% increase
- Saturday peak departures: 53% increase

- 5.4 The projected traffic numbers calculated above have been input into ARCADY, alongside the existing traffic counts, in order to examine the potential impact of development on the roundabout junction adjacent to the site. The outputs are shown below;

Summary Results

Mode Columns

	PM			
	Queue (Veh)	Delay (s)	RFC	LOS
A1 - Friday Peak Existing				
Arm PPH	0.02	5.89	0.02	A
Arm HELS	0.18	6.38	0.15	A
Arm MPAR	0.16	6.33	0.14	A
Arm HELN	0.17	6.38	0.15	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - Friday Peak Existing, PM " model duration: 17:00 - 18:00

These results from the Friday PM peak show that development is likely to have a significant impact on the existing roundabout, albeit without creating a critical adverse impact on the highway network.

Summary Results

Mode Columns

	PM			
	Queue (Veh)	Delay (s)	RFC	LOS
A1 - Friday Peak Proposed (realistic)				
Arm PPH	0.30	12.39	0.23	B
Arm HELS	12.74	90.61	0.95	F
Arm MPAR	17.39	119.55	0.98	F
Arm HELN	3.99	32.85	0.81	D

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

Summary Results

Mode Columns

	PM			
	Queue (Veh)	Delay (s)	RFC	LOS
A1 - Friday Peak Proposed (worst)				
Arm PPH	0.32	13.22	0.25	B
Arm HELS	33.36	213.20	1.03	F
Arm MPAR	66.67	388.79	1.11	F
Arm HELN	6.17	48.16	0.87	E

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

Summary Results

Mode ▾ Columns ▾

	PM			
	Queue (Veh)	Delay (s)	RFC	LOS
A1 - Saturday Peak Existing				
Arm PPH	0.01	5.71	0.01	A
Arm HELS	0.18	6.41	0.15	A
Arm MPAR	0.16	6.36	0.14	A
Arm HELN	0.13	6.11	0.12	A

Values shown are the maximum values over all time segments.
Delay is the maximum value of average delay per arriving vehicle.

"D1 - Saturday Peak Existing, PM " model duration: 12:00 - 13:00

5.5 The same pattern discerned during the Friday PM peak is also notable during the Saturday lunchtime peak. As existing, the roundabout junction has plentiful spare capacity, but following development there will be some queues and delay within the private and public access roads around the development site.

Summary Results

Mode ▾ Columns ▾

	PM			
	Queue (Veh)	Delay (s)	RFC	LOS
A1 - Saturday Peak Proposed (realistic)				
Arm PPH	0.08	9.44	0.07	A
Arm HELS	2.95	24.48	0.75	C
Arm MPAR	7.45	46.80	0.89	E
Arm HELN	2.97	24.18	0.75	C

Values shown are the maximum values over all time segments.
Delay is the maximum value of average delay per arriving vehicle.

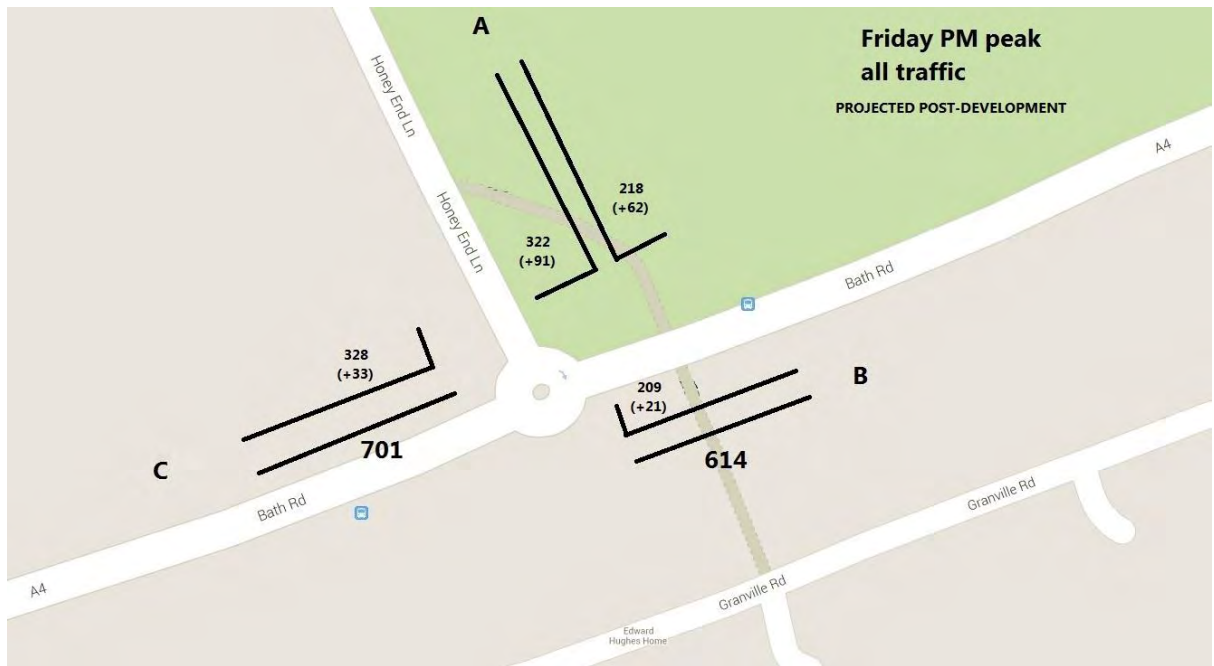
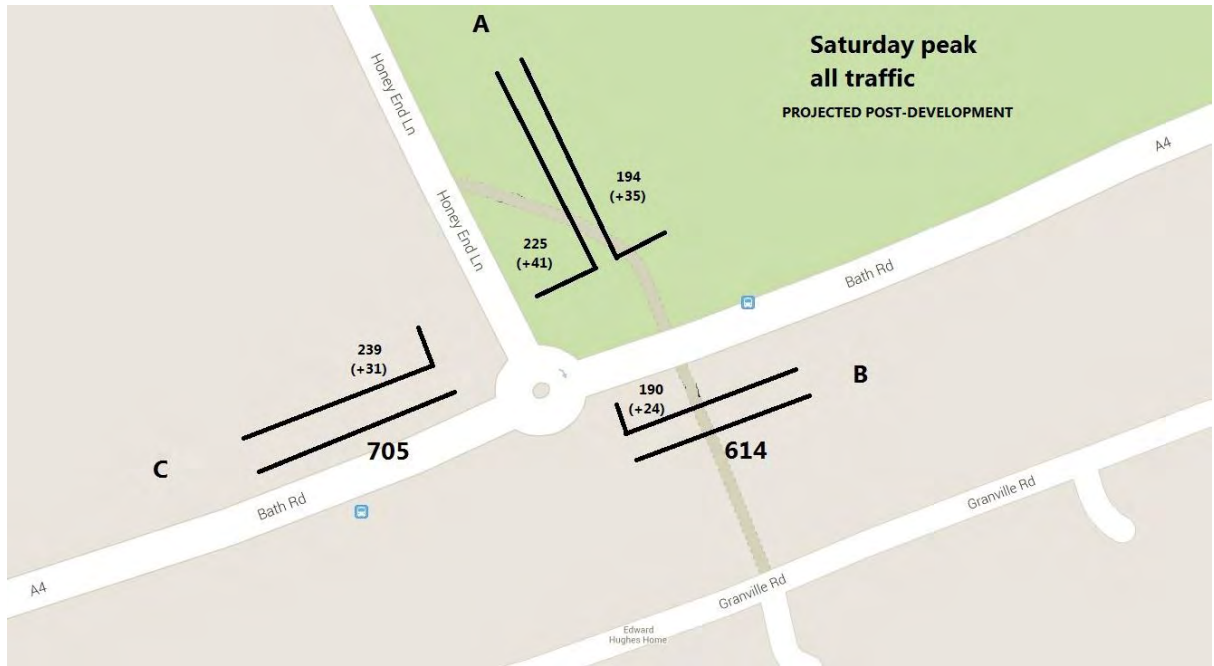
5.6 Predictions have been made using the TRICS data for increased trip rates through the junctions at either end of Honey End Lane. It is noted that the trip rates after expansion show that only 78% of the predicted extra trips materialise through the terminal junctions; this must be because the remaining 22% of extra trips originate from the side roads off Cockney Hill, reflecting the high proportion of local customers who use the precinct.

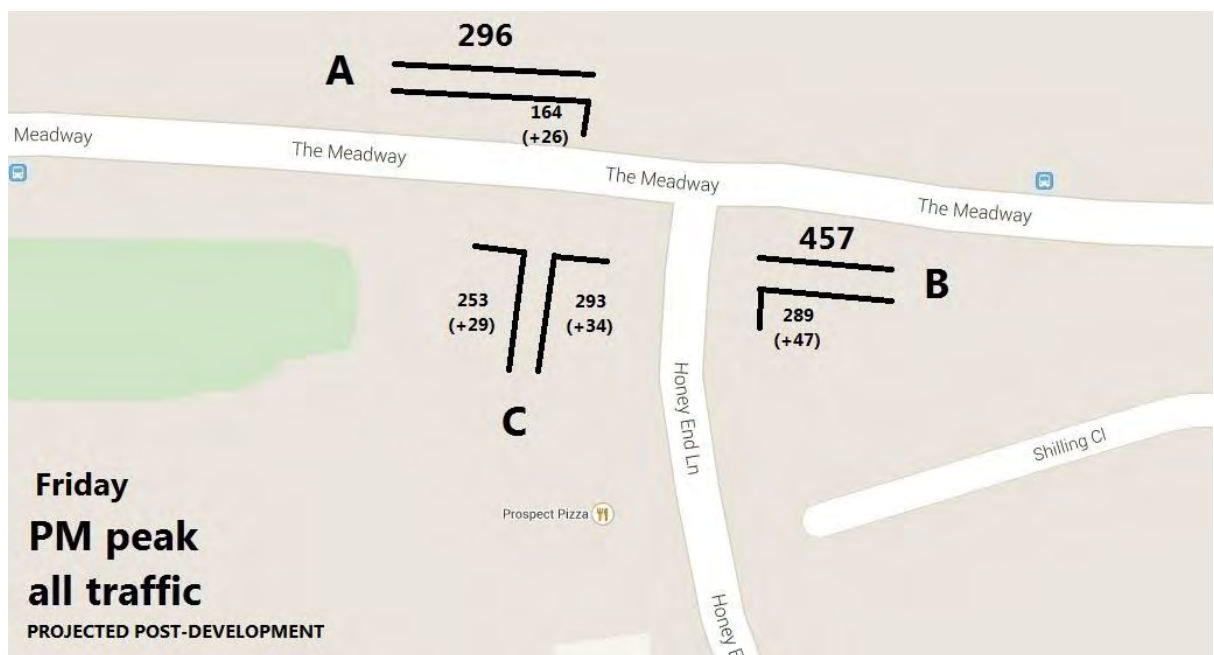
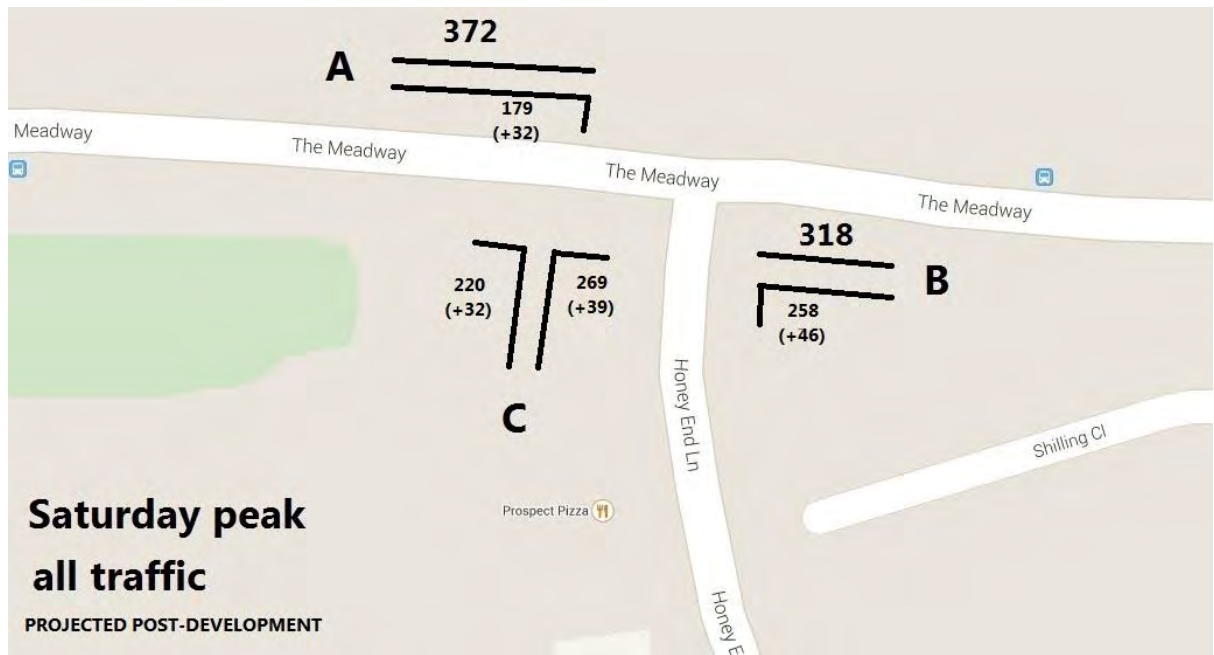
Summary Results

Mode ▾ Columns ▾

	PM			
	Queue (Veh)	Delay (s)	RFC	LOS
A1 - Saturday Peak Proposed (worst)				
Arm PPH	0.10	11.33	0.09	B
Arm HELS	42.02	180.11	1.06	F
Arm MPAR	131.43	410.10	1.21	F
Arm HELN	27.90	124.53	1.01	F

Values shown are the maximum values over all time segments.
Delay is the maximum value of average delay per arriving vehicle.





- 5.7 The predictions demonstrate that the additional trips, although statistically significant, will not be sufficient to have a critical impact on capacity through the junctions.

5.8 Summary

- 5.8.1 The TRICS predictions show that currently the precinct generates far fewer trips than would be expected because most of the units are empty and those that remain do not attract a significant volume of trade. If the existing units were to be occupied trip rates would increase but not to an extent that would have a significant impact on the highway. Realistically this could be achieved under the existing planning consent.
- 5.8.2 The proposed redevelopment scheme will include a major expansion and TRICS suggests this will have a significant highway impact on the roundabout at the access road.
- 5.8.3 It is important consider whether the TRICS predictions are an accurate reflection of the potential current trip rates of a thriving precinct before and after development. The TRICS analysis may be more appropriate for an established centre. This is a speculative development and the reality is occupation rates (and therefore trip rates) will increase incrementally over a period of time after opening.
- 5.8.4 TRICS does not take into account any trips which will be diverted to the precinct that are currently being made to other retail outlets elsewhere. Part of the reasoning behind the current proposal is to provide people with local facilities they do not currently have. It is highly likely that local people will be able to make shorter trips when the new centre opens than they currently make to alternative retail outlets further away. Those who live within walking or cycling distance will be able to avoid undertaking trips which they may currently have to make by using their car.
- 5.8.5 The presence of the ASDA store also complicates the trip generation calculations. There are already a very significant number of ASDA customers using the precinct car park. Observations made show that this occurs even when there is still plenty of space in the ASDA car park, probably because some of the spaces in the ASDA car park are further away from the main entrance than some of those in the precinct car park. Undoubtedly the proximity of the ASDA store and the precinct will lead to a

considerable number of linked trips. This will mean that while each site benefits from additional visitors the overall number of trips generated by both sites *combined* is likely to be lower than they would generate if each was on an isolated site.

- 5.8.6 The sites included in the TRICS survey database did not have any travel plans in place. This is also likely to suggest higher vehicle trip rates than will occur at Meadway. The precinct was constructed in the 1960's in an era when little provision was made for travel by any mode other than by car. Since then an extensive cycle network has been developed around the site and bus provision has improved considerably. Pedestrian infrastructure has also improved and the site is now highly accessible by bus, cycle or on foot. The Council's core strategy states that *"Planning officers are working closely with transport officers to examine means of improving the accessibility of district and local centres."*
- 5.8.7 It is therefore likely that while actual trip rates will increase significantly they will in all probability not be as high as the TRICS predictions suggest. However the number of variables makes it very difficult to quantify the actual trip rates.

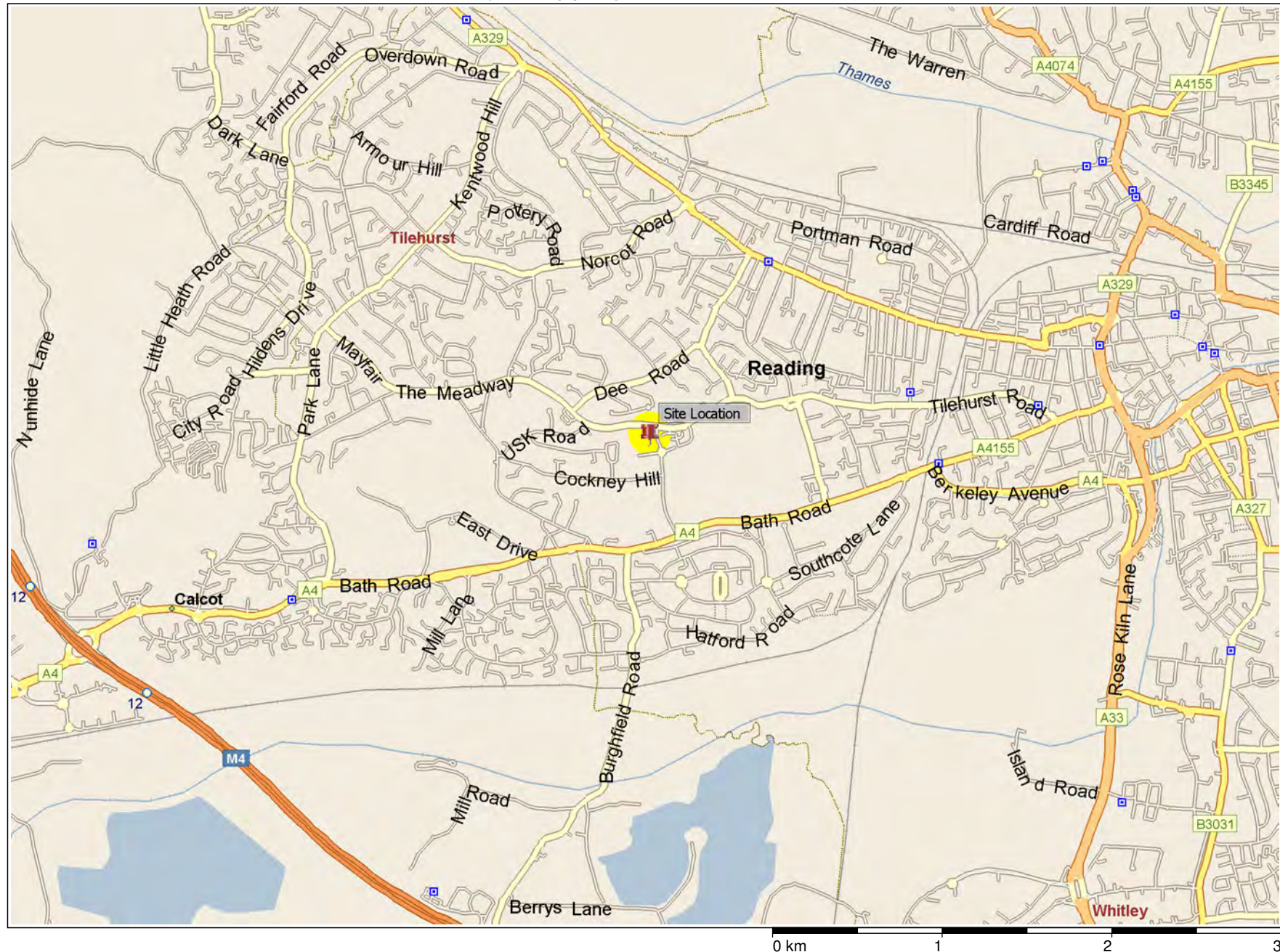
6.0 Conclusion

- 6.1 The proposal conforms to core policy to create vibrant district centres to provide people with local facilities and to regenerate areas and promote social and economic development. The site is in a highly accessible area with very good links to the area cycling network, pedestrian facilities and bus service infrastructure.
- 6.2 It is highly likely that redevelopment of the precinct will increase trip rates along Honey End Lane by a significant extent and that potentially this will affect the capacity of the junctions along its length, particularly the roundabout at the access road.
- 6.3 The extent of the increase is difficult to quantify because of the number of variables such as the likely occupancy rates of the new precinct, the unknown nature of end-users, the quantity of linked trips and overspill parking from the ASDA store and the effect of improved sustainable travel infrastructure and facilities. Furthermore the impact of diverted trips on the wider network will mean shorter and fewer car journeys to alternative retail sites further away.
- 6.4 The planning brief anticipated an increase in overall number of trips and this is acknowledged as a sign of a successful development. However, it is stressed that to address this the development will need to incorporate enhanced provision for non-car modes of transport. It is evident that through careful design and travel planning there is potential to develop a sustainable travel profile for the scheme. Furthermore the anticipated incremental growth as units become occupied provides the opportunity to put travel management and planning procedures in place from the outset.

Simon Garner
May 2015.

Appendix A

The Meadway Shopping Precinct Site Location Plan



Appendix B

Calculation Reference: AUDIT-744001-150409-0400

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
Category : I - SHOPPING CENTRE - LOCAL SHOPS
MULTI-MODAL VEHICLES

Selected regions and areas:

03	SOUTH WEST	
	GS GLOUCESTERSHIRE	1 days
09	NORTH	
	TV TEES VALLEY	2 days
15	GREATER DUBLIN	
	DL DUBLIN	2 days
17	ULSTER (NORTHERN IRELAND)	
	DE DERRY	2 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Retail floor area
Actual Range: 335 to 1185 (units: sqm)
Range Selected by User: 165 to 1850 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/07 to 27/09/14

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	2 days
Wednesday	1 days
Thursday	1 days
Friday	1 days
Saturday	2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	7 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	4
Neighbourhood Centre (PPS6 Local Centre)	3

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	6
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

A1	5 days
----	--------

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

15,001 to 20,000	2 days
20,001 to 25,000	2 days
25,001 to 50,000	3 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

75,001 to 100,000	2 days
125,001 to 250,000	2 days
250,001 to 500,000	1 days
500,001 or More	2 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

1.1 to 1.5	7 days
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This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Petrol filling station:

Included in the survey count	0 days
Excluded from count or no filling station	7 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

No	7 days
----	--------

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1	DE-01-I-01	LOCAL SHOPS	DERRY
	ROSSDOWNEY PARK		
	CLOONEY		
	LONDONDERRY		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Retail floor area:	345 sqm	
	Survey date: WEDNESDAY	20/06/12	Survey Type: MANUAL
2	DE-01-I-02	LOCAL SHOPS	DERRY
	BEECHWOOD AVENUE		
	LONDONDERRY		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Retail floor area:	825 sqm	
	Survey date: THURSDAY	21/06/12	Survey Type: MANUAL
3	DL-01-I-05	LOCAL SHOPS	DUBLIN
	DUNDRUM ROAD		
	WINDY ARBOUR		
	DUBLIN		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Retail floor area:	622 sqm	
	Survey date: SATURDAY	22/09/12	Survey Type: MANUAL
4	DL-01-I-06	LOCAL SHOPS	DUBLIN
	ST BRIGIDS ROAD		
	ARTANE		
	DUBLIN		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Retail floor area:	920 sqm	
	Survey date: SATURDAY	22/09/12	Survey Type: MANUAL
5	GS-01-I-01	LOCAL SHOPS	GLOUCESTERSHIRE
	SALISBURY AVENUE		
	WARDEN HILL		
	CHELTENHAM		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Retail floor area:	335 sqm	
	Survey date: MONDAY	26/04/10	Survey Type: MANUAL
6	TV-01-I-03	LOCAL SHOPS	TEES VALLEY
	ACKLAM ROAD		
	ACKLAM		
	MIDDLESBROUGH		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Retail floor area:	1185 sqm	
	Survey date: FRIDAY	04/10/13	Survey Type: MANUAL
7	TV-01-I-04	LOCAL SHOPS	TEES VALLEY
	CARGO FLEET LANE		
	ORMESBY		
	MIDDLESBROUGH		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Retail floor area:	354 sqm	
	Survey date: MONDAY	07/10/13	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
DL-01-I-04	Small site

TRIP RATE for Land Use 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS

MULTI-MODAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. RFA	Trip Rate	No. Days	Ave. RFA	Trip Rate	No. Days	Ave. RFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	655	5.451	7	655	4.928	7	655	10.379
08:00 - 09:00	7	655	6.629	7	655	6.171	7	655	12.800
09:00 - 10:00	7	655	9.834	7	655	8.308	7	655	18.142
10:00 - 11:00	7	655	8.548	7	655	8.352	7	655	16.900
11:00 - 12:00	7	655	9.922	7	655	9.529	7	655	19.451
12:00 - 13:00	7	655	11.230	7	655	10.881	7	655	22.111
13:00 - 14:00	7	655	10.096	7	655	10.728	7	655	20.824
14:00 - 15:00	7	655	9.573	7	655	10.358	7	655	19.931
15:00 - 16:00	7	655	8.831	7	655	9.137	7	655	17.968
16:00 - 17:00	7	655	9.158	7	655	8.221	7	655	17.379
17:00 - 18:00	7	655	8.788	7	655	9.246	7	655	18.034
18:00 - 19:00	7	655	9.333	7	655	9.725	7	655	19.058
19:00 - 20:00	7	655	8.373	7	655	8.439	7	655	16.812
20:00 - 21:00	7	655	7.981	7	655	8.373	7	655	16.354
21:00 - 22:00	6	611	8.156	6	611	8.674	6	611	16.830
22:00 - 23:00									
23:00 - 24:00									
Total Rates:		131.903			131.070			262.973	

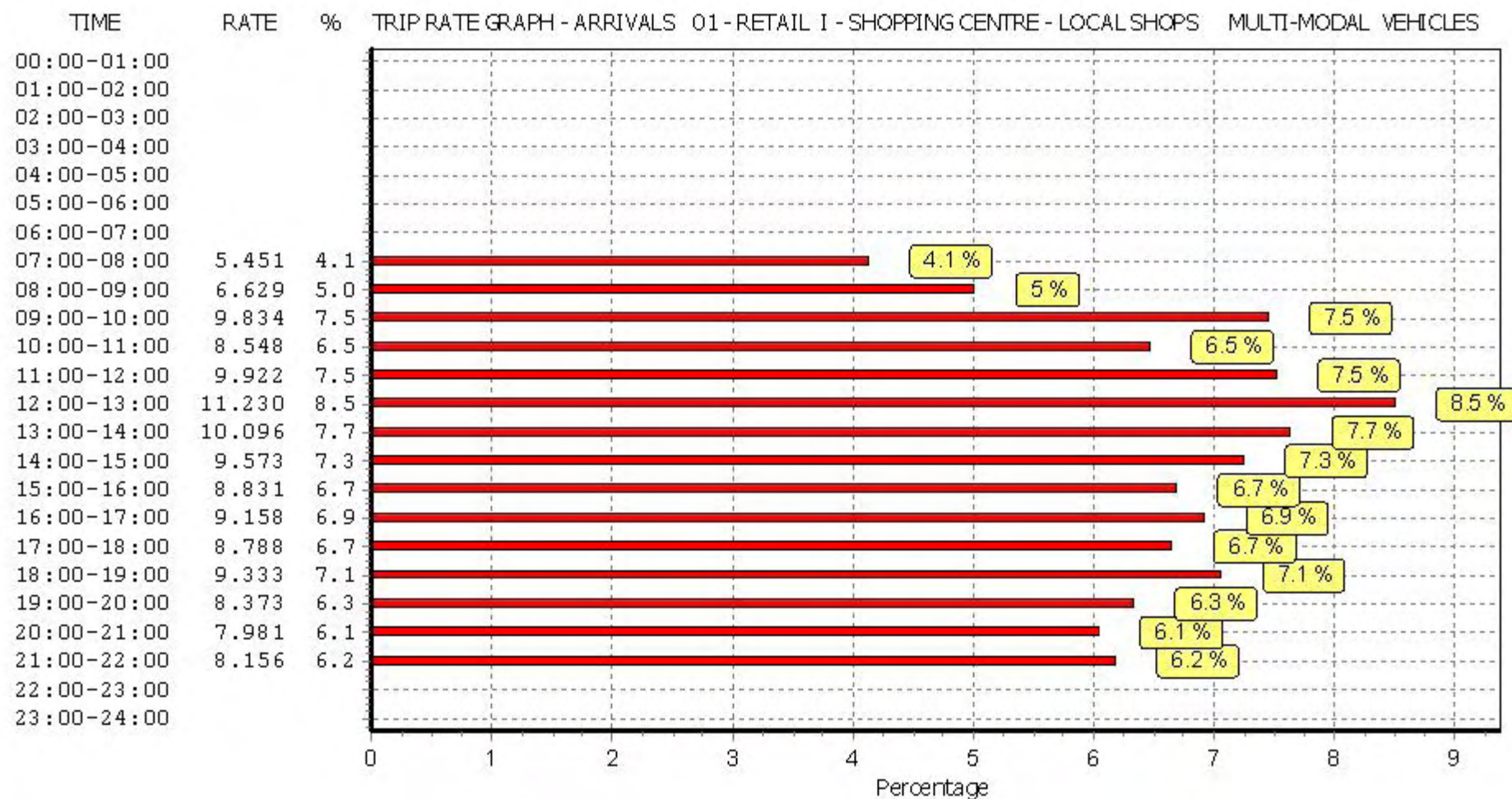
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

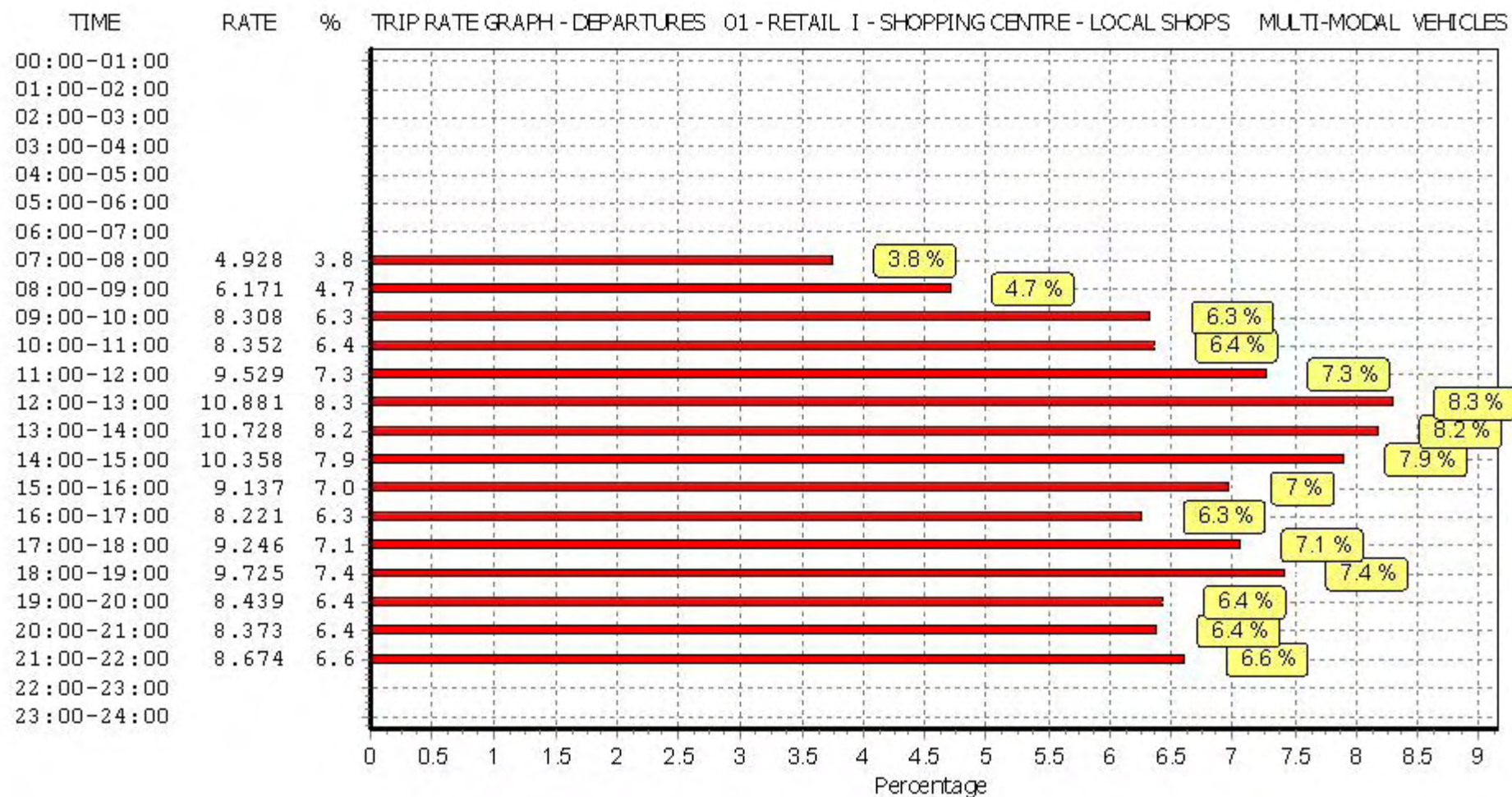
Parameter summary

Trip rate parameter range selected:	335 - 1185 (units: sqm)
Survey date range:	01/01/07 - 27/09/14
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	2
Number of Sundays:	0
Surveys manually removed from selection:	2

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



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TRIP RATE for Land Use 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS

MULTI-MODAL OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. RFA	Trip Rate	No. Days	Ave. RFA	Trip Rate	No. Days	Ave. RFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	655	0.196	7	655	0.174	7	655	0.370
08:00 - 09:00	7	655	0.087	7	655	0.131	7	655	0.218
09:00 - 10:00	7	655	0.262	7	655	0.218	7	655	0.480
10:00 - 11:00	7	655	0.087	7	655	0.131	7	655	0.218
11:00 - 12:00	7	655	0.044	7	655	0.044	7	655	0.088
12:00 - 13:00	7	655	0.087	7	655	0.087	7	655	0.174
13:00 - 14:00	7	655	0.087	7	655	0.087	7	655	0.174
14:00 - 15:00	7	655	0.022	7	655	0.022	7	655	0.044
15:00 - 16:00	7	655	0.087	7	655	0.087	7	655	0.174
16:00 - 17:00	7	655	0.065	7	655	0.044	7	655	0.109
17:00 - 18:00	7	655	0.000	7	655	0.022	7	655	0.022
18:00 - 19:00	7	655	0.044	7	655	0.044	7	655	0.088
19:00 - 20:00	7	655	0.044	7	655	0.044	7	655	0.088
20:00 - 21:00	7	655	0.000	7	655	0.000	7	655	0.000
21:00 - 22:00	6	611	0.000	6	611	0.000	6	611	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:		1.112			1.135			2.247	

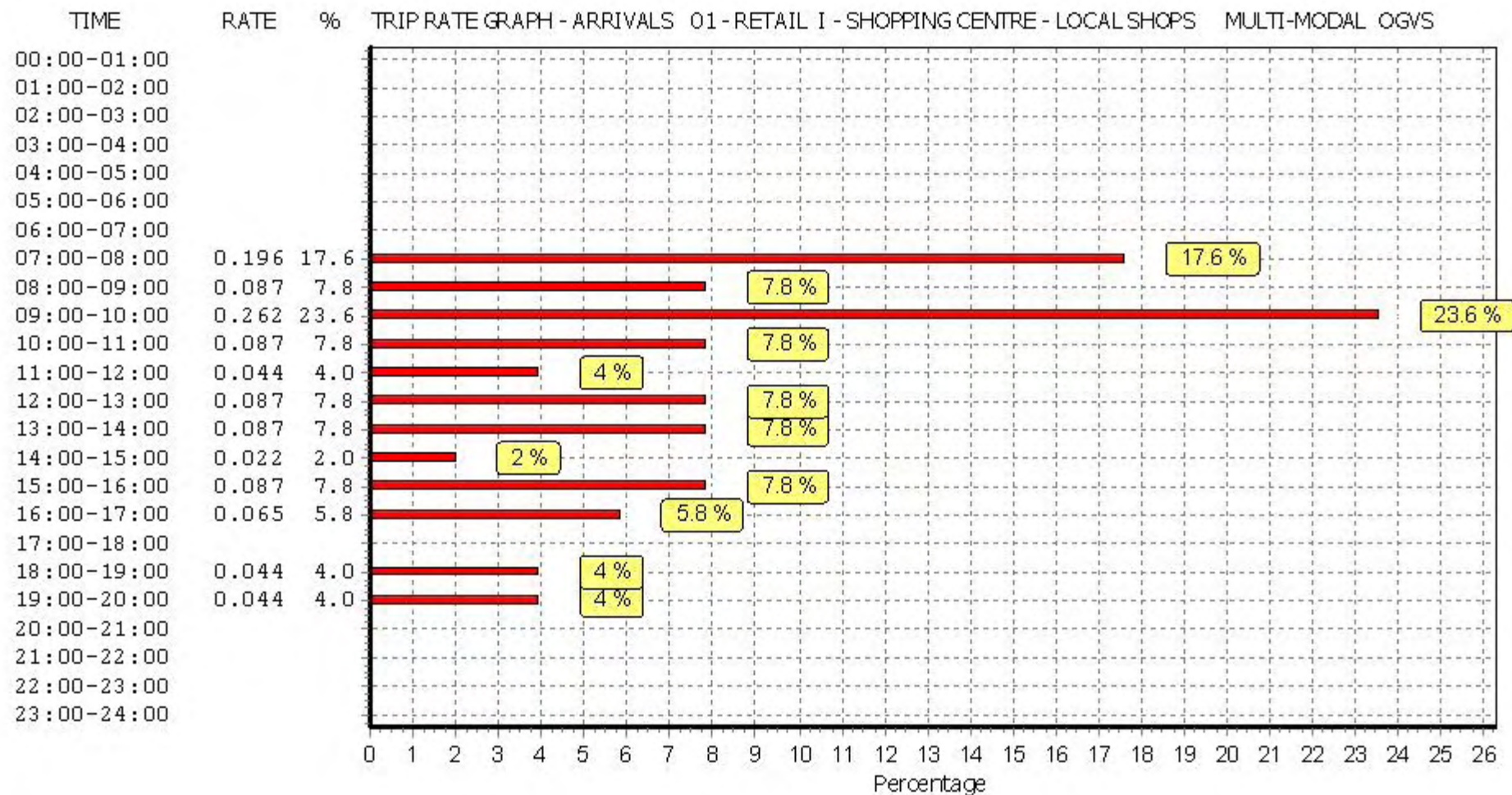
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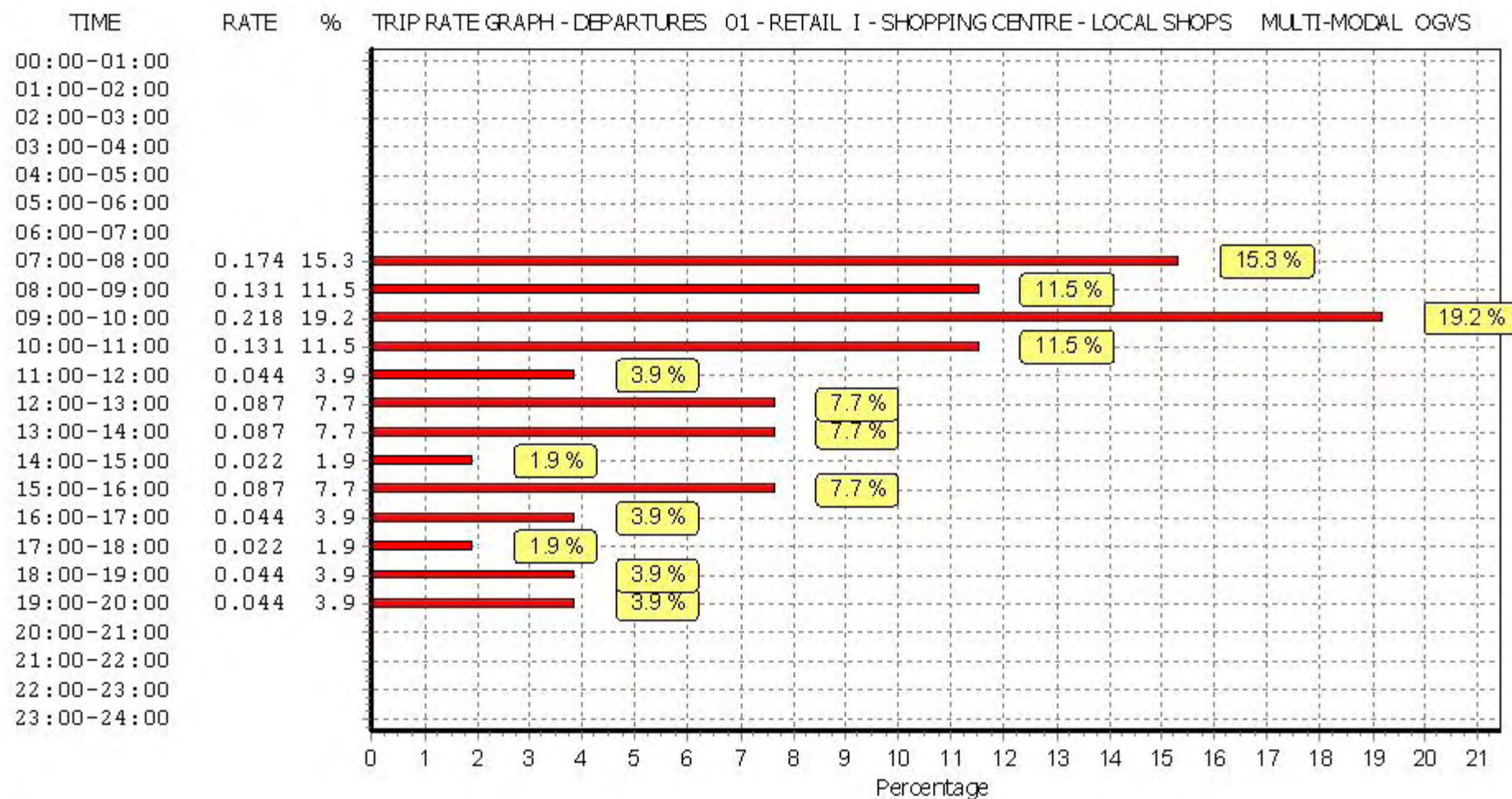
Parameter summary

Trip rate parameter range selected:	335 - 1185 (units: sqm)
Survey date range:	01/01/07 - 27/09/14
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	2
Number of Sundays:	0
Surveys manually removed from selection:	2

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TRIP RATE for Land Use 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS

MULTI-MODAL CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. RFA	Trip Rate	No. Days	Ave. RFA	Trip Rate	No. Days	Ave. RFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	655	0.109	7	655	0.044	7	655	0.153
08:00 - 09:00	7	655	0.262	7	655	0.240	7	655	0.502
09:00 - 10:00	7	655	0.174	7	655	0.131	7	655	0.305
10:00 - 11:00	7	655	0.218	7	655	0.153	7	655	0.371
11:00 - 12:00	7	655	0.109	7	655	0.196	7	655	0.305
12:00 - 13:00	7	655	0.109	7	655	0.131	7	655	0.240
13:00 - 14:00	7	655	0.153	7	655	0.131	7	655	0.284
14:00 - 15:00	7	655	0.196	7	655	0.218	7	655	0.414
15:00 - 16:00	7	655	0.523	7	655	0.436	7	655	0.959
16:00 - 17:00	7	655	0.502	7	655	0.502	7	655	1.004
17:00 - 18:00	7	655	0.283	7	655	0.371	7	655	0.654
18:00 - 19:00	7	655	0.414	7	655	0.371	7	655	0.785
19:00 - 20:00	7	655	0.218	7	655	0.240	7	655	0.458
20:00 - 21:00	7	655	0.044	7	655	0.109	7	655	0.153
21:00 - 22:00	6	611	0.218	6	611	0.164	6	611	0.382
22:00 - 23:00									
23:00 - 24:00									
Total Rates:		3.532			3.437			6.969	

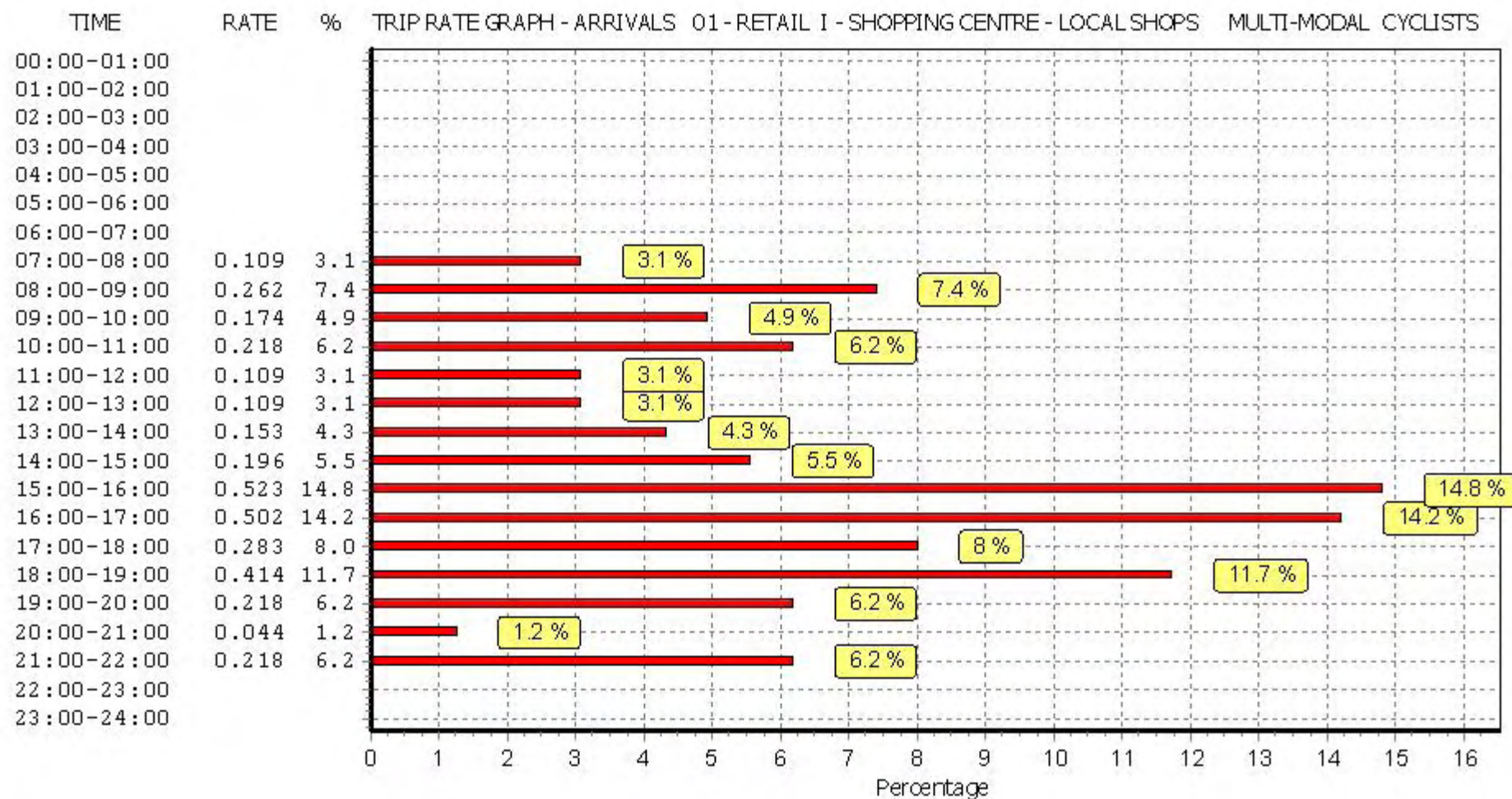
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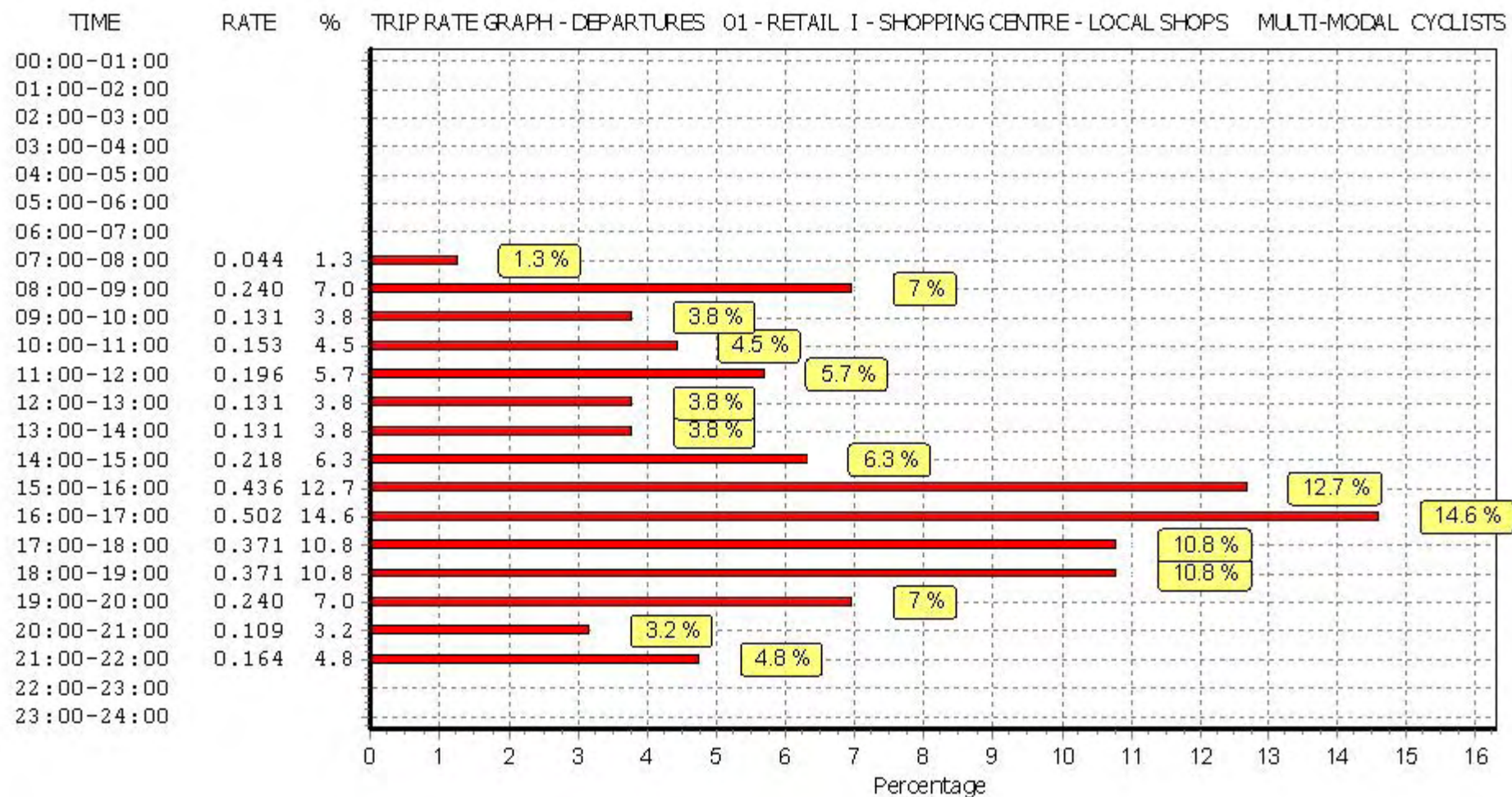
Parameter summary

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Survey date range:	01/01/07 - 27/09/14
Number of weekdays (Monday-Friday):	5
Number of Saturdays:	2
Number of Sundays:	0
Surveys manually removed from selection:	2

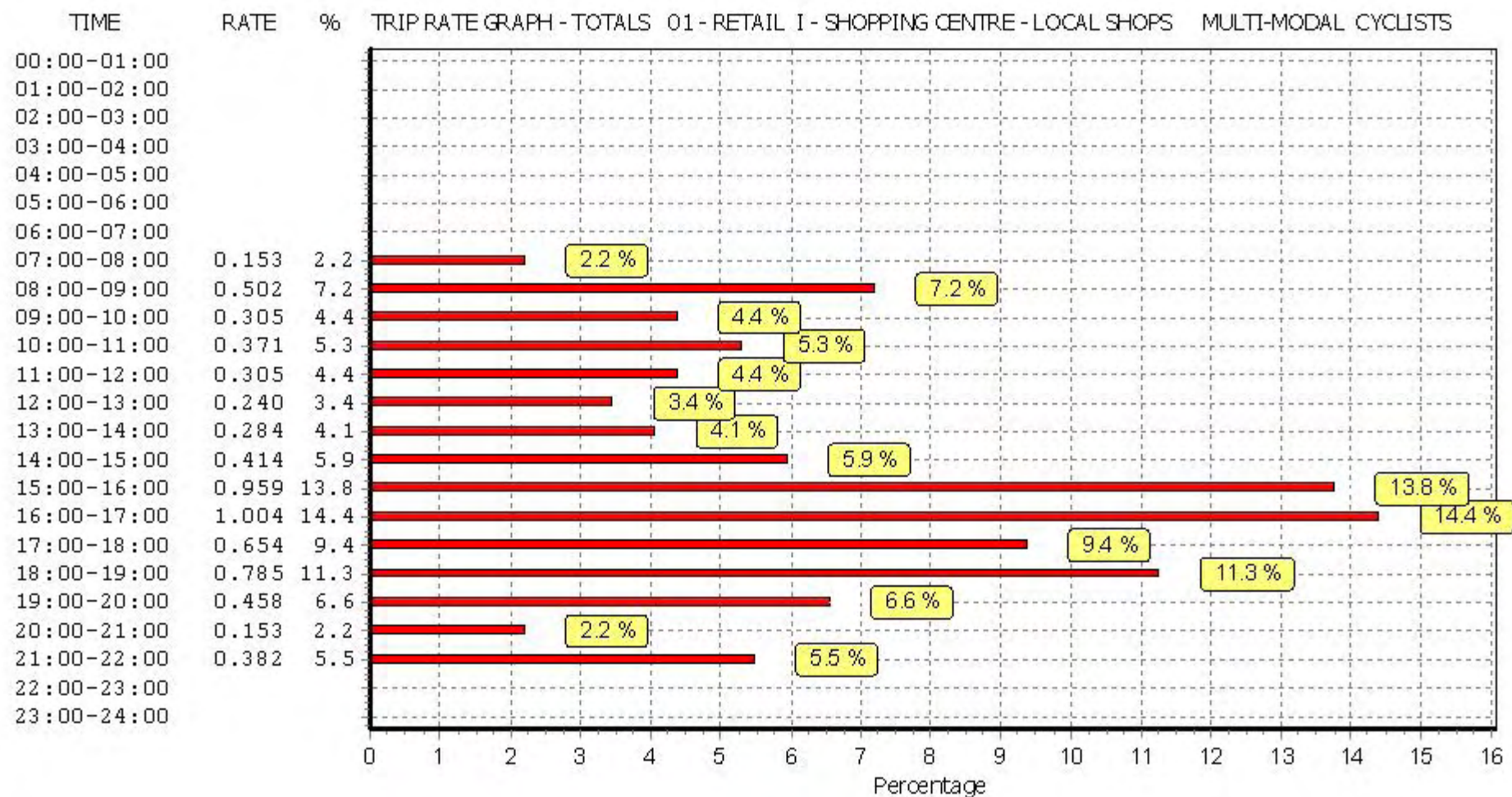
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TRIP RATE for Land Use 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS

MULTI-MODAL PEDESTRIANS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. RFA	Trip Rate	No. Days	Ave. RFA	Trip Rate	No. Days	Ave. RFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	655	4.056	7	655	3.118	7	655	7.174
08:00 - 09:00	7	655	11.186	7	655	11.121	7	655	22.307
09:00 - 10:00	7	655	9.049	7	655	7.719	7	655	16.768
10:00 - 11:00	7	655	8.024	7	655	8.155	7	655	16.179
11:00 - 12:00	7	655	8.242	7	655	8.242	7	655	16.484
12:00 - 13:00	7	655	9.900	7	655	8.700	7	655	18.600
13:00 - 14:00	7	655	7.894	7	655	8.788	7	655	16.682
14:00 - 15:00	7	655	8.635	7	655	8.330	7	655	16.965
15:00 - 16:00	7	655	13.541	7	655	13.868	7	655	27.409
16:00 - 17:00	7	655	7.763	7	655	7.152	7	655	14.915
17:00 - 18:00	7	655	6.498	7	655	8.155	7	655	14.653
18:00 - 19:00	7	655	6.869	7	655	6.607	7	655	13.476
19:00 - 20:00	7	655	4.536	7	655	5.168	7	655	9.704
20:00 - 21:00	7	655	4.601	7	655	4.383	7	655	8.984
21:00 - 22:00	6	611	5.292	6	611	4.855	6	611	10.147
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			116.086			114.361			230.447

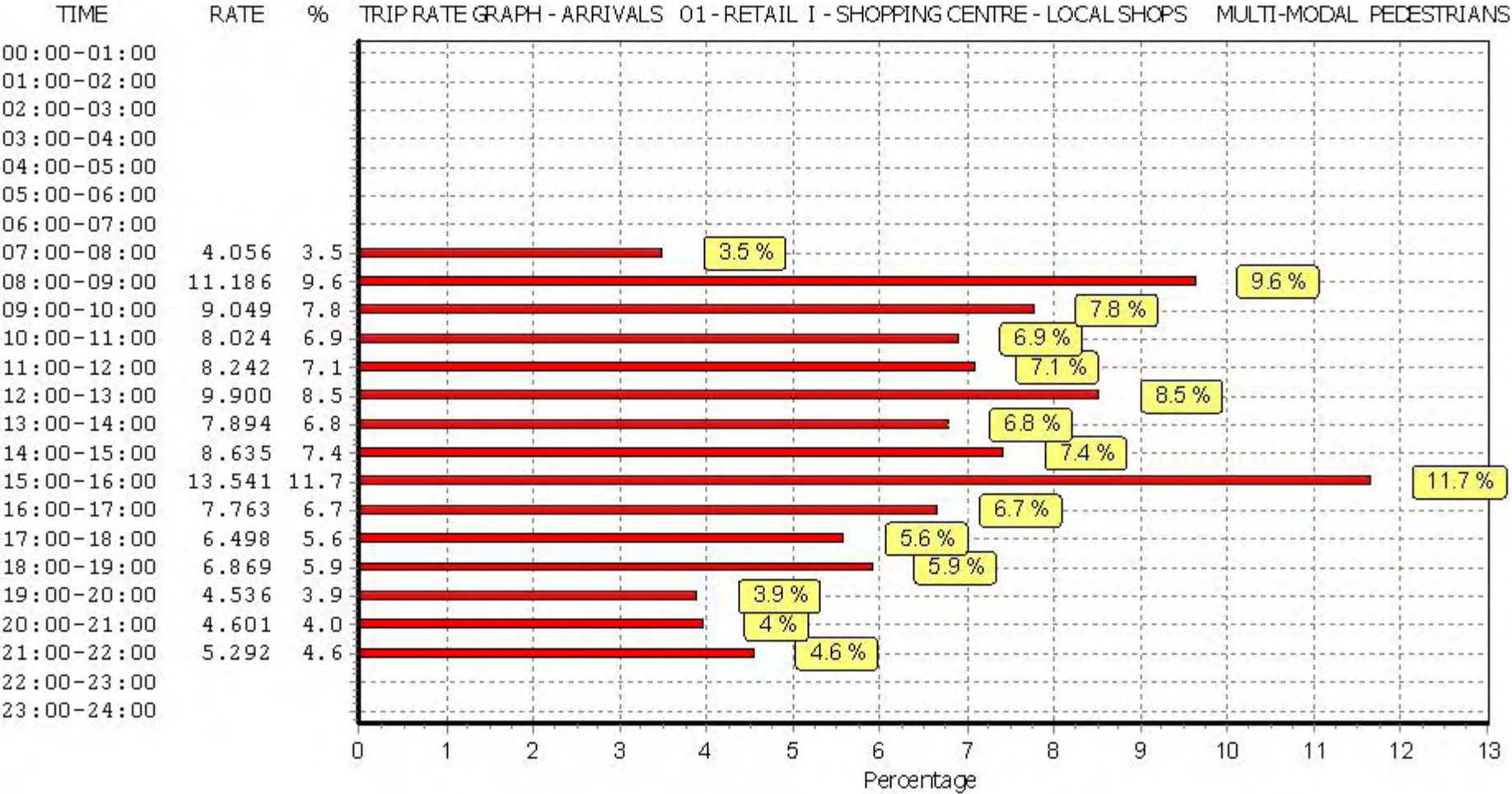
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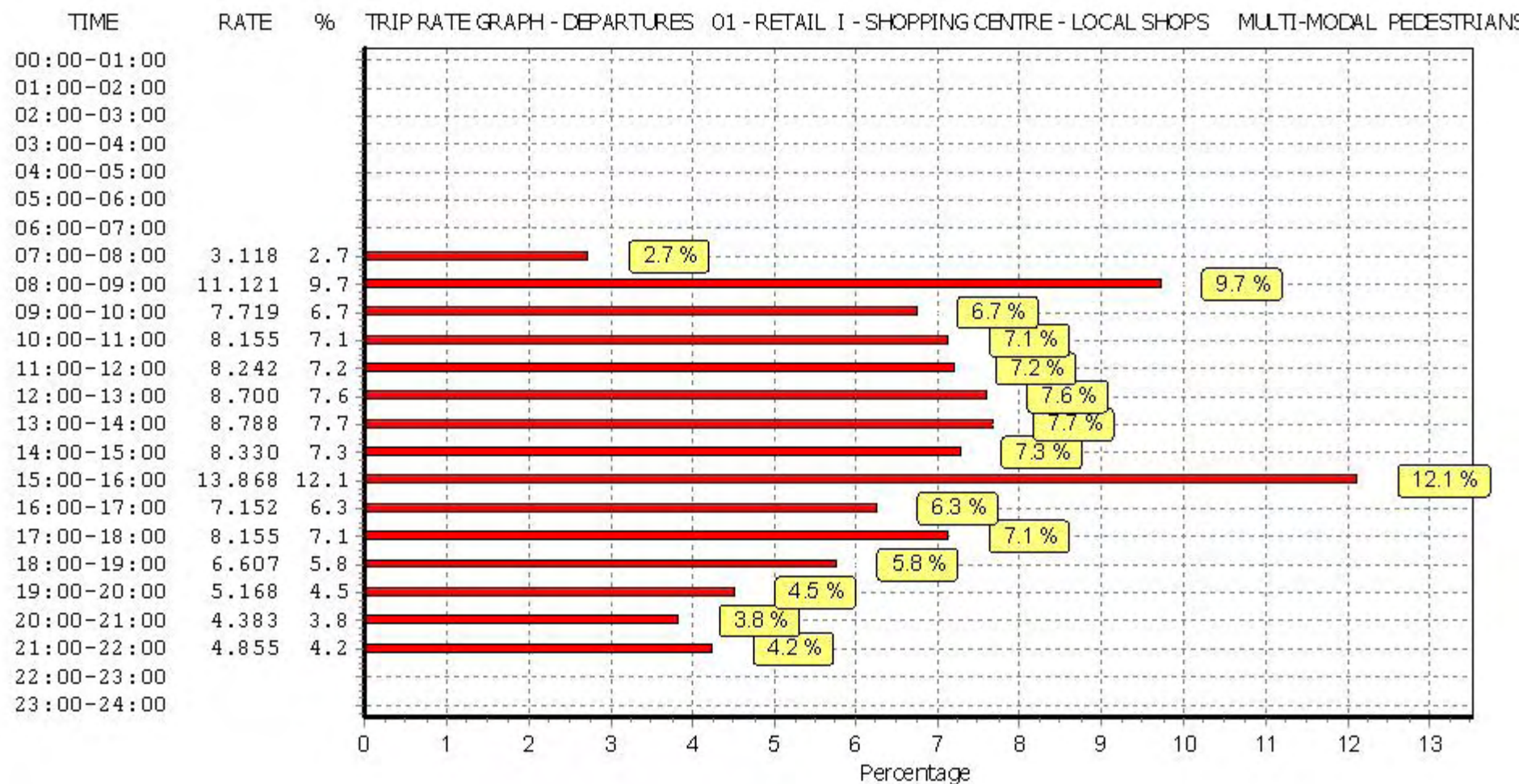
Parameter summary

Trip rate parameter range selected: 335 - 1185 (units: sqm)
 Survey date range: 01/01/07 - 27/09/14
 Number of weekdays (Monday-Friday): 5
 Number of Saturdays: 2
 Number of Sundays: 0
 Surveys manually removed from selection: 2

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.



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TRIP RATE for Land Use 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS

MULTI-MODAL BUS/TRAM PASSENGERS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. RFA	Trip Rate	No. Days	Ave. RFA	Trip Rate	No. Days	Ave. RFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	7	655	0.065	7	655	0.196	7	655	0.261
08:00 - 09:00	7	655	0.087	7	655	0.349	7	655	0.436
09:00 - 10:00	7	655	0.065	7	655	0.109	7	655	0.174
10:00 - 11:00	7	655	0.065	7	655	0.022	7	655	0.087
11:00 - 12:00	7	655	0.131	7	655	0.044	7	655	0.175
12:00 - 13:00	7	655	0.196	7	655	0.109	7	655	0.305
13:00 - 14:00	7	655	0.044	7	655	0.022	7	655	0.066
14:00 - 15:00	7	655	0.131	7	655	0.240	7	655	0.371
15:00 - 16:00	7	655	0.349	7	655	0.022	7	655	0.371
16:00 - 17:00	7	655	0.087	7	655	0.000	7	655	0.087
17:00 - 18:00	7	655	0.000	7	655	0.065	7	655	0.065
18:00 - 19:00	7	655	0.000	7	655	0.000	7	655	0.000
19:00 - 20:00	7	655	0.000	7	655	0.109	7	655	0.109
20:00 - 21:00	7	655	0.000	7	655	0.022	7	655	0.022
21:00 - 22:00	6	611	0.000	6	611	0.000	6	611	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:		1.220			1.309			2.529	

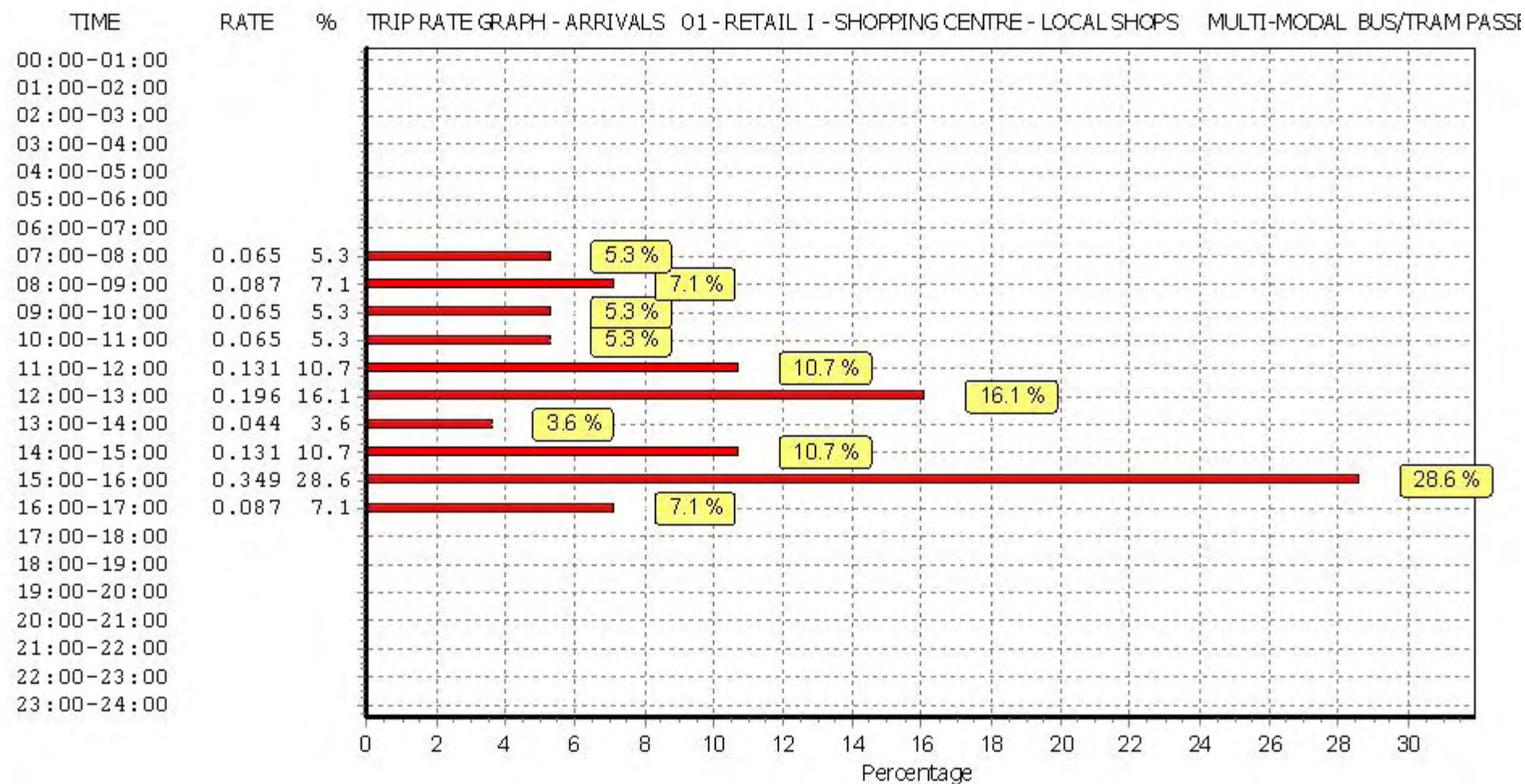
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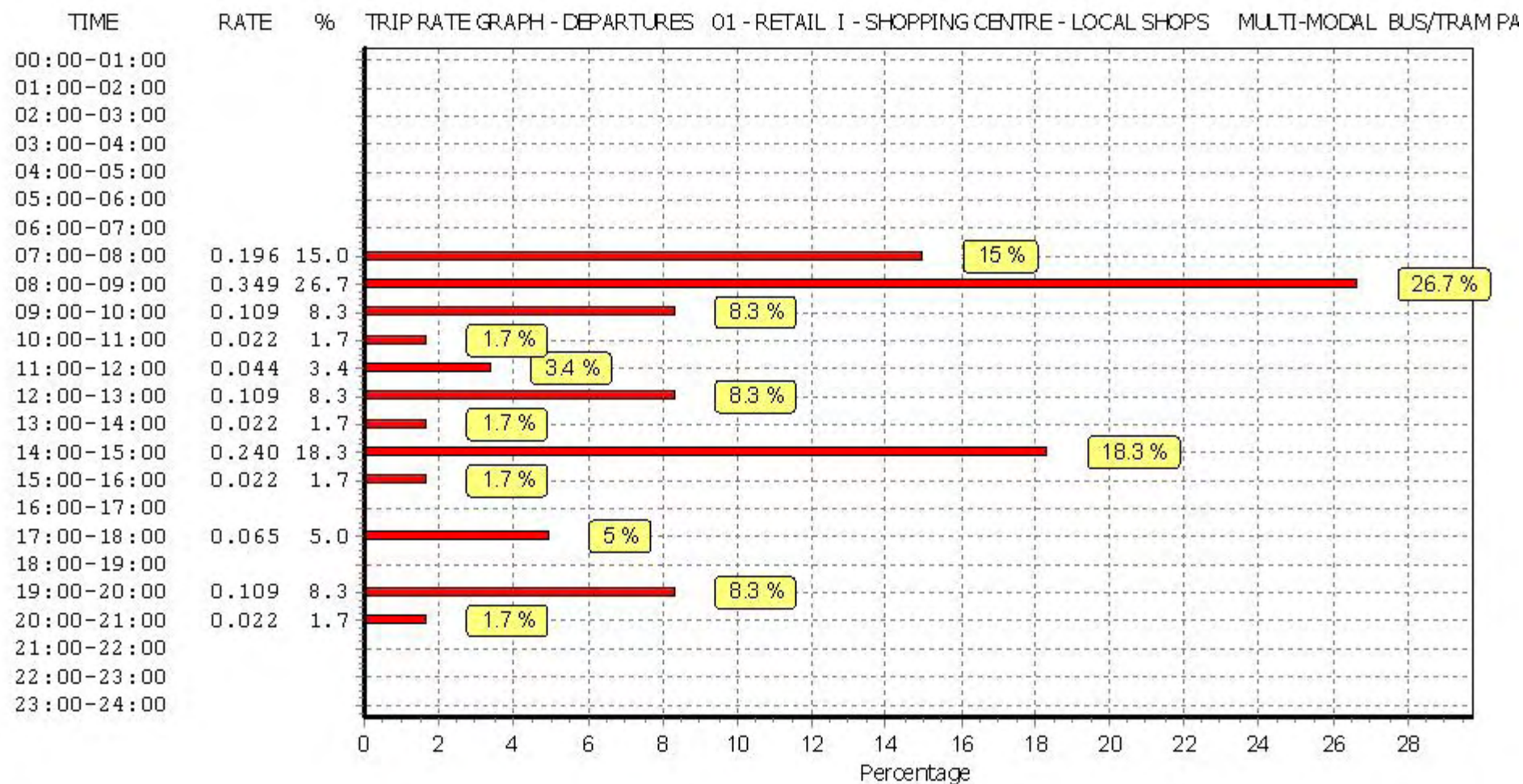
Parameter summary

Trip rate parameter range selected: 335 - 1185 (units: sqm)
 Survey date range: 01/01/07 - 27/09/14
 Number of weekdays (Monday-Friday): 5
 Number of Saturdays: 2
 Number of Sundays: 0
 Surveys manually removed from selection: 2

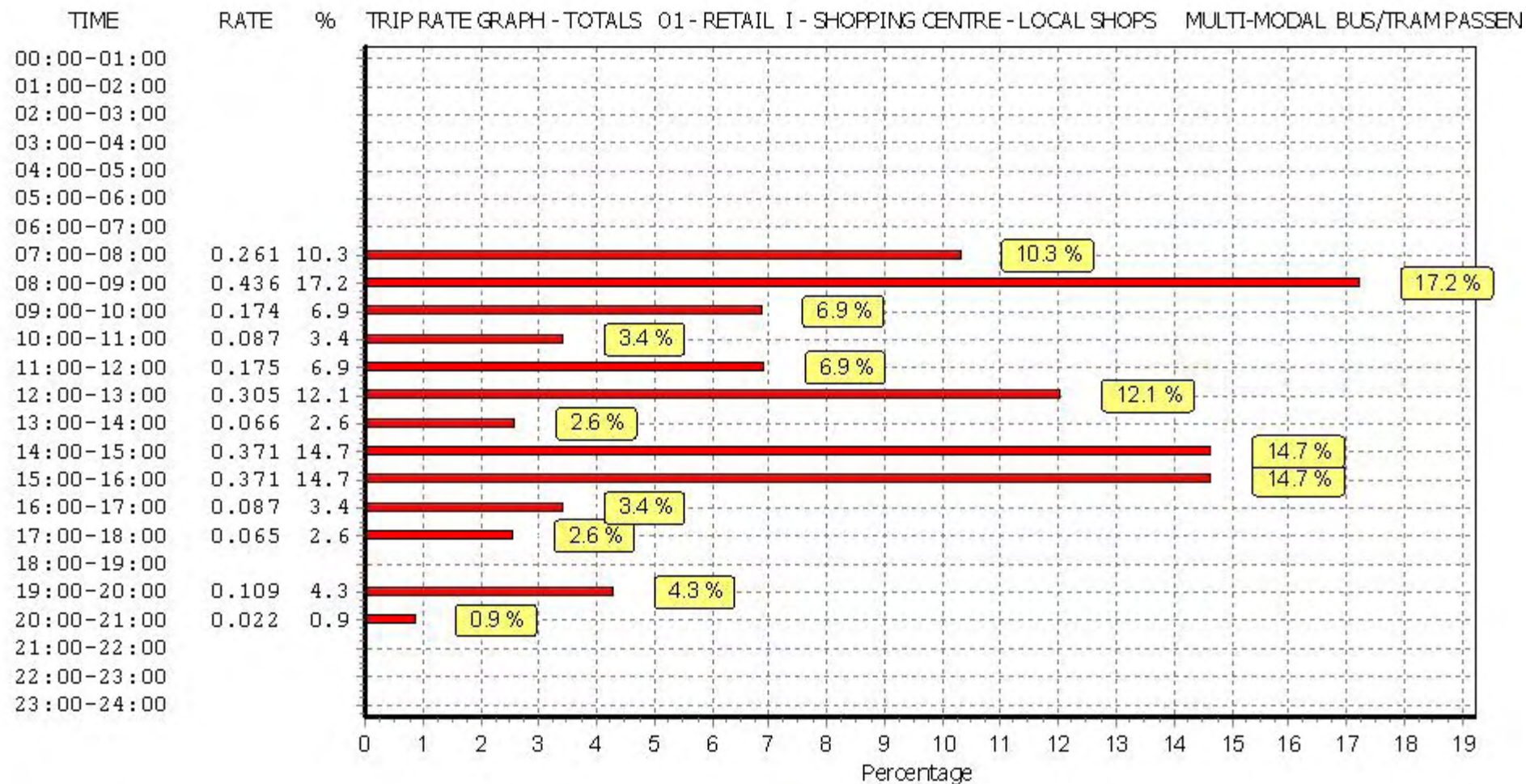
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Appendix C

Calculation Reference: AUDIT-744001-150317-0333

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : D - AFFORDABLE/LOCAL AUTHORITY FLATS
 VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	OX OXFORDSHIRE	1 days
03	SOUTH WEST	
	BR BRISTOL CITY	1 days
06	WEST MIDLANDS	
	HE HEREFORDSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	WY WEST YORKSHIRE	1 days
17	ULSTER (NORTHERN IRELAND)	
	AN ANTRIM	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Number of dwellings
 Actual Range: 6 to 120 (units:)
 Range Selected by User: 6 to 339 (units:)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/06 to 26/06/14

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Tuesday	2 days
Wednesday	1 days
Thursday	1 days
Friday	1 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Edge of Town	4
Neighbourhood Centre (PPS6 Local Centre)	1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone	4
No Sub Category	1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:

Use Class:

C3

5 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

1,001 to 5,000

1 days

5,001 to 10,000

2 days

10,001 to 15,000

1 days

20,001 to 25,000

1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000

1 days

75,001 to 100,000

1 days

125,001 to 250,000

2 days

250,001 to 500,000

1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0

2 days

1.1 to 1.5

3 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

No

5 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1	AN-03-D-02 MILL STREET	FLATS/SEMI DETACHED	ANTRIM
	LISBURN Edge of Town Residential Zone		
	Total Number of dwellings:	22	
	Survey date: WEDNESDAY	13/09/06	Survey Type: MANUAL
2	BR-03-D-03 BRISTOL ROAD	BLOCKS OF FLATS	BRISTOL CITY
	BRISTOL Edge of Town No Sub Category		
	Total Number of dwellings:	28	
	Survey date: TUESDAY	13/10/09	Survey Type: MANUAL
3	HE-03-D-01 BROXASH DRIVE	BLOCK OF FLATS	HEREFORDSHIRE
	HEREFORD Neighbourhood Centre (PPS6 Local Centre) Residential Zone		
	Total Number of dwellings:	120	
	Survey date: FRIDAY	22/10/10	Survey Type: MANUAL
4	OX-03-D-01 FAIRLAWN END UPPER WOLVERCOTE OXFORD	FLATS	OXFORDSHIRE
	Edge of Town Residential Zone		
	Total Number of dwellings:	6	
	Survey date: TUESDAY	05/10/10	Survey Type: MANUAL
5	WY-03-D-03 CARR STREET LIVERSEDGE HECKMONDWIKE	BLOCK OF FLATS	WEST YORKSHIRE
	Edge of Town Residential Zone		
	Total Number of dwellings:	56	
	Survey date: THURSDAY	01/05/14	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
IS-03-D-02	London area not appropriate

TRIP RATE for Land Use 03 - RESIDENTIAL/D - AFFORDABLE/LOCAL AUTHORITY FLATS
VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	46	0.034	5	46	0.095	5	46	0.129
08:00 - 09:00	5	46	0.078	5	46	0.116	5	46	0.194
09:00 - 10:00	5	46	0.060	5	46	0.069	5	46	0.129
10:00 - 11:00	5	46	0.108	5	46	0.065	5	46	0.173
11:00 - 12:00	5	46	0.065	5	46	0.095	5	46	0.160
12:00 - 13:00	5	46	0.108	5	46	0.078	5	46	0.186
13:00 - 14:00	5	46	0.138	5	46	0.138	5	46	0.276
14:00 - 15:00	5	46	0.138	5	46	0.129	5	46	0.267
15:00 - 16:00	5	46	0.112	5	46	0.099	5	46	0.211
16:00 - 17:00	5	46	0.134	5	46	0.108	5	46	0.242
17:00 - 18:00	5	46	0.112	5	46	0.091	5	46	0.203
18:00 - 19:00	5	46	0.172	5	46	0.129	5	46	0.301
19:00 - 20:00	1	6	0.000	1	6	0.333	1	6	0.333
20:00 - 21:00	1	6	0.167	1	6	0.000	1	6	0.167
21:00 - 22:00	1	6	0.000	1	6	0.000	1	6	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:		1.426			1.545			2.971	

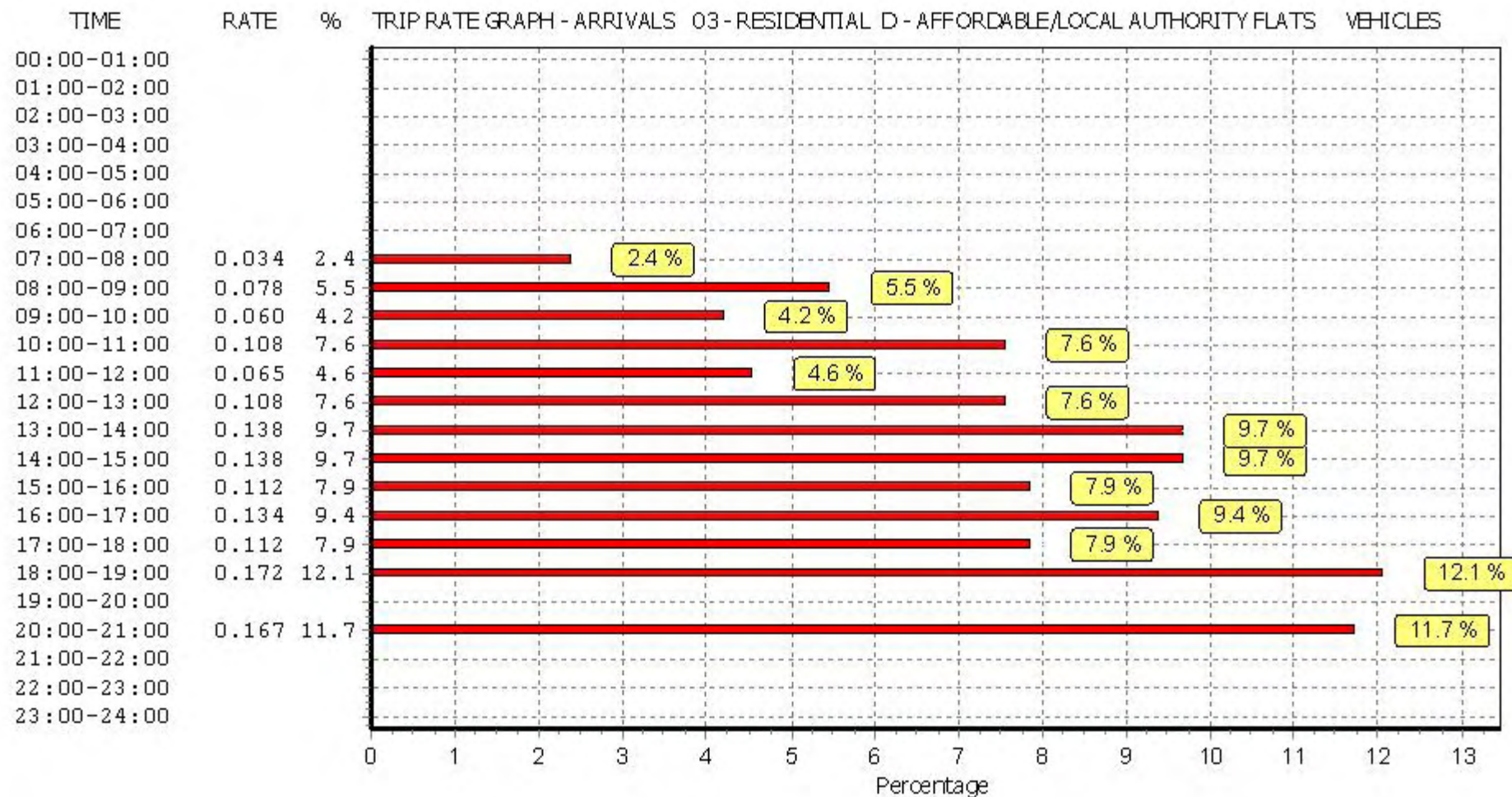
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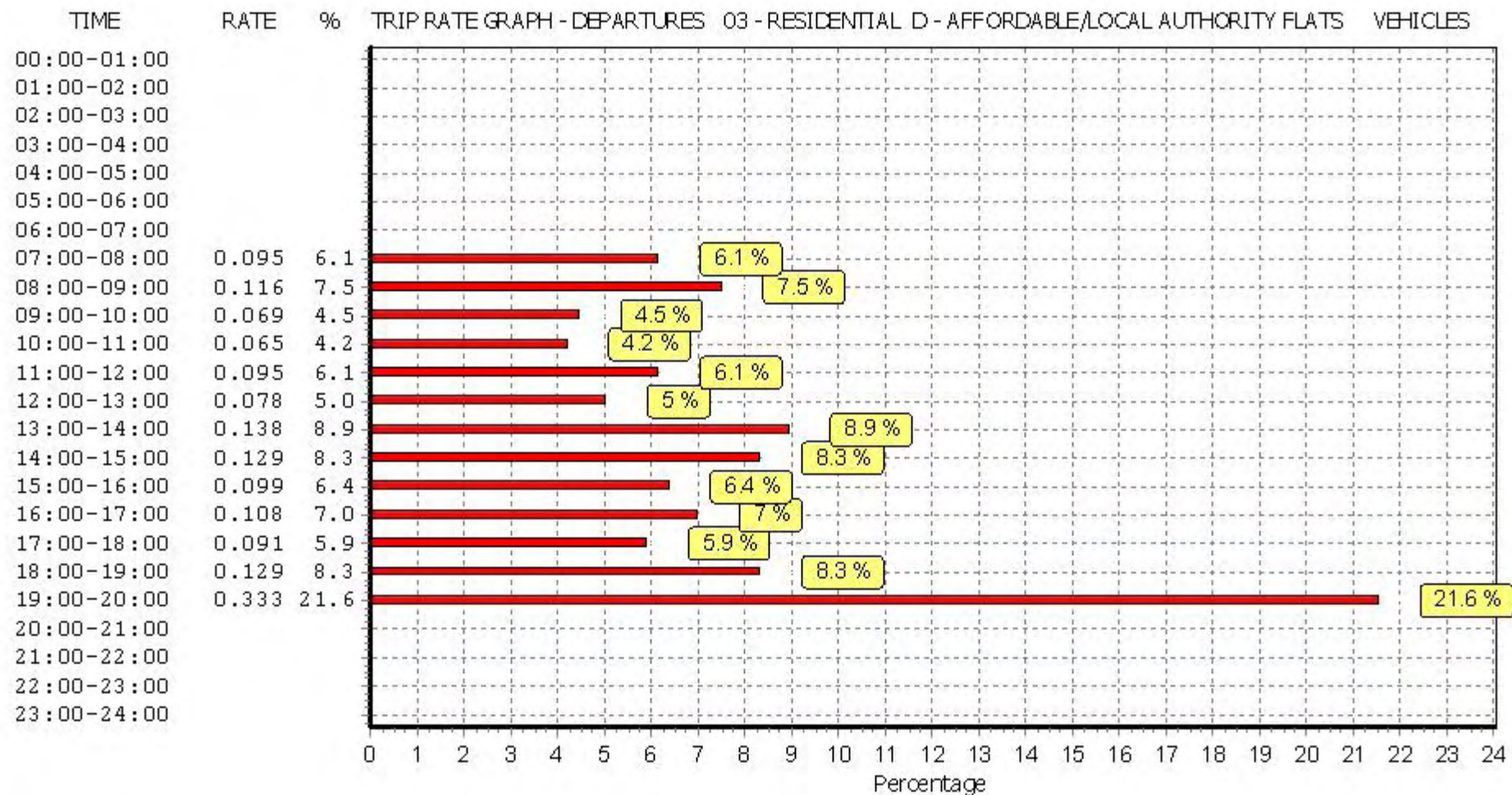
Parameter summary

Trip rate parameter range selected: 6 - 120 (units:)
 Survey date range: 01/01/06 - 26/06/14
 Number of weekdays (Monday-Friday): 5
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 2

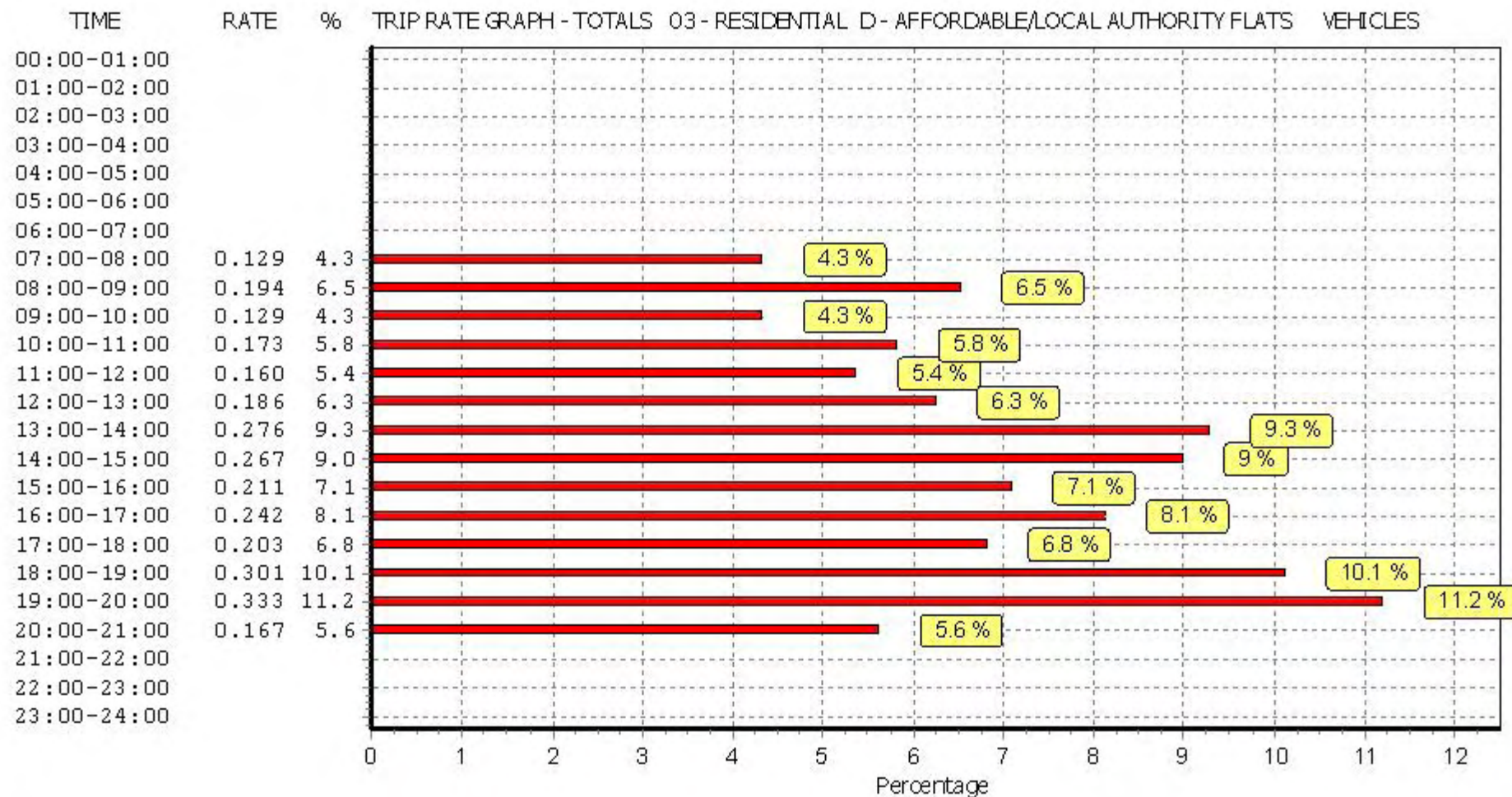
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TRIP RATE for Land Use 03 - RESIDENTIAL/D - AFFORDABLE/LOCAL AUTHORITY FLATS

TAXIS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	46	0.000	5	46	0.000	5	46	0.000
08:00 - 09:00	5	46	0.013	5	46	0.013	5	46	0.026
09:00 - 10:00	5	46	0.000	5	46	0.000	5	46	0.000
10:00 - 11:00	5	46	0.004	5	46	0.004	5	46	0.008
11:00 - 12:00	5	46	0.000	5	46	0.000	5	46	0.000
12:00 - 13:00	5	46	0.009	5	46	0.004	5	46	0.013
13:00 - 14:00	5	46	0.009	5	46	0.004	5	46	0.013
14:00 - 15:00	5	46	0.004	5	46	0.009	5	46	0.013
15:00 - 16:00	5	46	0.000	5	46	0.004	5	46	0.004
16:00 - 17:00	5	46	0.004	5	46	0.004	5	46	0.008
17:00 - 18:00	5	46	0.004	5	46	0.000	5	46	0.004
18:00 - 19:00	5	46	0.000	5	46	0.004	5	46	0.004
19:00 - 20:00	1	6	0.000	1	6	0.000	1	6	0.000
20:00 - 21:00	1	6	0.000	1	6	0.000	1	6	0.000
21:00 - 22:00	1	6	0.000	1	6	0.000	1	6	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.047			0.046			0.093

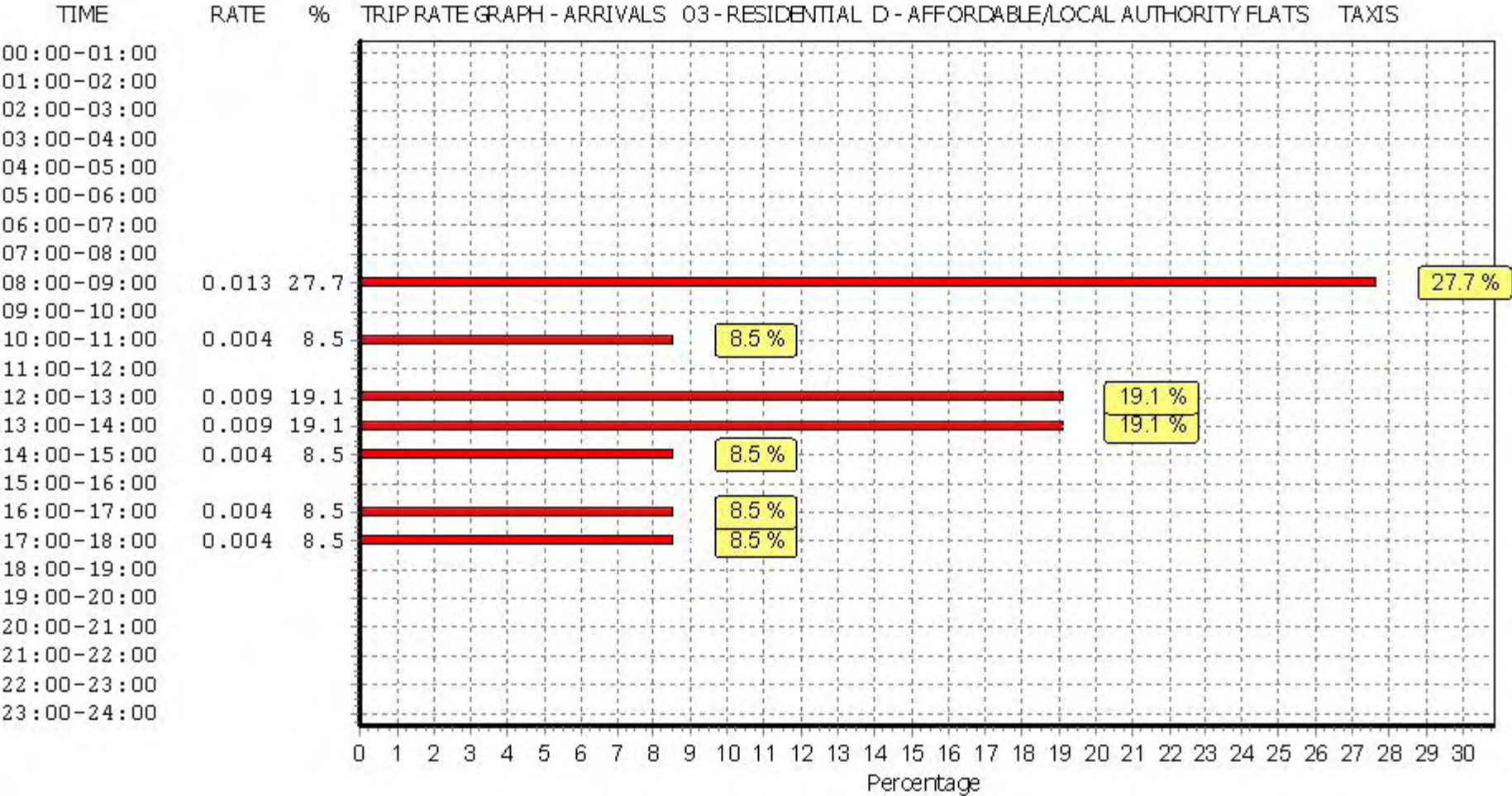
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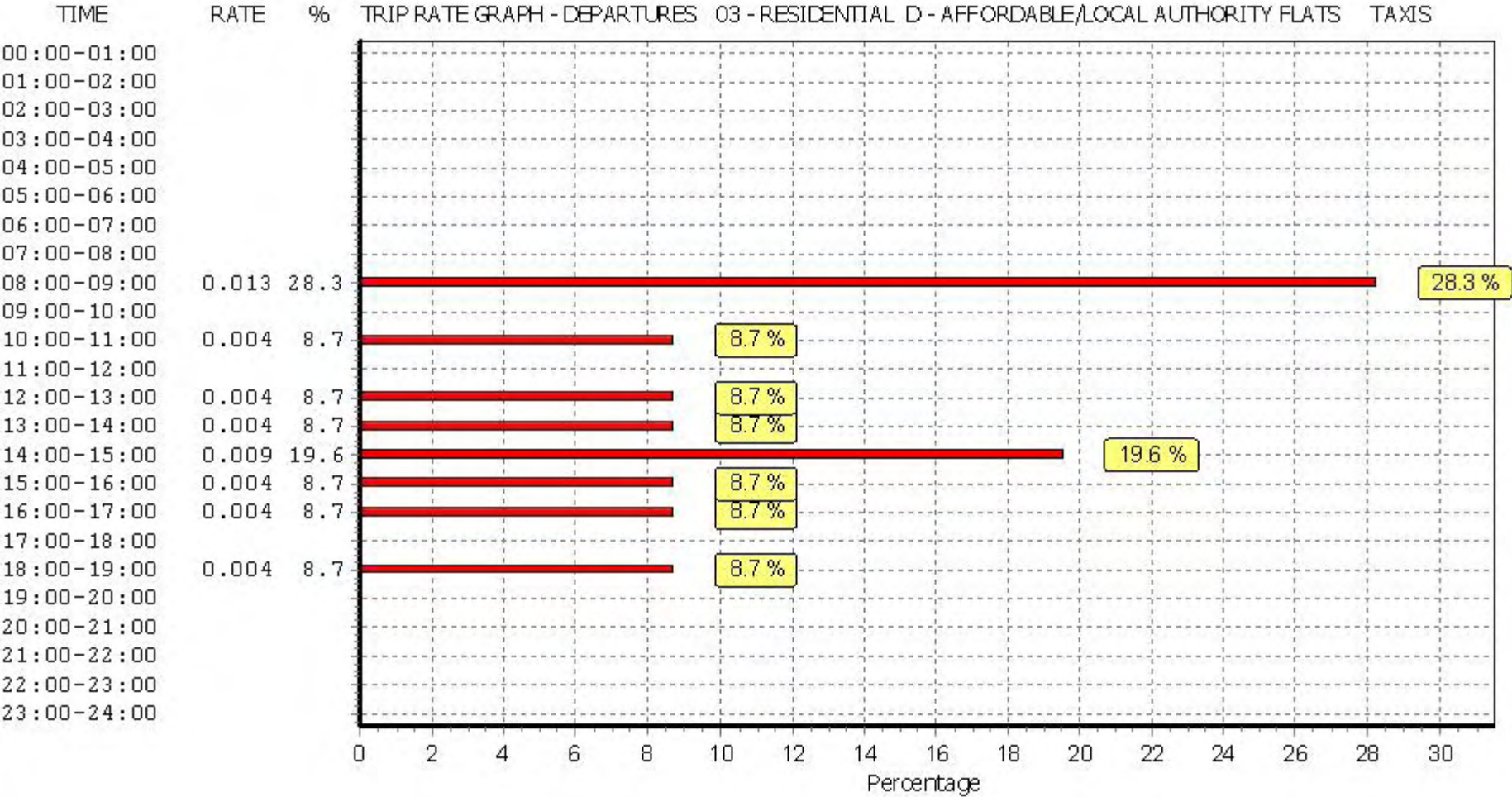
Parameter summary

Trip rate parameter range selected: 6 - 120 (units:)
 Survey date range: 01/01/06 - 26/06/14
 Number of weekdays (Monday-Friday): 5
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 2

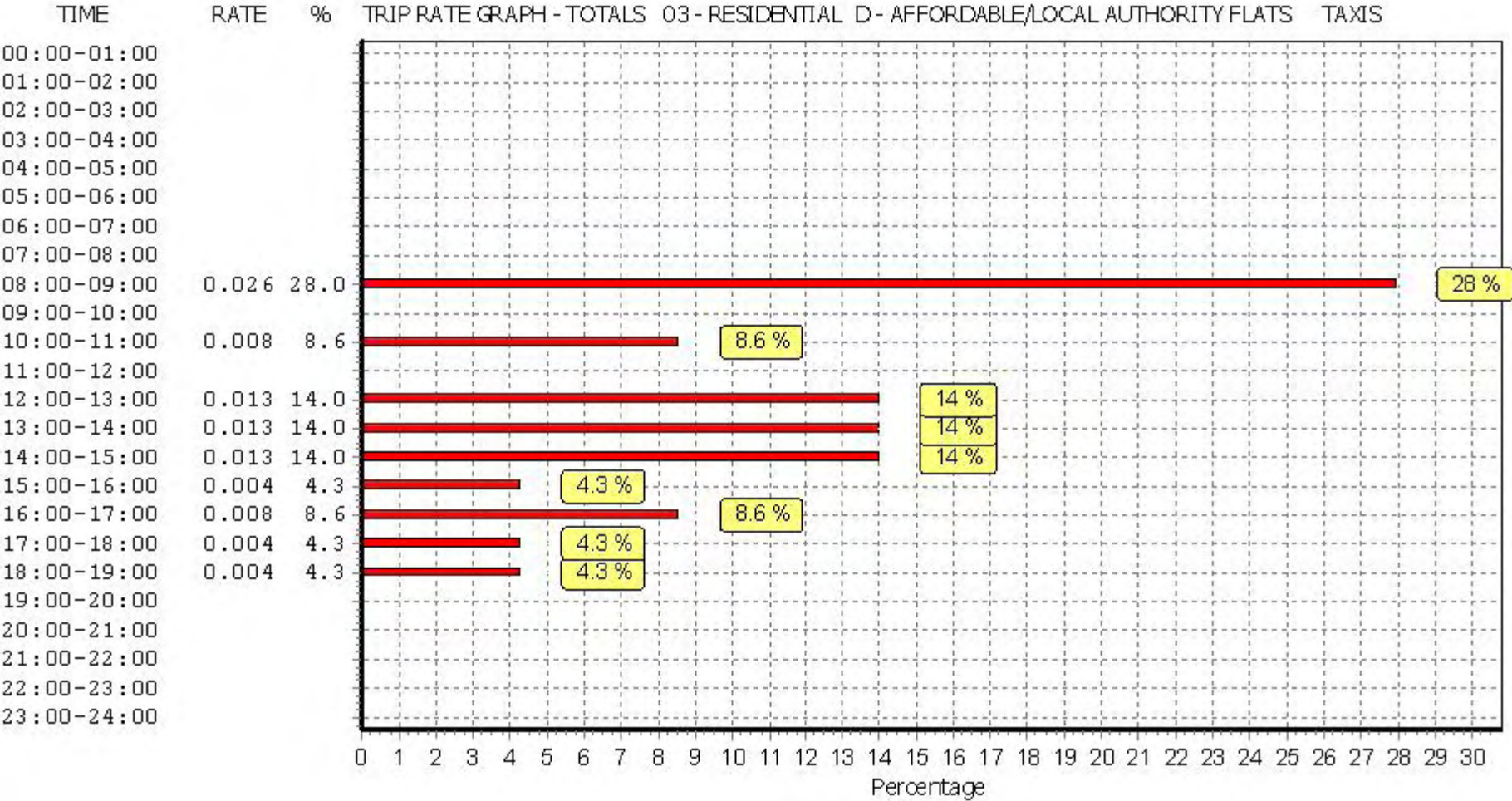
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TRIP RATE for Land Use 03 - RESIDENTIAL/D - AFFORDABLE/LOCAL AUTHORITY FLATS

OGVS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	46	0.000	5	46	0.000	5	46	0.000
08:00 - 09:00	5	46	0.000	5	46	0.000	5	46	0.000
09:00 - 10:00	5	46	0.000	5	46	0.000	5	46	0.000
10:00 - 11:00	5	46	0.000	5	46	0.000	5	46	0.000
11:00 - 12:00	5	46	0.000	5	46	0.000	5	46	0.000
12:00 - 13:00	5	46	0.000	5	46	0.000	5	46	0.000
13:00 - 14:00	5	46	0.009	5	46	0.004	5	46	0.013
14:00 - 15:00	5	46	0.000	5	46	0.000	5	46	0.000
15:00 - 16:00	5	46	0.004	5	46	0.004	5	46	0.008
16:00 - 17:00	5	46	0.000	5	46	0.004	5	46	0.004
17:00 - 18:00	5	46	0.000	5	46	0.000	5	46	0.000
18:00 - 19:00	5	46	0.000	5	46	0.000	5	46	0.000
19:00 - 20:00	1	6	0.000	1	6	0.000	1	6	0.000
20:00 - 21:00	1	6	0.000	1	6	0.000	1	6	0.000
21:00 - 22:00	1	6	0.000	1	6	0.000	1	6	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.013			0.012			0.025

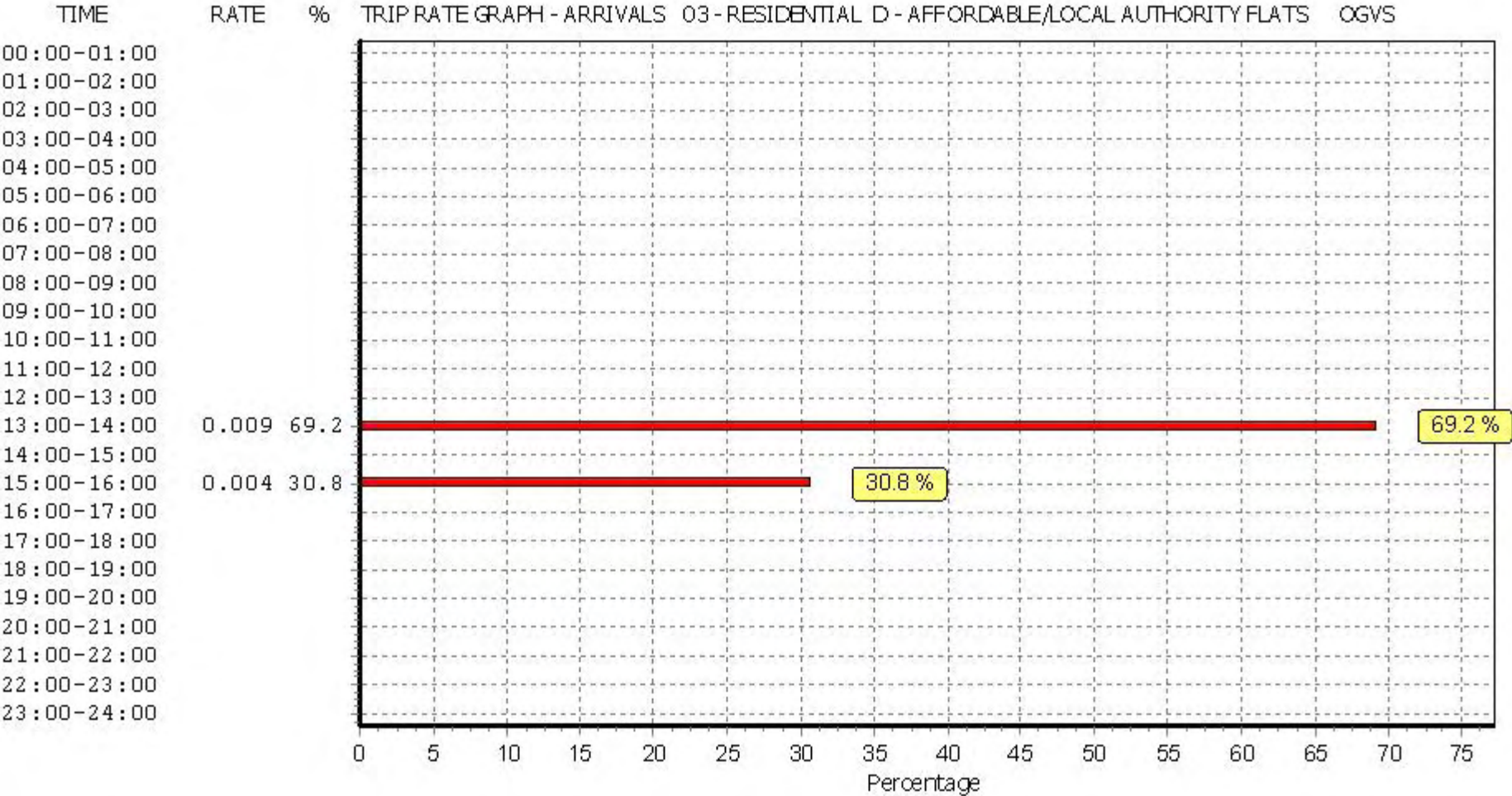
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

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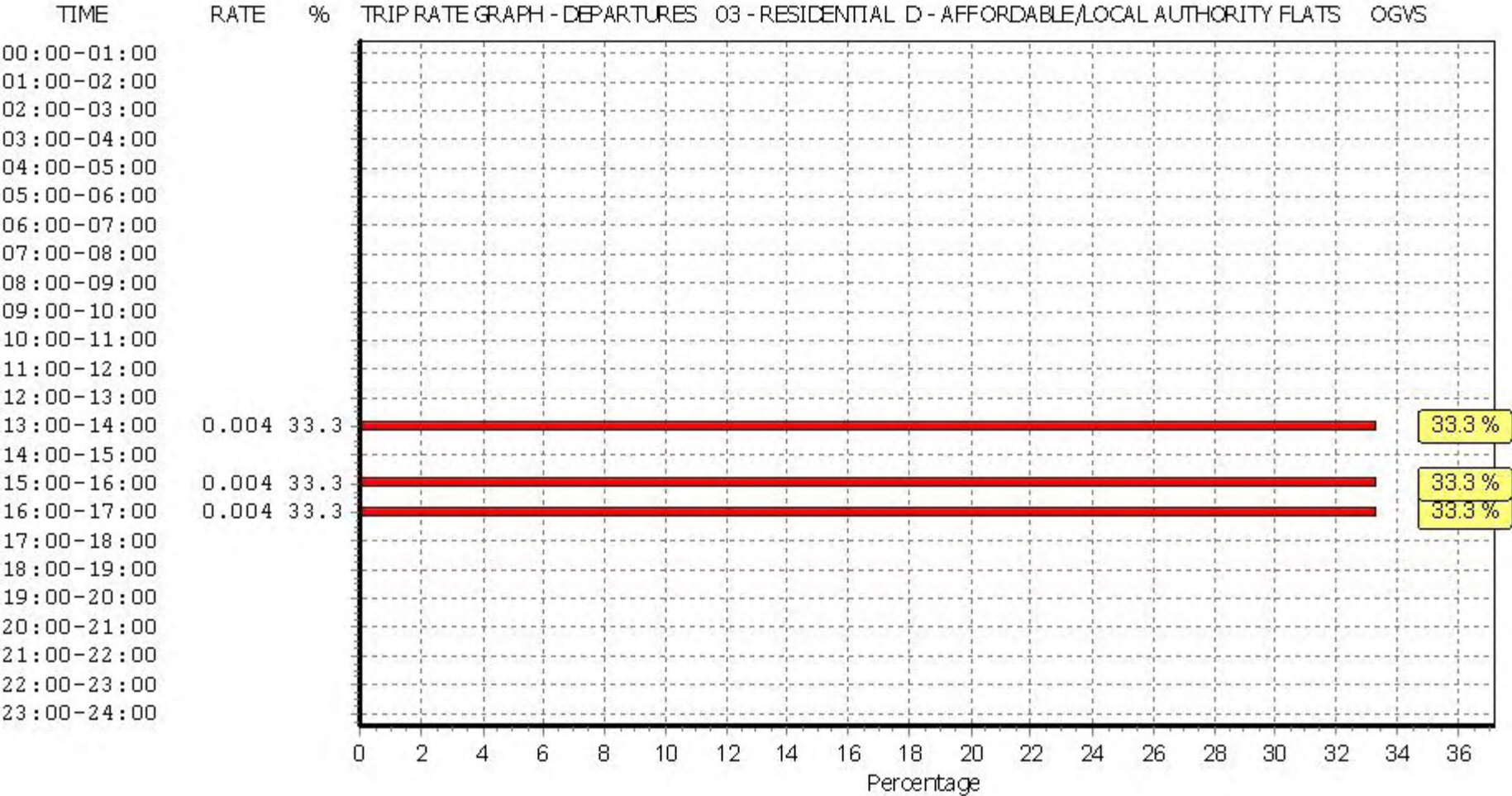
Parameter summary

Trip rate parameter range selected: 6 - 120 (units:)
 Survey date range: 01/01/06 - 26/06/14
 Number of weekdays (Monday-Friday): 5
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 2

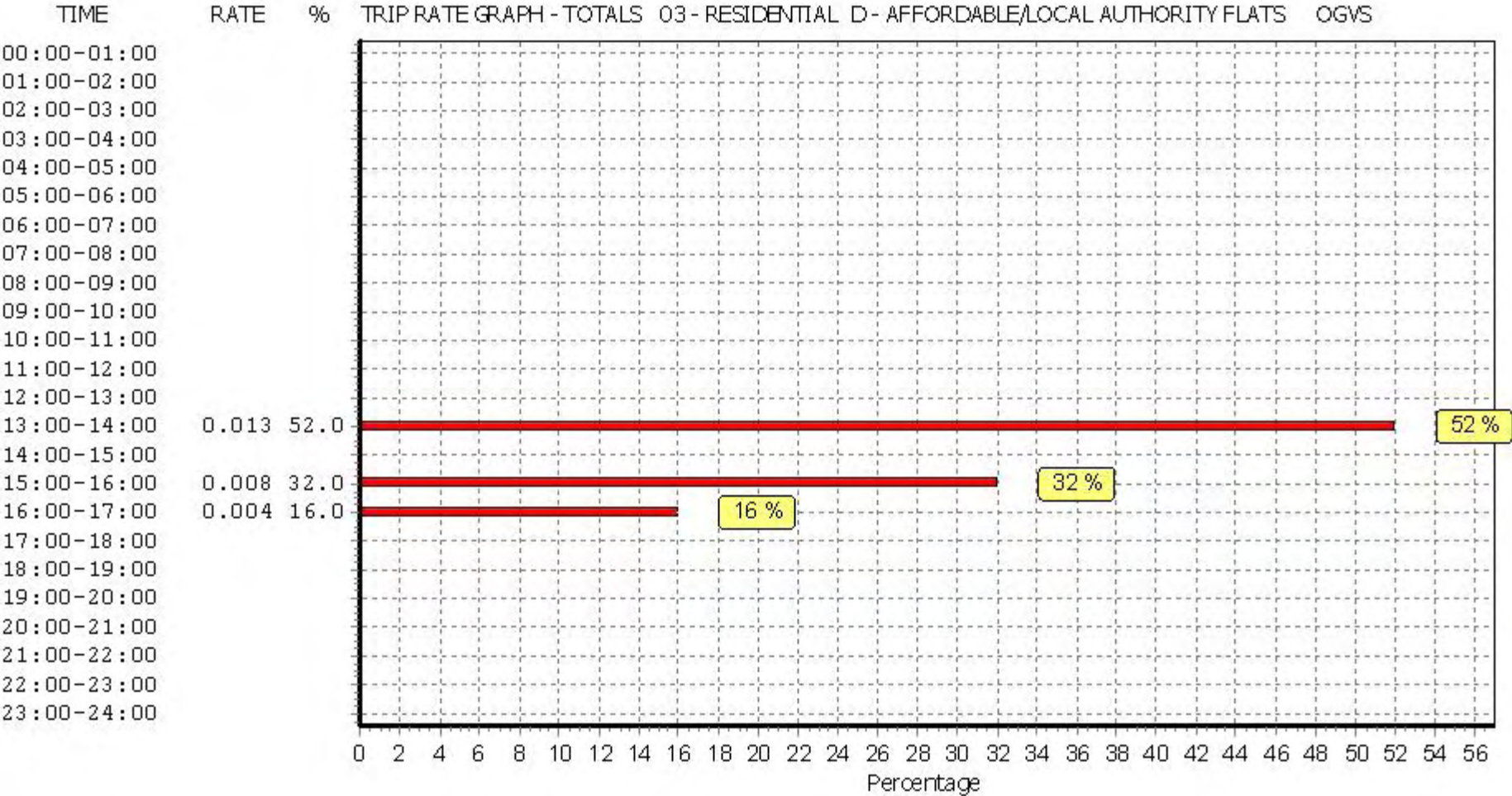
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.



This graph is a visual representation of the trip rate calculation results screen. The same time periods and trip rates are displayed, but in addition there is an additional column showing the percentage of the total trip rate by individual time period, allowing peak periods to be easily identified through observation. Note that the type of count and the selected direction is shown at the top of the graph.



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TRIP RATE for Land Use 03 - RESIDENTIAL/D - AFFORDABLE/LOCAL AUTHORITY FLATS

PSVS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	46	0.000	5	46	0.000	5	46	0.000
08:00 - 09:00	5	46	0.000	5	46	0.000	5	46	0.000
09:00 - 10:00	5	46	0.000	5	46	0.000	5	46	0.000
10:00 - 11:00	5	46	0.000	5	46	0.000	5	46	0.000
11:00 - 12:00	5	46	0.000	5	46	0.000	5	46	0.000
12:00 - 13:00	5	46	0.000	5	46	0.000	5	46	0.000
13:00 - 14:00	5	46	0.000	5	46	0.000	5	46	0.000
14:00 - 15:00	5	46	0.004	5	46	0.004	5	46	0.008
15:00 - 16:00	5	46	0.000	5	46	0.000	5	46	0.000
16:00 - 17:00	5	46	0.000	5	46	0.000	5	46	0.000
17:00 - 18:00	5	46	0.000	5	46	0.000	5	46	0.000
18:00 - 19:00	5	46	0.000	5	46	0.000	5	46	0.000
19:00 - 20:00	1	6	0.000	1	6	0.000	1	6	0.000
20:00 - 21:00	1	6	0.000	1	6	0.000	1	6	0.000
21:00 - 22:00	1	6	0.000	1	6	0.000	1	6	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.004			0.004			0.008

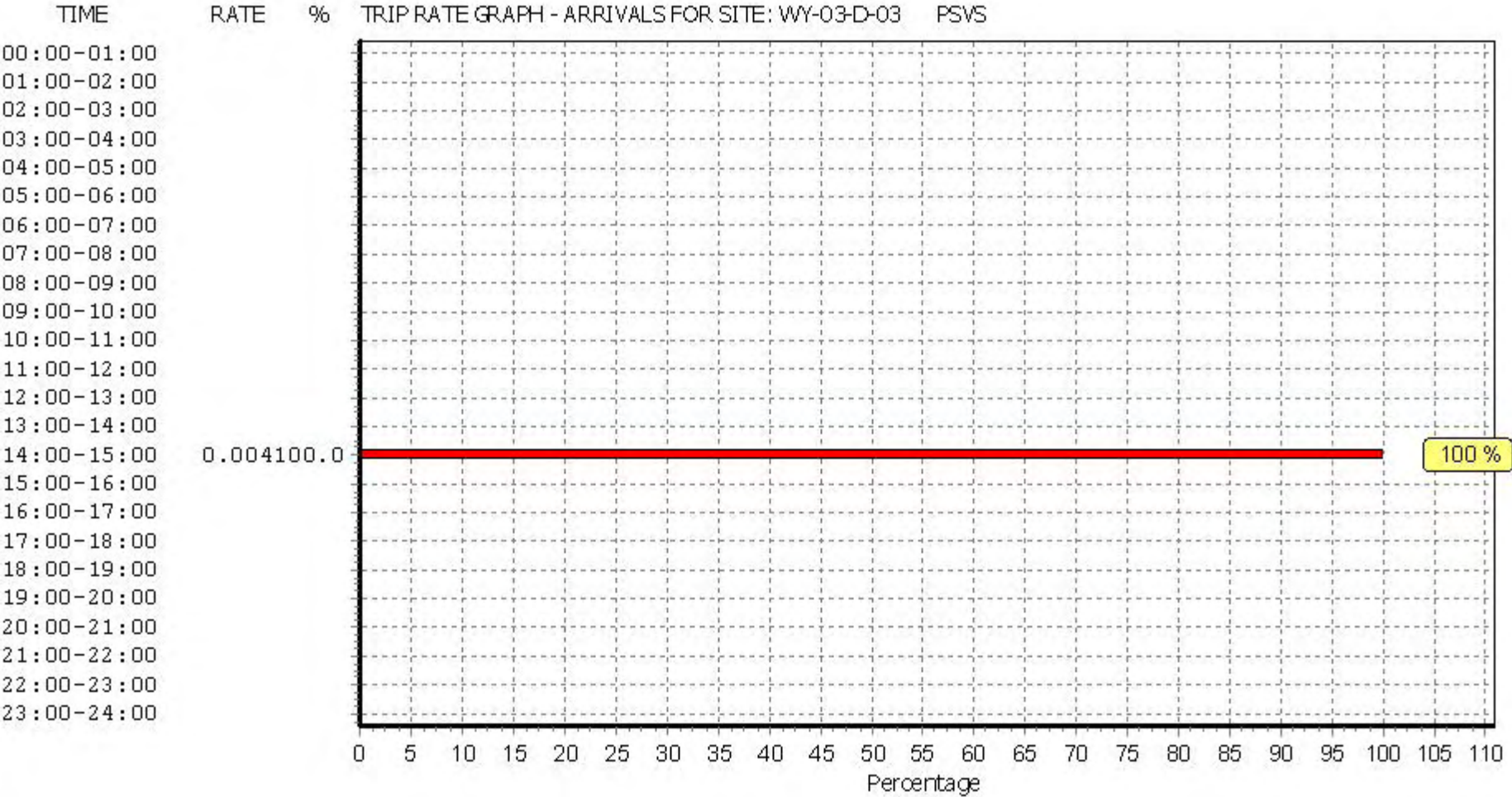
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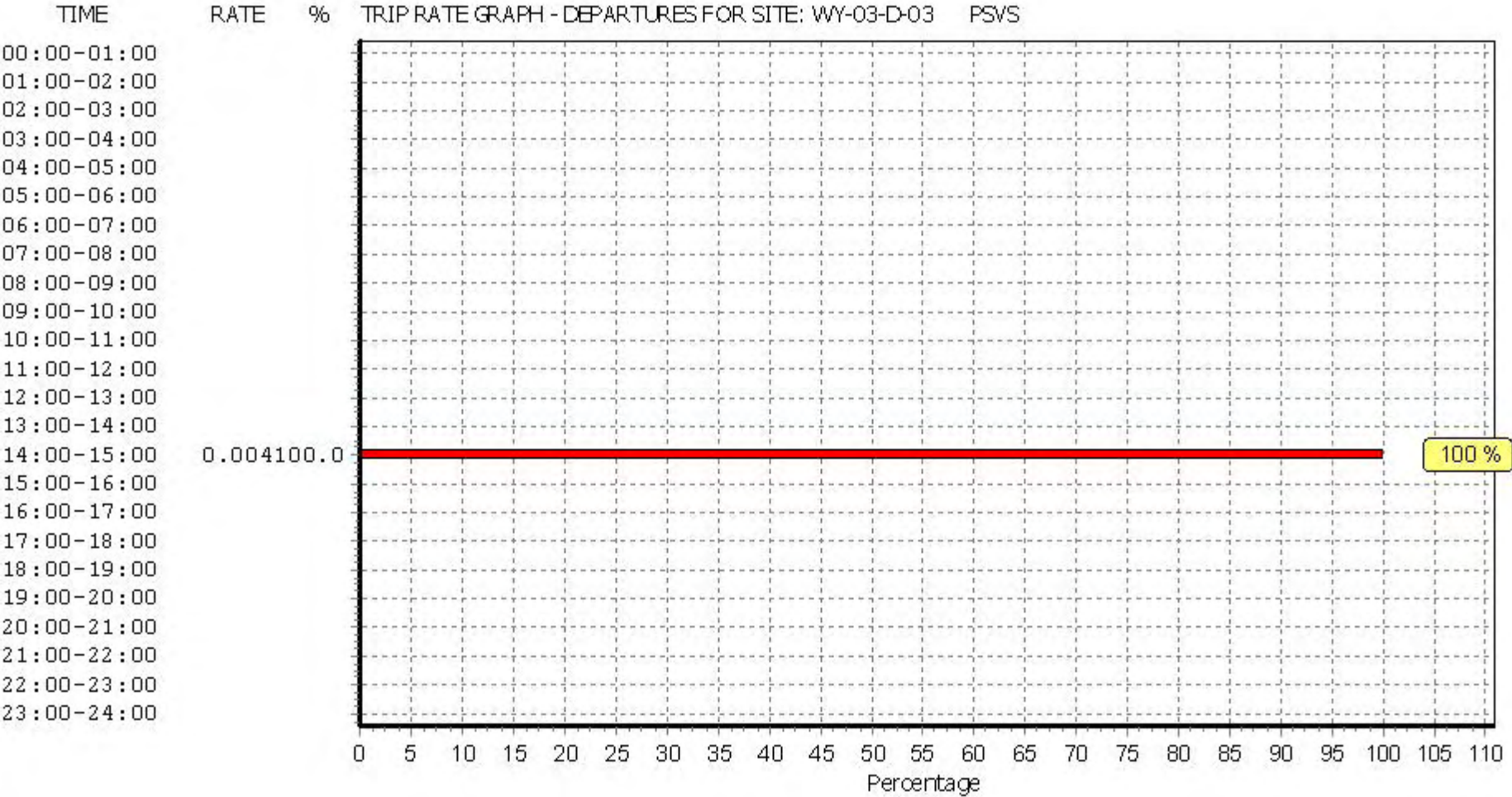
Parameter summary

Trip rate parameter range selected: 6 - 120 (units:)
 Survey date range: 01/01/06 - 26/06/14
 Number of weekdays (Monday-Friday): 5
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 2

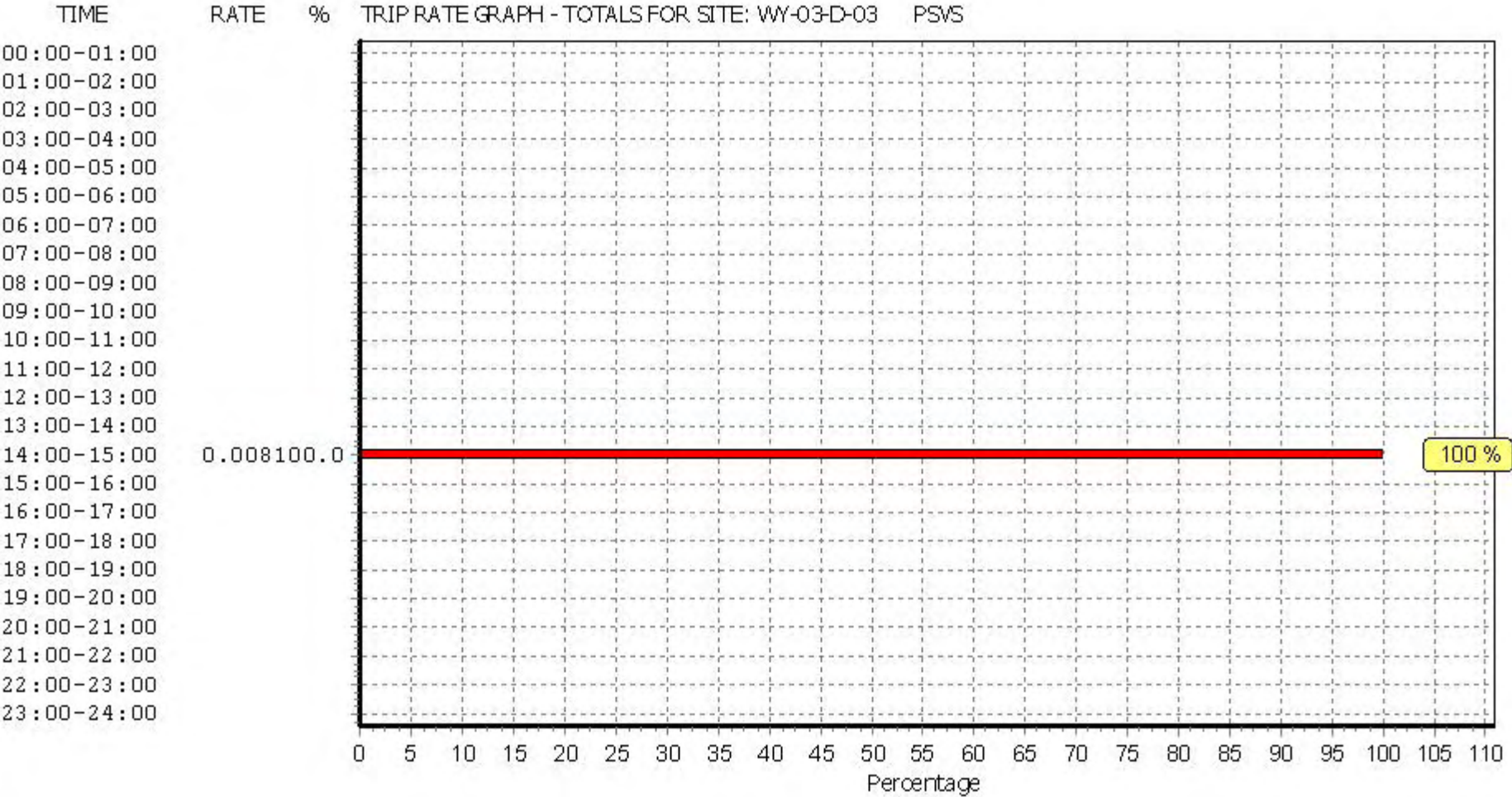
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TRIP RATE for Land Use 03 - RESIDENTIAL/D - AFFORDABLE/LOCAL AUTHORITY FLATS

CYCLISTS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	5	46	0.000	5	46	0.000	5	46	0.000
08:00 - 09:00	5	46	0.000	5	46	0.009	5	46	0.009
09:00 - 10:00	5	46	0.000	5	46	0.000	5	46	0.000
10:00 - 11:00	5	46	0.000	5	46	0.000	5	46	0.000
11:00 - 12:00	5	46	0.004	5	46	0.000	5	46	0.004
12:00 - 13:00	5	46	0.004	5	46	0.000	5	46	0.004
13:00 - 14:00	5	46	0.000	5	46	0.000	5	46	0.000
14:00 - 15:00	5	46	0.000	5	46	0.000	5	46	0.000
15:00 - 16:00	5	46	0.000	5	46	0.000	5	46	0.000
16:00 - 17:00	5	46	0.000	5	46	0.000	5	46	0.000
17:00 - 18:00	5	46	0.000	5	46	0.000	5	46	0.000
18:00 - 19:00	5	46	0.000	5	46	0.000	5	46	0.000
19:00 - 20:00	1	6	0.000	1	6	0.000	1	6	0.000
20:00 - 21:00	1	6	0.000	1	6	0.000	1	6	0.000
21:00 - 22:00	1	6	0.000	1	6	0.000	1	6	0.000
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.008			0.009			0.017

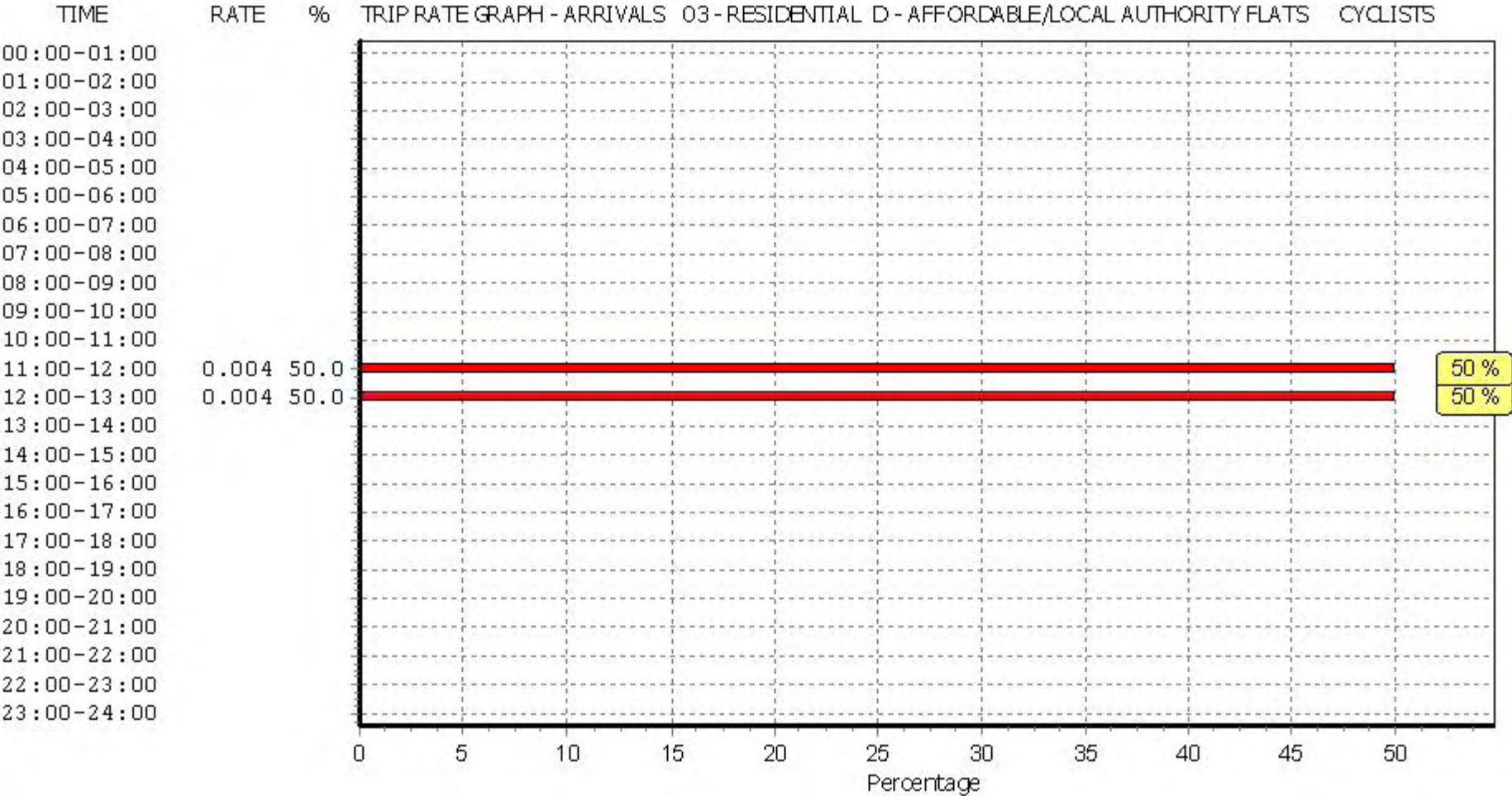
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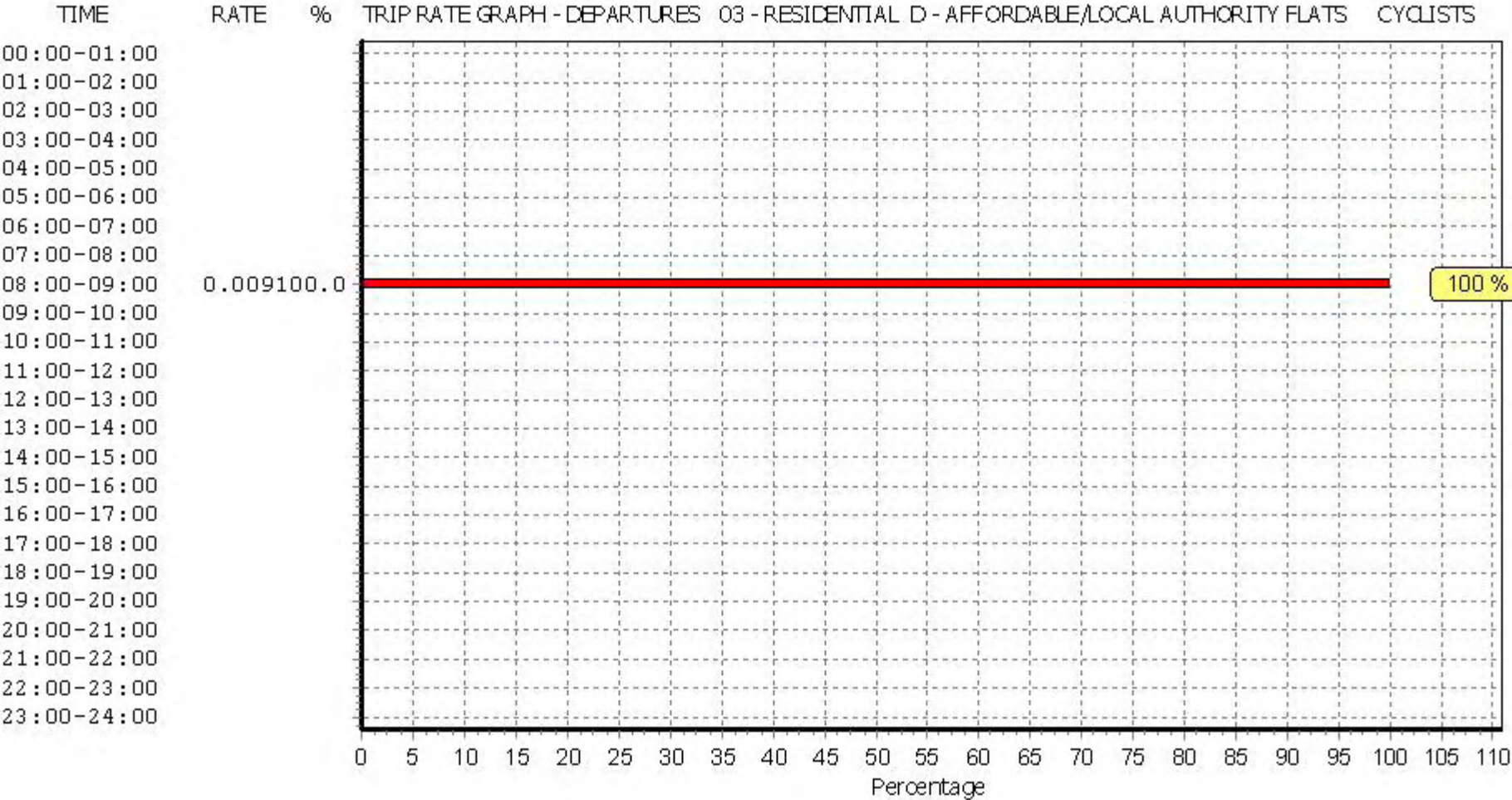
Parameter summary

Trip rate parameter range selected: 6 - 120 (units:)
 Survey date range: 01/01/06 - 26/06/14
 Number of weekdays (Monday-Friday): 5
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 2

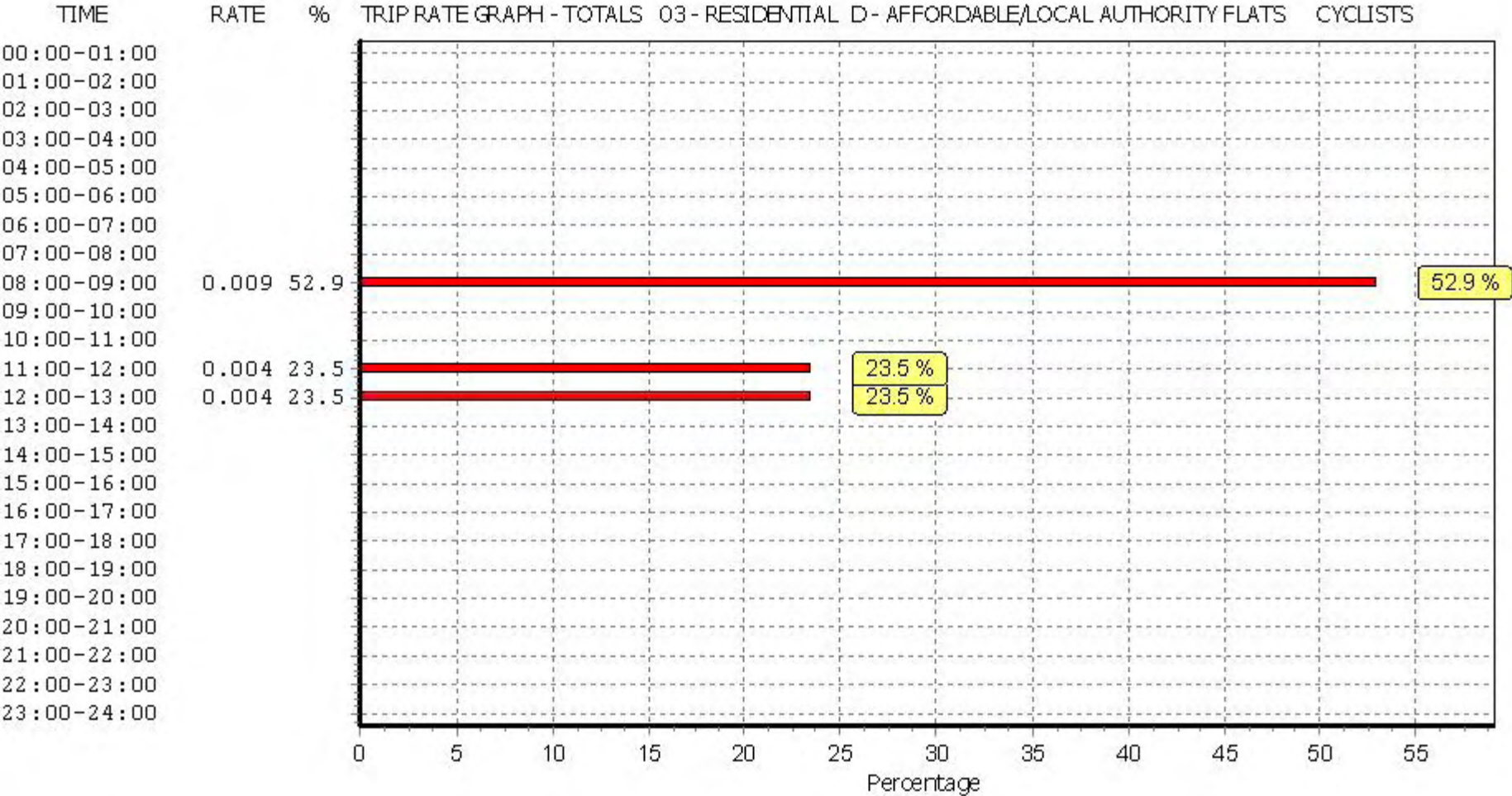
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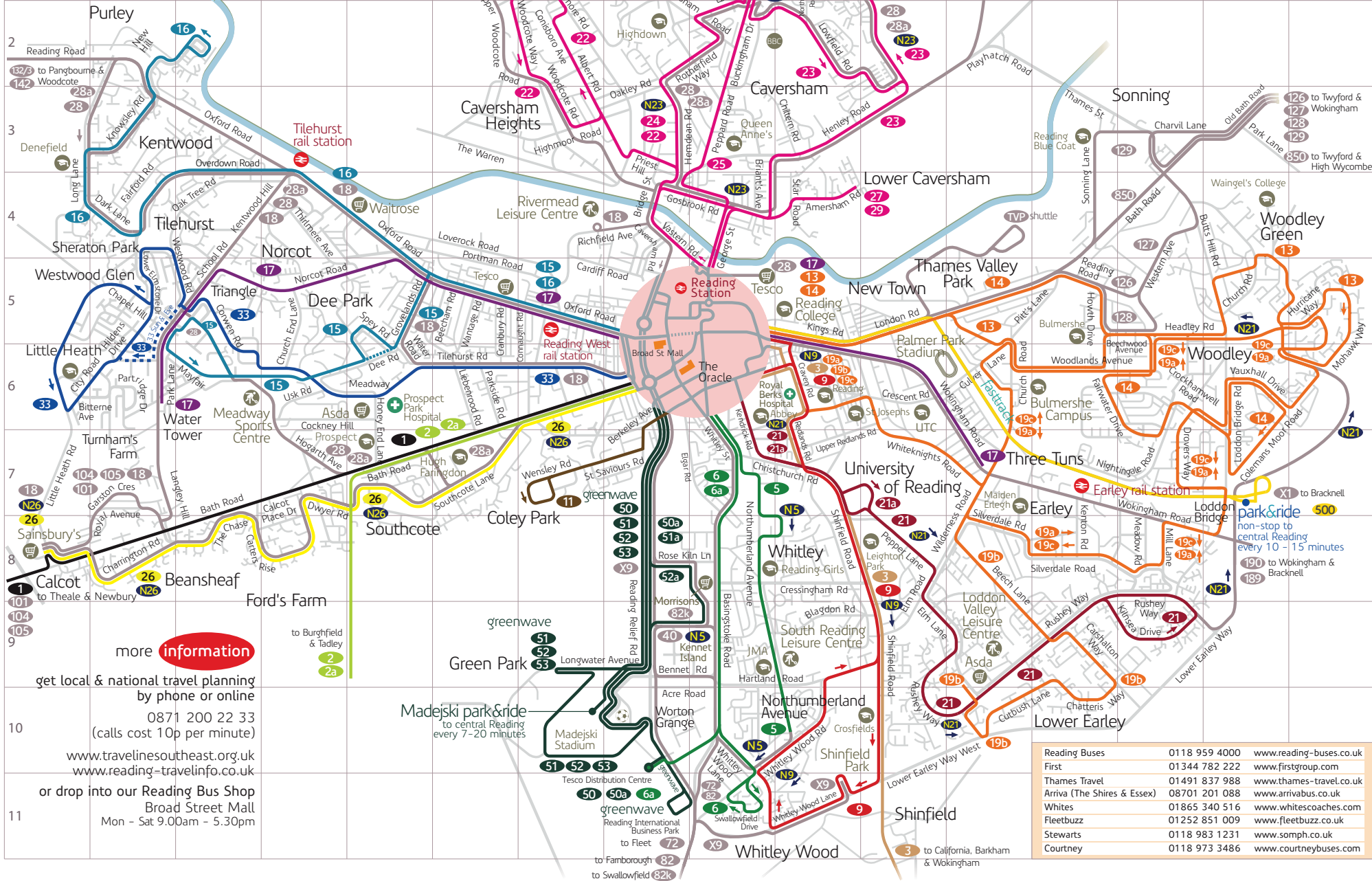
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Appendix D

quality travel for Reading
from July 2014



more **information**

get local & national travel planning
by phone or online

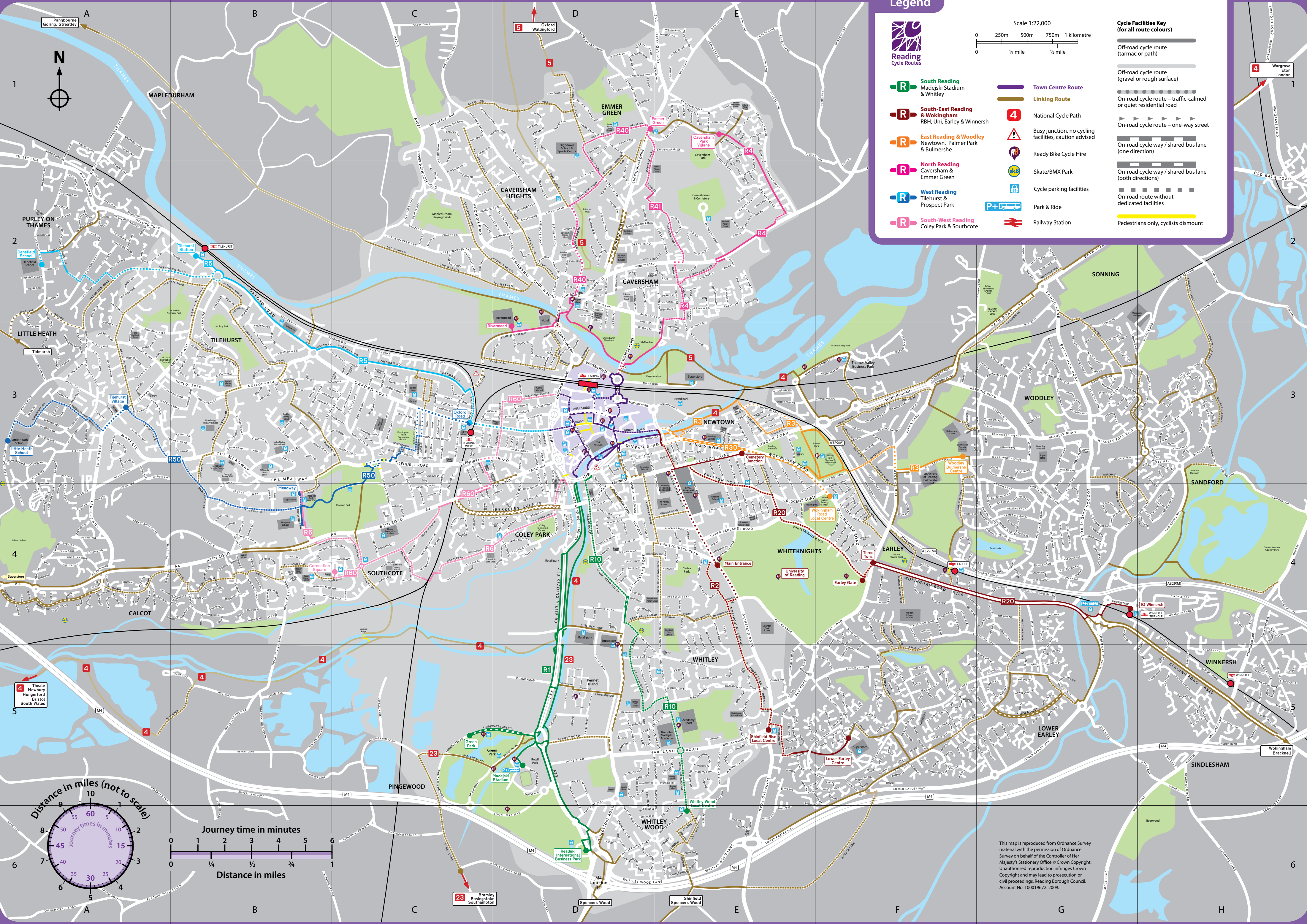
0871 200 22 33
(calls cost 10p per minute)

www.travelinesoutheast.org.uk
www.reading-travelinfo.co.uk

or drop into our Reading Bus Shop
Broad Street Mall
Mon - Sat 9.00am - 5.30pm

Reading Buses	0118 959 4000	www.reading-buses.co.uk
First	01344 782 222	www.firstgroup.com
Thames Travel	01491 837 988	www.thames-travel.co.uk
Arriva (The Shires & Essex)	08701 201 088	www.arrivabus.co.uk
Whites	01865 340 516	www.whitescoaches.com
Fleetbuzz	01252 851 009	www.fleetbuzz.co.uk
Stewarts	0118 983 1231	www.somph.co.uk
Courtney	0118 973 3486	www.courtneybuses.com

Appendix E



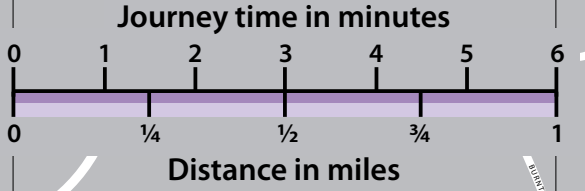
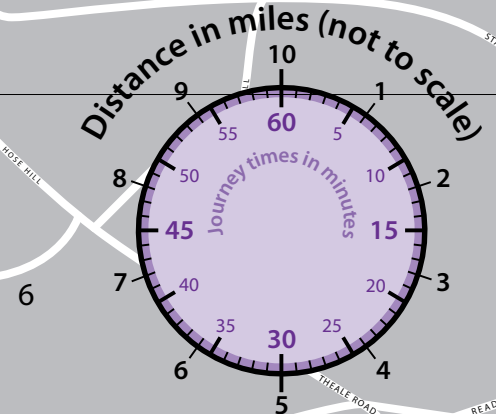
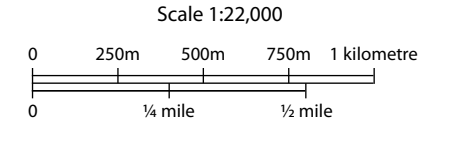
Legend



- South Reading**
Madejski Stadium & Whitley
- South-East Reading & Wokingham**
RBH, Uni, Earley & Winnersh
- East Reading & Woodley**
Newtown, Palmer Park & Bulmershe
- North Reading**
Caversham & Emmer Green
- West Reading**
Tilehurst & Prospect Park
- South-West Reading**
Coley Park & Southcote

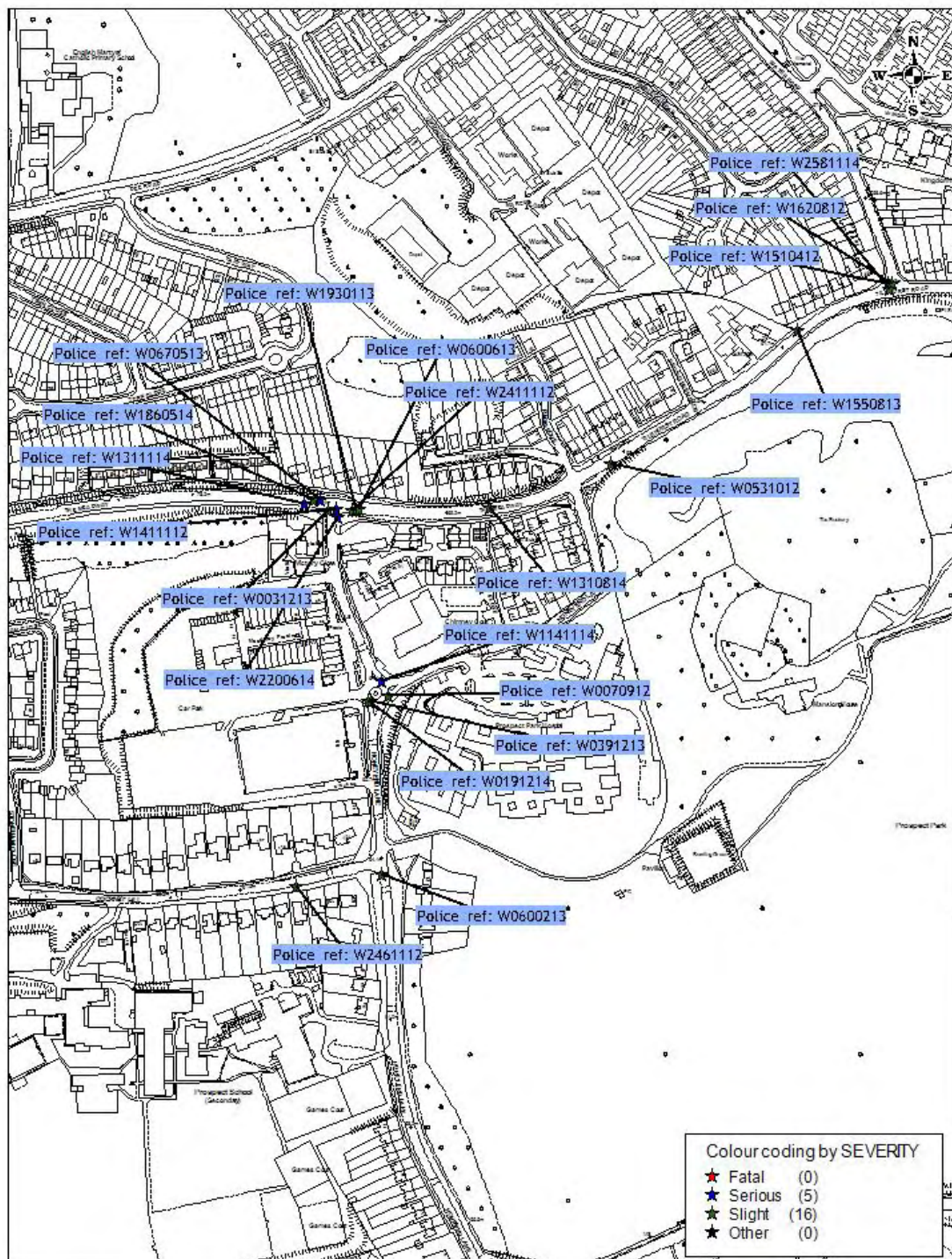
- Town Centre Route**
- Linking Route**
- 4** National Cycle Path
- Busy junction, no cycling facilities, caution advised
- Ready Bike Cycle Hire
- Skate/BMX Park
- Cycle parking facilities
- Park & Ride
- Railway Station

- Cycle Facilities Key (for all route colours)**
- Off-road cycle route (tarmac or path)
 - Off-road cycle route (gravel or rough surface)
 - On-road cycle route - traffic-calmed or quiet residential road
 - On-road cycle route - one-way street
 - On-road cycle way / shared bus lane (one direction)
 - On-road cycle way / shared bus lane (both directions)
 - On-road route without dedicated facilities
 - Pedestrians only, cyclists dismount



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Appendix F

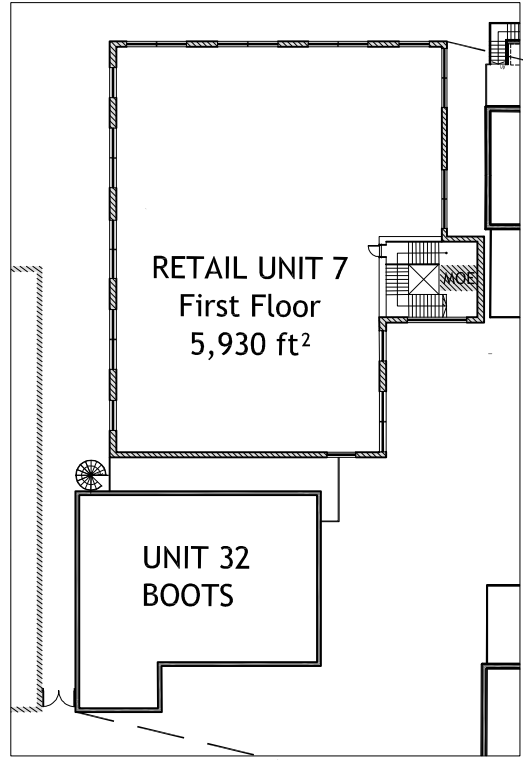


The Meadow/Honey End Lane
 Accidents between dates 01/01/2012 and 31/12/2014

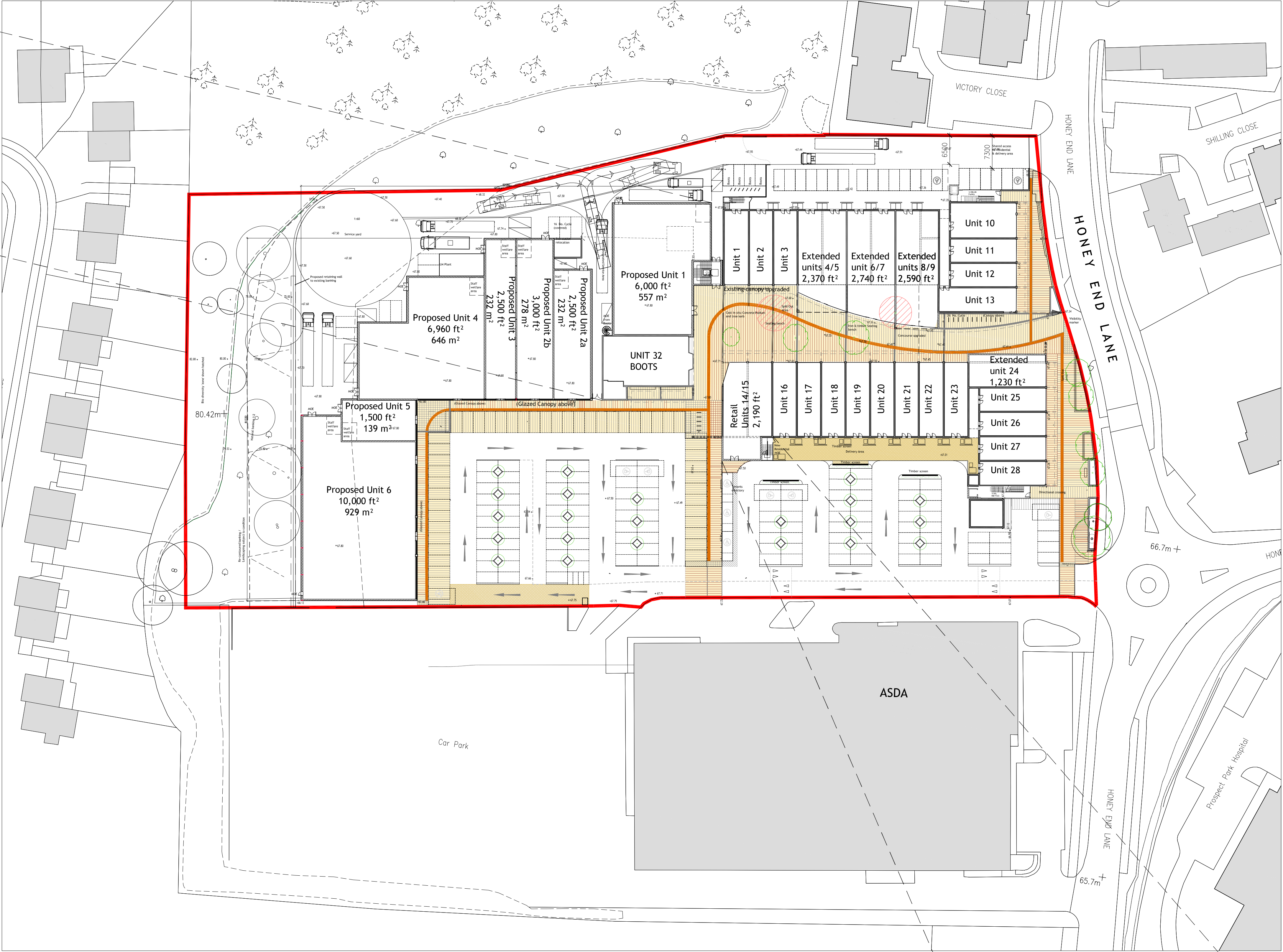
+ Crown copyright and database right Crown Copyright
 Licence No. 2015

SCALE	1 : 4040
DATE	11/03/2015
DRAWING No.	
DRAWN BY	

Appendix G

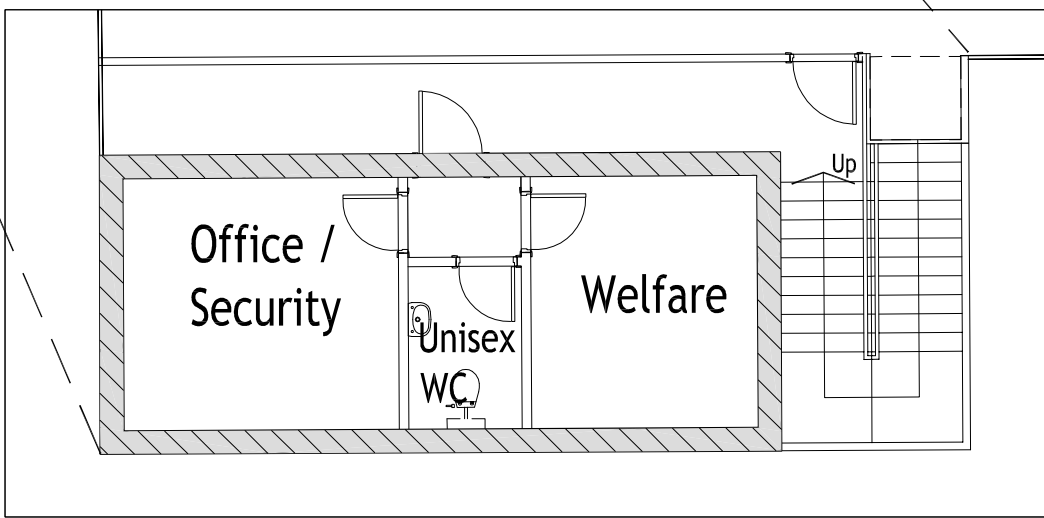
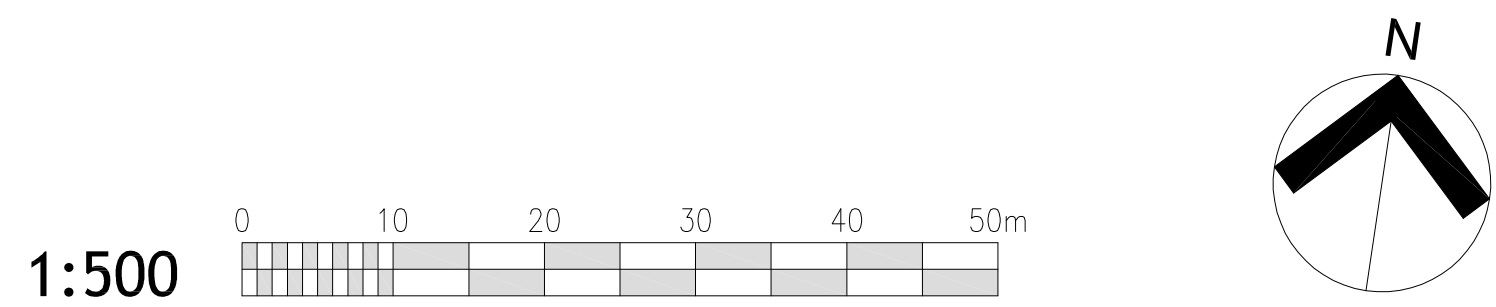


Proposed 1st Floor Plan
Scale - 1:500



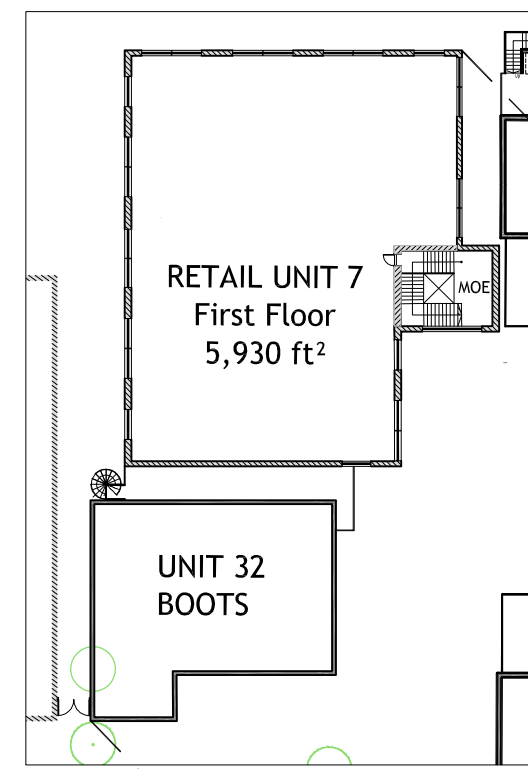
- Key
- Existing Trees Retained
 - Existing Trees Removed
 - Proposed Trees
 - 300 x 300 Concrete block paving
 - 600 x 300 Concrete block paving (contrasting colour)
 - Light red tactile directional paving
 - Cross Bonding - Charcoal
 - Resin Bonded Gravel
 - Cycle Spaces

Proposed Site Plan
Scale - 1:500



1st Floor Management / Security Suite.
(Accessed via ambulant disabled staircase)
Scale - 1:100

Rev	Date	Drn	Chkd	Description
Purpose of Issue:				
PLANNING				
Client:				
Chillingham Ltd				
Project:				
Tilehurst, Reading				
Drawing title:				
Proposed Site Plan				
Scale at A1:				
VARIES				
Date:				
Mar 15				
Drawn by:				
SLH				
Checked by:				
-				
Drawing number:				
1364.PL.1110				
Revision:				
-				
accord architecture				
www.accordarchitecture.com				
Compton House, Walnut Tree Close, Guildford, Surrey, GU1 4TX				
[t] 01483 455100 [f] 01483 455210 [e] design@accordarchitecture.com				



Proposed 1st Floor Plan
Scale - 1:500

Proposed upgrade to flat entrance for security and DDA compliance

Area reconfigured as residential parking (21 spaces) including 2 disabled; walls demolished and rerouted deliveries to perimeter

Bio-diversity 'zone' (shown hatched) to be remain untouched
Delivery tracking

Substation relocated

New concrete retaining wall

New crib lock retaining wall

Existing Tree removed

Boots to be retained

Secured Kiosks Zone

Proposed upgrade to flat entrance for security and DDA compliance

Bollards to protect walkways

Existing toilet block to be retained

Banking re-countoured and re-landscaped

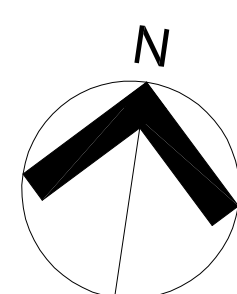
Proposed extent of new retaining crib wall

Existing Kerb

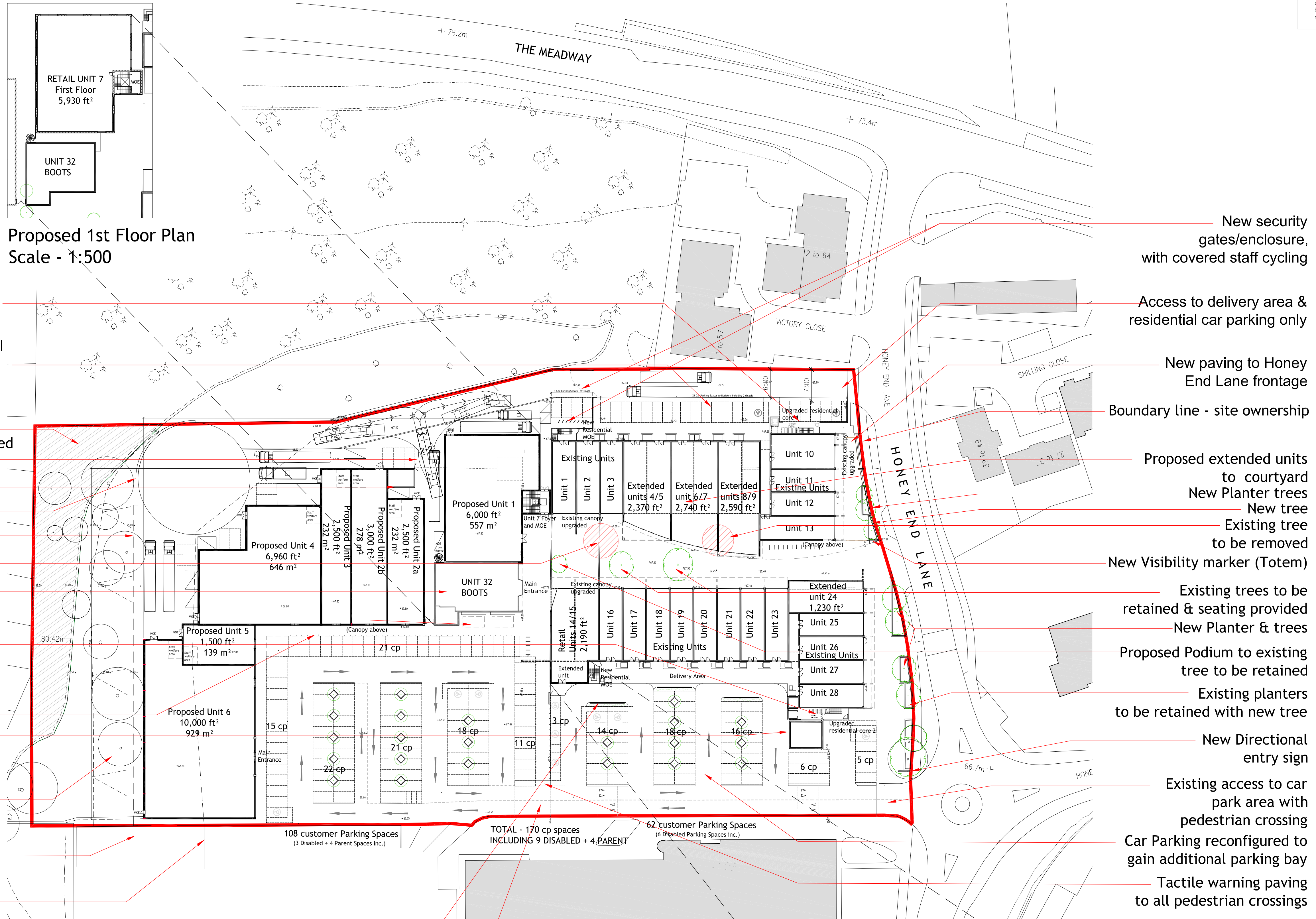
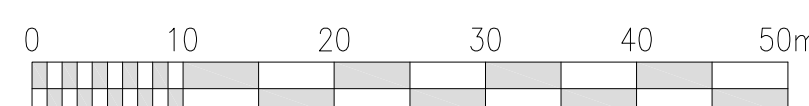
Metal screening with planting to obscure view

Pedestrian crossing to Asda

Proposed Master Plan
Annotated
Scale - 1:500



1:500



New security gates/enclosure, with covered staff cycling

Access to delivery area & residential car parking only

New paving to Honey End Lane frontage

Boundary line - site ownership

Proposed extended units to courtyard

New Planter trees

New tree

Existing tree to be removed

New Visibility marker (Totem)

Existing trees to be retained & seating provided

New Planter & trees

Proposed Podium to existing tree to be retained

Existing planters to be retained with new tree

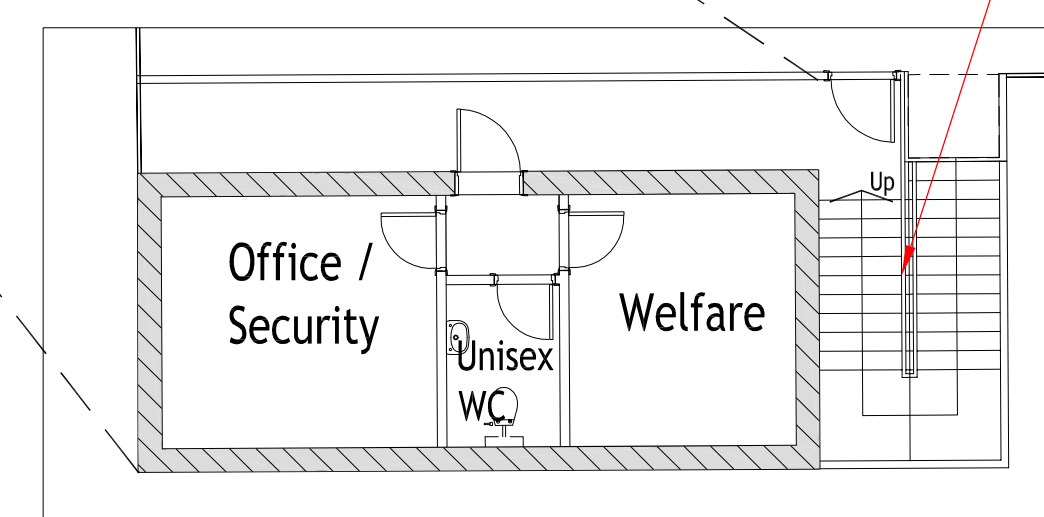
New Directional entry sign

Existing access to car park area with pedestrian crossing

Car Parking reconfigured to gain additional parking bay

Tactile warning paving to all pedestrian crossings

MOE for resident



1st Floor Management / Security Suite.
(Accessed via ambulant disabled staircase)
Scale - 1:100

Rev Date	Drn	Chkd	Description
Purpose of Issue:			
PLANNING			
client:			
Chillingham Ltd			
project:			
Tilehurst, Reading			
drawing title:			
Proposed Master Plan Annotated			
scale of A1:	date:	drawn by:	checked by:
1:500	Feb 15	SLH	-
drawing number:	revision:		
1364.PL.1111	-		
a c c o r d a r c h i t e c t u r e www.accordarchitecture.com			
Compton House, Walnut Tree Close, Guildford, Surrey, GU1 4TX [t] 01483 455100 [f] 01483 455210 [e] design@accordarchitecture.com			