

## MIDDLEWOOD ROAD AND LANGSETT ROAD, HILLSBOROUGH BUS/TRAM GATE HOURS OF OPERATION CHANGES – 6 MONTH MONITORING REPORT AND REVIEW

### ***Traffic – Langsett Road/Hillsborough Corner***

The number of cars, vans and lorries going along Langsett Road between Hillsborough Corner and Hillsborough Interchange from 7 am to 7 pm has significantly decreased by 4,542 (49%) vehicles per weekday, from 9,275 (2006) to 4,733 (2009). However, although an overall decrease in traffic levels, this trend was skewed in 2009 when traffic levels actually increased by 8% from their 2008 levels.

Outside these times, the number of cars on Langsett Road fell by over 7% between 0700 and 1100 hours (from 156 to 144), but rose by over 11% between 1500 and 1900 hours (from 284 to 316). Overall the number of cars has more than doubled on Langsett Road between 2009 and 2010, following the reduction in the hours of operation of the bus/tram gate.

### ***Traffic - Penistone Road***

12-hour traffic flows along Penistone Road between 2006 and 2009, undertaken annually, have reduced by over 800 vehicles (a 2% reduction). Journey time surveys have been undertaken for a 12 hour period during February, July and November between 2006 and 2009. An additional journey time survey has been conducted to record peak period inbound journey times. Between 2006 and 2009 inbound peak hour journey times have generally increased by around 3 minutes, and speeds have reduced by around 3mph.

Interestingly, there appears to have been some rerouting of traffic between Langsett Road and Penistone Road. During 2007, traffic on Penistone decreased by 33%, whilst at the same time, traffic on Langsett increased by 455. Similarly, during 2008, traffic on Langsett Road reduced by 14%, whilst on Penistone Road traffic increased by 12%. These trends alone do not allow any definitive conclusions to be drawn. However, interestingly camera enforcement was introduced in Hillsborough mid-way through 2007 and could account for the shift in traffic back to Penistone Road in 2008.

### ***Traffic – Wider Area***

#### *Taplin Road*

Between June 2007 and June 2010 traffic along Taplin Road increased by 188 vehicles over a 12-hour period (average of 15 additional vehicles per hour), between September 2007 and September 2009 traffic increased by 272 vehicles (average of 23 additional vehicles per hour). Between February 2008 and February 2010 traffic along Taplin Road has decreased by 300 vehicles (10%, an average of 25 fewer vehicles per hour). This is also some 8% lower than traffic levels recorded in June 2007, a reduction of 229 vehicles (19 vehicles per hour) since the introduction of camera enforcement. In addition, the overall pattern of traffic throughout the day indicates that this road is still predominantly used for parking and has not seen any marked change as a result of the operational hours of the bus/tram gate changing.

#### *Hillsborough Road*

12-hour traffic flows along Hillsborough Road have generally remained between 683 in June 2007 down to 585 in June 2009 and June 2010. In June 2010 traffic flows were

recorded at 585 vehicles, a reduction of 98 vehicles since camera enforcement was introduced, and a reduction of 44 vehicles since September 2009, prior to the change in the hours of operation of the bus/tram gate. In addition, the overall pattern of traffic throughout the day indicates that this road is still predominantly used for parking and has not seen any marked change as a result of the operational hours of the bus/tram gate changing.

#### *Walkley Lane (Left Turn)*

Between June 2007 and June 2010, 12-hour traffic flows reduced by 658 vehicles (18% reduction). In June 2010 traffic flows have marginally decreased by 90 vehicles since the same period in June 2009 prior to the change in operational hours. Furthermore, following the change in the hours of operation of the bus/tram gate, traffic flows are still 11% lower (365 vehicles, 30 per hour) than in September 2009, before the change in hours.

#### *Walkley Lane (Banned Right)*

Between June 2007 and June 2010, the number of vehicles turning illegally increased by 19 vehicles over a 12-hour period. In June 2010 traffic flows were recorded at 58 vehicles, this is 26 fewer vehicles than in September 2009, before the change in operational hours. However traffic flows are still marginally higher than when enforcement first commenced.

#### **Penalty Charge Notices (PCNs)**

Between 7 November 2008 and 6 February 2009 there were a total of 881 Penalty Charge Notices (PCNs) (88 on Langsett Road, 10%; and 793 on Middlewood Road, 90%) issued in this 3 month period. This equates to an average of 11 PCNs per day (1 per day on Langsett Road, 10 per day on Middlewood Road). A comparable period between 9 November 2009 and 6 February 2010 to represent the first 3 months post change of operational hours has also been examined. This shows a total of 703 PCNs (159 on Langsett Road, 23%, and 544 on Middlewood Road, 77%) were issued over this period, a reduction of 25% (178 fewer PCNs). This equates to an average of 10 PCNs per day (2 per day on Langsett Road, 8 per day on Middlewood Road). This data suggests more contraventions on Langsett Road, which could be attributed to drivers unfamiliar with the new arrangements. Although this data also suggests a reduction in overall PCNs in Hillsborough, it should be borne in mind that the enforcement hours have reduced from 12 hours to 8 hours a day, a reduction of 33%.

Between 7 February 2009 and 6 May 2009 there were a total of 834 Penalty Charge Notices (PCNs) (78 on Langsett Road, 9%; and 756 on Middlewood Road, 91%) issued in this 3 month period. This equates to an average of 11 PCNs per day (1 per day on Langsett Road, 10 per day on Middlewood Road). A comparable period between February 2010 and May 2010 to represent the second 3 months post change of operational hours has also been examined. This shows a total of 1,090 PCNs (214 on Langsett Road, 20%, and 876 on Middlewood Road, 80%) were issued over this period, an increase of 31% (256 more PCNs). This equates to an average of 16 PCNs per day (3 per day on Langsett Road, 13 per day on Middlewood Road). This data shows more contraventions on both Langsett Road and Middlewood Road over this period.

Between 7 November 2008 and 6 May 2009 there were a total of 1,715 Penalty Charge Notices (PCNs) (166 on Langsett Road, 10%; and 1549 on Middlewood Road, 90%) issued in this 6 month period. This equates to an average of 11 PCNs per day (1 per day on Langsett Road, 10 per day on Middlewood Road). A comparable period between 9 November 2009 and 6 May 2010 to represent the 6 month period since the change in the hours of operation has also been examined. This shows a total of 1,793 PCNs (373 on Langsett Road, 21%, and 1,420 on Middlewood Road, 79%) were

issued over this period, an increase of 5% (78 more PCNs). This equates to an average of 14 PCNs per day (3 per day on Langsett Road, 11 per day on Middlewood Road). This data shows more contraventions on Langsett Road, but fewer on Middlewood Road over this period.

A comparison of the first 3 months since the change in the hours of operation of the bus/tram gate shows PCNs on Langsett Road have increased by 13%; this is against an overall reduction in PCNs of 25%. A similar percentage increase in PCNs (11%) was recorded on Langsett Road during the second 3 month period; however this was against an overall increase in PCNs of 31%.

### ***Bus Journey Times***

Bus services operating through Hillsborough, between 9 November 2008 to 9 May 2009, and between 9 November 2009 to 9 May 2010 have been analysed by SYPTE, representing the 6 months since the change in operational hours of the bus/tram gate took place. ACIS (Real-time) data has been used from a total of 75,071 journeys. A shorter 3 month period, between February and May was also analysed, however this only included 40,031 journeys, and there was some criticism last time over how the bus journey time data was analysed, with possibly some skewering of results. Therefore, the longer 6 month period has been referred to here, arguably providing a wider, more stable sample of journeys which is more representative of the situation.

Analysis of Monday to Friday and Saturdays has been completed for both inbound and outbound bus journeys, Langsett Road via Holme Lane and Langsett Road via Middlewood Road, between 1100 and 1500 hours.

#### *Outbound via Holme Lane*

Between 9 November 2008 and 9 May 2009, and the same period in November 2009 and May 2010, bus journey times have largely remain unchanged on all days. The largest increases are an additional 3 seconds between 1100 and 1500 hours on weekdays.

#### *Inbound via Holme Lane*

Journey times during 1100 to 1500 hours have increased by 21 seconds on weekdays and by 27 seconds on Saturdays.

#### *Outbound via Middlewood Road*

The largest increases in bus journey times occur between 1100 to 1500 hours, an additional 35 seconds on weekdays, and an additional 47 seconds on Saturdays.

#### *Inbound via Middlewood Road*

The largest increases in bus journey times occur between 1100 to 1500 hours, an additional 32 seconds on weekdays, and an additional 34 seconds on Saturdays.

### ***Tram Journey Times***

Tram data supplied by SYPTE has been analysed for between 1100 to 1500 hours between November 2008, through to May 2010. Generally these dates allowed months to be compared year-on-year. Data has been divided into the following timed sections:

- Langsett Road/Primrose View to Middlewood Terminus
- Langsett Road/Primrose View to Malin Bridge Terminus
- Shalesmoor/Infirmary Road to Middlewood Terminus
- Shalesmoor/Infirmary Road to Malin Bridge Terminus
- Malin Bridge Terminus to Hillsborough/Forbes Road
- Middlewood Terminus to Hillsborough/Forbes Road

Average changes in tram journey times over the whole period on all timed sections, between November 2008 and May 2010 can be summarised as follows:

- Inter peak outbound averages varied between increases of 17 seconds and 33 seconds
- Inter peak inbound averages varied between reductions of 1 minute 18 seconds and increases of 4 seconds

The above analysis clearly shows there is a lot of variability in tram journey times thorough Hillsborough. However, generally journey times have gradually increased over time, against an increase in general traffic between 1100 to 1500 hours. Changes to the signal controller and associated settings should also be considered when looking at this data.

### ***ANPR Data***

Automatic Number Plate Recognition (ANPR) data for 23 links which SCC monitors has been analysed. Some of the links were not operational until April 2009, so data between 1 April 2009 to 31 May 2009 and between 1 April 2010 to 31 May 2010 has been analysed. Average hourly data for a 24 hour period was included.

Outbound traffic levels on Langsett Road have increased significantly in percentage terms, but critically this still only equates to around 200 vehicles per hour. Inbound traffic levels on Langsett Road show a lower percentage increase.

The inbound traffic levels have shown a similar increase when compared with the same period immediately following the changes. The increase is around 11% and equates to around 35 additional vehicles/hour (approaching on Middlewood Rd based on previous assumptions). At current levels there appears to be a reasonable difference between demand and the critical capacity on the Middlewood Rd approach to Hillsborough Corner. However, delays would occur if the capacity was exceeded at the downstream junctions of Ripley Street (& Forbes Rd).

The effects on the four approaches to Hillsborough Corner and the traffic flows on Langsett Road are as follows:

#### *Harris Rd to Hillsborough Corner Inbound (Middlewood Rd approach)*

Between 1100 to 1500 hours it appears the relaxation of the operational hours of the bus/tram gate has improved journey times. However, in reality this is unlikely and journey times are likely to be the same. Not that many vehicles are actually making this journey along the whole corridor and consequently the before data will comprise almost exclusively of buses. In the after data the additional vehicles making the journey will be cars and hence the average will be reduced.

#### *Shalesmoor to Hillsborough Corner Outbound (Langsett Rd approach could include slight route variation)*

Between 1100 to 1500 hours it appears the relaxation has increased journey times. This appears to be due to additional traffic now using this route, at present there is sufficient spare capacity in the network.

#### *Parkside to Malin Bridge Outbound (Penistone Rd - Bradfield Rd - Holme Ln)*

No significant change and thus no impact.

#### *Malin Bridge to Parkside Outbound (Holme Ln - Bradfield Rd - Penistone Rd)*

Between 1100 to 1500 hours there has been no significant change and thus no impact. The results suggest some increase in journey times during the morning peak, but are unrelated to the change in hours.

### *Hillsborough Corner Flows Outbound (near stop line opposite HSBC)*

Traffic flows are recorded as the number of vehicles at 5 minute intervals.

Between 1100 to 1500 hours there is a significant increase in (rerouted) traffic flows, this is confirmed by the separate traffic survey discussed earlier.

There has also been some increase in traffic flows between 1900 to 2000 hours. This suggests drivers are becoming more aware of the operational hours and thus are confident when they can go through; before the relaxation the area was probably more widely avoided as people got used to the alternative (diversionary) routes.

### *Hillsborough Corner Flows Inbound (near stop line opposite HSBC includes all movements)*

Between 1100 to 1500 hours there is a significant increase in traffic flows. It is reasonable to assume the additional traffic has all come from Middlewood Road but the extra 85 vehicles/hour does not translate to bringing the network close to capacity on this approach.

### **Car Parking**

Surveys of the six car parks in Hillsborough District Centre (providing a total of 635 parking spaces) have been undertaken during three consecutive days in April 2009 (Thursday 2 to Saturday 4 April), again in November 2009 (Thursday 12 to Saturday 14 November), and Thursday 11 to Saturday 13 March 2010. The timing of these surveys was aimed to assess the before and after change situation.

Comparing the Thursday surveys from April 2009, November 2009 and March 2010, it can be concluded overall demand for parking spaces is relatively unchanged. There are now 9 more vehicles parking between 1100 and 1500 hours than in March 2009. The peak time of occupancy for the area's car parks does appear to have shifted from 1100 to 1200 hours to the following hour, however overall occupancy has remained consistent around 79%.

The comparison of the 3 Friday car park surveys is similar, overall occupancy has remained around 85%, the peak occupancy is now 1130 to 1200 rather than 1100 to 1200 hours. Overall there is marginally more demand now, with 6 more vehicles between 1100 and 1500 hours than in March 2009.

On Saturday's car parks are now busier since the relaxation of the operational hours of the bus/tram gate. A total of 628 more cars are parked between 1100 to 1500 hours in November 2009 than during March 2009, and 87 more in March 2010. Peak demand is at 81% between 1200 to 1300 hours. This still provides a total of 120 car parking spaces still available in Hillsborough District Centre.

In addition, there appears to be a degree of seasonal variation in demand for car parking spaces, they are busier during November with around 200 additional vehicles parking between 1100 and 1500 hours than during March.

### **Accident Data**

In the 6 month period between 7 November 2008 to 7 May 2009 a total of 5 accidents, involving 5 casualties were reported. Three of these incidents involved vehicle-to-pedestrian collisions, 2 of these involved trams and 1 a bus. 1 incident involved a vehicle-to-vehicle collision (bus-car). One of the incidents resulted in a serious injury. In the comparative 6 month period between 7 November 2009 to 7 May 2010, a total of 2 accidents, involving 2 casualties were reported. Both incidents were vehicle-to-pedestrian collisions, one with a bus and one with a car. One of the incidents resulted in a serious injury.

## **Market Research**

In order to obtain qualitative views on the change in the hours of operation of the bus/tram gate on Middlewood Road/Langsett Road, external consultants Swift Research were commissioned to undertake market research. The aims of this research were to understand if the change in operational hours has:

- Changed people's tendency to visit Hillsborough District Centre?
- Changed people's attitude towards the Centre as a place to shop?
- Changed people's perceptions of how easy the centre is to get to?
- Changed people's perceptions of the ease of public transport travel in the area?
- Changed local trader perceptions and the viability of the Centre?

To gain views from a representative sample of the local area several sub-groups were identified and targeted, these included local residents, visitors to the District Centre, public transport users, and local traders. The views of car drivers were also included as part of the overall sampling. A total sample of 425 responses was obtained between 22 May and 1 June 2010.

A variety of interview methods were used, including telephone, face-to-face, and on board public transport services. Specific postcodes (S6 2, S6 4 and S6 5) were targeted for local residents, whilst Hillsborough Shopping Centre provided a list of trader contacts. Face-to-face interviews in the centre targeted shoppers, public transport users, both at the transport interchange and on board local bus/tram services. All centre visitors and public transport users were screened to check they visited the centre or used local public transport services, at least once a month to ensure they would be familiar with any changes. The main findings of the market research are summarised below:

The responses show that over half of the local population sampled (56% or 238 people) consider the reduction in hours of operation of the bus/tram gate to be a good thing. Responses from public transport users are more neutral, with almost 40% of those sampled (55 people) describing the change as okay. Two thirds of car drivers sampled (121 people) view the change in operational hours as positive. Local traders are especially supportive of the change; with over three quarters of the sample (19 traders) viewing the change as a good thing.

The majority of the local population sampled (82% or 349 people) agree the change in restrictions has not affected how often they travel, either into or through Hillsborough District Centre. 16% (68 people) state they are now more likely to travel into the Hillsborough area, particularly car drivers. Local traders sampled are the most positive, with 40% (10 traders) believing their customers are now more likely to travel to/through the centre since the restrictions were relaxed.

Over a fifth the local population (85 people) feel that the relaxation of the operational hours of the bus/tram gate has improved the shopping environment in Hillsborough, whilst two thirds (280 people) feel these restrictions have not changed the environment. Visitors to Hillsborough District Centre were more likely to notice any improvement (28% or 39 people). Traders also agree that there has been some improvement to the local shopping environment, with 40% (10 traders). Furthermore, 25% (7 traders) of local traders feel the relaxation in restrictions has had a positive impact on their business, whilst 72% of traders (18 traders) do not feel the changes have affected their businesses.

Around two-thirds of the local population sampled (280 people) feel that traffic pollution, noise and road safety in the area are unchanged following the relaxation in operational hours. Whilst 20% (85 people) feel these are now worst. Traffic congestion is viewed as the biggest tangible impact since the relaxation of operational hours, whilst 51% (217 people) feel this is unchanged, 32% (136 people) feel traffic congestion is now worst.

Almost three-quarters of the local population sampled (302 people) would like to keep the hours of operation of the bus/tram gate on Middlewood Road/Langsett Road as they currently are, between 0700 to 1100 hours and between 1500 and 1900 hours. This support to keep things as they are is consistent across all sub-groups. A small proportion (19% or 26 people) of public transport users would like to see the restrictions return to the previous 0700 to 1900 hours arrangement.