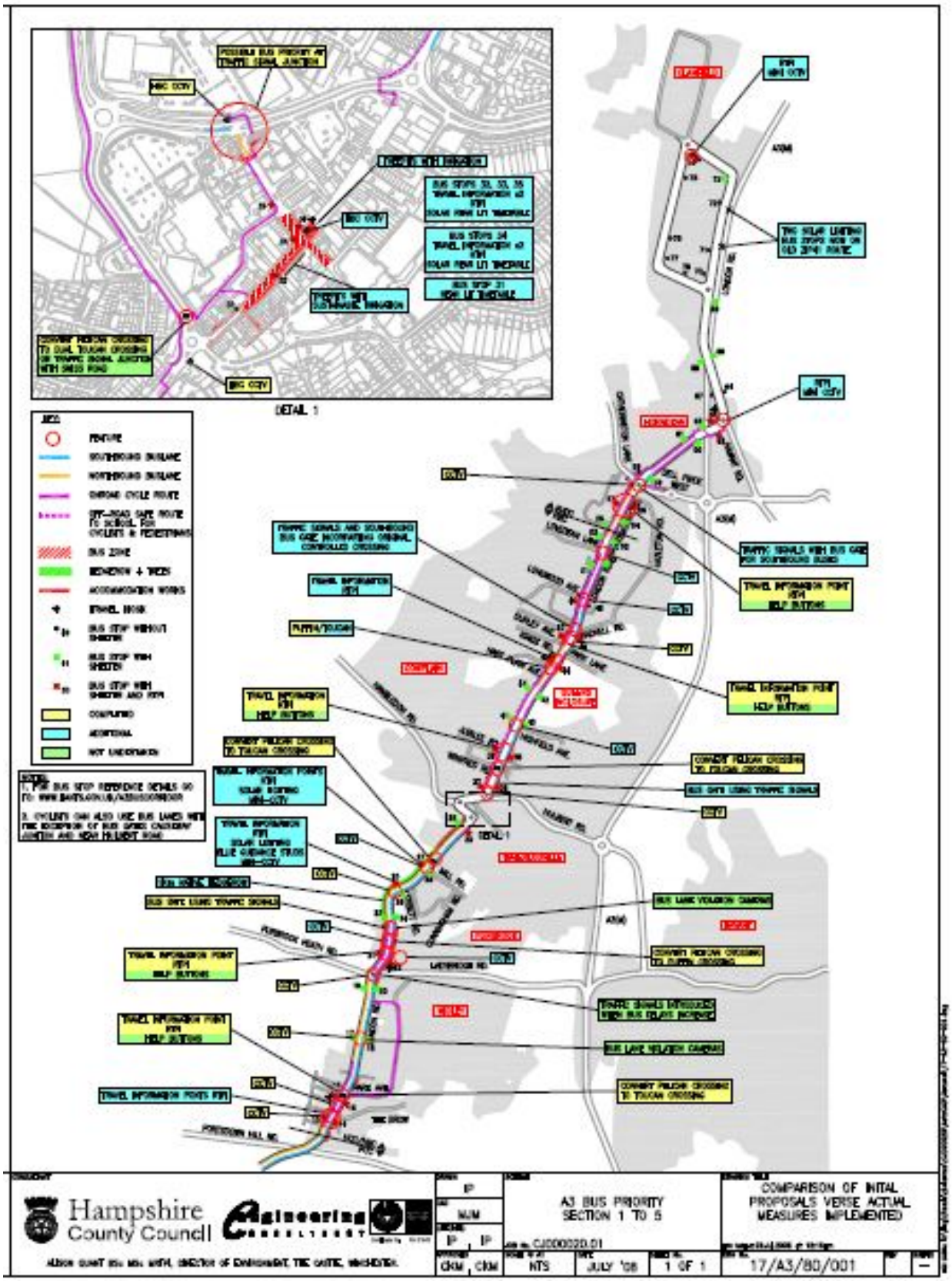
Appendix 3 Supporting Documents

APPENDICES AND FIGURES
REVIEW OF A3 ZIP PROJECT MAIN REPORT

Appendix A- A3 ZIP Corridor Description of measures as implemented



Purbrook Panel

Hampshire County Council:	Councillor R McIntosh
	Client Manager - Geoff Topps
	Project Manager - Chris Murray
	Site Resident Engineer – Nigel Baker
Atkins :	Design Manager – Jon Merrick
Dyer & Butler:	Contracts Manager – Simon French
Havant Borough Council:	Andy Maclean
Purbrook & Waterlooville Residents Association	Representative

Waterlooville Panel

Hampshire County Council:	Councillor I Beagley, Councillor R McIntosh
	Client Manager - Geoff Topps
	Project Manager - Chris Murray
	Site Resident Engineer – Nigel Baker
Mott Gifford :	Assistant Project Manager – Kerry Mcdermott
	Design Manager – Matthew Nield
Dyer & Butler:	Contracts Manager – Simon French
Havant Borough Council:	Councillor N Tarrant , Councillor Mrs P Cotton,
	Councillor K M Moss
	Paul Ramshaw, Martin Peacock, Stuart Wood, Andy Maclean

Cowplain Panel

Hampshire County Council:	Councillor I Beagley, Councillor J West
	Client Manager - Geoff Topps
	Project Manager - Chris Murray
	Landscape Architect - Trevor How
	Site Resident Engineer – Nigel Baker
Mott Gifford :	Assistant Project Manager – Kerry Mcdermott
	Design Manager – Matthew Nield
Dyer & Butler:	Contracts Manager – Simon French
Havant Borough Council:	Councillor N Tarrant, Councillor A Briggs,
	Councillor Mrs M Smallcorn
	Paul Ramshaw, Martin Peacock, Andy Maclean

Horndean to Clanfield Panel

Hampshire County Council:	Councillor E Byrom
	Client Manager - Geoff Topps
	Project Manager - Chris Murray
	Landscape Architect - Trevor How
	Site Resident Engineer – Nigel Baker
Mott Gifford :	Assistant Project Manager – Kerry Mcdermott
	Design Manager – Matthew Nield
Dyer & Butler:	Contracts Manager – Simon French
East Hants District Council:	Councillor Denston, Councillor Rodgers
	Councillor Schillamore , Gwill Williams, Stephen D'Est Hoare
Horndean Parish Council :	Councillor Gordon, Councillor Giddings
East Hants Cycle Forum:	Rod Green

Appendix C; - Waterlooville Town Centre Improvements

Before

After

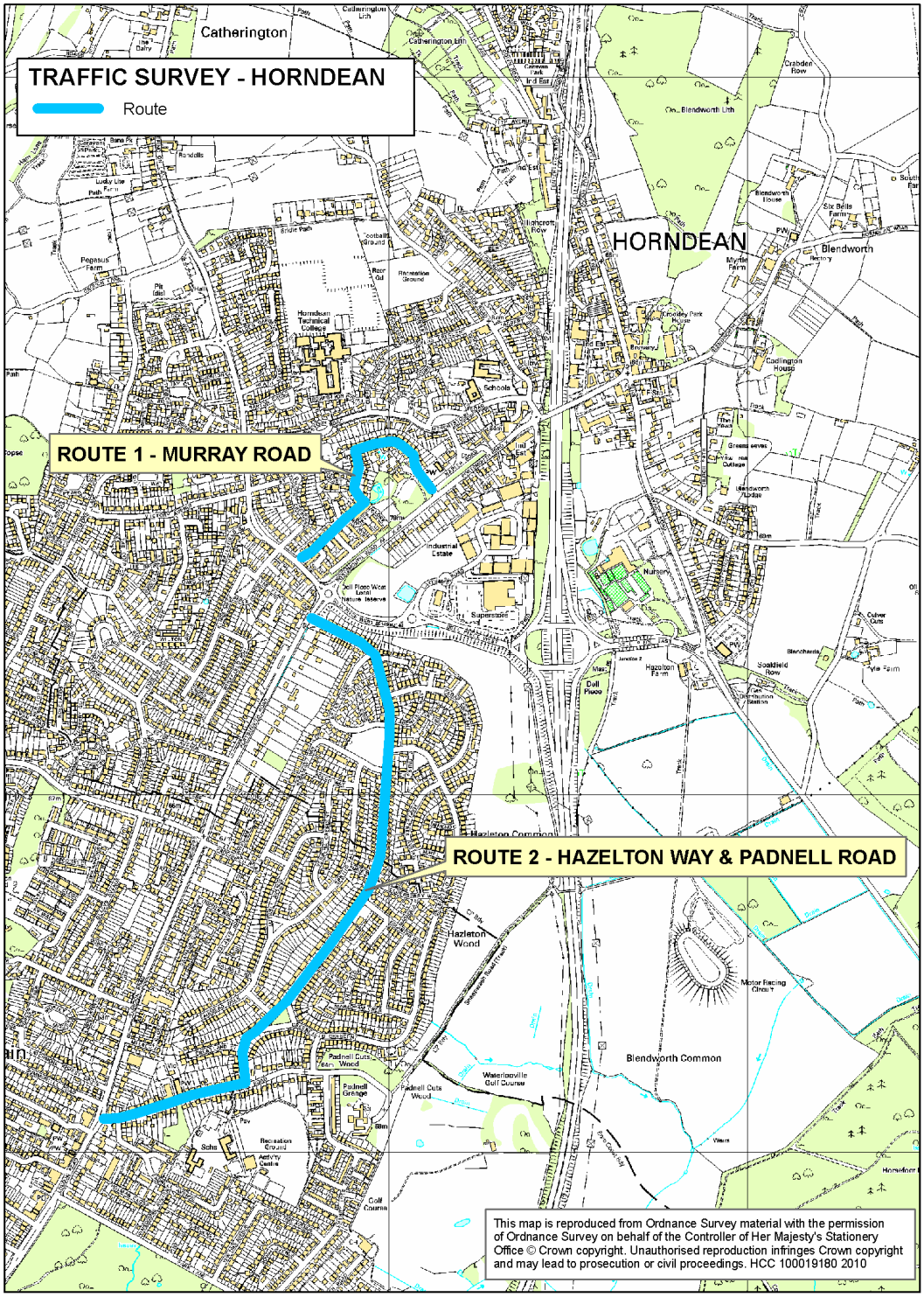
Appendix D- Details of additional surveys undertaken in response to questions raised.

Background

Further to an A3 Zip Project briefing meeting between George Hollingley MP and Cllr Mel Kendal on 9 July 2010, it was agreed to undertake traffic surveys to determine whether vehicles were 'rat running' along the following routes in Horndean:

1. Murray Road between A3 Portsmouth Road and Catherington Lane. This would be to avoid delay at the Portsmouth Road, B2149, A3 London Road and Catherington Lane signalled junction and;
2. Along Hazelton Way & Padnell Road to avoid delay along the A3 London Road between the Portsmouth Road, B2149, A3 London Road and Catherington Lane signalled junction and A3 London Road, Padnell Road junction.

Figure 1 Routes studied



Analysis

Murray Road 07:00 to 09:30 has been chosen as a worked example to demonstrate how the results have been analysed. The same approach has been followed for Murray Road in the pm peak and Hazelton Way & Padnell Road also in the am and pm peak. A full set of the results is provided in table 2. The surveys took place on 7 and 14 September 2010 from 07:00 to 09:30 and 16:00 to 18.30 hours. These dates were the earliest opportunity to carryout the surveys as it was necessary that they were undertaken during school term time to get a representative set of results. Registration plate surveys were carried out to determine the number and percent of all traffic that used these routes as a 'rat run'. Turning counts were also undertaken to establish the proportion of vehicles that 'rat run' compared to those that use the preferred route.

Worked example: Murray Road 07:00 to 09:30 hours. The turning counts observed 1,077 vehicles travelling southbound along Catherington Lane towards Murray Road. Of these, 37 turned left into Murray Road, the remaining 1,040 proceeded straight ahead (see figure 3). 28 turned left at the following junction with the A3 Portsmouth Road (see figure 5) giving a total of 65 vehicles eastbound.

In addition to the 37 vehicles turning left into Murray Road, a further 27 turned right giving a total of 64 vehicles entering Murray Road (see figure 3). However, these 27 right turning vehicles are unlikely to be motivated to use Murray Road as a 'rat run'; it would be quicker for them to continue straight ahead along the A3 Portsmouth Road.

Of the 64 vehicles entering Murray Road (left and right turning traffic combined) 21 were observed again leaving Murray Road at its junction with the A3 Portsmouth Road (see figure 4) within five minutes. The remaining 43 were not seen again indicating that they were residents or had business somewhere along Murray Road. The number of eastbound vehicles using Murray Lane as a 'rat run' is 21 as a percentage of all eastbound traffic it is 32%. Table 1 shows how this figure has been calculated.

Table 1. Catherington Lane to A3 Portsmouth Road eastbound 07:00 to 09:30 hours calculation

Route	Number
Vehicles travelling southbound along Catherington Lane turning left eastbound into Murray Road	37
Vehicles travelling southbound along Catherington Lane turning left eastbound into A3 Portsmouth Road	28
Sub total number of vehicles travelling eastbound	65

Vehicles travelling southbound along Catherington Lane turning left into Murray Road	37
Vehicles travelling northbound along Catherington Lane turning **right** into Murray Road	27
Sub total number of vehicles entering Murray Road	64

Vehicles observed leaving Murray Road at its eastern junction with A3 Portsmouth Road	21
Vehicles not observed again, unmatched 'resident' vehicles	43
Sub total	64
Percentage of all vehicles travelling eastbound using Murray Road as a 'rat run' (100/65*21)	**32% (21 vehicles)**

Source Hampshire County Council (2010)

Figure 2 Murray Road survey

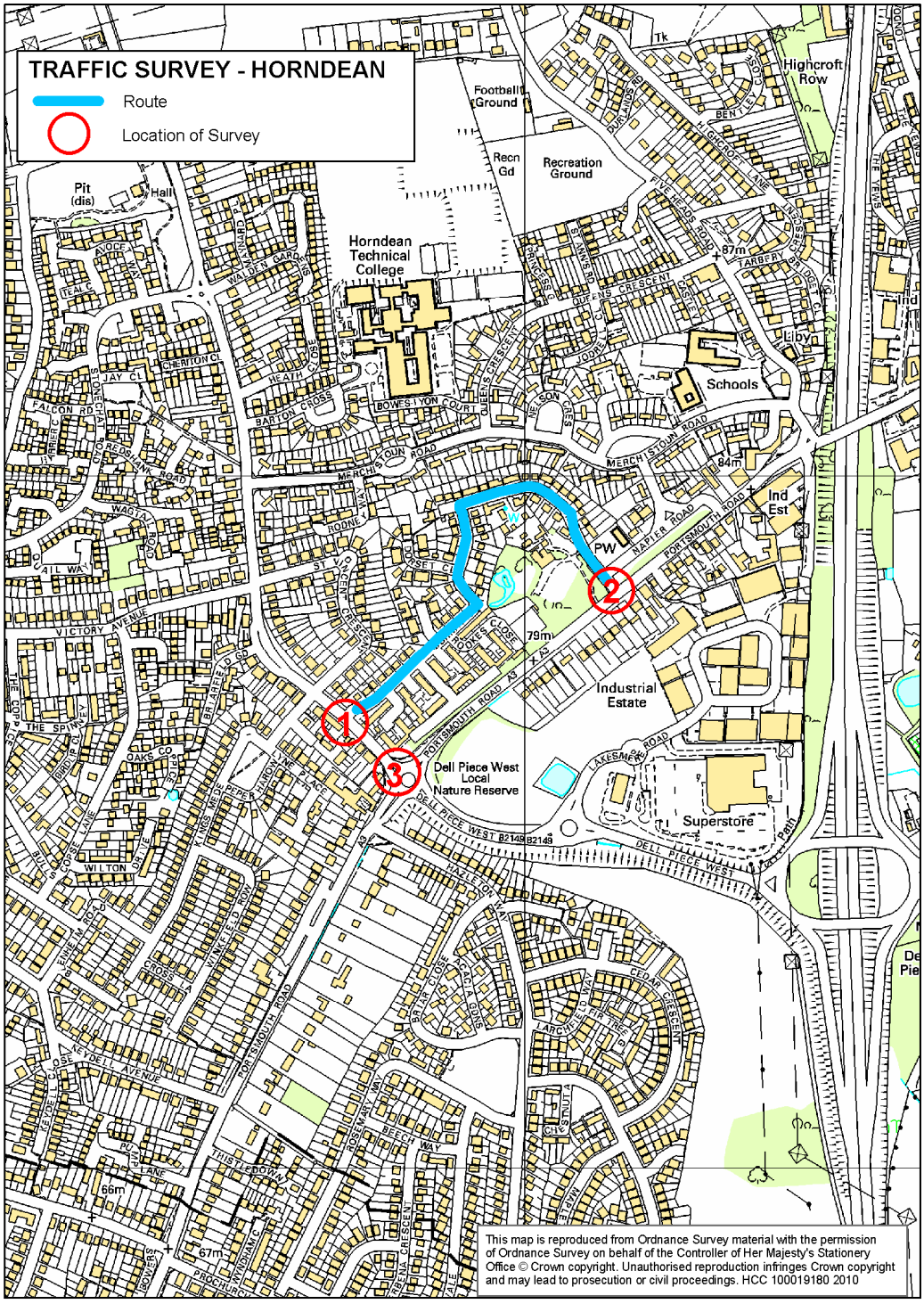


Figure 3 Site one traffic counts

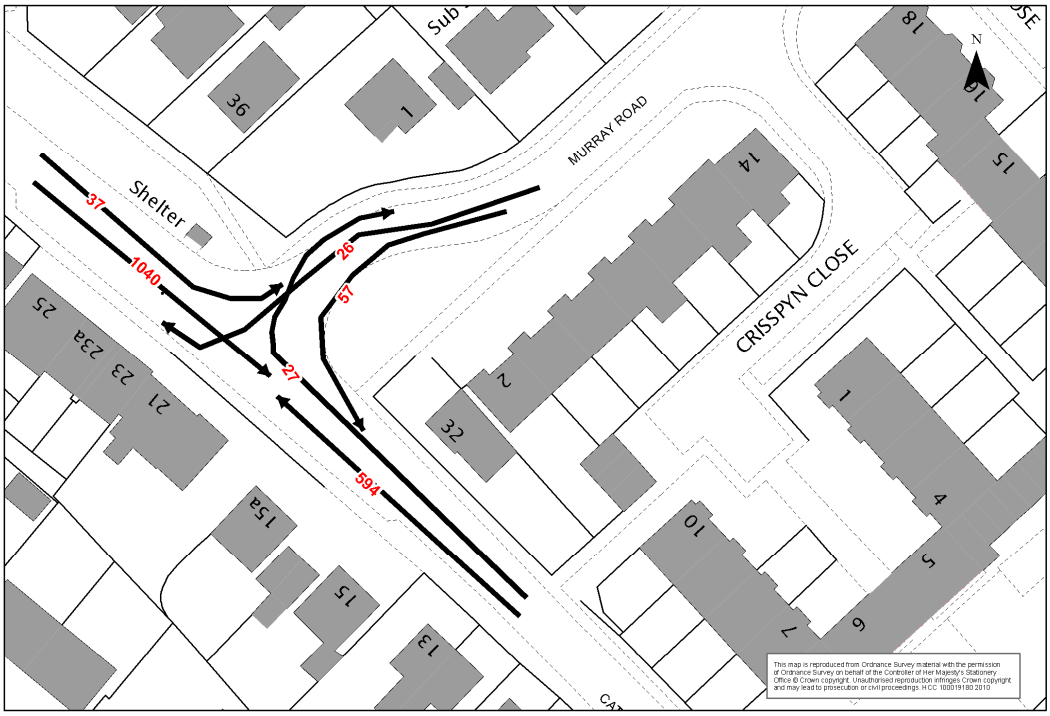


Figure 4 Site two traffic counts

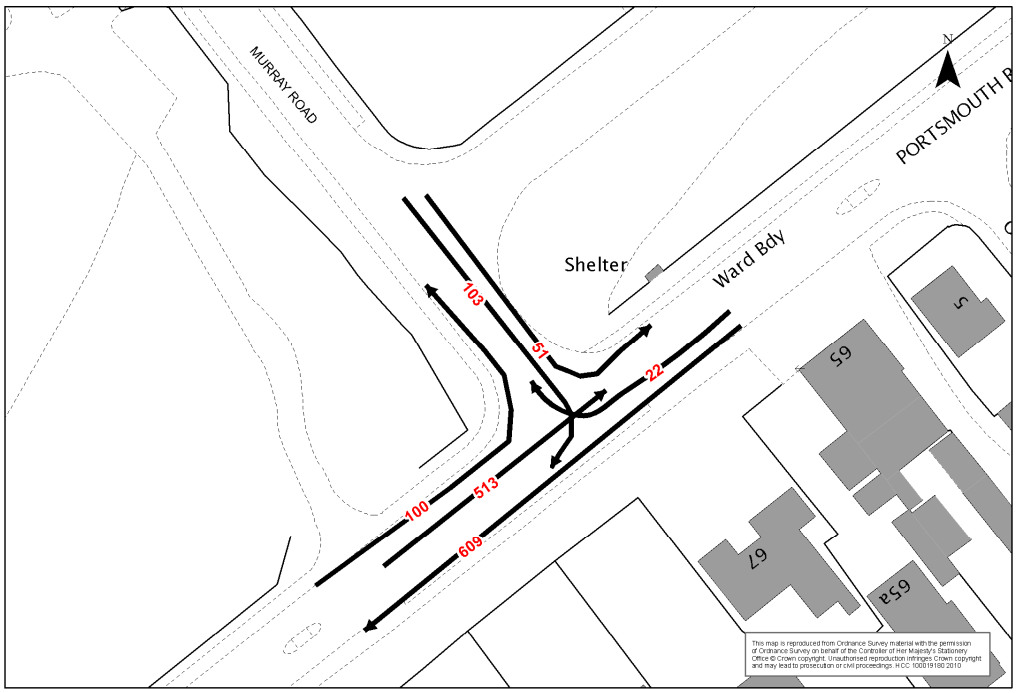
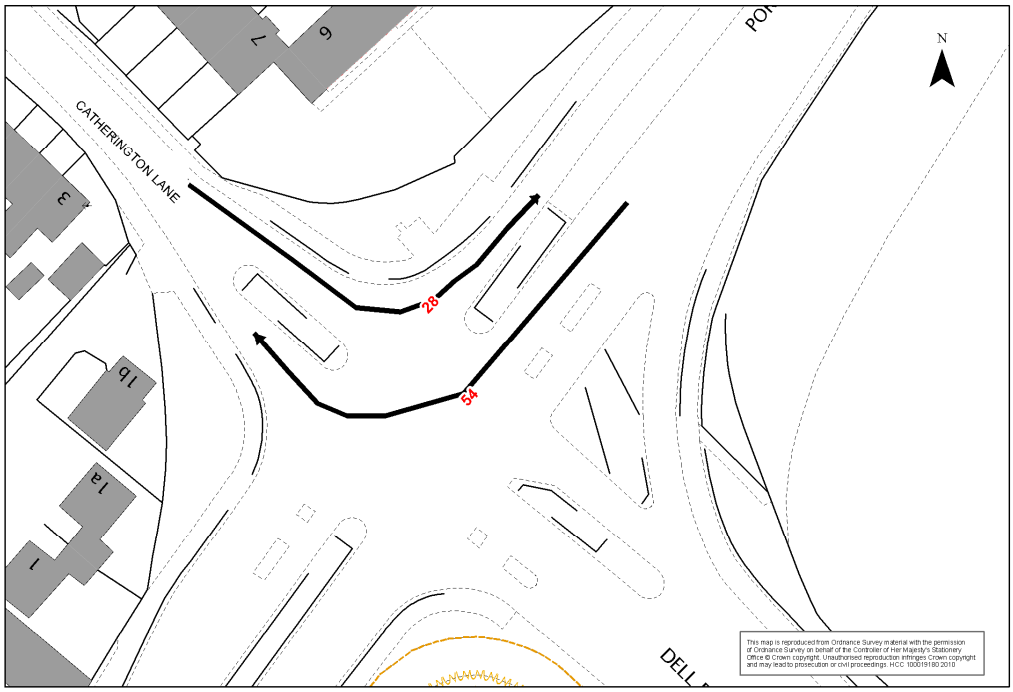


Figure 5 Site three traffic counts



Results

Table 2 shows the full set of results for Murray Road and Hazelton Way & Padnell Road in both directions during the am and pm peak.

Table 2 Full summary of survey results

Route one Murray Road	Total number of vehicles to destination	Total traffic along 'rat run' itself	Number likely to be 'rat running'	Percentage 'rat running'
Catherington Lane to A3 Portsmouth Road eastbound 07:00 to 09:30 hours	65	64	21	32%
A3 Portsmouth Road to Catherington Lane westbound 07:00 to 09:30 hours	76	114	3	4%
Catherington Lane to A3 Portsmouth Road eastbound 16:00 to 18:30 hours	73	84	9	12%
A3 Portsmouth Road to Catherington Lane westbound 16:00 to 18:30 hours	150	55	7	5%
Route two Hazelton Way & Padnell Road				
Hazelton Way & Padnell Road northbound 07:00 to 09:30 hours	208	315	26	13%
Hazelton Way & Padnell Road southbound 07:00 to 09:30 hours	135	161	18	13%
Hazelton Way & Padnell Road northbound 16:00 to 18:30 hours	417	537	19	5%
Hazelton Way & Padnell Road southbound 16:00 to 18:30 hours	683	648	34	6%

Source Hampshire County Council (2010)

Discussion

The results show that the route with the highest proportion of matched 'rat running' traffic is Catherington Lane to Portsmouth Road eastbound along Murray Road in the am peak. However, whilst the percentage is the highest, the likely number of 'rat running' vehicles is low, just 21 vehicles over a two and a half hour period. During the busiest period 08:00 to 08:15, this would be approximately one vehicle every three to four minutes. In the opposite direction during the am peak just three vehicles, potential 'rat runners' were matched.

During the pm peak, westbound along Murray Road seven likely 'rat runners' were matched over the two and a half hour survey period. During the busiest period, 17:00 to 17:15, this equates to approximately one vehicle every ten minutes. This is because incentive to 'rat run' along Murray Road in the pm peak is less as vehicles need to wait for a gap in the oncoming traffic in order to turn right.

Compared to Murray Road the traffic situation at Hazelton Way & Padnell Road is more complex; the route is longer, is more heavily trafficked and has 16 side roads and there are numerous trip generators along its length including a school and a parade of shops with a post office. Against this background of activity the overall impact of 'rat running' traffic is less. If evenly distributed, during the busiest period, 08:15 to 08:30 hours, a likely 'rat running' vehicle passes every five minutes, or approximately every seventh vehicle. In the opposite direction in the am peak, during the busiest period 08:30 to 08:45 a 'rat running' vehicle could be expected to pass every six minutes. In the pm peak the proportion of matched, 'rat running' traffic is highest along Hazelton Way & Padnell Road southbound, during the busiest period, 17:30 to 17:45, 78 vehicles passed, of which it is estimated five are 'rat running' traffic, this represents one vehicle every three minutes, or one every 16 vehicles.

Conclusion

The likely number of vehicles 'rat running' along Murray Road eastbound during the morning peak is very low, though locally it is perceived to be a problem. Residents are probably unable to distinguish between the vehicles of other residents, those with business along the route and drivers making a short cut. If this 'rat running' traffic is spoiling residential amenity, creating road safety problems or making the road network function less efficiently then interventions may be justified. However, given the low number of vehicles observed 'rat running' is deemed not to be a problem.

Dr Alan J Tilly, Team Leader Transport Research and Intelligence
29 September 2010

Appendix E: Dell Piece Junction and Catherington Lane Analysis

HAMPSHIRE COUNTY COUNCIL
ENVIRONMENT DEPARTMENT
ITS GROUP

SUMMARY OF TRAFFIC SURVEYS AND TRAFFIC SIGNAL TRIAL AT A3 PORTSMOUTH ROAD, JUNCTION WITH CATHERINGTON LANE AND DELL PIECE WEST, HORNDEAN

Job Number: C.J000021		**HANTSFILE Document Reference:**			
D	Published Report	DW	JAM	ARG	16-09-08
C	Final draft	DW	JAM	ARG	15-09-08
B	Internal for comment	DW	JAM	ARG	18-08-08
A	Draft	DW	JAM	ARG	31-07-08
Revision	**Purpose Description**	**Originator**	**Checked**	**Approved**	**Date**

Contents

Summary of traffic surveys at A3 Portsmouth Road, junction with Catherington Lane and Dell Piece West, Horndean

Introduction

New traffic signals were installed at the junction of the A3 Portsmouth Road with Catherington Lane and Dell Piece West on 18 December 2007. These traffic signals replaced the earlier roundabout and three adjacent pedestrian crossings, and incorporate shared pedestrian crossings on all arms and a new bus lane on the A3. Further new traffic signals were then installed at the adjacent Hazleton Way junction on 22 January 2008.

The operation of the two junctions is coordinated to provide progression from Dell Piece West through the Hazleton Way junction. This coordination is required in mitigation of sub-standard visibility from Dell Piece West to possible queues on the A3 at Hazleton Way, and is a constraint on the scope to modify the operation of the traffic signals here.

Following the introduction of the new signals, a number of local residents petitioned Hampshire County Council to reduce delay, particularly on Catherington Lane and Hazleton Way. A number of timing changes were made in response to these comments, and a survey was carried out on 25 February 2008 to measure journey times on the approaches to the two junctions.

Following a meeting with representatives of the local community on the 14th May, councillor Thornber requested that further traffic surveys be arranged to quantify the reported delay, and to evaluate the scope for improving access from Catherington Lane at peak times. This report summarises these surveys, and describes what further improvements to the junction may be possible.

Scheme background

Peak period congestion had affected the operation of roundabout, reducing its efficiency and causing long queues, most notably during the evening peak on the Dell Piece West approach from the A3(M), but also on Catherington Lane and the A3 Portsmouth Road in the morning. Queues on Portsmouth Road were also affecting access from Hazleton Way. These problems were expected to worsen as traffic levels increased.

The congestion here was already delaying buses using the new A3 ZIP bus priority corridor, progressively increasing journey times and reducing service reliability over time. Studies concluded that the roundabout could not provide the desired bus priority. Traffic signals were then proposed as they would provide more control, enabling a more equitable balance to be struck between the different approaches and crucially, enable buses to have priority. Although the traffic signals would not provide additional capacity to absorb traffic growth, the ability to give buses priority would increase their attractiveness compared to the car.

The Before situation

In general, roundabouts work well where traffic flows are balanced. Here, the tidal nature of traffic movements during peak periods was causing problems that were predicted to get worse in the future. Traffic signals would manage this by sharing access, but would not provide additional capacity. Some additional delay would occur in order to provide the desired level of bus priority at peak times. The impact of the different options were reported in Technical Note No. 006 Design Justification for 5B Change of Causeway Roundabout to Traffic Signals (15/11/2005). Figures 1 and 2 below repeat the predicted operation of the traffic signal option provided in Technical Note No. 006.

	Existing junction, 2004 (observed)		Traffic Signal option, 2004		Traffic Signal option, 2007	
	Ave Queue metres	Ave Delay veh min	Ave Queue metres	Ave Delay veh min	Ave Queue metres	Ave Delay veh min
A3 Southbound	94 (443 max)	3.3	300	3.9	400	5.2
Catherington Lane	150 (325 max)	2.6	300	4.8	390	6.0
A3 Northbound	155 (556 max)	2.2	180	4.9	225	6.0
Dell Piece West	12 (18 max)	No data	130	5.6	160	6.8
Hazleton Way	39 (48 max)	No data	55	1.0	60	1.0

Figure 1. AM Peak 0800-0900

	Existing junction, 2004 (observed)		Traffic Signal option, 2004		Traffic Signal option, 2007	
	Ave Queue metres	Ave Delay veh.min	Ave Queue metres	Ave Delay veh.min	Ave Queue metres	Ave Delay veh.min
A3 Southbound	31 (72 max)	No data	65	0.8	70	0.9
Catherington Lane	14 (18 max)	No data	160	3.0	220	4.0
A3 Northbound	22 (60 max)	No data	145	1.7	190	2.4
Dell Piece West	737 (845 max)	No data	210	6.1	260	7.3
Hazleton Way	12 (36 max)	No data	25	1.0	25	1.0

Figure 2. PM Peak 1700-1800

The variation between the observed average and maximum queue lengths reflects the build up and subsequent decline of traffic through the peak the periods. The reported

queue lengths for the traffic signal option are mean maximum figures comparable with the average observed queue, and would in practice be expected to exceed this 50% of the time.

It was noted that during the morning peak the queue on Catherington Lane was more consistent in comparison with the other approaches, with the impact of the school traffic noticeable.

In the evening peak queuing on most arms was minimal throughout. However significant congestion occurred on Dell Piece, with stationary traffic extending back to the A3 (M) interchange and approximately ¾ of the way down the northbound off-slip.

The comparison between the observed queues in 2004 and those predicted for either 2004 or 2007 is only valuable as a benchmark of the situation existing prior to the works. Routing the A3 ZIP bus route through this junction would require modifications. Modelling the operation of a suitably modified roundabout showed less delay that predicted with the traffic signal junction, but while the roundabout would generally have operated with smaller queues, it would not have minimised delay for buses. In addition, the queues predicted ignored the operation of the retained pedestrian crossings.

Providing signalised crossing points for pedestrians and cyclists close to the desire line was another advantage of the traffic signal option, although their operation adds delay for traffic in the same way. Encouraging more people to walk, cycle and use public transport is a cornerstone of transport policy at Hampshire County Council, and offers a more sustainable transport solution to meet expected demand for travel in the future. These improvements were another of the reasons for recommending that the roundabout be replaced with traffic signals.

Observed operation of the traffic signals, 2008

Following switching on the new signals, a number of local residents expressed their dissatisfaction with their operation, and in particular the additional delay. The comments received reflected those expressed at the original public consultation in September 2004. In the light of these concerns, traffic surveys were undertaken on 25 February 2008 to assess whether the impact of the traffic signals had been greater than predicted. The surveys measured journey time (delay) and queue length on the approaches to the junctions, and are summarised in figures 3 and 4 below.

	Traffic Signal option, with predicted traffic growth to 2007		Operation of the traffic signals 25 February 2008	
	Ave Queue (metre)	Ave Delay / Veh (mins)	Ave Queue (metre)	Ave Delay / Veh (mins)
A3 Southbound	400	5.2	53	1.61
Catherington Ln	390	6.0	27	3.38
A3 Northbound	225	6.0	15	1.75
Dell Piece West	160	6.8	15	1.61
Hazleton Way	60	1.0	21	1.65

Figure 3. AM Peak

	Traffic Signal option, with predicted traffic growth to 2007		Operation of the traffic signals 25 February 2008	
	Ave Queue (metre)	Ave Delay / Veh (mins)	Ave Queue (metre)	Ave Delay / Veh (mins)
A3 Southbound	70	0.9	60	2.8
Catherington Ln	220	4.0	6	2.34
A3 Northbound	190	2.4	18	2.0
Dell Piece West	260	7.3	47	1.78
Hazleton Way	25	1.0	6	2.48

Figure 4. PM Peak

The results for the morning peak show that while actual traffic queues and delay are significantly less than originally predicted, delay on Catherington Lane is more than on the other approaches. The situation in the evening is similar in that actual queue length and delay is less than predicted, but what delay exists is more evenly distributed.

Catherington Lane trial – extended green phases

Following the survey in February 2008, local residents reported congestion continuing to increase, with delay on Catherington Lane in particular worsening. In response to their concerns, further traffic surveys were carried out in July 2008 to quantify the reported delay, and to evaluate the scope for improving access from Catherington Lane.

Two traffic surveys were carried out in July to assess delay, firstly with the existing timings operating, and subsequently with additional green time for Catherington Lane (50% extra). All other timings remained the same. The results of these surveys are summarised in figures 5 and 6 below.

	Operation of the traffic signals 3 July 2008		Operation of the traffic signals 10 July 2008 with additional green time for Catherington Lane	
	Ave Queue (metre)	Ave Delay / Veh (mins)	Ave Queue (metre)	Ave Delay / Veh (mins)
A3 Southbound	23	3.1	20	3.1
Catherington Ln	23	2.5	41	2.46
A3 Northbound	10	2.1	22	2.16
Dell Piece West	11	2.7	13	2.45
Hazleton Way	33	2.75	37	1.9

Figure 5. AM Peak

	Operation of the traffic signals 3 July 2008		Operation of the traffic signals 10 July 2008 with additional green time for Catherington Lane	
	Ave Queue (metre)	Ave Delay / Veh (mins)	Ave Queue (metre)	Ave Delay / Veh (mins)
A3 Southbound	23	2.39	32	3.15
Catherington Ln	19	2.33	21	2.26
A3 Northbound	6	1.95	24	3.2
Dell Piece West	52	2.35	96	3.05
Hazleton Way	36	1.58	10	1.85

Figure 6. PM Peak

The increased green time on Catherington Lane (50% extra) had no significant impact on delay on this approach, while delay on the other approaches increased marginally, confirming that the queues and delay here are more a function of the red time rather than the green time.

The results of the latest surveys in July 2008 show a general increase in delay compared with the surveys undertaken in February, with the most noticeable increase on Dell Piece West. Delay on Catherington Lane has in contrast reduced marginally, although the actual queue length building up over the red period has increased.

Figure 7 below compares the traffic flows in 2004 with those surveyed in July 2008. On the A3 Southbound, traffic flows have reduced marginally in the AM peak, but increased significantly in the PM peak. This is also true of traffic flows on Dell Piece West. On the A3 Northbound, flows have decreased during both peak periods. In contrast, on Catherington Lane, flows have increased during both peak periods.

	2004 AM	2008 AM	2004 PM	2008 PM
A3 Southbound	389	347	158	419
Catherington Lane	299	442	178	328
A3 Northbound	940	674	753	555
Dell Piece West	434	391	462	897
Hazleton Way	72	No data	63	No data

Figure 7. 2004, 2008 traffic flows

Night time operation

There have been some reports that the signals do not operate correctly overnight, taking a long time to change in the absence of traffic. The signals are continuously monitored electronically, and it is possible to log this data to record actual stage change

times. This has been done on a number of occasions, responding to reported problems, but the problem has not occurred.

A site visit was then carried out on 31 July 2008 (00:00 – 01:30) to verify that there were no operating issues that the electronic monitoring would have been unable to detect. Throughout this period the junction was quiet, and in the majority of cases cars approaching the junction did not have to wait for the signals to cycle through successive stages before receiving right of way. The actual dwell time was then equal to the minimum intergreen period as the signals changed from the stage operating (generally the A3) to service the road the car was approaching on.

The minimum intergreen period between two roads is fixed, but varies depending on the actual roads losing and receiving right of way. Consequently the dwell time on the different approaches is not the same, although the variability is only a few seconds.

In the absence of traffic, motorists may expect the change to be instantaneous, and it may be this expectation that underlies the reported faults. Although the signals were observed to operate correctly, at very quiet times such as overnight, then a delay of 8 to 10 seconds probably appears unnecessary. This issue is common to all signal installations, but may be more pronounced here because of the size of the junction, which dictates longer intergreens than may be required elsewhere.

Signal cycle and bus priority

Changes are being made to the operation of the bus priority to reduce the consequential effect for traffic on Catherington Lane, Dell Piece West and Hazelton Way. At present, when a bus is detected on the A3 southbound, whatever traffic running at the time stops to allow the bus through the junction. Following the operation of the bus priority, right of way is retuned to the A3, possibly missing out other approaches that cycle. This is being changed such that right of way returns to the next point in the cycle, reducing the likelihood of traffic being stopped for successive cycles. While the overall impact is likely to be small with the present service frequency, it will reduce the maximum delay for traffic on Catherington Lane, Dell Piece West and Hazelton Way. The present operation of the bus priority may account for the long delay reported here, which is at odds to the average delay recorded by the surveys.

Comments have been received regarding the time taken for a pedestrian to cross successive carriageways. The crossings here operate with other, non-conflicting traffic movements, and as such the time between a pedestrian pressing a pushbutton and the crossing operating will depend on the volume of traffic and the number of intervening stages in the cycle before the stage occurs in which the crossing operates.

CCTV will operate here, enabling engineers to more regularly monitor the junctions. It will be possible to record the CCTV, giving a more complete picture of the junctions' performance than is possible with ad-hoc site inspections, and with the CCTV able to record at specific times, engineers will be able to respond to reported problems occurring outside of the normal working pattern.

Summary

Figures 8 and 9 below compare the observed situation in 2004 with that observed on 3 July 2008. The 2004 delay data is incomplete, but it is possible to compare average queue lengths. This indicates that during the morning peak, queues on Dell Piece West and Hazleton Way are approximately the same now as in 2004. Queues on the A3 and Catherington Lane have all decreased significantly. In the evening peak, with the exception of Dell Piece West, queues remain approximately the same. On Dell Piece West however, a significant reduction in queue length has been achieved.

	Existing junction, 2004 (observed)		Operation of the traffic signals 3 July 2008	
	Ave Queue (metre)	Ave Delay / Veh (mins)	Ave Queue (metre)	Ave Delay / Veh (mins)
A3 Southbound	94	3.3	23	3.1
Catherington Ln	150	2.6	23	2.5
A3 Northbound	155	2.2	10	2.1
Dell Piece West	12	No data	11	2.7
Hazleton Way	39	No data	33	2.75

Figure 8. AM Peak 0800-0900

	Existing junction, 2004 (observed)		Operation of the traffic signals 3 July 2008	
	Ave Queue (metre)	Ave Delay / Veh (mins)	Ave Queue (metre)	Ave Delay / Veh (mins)
A3 Southbound	31	No data	23	2.39
Catherington Ln	14	No data	19	2.33
A3 Northbound	22	No data	6	1.95
Dell Piece West	737	No data	52	2.35
Hazleton Way	12	No data	36	1.58

Figure 9. PM Peak 1700-1800

Conclusions

The new traffic signals have proved contentious, principally because of the additional delay believed to exist now compared with the roundabout they replaced, which may be a perception based on the stop-start queuing at the traffic signals compared with the slow moving queues more typical of roundabouts. The actual delay encountered by road users is, however, on average less than before.

The February survey shows that delay on Catherington Lane at this time was on average greater than on other approaches, and may underlie the perception that delay here was a particular concern. There is also more traffic now using Catherington Lane

compared with 2004, which may account for the road appearing busier. The subsequent surveys in July suggest delay here is more balanced.

The increased green time on Catherington Lane (50% extra) did little to reduce delay on this approach, while delay on the other approaches increased marginally, confirming that the queues and delay here are more a function of the red time than the green time. This suggests further alterations would be unlikely to reduce average delay.

With the exception of the PM peak period, traffic flows on the A3 have decreased, and this may account for some of the reduced delay on these approaches. The reduced delay on Catherington Lane and Dell Piece West may be the result of the more controlled access they now have.

The physical constraints of the junction limit the flexible operation of the signals, giving the impression that they operate inefficiently. This inefficient operation is most prevalent off-peak when traffic levels are lightest. Given the reduction in observed delay in 2008 compared with 2004, and the reduction in traffic on the A3 during peak periods, it is possible that the off-peak situation is in reality more of a bone of contention here.

Comments have been received that the signal operation overnight appears particularly inefficient. Remote monitoring and actual observations have failed to identify any problem. A perception of inefficient operation may in part be explained by the rigid coordination required in mitigation of the sub-standard visibility, which limits the flexibility to respond to traffic more rapidly.

The inconsistent number of signal stages at the two junctions adds to the perception that they are incorrectly sequenced. This is most noticeable on the A3 Portsmouth Road, northbound approach adjacent to Hazleton Way, and on Hazleton Way itself. The yellow box junction here, which is intended to prevent traffic on the A3 blocking egress from Hazleton Way, has caused some confusion, principally for Hazleton Way traffic that cannot see whether their exit will be blocked as they approach the signals. The sequence of the signals has been set to ensure Hazleton Way traffic can exit, and observations at the junction suggest the coordination between the two junctions works well. Nevertheless, the uncertainty motorists experience is a consistently reported concern.

Recommendations

1. Actual traffic queues and delay here will be monitored, and the signal timings adjusted as necessary to keep this to a minimum, consistent with the objective of improving bus journey time reliability.

2. It would be possible to alter the way the signals operate in very quiet periods e.g., overnight. Currently the signals rest on the A3 Northbound and Southbound ahead movements in the absence of traffic, which gives the best priority to the busier route through the junction. This necessitates a full intergreen period when changing right of way to another approach. It would be possible to have the signals rest on all-red, in which case the signals would change more swiftly (leaving amber period from the A3 would be omitted). While this would make the signals appear more responsive to drivers on Dell Piece and Catherington Lane,

it could appear to drivers on the A3 as a fault if their expectation is that traffic signals should rest on the main road, as is common practice. It is recommended that the night time phasing is not altered to avoid creating new delays on the main, through route.

Examine scope to give more priority to pedestrians off-peak, and for a short periods within the AM peak to cater for school children

Appendix F: Lessons Learned from the Development, Design and implementation of the A3 ZIP Corridor project

The Project Term Contract

Whilst the idea of a Term Contract for phased delivery is sound, there were some shortcomings in this instance because designs were not completed on time, and the original specification changed so significantly over the six-year construction period.

Furthermore, owing to the form of contract, too many contractual mechanisms led to additional payments being triggered as progress deviated from the original planned programme. Given the issues with this scheme, the plan changed so often as to cause a significant funding shortfall, leading to the later phases having to be reduced. Lessons have already been taken from this, and this type of contract is no longer operated for construction projects.

Sustainability

The waste reduction approach taken in this project has been so successful that it has been adopted for the delivery of Fareham to Gosport BRT [Phase 1] and should be standard practice across all infrastructure projects from the start.

Route Manager

The need to maintain a focus on the overall route development, particularly during construction, is a key learning point. A Route Manager with responsibility for the 'feel' of the project, as well as ownership of the scheme will address many of the problems identified. The need for a Route Manager on any major passenger transport project such as this is considered to be essential, if the asset is to be successfully promoted as a passenger transport service, rather than an engineering solution.

Stakeholders

Stakeholders have remained loyal to the project. It would be useful to investigate opportunities for Portsmouth City Council to use Hampshire's framework contract for procurement of RTPI on their section of the route, which would be beneficial for all users and improve consistency and branding.

Risk Management

Risk and contingency were not well managed or costed during this project. Lessons have already been taken from this, and BRT 1a has a robust risk register which is regularly updated and evaluated. The key elements from this approach have been taken and scaled down to suit smaller projects, and is being implemented across all transport infrastructure projects.

Communications and Promotional Activities

By far, the most efficient communication tool is the internet. A dedicated web site (or pages) on Hantsweb is cheap and easy to update, and should be standard for all large or contentious projects. Going forward, communication via ‘Twitter’ and ‘HantsPlayer’ should also be considered as standard alongside traditional promotional material.

An animated computer visualisation of Cowplain was well received during the consultation phase of stage 4 of the project. The benefits and lessons learnt have migrated on to the BRT project, where a more complex drive through of the busway was used to inform the Gosport peninsula. This is due to be refreshed and it continues to promote the BRT brand image.

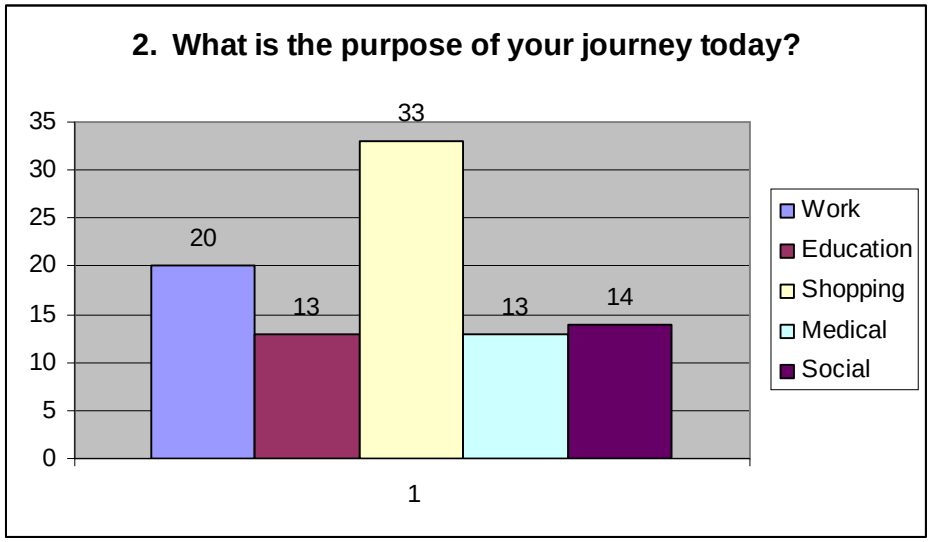
Marketing should be a considered strategy, delivered within a planned and budgeted programme with measurable outputs that reflect the ‘feel’ of the project.

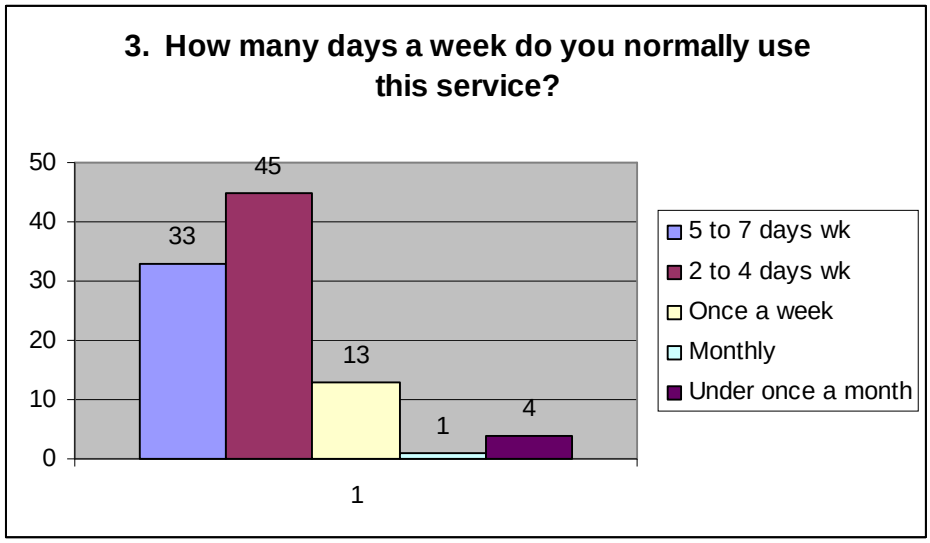
Maintenance

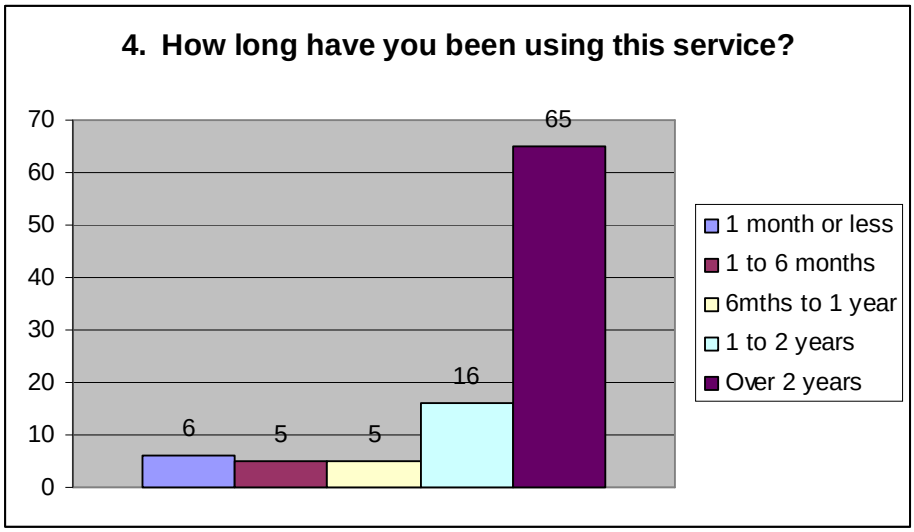
Financial allocations for maintenance of high-profile projects such as this should be specific for a pre-determined period, so that positive public perception can be maintained during that timeframe. High quality, expensive kit can be expensive to maintain and short-lived. Clear and specific asset management planning should be standard on any high-quality, or bespoke item.

The use of tried-and-tested materials will keep maintenance costs to a minimum if a specific maintenance budget for high-quality items is not possible.

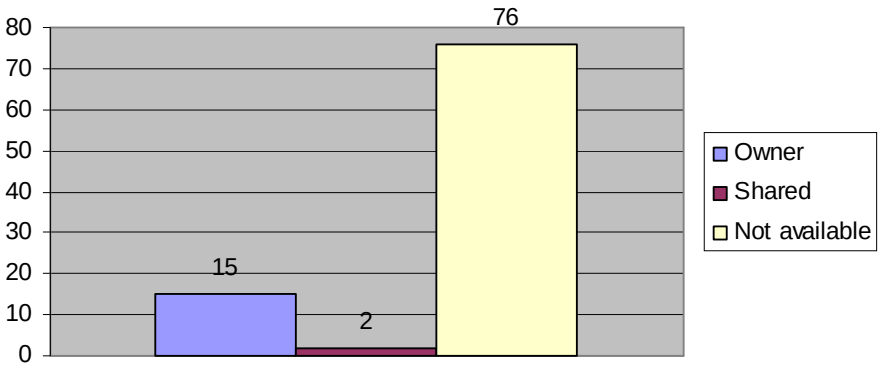
Appendix G: Results of Passenger perception surveys Nov 2010



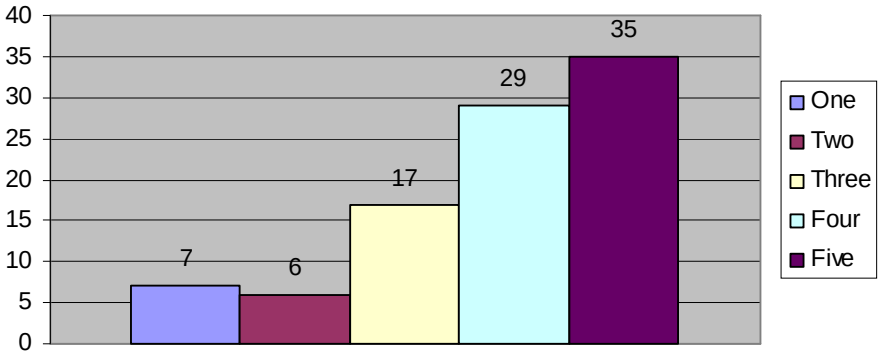




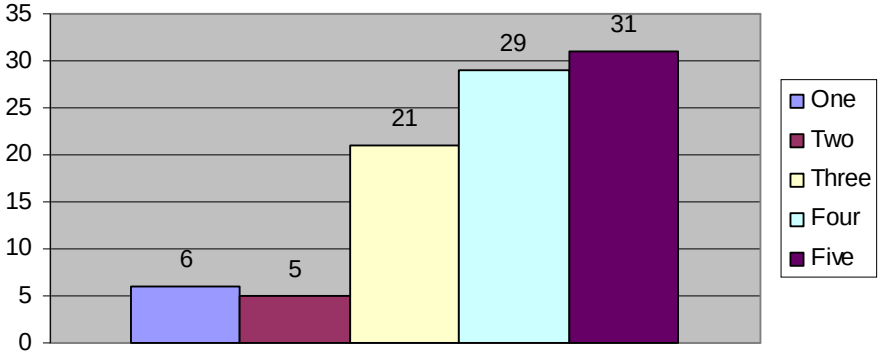
5. Do you have a car you could have used for this journey today?

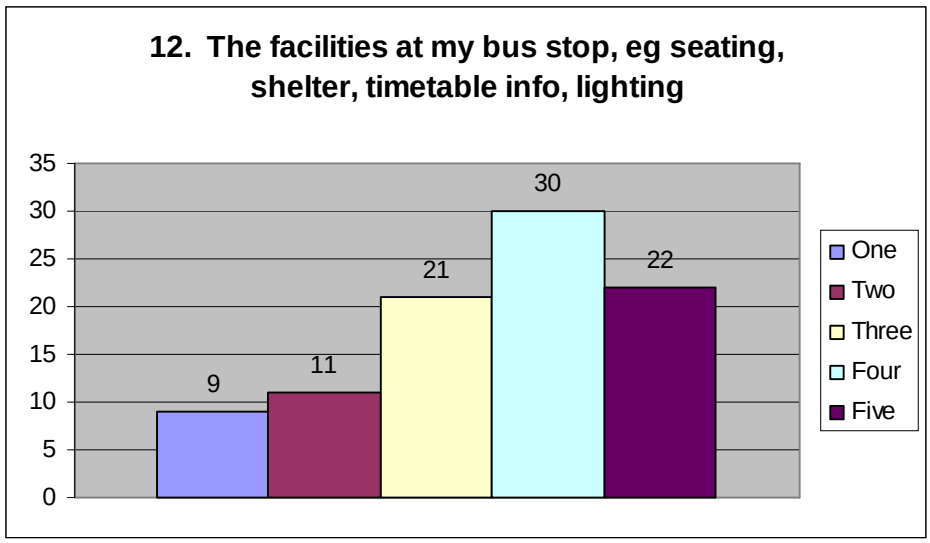


8. The bus lanes have made my journey more reliable (1 = poor, 5 = good)



9. The bus lanes have reduced my journey time by bus (one = low, five = high)

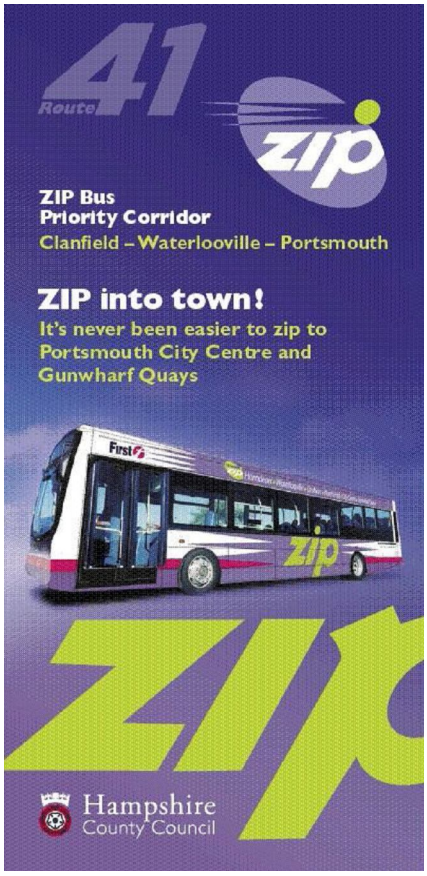


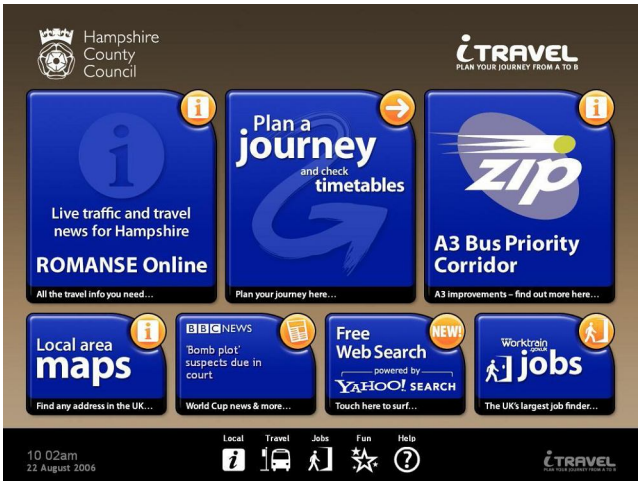

12. The facilities at my bus stop, eg seating, shelter, timetable info, lighting
35
30
25
20
15
10
5
0
9
11
21
30
22
One
Two
Three
Four
Five

Appendix H
Scheme Images

Appendix I : Branding, Marketing and Identity Material


First
Horndean • Waterlooville • Cosham • North End • City Centre • Gunwharf Quays
EVERY
15 mins
zip
FirstDay
Hampshire
£3.70


Route 41
zip
ZIP Bus
Priority Corridor
Clanfield – Waterlooville – Portsmouth
ZIP into town!
It's never been easier to zip to Portsmouth City Centre and Gunwharf Quays
First
zip
Hampshire
County Council


Hampshire
County
Council
iTRAVEL
PLAN YOUR JOURNEY FROM A TO B
Live traffic and travel news for Hampshire
ROMANSE Online
All the travel info you need...
Plan a journey and check timetables
Plan your journey here...
zip
A3 Bus Priority Corridor
A3 improvements – find out more here...
Local area maps
Find any address in the UK...
BBC NEWS
'Bomb plot' suspects due in court
World Cup news & more...
Free Web Search
NEW!
powered by YAHOO! SEARCH
Touch here to surf...
Worktrain
jobs
The UK's largest job finder...
10 02am
22 August 2006
Local
Travel
Jobs
Fun
Help
iTRAVEL

Appendix J:- Proposed South East Hampshire Bus Rapid Transit