

Road traffic collisions in Lancashire: an analysis of emergency department and ambulance data, April 2007 to March 2010

This report provides an indication of the burden of road traffic collisions (RTCs) on emergency departments (EDs), the ambulance service and residents of Lancashire over the three-year period April 2007 to March 2010. It uses data on RTC call outs from the North West Ambulance Service (NWAS) and from all EDs in Lancashire¹.

Numbers of RTC cases and trends

Over the three-year period, 45,053 RTC attendances were recorded at Lancashire EDs. Of these, 37,082 were residents of Lancashire.

Figure 1 shows three-year trend data by local authority area of residence. The number of ED RTC attendances made by Lancashire residents decreased by 2% over the three-year period, from 12,454 in 2007/2008 to 12,241 in 2009/2010. RTC attendances by West Lancashire residents had the greatest decrease (17%) but Burnley residents increased by 34%. Between April 2007 and March 2010, there were 15,337 ambulance call outs for RTCs in Lancashire and RTCs accounted for 2.5% of total ambulance call outs in 2009/2010. There was a 9% decrease in ambulance RTC call outs in Lancashire from 5,360 in 2007/2008 to 4,861 in 2009/2010. This decrease was most pronounced in Chorley (32%) and Preston (17%) (**Figure 2**).

Age and gender of RTC patients

Between April 2009 and March 2010 almost a quarter (24%) of ED RTC attendances by Lancashire residents

were for persons aged 18-24 years and for all age groups most RTC attendances were male (56%). In 2009/10, Preston residents made the most attendances to EDs for an RTC (17%), followed by residents of Blackburn with Darwen (11%) and Blackpool (10%) (**Table 1**). The highest number of ambulance call outs was in Preston (n=562 [12%])².

Time of ED attendances and ambulance call outs

ED RTC attendances by Lancashire residents mainly occurred on weekdays (76%) between the hours of 16:00 and 19:59 (32%). The predominant time period of attendance varies with age: for the 60 plus age group, 53% occurred between 10:00 to 15:59 hours; compared with 44% between 16:00 and 21:59 for 16 to 24 year olds. However, most ambulance call outs for RTCs occurred on Fridays and Saturdays (30%) between the hours of 14:00 and 17.59 (30%). The main hours for ambulance call outs for the 60 plus age group were 10:00 to 15:59 (59%), in comparison to the 0 to 17 age group where most call outs were recorded between 14:00 and 19:59 (57%).

Patient disposal

The disposal of a patient gives an indication of the severity of the injuries sustained. Most ED RTC attendees from Lancashire were discharged (71%), whilst 22% had a follow-up/referral, and 4% were admitted to hospital. More ED RTC attendances from Ribbles Valley and Hyndburn were admitted (8% and 7% respectively) than other areas (**Table 2**). A greater proportion (8%) of male 0 to 15 year olds were

¹ This report also includes RTC attendances to Southport and Formby District General Hospital, which borders Lancashire and receives a large proportion of attendances by Lancashire residents.

² Age /gender analysis for RTC ambulance call outs is not included due to data quality: age=56% completion; gender=40% completion.

admitted than any other age group under 60; this was double the female number for the same age group (Table 3).

Area of residence of ED RTC attendances

Figure 4 shows crude rates of ED RTC attendance by Lancashire residents by Middle Super Output Area (MSOA), April 2007 to March 2010 combined. However, care should be taken when interpreting this data. It cannot be used to compare incidence of injuries in Lancashire residents as individuals may attend EDs outside of Lancashire. This particularly affects authorities on county borders. Crude rates were greatest for residents of the following MSOAs: Preston 14 (n=478 [2,321.29 per 100,000 population]), Preston 16 (n=612 [2,267.42 per

100,000 population]), Preston 09 (n=539 [2,071.32 per 100,000 population]), Preston 07 (n=523 [1774.74 per 100,000 population]), and Preston 11 (n=344 [1,740.27 per 100,000 population]).

Location of ambulance call outs

Crude rates for ambulance call outs for RTCs were higher in Preston 17 (n=399 [1,553.91 per 100,000 population]) than any other MSOA in Lancashire. Blackburn with Darwen 06 was the next highest (n=309 [1,342.36 per 100,000 population]), followed by Chorley 10 (n=300 [1,293.99 per 100,000 population]), Lancaster 14 (n=312 [1,265.51 per 100,000 population]) and Blackpool 10 (n=287 [1,259.43 per 100,000 population]).

Table 1: Number of RTC attendances to EDs by age and gender, April 2009 to March 2010

	Age group and gender														
	0-15		16-17		18-24		25-34		35-59		60 plus		Total		All
	F	M	F	M	F	M	F	M	F	M	F	M	F	M	
Total Lancashire ED attendances	719	841	300	370	1629	1893	1384	1888	1996	2694	568	591	6596	8277	14875
Total ED attendances: Lancashire residents only	556	698	262	327	1372	1597	1161	1556	1658	2170	433	450	5442	6798	12241
Local/unitary authority of residence															
<i>Blackburn with Darwen</i>	89	98	24	33	131	188	135	187	191	247	24	34	594	787	1381
<i>Blackpool</i>	44	83	31	40	128	149	115	162	167	255	60	51	545	740	1285
<i>Burnley</i>	40	49	15	24	77	94	94	97	92	157	27	36	345	457	802
<i>Chorley</i>	58	52	24	20	125	147	122	132	188	211	30	43	547	605	1152
<i>Fylde</i>	14	17	9	17	56	59	34	49	66	88	38	24	217	254	471
<i>Hyndburn</i>	30	30	11	8	45	63	37	72	52	77	10	8	185	258	443
<i>Lancaster</i>	40	42	16	24	92	111	80	91	106	154	35	35	369	457	826
<i>Pendle</i>	23	52	11	11	79	81	74	105	68	120	22	19	277	388	665
<i>Preston</i>	110	133	40	40	248	308	193	328	263	325	47	58	901	1192	2093
<i>Ribble Valley</i>	8	10	8	9	32	24	27	19	28	37	17	7	120	106	226
<i>Rosendale</i>	7	12	5	7	26	23	15	20	20	35	9	10	82	107	189
<i>South Ribble</i>	45	54	36	50	153	147	111	137	181	178	31	36	557	602	1159
<i>West Lancashire</i>	32	39	13	22	96	118	78	87	150	163	48	42	417	471	889
<i>Wyre</i>	16	27	19	22	84	85	46	70	86	123	35	47	286	374	660

*Totals may not add up as some age and gender fields have been recorded as blank or unknown.

Figure 1: Lancashire residents: number of RTC attendances to all EDs by local / unitary authority of residence and year, April 2007 to March 2010

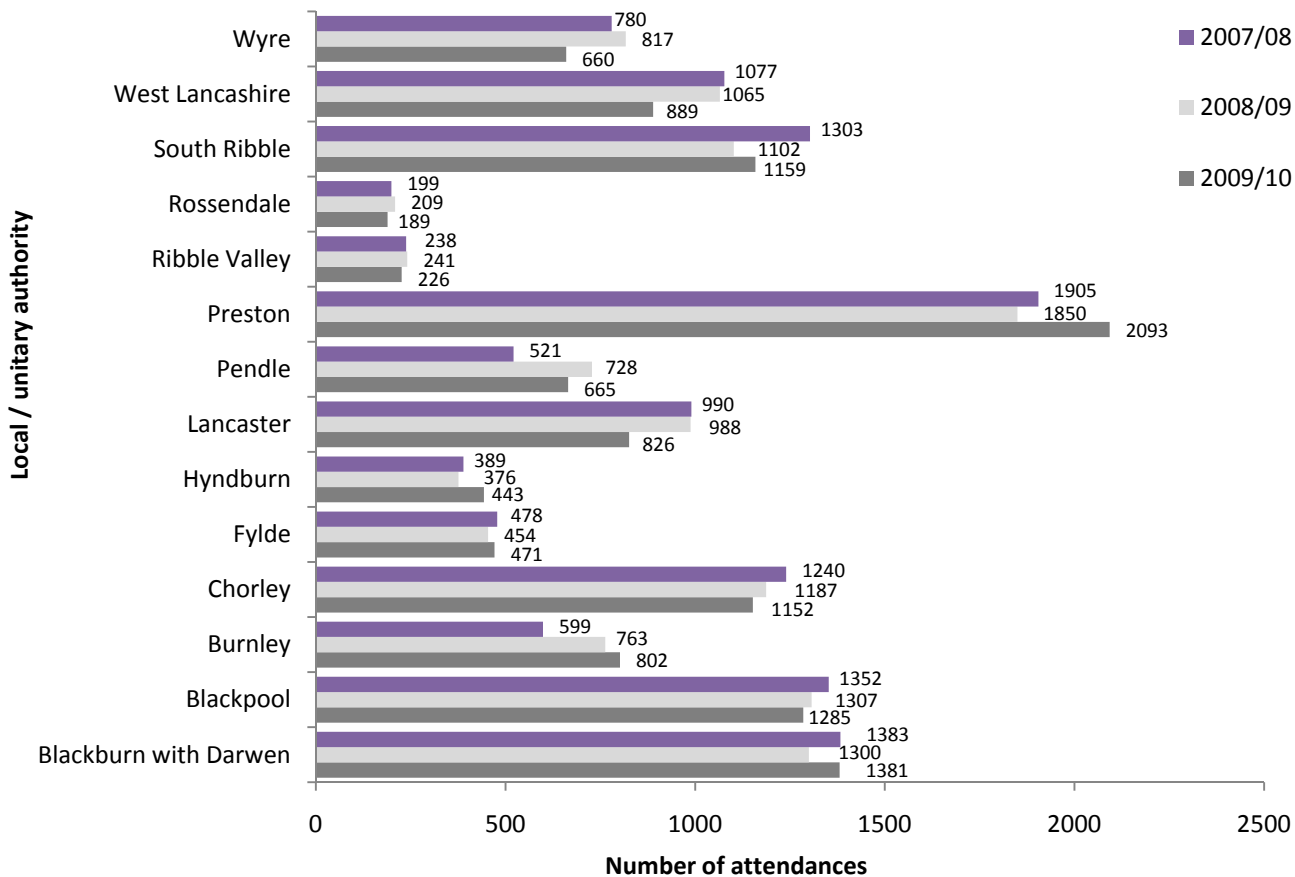


Figure 2: Number of ambulance RTC calls by local / unitary authority of call out and year, April 2007 to March 2010

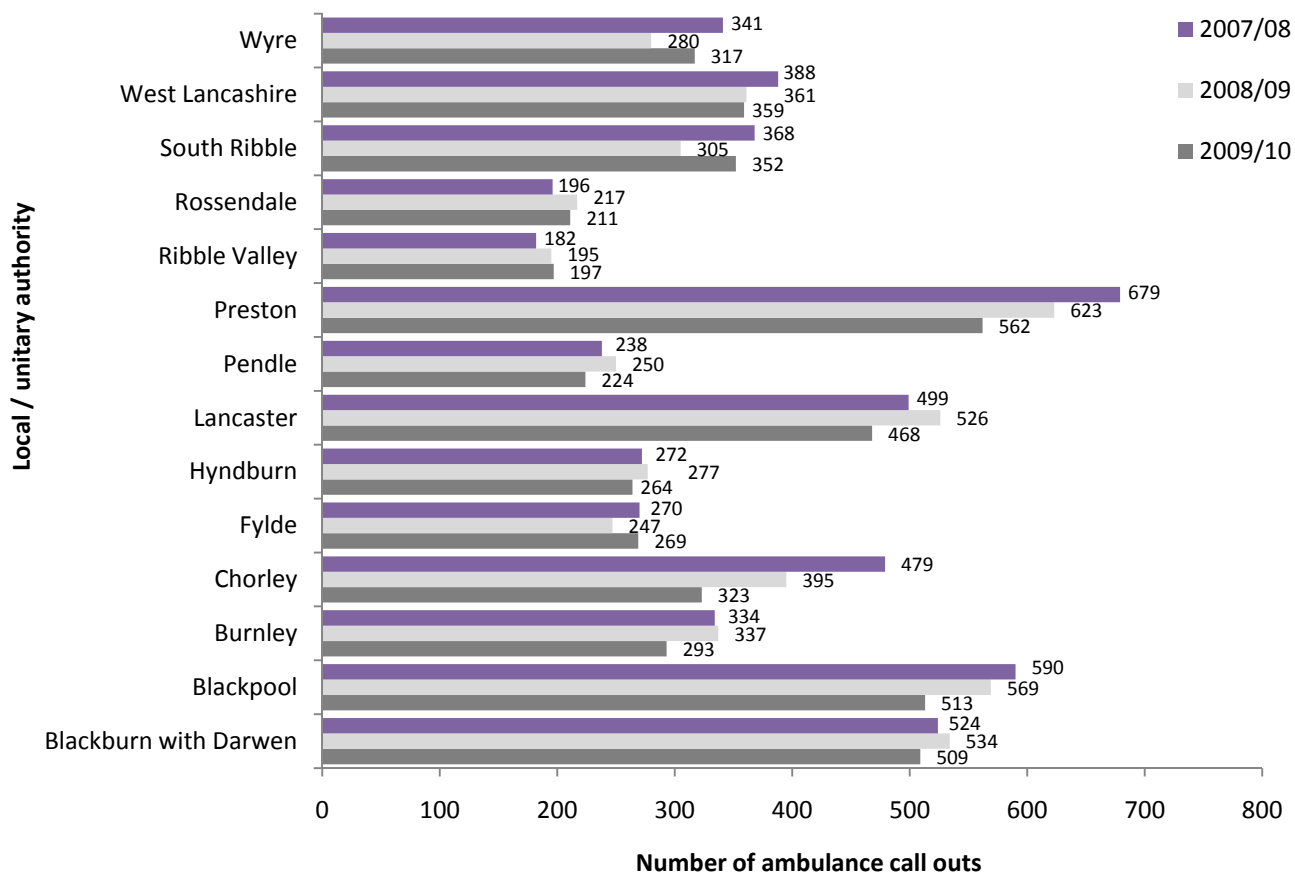


Table 2: Disposal method of RTC attendances to all EDs for Lancashire residents and for all Lancashire EDs, April 2007 to March 2010 combined

	Disposal method								
	Admitted		Discharged		Follow-up/referral		Other		Total
	N	%	N	%	N	%	N	%	N
All attendances to Lancashire EDs	2238	5	31332	70	9944	22	1539	3	45053
<i>Burnley General Hospital</i>	47	1	2763	75	830	23	31	1	3671
<i>Royal Blackburn Hospital</i>	403	6	4786	70	1299	19	359	5	6847
<i>Blackpool Victoria Hospital</i>	262	4	4757	66	1936	27	251	3	7206
<i>Chorley and South Ribble Hospital</i>	95	2	4623	78	1109	19	136	2	5963
<i>Ormskirk General Hospital</i>	26	1	1463	71	552	27	18	1	2059
<i>Royal Preston Hospital</i>	675	7	6838	71	1749	18	377	4	9639
<i>Royal Lancaster Infirmary</i>	403	10	2629	64	907	22	156	4	4095
<i>Southport District General Hospital</i>	327	6	3473	62	1562	28	211	4	5573
Lancashire residents only	1632	4	26159	71	8033	22	1258	3	37082
<i>Blackburn with Darwen</i>	142	3	2980	73	738	18	204	5	4064
<i>Blackpool</i>	152	4	2618	66	1031	26	143	4	3944
<i>Burnley</i>	89	4	1551	72	490	23	34	2	2164
<i>Chorley</i>	120	3	2698	75	679	19	82	2	3579
<i>Fylde</i>	68	5	937	67	362	26	36	3	1403
<i>Hyndburn</i>	80	7	832	69	230	19	66	5	1208
<i>Lancaster</i>	170	6	1879	67	643	23	112	4	2804
<i>Pendle</i>	54	3	1413	74	414	22	33	2	1914
<i>Preston</i>	272	5	4291	73	1046	18	239	4	5848
<i>Ribble Valley</i>	57	8	469	67	148	21	31	4	705
<i>Rossendale</i>	36	6	414	69	131	22	16	3	597
<i>South Ribble</i>	165	5	2606	73	678	19	115	3	3564
<i>West Lancashire</i>	108	4	1988	66	856	28	79	3	3031
<i>Wyre</i>	119	5	1483	66	587	26	68	3	2257

Table 3: Disposal method of RTC attendances to all EDs for Lancashire residents by age and gender, April 2007 to March 2010 combined³

Local Authority / Unitary Authority	Disposal method								
	Admitted		Discharged		Follow-up/referral		Other		Total
	N	%	N	%	N	%	N	%	N
Males									
0-15	173	8	1545	73	347	16	64	3	2129
16-17	72	6	770	66	259	22	61	5	1162
18-24	215	4	3381	69	1054	22	252	5	4902
25-34	147	3	3181	71	956	21	197	4	4481
35-59	319	5	4368	67	1651	25	210	3	6548
60 plus	155	12	803	60	352	26	35	3	1345
Total	1082	5	14050	68	4619	22	819	4	20570
Females									
0-15	71	4	1333	78	251	15	54	12	1709
16-17	28	3	640	75	155	18	28	6	851
18-24	108	3	2994	75	787	20	126	29	4015
25-34	100	3	2491	73	699	21	107	24	3397
35-59	128	2	3827	73	1183	23	107	24	5245
60 plus	115	9	817	64	337	26	17	4	1286
Total	550	3	12102	73	3412	21	439	100	16503

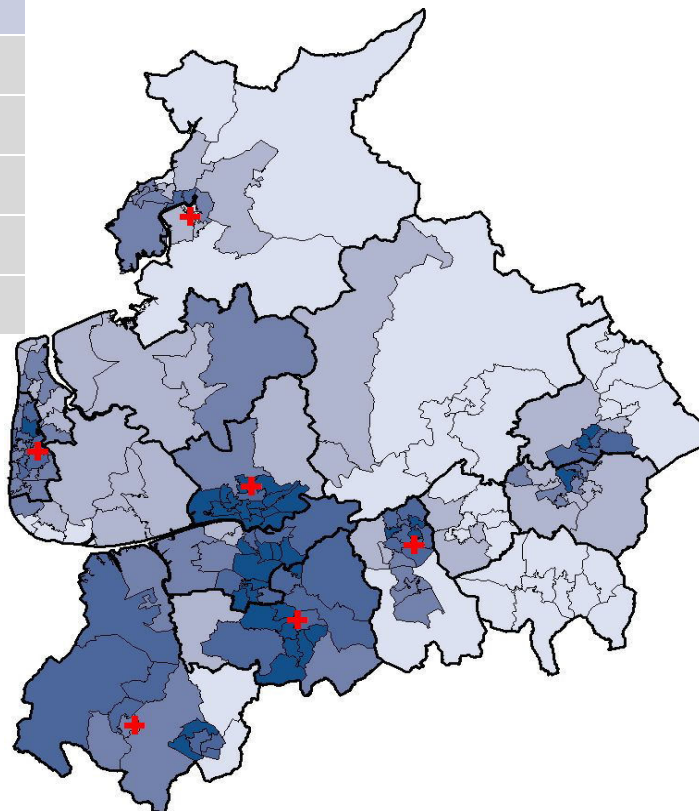
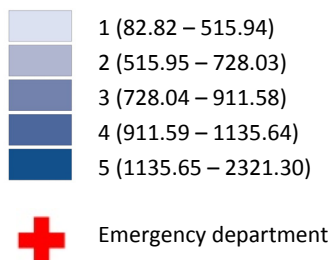
³ There were three attendances whose gender was not recorded, which have been included in the total figure.

Figure 4: a) MSOA of residence for RTC attendances to all EDs. Lancashire residents only; b) MSOA of ambulance call outs in Lancashire. Crude rate per 100,000 population, 2007/08 to 2009/10 combined. LA boundaries overlaid

a) Top five MSOAs

MSOA	MSOA name	n	Crude rate/100,000 (- + 95% confidence intervals [CI])
E02005266	Preston 14	478	2321.29 (2117.83 - 2539.02)
E02005268	Preston 16	612	2267.42 (2091.31 - 2454.40)
E02005261	Preston 09	539	2071.32 (1900.12 - 2253.81)
E02005259	Preston 007	523	1774.75 (1625.88 - 1933.58)
E02005263	Preston 011	344	1740.27 (1561.21 - 1934.25)

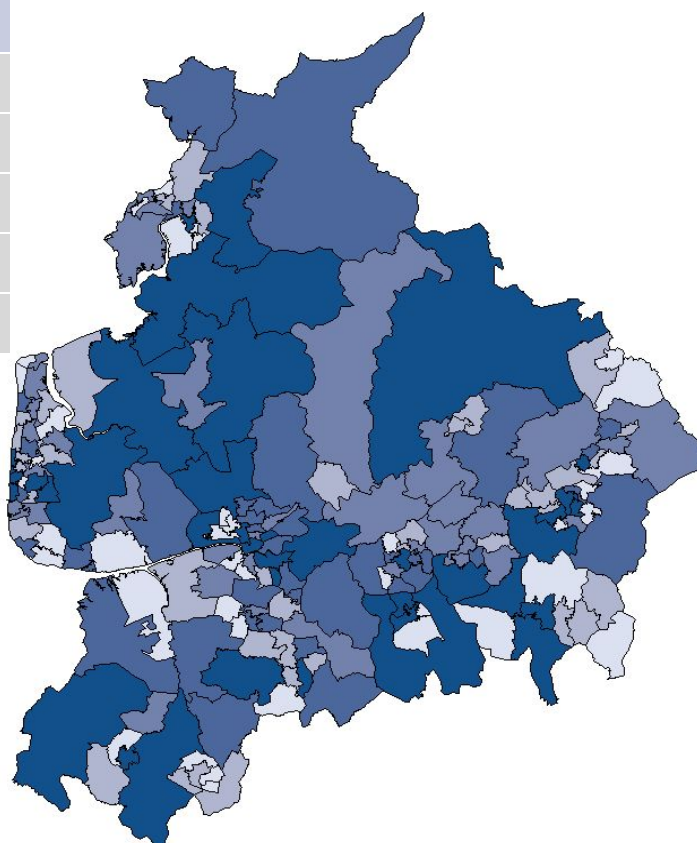
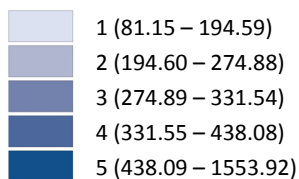
Quintiles of crude rate per 100,000 population



b) Top five MSOAs

MSOA	MSOA name	n	Crude rate/100,000 (-+ 95% CI)
E02005269	Preston 17	399	1553.91 (1405.17 - 1714.13)
E02002620	Blackburn with Darwen 06	309	1342.36 (1196.85 - 1500.70)
E02005198	Chorley 10	300	1293.99 (1151.70 - 1449.02)
E02005234	Lancaster 14	312	1265.51 (1128.97 - 1414.02)
E02002642	Blackpool 10	287	1259.43 (1117.93 - 1413.9)

Quintiles of crude rate per 100,000 population



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