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GREATER MANCHESTER TRANSPORTATION UNIT

Transport Statistics Bolton 2009

GMTU Report 1581

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SUMMARY

This report complements GMTU Reports 1580, 'Transport Statistics Greater Manchester 2009' and 1599, 'Road Casualty Statistics Greater Manchester 2009'. 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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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.

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 1581, 'Transport Statistics Greater Manchester 2009' and 1599, 'Road Casualty Statistics Greater Manchester 2009'. 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 263,700 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 776 km unclassified road.
- The average daily flow per kilometre is 85,200 vehicles on motorways, 19,100 on A roads and 10,000 on B roads.
- There were 652 injury accidents in Bolton during 2009 resulting in 997 casualties. There were 77 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. The amount for 2010/11 is not available yet.

Traffic Flows

- The highest estimated 24-hour Annual Average Weekday Traffic (AAWT) flow was 150,200 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 64,500 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 59 and 35 cycles respectively, lower than the Greater Manchester averages of 95 for both A and B roads.

Traffic Growth

- 24-hour weekday flows on motorways in Bolton saw a 1% increase between 2008 and 2009 compared to no change in Greater Manchester.
- 12-hour weekday flows on A and B roads in both Bolton and Greater Manchester fell by 1% between 2008 and 2009.
- Since 1993, traffic flows on A and B roads in Bolton have increased by 3%

compared to a 1% decrease in Greater Manchester and a 3% increase nationally.

Annual Vehicle Kilometres

- 568 million vehicle kilometres were travelled on motorways, 707 million on A roads and 166 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: 78% cars, 12% light goods vehicles (LGVs) and 10% other goods vehicles (OGVs).
- A roads: 81% cars, 13% LGVs and 5% OGVs.
- B roads: 82% cars, 13% LGVs and 3% OGVs.
- Minor roads: 86% cars, 10% LGVs and 1% 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 2009 was just under 4,600 in the peak (07:30-09:30) and around 3,400 in the off-peak (09:30-13:30). These figures represent an increase of 1% and a decrease of 5% respectively since 2008, and 81% and 176% respectively since 1991.

Key Centre Monitoring

- The number of vehicles crossing the cordon into Bolton Key Centre in 2010 was about 7600 in the morning peak, 6000 in the off peak and 5700 in the evening peak, representing decreases of 18%, 25% and 26% respectively from vehicle numbers in 1997. 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.
- Traffic flows have decreased slightly in the morning peak period and off peak periods between 1997 and 2010, with a slight rise in the evening peak period.
- The inbound modal share in 2010 was 55% car and 45% non-car in the morning peak, 47% car and 53% non-car in the off peak and 55% car and 45% non-car in the evening peak.
- The proportion of car trips has decreased and non-car trips increased during all time periods between 2001 and 2010. However, between 2009 and 2010 the proportion of car trips has increased in the morning and evening peaks and has remained constant for the off peak period.

Automatic Traffic Counts at Bolton Key Centre Cordon Sites

- Morning weekday peak flows and 24-hour average weekday flows both decreased by 16% between the base year (2006/07) and 2009/10.
- 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 652 in 2009, 46% lower than the average from the base years (1994-1998) and 16% lower than the 776 in 2008.
- The total number of casualties in Bolton was 997, 40% lower than the average from the base years (1994 – 1998) and 5% lower than the 1045 in 2008.
- There were 77 killed or seriously injured (KSI) casualties in 2009 compared with an average of 136 KSI in the base years.
- The 2007-2009 three-year average used for monitoring KSI GMLTP2 targets was 40% below the average from the base years (1994 – 1998).
- The three-year average for child KSI casualties was 61% below the base years' average.
- Slight casualties in 2009 were 40% below the base years' average.

Congestion

- Journey times on A and B roads in Bolton were quicker in 2008/09 than in 2007/08 in all periods. Journey times for Bolton are also faster than those for Greater Manchester as a whole in all periods.
- The slowest roads in the morning peak hour (0800 – 0900) were in and approaching Bolton town centre, particularly at the junction between the A666 Kay Street and the A673. Other congested areas include Bradshaw and Bradshaw Chapel, Astley Bridge, Moses Gate and Farnworth.

2. ROAD TRAFFIC

Traffic Flows 2009

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 150,200 vehicles.
- The busiest principal road was the A666 Farnworth and Kearsley By-Pass at Farnworth where the flow reached 64,500 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 59. The average B road pedal cycle flow was 35. These are considerably lower than the Greater Manchester averages of 95 for both A and B roads.

Motorway Traffic Growth 2008-2009

2.2 Due to insufficient reliable manual count data at district level, motorway traffic growth has been calculated using a combination of manual counts and 24-hour average weekday ATC data supplied by the Highways Agency. ATC data is unclassified and goods vehicle estimates are based on the most recent manual counts factored to 2008 or 2009. Combined goods vehicle flow differences are thought to be more reliable than LGV and OGV differences. 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 2008 and 2009 together with percentage changes in flow since 2008. Countywide figures based on 52 motorway sections are also given.

- The average traffic flow for the surveyed sites increased by 1% between 2008 and 2009, as opposed to there being no increase in Greater Manchester as a whole.

		LGV	%	OGV	%	All Goods	%	All Motors	%
M61	Bet Jns 1 & 2	20400	(-6)	10700	(-9)	31100	(-7)	123400	(-1)
M61	Bet Jns 2 & 3 (all carriageways)	23400	(-6)	8800	(-9)	32200	(-7)	150200	(0)
M61	Bet Jns 3 & 4	12000	(-1)	9500	(4)	21400	(1)	101500	(8)
M61	Bet Jns 4 & 5	12700	(7)	9700	(4)	22400	(5)	104300	(6)
M61	Bet Jns 5 & 6	11900	(-14)	9400	(-16)	21300	(-15)	95600	(-4)
M61	Bet Jns 6 & 8	8200	(-6)	7800	(-9)	16000	(-8)	79800	(0)
Bolton Sample		14700	(-5)	9300	(-6)	24100	(-6)	109100	(1)
GM 52 links		13500	(-9)	10000	(-6)	23400	(-8)	106500	(0)

A and B Road Traffic Growth 2008-2009

2.3 Table 2 gives average 12-hour traffic flows on A and B roads in Bolton and Greater Manchester in 2009 together with percentage changes since 2008. The figures for A and B road growth are based on counts on 17 of the 102 A and B road links in Bolton.

- Motor traffic in both Bolton and Greater Manchester fell by 1% between 2008 and 2009.

Table 2 Average 12-Hour Weekday A and B Traffic Flows in 2009 with Percentage Changes Since 2008						
	No. of Sites	Cars (%)	LGV (%)	OGV (%)	All Motors (%)	
Bolton	17	14069 (1)	2150 (-4)	601 (-9)	17131	(-1)
Greater Manchester	172	14790 (0)	2133 (-2)	636 (-13)	17918	(-1)

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 2.1 Road Statistics 2009: Traffic, Speeds and Congestion DfT.

- Since 1993 traffic has grown by 3% in Bolton, has fallen by 1% in Greater Manchester and grown by 3% nationally.

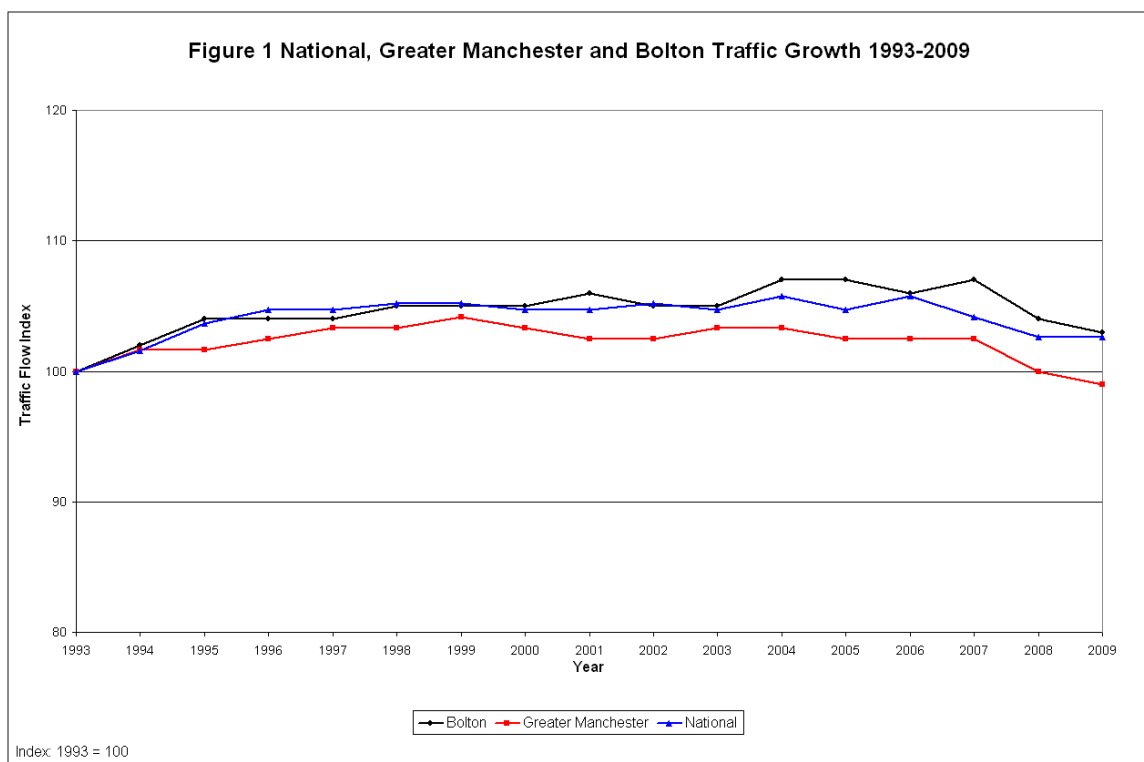


Table 3 National, Greater Manchester and Bolton Traffic Growth 1993-2009			
	Bolton	Greater Manchester	National
1993	100	100	100
1994	102	102	102
1995	104	102	104
1996	104	102	105
1997	104	103	105
1998	105	103	105
1999	105	104	105
2000	105	103	105
2001	106	102	105
2002	105	102	105
2003	105	103	105
2004	107	103	106
2005	107	102	105
2006	106	102	106
2007	107	102	104
2008	104	100	103
2009	103	99	103
Index: 1993 = 100			

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 – 2009 National growth is based on average 24-hour daily traffic flow data for major urban A Roads published in Table 2.1 Road Traffic Statistics 2009: Traffic, Speeds and Congestion DfT.

Annual Vehicle Kilometres 2009

2.5 Table 4 shows annual vehicle kilometres on major roads in Bolton and Greater Manchester in 2009.

- 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 61% 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.

Table 4 Vehicle Kilometres in 2009								
	Road Type	Length (km)	Vehicle Kilometres (millions)					Av. Daily Flow per km
			Cars	LGV	OGV	All Goods	All Motors	
Bolton	Motorways	18	443	71	51	122	568	85200
	A Roads	101	610	67	19	86	707	19100
	B Roads	46	145	15	3	18	166	10000
	All Roads	165	1197	153	72	226	1441	23900
Greater Manchester	Motorways	171	4477	748	616	1364	5878	94000
	A Roads	863	4956	543	164	707	5767	18300
	B Roads	375	1285	130	23	154	1467	10700
	All Roads	1409	10718	1421	803	2224	13113	25500

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 2009

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.

Table 5 Percentage Composition of Traffic in Bolton and Greater Manchester 2009 (0700-1900)										
		Cars	LGV	OGV1		OGV2		Buses and Coaches	Motor Cycles	Pedal Cycles
Bolton	Motorways	77.7	12.1	5.0	(53)	4.5	(47)	0.2	0.5	0.0
	A Roads	81.0	12.6	3.4	(74)	1.2	(26)	1.0	0.6	0.2
	B Roads	82.2	12.5	1.9	(75)	0.6	(25)	1.7	0.7	0.4
	Minor Roads	86.3	9.8	0.9	(69)	0.4	(31)	1.4	0.5	0.6
Greater Manchester	Motorways	76.4	12.3	5.0	(47)	5.6	(53)	0.3	0.3	0.0
	A Roads	81.5	11.9	2.9	(68)	1.3	(32)	1.3	0.6	0.5
	B Roads	82.8	11.9	1.6	(75)	0.5	(25)	1.7	0.6	0.9
	Minor Roads	84.4	10.7	1.3	(75)	0.4	(25)	1.6	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 Rigid Heavy Goods Vehicles with 3 axles.
 OGV2 = All Articulated Heavy Goods Vehicles and Rigid 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 1998-2009. Comparisons are based on boarders of trains inbound to Manchester.

- The number of inbound boarders on the Wigan/Bolton corridor increased in the peak period by 1% and decreased in the off peak period by 6% between 2008 and 2009. This compares with a decrease of 3% in the peak and an increase of 4% in the off-peak periods for Greater Manchester as a whole.
- The Wigan/Bolton corridor carried 32% of Manchester bound passengers during the morning peak and 33% during the off-peak.

Line	1991	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Wigan/Bolton	2541	2809	3306	3356	3624	2970	3338	3574	3898	3937	4444	4573	4599
Index	100	111	130	132	143	117	131	141	153	155	175	180	181
Greater Manchester	9808	9877	11177	11171	11290	10222	11454	12399	13286	13422	14400	14635	14173
Index	100	101	114	114	115	104	117	126	135	137	147	149	145

Line	1991	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Wigan/Bolton	1215	1536	2148	1847	2159	1878	2522	2174	2436	3133	3320	3549	3354
Index	100	126	177	152	178	155	208	179	200	258	273	292	276
Greater Manchester	4536	4911	5826	5779	6392	5599	7095	6959	7558	8631	9243	9650	10043
Index	100	108	128	127	141	123	156	153	167	190	204	213	221

Notes:

Figures for 1991 are based on full counts at every station in each corridor. Wigan/Bolton figures for 1997, 2000, 2003, 2006 and 2009 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 1998-2009 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.

Station	Year of Count	AM Peak 07:30-09:29				AM Peak Total	Off-Peak 09:30-13:29				Off Peak Total
		Inbound		Outbound			Inbound		Outbound		
		B	A	B	A		B	A	B	A	
Blackrod	2009	126	0	11	4	141	22	1	2	7	32
Bolton	2009	1421	494	396	354	2665	1059	428	395	589	2471
Bromley Cross	2009	264	16	20	118	418	97	8	11	42	158
Daisy Hill	2009	205	2	43	4	254	54	7	24	13	98
Farnworth	2009	28	4	4	3	39	14	7	23	7	51
Hall l'Th'Wood	2009	74	29	30	16	149	18	1	2	12	33
Horwich Parkway	2009	165	23	24	141	353	126	40	20	101	287
Kearsley	2009	35	2	7	2	46	15	5	10	2	32
Lostock Junction	2009	286	5	22	3	316	60	9	3	24	96
Moses Gate	2009	30	7	3	3	43	9	3	5	4	21
Westhoughton	2009	160	5	23	22	210	71	8	14	29	122

Station		1991	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Blackrod	B	45	-	87	67	-	-	84	-	-	95	-	-	126
	A	-	-	3	0	-	-	4	-	-	3	-	-	0
Bolton	B	749	739	993	938	1134	917	718	1164	1343	1196	1189	1442	1421
	A	-	252	391	359	392	235	228	438	418	512	454	573	494
Bromley Cross	B	188	114	166	156	174	155	173	224	242	196	215	226	264
	A	-	5	5	7	6	5	1	5	10	29	28	26	16
Daisy Hill	B	119	139	120	143	157	-	164	163	176	187	192	222	205
	A	-	4	4	1	2	-	1	6	0	2	1	2	2
Farnworth	B	24	-	-	22	-	-	18	-	-	29	-	-	28
	A	-	-	-	1	-	-	0	-	-	3	-	-	4
Hall l'th'Wood	B	45	-	-	29	-	-	32	-	-	43	-	-	74
	A	-	-	-	3	-	-	3	-	-	26	-	-	29
Horwich Parkway*	B	-	-	108	120	148	142	174	149	160	237	208	192	165
	A	-	-	4	10	10	11	15	24	20	25	49	46	23
Kearsley	B	20	-	-	15	-	-	16	-	-	27	-	-	35
	A	-	-	-	3	-	-	1	-	-	3	-	-	2
Lostock Junction	B	108	236	211	232	233	160	190	190	222	222	249	198	286
	A	-	1	2	0	1	0	1	0	0	2	0	2	5
Moses Gate	B	32	-	-	39	-	-	29	-	-	31	-	-	30
	A	-	-	-	3	-	-	9	-	-	4	-	-	7
Westhoughton	B	60	54	-	74	87	-	83	86	-	137	-	-	160
	A	-	5	-	4	7	-	4	8	-	8	-	-	5

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

Table 10 Numbers of Passengers Boarding and Alighting Manchester Bound Trains in Bolton District 1991 & 1998-2009 Off-Peak (09:30-13:30)														
Station		1991	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Blackrod	B	15	-	15	14	-	-	22	-	-	37	-	-	22
	A	-	-	3	1	-	-	1	-	-	4	-	-	1
Bolton	B	371	444	601	471	687	565	782	664	810	978	1079	1100	1059
	A	-	373	401	314	369	251	402	360	383	455	399	431	428
Bromley Cross	B	31	44	52	26	83	67	79	60	95	72	81	114	97
	A	-	3	9	11	21	11	10	4	3	10	5	10	8
Daisy Hill	B	17	31	35	24	22	-	37	35	48	58	35	50	54
	A	-	2	15	8	3	-	15	5	9	15	6	11	7
Farnworth	B	7	-	-	8	-	-	4	-	-	8	-	-	14
	A	-	-	-	6	-	-	2	-	-	4	-	-	7
Hall i'th'Wood	B	10	-	-	11	-	-	10	-	-	18	-	-	18
	A	-	-	-	9	-	-	3	-	-	2	-	-	1
Horwich Parkway*	B	-	-	60	28	34	28	55	40	62	128	106	78	126
	A	-	-	7	12	23	9	11	17	12	31	20	26	40
Kearsley	B	4	-	-	3	-	-	4	-	-	6	-	-	15
	A	-	-	-	1	-	-	1	-	-	4	-	-	5
Lostock Junction	B	25	40	34	27	32	18	55	58	57	61	84	72	60
	A	-	2	2	3	4	1	4	8	2	4	4	4	9
Moses Gate	B	4	-	-	7	-	-	6	-	-	8	-	-	9
	A	-	-	-	2	-	-	0	-	-	2	-	-	3
Westhoughton	B	18	28	-	25	18	-	32	37	-	54	-	-	71
	A	-	6	-	6	7	-	10	3	-	10	-	-	8

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

4. KEY CENTRE MONITORING

- 4.1 Traffic and rail counts were 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 have been conducted annually in March.
- 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.

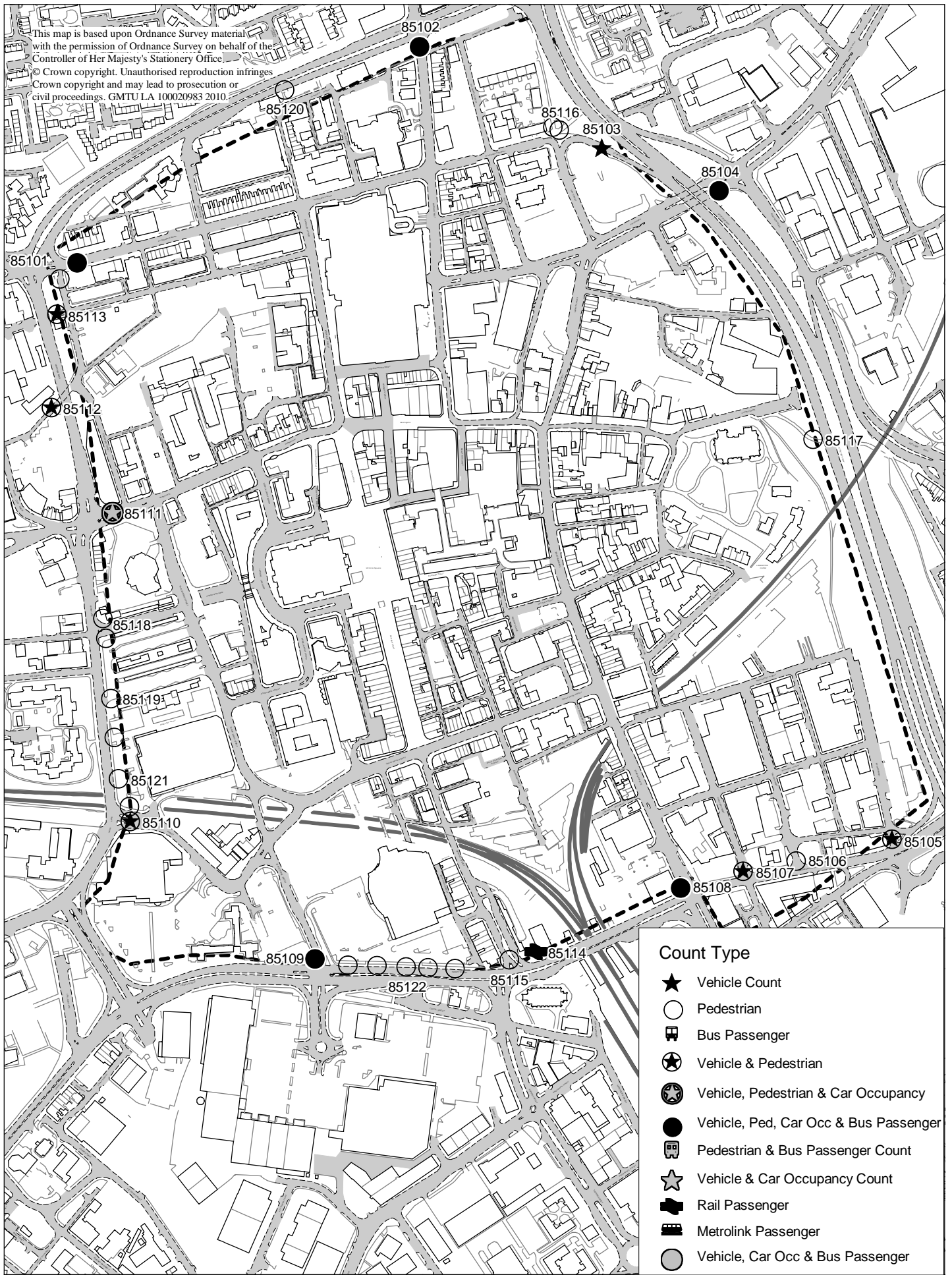
Road Traffic - Inbound

- 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 2010.
- 4.5 Tables 13 to 15 give manual traffic counts at each individual cordon site in March 2010 by time period. Figure 2 shows the location of these sites and the key centre boundary.

Table 13 Road Traffic Entering Key Centre in March 2010 (07:30-09:30)								
Site	Site No	Car	LGV	OGV	Bus	Motor Cycle	Pedal Cycle	All Vehicles
B6205 St George S Rd	85101	378	17	7	51	4	2	459
B6206 Hr Bridge St	85102	494	26	4	32	4	12	572
A666 St Peters Way Offslip	85103	498	60	14	2	0	0	574
A676 Folds Rd	85104	1357	96	25	41	9	12	1540
U River St	85105	33	2	4	0	0	0	39
U Carlton St	85107	266	31	6	0	0	0	303
A575 Bradshawgate	85108	893	82	21	100	6	6	1108
C Blackhorse St	85109	993	52	11	103	5	1	1165
C Ormrod St	85110	556	56	7	4	1	3	627
A676 Deansgate	85111	795	62	9	10	6	9	891
U St Helena Rd	85112	125	1	1	0	0	2	129
U Bark St	85113	142	47	2	0	1	1	193
other pc							28	28
Total		6530	532	111	343	36	76	7628
% Composition		86%	7%	1%	4%	0%	1%	100%

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

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- Count Type**
- ★ Vehicle Count
 - Pedestrian
 - 🚌 Bus Passenger
 - ★⊙ Vehicle & Pedestrian
 - ⊙⊙ Vehicle, Pedestrian & Car Occupancy
 - ⊙⊙ Vehicle, Ped, Car Occ & Bus Passenger
 - 🚌⊙ Pedestrian & Bus Passenger Count
 - ★⊙ Vehicle & Car Occupancy Count
 - 🚆 Rail Passenger
 - 🚆 Metrolink Passenger
 - ⊙⊙ Vehicle, Car Occ & Bus Passenger

Bolton Survey Sites and Key Centre Boundary

GMTU
 3rd Floor Heron House
 47 Lloyd St
 MANCHESTER M2 5LE

Drawn By : Elwyn Ellis

Date : 16/09/2010

Report : 1581 Figure : 2

Table 14 Road Traffic Entering Key Centre in March 2010 (10:00-12:00)								
Site	Site No	Car	LGV	OGV	Bus	Motor Cycle	Pedal Cycle	All Vehicles
B6205 St George S Rd	85101	256	24	8	54	0	3	345
B6206 Hr Bridge St	85102	316	29	7	27	0	5	384
A666 St Peters Way Offslip	85103	270	57	14	0	1	0	342
A676 Folds Rd	85104	865	97	23	39	2	11	1037
U River St	85105	7	2	3	0	1	2	15
U Carlton St	85107	94	25	1	0	0	1	121
A575 Bradshawgate	85108	788	93	23	107	7	3	1021
C Blackhorse St	85109	1123	50	11	94	4	2	1284
C Ormrod St	85110	438	45	4	7	2	2	498
A676 Deansgate	85111	684	56	10	9	2	4	765
U St Helena Rd	85112	18	1	0	0	0	1	20
U Bark St	85113	84	44	7	0	0	1	136
other pc							10	10
Total		4943	523	111	337	19	45	5978
% Composition		83%	9%	2%	6%	0%	1%	100%

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

Table 15 Road Traffic Entering Key Centre in March 2010 (16:00-18:00)								
Site	Site No	Car	LGV	OGV	Bus	Motor Cycle	Pedal Cycle	All Vehicles
B6205 St George S Rd	85101	264	14	1	50	1	4	334
B6206 Hr Bridge St	85102	258	25	0	26	2	4	315
A666 St Peters Way Offslip	85103	670	97	12	1	4	0	784
A676 Folds Rd	85104	781	79	13	49	14	13	949
U River St	85105	5	3	0	0	0	0	8
U Carlton St	85107	116	20	1	0	1	3	141
A575 Bradshawgate	85108	859	69	11	101	7	23	1070
C Blackhorse St	85109	925	33	4	95	6	2	1065
C Ormrod St	85110	280	28	3	2	0	0	313
A676 Deansgate	85111	525	36	2	4	6	3	576
U St Helena Rd	85112	20	2	0	0	1	0	23
U Bark St	85113	122	31	0	0	3	0	156
other pc							17	17
Total		4825	437	47	328	45	69	5751
% Composition		84%	8%	1%	6%	1%	1%	100%

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

Table 16 presents traffic entering Bolton key centre in 1997, 1998, 2001, 2004, 2007, 2009 and 2010 together with indices of change between 1997 and 2010.

- The number of vehicles crossing the cordon into Bolton town centre between 2009 and 2010 fell by 1% in the morning peak, 3% in the off peak and rose by 4% in the evening peak.
- This represents decreases of 18%, 25% and 26% respectively on vehicle numbers in 1997.

		Cars	LGV	OGV	Buses	M/C	P/C	All
07:30-09:30	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
	2010	6530	532	111	343	36	76	7628
	2010/1997	0.86	0.73	0.39	0.67	0.84	1.03	0.82
10:00-12:00	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
	2010	4943	523	111	337	19	45	5978
	2010/1997	0.76	0.85	0.42	0.61	0.70	2.37	0.75
16:00-18:00	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
	2010	4825	437	47	328	45	69	5751
	2010/1997	0.74	0.87	0.33	0.60	1.32	1.41	0.74

Car Occupancy - Inbound

4.6 Car occupancy surveys were conducted at six sites on the Bolton key centre cordon in 2010. Table 17 shows the observed occupancy rates by period and site. Table 18 compares occupancy rates with figures for 2001, 2004, 2007 and 2009.

- The average occupancy rates were 1.34 in the morning peak, 1.58 in the off-peak and 1.48 in the evening peak.
- The average occupancy rates have risen since 2001 by 2% in the morning peak, 8% in the off peak and 8% in the evening peak.

Table 17 Bolton Key Centre Car Occupancy Rates 2010		
Site	07:30-09:30	
	% Driver Only	Ave Occupancy
St Georges Road	86	1.19
Hr Bridge St	74	1.31
Folds Rd	74	1.31
Bradshawgate	73	1.33
Blackhorse Street	67	1.38
Deansgate	63	1.43
All Sites	72	1.34
Site	10:00-12:00	
	% Driver Only	Ave Occupancy
St Georges Road	62	1.51
Hr Bridge St	59	1.51
Folds Rd	57	1.52
Bradshawgate	54	1.59
Blackhorse Street	51	1.60
Deansgate	47	1.68
All Sites	54	1.58
Site	16:00-18:00	
	% Driver Only	Ave Occupancy
St Georges Road	68	1.45
Hr Bridge St	56	1.65
Folds Rd	66	1.46
Bradshawgate	62	1.50
Blackhorse Street	67	1.41
Deansgate	64	1.51
All Sites	64	1.48

Table 18 Comparison of Bolton Key Centre Car Occupancy Rates 2001/2010		
Year	07:30-09:30	
	% Driver Only	Ave Occupancy
2001	73	1.32
2004	76	1.27
2007	75	1.29
2009	73	1.30
2010	72	1.34
Year	10:00-12:00	
	% Driver Only	Ave Occupancy
2001	61	1.46
2004	57	1.51
2007	63	1.42
2009	61	1.45
2010	54	1.58
Year	16:00-18:00	
	% Driver Only	Ave Occupancy
2001	71	1.37
2004	69	1.39
2007	68	1.41
2009	69	1.39
2010	64	1.48

Rail Patronage - Inbound

- 4.7 The number of people entering Bolton key centre by rail was surveyed in March 2010. Table 19 presents the results along with those of previous surveys in 1997, 1998, 2001, 2004, 2007 and 2009.
- Relative to 1997, the number of rail users entering the key centre in 2010 has increased during all time periods: by 50% during the morning peak, 22% in the off peak and 55% during the evening peak. However, morning and off-peak patronage has fallen by 4% and 22% respectively since 2009.

Table 19 Rail Passengers Entering Bolton Key Centre 1997, 1998, 2001, 2004, 2007, 2009 and 2010			
Year	07:30-09:30	10:00-12:00	16:00-18:00
1997	452	406	798
1998	538	488	887
2001	429	394	1086
2004	429	396	882
2007	822	610	1063
2009	709	636	1203
2010	680	497	1236
2010/1997	1.50	1.22	1.55

Walk Trips - Inbound

- 4.8 The number of pedestrians entering Bolton key centre was counted at 19 locations in March 2010 (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, 2007 and 2009. 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 since 2001 has decreased slightly in the morning peak, but has increased in the off-peak and evening peak periods.

Site No.	Location	07:30-09:30	10:00-12:00	16:00-18:00
85101	B6205 St George's Rd	104	120	82
85102	B6206 Higher Bridge St	55	104	83
85104	A676 Folds Rd	78	61	31
85105	U River St	6	3	2
85106	U Salop St	9	12	2
85107	U Carlton St	11	26	19
85108	A575 Bradshawgate	81	138	169
85109	U Blackhorse St	59	234	74
85110	U Ormrod St	10	14	18
85111	A676 Deansgate	209	277	133
85112	U St Helena Rd	183	49	14
85113	U Bark St	65	79	46
85115	U Newport St	161	314	229
85116	St.George's St - 2 footpaths	44	54	25
85117	Footpath at Church Bank	334	174	62
85118	Ashburner St	121	130	106
85119	Hanover St	95	95	69
85120	Topp Way at Bath Street	274	233	88
85121	Market Hall Site	212	299	154
85122	Entering Morrisons Site	56	83	91
	Cordon Total	2167	2499	1497

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
2010	2167	2499	1497
2010/2001	0.98	1.14	1.17

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, 2009 and 2010 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 2010. However, there was an increase in the number of trips in all time periods between 2009 and 2010.
- The modal share of public transport was slightly lower in 2010 than in 2009 in the peak time periods.

Time Period	Year	Car Trips		Bus Trips		Rail Trips		Car + PT Trips			
		Number	Index	Number	Index	Number	Index	Number	Index	% Car	% PT
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
	2010	8750	87	4360	75	680	150	13790	85	63	37
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
	2010	7810	82	5758	119	497	122	14065	95	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
	2010	7141	80	3025	151	1236	155	11402	97	63	37

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, 2009 and 2010 along with a ratio of change between 2001 and 2010.

- The proportion of car trips has decreased and non-car trips increased during all time periods between 2001 and 2010. However, the proportion of car trips has increased in the morning and evening peaks and has remained constant for the off peak period between 2009 and 2010.

Time Period	Year	Car	Bus	Rail	Cycle	Walk	Total	% Car	% Non-Car
07:30-09:30	2001	10365	5140	429	63	2220	18217	57	43
	2004	9326	3975	429	58	2486	16274	57	43
	2007	9603	4724	822	77	2355	17581	55	45
	2009	8462	4460	709	76	2464	16170	52	48
	2010	8750	4360	680	76	2167	16033	55	45
	2010/2001	0.84	0.85	1.59	1.21	0.98	0.88	0.96	1.05
10:00-12:00	2001	9210	3790	394	23	2191	15608	59	41
	2004	8914	3054	396	32	2911	15307	58	42
	2007	7755	4722	610	22	2581	15690	49	51
	2009	7233	4949	636	33	2635	15485	47	53
	2010	7810	5758	497	45	2499	16609	47	53
	2010/2001	0.85	1.52	1.26	1.96	1.14	1.06	0.80	1.29
16:00-18:00	2001	8901	2033	1086	45	1281	13346	67	33
	2004	6874	1534	882	60	1913	11263	61	39
	2007	8182	2125	1063	67	1807	13244	62	38
	2009	6375	2754	1203	64	2050	12445	51	49
	2010	7141	3025	1236	69	1497	12968	55	45
	2010/2001	0.80	1.49	1.14	1.53	1.17	0.97	0.83	1.35

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 between 2007 and 2010 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 both decreased by 16% between 2007 and 2010.
- 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 2006/07	2007/ 2008	2008/ 2009	2009/ 2010	% Diff 09-10/ Base	Base 2006/07	2007/ 2008	2008/ 2009	2009/ 2010	% Diff 09-10/ Base
Black Horse St	1500	1496	1603	1588	6	7910	7667	8120	7462	-6
A575 Bradshawgate	1574	1607	1575	1508	-4	7980	8103	7952	7499	-6
Carlton St	462	448	328	304	-34	1849	1716	1250	1165	-37
A676 Deansgate	1276	1266	1328	1193	-6	5367	5281	5364	5187	-3
A676 Folds Rd	2698	2416	2074	1991	-26	9345	8254	7161	7793	-17
A666 offslip to St George's St	1168	712	616	746	-36	5716	3673	2588	3223	-44
Ormrod St	741	724	825	730	-1	3055	3075	3287	2973	-3
B6205 St George's Rd	794	767	631	597	-25	3400	3185	2711	2496	-27
B6206 Higher Bridge St	992	917	767	760	-23	3910	3589	2892	2825	-28
TOTAL	11205	10353	9747	9418	-16	48532	44543	41325	40625	-16

5. ROAD CASUALTIES AND ACCIDENTS

- 5.1 There were 652 accidents in Bolton during 2009 resulting in 997 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 77 killed or seriously injured (KSI) casualties in 2009 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 2007, 2008 and 2009 represents 2008. 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 2008 was 40% below the base.
 - The three-year average for child KSI casualties was 61% below the base falling below the 2010 GMLTP2 target.
 - Slight casualties in 2009 were 40% below the baseline average and 14% below the 2010 GMLTP2 target.

Table 25 Base, Yearly Trend and Target for KSI and Child KSI GMLTP2 Casualty Target Groups											
	Base	2000	2001	2002	2003	2004	2005	2006	2007	2008	Target
	ave	ave	ave	ave	ave	ave	ave	ave	ave	ave	ave
	1994 to	1999 to	2000	2001	2002	2003	2004	2005	2006	2007	2009
	1998	2001	to 2002	to 2003	to 2004	to 2005	to 2006	to 2007	to 2008	to 2009	to 2011
KSI	136	116	109	110	110	119	113	104	90	82	68
Child KSI	36	27	21	21	21	25	23	19	16	14	16

Table 26 Base, Yearly Trend and Target for Slight GMLTP2 Casualty Target Groups											
	Base	2001	2002	2003	2004	2005	2006	2007	2008	2009	Target
	ave										
	1994 to										2010
	1998										
Slight	1537	1600	1461	1459	1327	1346	1205	1108	963	920	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

Table 27 Bolton Casualty Data 1994-2009												
All Casualties	Ave 94-98	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Fatal	12	4	15	13	12	7	16	7	14	8	9	11
Serious	124	112	103	100	85	112	97	118	87	78	73	66
Slight	1537	1619	1764	1600	1461	1459	1327	1346	1205	1108	963	920
All	1673	1735	1882	1713	1558	1578	1440	1471	1306	1194	1045	997
KSI	136	116	118	113	97	119	113	125	101	86	82	77
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	263.7
KSI Rate per 100000 Pop'n	51	43	44	43	37	45	43	47	38	33	31	29
Child Casualties												
Child KSI	36	30	26	24	14	26	24	25	19	13	17	11
Child (All)	326	317	315	317	249	265	239	240	192	161	141	133
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	54.8
KSI Rate per 100000 Pop'n	62	52	46	43	25	47	43	45	34	24	31	20
Casualty Type												
TWPV	62	68	105	114	76	88	72	104	86	76	73	52
Car Occupant	1077	1105	1270	1052	1035	992	967	942	824	775	618	684
Pedestrian	322	303	282	324	295	284	255	266	235	204	205	150
Pedal Cycle	107	115	121	97	77	98	83	67	57	67	74	48
Other	106	144	104	126	75	116	63	92	104	72	75	63
All	1673	1735	1882	1713	1558	1578	1440	1471	1306	1194	1045	997

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	2009
All Casualties									
Bolton Casualties	1627	1673	1693	1440	1471	1306	1194	1045	997
Bolton KSI Casualties	222	136	113	113	125	101	86	82	77
Greater Manchester Casualties	16479	16708	15671	13543	12805	11795	10702	9881	9303
Casualty Type									
TWPV Rider	106	55	83	67	96	81	74	69	51
TWPV Pillion	11	7	7	5	8	5	2	4	1
Car Driver	515	664	678	578	577	535	462	380	390
Car Passenger	364	412	413	389	365	289	313	238	294
Pedestrian	413	322	298	255	266	235	204	205	150
Cyclist (Rider Only)	113	105	100	81	65	57	65	73	47
PCV Passenger	38	45	50	25	46	42	34	46	25
Total Other Driver	48	46	45	24	36	47	29	20	29
Total Other Passenger	19	17	20	16	12	15	11	10	10
Child Casualties by Type									
Driver/Rider	56	50	47	38	29	15	23	19	14
Passenger	81	111	97	71	77	68	63	45	51
Pedestrian	200	164	149	130	134	109	75	77	68
All Classes	336	326	293	239	240	192	161	141	133
Child Casualties by Age									
0 – 4	56	48	34	23	23	33	24	26	14
5 – 9 - pupil to/from school	16	14	13	14	8	7	2	2	1
- pupil not to/from school	110	100	79	52	62	45	33	36	44
10 – 15 - pupil to/from school	39	43	38	32	41	18	12	3	4
- pupil not to/from school	115	121	128	118	106	89	90	74	70
Drink Drive Casualties by Severity									
Fatal	1	0	1	0	0	0	0	0	0
Serious	7	5	5	8	8	6	3	4	2
Slight	46	35	47	46	42	44	36	31	67
Total	54	40	53	54	50	50	39	35	69

	Average 1989-93	Average 1994-98	Average 1999-2003	2004	2005	2006	2007	2008	2009
Pedestrian Casualties									
Under 16 years									
Male	122	100	87	76	82	60	45	51	46
Female	78	64	62	54	52	49	30	26	22
16 – 59									
Male	99	67	71	64	56	63	69	63	39
Female	57	44	43	37	38	43	23	37	24
Over 59 years									
Male	26	21	15	15	24	11	14	14	9
Female	32	25	21	9	14	9	23	14	10
Total	413	322	298	255	266	235	204	205	150
Cyclists (Rider Only)									
Under 16 years									
Male	45	40	38	28	17	11	21	17	11
Female	8	9	6	5	7	2	1	2	2
16 – 59									
Male	52	51	49	41	35	35	35	44	27
Female	6	4	3	4	2	7	4	6	1
Over 59 years									
Male	3	2	4	3	4	2	4	4	5
Female	0	0	0	0	0	0	0	0	1
Total	113	105	100	81	65	57	65	73	47
TWPV Riders									
Under 20 years									
Male	28	6	22	21	32	23	25	17	12
Female	2	0	2	1	0	2	1	2	2
20 – 29									
Male	39	17	18	10	21	13	13	9	15
Female	4	3	2	0	1	1	2	0	0
Over 29 years									
Male	29	27	37	34	37	41	31	39	19
Female	3	2	3	1	5	1	2	2	3
Total	106	55	83	67	96	81	74	69	51
Car Drivers									
Under 20 years									
Male	43	45	42	29	37	40	22	13	23
Female	24	23	15	10	18	22	11	20	17
20 – 29									
Male	97	127	103	93	94	82	63	52	67
Female	86	110	90	72	67	62	59	47	45
Over 29 years									
Male	151	202	238	223	205	194	147	120	117
Female	113	157	190	151	156	135	160	128	121
Total	515	664	678	578	577	535	462	380	390

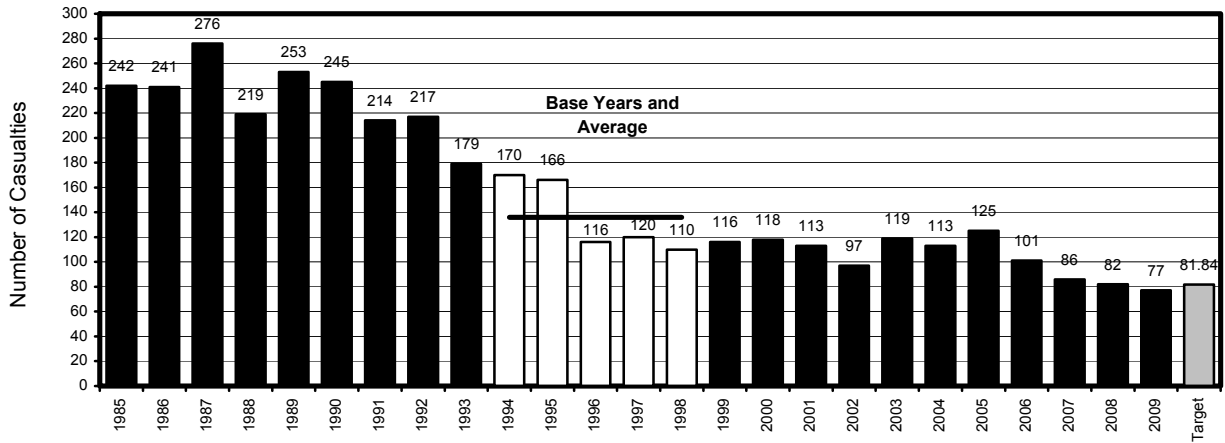
Notes: Average 1989-93, average 1994-98 and average 1999-2003 totals may not sum due to rounding.
Car – From 1/4/99 this definition was revised to exclude invalid tricycles and motor caravans.

Table 30 Bolton Injury Accident Data 1989-2009									
	Average 1989-93	Average 1994-98	Average 1999-2003	2004	2005	2006	2007	2008	2009
Total Accidents	1246	1202	1210	1039	1061	948	878	776	652
Total KSI Accidents	203	122	101	97	114	91	81	78	67
Accidents by Month									
January	103	94	91	66	88	93	65	62	55
February	97	90	87	97	82	58	67	70	41
March	103	90	94	71	79	70	50	75	57
April	102	94	93	80	84	82	70	62	57
May	107	106	101	79	92	78	75	82	53
June	99	99	97	97	113	77	95	63	58
July	93	95	103	92	91	92	67	53	63
August	104	102	103	80	75	61	73	59	47
September	102	101	102	86	81	77	63	66	51
October	111	109	117	110	96	86	91	60	54
November	113	113	110	85	105	91	80	69	63
December	113	108	111	96	75	83	82	55	53
Accidents by Day of Week									
Sunday	141	120	133	105	112	106	103	79	86
Monday	161	173	159	136	161	115	128	109	103
Tuesday	174	180	185	160	144	141	124	111	98
Wednesday	171	173	171	168	166	135	124	119	96
Thursday	192	186	178	168	151	164	144	124	93
Friday	214	205	212	167	176	158	140	129	100
Saturday	193	163	171	135	151	129	115	105	76

Table 31 Bolton Injury Accident Data by Conditions 1989-2009									
	Average 1989-93	Average 1994-98	Average 1999-2003	2004	2005	2006	2007	2008	2009
Accidents by Road Surface									
Dry	55	714	724	617	716	624	549	525	410
Wet/Damp	474	464	458	394	328	317	311	233	212
Snow	3	8	3	5	4	0	3	3	8
Frost/Ice	25	14	18	17	13	7	14	15	21
Flood	2	1	1	1	0	0	1	0	1
Oil or Diesel	0	0	5	3	0	0	0	0	0
Mud	0	0	1	2	0	0	0	0	0
Wet/Damp Accidents by Road Class									
Motorway	9	15	19	17	22	16	17	14	10
A (M)	0	0	0	0	0	0	0	0	0
A	240	254	223	208	185	163	156	107	113
B	77	60	61	48	38	42	50	31	23
C	69	27	37	27	20	26	55	31	35
U	79	108	118	94	63	70	33	50	31
Total	474	464	458	394	328	317	311	233	212
Accidents by Light/Dark									
Motorway - Dark	6	10	12	24	16	16	15	10	10
A (M) - Dark	0	0	0	0	0	0	0	0	0
A - Dark	187	180	168	153	157	154	129	98	108
B - Dark	57	43	43	44	46	41	37	20	21
C - Dark	46	19	21	25	16	26	46	38	30
U - Dark	59	76	77	86	47	68	29	33	20
Total	355	327	321	332	282	305	256	199	189
Motorway - Light	14	26	35	31	28	37	29	25	26
A (M) - Light	0	0	0	0	0	0	0	0	0
A - Light	410	421	408	327	391	305	304	261	219
B - Light	123	112	119	102	81	81	85	81	51
C - Light	129	46	61	35	55	41	92	87	75
U - Light	215	270	266	212	224	179	112	123	92
Total	891	874	889	707	779	643	622	577	463
No. of Vehicles Per Accident									
1	486	383	357	330	332	302	250	247	184
2	647	706	732	603	600	537	530	447	403
3 or more	112	112	122	106	129	109	98	82	65
No. of Casualties Per Accident									
1	996	903	899	775	797	711	673	605	463
2	173	197	211	179	181	161	140	118	118
3 or more	78	102	101	85	83	76	65	53	71

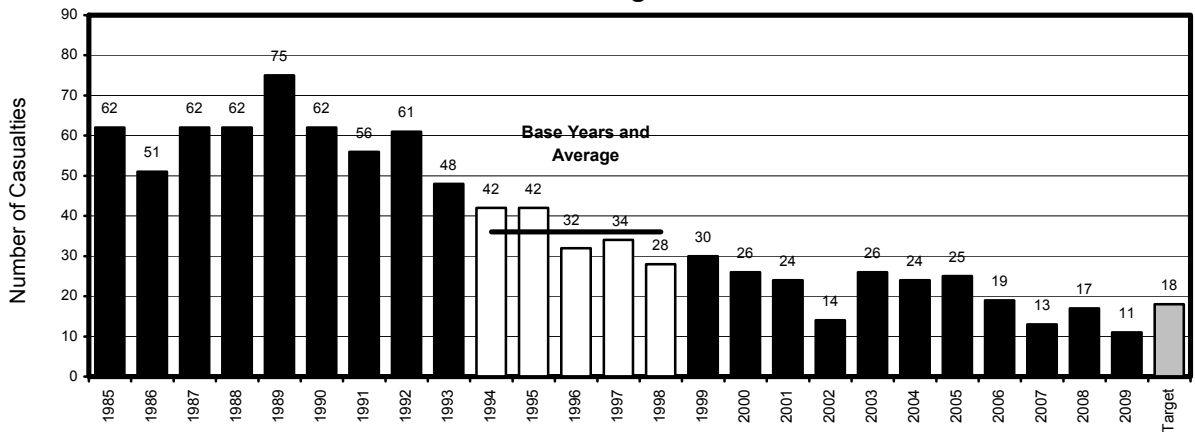
Notes: Average 1989-93, average 1994-98 and average 1999-2003 totals may not sum due to rounding. Oil/ Mud were removed from 'Road Surface Condition' and re-introduced in 'Special Conditions at Site' on 1/4/2006 Dessler

Figure 3 Bolton KSI Casualties 1985-2009, Base & National Target 2010

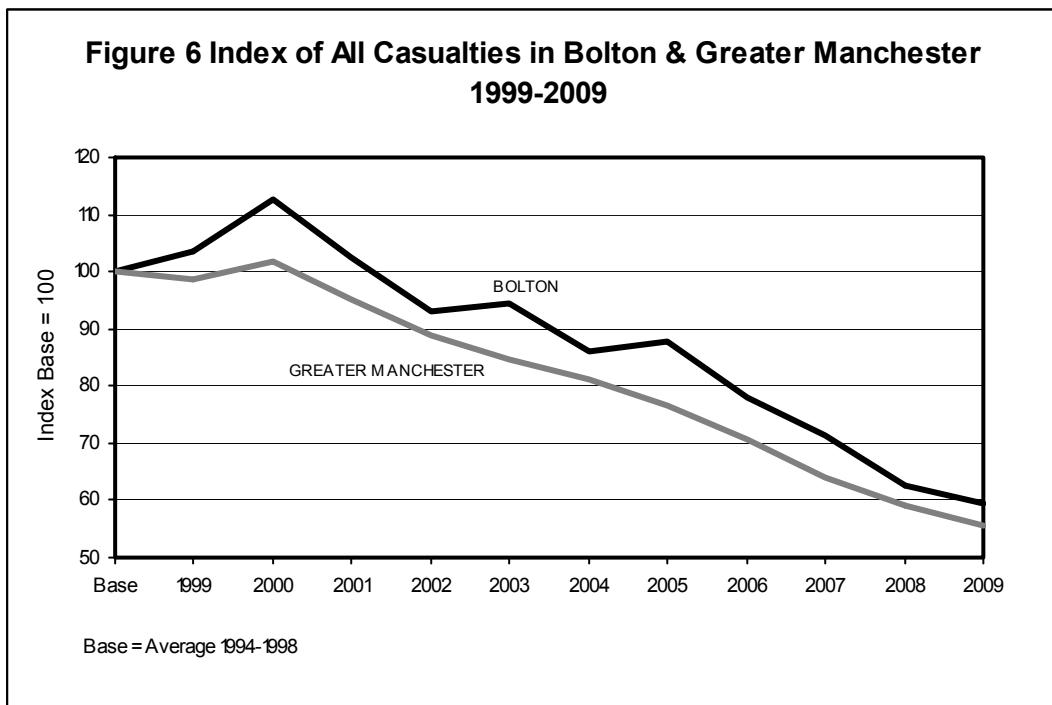
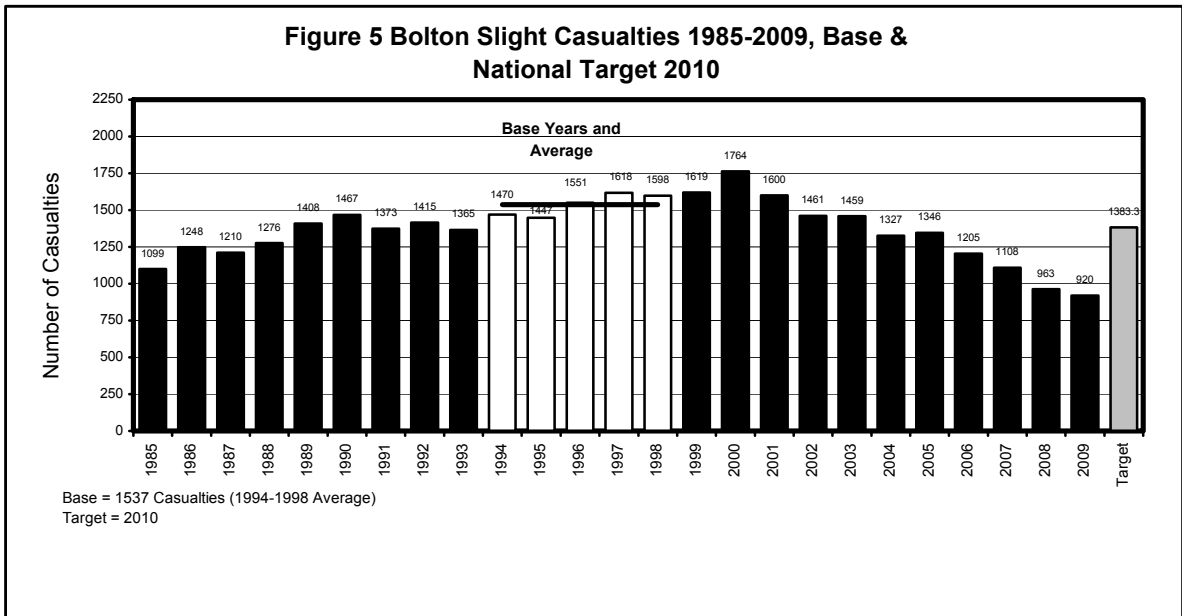


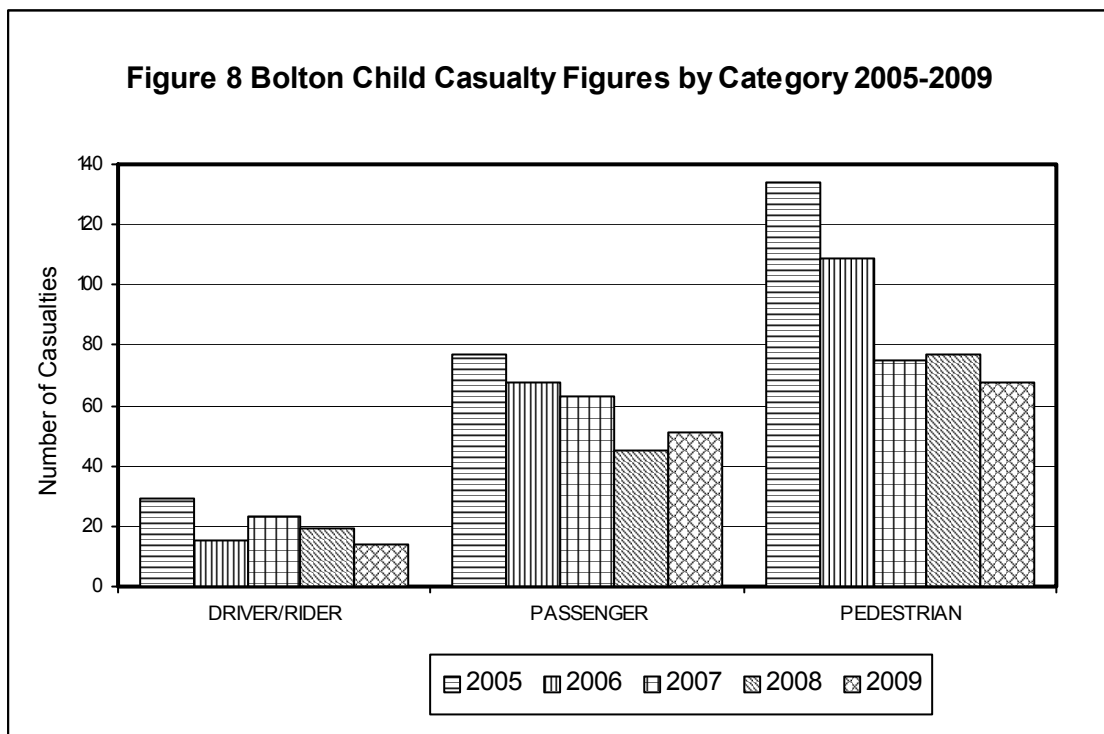
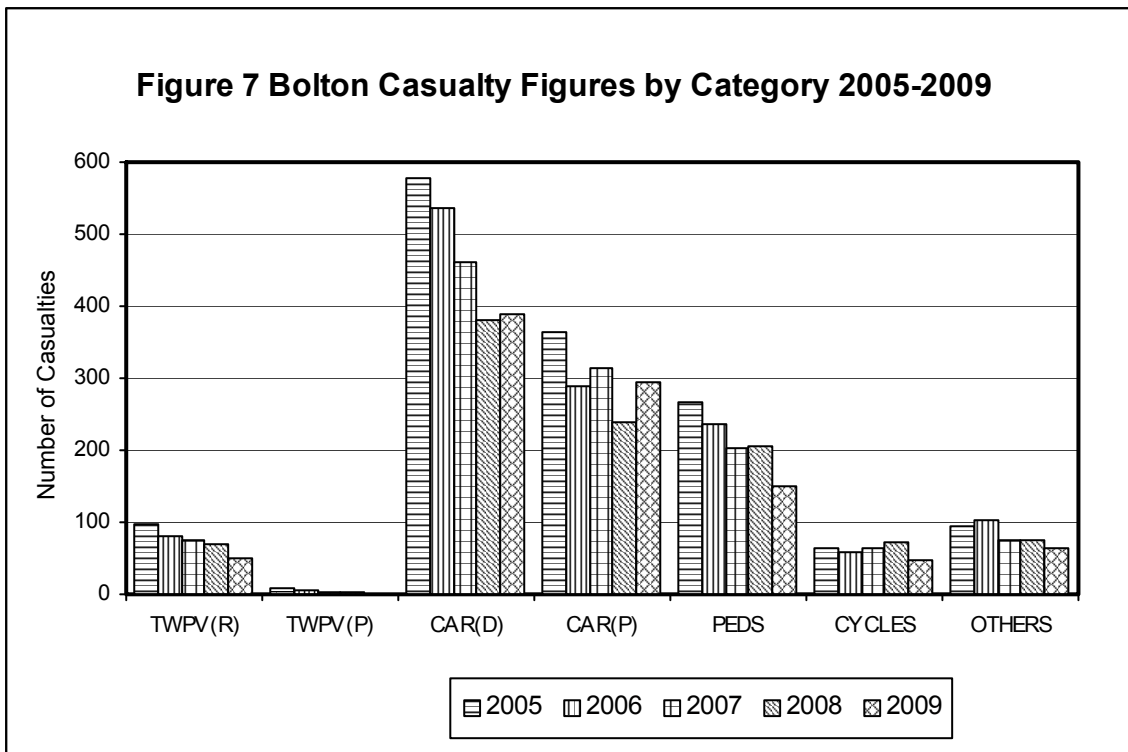
Base = 136 Casualties (1994-1998 Average)
 Target = 2010, KSI = Killed & Seriously Injured

Figure 4 Bolton Child KSI Casualties 1985-2009, Base & National Target 2010



Base = 36 Casualties (1994-1998 Average)
 Target = 2010, KSI = Killed & Seriously Injured





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, 2007/08 and 2008/09. For comparison, the 2008/09 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 2008/09 for Bolton and Greater Manchester. Maps showing average speeds can be found in Appendix 4.

- Journey time rates have increased slightly in all periods between 2007/08 and 2008/09.
- Journey time rates are lower than the rates for Greater Manchester in all periods.

Table 35 Bolton and Greater Manchester Average Journey Time Rates (Mins / Mile)						
Bolton						
Year	0700 - 1000	0800 - 0900	1000 - 1600	1700 - 1800	1600 - 1900	0700 - 1900
2004/05	3.12	3.55	2.83	3.31	3.01	2.99
2005/06	3.16	3.56	2.91	3.44	3.17	3.08
2006/07	3.12	3.53	2.90	3.39	3.16	3.05
2007/08	3.06	3.45	2.88	3.41	3.19	3.03
2008/09	3.09	3.51	2.90	3.43	3.21	3.04
Greater Manchester						
2008/09	3.32	3.76	3.10	3.67	3.46	3.26

Table 36 Bolton and Greater Manchester Average Speeds (MPH)						
Bolton						
Year	0700 - 1000	0800 - 0900	1000 - 1600	1700 - 1800	1600 - 1900	0700 - 1900
2004/05	19	17	21	18	20	20
2005/06	19	17	21	17	19	19
2006/07	19	17	21	18	19	20
2007/08	20	17	21	18	19	20
2008/09	20	17	21	18	19	20
Greater Manchester						
2008/09	18	16	19	16	17	18

