

**ASSOCIATION OF GREATER MANCHESTER AUTHORITIES**

**GREATER MANCHESTER TRANSPORTATION UNIT**

**Transport Statistics Bolton 2008**

**GMTU Report 1477      October 2009**

**SUMMARY**

This report complements GMTU Reports 1476, 'Transport Statistics Greater Manchester 2008' and 1517, 'Road Casualty Statistics Greater Manchester 2008'. It focuses on the statistics for Bolton and compares them to those for Greater Manchester where appropriate.

It includes:

- lists and diagrams of traffic flows on major road links
- summaries of traffic profiles at automatic traffic counter sites
- diagrams showing road accident locations by type of accident

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GMTU Report 1477

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The Greater Manchester Transportation Unit provides a strategic and local transportation service to and on behalf of the ten district councils of Greater Manchester. The unit is funded by the ten districts and attached to Manchester City Council as lead authority.

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BOLTON, BURY, MANCHESTER, OLDHAM, ROCHDALE, SALFORD, STOCKPORT, TAMESIDE, TRAFFORD, WIGAN

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## 1. INTRODUCTION AND SUMMARY

- 1.1 This report has been written to complement GMTU Reports 1476, 'Transport Statistics Greater Manchester 2008' and 1517, 'Road Casualty Statistics Greater Manchester 2008'. Whereas those reports present statistics for Greater Manchester, this report focuses on Bolton and compares it to Greater Manchester where appropriate.
- 1.2 The key points from this report are summarised below.

### Key Facts

- Bolton has a population of 262,300 and covers an area of 140 square kilometres.
- There are 977 km of road consisting of 18 km motorway, 101 km A road, 49 km B road, 47 km other classified road and 762 km unclassified road.
- The average daily flow per kilometre is 85,100 vehicles on motorways, 19,200 on A roads and 10,100 on B roads.
- There were 776 injury accidents in Bolton during 2008 resulting in 1045 casualties. There were 82 killed or seriously injured (KSI) casualties.
- Bolton was awarded an allocation of £6.61 million through the LTP process in 2009/10, £1.58 million for integrated transport and £5.03 million for maintenance.

### Traffic Flows

- The highest estimated 24-hour Annual Average Weekday Traffic (AAWT) flow was 150,800 vehicles on the M61 between Junctions 2 and 3.
- The busiest all-purpose road was the A666 Farnworth and Kearsley By-Pass where the estimated 24-hour AAWT flow reached 61,500 vehicles at Farnworth.
- The site with the highest 12-hour pedal cycle flow was the A575 Bolton Road in Moses Gate with 159 cycles recorded between 07:00 and 19:00.
- The average 12-hour A and B road pedal cycle flows in Bolton are 60 and 38 cycles respectively, lower than the Greater Manchester averages of 89 and 90.

### Traffic Growth

- 24-hour weekday flows on motorways in both Bolton and Greater Manchester as a whole saw a 1% decrease between 2007 and 2008.
- 12-hour weekday flows on A and B roads in Bolton saw a 3% decrease between 2007 and 2008 while the average for Greater Manchester fell by 2%.
- Since 1993, traffic flows on A and B roads in Bolton have increased by 4%

compared to no change in Greater Manchester and a 3% increase nationally.

### **Annual Vehicle Kilometres**

- 559 million vehicle kilometres were travelled on motorways, 709 million on A roads and 170 million on B roads in Bolton.
- Motorways, A roads and B roads in Bolton carried 11% of the major road traffic in Greater Manchester on 12% of the major road network.

### **Traffic Composition**

- Motorways: 76% cars, 13% light goods vehicles (LGVs) and 10% other goods vehicles (OGVs).
- A roads: 81% cars, 13% LGVs and 4% OGVs.
- B roads: 82% cars, 12% LGVs and 3% OGVs.
- Minor roads: 86% cars, 9% LGVs and 2% OGVs.
- Traffic composition on Bolton's major road network was broadly similar to Greater Manchester.

### **Rail Patronage**

- The number of boarders travelling inbound to Manchester along the Wigan/Bolton corridor in 2008 was just under 4,600 in the peak (07:30-09:30) and around 3,500 in the off-peak (09:30-13:30). These figures represent increases of 3% and 7% respectively since 2007, and 80% and 192% respectively since 1991.

### **Bus Mileage**

- 6.5 million bus miles were operated in Bolton in 2007. This was 4% less than the 2006 level (6.8 million) but 5% more than the pre-deregulation level (6.2 million) in 1985.
- Bolton accounted for 10% of Greater Manchester bus mileage. 18% of Bolton's bus miles were subsidised as opposed to 20% across Greater Manchester.

### **Key Centre Monitoring**

- Traffic flows have decreased substantially in all time periods between 1997 and 2009. A new road link from A676 Folds Road to St Peters Way has diverted some through traffic from the town centre as have traffic management measures.
- All, car and bus trips have decreased in the morning peak between 2001 and 2009. Rail, walking and cycling modes have increased. All non-car modes have increased in other time periods.
- The number of vehicles crossing the cordon into Bolton Key Centre in 2009

was about 7700 in the morning peak, 6200 in the off peak and 5500 in the evening peak, representing decreases of 17%, 23% and 29% respectively from vehicle numbers in 1997.

- The inbound modal share in 2009 was 52% car and 48% non-car in the morning peak, 47% car and 53% non-car in the off peak and 51% car and 49% non-car in the evening peak.

### **Automatic Traffic Counts at Bolton Key Centre Cordon Sites**

- Morning weekday peak flows and 24-hour average weekday flows decreased by 13% and 15% respectively between the base year (2006/07) and 2008/09.
- Traffic management changes near to A66 off-slip and the introduction of a new link to the A666 from Bury New Road have both contributed to the removal of through traffic from the key centre.

### **Road Traffic Casualties**

- The total number of accidents Bolton was 776 in 2008, 35% lower than the average from the base years (1994-1998) and 12% lower than the 878 in 2007.
- The total number of casualties in Bolton was 1045, 38% lower than the average from the base years (1994 – 1998) and 12% lower than the 1194 in 2007.
- There were 82 killed or seriously injured (KSI) casualties in 2008 compared with an average of 136 KSI in the base years.
- The 2006-2008 three-year average used for monitoring KSI GMLTP2 targets was 34% below the average from the base years (1994 – 1998).
- The three-year average for child KSI casualties was 56% below the base years' average.
- Slight casualties in 2008 were 37% below the base years' average.

### **Congestion**

- Journey times on A and B roads in Bolton were marginally shorter in 2007/08 than they were in 2004/05 in the morning peak. However, journey times were marginally longer in other time periods.
- Average speeds in Bolton in 2007/08 were faster than in Greater Manchester in all time periods.
- The slowest roads in the morning peak hour (08:00 – 09:00) were in and approaching Bolton town centre. Other areas include Astley Bridge, Bradshaw, Moses Gate and Westhoughton.
- The average speed eastbound on the M61 between junctions 3 and 4 was between 15 and 20 mph during this period.

## 2. ROAD TRAFFIC

### Traffic Flows 2008

2.1 Road traffic figures and traffic growth for Bolton must be treated with caution since the sample size for a single district is smaller than for the county as a whole. Appendix 1 gives 24-hour annual average weekday traffic (AAWT) flows and the most recent 12-hour (07:00-19:00) pedal cycle flow information for all major road links in Bolton.

- The highest traffic flow in Bolton was recorded on the M61 between Junctions 2 and 3 where the flow reached 150,800 vehicles.
- The busiest principal road was the A666 Farnworth and Kearsley By-Pass at Farnworth where the flow reached 61,500 vehicles.
- The second list in Appendix 1 shows that the highest recorded 12-hour pedal cycle flow was on the A575 Bolton Road in Moses Gate, with 159 cycles between 07:00 and 19:00.
- The average 12-hour A road pedal cycle flow in Bolton was 60. The average B road pedal cycle flow was 38. These are considerably lower than the Greater Manchester averages of 89 and 90 respectively.

### Motorway Traffic Growth 2007-2008

2.2 Table 1 gives 24-hour annual average weekday traffic flows on the four motorway sections in Bolton for which ATC or manual data was available in both 2007 and 2008 together with percentage changes in flow since 2007. Countywide figures based on 43 motorway sections are also given.

- The average traffic flow for the surveyed sites fell by 1% between 2007 and 2008, reflecting the wider trend in Greater Manchester as a whole.

<b>Table 1 Average 24-Hour Weekday Motorway Flows in 2008 with Percentage Changes Since 2007</b>							
		<b>LGV</b>	<b>%</b>	<b>OGV</b>	<b>%</b>	<b>All Motors</b>	<b>%</b>
M61	Bet Jns 1 & 2	22700	(-0)	11800	(-0)	124300	(-2)
M61	Bet Jns 3 & 4	12100	(-16)	9100	(5)	94300	(-1)
M61	Bet Jns 5 & 6	13800	(2)	11300	(50)	99600	(1)
M61	Bet Jns 6 & 8	9700	(-0)	8600	(0)	80000	(-1)
<b>Bolton Sample</b>		<b>14100</b>	<b>(-4)</b>	<b>10200</b>	<b>(11)</b>	<b>99600</b>	<b>(-1)</b>
GM 43 links		14900	(-2)	11100	(6)	107500	(-1)



**A and B Road Traffic Growth 2007-2008**

2.3 Table 2 gives average 12-hour traffic flows on A and B roads in Bolton and Greater Manchester in 2008 together with percentage changes since 2007. The figures for A and B road growth are based on counts on 19 of the 102 A and B road links in Bolton.

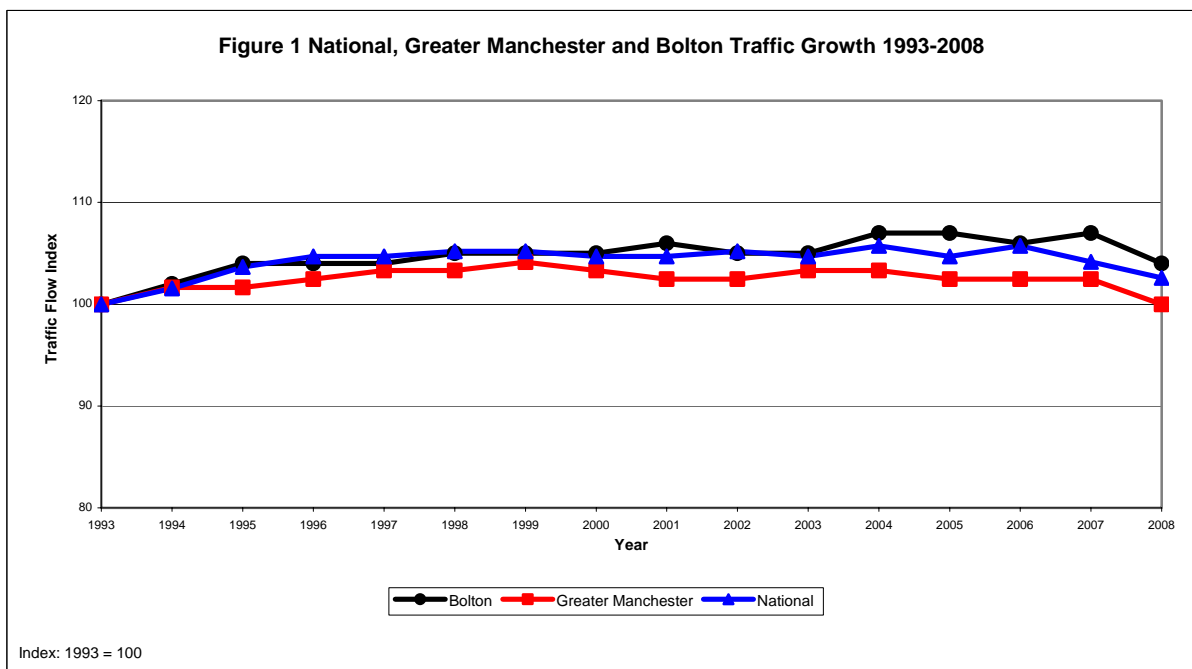
- Motor traffic in Bolton fell by 3% between 2007 and 2008, while the average for Greater Manchester as a whole decreased by 2%.

	No. of Sites	Cars (%)	LGV (%)	OGV (%)	All Motors (%)
Bolton	19	14347 (-3)	2271 (-6)	614 (-1)	17559 (-3)
Greater Manchester	166	12080 (-1)	1841 (-2)	483 (-2)	14739 (-2)

**Traffic Growth Since 1993**

2.4 Table 3 and Figure 1 illustrate local and national traffic growth since 1993. Traffic growth for Bolton and Greater Manchester is based on 12-hour average weekday flows on a sample of A and B road links throughout Bolton and Greater Manchester. National growth is based on average 24-hour daily traffic flow data for major urban A roads published in Table 3.3 Road Statistics 2008: Traffic, Speeds and Congestion DfT.

- Since 1993 traffic has grown by 4% in Bolton, is at the same level in Greater Manchester and grown by 3% nationally.



<b>Table 3 National, Greater Manchester and Bolton Traffic Growth 1993-2008</b>			
	<b>Bolton</b>	<b>Greater Manchester</b>	<b>National</b>
1993	100	100	100
1994	102	102	102
1995	104	102	104
1996	104	102	105
1997	104	103	105
1998	105	103	105
1999	105	104	105
2000	105	103	105
2001	106	102	105
2002	105	102	105
2003	105	103	105
2004	107	103	106
2005	107	102	105
2006	106	102	106
2007	107	102	104
2008	104	100	103
<b>Index: 1993 = 100</b>			

**Notes:** Traffic growth for Bolton and Greater Manchester has been based on 12-hour average weekday flows on a sample of A and B road links throughout Bolton and Greater Manchester. 1993 – 2008 National growth is based on average 24-hour daily traffic flow data for major urban A Roads published in Table 3.3 Road Traffic Statistics 2008: Traffic, Speeds and Congestion DfT.

### **Annual Vehicle Kilometres 2008**

2.5 Table 4 shows annual vehicle kilometres on major roads in Bolton and Greater Manchester in 2008.

- Motorways made up 11% of Bolton's major road network and carried 39% of the traffic. In the county as a whole motorways made up 12% of the major road network and carried 45% of major road traffic.
- Motorways carried 54% of all goods traffic on major roads in Bolton. This is lower than for Greater Manchester as a whole where motorways carried 62% of all major road goods traffic.
- A roads made up 61% of Bolton's major road network and carried 49% of the traffic. These proportions are broadly similar to Greater Manchester where A roads formed 61% of the major road network and carried 44% of the traffic.
- B roads made up 28% of Bolton's network and carried 12% of the traffic. These figures are again similar to Greater Manchester where B roads formed 27% of the major roads and carried 11% of the traffic.
- Motorways, A roads and B roads in Bolton carried 11% of the major road traffic in Greater Manchester on 12% of the road network.

<b>Table 4 Vehicle Kilometres in 2008</b>								
	Road Type	Length (km)	Vehicle Kilometres (millions)					Av. Daily Flow per km
			Cars	LGV	OGV	All Goods	All Motors	
Bolton	Motorways	18	426	75	54	129	559	85100
	A Roads	101	608	71	20	91	709	19200
	B Roads	46	148	16	3	19	170	10100
	All Roads	165	1182	162	77	239	1438	23900
Greater Manchester	Motorways	171	4373	822	651	1491	5882	94200
	A Roads	863	4967	561	184	745	5819	18500
	B Roads	375	1289	134	27	160	1479	10800
	All Roads	1409	10629	1517	862	2396	13180	25600

**Notes:** Figures may not sum due to rounding. Road lengths are based on the link lengths of a model road network and may differ slightly from other sources, eg Greater Manchester Network Information System (GMNIS) and as quoted by DfT form R199b.

### Traffic Composition 2008

2.6 Table 5 shows the percentage composition of traffic in Bolton in 2008 compared to the county as a whole.

- Traffic composition on Bolton's major road network was broadly similar to Greater Manchester.

<b>Table 5 Percentage Composition of Traffic in Bolton and Greater Manchester 2008 (0700-1900)</b>										
		Cars	LGV	OGV1		OGV2		Buses and Coaches	Motor Cycles	Pedal Cycles
Bolton	Motorways	76.3	12.9	5.3	(53)	4.8	(47)	0.2	0.4	0.0
	A Roads	81.0	13.0	2.6	(69)	1.2	(31)	1.2	0.7	0.4
	B Roads	82.0	12.4	2.0	(75)	0.7	(25)	1.8	0.6	0.4
	Minor Roads	86.3	9.0	1.4	(78)	0.4	(22)	1.6	0.6	0.6
Greater Manchester	Motorways	75.0	13.7	5.2	(49)	5.5	(51)	0.3	0.3	0.0
	A Roads	80.9	12.2	2.9	(67)	1.4	(33)	1.6	0.6	0.5
	B Roads	82.8	11.7	1.6	(73)	0.6	(27)	1.8	0.5	0.9
	Minor Roads	83.8	11.0	1.5	(76)	0.5	(24)	1.7	0.5	1.0

**Notes:** LGV = Commercial Vehicles with 2 axles and up to 6 wheels without a side bar.  
 OGV1 = Medium Goods Vehicles with 2 axles and up to 6 wheels with a side bar and Heavy Goods Vehicles with 3 axles.  
 OGV2 = Heavy Goods Vehicles with 4 or more axles.  
 Figures in parentheses are the percentage split between OGV1 and OGV2.  
 Figures may not sum due to rounding.

### 3. PUBLIC TRANSPORT

#### Rail Patronage

3.1 Tables 6 and 7 compare rail patronage in the Wigan/Bolton corridor and in Greater Manchester as a whole in the years 1991 and 1998-2008. Comparisons are based on boarders of trains inbound to Manchester.

- The number of inbound boarders on the Wigan/Bolton corridor increased in both the peak and off peak periods, by 3% and 7% respectively, between 2007 and 2008. This compares with increases of 2% in the peak and 4% in the off-peak periods for Greater Manchester as a whole.
- The Wigan/Bolton corridor carried 31% of Manchester bound passengers during the morning peak and 37% during the off-peak.

Line	1991	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Wigan/Bolton	2541	2809	3306	3356	3624	2970	3338	3574	3898	3937	4444	4573
Index	100	111	130	132	143	117	131	141	153	155	175	180
Greater Manchester	9808	9877	11177	11171	11290	10222	11454	12399	13286	13422	14400	14635
Index	100	101	114	114	115	104	117	126	135	137	147	149

Line	1991	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Wigan/Bolton	1215	1536	2148	1847	2159	1878	2522	2174	2436	3133	3320	3549
Index	100	126	177	152	178	155	208	179	200	258	273	292
Greater Manchester	4536	4911	5826	5779	6392	5599	7095	6959	7558	8631	9243	9650
Index	100	108	128	127	141	123	156	153	167	190	204	213

**Notes:**

Figures for 1991 are based on full counts at every station in each corridor. Wigan/Bolton figures for 1997, 2000, 2003 and 2006 are also based on counts at every station. All other figures are estimates based on all available counts each year.

**Industrial Action:**

There was sustained industrial action in 2002 by employees of First North Western and Arriva. While the surveys avoided all strike days, the work to rule by First North Western staff in particular may have had an effect on passenger numbers.

3.2 Table 8 shows numbers of passengers boarding and alighting trains inbound and outbound from Manchester at all stations in Bolton.

3.3 Tables 9 and 10 show passengers boarding and alighting Manchester bound trains in Bolton for 1991 and 1998-2008 in the morning peak (07:30-09:30) and off-peak (09:30-13:30) respectively. All stations in Bolton are shown with passenger details where available.

<b>Table 8 Numbers of Passengers Boarding and Alighting Trains in Bolton District (2008)</b>											
Station	Year of Count	AM Peak 07:30-09:30					Off-Peak 09:30-13:30				
		Inbound		Outbound		AM Peak Total	Inbound		Outbound		Off Peak Total
		B	A	B	A		B	A	B	A	
Blackrod	2006	95	3	21	3	122	37	4	2	3	46
Bolton	2008	1442	573	451	291	2757	1100	431	382	641	2554
Bromley Cross	2008	226	26	24	115	391	114	10	9	47	180
Daisy Hill	2008	222	2	37	5	266	50	11	29	21	111
Farnworth	2006	29	3	3	0	35	8	4	13	3	28
Hall I'th'Wood	2006	43	26	36	8	113	18	2	4	7	31
Horwich Parkway	2008	192	46	14	124	376	78	26	7	53	164
Kearsley	2006	27	3	4	2	36	6	4	5	3	18
Lostock Junction	2008	198	2	21	1	222	72	4	11	6	93
Moses Gate	2006	31	4	3	0	38	8	2	8	2	20
Westhoughton	2006	137	8	26	25	196	54	10	18	32	114

<b>Table 9 Numbers of Passengers Boarding and Alighting Manchester Bound Trains in Bolton District 1991 &amp; 1998-2008 AM Peak (07:30-09:30)</b>													
Station		1991	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Blackrod	B	45	-	87	67	-	-	84	-	-	95	-	-
	A	-	-	3	0	-	-	4	-	-	3	-	-
Bolton	B	749	739	993	938	1134	917	718	1164	1343	1196	1189	1442
	A	-	252	391	359	392	235	228	438	418	512	454	573
Bromley Cross	B	188	114	166	156	174	155	173	224	242	196	215	226
	A	-	5	5	7	6	5	1	5	10	29	28	26
Daisy Hill	B	119	139	120	143	157	-	164	163	176	187	192	222
	A	-	4	4	1	2	-	1	6	0	2	1	2
Farnworth	B	24	-	-	22	-	-	18	-	-	29	-	-
	A	-	-	-	1	-	-	0	-	-	3	-	-
Hall I'th'Wood	B	45	-	-	29	-	-	32	-	-	43	-	-
	A	-	-	-	3	-	-	3	-	-	26	-	-
Horwich Parkway*	B	-	-	108	120	148	142	174	149	160	237	208	192
	A	-	-	4	10	10	11	15	24	20	25	49	46
Kearsley	B	20	-	-	15	-	-	16	-	-	27	-	-
	A	-	-	-	3	-	-	1	-	-	3	-	-
Lostock Junction	B	108	236	211	232	233	160	190	190	222	222	249	198
	A	-	1	2	0	1	0	1	0	0	2	0	2
Moses Gate	B	32	-	-	39	-	-	29	-	-	31	-	-
	A	-	-	-	3	-	-	9	-	-	4	-	-
Westhoughton	B	60	54	-	74	87	-	83	86	-	137	-	-
	A	-	5	-	4	7	-	4	8	-	8	-	-

**Notes:** B = Boarders A = Alighters \* = Station opened in 1999

<b>Table 10 Numbers of Passengers Boarding and Alighting Manchester Bound Trains in Bolton District 1991 &amp; 1998-2008 Off-Peak (09:30-13:30)</b>													
<b>Station</b>		<b>1991</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
Blackrod	B	15	-	15	14	-	-	22	-	-	37	-	-
	A	-	-	3	1	-	-	1	-	-	4	-	-
Bolton	B	371	444	601	471	687	565	782	664	810	978	1079	1100
	A	-	373	401	314	369	251	402	360	383	455	399	431
Bromley Cross	B	31	44	52	26	83	67	79	60	95	72	81	114
	A	-	3	9	11	21	11	10	4	3	10	5	10
Daisy Hill	B	17	31	35	24	22	-	37	35	48	58	35	50
	A	-	2	15	8	3	-	15	5	9	15	6	11
Farnworth	B	7	-	-	8	-	-	4	-	-	8	-	-
	A	-	-	-	6	-	-	2	-	-	4	-	-
Hall i'th'Wood	B	10	-	-	11	-	-	10	-	-	18	-	-
	A	-	-	-	9	-	-	3	-	-	2	-	-
Horwich Parkway*	B	-	-	60	28	34	28	55	40	62	128	106	78
	A	-	-	7	12	23	9	11	17	12	31	20	26
Kearsley	B	4	-	-	3	-	-	4	-	-	6	-	-
	A	-	-	-	1	-	-	1	-	-	4	-	-
Lostock Junction	B	25	40	34	27	32	18	55	58	57	61	84	72
	A	-	2	2	3	4	1	4	8	2	4	4	4
Moses Gate	B	4	-	-	7	-	-	6	-	-	8	-	-
	A	-	-	-	2	-	-	0	-	-	2	-	-
Westhoughton	B	18	28	-	25	18	-	32	37	-	54	-	-
	A	-	6	-	6	7	-	10	3	-	10	-	-

**Notes:** B = Boarders A = Alighters \* = Station opened in 1999.

## Bus Mileage

- 3.4 The information for bus mileage is based on a bus registration database maintained by GMPTE. These figures reflect the services as registered by bus operators.
- 3.5 GMPTE have revised this database and data for 2008 are not presently available in a form comparable with previous years' data. Therefore the latest data shown in the trend tables in this report are for 2007.
- 3.6 GMTU does not currently undertake bus patronage monitoring. Any information on trends in bus patronage should be obtained from GMPTE.
- 3.7 Table 11 shows commercial and subsidised annualised bus mileage from 2002 to 2007 and in 1985 (pre-deregulation year).
- Total bus mileage in Bolton fell by 4% between 2006 and 2007 and currently stands at 5% above its 1985 level. Mileage in Greater Manchester as a whole was 2% above its pre-deregulation level.
  - Bolton had a slightly greater proportion of commercial mileage (82%) than seen across Greater Manchester as a whole (80%) in 2007.
  - 10% of Greater Manchester's 2007 commercial bus mileage and 8% of its subsidised bus mileage was operated in Bolton.

<b>Table 11 Commercial and Subsidised Annualised Bus Mileage in Millions, 2002-2007 and 1985 (pre-deregulation year)</b>							
	<b>Nov 85</b>	<b>Nov 02</b>	<b>Nov 03</b>	<b>Nov 04</b>	<b>Nov 05</b>	<b>Nov 06</b>	<b>Nov-07</b>
<b>Bolton</b>							
Commercial Mileage	-	6.8 (87)	5.7 (83)	5.6 (83)	5.5 (81)	5.6 (83)	5.4 (82)
Subsidised Mileage	-	1.0 (13)	1.1 (17)	1.2 (17)	1.3 (19)	1.2 (17)	1.1 (18)
Total Mileage	6.2	7.8	6.8	6.8	6.8	6.8	6.5
<b>Greater Manchester</b>							
Commercial Mileage	-	62.0 (83)	58.6 (81)	56.0 (81)	55.7 (79)	57.0 (80)	53.3 (80)
Subsidised Mileage	-	12.9 (17)	13.4 (19)	13.5 (19)	14.7 (21)	14.3 (20)	13.7 (20)
Total Mileage	65.3	74.9	72.0	69.4	70.4	71.3	66.9

**Notes:** Sum of commercial and subsidised mileage may not equal the total mileage due to rounding. Figures in parentheses are the percentage of the total mileage.

3.8 Table 12 shows bus mileage by time of day and day of week in Bolton and Greater Manchester.

- Total bus mileage in Bolton fell in all time periods between 2006 and 2007. Greater Manchester also saw a fall in bus mileage for all time periods.
- Since deregulation in 1985, bus mileage in Bolton has increased more than the average for Greater Manchester during the weekday peak and off-peak periods, and on Sundays.
- Bolton had its lowest percentage of Greater Manchester mileage on weekday evenings and Sundays.

Table 12 Bus Mileage by Time of Day and Day of Week in Bolton and Greater Manchester									
Year	1985	2002	2003	2004	2005	2006	2007		Index 2007
Day/Time Period									
<b>Bolton</b>									
Weekday 07:00-09:00	2960	3680	3220	3390	3200	3190	3040	(88)	103
Weekday 10:00-15:00	5440	9470	8160	8040	8000	8050	7580	(87)	139
Weekday 20:00-22:00	1250	840	750	730	770	790	770	(38)	62
Saturday	17830	21610	18730	18670	18510	18760	17710	(84)	99
Sunday	8220	6690	6400	6160	6730	6790	6730	(63)	82
<b>Greater Manchester</b>									
Weekday 07:00-09:00	32800	34670	33280	32720	32820	31770	29640	(84)	90
Weekday 10:00-15:00	55090	85900	82730	79090	79870	80180	75810	(83)	138
Weekday 20:00-22:00	13640	9780	9070	8740	9090	9350	8710	(46)	64
Saturday	178130	202830	194920	186170	187400	190880	177520	(80)	100
Sunday	99650	75710	74920	72540	76870	81740	76370	(65)	77
<b>Bolton as a % of Greater Manchester</b>									
Weekday 0700-0900	9.0	10.6	9.7	10.4	9.8	10.0	10.3		
Weekday 10:00-1500	9.9	11.0	9.9	10.2	10.0	10.0	10.0		
Weekday 2000-2200	9.2	8.6	8.3	8.4	8.5	8.4	8.8		
Saturday	10.0	10.7	9.6	10.0	9.9	9.8	10.0		
Sunday	8.2	8.8	8.5	8.5	8.8	8.3	8.8		

**Notes:** Figures in parentheses give the percentage of mileage operated commercially in 2007. Index 2007 based on 1985 = 100.



#### 4. KEY CENTRE MONITORING

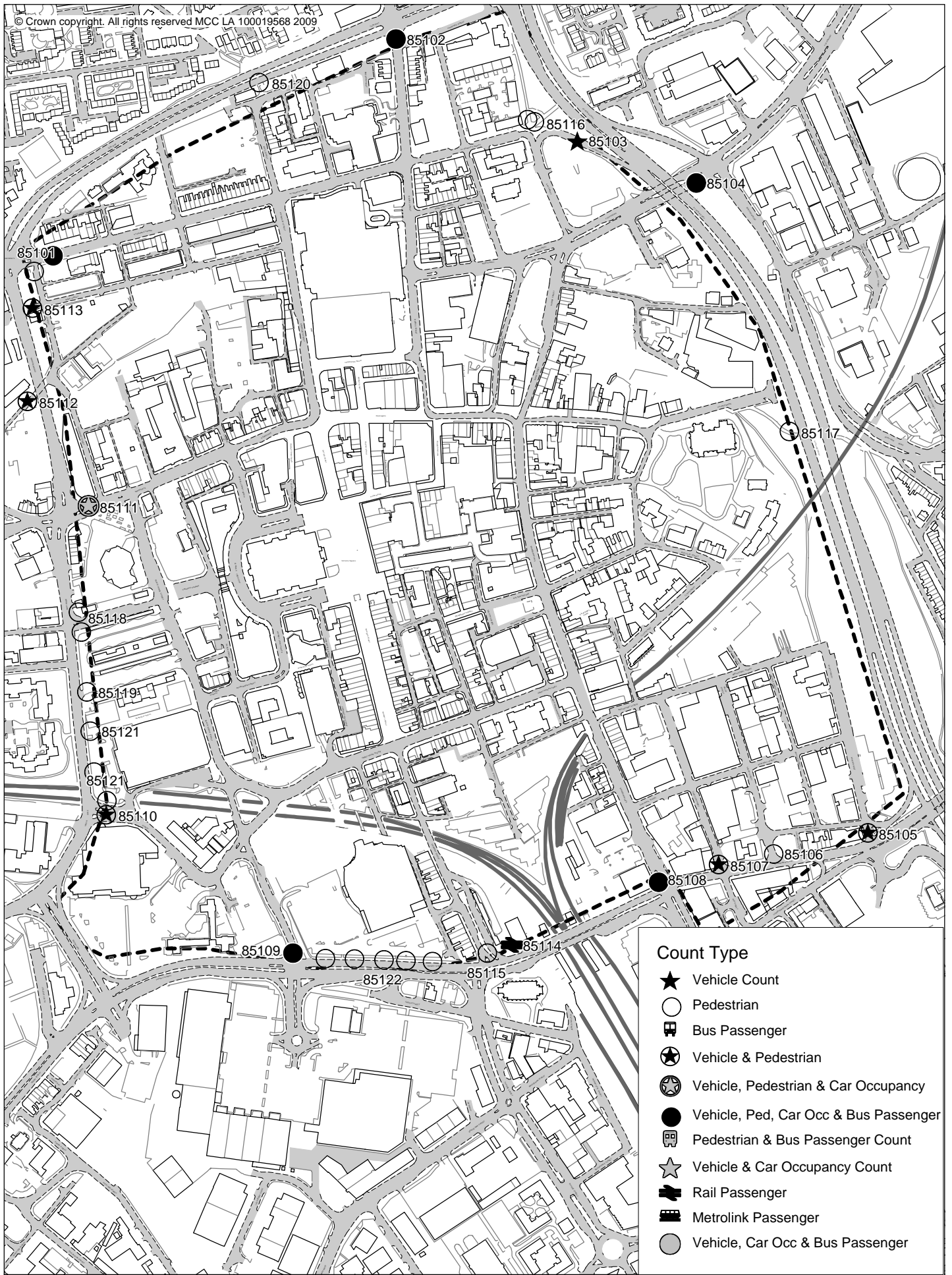
- 4.1 Traffic and rail counts were been conducted on a cordon around Bolton in 1997. Since then, Bolton has been surveyed on a three yearly cycle (1998, 2001, 2004 and 2007) to monitor progress towards key objectives in the first Greater Manchester Local Transport Plan (GMLTP) and its successor, GMLTP2. Pedestrian surveys were added to the programme in 2001. From the financial year 2008/2009, these surveys will be conducted annually. Bolton was surveyed in March 2009.
- 4.2 Tables providing details of road traffic and modal share trends are presented in this report.
- 4.3 Before 2009, CPS (Continuous Passenger Sampling) data had been used to estimate bus trips. However this data was not designed to give an accurate picture of bus passengers at a local level and in March 2009, counts of bus passengers crossing the cordon have been conducted. However, although historical data has been adjusted to be comparable with the most recent surveys, the trend is still based on CPS data.

#### Road Traffic - Inbound

- 4.4 All vehicles crossing a cordon into Bolton key centre were counted in the three time periods 07:30-09:30, 10:00-12:00 and 16:00-18:00 on a typical weekday in March 2009.
- 4.5 Tables 13 to 15 give manual traffic counts at each individual cordon site in March 2009 by time period. Figure 2 shows the location of these sites and the key centre boundary.

Site	Site No	Car	LGV	OGV	Bus	Motor Cycle	Pedal Cycle	All Vehicles
B6205 St George's Rd	85101	352	39	13	59	4	6	473
B6206 Hr Bridge St	85102	485	56	8	40	0	8	597
A666 St Peters Way Offslip	85103	386	56	11	2	1	0	456
A676 Folds Rd	85104	1441	117	22	45	9	12	1646
U River St	85105	29	3	0	0	0	0	32
U Carlton St	85107	288	44	9	1	0	1	343
A575 Bradshawgate	85108	959	41	4	110	6	9	1129
C Blackhorse St	85109	941	61	10	126	2	1	1141
C Ormrod St	85110	598	46	10	1	1	6	662
A676 Deansgate	85111	890	116	9	5	2	11	1033
U St Helena Rd	85112	41	1	2	0	0	2	46
U Bark St	85113	99	33	3	0	0	0	135
Cycles on other routes							20	20
<b>Total</b>		<b>6509</b>	<b>613</b>	<b>101</b>	<b>389</b>	<b>25</b>	<b>76</b>	<b>7713</b>
<b>% Composition</b>		<b>84.4</b>	<b>7.9</b>	<b>1.3</b>	<b>5.0</b>	<b>0.3</b>	<b>1.0</b>	<b>100.0</b>

**Note:** Percentages may not sum to 100 due to rounding.



Bolton Survey Sites and Key Centre Boundary

**GMTU**  
 SALISBURY HOUSE  
 GRANBY ROW  
 MANCHESTER M1 7AH

Drawn By : Elwyn Ellis

Date : 06/05/2009

Report : 1477 Figure : 2

<b>Table 14 Road Traffic Entering Bolton Key Centre in March 2009 (10:00-12:00)</b>								
<b>Site</b>	<b>Site No</b>	<b>Car</b>	<b>LGV</b>	<b>OGV</b>	<b>Bus</b>	<b>Motor Cycle</b>	<b>Pedal Cycle</b>	<b>All Vehicles</b>
B6205 St George's Rd	85101	282	25	8	57	0	1	373
B6206 Hr Bridge St	85102	340	43	14	31	5	3	436
A666 St Peters Way Offslip	85103	245	41	9	0	1	0	296
A676 Folds Rd	85104	815	90	32	44	12	7	1000
U River St	85105	7	10	1	0	0	0	18
U Carlton St	85107	158	51	5	1	2	0	217
A575 Bradshawgate	85108	752	113	32	114	3	2	1016
C Blackhorse St	85109	1174	65	21	115	14	1	1390
C Ormrod St	85110	474	44	6	5	4	1	534
A676 Deansgate	85111	683	68	14	8	9	2	784
U St Helena Rd	85112	15	3	0	0	0	3	21
U Bark St	85113	43	20	1	0	0	1	65
Cycles on other routes							12	12
<b>Total</b>		<b>4988</b>	<b>573</b>	<b>143</b>	<b>375</b>	<b>50</b>	<b>33</b>	<b>6162</b>
<b>% Composition</b>		<b>81.0</b>	<b>9.3</b>	<b>2.3</b>	<b>6.1</b>	<b>0.8</b>	<b>0.5</b>	<b>100.0</b>

**Note:** Percentages may not sum to 100 due to rounding.

<b>Table 15 Road Traffic Entering Bolton Key Centre in March 2009 (16:00-18:00)</b>								
<b>Site</b>	<b>Site No</b>	<b>Car</b>	<b>LGV</b>	<b>OGV</b>	<b>Bus</b>	<b>Motor Cycle</b>	<b>Pedal Cycle</b>	<b>All Vehicles</b>
B6205 St George S Rd	85101	272	24	8	60	3	1	368
B6206 Hr Bridge St	85102	281	22	5	31	3	5	347
A666 St Peters Way Offslip	85103	389	35	2	1	5	0	432
A676 Folds Rd	85104	741	68	14	49	12	7	891
U River St	85105	10	1	0	0	0	0	11
U Carlton St	85107	150	22	0	0	0	1	173
A575 Bradshawgate	85108	901	65	10	115	8	15	1114
C Blackhorse St	85109	915	53	8	122	6	1	1105
C Ormrod St	85110	285	28	5	1	2	3	324
A676 Deansgate	85111	529	40	2	8	6	3	588
U St Helena Rd	85112	11	1	0	0	0	0	12
U Bark St	85113	102	11	0	0	1	2	116
Cycles on other routes							26	26
<b>Total</b>		<b>4586</b>	<b>370</b>	<b>54</b>	<b>387</b>	<b>46</b>	<b>64</b>	<b>5507</b>
<b>% Composition</b>		<b>83.3</b>	<b>6.7</b>	<b>1.0</b>	<b>7.0</b>	<b>0.8</b>	<b>1.1</b>	<b>100.0</b>

**Note:** Percentages may not sum to 100 due to rounding.

Table 16 presents traffic entering Bolton key centre in 1997, 1998, 2001, 2004, 2007 and 2009 together with indices of change between 1997 and 2009.

- The number of vehicles crossing the cordon into Bolton town centre between 2007 and 2009 fell by 13% in the morning peak, 9% in the off peak and 20% in the evening peak.
- This represents decreases of 17%, 23% and 29% respectively on vehicle numbers in 1997.

<b>Table 16 Bolton Key Centre Cordon Counts 1997, 1998, 2001, 2004, 2007 and 2009</b>								
		<b>Cars</b>	<b>LGV</b>	<b>OGV</b>	<b>Buses</b>	<b>M/C</b>	<b>P/C</b>	<b>All</b>
<b>07:30-09:30</b>	1997	7626	726	288	514	43	74	9274
	1998	7741	689	232	508	39	73	9284
	2001	7907	802	160	485	37	63	9454
	2004	7343	675	130	407	39	58	8652
	2007	7444	697	143	416	38	77	8815
	2009	6509	613	101	389	25	76	7713
	<b>2009/1997</b>	<b>0.85</b>	<b>0.84</b>	<b>0.35</b>	<b>0.76</b>	<b>0.58</b>	<b>1.03</b>	<b>0.83</b>
<b>10:00-12:00</b>	1997	6499	613	264	549	27	19	7981
	1998	6232	648	273	492	17	15	7688
	2001	6320	774	195	445	19	21	7774
	2004	5903	622	138	412	31	32	7138
	2007	5461	647	167	452	24	22	6773
	2009	4988	573	143	375	50	33	6162
	<b>2009/1997</b>	<b>0.77</b>	<b>0.93</b>	<b>0.54</b>	<b>0.68</b>	<b>1.85</b>	<b>1.74</b>	<b>0.77</b>
<b>16:00-18:00</b>	1997	6527	503	141	549	34	49	7803
	1998	5998	563	136	484	28	38	7248
	2001	6524	641	79	443	31	43	7761
	2004	4953	501	63	411	28	60	6016
	2007	5803	532	53	424	40	67	6919
	2009	4586	370	54	387	46	64	5507
	<b>2009/1997</b>	<b>0.70</b>	<b>0.74</b>	<b>0.38</b>	<b>0.70</b>	<b>1.35</b>	<b>1.31</b>	<b>0.71</b>

### **Car Occupancy - Inbound**

4.6 Car occupancy surveys were conducted at six sites on the Bolton key centre cordon in 2009. Table 17 shows the observed occupancy rates by period and site. Table 18 compares occupancy rates with figures for 2001, 2004 and 2007.

- The average occupancy rates were 1.30 in the morning peak, 1.45 in the off-peak and 1.39 in the evening peak.
- There has been little variation in average car occupancies in all time periods.

<b>Table 17 Bolton Key Centre Inbound Car Occupancy Rates 2009</b>		
<b>Site</b>	<b>07:30-09:30</b>	
	<b>% Driver Only</b>	<b>Ave Occupancy</b>
85101 St Georges Rd	83	1.18
85102 Hr Bridge St	78	1.24
85104 Folds Rd	74	1.29
85108 Bradshawgate	79	1.23
85109 Blackhorse St	72	1.34
85111 Deansgate	63	1.44
<b>All Sites</b>	<b>73</b>	<b>1.30</b>
<b>Site</b>	<b>10:00-12:00</b>	
	<b>% Driver Only</b>	<b>Ave Occupancy</b>
85101 St Georges Rd	74	1.28
85102 Hr Bridge St	66	1.37
85104 Folds Rd	54	1.56
85108 Bradshawgate	58	1.50
85109 Blackhorse St	59	1.46
85111 Deansgate	70	1.35
<b>All Sites</b>	<b>61</b>	<b>1.45</b>
<b>Site</b>	<b>16:00-18:00</b>	
	<b>% Driver Only</b>	<b>Ave Occupancy</b>
85101 St Georges Rd	76	1.27
85102 Hr Bridge St	67	1.39
85104 Folds Rd	72	1.31
85108 Bradshawgate	62	1.50
85109 Blackhorse St	69	1.38
85111 Deansgate	70	1.38
<b>All Sites</b>	<b>69</b>	<b>1.39</b>

<b>Table 18 Comparison of Bolton Key Centre Car Occupancy Rates 2001, 2004, 2007 and 2009</b>		
<b>Year</b>	<b>07:30-09:30</b>	
	<b>% Driver Only</b>	<b>Ave Occupancy</b>
2001	73	1.32
2004	76	1.27
2007	75	1.29
2009	73	1.30
<b>Year</b>	<b>10:00-12:00</b>	
	<b>% Driver Only</b>	<b>Ave Occupancy</b>
2001	61	1.46
2004	57	1.51
2007	63	1.42
2009	61	1.45
<b>Year</b>	<b>16:00-18:00</b>	
	<b>% Driver Only</b>	<b>Ave Occupancy</b>
2001	71	1.37
2004	69	1.39
2007	68	1.41
2009	69	1.39

#### **Rail Patronage - Inbound**

- 4.7 The number of people entering Bolton key centre by rail was surveyed in March 2009. Table 19 presents the results along with those of previous surveys in 1997, 1998, 2001, 2004 and 2007.
- Relative to 1997, the number of rail users entering the key centre in 2009 has increased during all time periods: by 57% during the morning peak and off peak and 51% during the evening peak.

<b>Table 19 Rail Passengers Entering Bolton Key Centre 1997, 1998, 2001, 2004, 2007 and 2009</b>			
<b>Year</b>	<b>07:30-09:30</b>	<b>10:00-12:00</b>	<b>16:00-18:00</b>
1997	452	406	798
1998	538	488	887
2001	429	394	1086
2004	429	396	882
2007	822	610	1063
2009	709	636	1203
<b>1997/2009</b>	<b>1.57</b>	<b>1.57</b>	<b>1.51</b>

### Walk Trips - Inbound

- 4.8 The number of pedestrians entering Bolton key centre was counted at 19 locations in March 2009 (see Figure 2). Table 20 presents the number of pedestrians by site and time period. Table 21 shows a comparison of pedestrians entering Bolton key centre in 2001, 2004 and 2007. Only a sample of pedestrian sites were surveyed in 2001 so these figures have been factored to represent a full cordon count.
- 4.9 The number of pedestrians entering Bolton key centre has increased in all time periods since 2001.

Site No.	Location	07:30-09:30	10:00-12:00	16:00-18:00
85101	B6205 St George's Rd	106	106	82
85102	B6206 Higher Bridge St	133	130	125
85104	A676 Folds Rd	120	104	96
85105	U River St	2	0	3
85106	U Salop St	1	3	1
85107	U Carlton St	3	16	6
85108	A575 Bradshawgate	72	97	151
85109	U Blackhorse St	59	249	107
85110	U Ormrod St	12	48	6
85111	A676 Deansgate	175	99	78
85112	U St Helena Rd	163	68	9
85113	U Bark St	53	75	20
85115	U Newport St	265	433	382
85116	St.George's St - 2 footpaths	66	51	44
85117	Footpath at Church Bank	323	223	338
85118	Entering Bus Station North	100	132	103
85119	Entering Bus Station South	90	34	41
85120	Topp Way at Bath Street	288	229	104
85121	Entering Market Hall Site	242	364	223
85122	Entering Morrisons Site	191	174	131
	<b>Cordon Total</b>	<b>2464</b>	<b>2635</b>	<b>2050</b>

Year	07:30-09:30	10:00-12:00	16:00-18:00
2001	2220	2191	1281
2004	2486	2911	1913
2007	2355	2581	1807
2009	2464	2635	2050
<b>2009/2001</b>	<b>1.11</b>	<b>1.20</b>	<b>1.60</b>

### Summary of Trends in Modal Share - Inbound

4.10 Table 22 gives the modal split of car and public transport trips crossing the cordon into Bolton Key Centre in 1997, 1998, 2001, 2004, 2007 and 2009 together with indices of change.

- The number of car and public transport trips combined entering the key centre has decreased in all time periods between 1997 and 2009.
- The modal share of public transport was higher in 2009 than in 2007 in all time periods.

Time Period	Year	Car Trips		Bus Trips		Rail Trips		Car + PT Trips		% Car	% PT
		Number	Index	Number	Index	Number	Index	Number	Index		
07:30-09:30	1997	10032	100	5819	100	452	100	16303	100	62	38
	1998	10168	101	5380	92	538	119	16086	99	63	37
	2001	10365	103	5140	88	429	95	15934	98	65	35
	2004	9326	93	3975	68	429	95	13730	84	68	32
	2007	9603	96	4724	81	822	182	15149	93	63	37
	2009	8462	84	4460	77	709	157	13630	84	62	38
10:00-12:00	1997	9492	100	4834	100	406	100	14732	100	64	36
	1998	9114	96	3916	81	488	120	13518	92	67	33
	2001	9210	97	3790	78	394	97	13394	91	69	31
	2004	8914	94	3054	63	396	98	12364	84	72	28
	2007	7755	82	4722	98	610	150	13087	89	59	41
	2009	7233	76	4949	102	636	157	12817	87	56	44
16:00-18:00	1997	8911	100	2000	100	798	100	11709	100	76	24
	1998	8182	92	2277	114	887	111	11346	97	72	28
	2001	8901	100	2033	102	1086	136	12020	103	74	26
	2004	6874	77	1534	77	882	111	9290	79	74	26
	2007	8182	92	2125	106	1063	133	11370	97	72	28
	2009	6375	72	2754	138	1203	151	10331	88	62	38



4.11 Table 23 gives the modal split of car and non-car trips crossing the cordon into Bolton Key Centre in 2001, 2004, 2007 and 2009 along with a ratio of change between 2001 and 2009.

- The proportion of car trips has decreased and non-car trips increased during all time periods between 2001 and 2009.

<b>Table 23 Car and Non-Car Trips into Bolton Key Centre</b>									
	<b>Year</b>	<b>Car</b>	<b>Bus</b>	<b>Rail</b>	<b>Cycle</b>	<b>Walk</b>	<b>Total</b>	<b>% Car</b>	<b>% Non-Car</b>
<b>07:30-09:30</b>	<b>2001</b>	10365	5140	429	63	2220	18217	57	43
	<b>2004</b>	9326	3975	429	58	2486	16274	57	43
	<b>2007</b>	9603	4724	822	77	2355	17581	55	45
	<b>2009</b>	8462	4460	709	76	2464	16170	52	48
	<b>2009/2001</b>	<b>0.82</b>	<b>0.87</b>	<b>1.65</b>	<b>1.21</b>	<b>1.11</b>	<b>0.89</b>		
<b>10:00-12:00</b>	<b>2001</b>	9210	3790	394	23	2191	15608	59	41
	<b>2004</b>	8914	3054	396	32	2911	15307	58	42
	<b>2007</b>	7755	4722	610	22	2581	15690	49	51
	<b>2009</b>	7233	4949	636	33	2635	15485	47	53
	<b>2009/2001</b>	<b>0.79</b>	<b>1.31</b>	<b>1.61</b>	<b>1.43</b>	<b>1.20</b>	<b>0.99</b>		
<b>16:00-18:00</b>	<b>2001</b>	8901	2033	1086	45	1281	13346	67	33
	<b>2004</b>	6874	1534	882	60	1913	11263	61	39
	<b>2007</b>	8182	2125	1063	67	1807	13244	62	38
	<b>2009</b>	6375	2754	1203	64	2050	12445	51	49
	<b>2009/2001</b>	<b>0.72</b>	<b>1.35</b>	<b>1.11</b>	<b>1.42</b>	<b>1.60</b>	<b>0.93</b>		

## 24-Hour Traffic Profiles into Bolton Key Centre

4.12 For GMLTP2, the DfT requires automatic traffic counts on busy roads (more than 2,000 vehicles per day) approaching key centres in Greater Manchester. Ideally the counts should be just outside the areas where key centre parking occurs. However, it was agreed with the DfT, that in Greater Manchester, these counts could be undertaken on the existing key centre cordons for consistency with, and to complement and add value to the other key centre monitoring. The counts are continuous over a two-week period annually. The indicator for the DfT (LTP6) covers the morning peak period (07:00-10:00). Table 24 provides a comparison of the results of the surveys conducted in Spring 2007, 2008 and 2009 for this time period and for a 24-hour average weekday. A list of the sites that meet the DfT counting requirement, a summary of all sites and individual profiles for each site are provided in Appendix 3 of this report.

- Morning weekday peak flows and 24-hour average weekday flows decreased by 13% and 15% respectively between 2007 and 2009.
- Traffic management changes near to A66 off-slip and the introduction of a new link to the A666 from Bury New Road have both contributed to the removal of through traffic from the key centre.

Site	0700-1000 Ave Weekday				24-Hour Ave Weekday			
	Base 2006/7	2007/2008	2008/2009	% Diff 08-09/ Base	Base 2006/7	2007/2008	2008/2009	% Diff 08-09/ Base
Black Horse St	1500	1496	1603	7%	7910	7667	8120	3%
A575 Bradshawgate	1574	1607	1575	0%	7980	8103	7952	0%
Carlton St	462	448	328	-29%	1849	1716	1250	-32%
A676 Deansgate	1276	1266	1328	4%	5367	5281	5364	0%
A676 Folds Rd	2698	2416	2074	-23%	9345	8254	7161	-23%
A666 offslip to St George's St	1168	712	616	-47%	5716	3673	2588	-55%
Ormrod St	741	724	825	11%	3055	3075	3287	8%
B6205 St George's Rd	794	767	631	-21%	3400	3185	2711	-20%
B6206 Higher Bridge St	992	917	767	-23%	3910	3589	2892	-26%
<b>TOTAL</b>	<b>11205</b>	<b>10353</b>	<b>9747</b>	<b>-13%</b>	<b>48532</b>	<b>44543</b>	<b>41325</b>	<b>-15%</b>

**5. ROAD CASUALTIES AND ACCIDENTS**

- 5.1 There were 776 accidents in Bolton during 2008 resulting in 1045 casualties. This compares with an average of 1673 casualties in the base years (the average annual casualties in the years 1994 to 1998). There were 82 killed or seriously injured (KSI) casualties in 2008 compared with an average of 136 KSI in the base years.
- 5.2 Local targets for 2010 have been set as part of the second Local Transport Plan (GMLTP2). These are a 50% reduction for KSI casualties, a 55% reduction for child KSI accidents and a 30% reduction in slight casualties relative to base years average. Unlike the first Local Transport Plan (GMLTP), the annual figures for the KSI and Child KSI are represented by a three-year average. Thus the average of 2006, 2007 and 2008 represents 2007. This has been done to reduce the variability due to the statistically small number of casualties in these groups. The targets are all more rigorous than the national targets which are for a 40% reduction in KSI casualties, a 50% reduction in child KSI casualties and a 10% reduction in slight casualties per vehicle kilometre.
- 5.3 Table 25 shows the base, the annual average trend and GMLTP2 targets for KSI and child KSI casualty groups. Table 26 shows the base, the annual trend and target for slight casualties.
- The three-year average number of KSI casualties for 2007 was 34% below the base.
  - The three-year average for child KSI casualties was 56% below the base matching the 2010 GMLTP2 target.
  - Slight casualties in 2008 were 37% below the baseline average and 11% below the 2010 GMLTP2 target.

<b>Table 25 Base, Yearly Trend and Target for KSI and Child KSI GMLTP2 Casualty Target Groups</b>										
	<u>Base</u> ave 1994 to 1998	<u>2000</u> ave 1999 to 2001	<u>2001</u> ave 2000 to 2002	<u>2002</u> ave 2001 to 2003	<u>2003</u> ave 2002 to 2004	<u>2004</u> ave 2003 to 2005	<u>2005</u> ave 2004 to 2006	<u>2006</u> ave 2005 to 2007	<u>2007</u> ave 2006 to 2008	<u>Target</u> ave 2009 to 2011
<b>KSI</b>	136	116	109	110	110	119	113	104	90	68
<b>Child KSI</b>	36	27	21	21	21	25	23	19	16	16

<b>Table 26 Base, Yearly Trend and Target for Slight GMLTP2 Casualty Target Groups</b>										
	<u>Base</u> ave 1994 to 1998	2001	2002	2003	2004	2005	2006	2007	2008	<u>Target</u> 2010
<b>Slight</b>	1537	1600	1461	1459	1327	1346	1205	1108	963	1076

- 5.4 Tables 27 to 29 show the breakdown of casualties by type and age. Tables 30 and 31 show how accidents vary by day of week and month and by driving conditions.
- 5.5 Figures 3 to 5 show graphically the number of casualties in each of these three target groups from 1985 onwards. Figure 6 shows how the trend in all casualties in Bolton compares to the Greater Manchester average.
- 5.6 Finally, Figures 7 and 8 show the trends over the last five years by casualty type for all casualties and child casualties respectively.
- 5.7 Computer plots of accident locations in Bolton are given in Appendix 4 for the following categories of accident
- all by severity
  - KSI sub-divided into child and adult
  - pedestrian sub-divided into child and adult
  - pedal cycle sub-divided into child and adult

<b>Table 27 Bolton Casualty Data 1994-2008</b>											
<b>All Casualties</b>	<b>Ave 94-98</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
Fatal	12	4	15	13	12	7	16	7	14	8	9
Serious	124	112	103	100	85	112	97	118	87	78	73
Slight	1537	1619	1764	1600	1461	1459	1327	1346	1205	1108	963
All	1673	1735	1882	1713	1558	1578	1440	1471	1306	1194	1045
KSI	136	116	118	113	97	119	113	125	101	86	82
Population 000's	265.9	267.4	267.6	261.3	261.5	263.8	263.8	264.8	265.4	262.4	262.3
KSI Rate per 100000 Pop'n	51	43	44	43	37	45	43	47	38	33	31
<b>Child Casualties</b>											
Child KSI	36	30	26	24	14	26	24	25	19	13	17
Child (All)	326	317	315	317	249	265	239	240	192	161	141
Child Pop'n 000's	57.6	57.5	57.1	56.4	55.9	55.9	55.9	55.6	55.4	54.9	54.7
KSI Rate per 100000 Pop'n	62	52	46	43	25	47	43	45	34	33	31
<b>Casualty Type</b>											
TWPV	62	68	105	114	76	88	72	104	86	76	73
Car Occupant	1077	1105	1270	1052	1035	992	967	942	824	775	618
Pedestrian	322	303	282	324	295	284	255	266	235	204	205
Pedal Cycle	107	115	121	97	77	98	83	67	57	67	74
Other	106	144	104	126	75	116	63	92	104	72	75
All	1673	1735	1882	1713	1558	1578	1440	1471	1306	1194	1045

**Note:** The table uses figures provided by the Office for National Statistics for mid-year estimates of populations.

	Average 1989-93	Average 1994-98	Average 1999-2003	2004	2005	2006	2007	2008
<b>All Casualties</b>								
Bolton Casualties	1627	1673	1693	1440	1471	1306	1194	1045
Bolton KSI Casualties	222	136	113	113	125	101	86	82
Greater Manchester Casualties	16479	16708	15671	13543	12805	11795	10702	9881
<b>Casualty Type</b>								
TWPV Rider	106	55	83	67	96	81	74	69
TWPV Pillion	11	7	7	5	8	5	2	4
Car Driver	515	664	678	578	577	535	462	380
Car Passenger	364	412	413	389	365	289	313	238
Pedestrian	413	322	298	255	266	235	204	205
Cyclist (Rider Only)	113	105	100	81	65	57	65	73
PCV Passenger	38	45	50	25	46	42	34	46
Total Other Driver	48	46	45	24	36	47	29	20
Total Other Passenger	19	17	20	16	12	15	11	10
<b>Child Casualties by Type</b>								
Driver/Rider	56	50	47	38	29	15	23	19
Passenger	81	111	97	71	77	68	63	45
Pedestrian	200	164	149	130	134	109	75	77
All Classes	336	326	293	239	240	192	161	141
<b>Child Casualties by Age</b>								
0 – 4	56	48	34	23	23	33	24	26
5 – 9 - pupil to/from school	16	14	13	14	8	7	2	2
- pupil not to/from school	110	100	79	52	62	45	33	36
10 – 15 - pupil to/from school	39	43	38	32	41	18	12	3
- pupil not to/from school	115	121	128	118	106	89	90	74
<b>Drink Drive Casualties by Severity</b>								
Fatal	1	0	1	0	0	0	0	0
Serious	7	5	5	8	8	6	3	4
Slight	46	35	47	46	42	44	36	31
Total	54	40	53	54	50	50	39	35

	Average 1989-93	Average 1994-98	Average 1999-2003	2004	2005	2006	2007	2008
<b>Pedestrian Casualties</b>								
Under 16 years								
Male	122	100	87	76	82	60	45	51
Female	78	64	62	54	52	49	30	26
16 – 59								
Male	99	67	71	64	56	63	69	63
Female	57	44	43	37	38	43	23	37
Over 59 years								
Male	26	21	15	15	24	11	14	14
Female	32	25	21	9	14	9	23	14
Total	413	322	298	255	266	235	204	205
<b>Cyclists (Rider Only)</b>								
Under 16 years								
Male	45	40	38	28	17	11	21	17
Female	8	9	6	5	7	2	1	2
16 – 59								
Male	52	51	49	41	35	35	35	44
Female	6	4	3	4	2	7	4	6
Over 59 years								
Male	3	2	4	3	4	2	4	4
Female	0	0	0	0	0	0	0	0
Total	113	105	100	81	65	57	65	73
<b>TWPV Riders</b>								
Under 20 years								
Male	28	6	22	21	32	23	25	17
Female	2	0	2	1	0	2	1	2
20 – 29								
Male	39	17	18	10	21	13	13	9
Female	4	3	2	0	1	1	2	0
Over 29 years								
Male	29	27	37	34	37	41	31	39
Female	3	2	3	1	5	1	2	2
Total	106	55	83	67	96	81	74	69
<b>Car Drivers</b>								
Under 20 years								
Male	43	45	42	29	37	40	22	13
Female	24	23	15	10	18	22	11	20
20 – 29								
Male	97	127	103	93	94	82	63	52
Female	86	110	90	72	67	62	59	47
Over 29 years								
Male	151	202	238	223	205	194	147	120
Female	113	157	190	151	156	135	160	128
Total	515	664	678	578	577	535	462	380

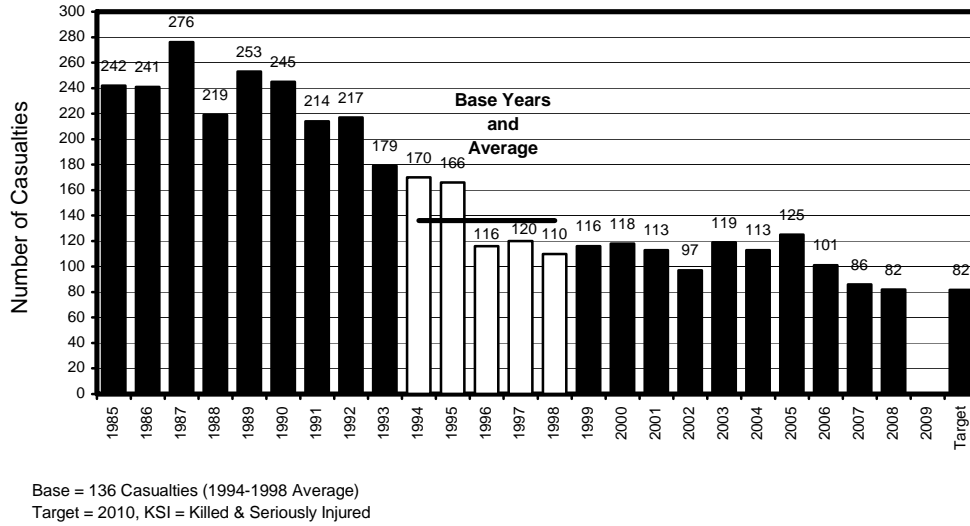
**Notes:** Average 1989-93, average 1994-98 and average 1999-2003 totals may not sum due to rounding.  
Car – From 1/4/99 this definition was revised to exclude invalid tricycles and motor caravans.

Table 30 Bolton Injury Accident Data 1989-2008								
	Average 1989-93	Average 1994-98	Average 1999-2003	2004	2005	2006	2007	2008
Total Accidents	1246	1202	1210	1039	1061	948	878	776
Total KSI Accidents	203	122	101	97	114	91	81	78
<b>Accidents by Month</b>								
January	103	94	91	66	88	93	65	62
February	97	90	87	97	82	58	67	70
March	103	90	94	71	79	70	50	75
April	102	94	93	80	84	82	70	62
May	107	106	101	79	92	78	75	82
June	99	99	97	97	113	77	95	63
July	93	95	103	92	91	92	67	53
August	104	102	103	80	75	61	73	59
September	102	101	102	86	81	77	63	66
October	111	109	117	110	96	86	91	60
November	113	113	110	85	105	91	80	69
December	113	108	111	96	75	83	82	55
<b>Accidents by Day of Week</b>								
Sunday	141	120	133	105	112	106	103	79
Monday	161	173	159	136	161	115	128	109
Tuesday	174	180	185	160	144	141	124	111
Wednesday	171	173	171	168	166	135	124	119
Thursday	192	186	178	168	151	164	144	124
Friday	214	205	212	167	176	158	140	129
Saturday	193	163	171	135	151	129	115	105

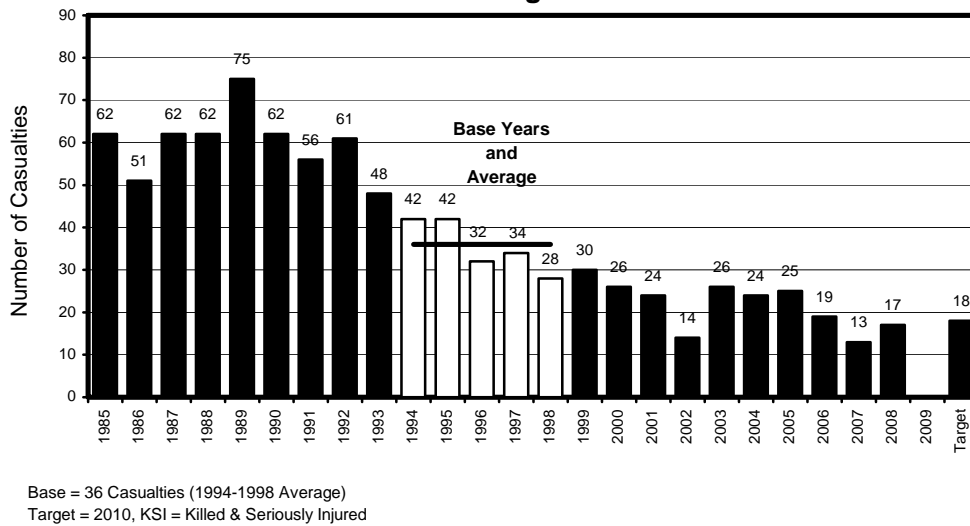
Table 31 Bolton Injury Accident Data by Conditions 1989-2008								
	Average 1989-93	Average 1994-98	Average 1999-2003	2004	2005	2006	2007	2008
<b>Accidents by Road Surface</b>								
Dry	55	714	724	617	716	624	549	525
Wet/Damp	474	464	458	394	328	317	311	233
Snow	3	8	3	5	4	0	3	3
Frost/Ice	25	14	18	17	13	7	14	15
Flood	2	1	1	1	0	0	1	0
Oil or Diesel	0	0	5	3	0	0	0	0
Mud	0	0	1	2	0	0	0	0
<b>Wet/Damp Accidents by Road Class</b>								
Motorway	9	15	19	17	22	16	17	14
A (M)	0	0	0	0	0	0	0	0
A	240	254	223	208	185	163	156	107
B	77	60	61	48	38	42	50	31
C	69	27	37	27	20	26	55	31
U	79	108	118	94	63	70	33	50
Total	474	464	458	394	328	317	311	233
<b>Accidents by Light/Dark</b>								
Motorway - Dark	6	10	12	24	16	16	15	10
A (M) - Dark	0	0	0	0	0	0	0	0
A - Dark	187	180	168	153	157	154	129	98
B - Dark	57	43	43	44	46	41	37	20
C - Dark	46	19	21	25	16	26	46	38
U - Dark	59	76	77	86	47	68	29	33
Total	355	327	321	332	282	305	256	199
Motorway - Light	14	26	35	31	28	37	29	25
A (M) - Light	0	0	0	0	0	0	0	0
A - Light	410	421	408	327	391	305	304	261
B - Light	123	112	119	102	81	81	85	81
C - Light	129	46	61	35	55	41	92	87
U - Light	215	270	266	212	224	179	112	123
Total	891	874	889	707	779	643	622	577
<b>No. of Vehicles Per Accident</b>								
1	486	383	357	330	332	302	250	247
2	647	706	732	603	600	537	530	447
3 or more	112	112	122	106	129	109	98	82
<b>No. of Casualties Per Accident</b>								
1	996	903	899	775	797	711	673	605
2	173	197	211	179	181	161	140	118
3 or more	78	102	101	85	83	76	65	53

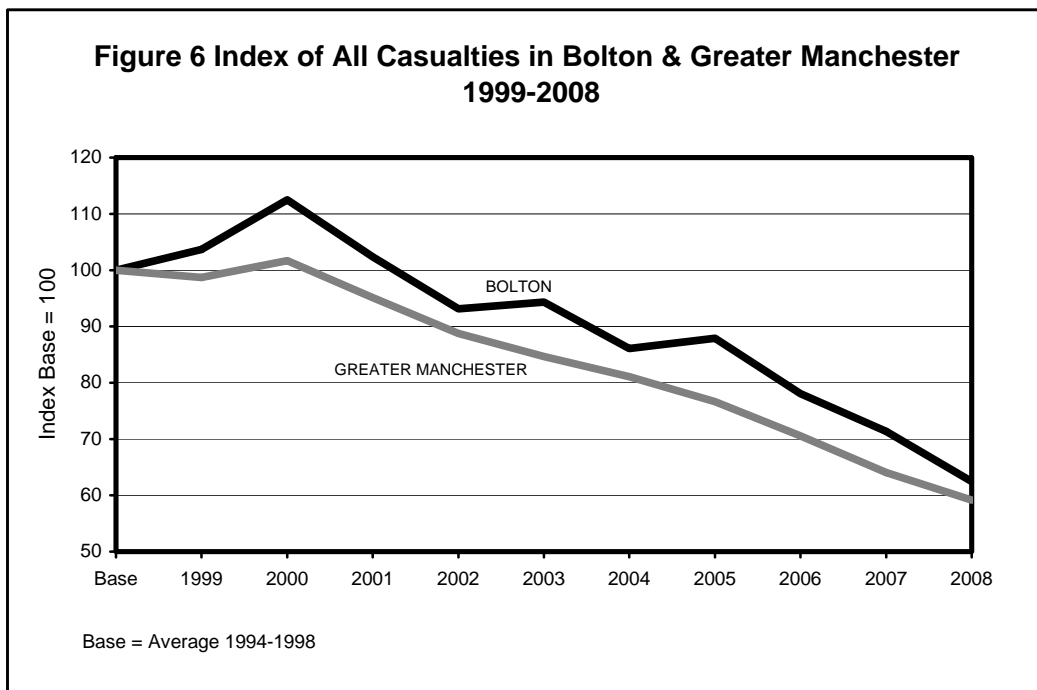
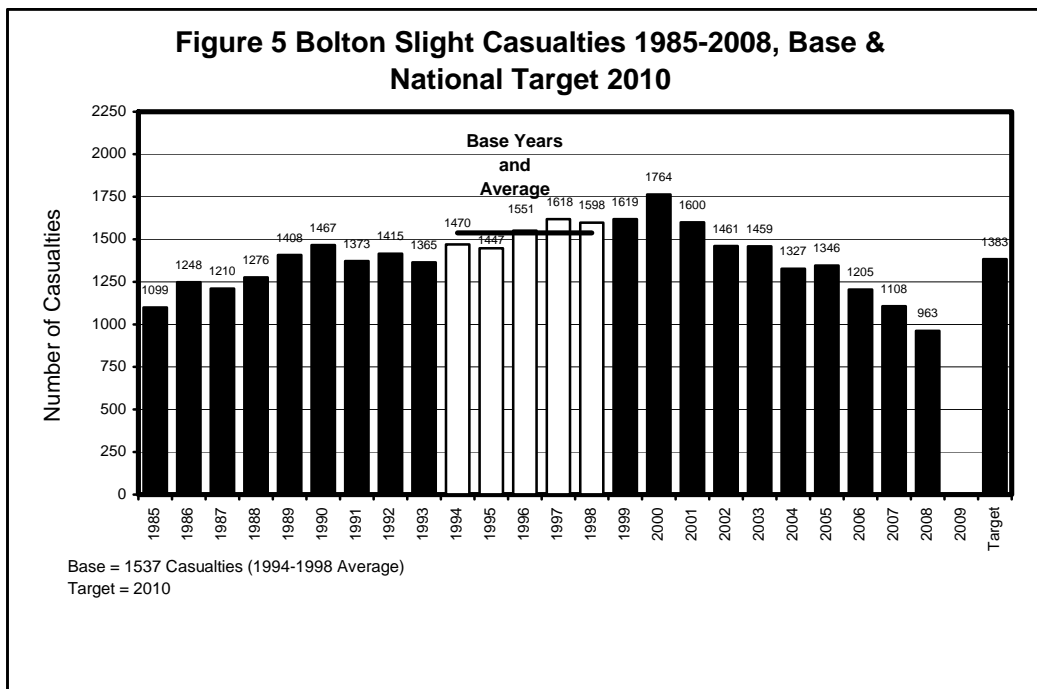
**Notes:** Average 1989-93, average 1994-98 and average 1999-2003 totals may not sum due to rounding. Oil/ Diesel or Mud were removed from 'Road Surface Condition' and re-introduced in 'Special Conditions at Site' on 1/4/2006

**Figure 3 Bolton KSI Casualties 1985-2008, Base & National Target 2010**

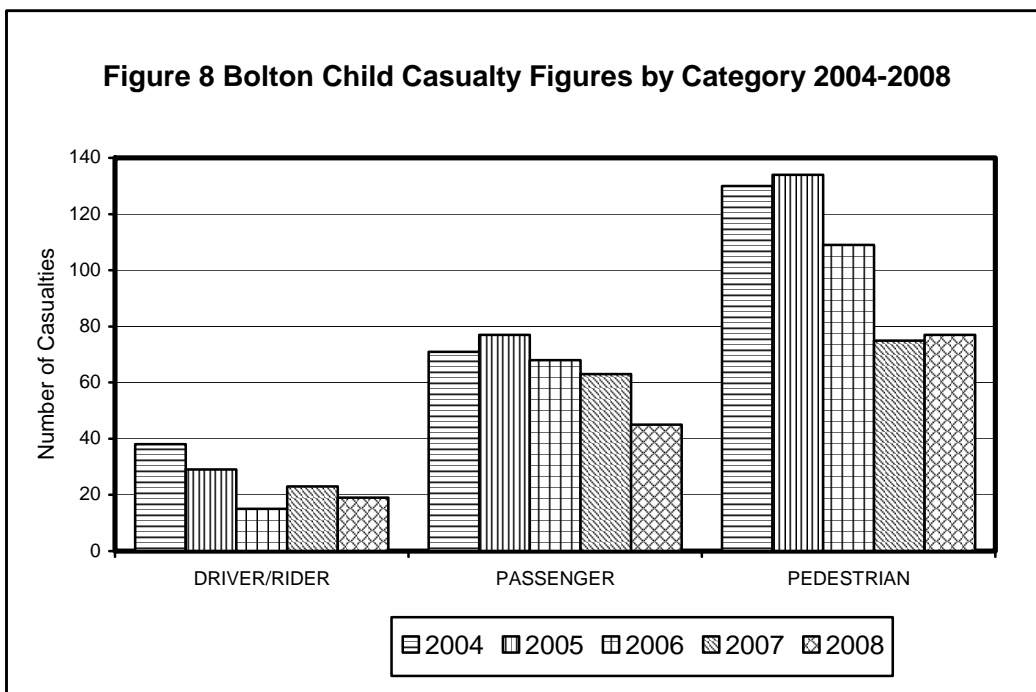
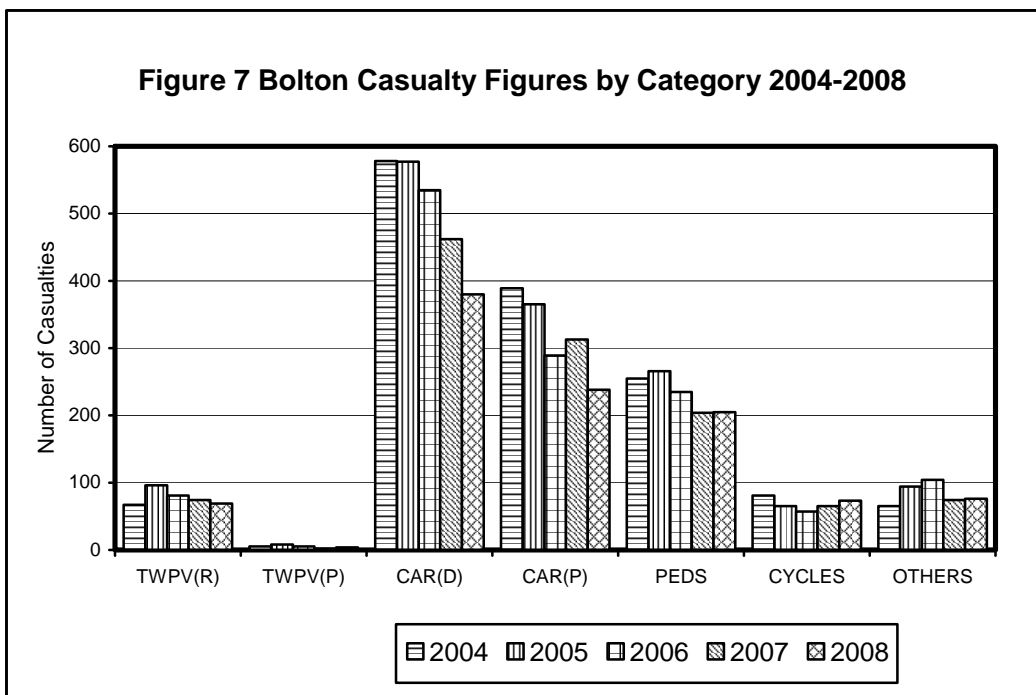


**Figure 4 Bolton Child KSI Casualties 1985-2008, Base & National Target 2010**









## 6. CONGESTION

- 6.1 The journey time data presented below has been calculated using data collected from in-vehicle GPS tracking devices from which average vehicle speeds and journey times can be derived. This report presents journey time rates in minutes per mile and speeds in miles per hour.
- 6.2 The journey time rates are the sum of the average link times divided by the sum of the link lengths for the set of links and time period under consideration. The link times are the average of observations for the 12-month period running from September to August. All journey time rates are for an average weekday excluding school holidays and bank holidays.
- 6.3 Tables 35 and 36 show respectively average journey time rates and speeds for A and B roads, for 2004/05, 2005/06, 2006/07 and 2007/08. For comparison, the 2007/08 journey time rates and speeds for Greater Manchester are also shown.
- 6.4 Figure 10 illustrates the change in average journey time rates in Bolton over the last four years for various time periods. Figure 11 illustrates average journey time rates by quarter-hour time period for the last three years and Figure 12 illustrates average journey times by quarter hour time period during 2007/08 for Bolton and Greater Manchester. Maps showing average speeds can be found in Appendix 4.
- Journeys between 07:00 and 19:00 on A and B roads in Bolton took longer on average in 2007/08 than they did in 2004/05. However, this increase in journey time was not consistent throughout the day. While journey time has increased in the off peak period and the evening peak it has decreased in the morning peak. Additionally journeys were quicker on average in 2007/08 than they were in 2006/07 and 2005/06.

<b>Table 35 Bolton and Greater Manchester Average Journey Time Rates (Mins / Mile)</b>						
<b>Bolton</b>						
<b>Year</b>	<b>0700 - 1000</b>	<b>0800 - 0900</b>	<b>1000 - 1600</b>	<b>1700 - 1800</b>	<b>1600 - 1900</b>	<b>0700 - 1900</b>
<b>2004/05</b>	3.12	3.55	2.83	3.31	3.01	2.99
<b>2005/06</b>	3.16	3.56	2.91	3.44	3.17	3.08
<b>2006/07</b>	3.12	3.53	2.90	3.39	3.16	3.05
<b>2007/08</b>	3.06	3.45	2.88	3.41	3.19	3.03
<b>Greater Manchester</b>						
<b>2007/08</b>	3.37	3.84	3.10	3.67	3.46	3.28

<b>Table 36 Bolton and Greater Manchester Average Speeds (MPH)</b>						
<b>Bolton</b>						
<b>Year</b>	<b>0700 - 1000</b>	<b>0800 - 0900</b>	<b>1000 - 1600</b>	<b>1700 - 1800</b>	<b>1600 - 1900</b>	<b>0700 - 1900</b>
<b>2004/05</b>	19	17	21	18	20	20
<b>2005/06</b>	19	17	21	17	19	19
<b>2006/07</b>	19	17	21	18	19	20
<b>2007/08</b>	20	17	21	18	19	20
<b>Greater Manchester</b>						
<b>2007/08</b>	18	16	19	16	17	18

