



Appendix A Workshop Report

TECHNICAL NOTE

March 2013



Client Northumberland County Council
Project Managing Morpeth's Transport
Title Workshop Summary and Next Steps

1 INTRODUCTION

1.1 This Note has been prepared by Phil Jones of PJA to summarise the Workshop held on the 'Managing Morpeth's Transport Study' on 4 March 2013 and to explain the remaining steps required to take forward Managing Morpeth Transport Study.

2 BACKGROUND TO THE STUDY

2.1 Significant concerns were raised by the public and other stakeholders following the replacement of the mini-roundabout markings with traffic signals at the junction of Telford Bridge, Damside and Bridge Street in the centre of Morpeth, in April 2012. These works were funded by the developer who was required to satisfy a planning condition attached to the granting of planning permission for a new supermarket at Lower Stanners. The analysis and design of the signals was carried out by Aecom, consultants to Dransfield, and were reviewed technically by officers at Northumberland County Council.

2.2 The principal concerns raised by the public in connection with the traffic signals are:

- Increased delays to motor traffic, leading to increased flows on more minor routes around the town centre.
- The tightness of the junction layout.
- The perceived increased risk of collisions.
- Increased delays to pedestrians at the associated signal crossings.
- The negative effect of the traffic signals on the street scene at this important gateway to the town centre.

- The adverse effect of the traffic signals on retailers and other businesses in the centre.

PJA's brief is to conduct an independent review of the operation of the junction and the local transport networks serving the town. The terms of reference of the study are as follows:

- To engage with and involve people and groups in the town who are vocal in their views and feel that their voices are not being properly heard;
- To examine and agree what the traffic and movement network in Morpeth should and shouldn't provide to its users, be they motorists, pedestrians, cyclists or delivery vehicles, and express these commonly held views through a hierarchy of users and a series of agreed objectives for the town's transport network;
- To examine the current transport system in Morpeth and see where these objectives are failing; and critically
- To assess a full range of options for altering the transport network in Morpeth in the immediate term, in the medium term (the period between the superstore opening and the bypass being completed) and the long term (once the bypass is opened).

2.3 The study is being overseen by a steering group which includes representatives of the County Council (Officers and Members), Morpeth Town Council, the Chamber of Trade, Dransfield Properties (and their representatives Aecom) and the Lights Out campaign group.

3 WORKSHOP ARRANGEMENTS

3.1 The purpose of the workshop, which took place at Morpeth Corn Exchange on 4th March 2013, was to explore the issues and options for transport in Morpeth in greater detail. It was attended by representatives of the Working Group together with other bodies with an interest in the transport networks of the town.

3.2 These comprised the Emergency Services, King Edward School (pupils and staff), Arriva Buses, Taxi trade reps, SEN Rail User Group and Sustrans. Other bodies who were invited but were not able attend were St Georges Church, Morpeth First School, Castle Morpeth Disability Action Group, Morpeth Civic Society, Morpeth Development Trust and Living Streets.

3.3 The key aims of the workshop were to identify and as far as possible to agree:

- The aims and objectives of any proposed changes to Morpeth's transport networks;
and
- Potential options for further investigation

3.4 The discussions at the workshop considered both the existing problems in the town together with the challenges and opportunities presented by planned changes, such as the completion of the bypass and the anticipated housing and other developments.

Links with the Neighbourhood Plan

3.5 Morpeth Town Council is presently preparing a Neighbourhood Plan, which will shape and guide development in the town. Work on the local plan is being carried out under four topic headings (Housing, Local Economy, Heritage and Local Environment). Transport is a 'cross-cutting issue' which has a bearing on all of them. This workshop was therefore also intended to help to the Town Council in informing their work on the Neighbourhood Plan.

Arrangements

3.6 Delegates at the workshop sat in four mixed groups, which worked together to discuss the issues and come to conclusions. These were fed back to the whole workshop in feedback sessions, which Phil Jones summarised on a flip chart. These flip chart notes have been transcribed and are in Appendix A to this Note.

3.7 The timetable for the event was as follows:

9.30 *Refreshments available*

10.00 Welcome, Housekeeping and Introductions

10.10 The study & key issues identified thus far – Phil Jones presentation

10.30 Roundtable Discussion 1:

What should be the overall aims and specific objectives for transport in Morpeth?

11.00 Feedback Session 1

11.15 *Refreshment Break*

11.30 Data gathered so far – Phil Jones presentation

11.45 Roundtable Discussion 2:

What are the present problems, and what is working well?

- 12.15 Feedback Session 2
12.30 *Lunch Break*
13:00 Planned changes – presentations by Phil Jones (transport) and Graeme Trotter (Neighbourhood Plan)
13.20 Roundtable Discussion 3:
What will be the effect of these planned changes on Morpeth's transport networks?
Are there other important changes and challenges that haven't been identified?
13.45 Feedback Session 3
14.00 *Refreshment Break*
14.15 What kind of changes could be considered? - Phil Jones presentation
14.25 Roundtable Discussion 4:
What options should be considered for improving Morpeth's transport networks?
15.05 Feedback Session 4
15.20 Final Discussion and Conclusions on the Workshop
15.30 Thanks and Close

Workshop Presentation

3.8 The whole presentation given by Phil Jones during the course of the workshop is included in Appendix B.

4 SUMMARY OF DISCUSSIONS AND OUTCOMES

1: What should be the overall aims and specific objectives for transport in Morpeth?

4.1 Following a brief presentation by Phil Jones on the background to the study, groups then considered what would represent success for the town's transport networks.

4.2 There was much agreement in between the groups, which identified a series of aims and objectives for the town. It was recognised that there will always be some traffic congestion in the centre – that is where the shops and businesses are, which need to be supported - but it was felt that this should be predictable so that people can live with it. The aim should be for traffic to flow evenly but slowly, and there was some support for introducing 20mph speed restrictions

4.3 More needs to be done to encourage travel by modes other than the car – walk, cycle, bus and rail - and some types of motor traffic should be reduced if possible; through traffic, HGVs and

school run traffic were identified. The town centre should be safe, have good air quality and be attractive, helping to bring in tourists. Car parking should be easy to use with short term parking in the centre and longer stay parking further out.

4.4 Overall, a balanced and flexible strategy needs to be established, which considers a broad range of objectives. Good access by motor traffic is important, but is not the only factor that needs to be considered.

2: What are the present problems, and what is working well?

Presentation

4.5 This session began with a presentation by Phil Jones on the information that has been gathered so far in the study.

4.6 Traffic data provided by the County Council has shown that since the introduction of the traffic signals there has been a significant reduction in traffic flow across Telford Bridge, particularly in the northbound direction. Northbound flows have fallen by some 15% in the morning peak and 27% in the afternoon peak, and around 17% over 24 hours (all weekdays). The reduction in southbound flow is lower, but still amounts to some 10% over 24 hours.

4.7 Traffic flows on the alternative route between the A197 at the Sun Inn and Bridge Street via Curly Kews have increased. Northbound weekday flows at St Mary's Field are some 34% higher over 24 hours, although the absolute increase is relatively small at around 750 vehicles. The southbound increase over 24 hours is slightly less in percentage terms, at 25%. The largest percentage impact is 65%, southbound during the PM peak, although this is only 67 vehicles per hour, so just over one per minute. There has been little change in traffic on the A197 further out at Clifton, in both directions.

4.8 Northbound flows on the A192 at Stobhill have shown little change in the AM peak, but there has been a decline in southbound traffic, at around 11% over 24 hours.

4.9 Looking at the routes to the north of the town centre, flows on Howard Road have declined overall, although there has been a slight increase in eastbound traffic. Flows on Copper Chare in the westbound direction have declined quite significantly, at around 30% over 24 hours. These

changes may well be associated with the opening of the route through Stanley Terrace to through traffic, which has provided some relief to these residential streets.

4.10 In contrast, however, there has been an increase in traffic on Dacre Street, with a rise over 24 hours of 42% (westbound) and 17% (eastbound). Traffic flow westbound in the morning peak has more than doubled, although again the absolute number of movements over the hour (84) is not particularly high.

4.11 Further out, on the A197 at Whorral Bank, flows have not changed significantly in the northbound direction, although there has been an 11% decline in southbound traffic over 24 hours.

4.12 The overall picture then is that since the introduction of the new junction arrangements there may have been to a reduction in northbound traffic flow over Telford Bridge, with an increase in the use of the alternative route via Curly Kews. There may have been a similar increase in other routes, for example High House Lane/Milford Lane and further data is being collected. Any reductions seem to be in locally-generated trips, as the number of vehicles entering and leaving the town have not changed as much.

4.13 The County Council has also gathered video data on the junctions at Telford Bridge/Bridge Street, Mafeking Roundabout and Dacre Street/A197/Supermarket access, for three days between Thursday 22nd November and Saturday 24th November.

4.14 These videos showed congestion on the approach to Telford Bridge which extended back to Mafeking Roundabout during the AM peak hour and until around 9.40am. There was no significant congestion during the daytime, however. Data from these video surveys is being extracted.

In safety terms, there have been no recorded (injury) accidents at the junction and the Police do not believe it to be unsafe, but they do consider that the junction is tight for long vehicles. PJA's tracking assessments have confirmed this, and it has been noted that there has been some damage to street furniture.

Discussion

4.15 The discussion which followed reflected concerns over congestion and rat-running, as well as the other problems identified at the junction. In terms of transport networks more generally, although bus services to and from the town were considered to be good (other than from the surrounding villages), as well as the new bus station, the lack of a local 'Hopper' service and poor

integration with the railway station were felt to be problems. Facilities for cyclists were said to be poor along some of the busy routes, only confident and fit people would cycle around the town and provision for disabled people is not good.

4.16 The shops and facilities in the town centre were identified as key assets, and the economy was thought to be doing well. People were proud of their town and thought it to be an attractive place to visit and live although there is too much highway clutter. Parking was an area of concern though – both the amount (although the new Morrison's car park will help), the signage and the method of payment needed to be looked at.

3: What will be the effect of these planned changes on Morpeth's transport networks? Are there other important changes and challenges that haven't been identified?

Presentation

4.17 The third session looked forward, and Graeme Trotter of the Town Council explained how the Neighbourhood Plan is being produced, which will help to shape the future development of the town. Although the amount of development is still being considered, it is expected that there will be a significant increase in housing, particularly on the northern side of the town.

4.18 It was noted that under Community Infrastructure Levy (payments by developers) is expected to create an income stream for the Town Council, since 25% of the moneys will be given to the local community when the Neighbourhood Plan is produced and approved. It is therefore feasible that the NP process can identify deliverable transport improvements which will mitigate the impact of the planned developments.

4.19 Phil Jones then summarised the results of traffic modelling carried out by the County Council into the effect of the planned Northern Bypass, which will link the A1 and the A197 (due for completion in 2015), together with the additional development.

4.20 These analyses show that although the bypass will itself relieve traffic in the town centre by around 20%, traffic generated by the planned development has the potential to leave the town no better off than at present, assuming that the travel choices of the new and existing residents are the same as now.

Discussion

4.21 The subsequent discussion began to consider the challenge of additional planned growth, and although it was felt that it would be difficult (particularly with the type of households that would be attracted to the new development) it was important that some shift away from car use was necessary. A better distribution of new school places to reduce the need for pupils to cross the river would be helpful in reducing school run traffic.

4.22 Another key challenge that must be faced is the need to repair Telford Bridge in the near future. The bridge is not watertight and this has the potential to affect its structural integrity, although it is safe for HGVs to use at the moment. The County Council are hoping that the upgrade can be postponed until the Northern Bypass is completed. Even then, the repairs will require the temporary closure of the bridge to traffic. A temporary bridge will be provided if possible, but this depends on private land between Goose Hill and the river, which has planning consent for housing, remaining undeveloped.

4.23 Rail use has grown and is expected to continue to grow, particularly for trips into Newcastle, which is continuing to discourage access to the city centre by car. The proposed 'Blue Sky' holiday development will hopefully bring more visitors to the town.

4. What options should be considered for improving Morpeth's transport networks?

4.24 The workshop then considered the options that should be considered, both for the key Telford Bridge junction (which will be looked at as part of this study) and more generally through the Neighbourhood Plan process.

Presentation

4.25 Phil Jones gave a short presentation setting out some of the options that could be considered, including:

- New road links
 - Second river crossing, parallel to Telford Bridge
 - Second river crossing, Bankside to A197
 - A192 to A197

- Town centre traffic management options
 - One way systems
 - Pedestrianisation/pedestrian priority

- Signing Manchester St/Stanley Terrace for through traffic
- Improved car and cycle parking
- Improvements to walking, cycling and public transport networks
- Telford Bridge Junction
 - Maintain existing arrangements
 - Synchronise pelican crossing at Goose Hill with signals
 - Reinstate mini-roundabout
 - Shared Space treatment

4.26 There was considerable consensus from the delegates about the options that should be considered through this study and the Neighbourhood Plan.

4.27 In terms of public transport, it was agreed that a hopper bus around the town and linking to the railway station would be beneficial, although there were concerns over the viability of such a service. Nevertheless, it could be considered, possibly at least in part through a community bus service. Better integration between bus and rail should be explored, particularly in view of the planned improvements to the rail service and the anticipated continued growth in rail passenger numbers.

4.28 More needs to be done in terms of cycling, which could be used for many local trips to the town centre and for journeys to school. Conditions are presently poor for cycling, but there are opportunities to improve existing off-highway walking links to allow them to be used by cyclists, particularly routes parallel to the river and rising gently up to the housing areas to the north and south. More cycle lanes and tracks on the main highways could also be provided. Investment in the cycle network should also be achieved through the new developments, which should be linked to and form part of it.

4.29 There was a general view that the one-way system that had operated during the services diversion works in 2012 had worked reasonably well for traffic and could be looked at again, although it had had an adverse effect on bus routings. Making traffic one-way around the town centre would reduce conflict at the key Telford Bridge junction and would enable narrower carriageways/wider footways to be provided. The impact on cyclists and the potential for increased traffic speeds would also need to be investigated. Another option would be to make only Bridge Street one-way, leaving the other routes around the town centre as two-way. That option would have less impact on bus routings.

4.30 For the Telford Bridge junction itself, while Shared Space was seen as a possible solution in the longer term, which could smooth traffic flow and would lead to a much improved

environment, there were some concerns over the effect on vulnerable pedestrians who would lose the signalised crossings. More work would need to be done to develop such an option, with further consultation, particularly with vulnerable groups such as the visually-impaired.

4.31 The potential to reinstate a mini-roundabout junction was also discussed. The workshop participants felt that it would be possible to remove the signals and put in a temporary mini-roundabout design without extensive works and at a fairly low cost as a trial). In the longer term a permanent reinstatement of the roundabout could also be considered.

4.32 The final set of solutions discussed involved new road schemes. Although a new bridge parallel to Telford Bridge was seen as the most desirable solution, it was unlikely that sufficient funding could be found to acquire the land and to construct the bridge. The partly-completed link between the A192 and A197 was felt to be more achievable, and should be considered as a possible element in an overall package of improvements.

5 NEXT STEPS

5.1 Phil Jones thanked the workshop participants for their valuable contribution to the day, which had been very productive. Their views and ideas on potential transport improvements will feed into both the Neighbourhood Plan and the review of the transport arrangements in Morpeth.

5.2 Following the workshop, discussions have taken place between the County Council and Phil Jones over the further work that needs to be done to finalise this study

The County Council needs to consider financial, legal and safety implications before making any decisions. In the light of this PJA has recommended that micro-simulation modelling of the various options for the junction should be carried out as quickly as possible. This remaining work will consider a range of traffic flows, comprising:

- Existing observed flows
- Previous flows (prior to introduction of traffic signals)
- Effect of forecast flows due to Morrison's

5.3 The options to be considered in the first instance will be:

- Existing traffic signals

- Traffic signals linked to pedestrian crossing at Goose Hill
- Mini-roundabout, (now with additional carriageway space due to widening)
- Shared Space (A visit to the similar scheme at Poynton will be arranged in the near future)

5.4 Based on the results of the modelling exercise and a set of recommendations, the County Council will then be in a position to determine whether a trial removal of the traffic lights is appropriate

5.5 This modelling is expected to be complete by the end of May, at which time the Council will be in possession of the relevant technical information to allow a decision to be made on the short term future of the Telford Bridge junction.

Appendix A – Flip Chart Notes

1 - What should be the overall aims and specific objectives for transport in Morpeth?

Group 1:

- Minimise/less through traffic
- Safe for everyone
- Ease of access
- Positive economically
- Courteous/considerate behaviour
- Minimise impact on heritage
- Priorities vary – balance/flexible

Group 2:

Balanced:

- Movement
- Aesthetics
- Keep in balance with new developments in the town – eg Farmers' Markets
- Fewer school run (and also all) trips
- Safety
- Air pollution

Group 3:

- Route to the bridge is key
- Keep people in the town centre, that's where the shops are
- Ease congestion
- Easy car parking – short term in the centre, longer outside
- Keep traffic evenly and more slowly
- More options to move around – bus, cycle, pedestrians – provide pedestrian spaces
- Consider 20mph limit
- Fewer/no HGVs
- Tourism

Group 4

- Predictable congestion – will always have some
- Good walk and cycle routes for all ages
- Attractive and safe town centre
- Encourage businesses
- Consider/enable alternative modes – bus and rail are underused

2: What are the present problems, and what is working well?

Problems	Working Well
<p><u>Group 1</u></p> <ul style="list-style-type: none"> • Street scene • Provision for disabled people • Rat runs through residential streets • Waiting longer at crossings, eg St George's Church • Safety at Market Place roundabout • Delivery and refuse lorries causing congestion • Poor appearance at Telford Bridge junction • Junction too tight 	<ul style="list-style-type: none"> • Route through Stanley Terrace • Route along High House Lane/Mitford Road – provides a 'bypass'
<p><u>Group 2</u></p> <ul style="list-style-type: none"> • Parking – payment system poor • Parking on residential streets outside town centre • Congestion and perception of congestion • Lack of bus routes • Train not attractive – too far out • Poor cycle connectivity • Too much clutter/signage 	<ul style="list-style-type: none"> • Better parking enforcement • Dacre St roundabout • Town Hall roundabout • Very attractive town – bucking economic trends • Shopper's permit • New bus station • Plenty of cycle parking • (Opportunities – pay by phone/on foot parking)
<p><u>Group 3</u></p> <ul style="list-style-type: none"> • Rail not well used • Poor signage to car parks • Disparity between car park charging across different towns (minority view) • Poor public transport around the town (possible Hopper Bus?) 	<ul style="list-style-type: none"> • Town is thriving • Good facilities • Effective spending by local authority • Sanderson Arcade

<p><u>Group 4</u></p> <ul style="list-style-type: none"> • Rat runs • Short/long term parking not well signed • Car parking 97% full • Bus station congestion in afternoon (school buses) • Poor rail/bus coordination • Poor conditions for cycling on main roads – no cycle lanes 	<ul style="list-style-type: none"> • Transport systems working quite well • Buses outside Morpeth good (but not to villages)
---	--

3: What will be the effect of these planned changes on Morpeth’s transport networks? Are there other important changes and challenges that haven’t been identified?

(All Groups)

- Telford Bridge needs to be upgraded within 5 years – structural problems
- Hopefully can be postponed until post-bypass and flood alleviation scheme
- Will require closure – Bailey bridge possible but depends on land availability
- Should seek Government funding for second bridge
- ‘Blue Sky’ (tourism) development will bring in more tourists
- Achieving modal shift will be a big challenge
- School run problem – need fewer river crossings
- Look at Education in Neighbourhood Plan
- New developments typically have low bus use
- Other towns (particularly Newcastle) are encouraging rail access – will increase rail demand at Morpeth. Rail use has already grown strongly, will increase
- Other towns have restrained traffic – eg Oxford, Cambridge – but Morpeth is much smaller

4. What options should be considered for improving Morpeth's transport networks?

Public Transport

- Shuttle bus, linking estates with town centre and railway station (Figure of 8?)
 - Commercial viability though?
- Better links to railway station with existing services
- Ashington - Blyth –Tyne train services planned from 2016
- Relocate taxi rank

Walking and Cycling

- Develop cycle strategy, open up existing walking routes to cycling
- As part of planning new development

Traffic Management

- One way systems could work in traffic terms
- Problem for buses though
- Possible Shared Space on Bridge Street
- One way on Bridge Street only?

Telford Bridge Junction

- Shared Space mini-roundabout – but leave pedestrian signals?
- Nervousness about pedestrian crossings
- Temporary roundabout – for 6 months, with 20mph zone
 - When?
 - Sooner, better
 - Morrison's not open until July or later
- Permanent roundabout – cost £70 to £100k

New Roads

- Parallel bridge – Land, ££
- A192 to A197 Link

Other

- Lorry ban
- Need to be tied to structural concerns
- Short term measure



Appendix B Summary of Traffic Data

Howard Road

EB - Before Signals (Apr '10)						WB - Before Signals (Apr '10)					
0800-0900	1500-1600	1700-1800	12Hr	24Hr		0800-0900	1500-1600	1700-1800	12Hr	24Hr	
94	136	157	1296	1514		270	187	221	1934	2204	
EB - After Signals (Jun '12)						WB - After Signals (Jun '12)					
0800-0900	1500-1600	1700-1800	12Hr	24Hr		0800-0900	1500-1600	1700-1800	12Hr	24Hr	
111	155	162	1383	1609		231	139	142	1564	1804	
Flow Diff	17	19	5	87	95	Flow Diff	-39	-48	-79	-370	-400
% Diff	18.1%	14.0%	3.2%	6.7%	6.3%	% Diff	-14.4%	-25.7%	-35.7%	-19.1%	-18.1%

Copper Chare

EB - Before Signals (Sep '07)*						WB - Before Signals (Sep '07)*					
0800-0900	1500-1600	1700-1800	12Hr	24Hr		0800-0900	1500-1600	1700-1800	12Hr	24Hr	
-	-	-	-	-		129	110	104	1092	1413	
EB - After Signals						WB - After Signals (Feb '13)					
0800-0900	1500-1600	1700-1800	12Hr	24Hr		0800-0900	1500-1600	1700-1800	12Hr	24Hr	
-	-	-	-	-		129	66	66	830	989	
Flow Diff	-	-	-	-	-	Flow Diff	0	-44	-38	-262	-424
% Diff	-	-	-	-	-	% Diff	0.0%	-40.0%	-36.5%	-24.0%	-30.0%

A197 Whorral Bank

NB - Before Signals (Mar '12)						SB - Before Signals (Mar '12)					
0800-0900	1500-1600	1700-1800	12Hr	24Hr		0800-0900	1500-1600	1700-1800	12Hr	24Hr	
877	479	383	5599	6549		294	435	493	4231	5169	
NB - After Signals (Feb '13)						SB - After Signals (Feb '13)					
0800-0900	1500-1600	1700-1800	12Hr	24Hr		0800-0900	1500-1600	1700-1800	12Hr	24Hr	
803	458	403	5531	6430		339	518	567	4899	5838	
Flow Diff	-74	-21	20	-68	-119	Flow Diff	45	83	74	668	669
% Diff	-8.4%	-4.4%	5.2%	-1.2%	-1.8%	% Diff	15.3%	19.1%	15.0%	15.8%	12.9%

Dacre Street

EB - Before Signals (Jul '07)						WB - Before Signals (Jul '07)					
0800-0900	1500-1600	1700-1800	12Hr	24Hr		0800-0900	1500-1600	1700-1800	12Hr	24Hr	
51	120	116	1178	1408		72	77	91	914	1088	
EB - After Signals (Feb '13)						WB - After Signals (Feb '13)					
0800-0900	1500-1600	1700-1800	12Hr	24Hr		0800-0900	1500-1600	1700-1800	12Hr	24Hr	
155	153	125	1549	1783		153	149	118	1467	1660	
Flow Diff	104	33	9	371	375	Flow Diff	81	72	27	553	572
% Diff	203.9%	27.5%	7.8%	31.5%	26.6%	% Diff	112.5%	93.5%	29.7%	60.5%	52.6%

A197 Telford Bridge

NB - Before Signals (Sep '11)						SB - Before Signals (Sep '11)					
0800-0900	1500-1600	1700-1800	12Hr	24Hr		0800-0900	1500-1600	1700-1800	12Hr	24Hr	
936	859	979	9914	11678		930	946	961	10160	12150	
NB - After Signals (Feb '13)						SB - After Signals (Feb '13)					
0800-0900	1500-1600	1700-1800	12Hr	24Hr		0800-0900	1500-1600	1700-1800	12Hr	24Hr	
764	708	739	8311	9950		861	840	872	9157	10912	
Flow Diff	-172	-151	-240	-1603	-1728	Flow Diff	-69	-106	-89	-1003	-1238
% Diff	-18.4%	-17.6%	-24.5%	-16.2%	-14.8%	% Diff	-7.4%	-11.2%	-9.3%	-9.9%	-10.2%

A192 Stobhill

NB - Before Signals (Sep '11)						SB - Before Signals (Sep '11)					
0800-0900	1500-1600	1700-1800	12Hr	24Hr		0800-0900	1500-1600	1700-1800	12Hr	24Hr	
474	534	624	5402	6422		583	520	590	5960	6910	
NB - After Signals (Feb '13)						SB - After Signals (Feb '13)					
0800-0900	1500-1600	1700-1800	12Hr	24Hr		0800-0900	1500-1600	1700-1800	12Hr	24Hr	
445	508	535	5016	5860		425	441	472	5266	6090	
Flow Diff	-29	-26	-89	-386	-562	Flow Diff	-158	-79	-118	-694	-820
% Diff	-6.1%	-4.9%	-14.3%	-7.1%	-8.8%	% Diff	-27.1%	-15.2%	-20.0%	-11.6%	-11.9%

St Mary's Field

NB - Before Signals (Mar '11)						SB - Before Signals (Mar '11)					
0800-0900	1500-1600	1700-1800	12Hr	24Hr		0800-0900	1500-1600	1700-1800	12Hr	24Hr	
178	193	282	1822	2170		200	136	103	1559	1875	
NB - After Signals (Jun '12)*						SB - After Signals (Jun '12)*					
0800-0900	1500-1600	1700-1800	12Hr	24Hr		0800-0900	1500-1600	1700-1800	12Hr	24Hr	
156	224	327	2436	2907		179	164	170	1962	2322	
Flow Diff	-22	31	45	614	737	Flow Diff	-21	28	67	403	447
% Diff	-12.4%	16.1%	16.0%	33.7%	34.0%	% Diff	-10.5%	20.6%	65.0%	25.8%	23.8%

A197 Clifton

NB - Before Signals (Mar '12)						SB - Before Signals (Mar '12)					
0800-0900	1500-1600	1700-1800	12Hr	24Hr		0800-0900	1500-1600	1700-1800	12Hr	24Hr	
692	355	532	4767	5686		516	418	513	5133	5955	
NB - After Signals (Sep '12)*						SB - After Signals (Sep '12)*					
0800-0900	1500-1600	1700-1800	12Hr	24Hr		0800-0900	1500-1600	1700-1800	12Hr	24Hr	
659	370	562	4676	5721		515	426	530	4663	5995	
Flow Diff	-33	15	30	-91	35	Flow Diff	-1	8	17	-471	40
% Diff	-4.8%	4.2%	5.6%	-1.9%	0.6%	% Diff	-0.2%	1.9%	3.3%	-9.2%	0.7%

* Time on ATC in september wasn't adjusted for daylight saving.

* Time on ATC in september wasn't adjusted for daylight saving.

PHIL JONES ASSOCIATES
transport planning consultants

Development

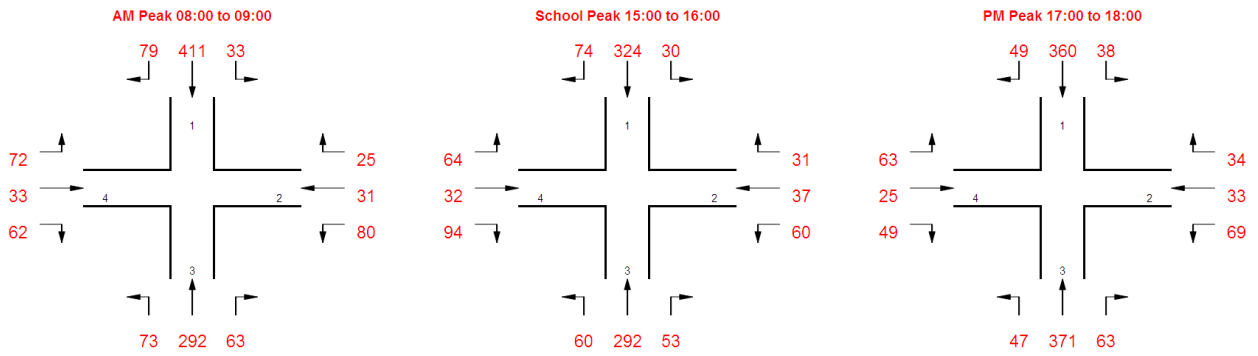
Morpeth Town Centre

Drawing Ref:

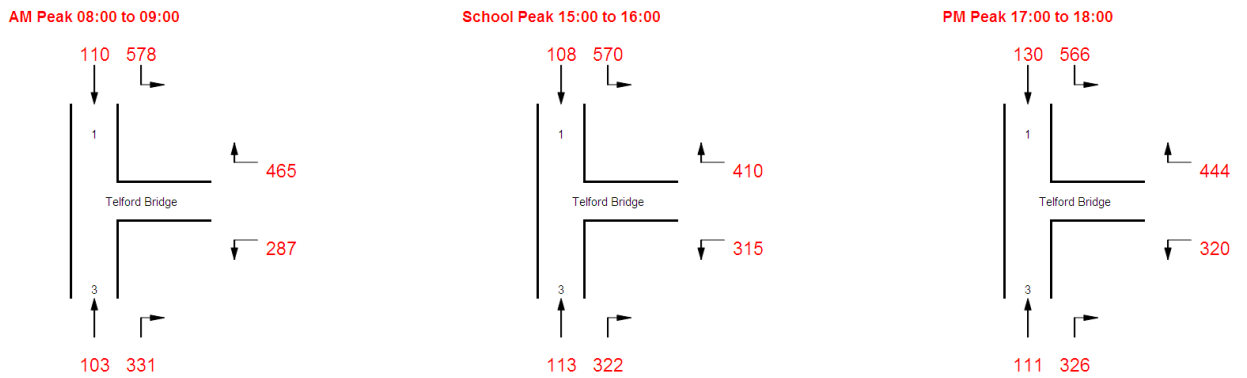
Traffic Data Locations

Date: 20/03/13	Scale: NTS	D:
Job Ref: 1020		Rev: -

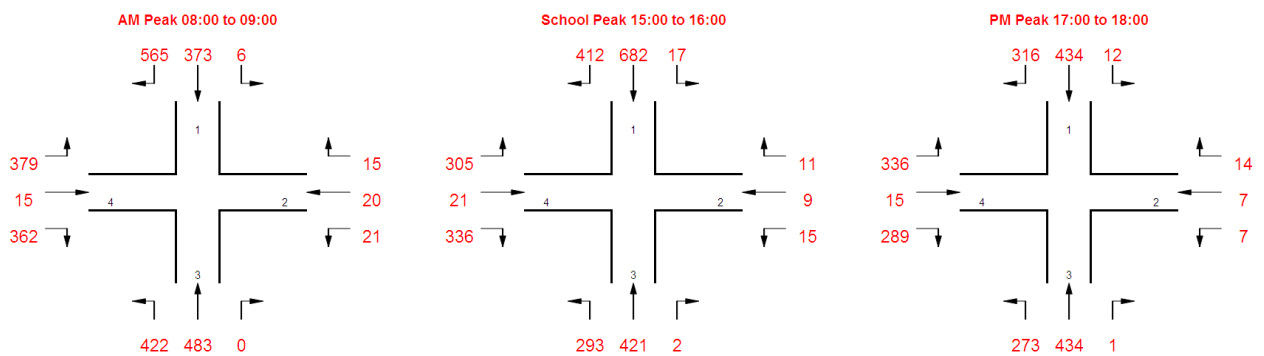
A197 Dark Lane / PFS / Dacre Street Mini R'bout (Friday 23rd November 2012)



A197 / A192 / Bridge Street Signalised Junction (Friday 23rd November 2012)



A192 Castle Bank / Bankside / Shields Rd / A197 R'bout (Friday 23rd November 2012)





Appendix C Journey Time Data

Route 1 - AM Peak, May 2013 - Sample of Journey Time Data

log	Time	Distance	Time Interval	Speed	Bearing	Grid Ref
11	17/05/2013 06:59	166 m	00:00:30	20 km/h	341° true	NZ 20677 84651
12	17/05/2013 07:00	394 m	00:00:30	47 km/h	318° true	NZ 20623 84808
13	17/05/2013 07:00	377 m	00:00:30	45 km/h	333° true	NZ 20356 85098
14	17/05/2013 07:01	283 m	00:00:30	34 km/h	341° true	NZ 20185 85434
15	17/05/2013 07:01	181 m	00:00:30	22 km/h	352° true	NZ 20091 85701
16	17/05/2013 07:02	152 m	00:00:30	18 km/h	22° true	NZ 20064 85880
17	17/05/2013 07:02	287 m	00:00:30	34 km/h	359° true	NZ 20121 86021
18	17/05/2013 07:03	54 m	00:00:30	6 km/h	12° true	NZ 20117 86308
19	17/05/2013 07:03	0 m	00:00:30	0 km/h	0° true	NZ 20128 86360
20	17/05/2013 07:04	29 m	00:00:30	3 km/h	155° true	NZ 20128 86360
21	17/05/2013 07:04	236 m	00:00:30	28 km/h	187° true	NZ 20140 86334
22	17/05/2013 07:05	207 m	00:00:30	25 km/h	187° true	NZ 20111 86100
23	17/05/2013 07:05	283 m	00:00:30	34 km/h	166° true	NZ 20086 85895
24	17/05/2013 07:06	325 m	00:00:30	39 km/h	160° true	NZ 20156 85620
25	17/05/2013 07:06	409 m	00:00:30	49 km/h	153° true	NZ 20268 85315
26	17/05/2013 07:07	377 m	00:00:30	45 km/h	124° true	NZ 20452 84951
27	17/05/2013 07:07	88 m	00:00:30	11 km/h	216° true	NZ 20765 84740
28	17/05/2013 07:08	8 m	00:00:30	0.9 km/h	21° true	NZ 20714 84668
29	17/05/2013 07:08	292 m	00:00:30	35 km/h	317° true	NZ 20716 84675
30	17/05/2013 07:09	414 m	00:00:30	50 km/h	331° true	NZ 20514 84886
31	17/05/2013 07:09	269 m	00:00:30	32 km/h	327° true	NZ 20309 85246
32	17/05/2013 07:10	328 m	00:00:30	39 km/h	346° true	NZ 20160 85470
33	17/05/2013 07:10	157 m	00:00:30	19 km/h	22° true	NZ 20077 85787
34	17/05/2013 07:11	293 m	00:00:30	35 km/h	351° true	NZ 20135 85933
35	17/05/2013 07:11	143 m	00:00:30	17 km/h	17° true	NZ 20086 86222
36	17/05/2013 07:12	4 m	00:00:30	0.5 km/h	90° true	NZ 20128 86358
37	17/05/2013 07:12	170 m	00:00:30	20 km/h	191° true	NZ 20132 86358
38	17/05/2013 07:13	248 m	00:00:30	30 km/h	170° true	NZ 20101 86191
39	17/05/2013 07:13	204 m	00:00:30	24 km/h	196° true	NZ 20146 85947
40	17/05/2013 07:14	324 m	00:00:30	39 km/h	162° true	NZ 20089 85751
41	17/05/2013 07:14	366 m	00:00:30	44 km/h	153° true	NZ 20192 85444
42	17/05/2013 07:15	461 m	00:00:30	55 km/h	137° true	NZ 20357 85117
43	17/05/2013 07:15	124 m	00:00:30	15 km/h	161° true	NZ 20672 84780
44	17/05/2013 07:16	2 m	00:00:30	0.3 km/h	0° true	NZ 20712 84663
45	17/05/2013 07:16	5 m	00:00:30	0.7 km/h	270° true	NZ 20712 84665
46	17/05/2013 07:17	212 m	00:00:30	25 km/h	324° true	NZ 20707 84665
47	17/05/2013 07:17	406 m	00:00:30	49 km/h	323° true	NZ 20582 84837
48	17/05/2013 07:18	332 m	00:00:30	40 km/h	332° true	NZ 20335 85160
49	17/05/2013 07:18	210 m	00:00:30	25 km/h	345° true	NZ 20178 85453
50	17/05/2013 07:19	239 m	00:00:30	29 km/h	345° true	NZ 20123 85656
51	17/05/2013 07:19	129 m	00:00:30	15 km/h	33° true	NZ 20061 85887
52	17/05/2013 07:20	300 m	00:00:30	36 km/h	355° true	NZ 20132 85995
53	17/05/2013 07:20	70 m	00:00:30	8 km/h	18° true	NZ 20106 86293
54	17/05/2013 07:21	0 m	00:00:30	0 km/h	0° true	NZ 20128 86360
55	17/05/2013 07:21	130 m	00:00:30	16 km/h	197° true	NZ 20128 86360
56	17/05/2013 07:22	233 m	00:00:30	28 km/h	170° true	NZ 20090 86236
57	17/05/2013 07:22	174 m	00:00:30	21 km/h	199° true	NZ 20131 86007
58	17/05/2013 07:23	294 m	00:00:30	35 km/h	162° true	NZ 20074 85842

59	17/05/2013 07:23	327 m	00:00:30	39 km/h	156° true	NZ 20168 85563
60	17/05/2013 07:24	428 m	00:00:30	51 km/h	151° true	NZ 20302 85265
61	17/05/2013 07:24	327 m	00:00:30	39 km/h	130° true	NZ 20514 84894
62	17/05/2013 07:25	58 m	00:00:30	7 km/h	256° true	NZ 20767 84685
63	17/05/2013 07:25	6 m	00:00:30	0.8 km/h	41° true	NZ 20711 84670
64	17/05/2013 07:26	329 m	00:00:30	40 km/h	316° true	NZ 20715 84675
65	17/05/2013 07:26	411 m	00:00:30	49 km/h	333° true	NZ 20484 84910
66	17/05/2013 07:27	229 m	00:00:30	27 km/h	328° true	NZ 20295 85275
67	17/05/2013 07:27	286 m	00:00:30	34 km/h	342° true	NZ 20171 85467
68	17/05/2013 07:28	175 m	00:00:30	21 km/h	14° true	NZ 20081 85739
69	17/05/2013 07:28	243 m	00:00:30	29 km/h	354° true	NZ 20123 85909
70	17/05/2013 07:29	215 m	00:00:30	26 km/h	9° true	NZ 20094 86150
71	17/05/2013 07:29	5 m	00:00:30	0.6 km/h	196° true	NZ 20128 86363
72	17/05/2013 07:30	0 m	00:00:30	0 km/h	0° true	NZ 20126 86358
73	17/05/2013 07:30	63 m	00:00:30	8 km/h	191° true	NZ 20126 86358
74	17/05/2013 07:31	265 m	00:00:30	32 km/h	179° true	NZ 20114 86296
75	17/05/2013 07:31	144 m	00:00:30	17 km/h	195° true	NZ 20121 86031
76	17/05/2013 07:32	222 m	00:00:30	27 km/h	172° true	NZ 20083 85892
77	17/05/2013 07:32	268 m	00:00:30	32 km/h	163° true	NZ 20117 85673
78	17/05/2013 07:33	375 m	00:00:30	45 km/h	153° true	NZ 20199 85417
79	17/05/2013 07:33	425 m	00:00:30	51 km/h	136° true	NZ 20371 85084
80	17/05/2013 07:34	123 m	00:00:30	15 km/h	162° true	NZ 20667 84777
81	17/05/2013 07:34	5 m	00:00:30	0.6 km/h	300° true	NZ 20705 84660
82	17/05/2013 07:35	11 m	00:00:30	1.3 km/h	49° true	NZ 20701 84663
83	17/05/2013 07:35	0 m	00:00:30	0 km/h	0° true	NZ 20709 84670
84	17/05/2013 07:36	1 m	00:00:30	0.2 km/h	270° true	NZ 20709 84670
85	17/05/2013 07:36	171 m	00:00:30	20 km/h	327° true	NZ 20708 84670
86	17/05/2013 07:37	356 m	00:00:30	43 km/h	317° true	NZ 20614 84813
87	17/05/2013 07:37	354 m	00:00:30	42 km/h	332° true	NZ 20370 85072
88	17/05/2013 07:38	224 m	00:00:30	27 km/h	349° true	NZ 20203 85384
89	17/05/2013 07:38	235 m	00:00:30	28 km/h	339° true	NZ 20160 85604
90	17/05/2013 07:39	159 m	00:00:30	19 km/h	26° true	NZ 20074 85823
91	17/05/2013 07:39	168 m	00:00:30	20 km/h	346° true	NZ 20143 85966
92	17/05/2013 07:40	236 m	00:00:30	28 km/h	7° true	NZ 20101 86129
93	17/05/2013 07:40	4 m	00:00:30	0.4 km/h	229° true	NZ 20130 86363
94	17/05/2013 07:41	0 m	00:00:30	0 km/h	0° true	NZ 20128 86360
95	17/05/2013 07:41	30 m	00:00:30	4 km/h	153° true	NZ 20128 86360
96	17/05/2013 07:42	200 m	00:00:30	24 km/h	192° true	NZ 20141 86334
97	17/05/2013 07:42	247 m	00:00:30	30 km/h	176° true	NZ 20101 86138
98	17/05/2013 07:43	154 m	00:00:30	19 km/h	193° true	NZ 20119 85892
99	17/05/2013 07:43	310 m	00:00:30	37 km/h	162° true	NZ 20085 85742
100	17/05/2013 07:44	364 m	00:00:30	44 km/h	152° true	NZ 20185 85448
101	17/05/2013 07:44	448 m	00:00:30	54 km/h	139° true	NZ 20356 85127
102	17/05/2013 07:45	142 m	00:00:30	17 km/h	158° true	NZ 20654 84792
103	17/05/2013 07:45	31 m	00:00:30	4 km/h	247° true	NZ 20708 84660
104	17/05/2013 07:46	15 m	00:00:30	2 km/h	49° true	NZ 20679 84648
105	17/05/2013 07:46	63 m	00:00:30	8 km/h	30° true	NZ 20690 84658
106	17/05/2013 07:47	380 m	00:00:30	46 km/h	312° true	NZ 20722 84713
107	17/05/2013 07:47	326 m	00:00:30	39 km/h	336° true	NZ 20436 84965
108	17/05/2013 07:48	171 m	00:00:30	21 km/h	324° true	NZ 20303 85263
109	17/05/2013 07:48	190 m	00:00:30	23 km/h	349° true	NZ 20202 85401

110	17/05/2013 07:49	264 m	00:00:30	32 km/h	340° true	NZ 20164 85587
111	17/05/2013 07:49	183 m	00:00:30	22 km/h	18° true	NZ 20073 85835
112	17/05/2013 07:50	235 m	00:00:30	28 km/h	350° true	NZ 20128 86009
113	17/05/2013 07:50	126 m	00:00:30	15 km/h	19° true	NZ 20087 86241
114	17/05/2013 07:51	1 m	00:00:30	0.2 km/h	270° true	NZ 20128 86360
115	17/05/2013 07:51	92 m	00:00:30	11 km/h	196° true	NZ 20126 86360
116	17/05/2013 07:52	267 m	00:00:30	32 km/h	174° true	NZ 20102 86272
117	17/05/2013 07:52	143 m	00:00:30	17 km/h	205° true	NZ 20131 86007
118	17/05/2013 07:53	273 m	00:00:30	33 km/h	161° true	NZ 20070 85878
119	17/05/2013 07:53	166 m	00:00:30	20 km/h	172° true	NZ 20161 85620
120	17/05/2013 07:54	337 m	00:00:30	40 km/h	152° true	NZ 20184 85456
121	17/05/2013 07:54	412 m	00:00:30	49 km/h	142° true	NZ 20342 85158
122	17/05/2013 07:55	229 m	00:00:30	27 km/h	129° true	NZ 20595 84832
123	17/05/2013 07:55	95 m	00:00:30	11 km/h	246° true	NZ 20775 84689
124	17/05/2013 07:56	7 m	00:00:30	0.9 km/h	0° true	NZ 20688 84651
125	17/05/2013 07:56	1 m	00:00:30	0.2 km/h	90° true	NZ 20688 84658
126	17/05/2013 07:57	45 m	00:00:30	5 km/h	50° true	NZ 20689 84658
127	17/05/2013 07:57	254 m	00:00:30	30 km/h	315° true	NZ 20723 84687
128	17/05/2013 07:58	411 m	00:00:30	49 km/h	328° true	NZ 20542 84865
129	17/05/2013 07:58	292 m	00:00:30	35 km/h	330° true	NZ 20323 85213
130	17/05/2013 07:59	164 m	00:00:30	20 km/h	352° true	NZ 20177 85465
131	17/05/2013 07:59	115 m	00:00:30	14 km/h	324° true	NZ 20154 85627
132	17/05/2013 08:00	120 m	00:00:30	14 km/h	353° true	NZ 20087 85720
133	17/05/2013 08:00	27 m	00:00:30	3 km/h	351° true	NZ 20072 85840
134	17/05/2013 08:01	178 m	00:00:30	21 km/h	15° true	NZ 20068 85866
135	17/05/2013 08:01	285 m	00:00:30	34 km/h	4° true	NZ 20114 86038
136	17/05/2013 08:02	36 m	00:00:30	4 km/h	349° true	NZ 20135 86322
137	17/05/2013 08:02	29 m	00:00:30	3 km/h	155° true	NZ 20128 86358
138	17/05/2013 08:03	27 m	00:00:30	3 km/h	207° true	NZ 20140 86332
139	17/05/2013 08:03	256 m	00:00:30	31 km/h	182° true	NZ 20128 86308
140	17/05/2013 08:04	168 m	00:00:30	20 km/h	195° true	NZ 20119 86052
141	17/05/2013 08:04	246 m	00:00:30	30 km/h	166° true	NZ 20076 85890
142	17/05/2013 08:05	161 m	00:00:30	19 km/h	169° true	NZ 20136 85651
143	17/05/2013 08:05	310 m	00:00:30	37 km/h	150° true	NZ 20168 85494
144	17/05/2013 08:06	218 m	00:00:30	26 km/h	159° true	NZ 20323 85225
145	17/05/2013 08:06	410 m	00:00:30	49 km/h	132° true	NZ 20403 85022
146	17/05/2013 08:07	101 m	00:00:30	12 km/h	194° true	NZ 20709 84749
147	17/05/2013 08:07	0 m	00:00:30	0 km/h	0° true	NZ 20685 84651
148	17/05/2013 08:08	0 m	00:00:30	0 km/h	0° true	NZ 20685 84651
149	17/05/2013 08:08	0 m	00:00:30	0 km/h	0° true	NZ 20685 84651
150	17/05/2013 08:09	0 m	00:00:30	0 km/h	0° true	NZ 20685 84651
151	17/05/2013 08:09	0 m	00:00:30	0 km/h	0° true	NZ 20685 84651
152	17/05/2013 08:10	0 m	00:00:30	0 km/h	0° true	NZ 20685 84651
153	17/05/2013 08:10	0 m	00:00:30	0 km/h	0° true	NZ 20685 84651
154	17/05/2013 08:11	8 m	00:00:30	0.9 km/h	21° true	NZ 20685 84651
155	17/05/2013 08:11	18 m	00:00:30	2 km/h	66° true	NZ 20688 84658
156	17/05/2013 08:12	315 m	00:00:30	38 km/h	319° true	NZ 20704 84665
157	17/05/2013 08:12	365 m	00:00:30	44 km/h	331° true	NZ 20496 84903
158	17/05/2013 08:13	257 m	00:00:30	31 km/h	329° true	NZ 20320 85222
159	17/05/2013 08:13	120 m	00:00:30	14 km/h	348° true	NZ 20186 85441
160	17/05/2013 08:14	81 m	00:00:30	10 km/h	348° true	NZ 20160 85558

161	17/05/2013 08:14	78 m	00:00:30	9 km/h	322° true	NZ 20143 85637
162	17/05/2013 08:15	62 m	00:00:30	7 km/h	345° true	NZ 20095 85699
163	17/05/2013 08:15	143 m	00:00:30	17 km/h	1° true	NZ 20078 85758
164	17/05/2013 08:16	172 m	00:00:30	21 km/h	10° true	NZ 20080 85902
165	17/05/2013 08:16	262 m	00:00:30	31 km/h	6° true	NZ 20111 86071
166	17/05/2013 08:17	28 m	00:00:30	3 km/h	337° true	NZ 20137 86332
167	17/05/2013 08:17	29 m	00:00:30	3 km/h	155° true	NZ 20126 86358
168	17/05/2013 08:18	0 m	00:00:30	0 km/h	0° true	NZ 20139 86332
169	17/05/2013 08:18	206 m	00:00:30	25 km/h	190° true	NZ 20139 86332
170	17/05/2013 08:19	168 m	00:00:30	20 km/h	166° true	NZ 20103 86129
171	17/05/2013 08:19	34 m	00:00:30	4 km/h	185° true	NZ 20144 85966
172	17/05/2013 08:20	103 m	00:00:30	12 km/h	224° true	NZ 20142 85933
173	17/05/2013 08:20	116 m	00:00:30	14 km/h	173° true	NZ 20071 85859
174	17/05/2013 08:21	268 m	00:00:30	32 km/h	163° true	NZ 20087 85744
175	17/05/2013 08:21	328 m	00:00:30	39 km/h	151° true	NZ 20168 85489
176	17/05/2013 08:22	438 m	00:00:30	53 km/h	145° true	NZ 20330 85203
177	17/05/2013 08:22	226 m	00:00:30	27 km/h	141° true	NZ 20580 84844
178	17/05/2013 08:23	43 m	00:00:30	5 km/h	251° true	NZ 20724 84670
179	17/05/2013 08:23	36 m	00:00:30	4 km/h	62° true	NZ 20684 84656
180	17/05/2013 08:24	346 m	00:00:30	42 km/h	316° true	NZ 20715 84672
181	17/05/2013 08:24	392 m	00:00:30	47 km/h	334° true	NZ 20474 84922
182	17/05/2013 08:25	99 m	00:00:30	12 km/h	323° true	NZ 20298 85272
183	17/05/2013 08:25	65 m	00:00:30	8 km/h	327° true	NZ 20237 85351
184	17/05/2013 08:26	16 m	00:00:30	2 km/h	335° true	NZ 20202 85406
185	17/05/2013 08:26	18 m	00:00:30	2 km/h	338° true	NZ 20195 85420
186	17/05/2013 08:27	39 m	00:00:30	5 km/h	330° true	NZ 20188 85437
187	17/05/2013 08:27	72 m	00:00:30	9 km/h	355° true	NZ 20168 85470
188	17/05/2013 08:28	138 m	00:00:30	17 km/h	339° true	NZ 20161 85541
189	17/05/2013 08:28	87 m	00:00:30	10 km/h	339° true	NZ 20112 85670
190	17/05/2013 08:29	82 m	00:00:30	10 km/h	355° true	NZ 20080 85751
191	17/05/2013 08:29	100 m	00:00:30	12 km/h	33° true	NZ 20073 85832
192	17/05/2013 08:30	154 m	00:00:30	18 km/h	354° true	NZ 20127 85916
193	17/05/2013 08:30	239 m	00:00:30	29 km/h	2° true	NZ 20111 86069
194	17/05/2013 08:31	53 m	00:00:30	6 km/h	9° true	NZ 20118 86308
195	17/05/2013 08:31	0 m	00:00:30	0 km/h	0° true	NZ 20126 86360
196	17/05/2013 08:32	22 m	00:00:30	3 km/h	150° true	NZ 20126 86360
197	17/05/2013 08:32	106 m	00:00:30	13 km/h	206° true	NZ 20137 86341
198	17/05/2013 08:33	188 m	00:00:30	23 km/h	172° true	NZ 20091 86246
199	17/05/2013 08:33	169 m	00:00:30	20 km/h	189° true	NZ 20118 86059
200	17/05/2013 08:34	23 m	00:00:30	3 km/h	252° true	NZ 20091 85892
201	17/05/2013 08:34	82 m	00:00:30	10 km/h	173° true	NZ 20070 85885
202	17/05/2013 08:35	211 m	00:00:30	25 km/h	157° true	NZ 20079 85804
203	17/05/2013 08:35	219 m	00:00:30	26 km/h	169° true	NZ 20164 85611
204	17/05/2013 08:36	372 m	00:00:30	45 km/h	153° true	NZ 20207 85396
205	17/05/2013 08:36	462 m	00:00:30	55 km/h	134° true	NZ 20377 85065
206	17/05/2013 08:37	106 m	00:00:30	13 km/h	198° true	NZ 20712 84746
207	17/05/2013 08:37	0 m	00:00:30	0 km/h	0° true	NZ 20679 84646
208	17/05/2013 08:38	14 m	00:00:30	2 km/h	270° true	NZ 20679 84646
209	17/05/2013 08:38	20 m	00:00:30	2 km/h	62° true	NZ 20666 84646
210	17/05/2013 08:39	152 m	00:00:30	18 km/h	341° true	NZ 20684 84656
211	17/05/2013 08:39	405 m	00:00:30	49 km/h	318° true	NZ 20634 84799

212	17/05/2013 08:40	205 m	00:00:30	25 km/h	341° true	NZ 20359 85096
213	17/05/2013 08:40	149 m	00:00:30	18 km/h	322° true	NZ 20291 85289
214	17/05/2013 08:41	57 m	00:00:30	7 km/h	337° true	NZ 20199 85406
215	17/05/2013 08:41	13 m	00:00:30	2 km/h	335° true	NZ 20177 85458
216	17/05/2013 08:42	49 m	00:00:30	6 km/h	346° true	NZ 20171 85470
217	17/05/2013 08:42	53 m	00:00:30	6 km/h	6° true	NZ 20159 85518
218	17/05/2013 08:43	112 m	00:00:30	13 km/h	334° true	NZ 20164 85570
219	17/05/2013 08:43	42 m	00:00:30	5 km/h	329° true	NZ 20114 85670
220	17/05/2013 08:44	85 m	00:00:30	10 km/h	352° true	NZ 20092 85706
221	17/05/2013 08:44	74 m	00:00:30	9 km/h	354° true	NZ 20080 85789
222	17/05/2013 08:45	157 m	00:00:30	19 km/h	21° true	NZ 20071 85863
223	17/05/2013 08:45	260 m	00:00:30	31 km/h	352° true	NZ 20128 86009
224	17/05/2013 08:46	100 m	00:00:30	12 km/h	21° true	NZ 20091 86267
225	17/05/2013 08:46	0 m	00:00:30	0 km/h	0° true	NZ 20126 86360
226	17/05/2013 08:47	46 m	00:00:30	5 km/h	175° true	NZ 20126 86360
227	17/05/2013 08:47	45 m	00:00:30	5 km/h	217° true	NZ 20131 86315
228	17/05/2013 08:48	42 m	00:00:30	5 km/h	197° true	NZ 20103 86279
229	17/05/2013 08:48	25 m	00:00:30	3 km/h	167° true	NZ 20091 86238
230	17/05/2013 08:49	41 m	00:00:30	5 km/h	182° true	NZ 20097 86215
231	17/05/2013 08:49	31 m	00:00:30	4 km/h	175° true	NZ 20096 86174
232	17/05/2013 08:50	112 m	00:00:30	13 km/h	169° true	NZ 20098 86143
233	17/05/2013 08:50	44 m	00:00:30	5 km/h	158° true	NZ 20119 86033
234	17/05/2013 08:51	13 m	00:00:30	2 km/h	161° true	NZ 20136 85993
235	17/05/2013 08:51	62 m	00:00:30	7 km/h	183° true	NZ 20140 85981
236	17/05/2013 08:52	69 m	00:00:30	8 km/h	248° true	NZ 20138 85919
237	17/05/2013 08:52	27 m	00:00:30	3 km/h	189° true	NZ 20074 85892
238	17/05/2013 08:53	72 m	00:00:30	9 km/h	171° true	NZ 20070 85866
239	17/05/2013 08:53	227 m	00:00:30	27 km/h	158° true	NZ 20081 85794
240	17/05/2013 08:54	303 m	00:00:30	36 km/h	158° true	NZ 20168 85584
241	17/05/2013 08:54	406 m	00:00:30	49 km/h	153° true	NZ 20281 85303
242	17/05/2013 08:55	379 m	00:00:30	45 km/h	124° true	NZ 20465 84941
243	17/05/2013 08:55	130 m	00:00:30	16 km/h	233° true	NZ 20780 84730
244	17/05/2013 08:56	23 m	00:00:30	3 km/h	58° true	NZ 20677 84651
245	17/05/2013 08:56	96 m	00:00:30	11 km/h	358° true	NZ 20696 84663
246	17/05/2013 08:57	416 m	00:00:30	50 km/h	313° true	NZ 20693 84758
247	17/05/2013 08:57	371 m	00:00:30	44 km/h	333° true	NZ 20386 85041
248	17/05/2013 08:58	110 m	00:00:30	13 km/h	336° true	NZ 20215 85370
249	17/05/2013 08:58	26 m	00:00:30	3 km/h	317° true	NZ 20170 85470
250	17/05/2013 08:59	13 m	00:00:30	2 km/h	19° true	NZ 20152 85489
251	17/05/2013 08:59	32 m	00:00:30	4 km/h	10° true	NZ 20156 85501
252	17/05/2013 09:00	36 m	00:00:30	4 km/h	4° true	NZ 20161 85532
253	17/05/2013 09:00	63 m	00:00:30	8 km/h	350° true	NZ 20164 85568
254	17/05/2013 09:01	56 m	00:00:30	7 km/h	313° true	NZ 20153 85630
255	17/05/2013 09:01	56 m	00:00:30	7 km/h	334° true	NZ 20112 85668
256	17/05/2013 09:02	130 m	00:00:30	16 km/h	353° true	NZ 20087 85718
257	17/05/2013 09:02	166 m	00:00:30	20 km/h	21° true	NZ 20071 85847
258	17/05/2013 09:03	188 m	00:00:30	23 km/h	348° true	NZ 20131 86002
259	17/05/2013 09:03	188 m	00:00:30	23 km/h	11° true	NZ 20091 86186
260	17/05/2013 09:04	7 m	00:00:30	0.9 km/h	180° true	NZ 20128 86370
261	17/05/2013 09:04	0 m	00:00:30	0 km/h	0° true	NZ 20128 86363
262	17/05/2013 09:05	0 m	00:00:30	0 km/h	0° true	NZ 20128 86363

263	17/05/2013 09:05	24 m	00:00:30	3 km/h	153° true	NZ 20128 86363
264	17/05/2013 09:06	5 m	00:00:30	0.6 km/h	164° true	NZ 20139 86341
265	17/05/2013 09:06	10 m	00:00:30	1.2 km/h	196° true	NZ 20140 86337
266	17/05/2013 09:07	233 m	00:00:30	28 km/h	186° true	NZ 20137 86327
267	17/05/2013 09:07	140 m	00:00:30	17 km/h	166° true	NZ 20112 86095
268	17/05/2013 09:08	70 m	00:00:30	8 km/h	203° true	NZ 20146 85959
269	17/05/2013 09:08	150 m	00:00:30	18 km/h	193° true	NZ 20119 85895
270	17/05/2013 09:09	286 m	00:00:30	34 km/h	162° true	NZ 20085 85749
271	17/05/2013 09:09	279 m	00:00:30	33 km/h	149° true	NZ 20174 85477
272	17/05/2013 09:10	383 m	00:00:30	46 km/h	152° true	NZ 20319 85239
273	17/05/2013 09:10	343 m	00:00:30	41 km/h	126° true	NZ 20502 84903
274	17/05/2013 09:11	127 m	00:00:30	15 km/h	242° true	NZ 20782 84704
275	17/05/2013 09:11	0 m	00:00:30	0 km/h	0° true	NZ 20670 84644
276	17/05/2013 09:12	0 m	00:00:30	0 km/h	0° true	NZ 20670 84644
277	17/05/2013 09:12	0 m	00:00:30	0 km/h	0° true	NZ 20670 84644
278	17/05/2013 09:13	29 m	00:00:30	3 km/h	49° true	NZ 20670 84644
279	17/05/2013 09:13	103 m	00:00:30	12 km/h	354° true	NZ 20692 84663
280	17/05/2013 09:14	375 m	00:00:30	45 km/h	312° true	NZ 20680 84765
281	17/05/2013 09:14	332 m	00:00:30	40 km/h	336° true	NZ 20402 85017
282	17/05/2013 09:15	72 m	00:00:30	9 km/h	320° true	NZ 20266 85320
283	17/05/2013 09:15	69 m	00:00:30	8 km/h	334° true	NZ 20219 85375
284	17/05/2013 09:16	13 m	00:00:30	2 km/h	335° true	NZ 20189 85437
285	17/05/2013 09:16	62 m	00:00:30	7 km/h	332° true	NZ 20184 85448
286	17/05/2013 09:17	26 m	00:00:30	3 km/h	6° true	NZ 20155 85503
287	17/05/2013 09:17	48 m	00:00:30	6 km/h	7° true	NZ 20157 85530
288	17/05/2013 09:18	29 m	00:00:30	3 km/h	0° true	NZ 20163 85577
289	17/05/2013 09:18	83 m	00:00:30	10 km/h	324° true	NZ 20162 85606
290	17/05/2013 09:19	47 m	00:00:30	6 km/h	330° true	NZ 20113 85673
291	17/05/2013 09:19	72 m	00:00:30	9 km/h	351° true	NZ 20089 85713
292	17/05/2013 09:20	101 m	00:00:30	12 km/h	352° true	NZ 20078 85785
293	17/05/2013 09:20	167 m	00:00:30	20 km/h	17° true	NZ 20064 85885
294	17/05/2013 09:21	273 m	00:00:30	33 km/h	3° true	NZ 20111 86045
295	17/05/2013 09:21	43 m	00:00:30	5 km/h	2° true	NZ 20124 86317
296	17/05/2013 09:22	2 m	00:00:30	0.3 km/h	0° true	NZ 20125 86360
297	17/05/2013 09:22	32 m	00:00:30	4 km/h	155° true	NZ 20125 86363
298	17/05/2013 09:23	0 m	00:00:30	0 km/h	0° true	NZ 20139 86334
299	17/05/2013 09:23	89 m	00:00:30	11 km/h	210° true	NZ 20139 86334
300	17/05/2013 09:24	248 m	00:00:30	30 km/h	172° true	NZ 20094 86258
301	17/05/2013 09:24	149 m	00:00:30	18 km/h	204° true	NZ 20128 86012
302	17/05/2013 09:25	323 m	00:00:30	39 km/h	163° true	NZ 20068 85875
303	17/05/2013 09:25	310 m	00:00:30	37 km/h	156° true	NZ 20167 85568
304	17/05/2013 09:26	449 m	00:00:30	54 km/h	151° true	NZ 20296 85287
305	17/05/2013 09:26	323 m	00:00:30	39 km/h	131° true	NZ 20514 84894
306	17/05/2013 09:27	100 m	00:00:30	12 km/h	246° true	NZ 20761 84685
307	17/05/2013 09:27	0 m	00:00:30	0 km/h	0° true	NZ 20670 84644
308	17/05/2013 09:28	0 m	00:00:30	0 km/h	0° true	NZ 20670 84644
309	17/05/2013 09:28	72 m	00:00:30	9 km/h	46° true	NZ 20670 84644
310	17/05/2013 09:29	277 m	00:00:30	33 km/h	314° true	NZ 20722 84694
311	17/05/2013 09:29	325 m	00:00:30	39 km/h	326° true	NZ 20520 84884
312	17/05/2013 09:30	319 m	00:00:30	38 km/h	332° true	NZ 20338 85153
313	17/05/2013 09:30	43 m	00:00:30	5 km/h	333° true	NZ 20188 85434

314	17/05/2013 09:31	49 m	00:00:30	6 km/h	346° true	NZ 20168 85472
315	17/05/2013 09:31	50 m	00:00:30	6 km/h	6° true	NZ 20156 85520
316	17/05/2013 09:32	58 m	00:00:30	7 km/h	352° true	NZ 20161 85570
317	17/05/2013 09:32	110 m	00:00:30	13 km/h	323° true	NZ 20153 85627
318	17/05/2013 09:33	60 m	00:00:30	7 km/h	352° true	NZ 20087 85715
319	17/05/2013 09:33	79 m	00:00:30	10 km/h	354° true	NZ 20078 85775
320	17/05/2013 09:34	41 m	00:00:30	5 km/h	349° true	NZ 20070 85854
321	17/05/2013 09:34	149 m	00:00:30	18 km/h	21° true	NZ 20061 85894
322	17/05/2013 09:35	186 m	00:00:30	22 km/h	352° true	NZ 20115 86033
323	17/05/2013 09:35	151 m	00:00:30	18 km/h	15° true	NZ 20087 86217
324	17/05/2013 09:36	0 m	00:00:30	0 km/h	0° true	NZ 20125 86363
325	17/05/2013 09:36	0 m	00:00:30	0 km/h	0° true	NZ 20125 86363
326	17/05/2013 09:37	22 m	00:00:30	3 km/h	150° true	NZ 20125 86363
327	17/05/2013 09:37	134 m	00:00:30	16 km/h	199° true	NZ 20136 86344
328	17/05/2013 09:38	171 m	00:00:30	21 km/h	172° true	NZ 20093 86217
329	17/05/2013 09:38	159 m	00:00:30	19 km/h	195° true	NZ 20118 86048
330	17/05/2013 09:39	304 m	00:00:30	37 km/h	163° true	NZ 20076 85894
331	17/05/2013 09:39	314 m	00:00:30	38 km/h	159° true	NZ 20165 85604
332	17/05/2013 09:40	439 m	00:00:30	53 km/h	153° true	NZ 20277 85310
333	17/05/2013 09:40	370 m	00:00:30	44 km/h	126° true	NZ 20481 84922
334	17/05/2013 09:41	123 m	00:00:30	15 km/h	241° true	NZ 20782 84706
335	17/05/2013 09:41	0 m	00:00:30	0 km/h	0° true	NZ 20674 84646
336	17/05/2013 09:42	11 m	00:00:30	1.3 km/h	30° true	NZ 20674 84646
337	17/05/2013 09:42	0 m	00:00:30	0 km/h	0° true	NZ 20679 84656
338	17/05/2013 09:43	0 m	00:00:30	0 km/h	0° true	NZ 20679 84656
339	17/05/2013 09:43	69 m	00:00:30	8 km/h	38° true	NZ 20679 84656
340	17/05/2013 09:44	391 m	00:00:30	47 km/h	313° true	NZ 20722 84711
341	17/05/2013 09:44	407 m	00:00:30	49 km/h	334° true	NZ 20432 84974
342	17/05/2013 09:45	198 m	00:00:30	24 km/h	332° true	NZ 20250 85339
343	17/05/2013 09:45	26 m	00:00:30	3 km/h	3° true	NZ 20156 85513
344	17/05/2013 09:46	81 m	00:00:30	10 km/h	357° true	NZ 20157 85539
345	17/05/2013 09:46	98 m	00:00:30	12 km/h	323° true	NZ 20153 85620
346	17/05/2013 09:47	66 m	00:00:30	8 km/h	347° true	NZ 20094 85699
347	17/05/2013 09:47	70 m	00:00:30	8 km/h	354° true	NZ 20078 85763
348	17/05/2013 09:48	118 m	00:00:30	14 km/h	31° true	NZ 20071 85832
349	17/05/2013 09:48	256 m	00:00:30	31 km/h	351° true	NZ 20132 85933
350	17/05/2013 09:49	181 m	00:00:30	22 km/h	13° true	NZ 20090 86186
351	17/05/2013 09:49	4 m	00:00:30	0.4 km/h	229° true	NZ 20129 86363
352	17/05/2013 09:50	0 m	00:00:30	0 km/h	0° true	NZ 20126 86360
353	17/05/2013 09:50	6 m	00:00:30	0.7 km/h	114° true	NZ 20126 86360
354	17/05/2013 09:51	13 m	00:00:30	2 km/h	155° true	NZ 20132 86358
355	17/05/2013 09:51	22 m	00:00:30	3 km/h	184° true	NZ 20137 86346
356	17/05/2013 09:52	238 m	00:00:30	29 km/h	186° true	NZ 20136 86325
357	17/05/2013 09:52	191 m	00:00:30	23 km/h	183° true	NZ 20114 86088
358	17/05/2013 09:53	220 m	00:00:30	26 km/h	178° true	NZ 20105 85897
359	17/05/2013 09:53	286 m	00:00:30	34 km/h	162° true	NZ 20116 85677
360	17/05/2013 09:54	381 m	00:00:30	46 km/h	153° true	NZ 20203 85406
361	17/05/2013 09:54	457 m	00:00:30	55 km/h	134° true	NZ 20378 85067
362	17/05/2013 09:55	104 m	00:00:30	12 km/h	194° true	NZ 20709 84751



Appendix D Origin Destination Surveys

Morpeth O-D Surveys AM 7th June PM 24th May 2013

All periods

[DataSet1] T:\traffic data collection\Jobs 2013\4711 Morpeth\4711.sav

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Origin * Destination * Classification	6857	100.0%	0	0.0%	6857	100.0%

Origin * Destination * Classification Crosstabulation

Count			Destination					Total
Classification	Origin		A197 (sun inn)	A192 (Shields Rd)	Whorral Bank	Oldgate	Newgate Street	
Cars	Origin	A197 (Sun Inn)	0	613	318	50	156	1137
		A192 (shields Rd)	1273	0	191	48	566	2078
		Whorral Bank	597	257	0	204	520	1578
		Oldgate	125	150	265	0	264	804
		Newgate Street	242	363	386	103	0	1094
		Total	2237	1383	1160	405	1506	6691
Heavy Goods	Origin	A197 (Sun Inn)	0	0	10	2	5	17
		A192 (shields Rd)	17	0	6	2	18	43
		Whorral Bank	12	0	0	1	4	17
		Oldgate	0	0	1	0	4	5
		Newgate Street	2	0	10	2	0	14
		Total	31	0	27	7	31	96
Buses	Origin	A197 (Sun Inn)	0	0	2	0	10	12
		A192 (shields Rd)	3	0	2	12	7	24
		Whorral Bank	5	0	0	1	7	13
		Oldgate	0	0	1	0	2	3
		Newgate Street	12	0	6	0	0	18
		Total	20	0	11	13	26	70
Total	Origin	A197 (Sun Inn)	0	613	330	52	171	1166
		A192 (shields Rd)	1293	0	199	62	591	2145
		Whorral Bank	614	257	0	206	531	1608
		Oldgate	125	150	267	0	270	812
		Newgate Street	256	363	402	105	0	1126
		Total	2288	1383	1198	425	1563	6857

CROSTABS

```

/TABLES=Org BY Dest BY Class BY Period
/FORMAT=AVALUE TABLES
/CELLS=COUNT
/COUNT ROUND CELL.

```

AM & PM separate

[DataSet1] T:\traffic data collection\Jobs 2013\4711 Morpeth\4711.sav

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Origin * Destination * Classification * Period	6857	100.0%	0	0.0%	6857	100.0%

Origin * Destination * Classification * Period Crosstabulation

Count				Destination					Total
Period	Class	Origin	Destination	A197 (sun inn)	A192 (Shields Rd)	Whorral Bank	Oldgate	Newgate Street	
AM	Cars	Origin	A197 (Sun Inn)	0	510	103	16	55	684
			A192 (shields Rd)	638	0	82	15	307	1042
			Whorral Bank	385	192	0	95	294	966
			Oldgate	79	97	124	0	143	443
			Newgate Street	152	291	175	44	0	662
			Total	1254	1090	484	170	799	3797
	Heavy Goods	Origin	A197 (Sun Inn)	0	0	8	2	4	14
			A192 (shields Rd)	14	0	5	2	15	36
			Whorral Bank	11	0	0	0	2	13
			Oldgate	0	0	1	0	2	3
			Newgate Street	1	0	7	2	0	10
			Total	26	0	21	6	23	76
	Buses	Origin	A197 (Sun Inn)	0	0	0	0	4	4
			A192 (shields Rd)	1	0	0	7	6	14
			Whorral Bank	2	0	0	0	5	7
			Oldgate	0	0	1	0	2	3
			Newgate Street	7	0	3	0	0	10
			Total	10	0	4	7	17	38
Total	Origin	A197 (Sun Inn)	0	510	111	18	63	702	
		A192 (shields Rd)	653	0	87	24	328	1092	
		Whorral Bank	398	192	0	95	301	986	
		Oldgate	79	97	126	0	147	449	
		Newgate Street	160	291	185	46	0	682	
		Total	1290	1090	509	183	839	3911	
PM	Cars	Origin	A197 (Sun Inn)	0	103	215	34	101	453
			A192 (shields Rd)	635	0	109	33	259	1036
			Whorral Bank	212	65	0	109	226	612
			Oldgate	46	53	141	0	121	361
			Newgate Street	90	72	211	59	0	432
			Total	983	293	676	235	707	2894
	Heavy Goods	Origin	A197 (Sun Inn)	0	0	2	0	1	3
			A192 (shields Rd)	3	0	1	0	3	7
			Whorral Bank	1	0	0	1	2	4
			Oldgate	0	0	0	0	2	2
			Newgate Street	1	0	3	0	0	4
			Total	5	0	6	1	8	20
	Buses	Origin	A197 (Sun Inn)	0	0	2	0	6	8
			A192 (shields Rd)	2	0	2	5	1	10
			Whorral Bank	3	0	0	1	2	6
			Oldgate	5	0	3	0	0	8
			Newgate Street	10	0	7	6	9	32
			Total	10	0	7	6	9	32
Total	Origin	A197 (Sun Inn)	0	103	219	34	108	464	
		A192 (shields Rd)	640	0	112	38	263	1053	
		Whorral Bank	216	65	0	111	230	622	
		Oldgate	46	53	141	0	123	363	
		Newgate Street	96	72	217	59	0	444	
		Total	998	293	689	242	724	2946	
Total	Cars	Origin	A197 (Sun Inn)	0	613	318	50	156	1137
			A192 (shields Rd)	1273	0	191	48	566	2078
			Whorral Bank	597	257	0	204	520	1578
			Oldgate	125	150	265	0	264	804
			Newgate Street	242	363	386	103	0	1094
			Total	2237	1383	1160	405	1506	6691
	Heavy Goods	Origin	A197 (Sun Inn)	0	0	10	2	5	17
			A192 (shields Rd)	17	0	6	2	18	43
			Whorral Bank	12	0	0	1	4	17
			Oldgate	0	0	1	0	4	5
			Newgate Street	2	0	10	2	0	14
			Total	31	0	27	7	31	96
	Buses	Origin	A197 (Sun Inn)	0	0	2	0	10	12
			A192 (shields Rd)	3	0	2	12	7	24
			Whorral Bank	5	0	0	1	7	13
			Oldgate	0	0	1	0	2	3
			Newgate Street	12	0	6	0	0	18
			Total	20	0	11	13	26	70
Total	Origin	A197 (Sun Inn)	0	613	330	52	171	1166	
		A192 (shields Rd)	1293	0	199	62	591	2145	
		Whorral Bank	614	257	0	206	531	1608	
		Oldgate	125	150	267	0	270	812	
		Newgate Street	256	363	402	105	0	1126	
		Total	2288	1383	1198	425	1563	6857	

CROSSTABS

/TABLES=Org BY Dest BY Class BY Hour

/FORMAT=AVALUE TABLES

/CELLS=COUNT

/COUNT ROUND CELL.

Hour Periods

[DataSet1] T:\traffic data collection\Jobs 2013\4711 Morpeth\4711.sav

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Origin * Destination * Classification * Hour	6857	100.0%	0	0.0%	6857	100.0%

Origin * Destination * Classification * Hour Crosstabulation

Count				Destination					Total
Hour				A197 (sun inn)	A192 (Shields Rd)	Whorral Bank	Oldgate	Newgate Street	
0700	Cars	Origin	A197 (Sun Inn)	0	78	12	3	16	109
			A192 (shields Rd)	230	0	28	8	154	420
			Whorral Bank	161	52	0	14	92	319
			Oldgate	20	20	26	0	31	97
			Newgate Street	58	113	57	10	0	238
			Total	469	263	123	35	293	1183
	Heavy Goods	Origin	A197 (Sun Inn)	0	0	1	0	0	1
			A192 (shields Rd)	4	0	3	0	5	12
			Whorral Bank	3	0	0	0	1	4
			Newgate Street	0	0	3	1	0	4
			Total	7	0	7	1	6	21
			Origin	A192 (shields Rd)	1	0	0	3	4
	Buses	Origin	Whorral Bank	1	0	0	0	3	4
			Newgate Street	2	0	0	0	0	2
			Total	4	0	0	3	7	14
Total	Origin	A197 (Sun Inn)	0	78	13	3	16	110	
		A192 (shields Rd)	235	0	31	11	163	440	
		Whorral Bank	165	52	0	14	96	327	
		Oldgate	20	20	26	0	31	97	
		Newgate Street	60	113	60	11	0	244	
		Total	480	263	130	39	306	1218	
0800	Cars	Origin	A197 (Sun Inn)	0	253	44	6	22	325
			A192 (shields Rd)	260	0	24	6	109	399
			Whorral Bank	156	99	0	53	160	468
			Oldgate	39	47	57	0	67	210
			Newgate Street	53	100	69	18	0	240
			Total	508	499	194	83	358	1642
	Heavy Goods	Origin	A197 (Sun Inn)	0	0	4	0	3	7
			A192 (shields Rd)	5	0	0	1	5	11
			Whorral Bank	2	0	0	0	0	2
			Oldgate	0	0	1	0	0	1
			Newgate Street	0	0	3	0	0	3
			Total	7	0	8	1	8	24
	Buses	Origin	A197 (Sun Inn)	0	0	0	0	2	2
			A192 (shields Rd)	0	0	0	2	2	4
			Whorral Bank	0	0	0	0	2	2
Oldgate			0	0	1	0	1	2	
Newgate Street			3	0	3	0	0	6	
Total			3	0	4	2	7	16	
Total	Origin	A197 (Sun Inn)	0	253	48	6	27	334	
		A192 (shields Rd)	265	0	24	9	116	414	
		Whorral Bank	158	99	0	53	162	472	
		Oldgate	39	47	59	0	68	213	
		Newgate Street	56	100	75	18	0	249	
		Total	518	499	206	86	373	1682	
0900	Cars	Origin	A197 (Sun Inn)	0	179	47	7	17	250
			A192 (shields Rd)	148	0	30	1	44	223
			Whorral Bank	68	41	0	28	42	179
			Oldgate	20	30	41	0	45	136
			Newgate Street	41	78	49	16	0	184
			Total	277	328	167	52	148	972
	Heavy Goods	Origin	A197 (Sun Inn)	0	0	3	2	1	6
			A192 (shields Rd)	5	0	2	1	5	13
			Whorral Bank	6	0	0	0	1	7
			Oldgate	0	0	0	0	2	2
			Newgate Street	1	0	1	1	0	3
			Total	12	0	6	4	9	31
	Buses	Origin	A197 (Sun Inn)	0	0	0	0	2	2
			A192 (shields Rd)	0	0	0	2	0	2
			Whorral Bank	1	0	0	0	0	1
Oldgate			0	0	0	0	1	1	
Newgate Street			2	0	0	0	0	2	
Total			3	0	0	2	3	8	
Total	Origin	A197 (Sun Inn)	0	179	50	9	20	258	
		A192 (shields Rd)	153	0	32	4	49	238	
		Whorral Bank	75	41	0	28	43	187	
		Oldgate	20	30	41	0	48	139	
		Newgate Street	44	78	50	17	0	189	
		Total	292	328	173	58	160	1011	
1500	Cars	Origin	A197 (Sun Inn)	0	75	54	10	30	169
			A192 (shields Rd)	235	0	32	11	75	353
			Whorral Bank	70	40	0	37	89	236
			Oldgate	18	35	62	0	54	169
			Newgate Street	27	46	74	16	0	163
			Total	350	196	222	74	248	1090
	Heavy Goods	Origin	A197 (Sun Inn)	0	0	1	0	0	1
			A192 (shields Rd)	2	0	1	0	3	6
			Whorral Bank	0	0	0	0	1	1
			Oldgate	0	0	0	0	2	2
			Newgate Street	0	0	1	0	0	1
			Total	2	0	3	0	6	11

1600	Buses	Origin	A197 (Sun Inn)	0	0	0	0	1	1		
			A192 (shields Rd)	1	0	1	0	1	3		
			Whorral Bank	1	0	0	0	1	2		
			Newgate Street	2	0	2	0	0	4		
			Total	4	0	3	0	3	10		
	Total	Origin	A197 (Sun Inn)	0	75	55	10	31	171		
			A192 (shields Rd)	238	0	34	11	79	362		
			Whorral Bank	71	40	0	37	91	239		
			Oldgate	18	35	62	0	56	171		
			Newgate Street	29	46	77	16	0	168		
	Cars	Origin	A197 (Sun Inn)	0	22	94	12	35	163		
			A192 (shields Rd)	226	0	46	13	101	386		
			Whorral Bank	72	21	0	38	60	191		
			Oldgate	12	17	45	0	39	113		
			Newgate Street	31	21	80	18	0	150		
Heavy Goods	Origin	A197 (Sun Inn)	0	0	1	0	1	2			
		Whorral Bank	1	0	0	0	1	2			
		Newgate Street	1	0	2	0	0	3			
		Total	2	0	3	0	2	7			
		Buses	Origin	A197 (Sun Inn)	0	0	0	0	5	5	
A192 (shields Rd)	1			0	0	2	0	3			
Whorral Bank	1			0	0	1	0	2			
Newgate Street	2			0	1	0	0	3			
Total	4			0	1	3	5	13			
Total	Origin	A197 (Sun Inn)	0	22	95	12	41	170			
		A192 (shields Rd)	227	0	46	15	101	389			
		Whorral Bank	74	21	0	39	61	195			
		Oldgate	12	17	45	0	39	113			
		Newgate Street	34	21	83	18	0	156			
1700	Cars	Origin	A197 (Sun Inn)	0	6	67	12	36	121		
			A192 (shields Rd)	174	0	31	9	83	297		
			Whorral Bank	70	4	0	34	77	185		
			Oldgate	16	1	34	0	28	79		
			Newgate Street	32	5	57	25	0	119		
	Heavy Goods	Origin	A192 (shields Rd)	1	0	0	0	0	1		
			Whorral Bank	0	0	0	1	0	1		
			Total	1	0	0	1	0	2		
			Buses	Origin	A197 (Sun Inn)	0	0	2	0	0	2
					A192 (shields Rd)	0	0	1	3	0	4
	Whorral Bank	1			0	0	0	1	2		
	Newgate Street	1			0	0	0	0	1		
	Total	2			0	3	3	1	9		
	Total	Origin	A197 (Sun Inn)	0	6	69	12	36	123		
			A192 (shields Rd)	175	0	32	12	83	302		
Whorral Bank			71	4	0	35	78	188			
Oldgate			16	1	34	0	28	79			
Newgate Street			33	5	57	25	0	120			
Total	Cars	Origin	A197 (Sun Inn)	0	613	318	50	156	1137		
			A192 (shields Rd)	1273	0	191	48	566	2078		
			Whorral Bank	597	257	0	204	520	1578		
			Oldgate	125	150	265	0	264	804		
			Newgate Street	242	363	386	103	0	1094		
	Heavy Goods	Origin	A197 (Sun Inn)	0	0	10	2	5	17		
			A192 (shields Rd)	17	0	6	2	18	43		
			Whorral Bank	12	0	0	1	4	17		
			Oldgate	0	0	1	0	4	5		
			Newgate Street	2	0	10	2	0	14		
	Buses	Origin	A197 (Sun Inn)	0	0	27	7	31	96		
			A192 (shields Rd)	3	0	2	12	7	24		
			Whorral Bank	5	0	0	1	7	13		
			Oldgate	0	0	1	0	2	3		
			Newgate Street	12	0	6	0	0	18		
Total	Origin	A197 (Sun Inn)	0	613	330	52	171	1166			
		A192 (shields Rd)	1293	0	199	62	591	2145			
		Whorral Bank	614	257	0	206	531	1608			
		Oldgate	125	150	267	0	270	812			
		Newgate Street	256	363	402	105	0	1126			
Total	Total	A197 (Sun Inn)	2288	1383	1198	425	1563	6857			

CROSSTABS

```

/TABLES=Org BY Dest BY Class BY Qtr
/FORMAT=AVALUE TABLES
/CELLS=COUNT
/COUNT ROUND CELL.

```

Quarter HourPeriods

[DataSet1] T:\traffic data collection\Jobs 2013\4711 Morpeth\4711.sav

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Origin * Destination * Classification * Qtr	6857	100.0%	0	0.0%	6857	100.0%

Origin * Destination * Classification * Qtr Crosstabulation

Count

Qtr				Destination					Total
				A197 (sun inn)	A192 (Shields Rd)	Whorral Bank	Oldgate	Newgate Street	
0700	Cars	Origin	A197 (Sun Inn)	0	11	1	1	1	14
			A192 (shields Rd)	48	0	4	2	49	103
			Whorral Bank	27	6	0	2	24	59
			Oldgate	1	4	5	0	10	20
			Newgate Street	11	13	9	1	0	34
		Total		87	34	19	6	84	230
	Heavy Goods	Origin	A192 (shields Rd)	0	0	2	0	0	2
			Whorral Bank	2	0	0	0	0	2
			Newgate Street	0	0	0	1	0	1
		Total		2	0	2	1	0	5
	Buses	Origin	A192 (shields Rd)	0	0	0	0	2	2
			Whorral Bank	1	0	0	0	1	2
		Total		1	0	0	0	3	4
	Total	Origin	A197 (Sun Inn)	0	11	1	1	1	14
			A192 (shields Rd)	48	0	6	2	51	107
Whorral Bank			30	6	0	2	25	63	
Oldgate			1	4	5	0	10	20	
Newgate Street			11	13	9	2	0	35	
	Total		90	34	21	7	87	239	
0715	Cars	Origin	A197 (Sun Inn)	0	10	1	1	3	15
			A192 (shields Rd)	59	0	4	0	38	101
			Whorral Bank	42	11	0	4	25	82
			Oldgate	8	1	7	0	3	19
			Newgate Street	10	21	14	0	0	45
		Total		119	43	26	5	69	262
	Heavy Goods	Origin	A192 (shields Rd)	1	0	1	0	2	4
			Whorral Bank	0	0	0	0	1	1
			Newgate Street	1	0	1	0	3	5
	Buses	Origin	A192 (shields Rd)	1	0	0	1	0	2
			Whorral Bank	0	0	0	0	1	1
		Total		1	0	0	1	3	
	Total	Origin	A197 (Sun Inn)	0	10	1	1	3	15
			A192 (shields Rd)	61	0	5	1	40	107
			Whorral Bank	42	11	0	4	27	84
Oldgate			8	1	7	0	3	19	
Newgate Street			10	21	14	0	0	45	
	Total		121	43	27	6	73	270	
0730	Cars	Origin	A197 (Sun Inn)	0	27	3	1	2	33
			A192 (shields Rd)	58	0	10	0	41	109
			Whorral Bank	43	15	0	4	15	77
			Oldgate	5	7	3	0	8	23
			Newgate Street	19	38	11	3	0	71
		Total		125	87	27	8	66	313
	Heavy Goods	Origin	A192 (shields Rd)	2	0	0	0	2	4
			Whorral Bank	1	0	0	0	0	1
			Newgate Street	0	0	2	0	0	2
		Total		3	0	2	0	2	7
	Buses	Origin	A192 (shields Rd)	0	0	0	1	2	3
			Whorral Bank	0	0	0	0	1	1
		Total		1	0	0	0	1	1
	Total	Origin	A197 (Sun Inn)	0	27	3	1	2	33
			A192 (shields Rd)	60	0	10	1	45	116
Whorral Bank			44	15	0	4	16	79	
Oldgate			5	7	3	0	8	23	
Newgate Street			20	38	13	3	0	74	
	Total		129	87	29	9	71	325	
0745	Cars	Origin	A197 (Sun Inn)	0	30	7	0	10	47
			A192 (shields Rd)	65	0	10	6	26	107
			Whorral Bank	49	20	0	4	28	101
			Oldgate	6	8	11	0	10	35
			Newgate Street	18	41	23	6	0	88
		Total		138	99	51	16	74	378
	Heavy Goods	Origin	A197 (Sun Inn)	0	0	1	0	0	1
			A192 (shields Rd)	1	0	0	0	1	2
			Newgate Street	0	0	1	0	0	1
		Total		1	0	2	0	1	4
	Buses	Origin	A192 (shields Rd)	0	0	0	1	0	1
			Newgate Street	1	0	0	0	0	1
		Total		1	0	0	1	0	2
	Total	Origin	A197 (Sun Inn)	0	30	8	0	10	48
			A192 (shields Rd)	66	0	10	7	27	110
Whorral Bank			49	20	0	4	28	101	
Oldgate			6	8	11	0	10	35	
Newgate Street			19	41	24	6	0	90	
	Total		140	99	53	17	75	384	
0800	Cars	Origin	A197 (Sun Inn)	0	61	12	2	6	81
			A192 (shields Rd)	69	0	7	2	42	120
			Whorral Bank	53	22	0	10	30	115
			Oldgate	11	18	17	0	18	64
			Newgate Street	17	28	22	2	0	69
		Total		150	129	58	16	96	449
	Heavy Goods	Origin	A197 (Sun Inn)	0	0	1	0	0	1
			A192 (shields Rd)	2	0	0	0	2	4
			Newgate Street	0	0	1	0	0	1
		Total		2	0	2	0	2	6
	Total	Origin	A197 (Sun Inn)	0	61	13	2	6	82
			A192 (shields Rd)	71	0	7	2	44	124
			Whorral Bank	53	22	0	10	30	115
			Oldgate	11	18	17	0	18	64
			Newgate Street	17	28	23	2	0	70
	Total		152	129	60	16	98	455	
0815	Cars	Origin	A197 (Sun Inn)	0	58	15	2	5	80
			A192 (shields Rd)	58	0	9	0	24	91
			Whorral Bank	47	29	0	10	44	130

		Oldgate	15	15	15	0	23	68
		Newgate Street	16	27	13	5	0	61
	Total		136	129	52	17	96	430
	Heavy Goods	Origin	A197 (Sun Inn)	0	0	2	0	4
			A192 (shields Rd)	0	0	0	1	1
	Total		0	0	2	1	2	5
	Buses	Origin	A197 (Sun Inn)	0	0	0	1	1
			A192 (shields Rd)	0	0	0	1	3
			Whorral Bank	0	0	0	1	1
			Oldgate	0	0	1	0	2
	Total		0	0	1	1	5	7
	Total	Origin	A197 (Sun Inn)	0	58	17	2	85
			A192 (shields Rd)	58	0	9	2	95
			Whorral Bank	47	29	0	10	131
			Oldgate	15	15	16	0	70
			Newgate Street	16	27	13	5	61
	Total		136	129	55	19	103	442
0830	Cars	Origin	A197 (Sun Inn)	0	66	7	0	79
			A192 (shields Rd)	80	0	2	3	109
			Whorral Bank	33	28	0	24	148
			Oldgate	4	5	13	0	39
			Newgate Street	9	24	21	7	61
	Total		126	123	43	34	110	436
	Heavy Goods	Origin	A192 (shields Rd)	2	0	0	0	2
			Whorral Bank	2	0	0	0	2
	Total		4	0	0	0	0	4
	Buses	Origin	A192 (shields Rd)	0	0	0	1	1
			Newgate Street	2	0	3	0	5
	Total		2	0	3	1	0	6
	Total	Origin	A197 (Sun Inn)	0	66	7	0	79
			A192 (shields Rd)	82	0	2	4	112
			Whorral Bank	35	28	0	24	150
			Oldgate	4	5	13	0	39
			Newgate Street	11	24	24	7	66
	Total		132	123	46	35	110	446
0845	Cars	Origin	A197 (Sun Inn)	0	68	10	2	85
			A192 (shields Rd)	53	0	6	1	79
			Whorral Bank	23	20	0	9	75
			Oldgate	9	9	12	0	39
			Newgate Street	11	21	13	4	49
	Total		96	118	41	16	56	327
	Heavy Goods	Origin	A197 (Sun Inn)	0	0	1	0	2
			A192 (shields Rd)	1	0	0	0	4
			Oldgate	0	0	1	0	1
			Newgate Street	0	0	2	0	2
	Total		1	0	4	0	4	9
	Buses	Origin	A197 (Sun Inn)	0	0	0	0	1
			Whorral Bank	0	0	0	0	1
			Newgate Street	1	0	0	0	1
	Total		1	0	0	0	2	3
	Total	Origin	A197 (Sun Inn)	0	68	11	2	88
			A192 (shields Rd)	54	0	6	1	83
			Whorral Bank	23	20	0	9	76
			Oldgate	9	9	13	0	40
			Newgate Street	12	21	15	4	52
	Total		98	118	45	16	62	339
0900	Cars	Origin	A197 (Sun Inn)	0	41	8	1	52
			A192 (shields Rd)	52	0	8	0	76
			Whorral Bank	20	8	0	5	46
			Oldgate	6	10	20	0	54
			Newgate Street	12	28	16	2	58
	Total		90	87	52	8	49	286
	Heavy Goods	Origin	A197 (Sun Inn)	0	0	0	1	2
			A192 (shields Rd)	2	0	1	1	6
			Newgate Street	1	0	1	1	3
	Total		3	0	2	3	3	11
	Buses	Origin	A197 (Sun Inn)	0	0	0	0	1
			A192 (shields Rd)	0	0	0	1	1
	Total		0	0	0	1	1	2
	Total	Origin	A197 (Sun Inn)	0	41	8	2	55
			A192 (shields Rd)	54	0	9	2	83
			Whorral Bank	20	8	0	5	46
			Oldgate	6	10	20	0	54
			Newgate Street	13	28	17	3	61
	Total		93	87	54	12	53	299
0915	Cars	Origin	A197 (Sun Inn)	0	38	13	2	56
			A192 (shields Rd)	50	0	8	1	73
			Whorral Bank	21	14	0	11	56
			Oldgate	2	6	5	0	22
			Newgate Street	9	25	19	1	54
	Total		82	83	45	15	36	261
	Heavy Goods	Origin	A197 (Sun Inn)	0	0	2	1	3
			A192 (shields Rd)	1	0	1	0	4
			Whorral Bank	2	0	0	0	2
			Oldgate	0	0	0	0	2
	Total		3	0	3	1	4	11
	Buses	Origin	A192 (shields Rd)	0	0	0	1	1
			Whorral Bank	1	0	0	0	1
	Total		1	0	0	1	0	2
	Total	Origin	A197 (Sun Inn)	0	38	15	3	59
			A192 (shields Rd)	51	0	9	2	78
			Whorral Bank	24	14	0	11	59
			Oldgate	2	6	5	0	24
			Newgate Street	9	25	19	1	54
	Total		86	83	48	17	40	274
0930	Cars	Origin	A197 (Sun Inn)	0	52	18	3	84
			A192 (shields Rd)	46	0	14	0	74
			Whorral Bank	16	10	0	7	42
			Oldgate	3	8	10	0	36
			Newgate Street	17	16	4	7	44

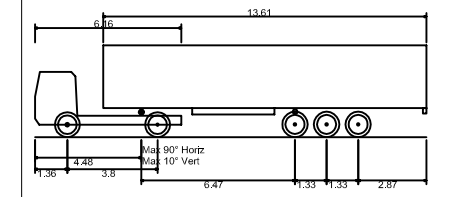
		Total		82	86	46	17	49	280
	Heavy Goods	Origin	A192 (shields Rd)	2	0	0	0	1	3
			Whorral Bank	1	0	0	0	0	1
		Total		3	0	0	0	1	4
	Buses	Origin	Oldgate	0	0	0	0	1	1
			Newgate Street	2	0	0	0	0	2
		Total		2	0	0	0	1	3
	Total	Origin	A197 (Sun Inn)	0	52	18	3	11	84
			A192 (shields Rd)	48	0	14	0	15	77
			Whorral Bank	17	10	0	7	9	43
			Oldgate	3	8	10	0	16	37
			Newgate Street	19	16	4	7	0	46
0945		Total		87	86	46	17	51	287
	Cars	Origin	A197 (Sun Inn)	0	48	8	1	1	58
			Whorral Bank	11	9	0	5	10	35
			Oldgate	9	6	6	0	3	24
			Newgate Street	3	9	10	6	0	28
		Total		23	72	24	12	14	145
	Heavy Goods	Origin	A197 (Sun Inn)	0	0	1	0	0	1
			Whorral Bank	3	0	0	0	1	4
		Total		3	0	1	0	1	5
	Buses	Origin	A197 (Sun Inn)	0	0	0	0	1	1
		Total		0	0	0	0	1	1
	Total	Origin	A197 (Sun Inn)	0	48	9	1	2	60
			Whorral Bank	14	9	0	5	11	39
			Oldgate	9	6	6	0	3	24
			Newgate Street	3	9	10	6	0	28
1500		Total		26	72	25	12	16	151
	Cars	Origin	A197 (Sun Inn)	0	25	9	3	12	49
			A192 (shields Rd)	71	0	8	4	20	103
			Whorral Bank	14	17	0	11	17	59
			Oldgate	9	7	4	0	15	35
			Newgate Street	4	19	16	4	0	43
		Total		98	68	37	22	64	289
	Heavy Goods	Origin	A192 (shields Rd)	0	0	0	0	1	1
			Oldgate	0	0	0	0	1	1
		Total		0	0	0	0	2	2
	Buses	Origin	A197 (Sun Inn)	0	0	0	0	1	1
			Newgate Street	0	0	1	0	0	1
		Total		0	0	1	0	1	2
	Total	Origin	A197 (Sun Inn)	0	25	9	3	13	50
			A192 (shields Rd)	71	0	8	4	21	104
			Whorral Bank	14	17	0	11	17	59
			Oldgate	9	7	4	0	16	36
			Newgate Street	4	19	17	4	0	44
1515		Total		98	68	38	22	67	293
	Cars	Origin	A197 (Sun Inn)	0	4	15	2	7	28
			A192 (shields Rd)	47	0	11	1	16	75
			Whorral Bank	14	3	0	9	21	47
			Oldgate	1	6	19	0	16	42
			Newgate Street	11	7	18	4	0	40
		Total		73	20	63	16	60	232
	Heavy Goods	Origin	A197 (Sun Inn)	0	0	1	0	0	1
			A192 (shields Rd)	2	0	1	0	2	5
			Whorral Bank	0	0	0	0	1	1
			Newgate Street	0	0	1	0	0	1
		Total		2	0	3	0	3	8
	Buses	Origin	A192 (shields Rd)	0	0	1	0	0	1
			Whorral Bank	1	0	0	0	1	2
		Total		1	0	1	0	1	3
	Total	Origin	A197 (Sun Inn)	0	4	16	2	7	29
			A192 (shields Rd)	49	0	13	1	18	81
			Whorral Bank	15	3	0	9	23	50
			Oldgate	1	6	19	0	16	42
			Newgate Street	11	7	19	4	0	41
		Total		76	20	67	16	64	243
1530	Cars	Origin	A197 (Sun Inn)	0	19	9	2	4	34
			A192 (shields Rd)	52	0	5	3	22	82
			Whorral Bank	19	7	0	8	25	59
			Oldgate	3	10	22	0	15	50
			Newgate Street	6	8	22	4	0	40
		Total		80	44	58	17	66	265
	Buses	Origin	A192 (shields Rd)	0	0	0	0	1	1
			Newgate Street	1	0	0	0	0	1
		Total		1	0	0	0	1	2
	Total	Origin	A197 (Sun Inn)	0	19	9	2	4	34
			A192 (shields Rd)	52	0	5	3	23	83
			Whorral Bank	19	7	0	8	25	59
			Oldgate	3	10	22	0	15	50
			Newgate Street	7	8	22	4	0	41
		Total		81	44	58	17	67	267
1545	Cars	Origin	A197 (Sun Inn)	0	27	21	3	7	58
			A192 (shields Rd)	65	0	8	3	17	93
			Whorral Bank	23	13	0	9	26	71
			Oldgate	5	12	17	0	8	42
			Newgate Street	6	12	18	4	0	40
		Total		99	64	64	19	58	304
	Heavy Goods	Origin	Oldgate	0	0	0	0	1	1
		Total		0	0	0	0	1	1
	Buses	Origin	A192 (shields Rd)	1	0	0	0	0	1
			Newgate Street	1	0	1	0	0	2
		Total		2	0	1	0	0	3
	Total	Origin	A197 (Sun Inn)	0	27	21	3	7	58
			A192 (shields Rd)	66	0	8	3	17	94
			Whorral Bank	23	13	0	9	26	71
			Oldgate	5	12	17	0	9	43
			Newgate Street	7	12	19	4	0	42
		Total		101	64	65	19	59	308
1600	Cars	Origin	A197 (Sun Inn)	0	7	15	3	10	35
			A192 (shields Rd)	52	0	8	3	26	89

		Whorral Bank	18	4	0	7	16	45	
		Oldgate	2	6	10	0	11	29	
		Newgate Street	6	7	22	3	0	38	
	Total		78	24	55	16	63	236	
Heavy Goods	Origin	Newgate Street	0	0	1	0	0	1	
	Total		0	0	1	0	0	1	
Buses	Origin	A197 (Sun Inn)	0	0	0	0	2	2	
		A192 (shields Rd)	1	0	0	2	0	3	
		Whorral Bank	0	0	0	1	0	1	
	Total		1	0	0	3	2	6	
Total	Origin	A197 (Sun Inn)	0	7	15	3	12	37	
		A192 (shields Rd)	53	0	8	5	26	92	
		Whorral Bank	18	4	0	8	16	46	
		Oldgate	2	6	10	0	11	29	
		Newgate Street	6	7	23	3	0	39	
	Total		79	24	56	19	65	243	
1615	Cars	Origin	A197 (Sun Inn)	0	8	37	2	10	57
			A192 (shields Rd)	55	0	17	3	31	106
			Whorral Bank	19	5	0	9	16	49
			Oldgate	3	2	14	0	10	29
			Newgate Street	11	6	16	3	0	36
	Total		88	21	84	17	67	277	
Buses	Origin	A197 (Sun Inn)	0	0	0	0	1	1	
		Whorral Bank	1	0	0	0	0	1	
		Newgate Street	0	0	1	0	0	1	
	Total		1	0	1	0	1	3	
Total	Origin	A197 (Sun Inn)	0	8	37	2	11	58	
		A192 (shields Rd)	55	0	17	3	31	106	
		Whorral Bank	20	5	0	9	16	50	
		Oldgate	3	2	14	0	10	29	
		Newgate Street	11	6	17	3	0	37	
	Total		89	21	85	17	68	280	
1630	Cars	Origin	A197 (Sun Inn)	0	4	29	5	10	48
			A192 (shields Rd)	48	0	10	4	24	86
			Whorral Bank	18	11	0	9	12	50
			Oldgate	2	8	13	0	7	30
			Newgate Street	7	8	22	7	0	44
	Total		75	31	74	25	53	258	
Heavy Goods	Origin	A197 (Sun Inn)	0	0	1	0	1	2	
		Whorral Bank	0	0	0	0	1	1	
		Newgate Street	1	0	1	0	0	2	
	Total		1	0	2	0	2	5	
Buses	Origin	A197 (Sun Inn)	0	0	0	0	1	1	
		Newgate Street	1	0	0	0	0	1	
	Total		1	0	0	0	1	2	
Total	Origin	A197 (Sun Inn)	0	4	30	5	12	51	
		A192 (shields Rd)	48	0	10	4	24	86	
		Whorral Bank	18	11	0	9	13	51	
		Oldgate	2	8	13	0	7	30	
		Newgate Street	9	8	23	7	0	47	
	Total		77	31	76	25	56	265	
1645	Cars	Origin	A197 (Sun Inn)	0	3	13	2	5	23
			A192 (shields Rd)	71	0	11	3	20	105
			Whorral Bank	17	1	0	13	16	47
			Oldgate	5	1	8	0	11	25
			Newgate Street	7	0	20	5	0	32
	Total		100	5	52	23	52	232	
Heavy Goods	Origin	Whorral Bank	1	0	0	0	0	1	
	Total		1	0	0	0	0	1	
Buses	Origin	A197 (Sun Inn)	0	0	0	0	1	1	
		Newgate Street	1	0	0	0	0	1	
	Total		1	0	0	0	1	2	
Total	Origin	A197 (Sun Inn)	0	3	13	2	6	24	
		A192 (shields Rd)	71	0	11	3	20	105	
		Whorral Bank	18	1	0	13	16	48	
		Oldgate	5	1	8	0	11	25	
		Newgate Street	8	0	20	5	0	33	
	Total		102	5	52	23	53	235	
1700	Cars	Origin	A197 (Sun Inn)	0	5	15	4	11	35
			A192 (shields Rd)	42	0	8	4	32	86
			Whorral Bank	11	3	0	11	16	41
			Oldgate	3	0	13	0	7	23
			Newgate Street	11	4	15	8	0	38
	Total		67	12	51	27	66	223	
Heavy Goods	Origin	Whorral Bank	0	0	0	1	0	1	
	Total		0	0	0	1	0	1	
Buses	Origin	A192 (shields Rd)	0	0	0	1	0	1	
	Total		0	0	0	1	0	1	
Total	Origin	A197 (Sun Inn)	0	5	15	4	11	35	
		A192 (shields Rd)	42	0	8	5	32	87	
		Whorral Bank	11	3	0	12	16	42	
		Oldgate	3	0	13	0	7	23	
		Newgate Street	11	4	15	8	0	38	
	Total		67	12	51	29	66	225	
1715	Cars	Origin	A197 (Sun Inn)	0	1	17	4	10	32
			A192 (shields Rd)	37	0	6	1	12	56
			Whorral Bank	19	1	0	11	22	53
			Oldgate	5	1	11	0	8	25
			Newgate Street	8	1	13	4	0	26
	Total		69	4	47	20	52	192	
Buses	Origin	A197 (Sun Inn)	0	0	1	0	0	1	
		A192 (shields Rd)	0	0	1	1	0	2	
		Whorral Bank	0	0	0	0	1	1	
	Total		0	0	2	1	1	4	
Total	Origin	A197 (Sun Inn)	0	1	18	4	10	33	
		A192 (shields Rd)	37	0	7	2	12	58	
		Whorral Bank	19	1	0	11	23	54	
		Oldgate	5	1	11	0	8	25	
		Newgate Street	8	1	13	4	0	26	
	Total		69	4	49	21	53	196	

1730	Cars	Origin	A197 (Sun Inn)	0	0	21	3	8	32
			A192 (shields Rd)	41	0	11	3	27	82
			Whorral Bank	24	0	0	7	33	64
			Oldgate	3	0	6	0	6	15
			Newgate Street	9	0	18	7	0	34
	Total		77	0	56	20	74	227	
	Heavy Goods	Origin	A192 (shields Rd)	1	0	0	0	0	1
			Total	1	0	0	0	0	1
	Buses	Origin	A197 (Sun Inn)	0	0	1	0	0	1
			Whorral Bank	1	0	0	0	0	1
			Newgate Street	1	0	0	0	0	1
	Total		2	0	1	0	0	3	
	Total	Origin	A197 (Sun Inn)	0	0	22	3	8	33
			A192 (shields Rd)	42	0	11	3	27	83
Whorral Bank			25	0	0	7	33	65	
Oldgate			3	0	6	0	6	15	
Newgate Street			10	0	18	7	0	35	
Total		80	0	57	20	74	231		
1745	Cars	Origin	A197 (Sun Inn)	0	0	14	1	7	22
			A192 (shields Rd)	54	0	6	1	12	73
			Whorral Bank	16	0	0	5	6	27
			Oldgate	5	0	4	0	7	16
			Newgate Street	4	0	11	6	0	21
	Total		79	0	35	13	32	159	
	Buses	Origin	A192 (shields Rd)	0	0	0	1	0	1
			Total	0	0	0	1	0	1
	Total	Origin	A197 (Sun Inn)	0	0	14	1	7	22
			A192 (shields Rd)	54	0	6	2	12	74
			Whorral Bank	16	0	0	5	6	27
			Oldgate	5	0	4	0	7	16
			Newgate Street	4	0	11	6	0	21
	Total		79	0	35	14	32	160	
Total	Cars	Origin	A197 (Sun Inn)	0	613	318	50	156	1137
			A192 (shields Rd)	1273	0	191	48	566	2078
			Whorral Bank	597	257	0	204	520	1578
			Oldgate	125	150	265	0	264	804
			Newgate Street	242	363	386	103	0	1094
	Total		2237	1383	1160	405	1506	6691	
	Heavy Goods	Origin	A197 (Sun Inn)	0	0	10	2	5	17
			A192 (shields Rd)	17	0	6	2	18	43
			Whorral Bank	12	0	0	1	4	17
			Oldgate	0	0	1	0	4	5
			Newgate Street	2	0	10	2	0	14
	Total		31	0	27	7	31	96	
	Buses	Origin	A197 (Sun Inn)	0	0	2	0	10	12
			A192 (shields Rd)	3	0	2	12	7	24
Whorral Bank			5	0	0	1	7	13	
Oldgate			0	0	1	0	2	3	
Newgate Street			12	0	6	0	0	18	
Total		20	0	11	13	26	70		
Total	Origin	A197 (Sun Inn)	0	613	330	52	171	1166	
		A192 (shields Rd)	1293	0	199	62	591	2145	
		Whorral Bank	614	257	0	206	531	1608	
		Oldgate	125	150	267	0	270	812	
		Newgate Street	256	363	402	105	0	1126	
Total		2288	1383	1198	425	1563	6857		



Appendix E Vehicle Tracking for the Signals



FTA Design Articulated Vehicle (1998)	16.480m
Overall Length	2.550m
Overall Width	3.870m
Overall Body Height	3.515m
Min Body Ground Clearance	2.470m
Max Track Width	3.00s
Lock to Lock Time	6.550m
Kerb to Kerb Turning Radius	



Rev A.



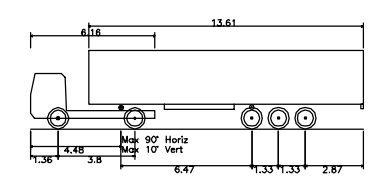
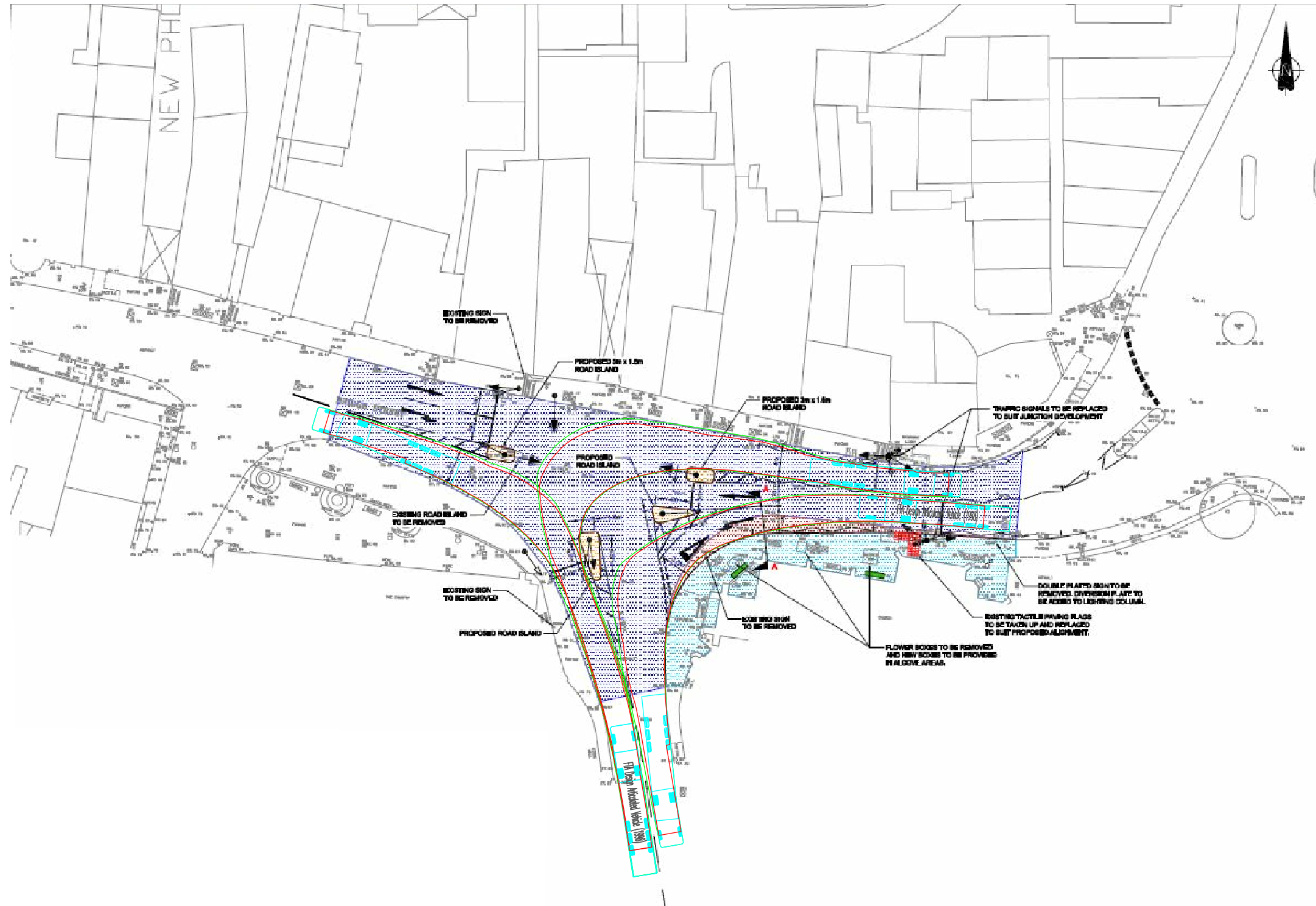
The Innovation Centre, 1 Devon Way,
 Longbridge Technology Park, Birmingham, B31 2TS
 Tel: 0121 222 5422 Fax 0121 222 5423
 aaim@philjonesassociates.co.uk
 www.philjonesassociates.co.uk

Client
 Northumberland County Council

Project
 Morpeth Town Centre

Drawing
 Bridge Street Signals
 Swept Path analysis

Drawn by JL	Date: April 13	Scale: 1:500 @ A3
Drawing No. 1020-01	Revision	-



FTA Design Articulated Vehicle (1998)	
Overall Length	16.480m
Overall Width	2.550m
Overall Body Height	3.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock to Lock Time	3.00s
Kerb to Kerb Turning Radius	6.550m

Rev A.



The Innovation Centre, 1 Devon Way,
Longbridge Technology Park, Birmingham, B31 2TS
Tel: 0121 222 5422 Fax: 0121 222 5423
admin@philjonesassociates.co.uk
www.philjonesassociates.co.uk

Client
-

Project
Morpeth

Drawing
Swept Path analysis

Drawn by J.L. Date: March 13 Scale: 1:500 @ A3

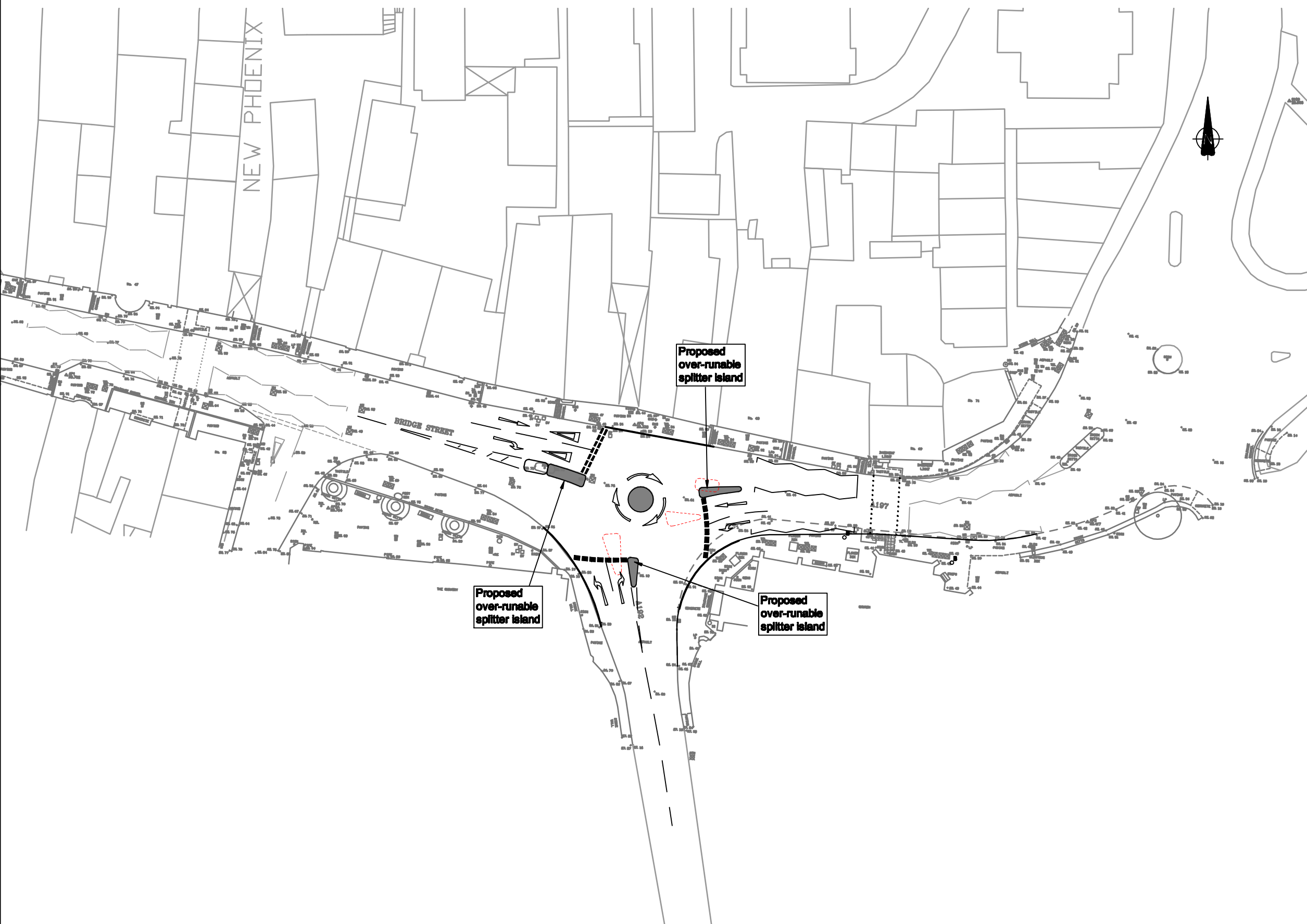
Drawing No.	01	Revision	-
-------------	----	----------	---



Appendix F Proposed mini-roundabout

Key

Existing islands to be removed



Rev A



The Innovation Centre, 1 Dean Way,
Langbidge Technology Park, Birmingham, B91 2TB
Tel: 0121 282 6482 Fax: 0121 282 6489
phil@philjonesassociates.co.uk
www.philjonesassociates.co.uk

Client

Northumberland County
Council

Project

Morpeth

Drawing

Proposed Mini
Roundabout

Drawn by J.L. Date: June 13 Scale: 1:500 @ A3

Drawing No. 1020-12 Revision --