



SHEFFIELD CITY COUNCIL

Cabinet Highways Committee

13

Report of: EXECUTIVE DIRECTOR, PLACE

Date: 10th February 2011

Subject: Langsett Road, Hillsborough bus/tram gate hours of operation changes – 12 month monitoring report and review

Author of Report: Paul Casola

Summary:

The aim of the report is to inform members of continued findings and trends following the relaxation in the hours of operation of the bus/tram gate on Langsett Road, Hillsborough. Since 7 November 2009 this gate has been open to general traffic between the hours of 1100 and 1500, Mondays to Saturdays as part of an 18 month Experimental Traffic Regulation Order (ETRO). This relaxation also removed any restriction or enforcement on Sundays. The aim of this experiment is to stimulate the economic viability of Hillsborough District Centre, as previously local traders felt the restrictions were damaging their business, whilst car drivers felt Hillsborough was difficult to reach.

Reasons for Recommendations:

The relaxation of the hours of operation of the bus/tram gate on Langsett Road was introduced via an 18 month Experimental Traffic Regulation Order (ETRO). The nature of this process requires the change to be either made permanent or removed within its lifetime. Residents, businesses and visitors to Hillsborough are now used to this arrangement and generally seem happy with the change. It is therefore, recommended to make the change permanent;

Recommendations:

Note the findings of this third and final monitoring report

Make the relaxation in operational hours of the bus/tram gate permanent

Undertake regular monitoring and annual reviews of network capacity, traffic flows and journey times, and report back to this Committee.

Continue to liaise with public transport operators, South Yorkshire Passenger Transport Executive, and the Central Community Assembly to provide feedback on journey times and network capacity.

Background Papers: Previous Reports to Cabinet Highways Committee on 11th March 2010 & 17th June 2010

Category of Report: OPEN

Statutory and Council Policy Checklist

Financial implications
YES Cleared by: Liam Gilligan
Legal implications
NO Cleared by: Julian Ward
Equality of Opportunity implications
NO Cleared by: Ian Oldershaw
Tackling Health Inequalities implications
NO
Human rights implications
NO
Environmental and Sustainability implications
NO
Economic impact
NO
Community safety implications
NO
Human resources implications
NO
Property implications
NO
Area(s) affected
Hillsborough
Relevant Scrutiny Board if decision called in
Culture, Economy and Sustainability
Is the item a matter which is reserved for approval by the City Council?
NO
Press release
YES

LANGSETT ROAD, HILLSBOROUGH BUS/TRAM GATE HOURS OF OPERATION CHANGES – 12 MONTH MONITORING REPORT AND REVIEW

1.0 SUMMARY

- 1.1 The aim of the report is to inform members of continued findings and trends following the relaxation in the hours of operation of the bus/tram gate on Langsett Road, Hillsborough. Since 7 November 2009 this gate has been open to general traffic between the hours of 1100 and 1500, Mondays to Saturdays as part of an 18 month Experimental Traffic Regulation Order (ETRO). This relaxation also removed any restriction or enforcement on Sundays. The aim of this experiment is to stimulate the economic viability of Hillsborough District Centre, as previously local traders felt the restrictions were damaging their business, whilst car drivers felt Hillsborough was difficult to reach.
- 1.2 The report proposes that the experimental relaxation of the restriction be made permanent. However, officers do have concerns that should traffic levels on Langsett Road continue to grow (as they have done since the relaxation began), they will eventually reach a level which will seriously disrupt traffic on the Bradfield Road/Holme Lane route. This would lead to long delays for all traffic travelling through the Hillsborough area. It is therefore proposed to regularly monitor traffic levels and associated delays in this area and report back annually to this Committee.
- 1.3 Findings suggest there is broad public support for the current arrangements. Passengers do not perceive any increase in journey times or delays, whilst in reality there have been marginal increases in public transport journey times. Traffic flows along Langsett Road between 1100 and 1500 hours have increased significantly since the relaxation, though are still substantially lower than prior to camera enforcement. Analysis of ANPR data considers the majority of this to be through traffic, or visitors to Hillsborough taking more direct routes; this is supported by comparable traffic surveys along Penistone Road. Demand for car parking in Hillsborough is relatively unchanged, whilst vacant retail space has reduced. Injury accidents are marginally down despite the increase in traffic flows, and there has been no change in bus collisions. The Council has also received two formal objections to the ETRO, citing concerns over increases in public transport journey times and the lack of any evidence from local businesses. Separately, concern has also been expressed regarding the operation of the pelican crossing on Langsett Road, by Forbes Road, in relation to queuing traffic, including that expressed by Ward Councillors.

2.0 WHAT DOES THIS MEAN FOR THE PEOPLE OF SHEFFIELD

- 2.1 The change meets a number of targets of the Sheffield 'City of Opportunity' Corporate Plan, under the 'Protecting and Enhancing the Environment' ambition, including priorities for reducing congestion, public transport that is easier for people to use and, safer roads. The change also helps promote improving the vitality of Hillsborough District Centre.

3.0 OUTCOME AND SUSTAINABILITY

- 3.1 The experimental change has made it easier to travel to Hillsborough District Centre during the middle of the day, making the centre more attractive to shoppers and visitors alike. Hillsborough is already accessible by a range of

transport modes, and its transport interchange makes travel by sustainable modes attractive. Traffic levels on Langsett Road have significantly increased and this does require additional green time through junctions to accommodate this, which translates to marginal delays, though the junctions have sufficient capacity. The demand for car parking in Hillsborough remains relatively unchanged, whilst the change is favoured by the majority of the local population.

- 3.2 The relaxation in operational hours was originally in response to local businesses, local people and elected Members, to improve access to and the viability of the local centre. Both local people and elected Members have commented this change has been positive and well received. However, its effect on trade is unclear, as no evidence has been made available. Although vacant retail space in Hillsborough is down, suggesting some upturn in trade.

4.0 REPORT

Background to the Review

- 4.1 This review is the third and final monitoring reports which will assess the effect of these changes, with a view to making the current Experimental Traffic Regulation Order (ETRO) permanent or revert to the previous arrangement within the 18 month period. This report reviews the past 12 months since the operational change came into effect.
- 4.2 The criteria against which the ETRO is being judged have been agreed by the Sheffield Punctuality Improvement Partnership (PIP) Group. This group is made up of officers from the City Council and South Yorkshire Passenger Transport Executive (SYPTe), and representatives of the public transport operators. However, there has not been consensus between the parties concerned as to what thresholds of success or failure should apply. Of primary importance to the operators and SYPTe was to have no worsening in journey times and reliability, or reduction in patronage.
- 4.3 The evaluation criteria used include:
- Traffic Flows
 - Bus/tram gate penalty charge levels
 - Public transport journey times
 - Automatic Number Plate Recognition Data
 - Retail Data
 - Accidents

Monitoring Summary

Traffic- Langsett Road/Hillsborough Corner

- 4.4 On introduction of camera enforcement (July 2007), the amount of through traffic in Hillsborough Centre had reduced significantly (by over 80%). However, the most recent 12 hour traffic survey of Langsett Road, undertaken in February 2010, revealed a four fold increase in the number of cars (from 191 to 967 over the 3 day survey, or equivalent to an additional 20 cars every 15 minutes, or 4 vehicles every 3 minutes) travelling outbound through the bus/tram gate between 1100 and 1500 hours when compared with the same survey in February 2009.
- 4.5 A comparison of traffic flows along both Langsett Road and Penistone Road has revealed there to be some correlation between these two parallel routes. For example, following the start of camera enforcement in July 2007, surveys in February 2008 revealed there to be 106 fewer vehicles travelling outbound on Langsett Road between 1100 to 1500 hours, whilst during the same time there

were 40 additional vehicles outbound on Penistone Road. A similar correlation is shown in February 2010, following the relaxation in operational hours of the bus/tram gate on 7 November 2009. This survey reveals there to be 941 fewer vehicles travelling outbound on Penistone Road between 1100 to 1500 hours, whilst at the same time there are 520 additional vehicles travelling outbound on Langsett Road. This trend suggests that around half of the additional traffic travelling outbound on Langsett Road has transferred from Penistone Road since the operational hours of the bus/tram were relaxed.

- 4.6 This clearly demonstrates drivers are aware of the relaxation and travelling through the bus/tram gate when permitted, using more direct routes to access the local car parks and travel through Hillsborough. Over the 12-hour (0700 to 1900 hours) survey period the number of cars has also increased by 26% since the relaxation came into operation. However, traffic levels on Langsett Road are still substantially lower (64% or 2,564 fewer vehicles) than before enforcement of the bus/tram gate started.
- 4.7 It is not clear whether the relaxation of the hours of operation of the Langsett Road bus/tram gate has resulted in more traffic either being attracted to visit Hillsborough District Centre or use the road as a through route. It would appear to be the same traffic as before rerouting. Trends and analysis of Automatic Number Plate Recognition (ANPR) data, car park surveys and traffic in the wider area (discussed in later sections of this report), seem to support this. Langsett Road itself and the surrounding local area is a mix of land uses, residential, shops, businesses, etc. Hence, any traffic travelling through this area will also reflect this mix. The trip purposes will be varied and no doubt a proportion of the traffic now using Langsett Road will be through traffic.

Traffic - Wider Area

- 4.8 12 hour traffic surveys have continued to be undertaken at a series of side roads in the Hillsborough area to monitor the impact, originally of the enforcement of the bus/tram gate and, now the change in hours of operation. Generally traffic flows on these more minor roads are now lower between 1100 and 1500 hours, reinforcing that existing traffic is rerouting locally to use Langsett Road

Penalty Charge Notices (PCNs)

- 4.9 A comparison of the 12 month period since the change, versus a comparable period beforehand, shows a 5% (205 additional notices) increase in PCNs in Hillsborough overall. This breaks down to a 10% increase in PCNs on Langsett Road (440 additional notices), although the hours of restriction have reduced by a third, to now exclude 1100 to 1500 hours. This change is mirrored by a similar percentage decrease (by 11%) in PCNs issued on Middlewood Road (235 fewer notices). Collision data received from Firstgroup shows there to have been no change in the number of bus-vehicle collisions (two collisions both before and after the relaxation). These all occurred on or near the Holme Lane of the Hillsborough Corner junction. In isolation, neither changes in PIA or bus collision trends, can be attributed to any one particular factor.

Bus Journey Times

- 4.10 SYPTE has analysed approximately 140,000 bus journeys over the past 12 months using ACIS (Real-time) data, against a comparable period during 2008/09. Bus journeys made Monday to Friday and Saturdays between 1100 and 1500 hours have analysed, including both inbound and outbound journeys. This is included in Appendix A.

- 4.11 This data shows the average delay for buses between 1100 and 1500 hours is greater since the relaxation in operational hours of the bus/tram gate, than before. Delays are now typically an additional 20-25 seconds for every bus journey made between 1100 and 1500 hours, with Middlewood Road being more affected.
- 4.12 Bus patronage in Hillsborough, between 2009 and 2010, has declined by around 11%, equivalent to 896 fewer passengers per day. This has been matched by a 3% reduction (29 fewer vehicles) in the average number of buses operated. This compares against a city-wide trend of a 1% increase in bus patronage (708,684 additional passengers between 2009 and 2010). Similarly, this increase has been matched by a 3% increase in the number of vehicles operated (18 additional vehicles). Conversely, tram patronage in Hillsborough has increased by around 5% between 2009 and 2010, equivalent to 348 additional passengers per day.
- 4.13 Public transport operators work in a commercial environment and amend their network coverage and number of services operated in response to this. Therefore, any changes to patronage or the number of vehicles cannot be attributed to any one factor.

Tram Journey Times

- 4.14 The Council's Traffic Information and Control team has supplied tram journey time data which is held on behalf of Supertram. A comparison of journey times between 1100 to 1500 hours along four timed sections of the Supertram network has been undertaken. These include two inbound sections between Malin Bridge and Middlewood terminus' and Hillsborough, Forbes Road, and two outbound timed sections between Shalesmoor/Infirmary Road to Malin Bridge and Middlewood. Data has been used to allow comparisons between periods before and after the relaxation of the bus/tram gate. Before data ranges from between November 2008 to May 2009. After data ranges from between November 2009 and September 2010.
- 4.15 Since the relaxation of the Hillsborough bus/tram gate average journey times for outbound trams have increased by between 24 to 31 seconds, which is similar to the average delays reported for buses. However, these are long timed sections, including a substantial portion of the route on the exit to the Holme Lane/Middlewood Road junction. ANPR data (also see 4.19 below) actually shows a much smaller increase in journey times on the Infirmary Road approach to the junction. Some additional delay should be expected as more traffic is travelling on this approach; however this is unlikely to be as much as the tram data shows.
- 4.16 For inbound trams the change in journey times is much more variable, with reductions in average journey times of 1 minute 31 seconds on the Holme Lane approach to the Holme Lane/Middlewood Road junction. ANPR data also shows this reduction, but this tends to be balanced with delays on the exit. Therefore, in reality inbound journey times for trams from Holme Lane are relatively unchanged following the relaxation.
- 4.17 On the inbound Middlewood Road approach, tram journey times show a marginal increase of 5 seconds. Conversely, ANPR data shows a marginal improvement, but again due to the change in vehicle class mix (more cars travelling through the junction) some additional delay should be expected.

- 4.18 There is a lot of variability in tram journey times due to similar changes in traffic flows which the signal setting for the junction need to adjust and compensate for. This affects all traffic moving through the area and junctions. Modifications to the traffic signal timings have actually provided some benefit for trams, resulting in reduced journey times, and overall any delays are marginal. In terms of public transport services, and according to market research undertaken, these marginal delays are not noticed by passengers. A table showing a summary of this data is included as Appendix B.

Automatic Number Plate Recognition (ANPR) Data

- 4.19 As before, ANPR data for 23 links has been analysed. This analysis confirms there has been a noticeable increase in the levels of traffic using Langsett Road as a through route since the relaxation came into operation. As the majority of vehicles travelling through here originate a fair distance away, it is likely that this additional traffic is indeed through traffic. This is further supported by the comparison in traffic flows between Penistone Road and Langsett Road (see paragraph 4.5). Whilst the previous car park surveys which showed there to be little change in car park occupancy since the relaxation add further weight to this. However, although there are now an additional 20 vehicles every 15 minutes (equivalent to 4 additional vehicles every 3 minutes) travelling through this junction between 1100 and 1500 hours, this number still represents a relatively small number in terms of the overall capacity of the junction. The exception to this is on home match days at Sheffield Wednesday.

Vacant Retail Space

- 4.20 The latest retail data shows there to be a total of 8% (15 units) of all retail space vacant in Hillsborough, compared with previous data (2008) which showed 10% (18 units) vacant. This data shows 3 additional retail units are now occupied in 2010 than in 2008. However, it is not possible to attribute this change to any one particular factor.

Accident Data

- 4.21 There have been 2 fewer slight injury accidents (from 7 to 5 incidents) over the entire 12 month period since the relaxation, than beforehand. There has been no change in the number of Killed or Seriously Injured accidents. However, although there has been an overall decrease in incidents, there are now more injury accidents (up from 3 to 5 incidents) occurring between 1100 and 1500 hours than before the relaxation. This could be expected given that traffic flows along Langsett Road have increased since the relaxation. Vehicle-to-pedestrian collisions still appear to be the prevalent type of incident. Interestingly, no vehicle-to-vehicle collisions have been reported to the Police since the hours of operation of the bus/tram gate have been relaxed.

Langsett Road/Forbes Road Pedestrian Crossing

- 4.22 There has been concern raised over the pedestrian crossing at Langsett Road, at its junction Forbes Road. The problem is due to the distance between the outbound stop line on Langsett Road and the pedestrian crossing near Forbes Road. Vehicles do queue back across the junction when permitted through. These vehicles are then in conflict with the pedestrian crossing when this changes to a green man, and drivers not being able to see any traffic signal heads to indicate whether it is safe to proceed or not. This was a problem before the introduction of bus gate enforcement cameras. However, enforcement dramatically reduced illegal traffic levels and these queues disappeared.

However, since the relaxation was introduced, traffic flows have increased and this problem has re-emerged.

- 4.23 Fortunately, the affected vehicles are travelling at slow speeds and accident data shows there to be only one slight injury accident before and one after the relaxation in operational hours, both occurred at times when vehicles were permitted through. There are a number of possible remedial solutions to this issue. The simplest and cheapest solution is an additional signal head on the pelican to indicate to drivers to stop when the pedestrians are crossing on green. This has been discussed with ward members and a minor scheme is being developed for Community Assembly funding.

Public Opinion

- 4.24 A piece of market research was conducted in May 2010 to understand the views of public transport users, shoppers and traders to the change in operational hours of the bus/tram gate. This research found there to be broad public support for the change, and this had not affected how often people visited or travelled through Hillsborough, nor had it affected the mode of transport people used. Importantly, public transport users have not perceived any difference to their journeys since the change. Whilst shoppers and visitors believe Hillsborough District Centre is now easier to get to, the Council has also received compliments via the website in this respect. The research showed traders felt the change had not adversely affected their business.

Objections

- 4.25 There have been two objections received. The first is from the South Yorkshire Transport Users Group (SYTUG) received on 8 September 2010. They feel no solid evidence has been presented to show any improvement to the Hillsborough economy, whilst delays to public transport have increased as a result of the relaxation. SYTUG also feel the relaxation is not in keeping with current policies aimed to encourage and improve public transport.
- 4.26 The second objection is from South Yorkshire Passenger Transport Executive (SYPTTE) received on 2 November 2010. They point to reductions in bus patronage and the number of buses operated. Conversely, tram patronage has risen, whilst the number of trams has remained consistent. SYPTTE's two main valid points are public transport journey times have increased by between 20% to 30% and no evidence has been presented from traders to indicate any change in trading conditions.
- 4.27 It is acknowledged that traders have not been forthcoming in providing any type of evidence to assess the effect the relaxation has had on their businesses, either before or after the change. The data supplied by SYPTTE and the Council respectively does show marginal increases in public transport journey times, though this is not noticed by passengers.

Relevant Implications

- 4.28 The monitoring of this experiment is currently funded through the South Yorkshire Local Transport Plan Central Fund. Previously, market research, car parking surveys and traffic surveys have been commissioned as part of the ongoing scheme monitoring. The ongoing costs of monitoring the changes of the bus/tram gate are largely staff time. An Equality Impact Assessment has been

conducted previously. It has concluded that the scheme is 'equality neutral' with no significant effects relating to age, gender, ethnicity, religion, disability, sexuality, etc. However, we will continue to monitor this throughout the life of the project. There are no particular environmental implications arising from this report, nor are there any specific legal implications.

5.0 ALTERNATIVE OPTIONS CONSIDERED

- 5.1 Officers have considered the impact the relaxation in operational hours of the bus/tram gate on Middlewood Road and Langsett Road has had since its introduction in November 2009. To restore the restriction back to 0700 to 1900 hours would reduce public transport journey times. However, this is not supported by many residents and businesses, or by local Councillors. At present the Langsett Road/Middlewood Road junction operates with sufficient spare capacity at all times, with the exception of a few hours during home match days at Sheffield Wednesday. Importantly the relaxation operates between 1100 to 1500 hours when traffic flows and resulting pressures across the network are lower.
- 5.2 The current relaxation does make Hillsborough District Centre easier to reach. However, the additional traffic along Langsett Road has reintroduced issues with traffic queuing back at the Langsett Road/Forbes Road pedestrian crossing. There are a number of possible remedial solutions, including an additional signal head on the crossing. Should the relaxation remain (as recommended) a solution should be developed with Community Assembly funding.
- 5.3 Supertram has recently developed a new data system, which provides information on the punctuality of trams arriving at platforms. However, this system has only been in existence since late 2010, and as such only includes data following the relaxation. It is suggested this system be used as part of the ongoing monitoring and reporting going forward to understand any change to tram journey times.
- 5.4 The attractiveness of Langsett Road as an outbound route appears to have taken some traffic from the parallel Penistone Road corridor, which was designed to be the main route. Should the Penistone Road SMART route be implemented, this is likely to attract traffic back and take any pressures off Langsett Road and its junctions, whilst improving public transport journey times.

6.0 REASONS FOR RECOMMENDATIONS

- 6.1 The relaxation of the hours of operation of the bus/tram gate on Langsett Road was introduced via an 18 month Experimental Traffic Regulation Order (ETRO). The nature of this process requires the change to be either made permanent or removed within its lifetime. Residents, businesses and visitors to Hillsborough are now used to this arrangement and generally seem happy with the change. It is therefore, recommended to make the change permanent;
- 6.2 Traffic levels on Langsett Road have significantly increased, including some traffic transferring between Penistone Road and Langsett Road. This increase does require adjustments of the traffic signals to compensate, which can translate to additional delays, though the junction has sufficient capacity at present. Therefore, it is recommended to undertake regular monitoring and review of journey times, traffic flows, and network capacity. Should either public transport or traffic network capacity at Hillsborough Corner be significantly

compromised, this will be outlined within the report to this Committee, along with options to resolve the problems, including the removal of the relaxation.

- 6.3 It is acknowledged that the relaxation in operational hours of the bus/tram gate has had some impact, notably marginal increases in some public transport journey times. However, it is considered these are not severe enough to warrant its removal.
- 6.4 Feedback from public transport users and visitors to Hillsborough District Centre has been positive. The small increases in journey times go unnoticed by public transport passengers, whilst the highway network has demonstrated sufficient spare capacity to accommodate the additional traffic that has been attracted along Langsett Road between 1100 to 1500 hours. Importantly, the relaxation is during the inter-peak, when traffic flows on the network are lower. Modifications to the traffic signal timings have actually provided some benefit for trams, resulting in reduced journey times.

7.0 RECOMMENDATIONS

- 7.1 Note the findings of this third and final monitoring report
- 7.2 Make the relaxation in operational hours of the bus/tram gate permanent
- 7.3 Undertake regular monitoring and annual reviews of network capacity, traffic flows and journey times, and report back to this Committee.
- 7.4 Continue to liaise with public transport operators, South Yorkshire Passenger Transport Executive, and the Central Community Assembly to provide feedback on journey times and network capacity.

Simon Green
Executive Director, Place

20 January 2011

		Outbound via Middlewood Road		Inbound via Middlewood Road	
Average bus trip time (minutes)		Monday to Friday	Saturday	Monday to Friday	Saturday
11 months		1100-1500	1100-1500	1100-1500	1100-1500
	09th Nov 2008 to 08th October 2009	2.597	2.622	2.601	2.605
	09th Nov 2009 to 08th October 2010	2.983	3.277	2.827	2.901
		14.87%	24.98%	8.67%	11.36%
last 3 months	09th July 2009 to 08th October 2009	2.729	2.835	2.612	2.609
	09th July 2010 to 09th October 2010	3.067	2.900	2.864	3.138
		12.41%	2.31%	9.68%	20.30%
		Outbound via Holme Lane		Inbound via Holme Lane	
Average bus trip time (minutes)		Monday to Friday	Saturday	Monday to Friday	Saturday
11 months		1100-1500	1100-1500	1100-1500	1100-1500
	09th Nov 2008 to 08th October 2009	4.221	4.596	6.198	7.482
	09th Nov 2009 to 08th October 2010	4.380	4.624	6.665	7.866
		3.77%	0.61%	7.53%	5.13%
last 3 months	09th July 2009 to 08th October 2009	4.254	4.546	6.200	7.371
	09th July 2010 to 09th October 2010	4.610	4.908	6.554	7.689
		8.37%	7.97%	5.71%	4.32%

APPENDIX A - SUMMARY OF BUS JOURNEY TIMES

Timed Section	Journey Time	Average Before	Average After upto May 10	Average After upto Sept 10	Difference upto May 10	Difference upto Sept 10
	(mm:ss)					
<i>Malin Bridge Terminus to Hillsborough/Forbes</i> INBOUND	<i>Average</i>	04:27	03:09	02:56	- 01:18	- 01:31
	<i>Minimum</i>	02:27	01:40	01:34	- 00:47	- 00:54
	<i>Maximum</i>	12:45	10:47	11:02	- 01:57	- 01:42
<i>Middlewood Terminus to Hillsborough/Forbes</i> INBOUND	<i>Average</i>	04:05	04:10	04:10	+ 00:05	+ 00:05
	<i>Minimum</i>	03:16	03:16	03:16	- 00:01	+/- 00:00
	<i>Maximum</i>	08:17	08:42	10:27	+ 00:25	+ 02:10
<i>Shalesmoor/Infirmary Road to Malin Bridge</i> OUTBOUND	<i>Average</i>	06:44	07:01	07:08	+ 00:18	+ 00:24
	<i>Minimum</i>	05:07	05:06	05:11	- 00:01	+ 00:04
	<i>Maximum</i>	13:26	12:59	13:20	- 00:28	- 00:07
<i>Shalesmoor/Infirmary Road to Middlewood</i> OUTBOUND	<i>Average</i>	09:57	10:30	10:27	+ 00:34	+ 00:31
	<i>Minimum</i>	08:06	08:22	08:18	+ 00:16	+ 00:12
	<i>Maximum</i>	15:47	19:50	21:25	+ 04:03	+ 05:38

APPENDIX B - SUMMARY OF TRAM JOURNEY TIMES BEFORE AND AFTER RELAXATION