Appendices

Appendix 3.1 – Traffic Survey Data

Appendix 3.2 – Traffic Flow Profile

West Durrington, Existing Peak Period Traffic Flow Profile

Existing Total Junction Traffic Flow

Period	A27 / A280 Roundabout	Titnore Lane / Titnore Way	Titnore Lane / Goring Street / Littlehampton Road	Yeoman Road / Palatine Road / Littlehampton Road	Durrington Lane / Littlehampton Road / The Boulevard	Durrington Lane / Columbia Drive	Romany Road / Columbia Drive	New Road / Tasman Way / Romany Road	Romany Road / Yeoman Road	Titnore Way / Romany Road / Fulbeck Avenue	Durrington Hill / New Road / Durrington Lane / Salvington Road	Total
08:00	661	258	909	700	892	390	293	256	335	133	408	5235
08:15	691	360	939	794	890	406	398	300	464	219	374	5835
08:30	729	285	951	866	940	462	403	298	521	195	400	6050
08:45	720	301	1015	855	942	435	407	330	471	167	433	6076
17:00	659	248	973	819	973	486	383	354	422	149	378	5844
17:15	703	253	986	773	948	470	404	359	393	113	386	5788
17:30	711	285	987	747	940	435	364	343	363	136	327	5638
17:45	709	297	912	681	864	434	370	323	380	144	349	5463

Existing Traffic Flow Profiles

Period	A27 / A280 Roundabout	Titnore Lane / Titnore Way	Titnore Lane / Goring Street / Littlehampton Road	Yeoman Road / Palatine Road / Littlehampton Road	Durrington Lane / Littlehampton Road / The Boulevard	Durrington Lane / Columbia Drive	Romany Road / Columbia Drive	New Road / Tasman Way / Romany Road	Romany Road / Yeoman Road	Titnore Way / Romany Road / Fulbeck Avenue	Durrington Hill / New Road / Durrington Lane / Salvington Road	Total
08:00	24%	21%	24%	22%	24%	23%	20%	22%	19%	19%	25%	23%
08:15	25%	30%	25%	25%	24%	24%	27%	25%	26%	31%	23%	25%
08:30	26%	24%	25%	27%	26%	27%	27%	25%	29%	27%	25%	26%
08:45	26%	25%	27%	27%	26%	26%	27%	28%	26%	23%	27%	26%
17:00	24%	23%	25%	27%	26%	25%	25%	26%	27%	27%	26%	26%
17:15	25%	23%	26%	26%	25%	27%	27%	26%	25%	21%	27%	25%
17:30	26%	26%	26%	25%	25%	24%	24%	25%	23%	25%	23%	25%
17:45	25%	27%	24%	23%	23%	24%	24%	23%	24%	27%	24%	24%

Appendix 3.3 – Year 2007 AM and PM peak Baseline Junction Assessment Input Files

```
Visual ARCADY 5.00
Junction 1a_2007 DM_am
 &PARAM NARMS=5,START=0800,FINISH=0900,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LGSEP=T,LEVELS=T,  &END
A27 Eastbound Off-slip
Arundel Road
A280 Long Furlong
A27 Eastbound On-Slip
A280 Northbound Approach
* CT5   V         E         L         R         D       PHI
    004.20    007.60    016.10    019.80    060.50     045.5
    003.60    006.50    002.40    014.50    060.50     025.5
    003.80    008.10    032.20    080.00    060.00     031.0
    002.00    003.00    000.00    003.00    013.00     000.0 EXIT
    003.80    008.00    016.80    083.50    060.00     031.0
* CT11-12  LARGE ROUNDABOUT DATA
     012.9     022.3     009.9     005.9     000.1
     000.0     000.0     000.0     000.0     000.0
* CT16-19 DATA FOR SYNTHESISED DEMAND
      0800      0815      0845
      0800      0815      0845
      0800      0815      0845
      0800      0815      0845
      0800      0815      0845
   009.770   009.780   009.770
   001.000   001.010   001.000
   011.170   011.180   011.170
   000.000   000.000   000.000
   014.500   014.510   014.500
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    000.00    000.00    010.30    000.00    004.00
    000.00    000.00    000.00    000.00    000.00
    000.00    000.00    000.00    021.40    010.50
    000.00    000.00    000.00    000.00    000.00
    000.00    000.80    006.60    003.80    000.00
* CT24  TURNING PROPORTIONS
  0000.000  0000.000  0044.900  0000.000  0055.100
  0000.000  0000.200  0043.300  0006.700  0049.900
  0000.000  0000.400  0000.300  0004.200  0095.100
  0000.000  0000.000  0000.000  0000.000  0000.000
  0000.000  0002.500  0067.100  0030.400  0000.000
========================================== end of file ==============================================


 [Printed at 16:30:37 on 20/06/2008]
```

```
Visual ARCADY 5.00
Junction 1a_2007 DM_pm
 &PARAM NARMS=5,START=1700,FINISH=1800,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LGSEP=T,LEVELS=T,  &END
A27 Eastbound Off-slip
Arundel Road
A280 Long Furlong
A27 Eastbound On-Slip
A280 Northbound Approach
* CT5   V         E         L         R         D       PHI
    004.20    007.60    016.10    019.80    060.50     045.5
    003.60    006.50    002.40    014.50    060.50     025.5
    003.80    008.10    032.20    080.00    060.00     031.0
    002.00    003.00    000.00    003.00    013.00     000.0 EXIT
    003.80    008.00    016.80    083.50    060.00     031.0
* CT11-12  LARGE ROUNDABOUT DATA
     009.9     017.2     008.8     005.4     000.2
     000.0     000.0     000.0     000.0     000.0
* CT16-19 DATA FOR SYNTHESISED DEMAND
      1700      1715      1745
      1700      1715      1745
      1700      1715      1745
      1700      1715      1745
      1700      1715      1745
   007.690   007.700   007.690
   000.790   000.800   000.790
   017.300   017.310   017.300
   000.000   000.000   000.000
   009.770   009.780   009.770
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    000.00    000.00    008.30    000.00    001.70
    000.00    000.00    000.00    000.00    000.00
    000.00    028.60    000.00    004.30    002.30
    000.00    000.00    000.00    000.00    000.00
    000.00    000.00    004.80    000.00    000.00
* CT24  TURNING PROPORTIONS
  0000.000  0000.000  0036.700  0000.000  0063.300
  0000.000  0000.200  0014.900  0019.100  0065.800
  0000.000  0000.700  0000.200  0002.200  0096.900
  0000.000  0000.000  0000.000  0000.000  0000.000
  0000.000  0003.100  0063.800  0033.100  0000.000
============================================ end of file ============================================


 [Printed at 12:59:21 on 04/06/2007]
```

```
Visual ARCADY 5.00
Junction 1b_2007 DM_am
 &PARAM NARMS=5,START=0800,FINISH=0900,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LGSEP=T,LEVELS=T,  &END
A27 Westbound On-Slip
A280 Southbound Approach
A27 Westbound Off-Slip
Titnore Lane
Water Lane
* CT5   V         E         L         R         D       PHI
    002.00    003.00    000.00    003.00    013.00     000.0 EXIT
    003.70    007.10    015.00    035.00    060.20     040.0
    004.50    006.00    055.00    019.60    060.40     030.0
    003.60    008.00    030.60    038.50    060.70     044.0
    003.30    005.80    014.40    018.00    060.40     039.5
* CT11-12  LARGE ROUNDABOUT DATA
     016.9     004.1     020.6     015.2     012.3
     000.0     000.0     000.0     000.0     000.0
* CT16-19 DATA FOR SYNTHESISED DEMAND
      0800      0815      0845
      0800      0815      0845
      0800      0815      0845
      0800      0815      0845
      0800      0815      0845
   000.000   000.000   000.000
   016.500   016.510   016.500
   005.240   005.250   005.240
   007.550   007.560   007.550
   011.970   011.980   011.970
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    000.00    000.00    000.00    000.00    000.00
    013.90    000.00    000.00    003.30    008.70
    000.00    004.60    000.00    006.70    004.10
    003.50    003.40    000.00    000.00    004.20
    011.50    007.10    000.00    000.40    000.00
* CT24  TURNING PROPORTIONS
  0000.000  0000.000  0000.000  0000.000  0000.000
  0024.600  0000.000  0000.000  0037.100  0038.300
  0000.000  0027.700  0000.000  0009.600  0062.700
  0037.500  0051.900  0000.000  0000.000  0010.600
  0003.600  0062.400  0000.000  0033.300  0000.700
========================================== end of file ==============================================
```

[Printed at 13:55:57 on 04/06/2007]

```
Visual ARCADY 5.00
Junction 1b_2007 DM_pm
 &PARAM NARMS=5,START=1700,FINISH=1800,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LGSEP=T,LEVELS=T,  &END
A27 Westbound On-Slip
A280 Southbound Approach
A27 Westbound Off-Slip
Titnore Lane
Water Lane
* CT5   V         E         L         R         D       PHI
    002.00    003.00    000.00    003.00    013.00     000.0 EXIT
    003.70    007.10    015.00    035.00    060.20     040.0
    004.50    006.00    055.00    019.60    060.40     030.0
    003.60    008.00    030.60    038.50    060.70     044.0
    003.30    005.80    014.40    018.00    060.40     039.5
* CT11-12  LARGE ROUNDABOUT DATA
     013.3     003.5     025.6     021.1     013.3
     000.0     000.0     000.0     000.0     000.0
* CT16-19 DATA FOR SYNTHESISED DEMAND
      1700      1715      1745
      1700      1715      1745
      1700      1715      1745
      1700      1715      1745
      1700      1715      1745
   000.000   000.000   000.000
   022.150   022.160   022.150
   004.470   004.480   004.470
   007.690   007.700   007.690
   008.450   008.460   008.450
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    000.00    000.00    000.00    000.00    000.00
    003.50    000.00    000.00    001.30    001.80
    000.00    006.50    000.00    000.00    000.70
    003.00    000.90    000.00    000.00    002.90
    003.60    003.70    000.00    000.50    000.00
* CT24  TURNING PROPORTIONS
  0000.000  0000.000  0000.000  0000.000  0000.000
  0026.100  0000.000  0000.000  0023.500  0050.400
  0000.000  0034.300  0000.000  0009.300  0056.300
  0028.800  0048.600  0000.000  0000.000  0022.600
  0005.500  0053.300  0000.000  0040.200  0001.000
========================================== end of file ==============================================


 [Printed at 13:56:38 on 04/06/2007]
```

```
Visual PICADY 4.10
Junction 2_2007 DM_AM
 &PARAM START=0800,FINISH=0900,INTERV=  15 &END
 &OPTION HVTURN=T,LEVELS=T,TEE=T  &END
Titnore Lane (N)
Titnore Way
Titnore Lane (S)
*CT5 and CT6 GEOMETRIC DATA
*       W        WCR  PED DEMAND                  USERQ
     06.00     00.00
* WID.RIGHT VIS.RIGHT CT6
       2.2     250.0     BLOCK
*  WIDTH L   WIDTH R     VIS L     VIS R     FLARE CT7
                           074       042    FLARE
* GIVE-WAY        5M       10M       15M       20M FLARELENGTH  CT7A
     10.00     06.10     03.60     03.60     03.60          001
* DATA FOR SYNTHESISED DEMAND
      0800      0815      0845
      0800      0815      0845
      0800      0815      0845
   011.150   011.160   011.150
   003.530   003.540   003.530
   005.380   005.390   005.380
* PERCENTAGES OF HEAVY VEHICLES
    000.00    002.00    002.80
    004.40    000.00    007.40
    003.10    008.60    000.00
* TURNING PROPORTIONS TCT32
  0000.000  0052.300  0047.700
  0074.500  0000.000  0025.500
  0089.200  0010.800  0000.000
============================================ end of file ============================================


 [Printed at 08:33:27 on 05/06/2007]
```

```
Visual PICADY 4.10
Junction 2_2007 DM_PM
 &PARAM START=1700,FINISH=1800,INTERV=  15 &END
 &OPTION HVTURN=T,LEVELS=T,TEE=T  &END
Titnore Lane (N)
Titnore Way
Titnore Lane (S)
*CT5 and CT6 GEOMETRIC DATA
*       W        WCR  PED DEMAND                  USERQ
     06.00     00.00
* WID.RIGHT VIS.RIGHT CT6
       2.2     250.0     BLOCK
*  WIDTH L   WIDTH R     VIS L     VIS R     FLARE CT7
                           074       042    FLARE
* GIVE-WAY        5M       10M       15M       20M FLARELENGTH  CT7A
     10.00     06.10     03.60     03.60     03.60          001
* DATA FOR SYNTHESISED DEMAND
      1700      1715      1745
      1700      1715      1745
      1700      1715      1745
   008.850   008.860   008.850
   003.320   003.330   003.320
   005.880   005.890   005.880
* PERCENTAGES OF HEAVY VEHICLES
    000.00    002.10    000.90
    003.00    000.00    000.00
    001.60    000.00    000.00
* TURNING PROPORTIONS TCT32
  0000.000  0035.400  0064.600
  0084.900  0000.000  0015.100
  0086.700  0013.300  0000.000
============================================ end of file ==============================================


 [Printed at 08:34:06 on 05/06/2007]
```

```
Visual ARCADY 5.00
Junction 3_2007 DM_am
 &PARAM NARMS=4,START=0800,FINISH=0900,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LEVELS=T,  &END
A 2032 Littlehampton Road (W)
Titnore Lane
A2032 Littlehampton Road (E)
Goring Street
* CT5   V         E         L         R         D       PHI
    007.30    007.30    000.00    019.70    065.30     017.0
    003.40    006.40    004.90    019.10    065.30     027.5
    007.40    007.40    000.00    015.30    065.30     016.0
    006.10    007.40    001.60    015.30    065.30     033.5
* CT16-19 DATA FOR SYNTHESISED DEMAND
      0800      0815      0845
      0800      0815      0845
      0800      0815      0845
      0800      0815      0845
   027.730   027.740   027.730
   005.520   005.530   005.520
   012.250   012.260   012.250
   018.070   018.080   018.070
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    020.00    007.40    002.10    002.50
    008.90    000.00    007.10    001.60
    003.90    004.70    000.00    004.10
    003.20    002.20    001.80    000.00
* CT24  TURNING PROPORTIONS
  0000.300  0001.600  0052.200  0045.900
  0013.600  0000.000  0012.700  0073.700
  0065.900  0005.900  0001.900  0026.400
  0048.600  0025.200  0026.000  0000.200
============================================ end of file ============================================


 [Printed at 14:20:24 on 04/06/2007]
```

```
Visual ARCADY 5.00
Junction 3_2007 DM_pm
 &PARAM NARMS=4,START=1700,FINISH=1800,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LEVELS=T,  &END
A 2032 Littlehampton Road (W)
Titnore Lane
A2032 Littlehampton Road (E)
Goring Street
* CT5   V         E         L         R         D       PHI
    007.30    007.30    000.00    019.70    065.30     017.0
    003.40    006.40    004.90    019.10    065.30     027.5
    007.40    007.40    000.00    015.30    065.30     016.0
    006.10    007.40    001.60    015.30    065.30     033.5
* CT16-19 DATA FOR SYNTHESISED DEMAND
      1700      1715      1745
      1700      1715      1745
      1700      1715      1745
      1700      1715      1745
   021.780   021.790   021.780
   006.540   006.550   006.540
   018.520   018.530   018.520
   017.470   017.480   017.470
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    000.00    000.00    000.70    001.10
    000.00    000.00    000.00    001.00
    001.10    003.20    000.00    000.90
    001.30    001.20    002.00    000.00
* CT24  TURNING PROPORTIONS
  0002.300  0002.200  0053.200  0042.300
  0009.400  0000.000  0014.000  0076.500
  0072.300  0005.700  0002.400  0019.600
  0057.200  0023.800  0018.800  0000.300
========================================== end of file ==========================================


 [Printed at 14:21:17 on 04/06/2007]
```

```
Visual ARCADY 5.00
Junction 4_2007 DM_am
 &PARAM NARMS=4,START=0800,FINISH=0900,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LEVELS=T,  &END
A 2032 Littlehampton Road (W)
Yeoman Road
A2032 Littlehampton Road (E)
Palatine Road
* CT5   V         E         L         R         D       PHI
    007.40    007.40    000.00    028.80    065.70     013.5
    003.70    007.20    007.00    036.60    065.70     019.0
    007.30    007.30    000.00    027.50    065.70     032.5
    003.80    006.10    014.90    024.50    065.70     023.0
* CT16-19 DATA FOR SYNTHESISED DEMAND
      0800      0815      0845
      0800      0815      0845
      0800      0815      0845
      0800      0815      0845
   018.780   018.790   018.780
   014.380   014.390   014.380
   012.540   012.550   012.540
   007.880   007.890   007.880
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    000.00    001.60    002.70    000.50
    003.00    000.00    004.40    000.20
    006.00    000.00    000.00    008.50
    000.70    000.80    006.00    000.00
* CT24  TURNING PROPORTIONS
  0000.100  0028.200  0055.300  0016.400
  0023.100  0001.500  0026.300  0049.100
  0060.000  0033.800  0000.000  0006.200
  0029.600  0056.000  0014.200  0000.200
============================================ end of file ============================================


 [Printed at 14:48:42 on 04/06/2007]
```

```
Visual ARCADY 5.00
Junction 4_2007 DM_pm
 &PARAM NARMS=4,START=1700,FINISH=1800,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LEVELS=T,  &END
A 2032 Littlehampton Road (W)
Yeoman Road
A2032 Littlehampton Road (E)
Palatine Road
* CT5   V         E         L         R         D       PHI
    007.40    007.40    000.00    028.80    065.70     013.5
    003.70    007.20    007.00    036.60    065.70     019.0
    007.30    007.30    000.00    027.50    065.70     032.5
    003.80    006.10    014.90    024.50    065.70     023.0
* CT16-19 DATA FOR SYNTHESISED DEMAND
      1700      1715      1745
      1700      1715      1745
      1700      1715      1745
      1700      1715      1745
   016.270   016.280   016.270
   012.320   012.330   012.320
   015.200   015.210   015.200
   006.550   006.560   006.550
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    000.00    001.90    000.90    000.90
    002.70    000.00    001.60    000.50
    001.00    001.10    000.00    001.60
    000.00    000.50    000.00    000.00
* CT24  TURNING PROPORTIONS
  0000.500  0021.500  0066.700  0011.300
  0039.800  0000.500  0033.400  0026.300
  0073.200  0020.100  0000.000  0006.700
  0037.700  0050.600  0011.200  0000.500
============================================ end of file ============================================


 [Printed at 14:49:07 on 04/06/2007]
```

```
Visual ARCADY 5.00
Junction 5_2007 DM_am
 &PARAM NARMS=4,START=0800,FINISH=0900,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LEVELS=T,  &END
A 2032 Littlehampton Road (W)
Durrington Lane
A 2032 Littlehampton Road (E)
The Bouelvard
* CT5   V         E         L         R         D       PHI
    006.40    006.50    000.00    018.60    065.10     009.5
    003.80    006.20    006.20    019.80    065.10     026.0
    007.40    007.50    000.00    015.40    065.10     015.5
    006.10    006.30    000.00    018.70    065.10     026.0
* CT16-19 DATA FOR SYNTHESISED DEMAND
      0800      0815      0845
      0800      0815      0845
      0800      0815      0845
      0800      0815      0845
   015.320   015.330   015.320
   010.880   010.890   010.880
   018.300   018.310   018.300
   016.570   016.580   016.570
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    000.00    000.00    004.70    002.30
    008.10    000.00    004.10    002.60
    004.20    006.00    000.00    003.20
    003.20    003.20    002.90    000.00
* CT24  TURNING PROPORTIONS
  0000.000  0014.300  0043.600  0042.100
  0011.300  0001.200  0011.300  0076.100
  0045.900  0025.900  0000.100  0028.100
  0019.100  0046.900  0031.100  0002.900
============================================ end of file ============================================


 [Printed at 15:14:56 on 04/06/2007]
```

```
Visual ARCADY 5.00
Junction 5_2007 DM_pm
 &PARAM NARMS=4,START=1700,FINISH=1800,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LEVELS=T,  &END
A 2032 Littlehampton Road (W)
Durrington Lane
A 2032 Littlehampton Road (E)
The Bouelvard
* CT5   V         E         L         R         D       PHI
    006.40    006.50    000.00    018.60    065.10     009.5
    003.80    006.20    006.20    019.80    065.10     026.0
    007.40    007.50    000.00    015.40    065.10     015.5
    006.10    006.30    000.00    018.70    065.10     026.0
* CT16-19 DATA FOR SYNTHESISED DEMAND
      1700      1715      1745
      1700      1715      1745
      1700      1715      1745
      1700      1715      1745
   016.000   016.010   016.000
   011.750   011.760   011.750
   017.620   017.630   017.620
   016.720   016.730   016.720
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    000.00    000.00    001.30    000.70
    000.00    000.00    001.80    002.00
    001.40    002.80    000.00    002.30
    001.00    001.50    000.40    000.00
* CT24  TURNING PROPORTIONS
  0000.000  0008.200  0063.200  0028.500
  0012.200  0000.100  0024.300  0063.400
  0059.500  0020.000  0000.200  0020.300
  0019.900  0052.600  0026.400  0001.000
============================================ end of file ============================================


 [Printed at 15:15:18 on 04/06/2007]
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```
Visual ARCADY 5.00
Junction 6_2007 DM_am
 &PARAM NARMS=3,START=0800,FINISH=0900,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LEVELS=T,  &END
Columbia Drive
Durrington Lane (N)
Durrington Lane (S)
* CT5   V         E         L         R         D       PHI
    007.10    007.10    000.00    023.60    028.30     024.0
    003.70    006.90    009.20    029.30    028.50     028.0
    003.80    006.20    008.20    032.90    028.10     021.5
* CT16-19 DATA FOR SYNTHESISED DEMAND
      0800      0815      0845
      0800      0815      0845
      0800      0815      0845
   007.820   007.830   007.820
   008.030   008.040   008.030
   012.370   012.380   012.370
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    000.00    004.00    003.80
    006.50    000.00    002.70
    005.50    002.70    000.00
* CT24  TURNING PROPORTIONS
  0000.400  0037.100  0062.500
  0022.200  0000.200  0077.600
  0044.100  0054.900  0001.100
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 [Printed at 15:29:18 on 04/06/2007]
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Visual ARCADY 5.00
Junction 6_2007 DM_pm
 &PARAM NARMS=3,START=1700,FINISH=1800,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LEVELS=T,  &END
Columbia Drive
Durrington Lane (N)
Durrington Lane (S)
* CT5   V         E         L         R         D       PHI
    007.10    007.10    000.00    023.60    028.30     024.0
    003.70    006.90    009.20    029.30    028.50     028.0
    003.80    006.20    008.20    032.90    028.10     021.5
* CT16-19 DATA FOR SYNTHESISED DEMAND
      1700      1715      1745
      1700      1715      1745
      1700      1715      1745
   007.100   007.110   007.100
   007.720   007.730   007.720
   015.600   015.610   015.600
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    000.00    002.10    002.40
    003.00    000.00    001.40
    002.60    000.70    000.00
* CT24  TURNING PROPORTIONS
  0000.000  0022.800  0077.200
  0021.800  0000.600  0077.500
  0049.400  0047.300  0003.300
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 [Printed at 15:29:55 on 04/06/2007]
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```
Visual ARCADY 5.00
Junction 7_2007 DM_am
 &PARAM NARMS=3,START=0800,FINISH=0900,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LEVELS=T,  &END
Romany Road (W)
Romany Road (N)
Columbia Drive
* CT5   V         E         L         R         D       PHI
    003.90    005.30    023.80    017.30    029.60     026.0
    004.30    005.90    025.60    027.40    027.70     029.0
    003.60    003.60    000.00    050.00    028.70     016.0
* CT16-19 DATA FOR SYNTHESISED DEMAND
      0800      0815      0845
      0800      0815      0845
      0800      0815      0845
   007.190   007.200   007.190
   010.420   010.430   010.420
   007.420   007.430   007.420
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    000.00    005.00    006.00
    001.90    000.00    006.90
    009.80    003.60    000.00
* CT24  TURNING PROPORTIONS
  0000.000  0065.200  0034.800
  0074.400  0000.000  0025.600
  0036.900  0062.700  0000.400
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 [Printed at 15:35:49 on 04/06/2007]
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```
Visual ARCADY 5.00
Junction 7_2007 DM_pm
 &PARAM NARMS=3,START=1700,FINISH=1800,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LEVELS=T,  &END
Romany Road (W)
Romany Road (N)
Columbia Drive
* CT5   V         E         L         R         D       PHI
    003.90    005.30    023.80    017.30    029.60     026.0
    004.30    005.90    025.60    027.40    027.70     029.0
    003.60    003.60    000.00    050.00    028.70     016.0
* CT16-19 DATA FOR SYNTHESISED DEMAND
      1700      1715      1745
      1700      1715      1745
      1700      1715      1745
   009.550   009.560   009.550
   008.550   008.560   008.550
   007.250   007.260   007.250
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    000.00    001.70    001.40
    002.50    000.00    004.10
    003.50    002.30    000.00
* CT24  TURNING PROPORTIONS
  0000.200  0062.500  0037.300
  0047.400  0000.000  0052.600
  0039.500  0059.300  0001.100
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 [Printed at 15:36:10 on 04/06/2007]
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Visual ARCADY 5.00
Junction 8_2007 DM_am
 &PARAM NARMS=4,START=0800,FINISH=0900,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LEVELS=T,  &END
Tasman Way
New Road
Romany Road
Tesco
* CT5   V         E         L         R         D       PHI
    004.30    006.00    014.40    012.00    028.30     042.5
    003.70    006.30    015.80    009.20    028.30     024.5
    003.80    006.30    013.40    018.20    028.30     036.0
    003.10    005.20    008.70    007.90    028.30     026.5
* CT16-19 DATA FOR SYNTHESISED DEMAND
      0800      0815      0845
      0800      0815      0845
      0800      0815      0845
      0800      0815      0845
   000.940   000.950   000.940
   008.320   008.330   008.320
   007.120   007.130   007.120
   003.370   003.380   003.370
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    000.00    000.00    000.00    000.00
    000.00    000.00    000.90    001.40
    000.00    003.40    090.90    001.70
    000.00    006.10    002.20    000.00
* CT24  TURNING PROPORTIONS
  0000.200  0019.600  0074.900  0005.300
  0000.400  0000.200  0085.200  0014.200
  0001.900  0041.500  0002.600  0054.100
  0000.500  0032.700  0066.800  0000.000
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 [Printed at 15:44:01 on 04/06/2007]
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Visual ARCADY 5.00
Junction 8_2007 DM_pm
 &PARAM NARMS=4,START=1700,FINISH=1800,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LEVELS=T,  &END
Tasman Way
New Road
Romany Road
Tesco
* CT5   V         E         L         R         D       PHI
    004.30    006.00    014.40    012.00    028.30     042.5
    003.70    006.30    015.80    009.20    028.30     024.5
    003.80    006.30    013.40    018.20    028.30     036.0
    003.10    005.20    008.70    007.90    028.30     026.5
* CT16-19 DATA FOR SYNTHESISED DEMAND
      1700      1715      1745
      1700      1715      1745
      1700      1715      1745
      1700      1715      1745
   000.520   000.530   000.520
   004.750   004.760   004.750
   010.400   010.410   010.400
   007.320   007.330   007.320
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    000.00    000.00    000.00    000.00
    000.00    000.00    002.60    001.30
    000.00    000.90    000.00    000.30
    000.00    000.00    000.70    000.00
* CT24  TURNING PROPORTIONS
  0000.300  0032.200  0054.700  0012.900
  0004.900  0000.000  0067.000  0028.100
  0006.600  0036.200  0001.400  0055.800
  0001.100  0029.600  0069.200  0000.000
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 [Printed at 15:44:22 on 04/06/2007]
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Visual ARCADY 5.00
Junction 9_2007 DM_am
 &PARAM NARMS=3,START=0800,FINISH=0900,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LEVELS=T,  &END
Romany Road (N)
Romany Road (E)
Yeoman Road
* CT5   V         E         L         R         D       PHI
    003.60    006.80    021.60    030.90    033.20     016.0
    003.90    007.40    020.70    018.20    033.50     030.0
    003.80    007.40    024.50    015.00    033.40     014.5
* CT16-19 DATA FOR SYNTHESISED DEMAND
      0800      0815      0845
      0800      0815      0845
      0800      0815      0845
   010.140   010.150   010.140
   010.530   010.540   010.530
   009.180   009.190   009.180
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    000.00    005.50    001.00
    011.80    000.00    001.20
    001.10    002.70    000.00
* CT24  TURNING PROPORTIONS
  0000.000  0036.200  0063.800
  0021.500  0000.500  0078.000
  0032.100  0067.200  0000.700
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 [Printed at 15:54:15 on 04/06/2007]
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Visual ARCADY 5.00
Junction 9_2007 DM_pm
 &PARAM NARMS=3,START=1700,FINISH=1800,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LEVELS=T,  &END
Romany Road (N)
Romany Road (E)
Yeoman Road
* CT5   V         E         L         R         D       PHI
    003.60    006.80    021.60    030.90    033.20     016.0
    003.90    007.40    020.70    018.20    033.50     030.0
    003.80    007.40    024.50    015.00    033.40     014.5
* CT16-19 DATA FOR SYNTHESISED DEMAND
      1700      1715      1745
      1700      1715      1745
      1700      1715      1745
   006.320   006.330   006.320
   009.340   009.350   009.340
   010.320   010.330   010.320
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    000.00    004.30    000.90
    004.50    000.00    001.40
    004.00    001.30    000.00
* CT24  TURNING PROPORTIONS
  0000.000  0042.500  0057.500
  0036.100  0000.000  0063.900
  0048.500  0051.100  0000.500
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 [Printed at 15:54:38 on 04/06/2007]
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Visual ARCADY 5.00
Junction 10_2007 DM_am
 &PARAM NARMS=3,START=0800,FINISH=0900,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LEVELS=T,  &END
Titnore Way
Fulbeck Avenue
Romany Road
* CT5   V         E         L         R         D       PHI
    003.50    004.80    003.30    032.60    030.10     010.5
    004.00    004.20    022.40    009.40    030.40     018.5
    003.60    005.60    004.90    074.30    030.40     025.0
* CT16-19 DATA FOR SYNTHESISED DEMAND
      0800      0815      0845
      0800      0815      0845
      0800      0815      0845
   006.850   006.860   006.850
   001.300   001.310   001.300
   003.750   003.760   003.750
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    000.00    000.00    002.50
    000.00    000.00    003.30
    005.10    008.30    000.00
* CT24  TURNING PROPORTIONS
  0000.200  0002.400  0097.300
  0021.800  0000.100  0078.100
  0088.000  0010.700  0001.300
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 [Printed at 08:18:44 on 05/06/2007]
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Visual ARCADY 5.00
Junction 10_2007 DM_pm
 &PARAM NARMS=3,START=1700,FINISH=1800,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LEVELS=T,  &END
Titnore Way
Fulbeck Avenue
Romany Road
* CT5   V         E         L         R         D       PHI
    003.50    004.80    003.30    032.60    030.10     010.5
    004.00    004.20    022.40    009.40    030.40     018.5
    003.60    005.60    004.90    074.30    030.40     025.0
* CT16-19 DATA FOR SYNTHESISED DEMAND
      1700      1715      1745
      1700      1715      1745
      1700      1715      1745
   004.130   004.140   004.130
   000.750   000.760   000.750
   004.150   004.160   004.150
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    000.00    000.00    001.80
    000.00    000.00    002.70
    002.50    000.00    000.00
* CT24  TURNING PROPORTIONS
  0000.400  0010.500  0089.100
  0017.700  0000.200  0082.000
  0081.900  0017.700  0000.400
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 [Printed at 08:19:15 on 05/06/2007]
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Visual ARCADY 5.00
Junction 11_2007 DM_am
 &PARAM NARMS=4,START=0800,FINISH=0900,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LEVELS=T,  &END
New Road
Durrington Hill
Salvington Road
Durrington Lane
* CT5   V         E         L         R         D       PHI
    003.50    006.70    003.00    015.10    023.70     038.0
    003.40    003.40    000.00    012.80    022.50     034.0
    003.50    003.80    000.00    007.20    023.70     041.0
    003.10    004.90    003.20    017.70    022.50     021.0
* CT16-19 DATA FOR SYNTHESISED DEMAND
      0800      0815      0845
      0800      0815      0845
      0800      0815      0845
      0800      0815      0845
   007.330   007.340   007.330
   004.900   004.910   004.900
   006.600   006.610   006.600
   008.090   008.100   008.090
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    000.00    000.00    001.90    000.00
    001.80    000.00    005.60    001.60
    001.30    013.30    100.00    009.80
    000.90    002.00    004.70    000.00
* CT24  TURNING PROPORTIONS
  0000.500  0004.800  0070.900  0023.900
  0018.700  0000.000  0018.400  0062.900
  0058.600  0007.600  0000.300  0033.600
  0022.300  0020.800  0056.900  0000.000
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 [Printed at 08:27:31 on 05/06/2007]
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Visual ARCADY 5.00
Junction 11_2007 DM_pm
 &PARAM NARMS=4,START=1700,FINISH=1800,INTERV=  15 &END
 &OPTION HVTURN=T,TPENT=T,LEVELS=T,  &END
New Road
Durrington Hill
Salvington Road
Durrington Lane
* CT5   V         E         L         R         D       PHI
    003.50    006.70    003.00    015.10    023.70     038.0
    003.40    003.40    000.00    012.80    022.50     034.0
    003.50    003.80    000.00    007.20    023.70     041.0
    003.10    004.90    003.20    017.70    022.50     021.0
* CT16-19 DATA FOR SYNTHESISED DEMAND
      1700      1715      1745
      1700      1715      1745
      1700      1715      1745
      1700      1715      1745
   005.420   005.430   005.420
   003.890   003.900   003.890
   007.430   007.440   007.430
   007.270   007.280   007.270
* CT22/23 PERCENTAGES OF HEAVY VEHICLES
    000.00    000.00    000.00    001.40
    000.00    000.00    000.00    000.00
    001.00    002.20    000.00    002.90
    001.90    000.00    001.30    000.00
* CT24  TURNING PROPORTIONS
  0000.300  0006.500  0071.700  0021.500
  0022.300  0000.000  0013.700  0063.900
  0043.700  0010.300  0000.200  0045.700
  0024.300  0023.400  0052.300  0000.000
============================================ end of file ============================================


 [Printed at 08:28:07 on 05/06/2007]
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Appendix 3.4 – Personal Injury Accident Data

WEST DURRINGTON 2004 JAN-END MAY

Date and Time	01/01/04 18:55:00	03/01/04 11:15:00	07/01/04 11:28:00
Severity of Crash	Slight	Slight	Slight
Easting	511882	511669	511404
Northing	105221	104235	105828
Description of Location	DURRINGTON LANE JUNCTION SALVINGTON ROAD ROUNDABOUT.	B2032 250M WEST JUNCTION THE BOULEVARD.	A27 WORTHING 63M WEST JUNCTION HOLLYACRES.
Description of Crash	V1 TRAVELLING NORTH DURRINGTON LANE APPROACHING ROUNDABOUT CONTINUED ON INTENDING TO DRIVE WEST SALVINGTON ROAD. V2 (PEDAL CYCLE) TRAVELLING WEST IN SALVINGTON ROAD WENT TO CYCLE TOWARDS WEST SIDE OF ROUNDABOUT AND STRUCK FRONT OFF SIDE V1.	V2 TRAVELLING EAST IN L2 AND V1 TRAVELLING BEHIND. V1 MOVED TO L1 AND UNDERTOOK V2. V1 THEN CUT SHARPLY BACK TO L2 CAUSING V2 TO SWERVE. V2 LOST CONTROL AND COLLIDED CENTRAL RESERVATION AND FOLIAGE. VEHICLES DID NOT IMPACT WITH EACH OTHER.	V1 AND V2 TRAVELLING EAST TOWARDS WORTHING. AS THEY CAME TO THE END OF THE DUAL CARRIAGEWAY INTO SINGLE CARRIAGEWAY 40 MPH SPEED LIMIT, V2 INDICATED TO TURN RIGHT ENTERING BROKEN WHITE CHEVRONS. V1 ALSO CARRIED OUT SAME MANOEUVRE, COLLISION OCCURRED.
Weather Conditions	Fine without high winds	Fine without high winds	Fine without high winds

09/01/04 12:20:00	11/01/04 13:30:00	12/01/04 15:40:00	13/01/04 20:57:00	23/01/04 00:06:00
Slight	Slight	Slight	Slight	Slight
510298	511268	511727	510119	511913
104494	104609	103555	105016	104699
TITNORE LANE JUNCTION TITNORE WAY, WORTHING	NEW ROAD JUNCTION SHELBY RD, DURRINGTON	NELSON ROAD 60M WEST JUNCTION RALEIGH CRESCENT, WORTHING	TITNORE LANE OPP SOUTH LODGE, 150M NORTH JUNCTION TITNORE WAY, WORTHING	DURRINGTON LANE 50M NORTH JUNCTION SUNNINGDALE ROAD, DURRINGTON
V3 WAITING TO TURN RIGHT V2 BEHIND. V1 RAN INTO REAR OF V2 PUSHING IT INTO V3	V2 TRAVELLING SOUTH STOPPED FOR VEHICLE IN FRONT WHICH HAD ALSO STOPPED, V1 WENT INTO REAR V2.	V2 TRAVELLING WEST DROVE PART WAY INTO SPACE. V1 TRAVELLING EAST DROVE THROUGH AND COLLIDED REAR OFFSIDE WING.	V1 TRAVELLING SOUTH A2700 APPROACHED BEND TOO FAST, CAME WIDE TO TRY AND CORRECT, DRIVER LOST CONTROL, SKIDDED AND OVERTURNED.	V1 TRAVELLING DURRINGTON LANE, INTOXICATED PEDESTRIAN RAN INTO THE ROAD IN FRONT OF V1, V1 STRUCK PEDESTRIAN, HEAD IMPACTED WINDSCREEN CAUSING INJURY.
Fine without high winds	Fine without high winds	Fine without high winds	Raining without high winds	Fine without high winds

27/01/04 21:59:00	06/02/04 18:03:00	07/02/04 10:10:00	10/02/04 14:30:00	12/02/04 10:50:00
Serious	Slight	Slight	Slight	Slight
510464	511895	510995	511632	512216
104327	104590	103933	103571	105848
SAMPHIRE DRIVE 10M SOUTH JUNCTION MEADOW SWEET CLOSE.	DURRINGTON LANE JUNCTION COLUMBIA DRIVE ROUNDABOUT, WORTHING	YEOMAN ROAD JUNCTION LITTLEHAMPTON ROAD ROUNDABOUT, WORTHING.	NELSON ROAD, WORTHING	A27 JUNCTION CHUTE WAY, WORTHING.
V1 STATIONARY IN PARKING AREA. DRIVER PULLED AWAY AND COLLIDED WITH DRUNK PEDESTRIAN.	V1 ENTERED ROUNDABOUT, FAILING TO GIVE WAY TO V2 (PEDAL CYCLE), COLLISION OCCURRED.	V2 TRAVELLING SOUTH STOPPED AT ROUNDABOUT, V1 TRAVELLING FAILED TO STOP HITTING REAR OF V2.	LADY WITH BUGGY WAITING TO CROSS ROAD OUTSIDE SCHOOL. V1 REVERSING. REVERSED INTO PEDESTRIAN.	V2 TRAVELLING EAST A27, V1 TRAVELLING SOUTH ON CHUTE WAY. V1 FAILED TO STOP AT GIVE WAY JUNCTION WITH A27, V1 HIT FRONT OF V2 CAUSING IT TO LOOSE CONTROL AND MOUNT PAVEMENT AND HIT LAMP POST AND FENCE,
Fine without high winds	Fine without high winds	Fine without high winds	Fine without high winds	Raining without high winds

17/02/04 16:47:00	25/02/04 16:07:00	28/02/04 07:20:00	29/02/04 18:20:00	03/03/04 17:28:00
Slight	Slight	Slight	Slight	Slight
509079	511996	511975	511922	511458
105355	105780	105784	104805	103691
A280 WATER LANE AT ITS EXIT JUNCTION A27 TITNORE LANE.	ARUNDEL ROAD, WORTHING.	A27 SALVINGTON HILL JUNCTION DURRINGTON HILL, WORTHING	DURRINGTON LANE 120M NORTH JUNCTION COLUMBIA DRIVE, DURRINGTON	ANSON ROAD JUNCTION NELSON ROAD, GORING.
V1 (M/C) TRAVELLING EAST ALONG A27 CAME OFF A27 TITNORE INTERCHANGE, TO MAKE RIGHT TURN INTO WATER LANE, AS M/C LEFT RIGHT HAND LANE TRAVELLING TOO FAST, M/C BRAKED COLLIDING WITH KERB.	V2 TRAVELLING EAST BEHIND SLOW MOVING TRAFFIC STRUCK IN REAR BY FOLLOWING V1.	V2 TRAVELLING EAST A27 STOPPED TO ALLOW V3, AMBULANCE ON EMERGENCY CALL, TO TURN RIGHT FROM DURRINGTON HILL ONTO A27. V1 COLLIDED REAR OF V2.	V2 TURNING RIGHT OUT OF DRIVEWAY HIT BY V1.	V2 (PEDAL CYCLE) . V1 WHICH IS UNKNOWN, APPROACHED V2 FROM BEHIND AND NUDGED V2 OFF THE ROAD, RIDER OF V2 SUFFERED SLIGHT BRUISING.
Fine with high winds	Fine without high winds	Fine without high winds	Fine without high winds	Fine without high winds

06/03/04 16:30:00	27/03/04 17:10:00	22/04/04 15:44:00	24/04/04 09:27:00	24/04/04 19:59:00
Slight	Slight	Slight	Slight	Fatal
511775	511930	510384	511636	510408
105800	104452	103673	104243	105687
A27 ARUNDEL ROAD, WORTHING AT ENTRANCE TO BP SERVICE STATION.	DURRINGTON LANE 100M NORTH JUNCTION A259, WORTHING.	TITNORE LANE ROUNDABOUT.	A259 LITTLEHAMPTON ROAD OPPOSITE WORTHING POLICE STATION CUSTODY CENTRE, WORTHING	A27 WESTBOUND CARRIAGEWAY 10M EAST JUNCTION CASTLE GORING MEWS, WORTHING.
V1 TURNING RIGHT IN SERVICE STATION WHEN PEDESTRIAN EMERGED IN TO PATH OF V1. V2 HAD ANTICIPATED V1 CLEARING JUNCTION BUT HIT V1 SPINNING IT ROUND HITTING PEDESTRIAN.	V2 BRAKED TO AVOID BUS BRAKING AT BUS STOP, STRUCK IN REAR BY FOLLOWING V2 (PEDAL CYCLE).	V1 TRAVELLING WEST A259 APPROACHING ROUNDABOUT TO TURN LEFT. V2 TRAVELLING SOUTH AROUND ROUNDABOUT TO TRAVEL WEST. V2 COLLIDES WITH REAR NEAR SIDE V1.	V1 TRAVELLING EAST STRUCK V2 WHILST WAITING TO GO AHEAD PUSHING IT INTO V3 ALSO STATIONERY WAITING TO GO AHEAD.	V1 TRAVELLING WEST A27 IN LANE 2 OF DUAL CARRIAGEWAY. PEDESTRIAN (MEMBER OF RUNNING CLUB) RUNNING ON GRASS VERGE OF WESTBOUND A27.PEDESTRIAN RAN ACROSS THE DUAL CARRIAGEWAY IN THE PATH OF V1. V1 TOOK AVOIDING ACTION BUT STRUCK PEDESTRIAN CAUSING FATAL INJURY.
Fine without high winds	Fine without high winds	Fine without high winds	Fine without high winds	Fine without high winds

26/04/04 08:48:00	03/05/04 16:10:00	11/05/04 12:50:00	22/05/04 18:04:00	25/05/04 17:41:00
Slight	Slight	Slight	Slight	Serious
511060	510985	511229	511551	510915
104332	105698	104563	103863	104370
WHITEBEAM ROAD JUNCTION WALNUT TREE WAY, WORTHING.	A27 ARUNDEL ROAD, WORTHING.	ROMANY ROAD, WORTHING.	PALATINE ROAD, DURRINGTON, WORTHING	WINTERBOURNE WAY 27M SOUTH JUNCTION WALNUT TREE WAY.
V2 STATIONARY FACING WEST ON WHITEBEAM ROAD INDICATING TO TURN RIGHT INTO WALNUT TREE WAY. V1 WAS TRAVELLING WEST BEHIND V2 AND COLLIDED REAR V2.	V2 TRAVELLING WEST IN LANE 2 SIGNALLED TO TURN INTO CENTRAL SLIP LANE. V2 STRUCK IN REAR BY FOLLOWING V1 PUSHING V2 INTO OPPOSITE CARRIAGEWAY.	V2 TRAVELLING NORTH ROMANY ROAD. V1 (HGV FLAT BED) TRAVELLING SOUTH. BUCKET FELL FROM V1 INTO PATH V2.	INTOXICATED PEDAL CYCLIST FELL FROM CYCLE INTO ROAD AND INJURED HIMSELF.	V2 TRAVELLING NORTH EAST WINTERBOURNE WAY TOWARDS WALNUT TREE WAY. V1 TURNED LEFT OUT OF WALNUT TREE WAY THEN TURNED RIGHT INTO HOME ADDRESS INTO PATH OF V2.
Fine without high winds	Fine without high winds	Fine without high winds	Fine without high winds	Fine without high winds

26/05/04 22:33:00
Slight
510905
104056
YEOMAN ROAD (AT ENTRANCE TO AMBULANCE STATION), WORTHING.
V1 TRAVELLING NORTH, PEDESTRIAN RAN FROM PAVEMENT INTO CARRIAGEWAY INTO PATH V1. V1 COLLIDED WITH PEDESTRIAN.
Fine without high winds

WEST DURRINGTON 2004 JUN - END DEC

Date and Time	12/06/04 11:20:00	01/07/04 16:52:00	24/07/04 12:24:00
Severity of Crash	Slight	Slight	Slight
Easting	509103	510304	510448
Northing	105396	104494	103714
Description of Location	A27 ROUNDABOUT JUNCTION A280, WORTHING	TITNORE LANE JUNCTION TITNORE WAY. WORTHING.	A259 LITTLEHAMPTON ROAD (WEST BOUND) 40M WEST FROM ROUNDABOUT (NORTHBROOK COLLEGE), WORTHING.
Description of Crash	V1 TRAVELLING SOUTH NEGOTIATING ROUNDABOUT TO TURN WEST ONTO THE A27 OVERTURNED.	V1 STATIONARY AT TITNORE LANE WAITING TO TURN RIGHT. V2 TRAVELLING SOUTH TITNORE LANE. V1 PULLS OUT INTO PATH V2.	V1 APPROACHING ROUNDABOUT - ON LEAVING THE ROUNDABOUT V1 SKIDDED AND SPUN - COLLIDING WITH GRASS BANK.
Weather Conditions	Fine without high winds	Fine without high winds	Raining without high winds

03/08/04 16:44:00	05/08/04 10:15:00	10/08/04 20:03:00	19/08/04 15:45:00
Slight	Serious	Slight	Serious
511817	511914	511040	510312
104462	104977	105727	103703
BARNET WAY, DURRINGTON	DURRINGTON LANE JUNCTION GREENLAND ROAD, WORTHING.	A27 100M EAST, GORING.	A259 LANE1 EASTBOUND ON APPROACH TO JUNCTION A2700, GORING.
V2 (PEDAL CYCLE) TRAVELLING ALONG PAVEMENT, V1 TRAVELLING ALONG PEDESTRIAN ONLY WALKWAY TOWARDS BLIND CORNER, VEHICLES MEET HEAD ON, RIDER V2 KNOCKED OFF CYCLE.	V2 TRAVELLING NORTH DURRINGTON LANE STARTED A RIGHT HAND TURN INTO GREENLAND ROAD. V1 ALSO TRAVELLING NORTH OVERTOOK V2 AS IT TURNED. V1 COLLIDED V2.	V1 TURNED RIGHT FROM WESTBOUND TO EASTBOUND CARRIAGEWAY PULLED OUT INTO PATH V2.	V2 (PEDAL CYCLIST) CYCLING NEAR TO KERB IN LANE1 TOWARDS ROUNDABOUT EASTBOUND A259. V1 OVERTAKES V2, NEARSIDE WING MIRROR STRIKES RIDER V2 CAUSING RIDER TO FALL OFF CYCLE.
Unknown	Fine without high winds	Fine without high winds	Fine without high winds

21/08/04 18:16:00	27/08/04 02:34:00	05/09/04 16:41:00	12/09/04 09:52:00
Fatal	Slight	Slight	Slight
509651	511913	511005	511047
103576	104583	103925	104332
A259 LITTLEHAMPTON ROAD EASTBOUND CARRIAGEWAY ALMOST OPPOSITE JUNCTION WITH ANCREN CLOSE, FERRING	DURRINGTON LANE ROUNDABOUT JUNCTION COLUMBIA DRIVE, WORTHING.	YEOMAN ROAD JUNCTION LITTLEHAMPTON ROAD. WORTHING.	ROMANY ROAD, SOUTHBOUND AT JUNCTION WALNUT TREE WAY, WORTHING.
V2 TRAVELLING EAST N LANE TWO OF DUAL CARRIAGEWAY WHEN PEDESTRIAN STEPPED INTO ITS PATH FROM CENTRAL RESERVATION. V2 STRUCK PEDESTRIAN CAUSING FATAL INJURY.	V1 LEFT ROAD AT SPEED CROSSING FRONT GARDEN OF NUMBER 32 AND INTO WALL.	V2 (PEDAL CYCLE) STATIONARY AT ROUNDABOUT WAITING FOR TRAFFIC TO CLEAR, STRUCK IN REAR BY FOLLOWING V1.	V3 TRAVELLING SOUTH ROMANY ROAD, INDICATED AND SLOWED TO TURN RIGHT, V2 BRAKED LATE AND SKIDDED INTO REAR OF V3, V1 ALSO BRAKED LATE AND SKIDDED INTO REAR OF V2.
Fine without high winds	Fine without high winds	Fine without high winds	Other

21/09/04 16:09:00	25/09/04 08:01:00	10/10/04 18:20:00	14/10/04 18:12:00
Slight	Slight	Slight	Slight
511708	511904	511548	510071
105804	104319	104537	105748
A27 JUNCTION IVYDORE AVENUE, DURRINGTON.	A259 ROUNDABOUT JUNCTION A2032 LITTLEHAMPTON ROAD, WORTHING	COLUMBIA DRIVE JUNCTION WILLOW CRESCENT, WORTHING.	A27 JUNCTION A280 GORING, WORTHING.
V1 TRAVELLING EAST. V2 TRAVELLING WEST. V3 STATIONARY AT JUNCTION IN IVYDORE AVENUE. V1 TURNED RIGHT INTO IVYDORE AVENUE ACROSS PATH V2. V1 COLLIDED V2. V1 AND V2 COLLIDED V3.	V2 (M/C) STATIONARY AT ROUNDABOUT FACING EAST, V1 IN QUEUE DROVE FORWARD UNAWARE V2 HAD STOPPED CAUSING RIDER V2 TO FALL OFF.	V1 INTENDING TO TURN RIGHT ENTERS CENTRAL RESERVATION AND FAILS TO SEE V2 TRAVELLING EAST AND PULLS INTO PATH OF V2.	V1 TRAVELLING EAST ON DUAL CARRIAGE, OVERTAKING IN LANE 2 AND LOST CONTROL AS OFFSIDE WHEEL ENTERED CENTRAL RESERVATION, VEHICLE LEFT CARRIAGEWAY NEARSIDE COMING TO STOP IN SCRUBLAND.
Fine without high winds	Raining without high winds	Raining without high winds	Fine without high winds

19/10/04 12:45:00	26/10/04 20:12:00	29/10/04 10:42:00	30/10/04 16:35:00
Slight	Serious	Serious	Slight
512035	510998	509174	510876
103601	104261	105561	104120
THE BOULEVARD 22M NORTH OF JUNCTION NELSON ROAD, WORTHING	WHITEBEAM ROAD, DURRINGTON.	A27 ON SLIP, APPROX 100M EAST OF THE JUNCTION A280 LONG FURLONG, PATCHING	YEOMAN ROAD OUTSIDE SOUTHERN WATER, DURRINGTON.
V1 TRAVELLING BEHIND V2 WITH V3 BEHIND V1. V2 BRAKES SUDDENLY AND V1 FAILS TO SLOW IN TIME AND COLLIDES REAR OF V2. V3 COLLIDES V1.	V1 TRAVELLING SOUTH. STRUCK PEDESTRIAN WHO RAN INTO ROAD FROM OFFSIDE.	V1 (M/C) TRAVELLING EAST OVERTOOK A SLOWER VEHICLE ON THE SLIP ROAD, RIDER LOST CONTROL, DROPPED MOTORCYCLE. RIDER SLID ACROSS ROAD AND COLLIDED SOUTHERN BARRIER.	V2 AND V3 STOPPED IN ROW OF CARS. V1 FAILED TO STOP AND DROVE INTO REAR OF V2 PUSHING IT INTO REAR OF V3.
Fine without high winds	Fine without high winds	Fine without high winds	Fine without high winds

05/11/04 14:36:00	05/11/04 16:00:00	11/11/04 13:29:00	06/12/04 17:15:00
Slight	Slight	Slight	Slight
510807	511253	509153	511073
105669	104586	105415	103923
A27 WESTBOUND 100M WEST COACH AND HORSES PH, WORTHING	COLUMBIA DRIVE, DURRINGTON, WORTHING ROUNDABOUT JUNCTION DURRINGTON LANE.	TITNORE LANE ROUNDABOUT, JUNCTION A27 OFF SLIP, ANGMERING.	LITTLEHAMPTON ROAD, WORTHING.
V1 TRAVELLING WEST NEARSIDE LANE TURNED RIGHT ACROSS LANE 2 INTO PATH V2. V1 COLLIDED V2.	V2 (PEDAL CYCLE) INTENDING TO TRAVEL NORTH ACROSS ROUNDABOUT STRUCK BY V1 TURNING LEFT ON THE ROUNDABOUT.	V2 TRAVELLING CLOCKWISE AROUND ROUNDABOUT AT TOP OF TITNORE LANE. V1 TRAVELLING WEST A27 OFF SLIP PULLED OUT ONTO ROUNDABOUT WITHOUT GIVING WAY AND COLLIDED NEARSIDE V2 CAUSING V2 TO BE PUSHED INTO ROAD SIGN.	V2 TRAVELLING WEST WAITING TO ENTER ROUNDABOUT STRUCK IN REAR BY FOLLOWING V1.
Fine without high winds	Fine without high winds	Fine without high winds	Fine without high winds

11/12/04 07:40:00	13/12/04 16:38:00	27/12/04 21:30:00	28/12/04 14:15:00
Slight	Slight	Slight	Slight
511984	510453	512166	511966
105776	103703	105213	104346
ARUNDEL ROAD JUNCTION DURRINGTON HILL.	GORING CROSSWAYS A2032 WORTHING	OUTSIDE 119 SALVINGTON ROAD JUNCTION EXMOOR DRIVE. WORTHING.	DURRINGTON LANE ROUNDABOUT JUNCTION LITTLEHAMPTON ROAD A2032, DURRINGTON.
V2 (M/C) TRAVELLING WEST ARUNDEL ROAD STRUCK BY V1 EMERGING FROM DURRINGTON HILL.	V1 TRAVELLING WEST ON A2032 APPROACHED ROUNDABOUT SUDDENLY SAW CAR IN FRONT, APPLIED BRAKES SHARPLY SKIDDED AND HIT V2 WHICH IN TURN HIT V3.	V1 TRAVELLING SOUTH EXMOOR DRIVE TOWARDS JUNCTION SALVINGTON ROAD. ON APPROACHING JUNCTION OVERSHOT AND STRUCK WALL AND PARKED V2 IN DRIVE WAY OF HOUSE.	V1 AND V2 (PEDAL CYCLE) TRAVELLING SOUTH. V2 STATIONARY ON NEARSIDE V1. AS VEHICLES MOVED OFF V2 CARRIED STRAIGHT ACROSS. V1 TURNED LEFT AND COLLIDED V2. RIDER FELL OFF.
Fine without high winds	Fine without high winds	Raining without high winds	Fine without high winds

WEST DURRINGTON 2004 JUN - END DEC

Date and Time	12/06/04 11:20:00	01/07/04 16:52:00	24/07/04 12:24:00
Severity of Crash	Slight	Slight	Slight
Easting	509103	510304	510448
Northing	105396	104494	103714
Description of Location	A27 ROUNDABOUT JUNCTION A280, WORTHING	TITNORE LANE JUNCTION TITNORE WAY. WORTHING.	A259 LITTLEHAMPTON ROAD (WEST BOUND) 40M WEST FROM ROUNDABOUT (NORTHBROOK COLLEGE), WORTHING.
Description of Crash	V1 TRAVELLING SOUTH NEGOTIATING ROUNDABOUT TO TURN WEST ONTO THE A27 OVERTURNED.	V1 STATIONARY AT TITNORE LANE WAITING TO TURN RIGHT. V2 TRAVELLING SOUTH TITNORE LANE. V1 PULLS OUT INTO PATH V2.	V1 APPROACHING ROUNDABOUT - ON LEAVING THE ROUNDABOUT V1 SKIDDED AND SPUN - COLLIDING WITH GRASS BANK.
Weather Conditions	Fine without high winds	Fine without high winds	Raining without high winds

03/08/04 16:44:00	05/08/04 10:15:00	10/08/04 20:03:00	19/08/04 15:45:00
Slight	Serious	Slight	Serious
511817	511914	511040	510312
104462	104977	105727	103703
BARNET WAY, DURRINGTON	DURRINGTON LANE JUNCTION GREENLAND ROAD, WORTHING.	A27 100M EAST, GORING.	A259 LANE1 EASTBOUND ON APPROACH TO JUNCTION A2700, GORING.
V2 (PEDAL CYCLE) TRAVELLING ALONG PAVEMENT, V1 TRAVELLING ALONG PEDESTRIAN ONLY WALKWAY TOWARDS BLIND CORNER, VEHICLES MEET HEAD ON, RIDER V2 KNOCKED OFF CYCLE.	V2 TRAVELLING NORTH DURRINGTON LANE STARTED A RIGHT HAND TURN INTO GREENLAND ROAD. V1 ALSO TRAVELLING NORTH OVERTOOK V2 AS IT TURNED. V1 COLLIDED V2.	V1 TURNED RIGHT FROM WESTBOUND TO EASTBOUND CARRIAGEWAY PULLED OUT INTO PATH V2.	V2 (PEDAL CYCLIST) CYCLING NEAR TO KERB IN LANE1 TOWARDS ROUNDABOUT EASTBOUND A259. V1 OVERTAKES V2, NEARSIDE WING MIRROR STRIKES RIDER V2 CAUSING RIDER TO FALL OFF CYCLE.
Unknown	Fine without high winds	Fine without high winds	Fine without high winds

21/08/04 18:16:00	27/08/04 02:34:00	05/09/04 16:41:00	12/09/04 09:52:00
Fatal	Slight	Slight	Slight
509651	511913	511005	511047
103576	104583	103925	104332
A259 LITTLEHAMPTON ROAD EASTBOUND CARRIAGEWAY ALMOST OPPOSITE JUNCTION WITH ANCREN CLOSE, FERRING	DURRINGTON LANE ROUNDABOUT JUNCTION COLUMBIA DRIVE, WORTHING.	YEOMAN ROAD JUNCTION LITTLEHAMPTON ROAD. WORTHING.	ROMANY ROAD, SOUTHBOUND AT JUNCTION WALNUT TREE WAY, WORTHING.
V2 TRAVELLING EAST N LANE TWO OF DUAL CARRIAGEWAY WHEN PEDESTRIAN STEPPED INTO ITS PATH FROM CENTRAL RESERVATION. V2 STRUCK PEDESTRIAN CAUSING FATAL INJURY.	V1 LEFT ROAD AT SPEED CROSSING FRONT GARDEN OF NUMBER 32 AND INTO WALL.	V2 (PEDAL CYCLE) STATIONARY AT ROUNDABOUT WAITING FOR TRAFFIC TO CLEAR, STRUCK IN REAR BY FOLLOWING V1.	V3 TRAVELLING SOUTH ROMANY ROAD, INDICATED AND SLOWED TO TURN RIGHT, V2 BRAKED LATE AND SKIDDED INTO REAR OF V3, V1 ALSO BRAKED LATE AND SKIDDED INTO REAR OF V2.
Fine without high winds	Fine without high winds	Fine without high winds	Other

21/09/04 16:09:00	25/09/04 08:01:00	10/10/04 18:20:00	14/10/04 18:12:00
Slight	Slight	Slight	Slight
511708	511904	511548	510071
105804	104319	104537	105748
A27 JUNCTION IVYDORE AVENUE, DURRINGTON.	A259 ROUNDABOUT JUNCTION A2032 LITTLEHAMPTON ROAD, WORTHING	COLUMBIA DRIVE JUNCTION WILLOW CRESCENT, WORTHING.	A27 JUNCTION A280 GORING, WORTHING.
V1 TRAVELLING EAST. V2 TRAVELLING WEST. V3 STATIONARY AT JUNCTION IN IVYDORE AVENUE. V1 TURNED RIGHT INTO IVYDORE AVENUE ACROSS PATH V2. V1 COLLIDED V2. V1 AND V2 COLLIDED V3.	V2 (M/C) STATIONARY AT ROUNDABOUT FACING EAST, V1 IN QUEUE DROVE FORWARD UNAWARE V2 HAD STOPPED CAUSING RIDER V2 TO FALL OFF.	V1 INTENDING TO TURN RIGHT ENTERS CENTRAL RESERVATION AND FAILS TO SEE V2 TRAVELLING EAST AND PULLS INTO PATH OF V2.	V1 TRAVELLING EAST ON DUAL CARRIAGE, OVERTAKING IN LANE 2 AND LOST CONTROL AS OFFSIDE WHEEL ENTERED CENTRAL RESERVATION, VEHICLE LEFT CARRIAGEWAY NEARSIDE COMING TO STOP IN SCRUBLAND.
Fine without high winds	Raining without high winds	Raining without high winds	Fine without high winds

19/10/04 12:45:00	26/10/04 20:12:00	29/10/04 10:42:00	30/10/04 16:35:00
Slight	Serious	Serious	Slight
512035	510998	509174	510876
103601	104261	105561	104120
THE BOULEVARD 22M NORTH OF JUNCTION NELSON ROAD, WORTHING	WHITEBEAM ROAD, DURRINGTON.	A27 ON SLIP, APPROX 100M EAST OF THE JUNCTION A280 LONG FURLONG, PATCHING	YEOMAN ROAD OUTSIDE SOUTHERN WATER, DURRINGTON.
V1 TRAVELLING BEHIND V2 WITH V3 BEHIND V1. V2 BRAKES SUDDENLY AND V1 FAILS TO SLOW IN TIME AND COLLIDES REAR OF V2. V3 COLLIDES V1.	V1 TRAVELLING SOUTH. STRUCK PEDESTRIAN WHO RAN INTO ROAD FROM OFFSIDE.	V1 (M/C) TRAVELLING EAST OVERTOOK A SLOWER VEHICLE ON THE SLIP ROAD, RIDER LOST CONTROL, DROPPED MOTORCYCLE. RIDER SLID ACROSS ROAD AND COLLIDED SOUTHERN BARRIER.	V2 AND V3 STOPPED IN ROW OF CARS. V1 FAILED TO STOP AND DROVE INTO REAR OF V2 PUSHING IT INTO REAR OF V3.
Fine without high winds	Fine without high winds	Fine without high winds	Fine without high winds

05/11/04 14:36:00	05/11/04 16:00:00	11/11/04 13:29:00	06/12/04 17:15:00
Slight	Slight	Slight	Slight
510807	511253	509153	511073
105669	104586	105415	103923
A27 WESTBOUND 100M WEST COACH AND HORSES PH, WORTHING	COLUMBIA DRIVE, DURRINGTON, WORTHING ROUNDABOUT JUNCTION DURRINGTON LANE.	TITNORE LANE ROUNDABOUT, JUNCTION A27 OFF SLIP, ANGMERING.	LITTLEHAMPTON ROAD, WORTHING.
V1 TRAVELLING WEST NEARSIDE LANE TURNED RIGHT ACROSS LANE 2 INTO PATH V2. V1 COLLIDED V2.	V2 (PEDAL CYCLE) INTENDING TO TRAVEL NORTH ACROSS ROUNDABOUT STRUCK BY V1 TURNING LEFT ON THE ROUNDABOUT.	V2 TRAVELLING CLOCKWISE AROUND ROUNDABOUT AT TOP OF TITNORE LANE. V1 TRAVELLING WEST A27 OFF SLIP PULLED OUT ONTO ROUNDABOUT WITHOUT GIVING WAY AND COLLIDED NEARSIDE V2 CAUSING V2 TO BE PUSHED INTO ROAD SIGN.	V2 TRAVELLING WEST WAITING TO ENTER ROUNDABOUT STRUCK IN REAR BY FOLLOWING V1.
Fine without high winds	Fine without high winds	Fine without high winds	Fine without high winds

11/12/04 07:40:00	13/12/04 16:38:00	27/12/04 21:30:00	28/12/04 14:15:00
Slight	Slight	Slight	Slight
511984	510453	512166	511966
105776	103703	105213	104346
ARUNDEL ROAD JUNCTION DURRINGTON HILL.	GORING CROSSWAYS A2032 WORTHING	OUTSIDE 119 SALVINGTON ROAD JUNCTION EXMOOR DRIVE. WORTHING.	DURRINGTON LANE ROUNDABOUT JUNCTION LITTLEHAMPTON ROAD A2032, DURRINGTON.
V2 (M/C) TRAVELLING WEST ARUNDEL ROAD STRUCK BY V1 EMERGING FROM DURRINGTON HILL.	V1 TRAVELLING WEST ON A2032 APPROACHED ROUNDABOUT SUDDENLY SAW CAR IN FRONT, APPLIED BRAKES SHARPLY SKIDDED AND HIT V2 WHICH IN TURN HIT V3.	V1 TRAVELLING SOUTH EXMOOR DRIVE TOWARDS JUNCTION SALVINGTON ROAD. ON APPROACHING JUNCTION OVERSHOT AND STRUCK WALL AND PARKED V2 IN DRIVE WAY OF HOUSE.	V1 AND V2 (PEDAL CYCLE) TRAVELLING SOUTH. V2 STATIONARY ON NEARSIDE V1. AS VEHICLES MOVED OFF V2 CARRIED STRAIGHT ACROSS. V1 TURNED LEFT AND COLLIDED V2. RIDER FELL OFF.
Fine without high winds	Fine without high winds	Raining without high winds	Fine without high winds

TITNORE LANE 2000-2004

Date and Time	17/05/00 08:28:00	11/07/00 13:25:00	17/07/00 16:08:00	16/12/00 07:35:00
Severity of Crash	Slight	Slight	Slight	Slight
Easting	509500	509200	510389	509924
Northing	105500	105400	103881	105209
Description of Location	TITNORE LANE 30M SOUTH JUNCTION A280.	TITNORE LANE 10M EAST JUNCTION A280.	TITNORE LANE 100M NORTH JUNCTION A259.	TITNORE LANE 1/4 SOUTH JUNCTION A280.
Description of Crash	V1 (M/C) TRAVELLING SOUTH, RIDER LOST CONTROL LEFT HAND BEND AND FELL OFF.	V2 EXITED ROUNDABOUT A280 INTO TITNORE LANE MET HEAD ON BY V1 TRAVELLING WEST WHICH FAILED TO COMPLY WITH KEEP LEFT BOLLARD.	V1 NEGOTIATING FARM ENTRANCE JUNCTION INDICATING RIGHT. V2 (M/C) TRAVELLING SOUTH TITNORE LANE. V1 PULLED OUT OF JUNCTION INTO PATH V2.	V1 APPROACHING LEFT HAND BEND LOST CONTROL ON MUDDY ROAD, CROSSED CARRIAGEWAY AND COLLIDED WITH V2 IN OPPOSITE DIRECTION.
Weather Conditions	Raining without high winds	Fine without high winds	Fine without high winds	Fine without high winds

12/02/01 09:25:00	15/02/01 14:20:00	10/03/01 23:01:00	31/03/01 17:00:00	08/12/01 22:25:00
Serious	Slight	Serious	Slight	Serious
509948	510300	510170	510348	510378
105174	103700	104900	103709	103745
TITNORE LANE 1/4 SOUTH JUNCTION A280.	TITNORE LANE JUNCTION ROUNDABOUT A259.	TITNORE LANE 1/4 MILE NORTH JUNCTION TITNORE WAY.	TITNORE LANE ROUNDABOUT A259.	TITNORE LANE 10M NORTH JUNCTION ROUNDABOUT A259.
V1 TRAVELLING SOUTH, V2 NORTH. V1 ENTERED RIGHT HAND BEND THEN LEFT HAND BEND, DRIVER LOST CONTROL WENT INTO NORTH BOUND CARRIAGEWAY AND STRUCK ONCOMING V2.	V2 STATIONARY AT ROUNDABOUT STRUCK IN REAR BY FOLLOWING V1.	V1 TRAVELLING NORTH NEGOTIATING SET OF BENDS, DRIVER LOST CONTROL AND STRUCK TREE.	V2 (PEDAL CYCLE) TRAVELLING ON ROUNDABOUT FROM GORING STREET TOWARDS TITNORE LANE STRUCK BY V1 TRAVELLING EAST ON A259.	V2 TRAVELLING SOUTH TITNORE LANE APPROACHING ROUNDABOUT. V1 ENTERING TITNORE LANE FROM A259, DRIVER LOST CONTROL STRUCK ONCOMING V2.
Fine without high winds	Fine without high winds	Fine without high winds	Fine without high winds	Fine without high winds

11/10/02 05:08:00	07/02/03 21:50:00	23/07/03 14:20:00	11/08/03 07:40:00	14/08/03 23:56:00
Slight	Slight	Slight	Slight	Slight
510397	509237	510298	510119	510304
104513	105435	104497	105000	104495
TITNORE LANE JUNCTION TITNORE WAY.	TITNORE LANE, CLAPHAM.	TITNORE LANE JUNCTION TITNORE WAY.	TITNORE LANE OPPOSITE SOUTH LODGE.	TITNORE LANE JUNCTION TITNORE WAY.
V1 TRAVELLING SOUTH , AS DRIVER APPROACHED JUNCTION TITNORE WAY DRIVER FOR U/K REASON LOST CONTROL AND WENT ACROSS C/WAY COLLIDED WITH TREE.	V1 (AFTER TURNING ROUND) DROVE ON THE WRONG SIDE OF THE ROAD AND COLLIDED HEAD-ON WITH V2	DRIVER V1 APPLIED BRAKES DUE TO VEHICLE IN FRONT SLOWING. AS HE DID SO BRAKE MALFUNCTION, VEHICLE WENT INTO DITCH.	V1 TRAVELLING SOUTH CLIPPED KERB AND LEFT CARRIAGEWAY ON OFFSIDE.	V2 TRAV SOUTH, V1 TRAVELLING NORTH. V1 TURNS RIGHT IN FRONT OF V2. V2 HITS V1
Fine without high winds	Fine without high winds	Raining without high winds	Fine without high winds	Fine without high winds

28/08/03 18:10:00	01/09/03 12:10:00	25/09/03 17:59:00	26/10/03 07:50:00	09/01/04 12:20:00
Slight	Slight	Slight	Slight	Slight
509200	510263	510297	510353	510298
105370	104652	104518	103721	104494
TITNORE LANE 15M SOUTH JUNCTION A280.	TITNORE LANE 150M SOUTH JUNCTION A27.	TITNORE LANE 1/2 MILE NORTH JUNCTION TITNORE WAY.	TITNORE LANE ROUNDABOUT JUNCTION A27.	TITNORE LANE JUNCTION TITNORE WAY.
V1 (M/C) TRAVELLING NORTH TITNORE LANE RIDER LOST CONTROL ON RIGHT HAND BEND HIT KERB AND HEDGE.	V1 TRAVELLING SOUTH, V2 NORTH. AS VEHICLES PASSED WING MIRRORS HIT CAUSING SLIGHT INJURY TO FACE OF ONE DRIVER.	V1 TRAVELLING SOUTH, DRIVER LOST CONTROL ON RIGHT HAND BEND LEFT CARRIAGEWAY TO NEARSIDE.	V2 APPROACH ROUNDABOUT WHICH WAS CLEAR. MOVED FORWARD TO ENTER WHEN V2 BROKE DOWN CAUSING IT TO STOP. V1 FOLLOWING WENT INTO REAR V2.	V3 WAITING TO TURN RIGHT V2 BEHIND. V1 RAN INTO REAR OF V2 PUSHING IT INTO V3
Fine without high winds	Fine without high winds	Fine without high winds	Fine without high winds	Fine without high winds

13/01/04 20:57:00	17/02/04 16:47:00	01/07/04 16:52:00	11/11/04 13:29:00
Slight	Slight	Slight	Slight
510119	509079	510304	509153
105016	105355	104494	105415
TITNORE LANE OPPOSITE SOUTH LODGE, 150M NORTH JUNCTION TITNORE WAY.	A280 WATER LANE AT ITS EXIT JUNCTION TITNORE LANE.	TITNORE LANE JUNCTION TITNORE WAY.	TITNORE LANE ROUNDABOUT JUNCTION A27 OFF SLIP.
V1 TRAVELLING SOUTH TITNOR LANE, DRIVER LOST CONTROL ON BEND AND TURNED OVER.	V1 (M/C) TRAVELLING EAST ALONG A27 CAME OFF A27 TITNORE INTERCHANGE, TO MAKE RIGHT TURN INTO WATER LANE, AS M/C LEFT RIGHT HAND LANE TRAVELLING TOO FAST, M/C BRAKED COLLIDING WITH KERB.	V1 STATIONARY TITNORE WAY WAITING TO TURN RIGHT. V2 TRAVELLING SOUTH TITNORE LANE. V1 PULLS OUT INTO PATH V2.	V2 TRAVELLING CLOCKWISE AROUND ROUNDABOUT AT TOP OF TITNORE LANE. V1 TRAVELLING WEST A27 OFF SLIP PULLED OUT ONTO ROUNDABOUT WITHOUT GIVING WAY AND COLLIDED V2 CAUSING V2 TO BE PUSHED INTO ROAD SIGN.
Raining without high winds	Fine with high winds	Fine without high winds	Fine without high winds

TITNORE LANE 2005/2006

Date/Time	01/Apr/05 16:45:00	13/Jun/05 17:53:00	03/Oct/05 16:30:00
Collision Type	Slight	Slight	Slight
Eastings	510400	510093	509726
Northings	103700	105060	105347
Road Name or Location	TITNORE LANE	TITNORE LANE	TITNORE LANE
Collision Details	V2 STOPPED AT RA WAITING TO GO AHEAD. V1 COLLIDED REAR V2 CAUSING DAMAGE AND INJURY.	V1 (PEDAL CYCLE) SWERVED INTO PATH OF V2 CAUSING RIDER OF V1 TO FALL FROM CYCLE AND SUSTAIN FRACTURE TO RIGHT ARM.	V3 TRAVELLING NORTH ALONG TITNORE LANE. V2 TRAVELLING SOUTH ON TITNORE LANE SLOWS TO A STOP TO TURN RIGHT (WEST) INTO FARM TRACK, V1 ALSO TRAVELLING SOUTH BEHIND V2, FAILS TO STOP IN TIME COLLIDES WITH V2 PUSHING IT INTO THE PATH OF V 3 WHICH COLLIDES WITH IT.
Weather	Fine without high winds	Fine without high winds	Fine without high winds

02/Jun/06 12:08:00	21/Aug/06 12:58:00	30/Oct/06 17:17:00
Serious	Serious	Slight
509720	510375	510299
105349	103743	104499
TITNORE LANE	TITNORE LANE	TITNORE LANE
V1 TRAVELLING SE TO NW ROUNDED LEFT HAND BEND OVER A BLIND CREST TO SEE V2 STOPPED IN THE ROAD IN IN THEIR PATH. V2 HAD PULLED OUT OF A DIRT TRACK AND WAS HALF WAY ACROSS THE ROAD WAITING FOR TRAFFIC TO CLEAR FROM THE LEFT BEFORE COMPLETING A RIGHT TURN. V1 RAN INTO O/S OF V2	V2 SOUTHBOUND IN TITNORE LANE TO ABOVE JUNCTION. V1 EASTBOUND ON A259 TURNED LEFT INTO TITNORE LANE AND ENTERED ONCOMING LANE COLLIDING WITH OFF SIDE OF V2.	V1 TRAVELLING NORTH TO SOUTH BEHIND TWO OTHER VEHICLES (3 & 4 - NO DETAILS). V2 WAS WAITING TO TURN RIGHT AT TITNORE WAY JUNC TITNORE LANE. V3 & 4 SLOWED TO ALLOW V3 TO TURN LEFT INTO TITNORE WAY. V1 OVERTOOK VEH'S 3 & 4 AND COLLIDED WITH V2 WHICH HAD PULLED OUT FROM JUNCTION TO HEAD NORTH IN TITNORE LANE.
Fine without high winds	Fine without high winds	Raining without high winds

Appendix 3.5 – COBA Data and Calculations

JUNCTION ACCIDENTS (BASE TRAFFIC)

Junction	Junction Type	No. of Arms	Highest Link	Formula Type	Junction Type	Coeff a	Power b	Main Flow	Main Flow (/1000	Minor	Minor Flow	f	A
A280 Arundel Road / A27 Patching Roundabout	Roundabout (Standard)	4	D	C	55	0.063	0.69	18144	18	7161	7	130	1.81
Titnore Lane / A27 Patching Roundabout	Roundabout (Standard)	4	D	C	55	0.063	0.69	20360	20	8228	8	168	2.16
Titnore Lane / Titnore Way	Priority	3	S	C	1	0.195	0.46	9724	10	2242	2	22	0.80
Littlehampton Road / Titnore Lane	Roundabout (Standard)	4	D	C	55	0.063	0.69	32194	32	18282	18	589	5.13
Littlehampton Road / Yeoman Road	Roundabout (Standard)	4	D	C	55	0.063	0.69	26379	26	13498	13	356	3.63
Littlehampton Road / The Boulevard / Durrington Lane	Roundabout (Standard)	4	D	C	55	0.063	0.69	28314	28	24910	25	705	5.82
Durrington Lane / Columbia Drive	Roundabout (Standard)	3	S	C	50	0.033	0.76	17674	18	5009	5	89	1.00
Durrington Lane / New Road / Salvington Road	Roundabout (Standard)	4	S	C	54	0.048	0.74	9554	10	7363	7	70	1.12
Titnore Way / Romany Road / Fulbeck	Roundabout (Standard)	3	S	C	50	0.033	0.76	5066	5	726	1	4	0.09
Romany Road / Yeoman Road	Roundabout (Standard)	3	S	C	50	0.033	0.76	13059	13	4949	5	65	0.78
Romany Road / Columbia Drive	Roundabout (Standard)	3	S	C	50	0.033	0.76	12608	13	4996	5	63	0.77
Romany Road / New Road / Tasman Way / District Centre	Roundabout (Standard)	4	S	C	54	0.048	0.74	11189	11	5141	5	58	0.96
													24.07

LINK ACCIDENTS

Link	Length (km)	Two-Way AADT	Two-Way AAYT	mvkm	Base Year (2000) pia/mvkm	Beta Value	A_N	A
Titnore Lane (A27 to Titnore Way)	1.56	10673	3895613	6.07	0.102	0.973	0.084	0.511
Titnore Lane (Titnore Way to Littlehampton Road)	0.61	8978	3276974	2.00	0.174	0.973	0.144	0.287
Littlehampton Road (Titnore Lane to Yeoman Road)	0.50	27711	#######	5.08	0.119	0.973	0.098	0.499
Littlehampton Road (Yeoman Road to Durrington Lane)	0.83	25594	9341955	7.77	0.119	0.973	0.098	0.764
Durrington Lane (Littlehampton Road to Columbia Drive)	0.06	22023	8038246	0.51	0.297	0.984	0.265	0.134
Durrington Lane (Columbia Drive to New Road)	0.44	12868	4696952	2.09	0.297	0.984	0.265	0.553
Titnore Way	0.07	4385	1600362	0.12	0.297	0.984	0.265	0.031
Romany Road (Titnore Way to Yeoman Road)	0.32	7729	2821041	0.91	0.297	0.984	0.265	0.242
Romany Road (Yeoman Road to Columbia Drive)	0.39	11584	4228236	1.63	0.297	0.984	0.265	0.433
Romany Road (Columbia Drive to New Road)	0.07	13764	5023856	0.37	0.297	0.984	0.265	0.099
New Road	0.70	9144	3337404	2.35	0.297	0.984	0.265	0.623
Columbia Drive	0.45	9683	3534384	1.59	0.297	0.984	0.265	0.422
Yeoman Road	0.10	14440	5270622	0.54	0.297	0.984	0.265	0.143
								4.741

86.44257 111 24.55743

0.28409

JUNCTION ACCIDENTS (WITH DEVELOPMENT TRAFFIC)

Junction	Junction Type	No. of Arms	Highest Link	Formula Type	Junction Type	Coeff a	Power b	Main Flow	Main Flow (/1000	Minor	Minor Flow	f	A
A280 Arundel Road / A27 Patching Roundabout	Roundabout (Standard)	4	D	C	55	0.063	0.69	18654	19	7279	7	136	1.87
Titnore Lane / A27 Patching Roundabout	Roundabout (Standard)	4	D	C	55	0.063	0.69	20701	21	8692	9	180	2.27
Titnore Lane / Titnore Way	Priority	3	S	C	1	0.195	0.46	10308	10	2447	2	25	0.86
Littlehampton Road / Titnore Lane	Roundabout (Standard)	4	D	C	55	0.063	0.69	32509	33	18832	19	612	5.28
Littlehampton Road / Yeoman Road	Roundabout (Standard)	4	D	C	55	0.063	0.69	26798	27	14849	15	398	3.92
Littlehampton Road / The Boulevard / Durrington Lane	Roundabout (Standard)	4	D	C	55	0.063	0.69	29174	29	25638	26	748	6.06
Durrington Lane / Columbia Drive	Roundabout (Standard)	3	S	C	50	0.033	0.76	18463	18	5821	6	107	1.15
Durrington Lane / New Road / Salvington Road	Roundabout (Standard)	4	S	C	54	0.048	0.74	9872	10	7690	8	76	1.18
Titnore Way / Romany Road / Fulbeck	Roundabout (Standard)	3	S	C	50	0.033	0.76	6781	7	2464	2	17	0.28
Romany Road / Yeoman Road	Roundabout (Standard)	3	S	C	50	0.033	0.76	14680	15	6525	7	96	1.06
Romany Road / Columbia Drive	Roundabout (Standard)	3	S	C	50	0.033	0.76	13960	14	5734	6	80	0.92
Romany Road / New Road / Tasman Way / District Centre	Roundabout (Standard)	4	S	C	54	0.048	0.74	11949	12	5436	5	65	1.05
New Site Access	Priority	3	S	C	1	0.195	0.46	11258	11	546	1	6	0.45

LINK ACCIDENTS

Link	Length (km)	Two-Way AADT	Two-Way AAYT	mvkm	Base Year (2000) pia/mvkm	Beta Value	A_N	A
Titnore Lane (A27 to Titnore Way)	1.56	11101	4051780	6.32	0.102	0.973	0.084	0.532
Titnore Lane (Titnore Way to Littlehampton Road)	0.61	9728	3550571	2.17	0.174	0.973	0.144	0.311
Littlehampton Road (Titnore Lane to Yeoman Road)	0.50	27827	#######	5.10	0.119	0.973	0.098	0.501
Littlehampton Road (Yeoman Road to Durrington Lane)	0.83	26188	9558623	7.95	0.119	0.973	0.098	0.781
Durrington Lane (Littlehampton Road to Columbia Drive)	0.06	23269	8493234	0.54	0.297	0.984	0.265	0.142
Durrington Lane (Columbia Drive to New Road)	0.44	12984	4739209	2.10	0.297	0.984	0.265	0.558
Titnore Way	0.07	4759	1737091	0.13	0.297	0.984	0.265	0.034
Romany Road (Titnore Way to Yeoman Road)	0.32	10837	3955528	1.28	0.297	0.984	0.265	0.339
Romany Road (Yeoman Road to Columbia Drive)	0.39	13341	4869459	1.88	0.297	0.984	0.265	0.499
Romany Road (Columbia Drive to New Road)	0.07	14690	5361834	0.40	0.297	0.984	0.265	0.105
New Road	0.70	9747	3557805	2.50	0.297	0.984	0.265	0.664
Columbia Drive	0.45	11181	4081054	1.84	0.297	0.984	0.265	0.487
Yeoman Road	0.10	15969	5828607	0.59	0.297	0.984	0.265	0.158
								5.112

15.33588 111 95.66412

6.23793

4. THE VALUATION OF ACCIDENTS ON LINKS

4.1 The COBA user has to decide whether to code junction accidents separately from link accidents. 'Combined' accident rates and costs attribute all accidents to links. The 'link-only' rates and costs exclude junction accidents (that is, those occurring within 20 metres of a junction) and so both default and local 'link-only' accident rates are lower than the 'combined' rates for a particular link. Accidents at junctions are then modelled separately (see Part 2 Chapter 5). The preferred method of evaluating accidents is to separate link and junction accidents, using local accident data to define the 'Do-Minimum' rates and the default rates for new links and junctions in the 'Do-Something'. However, 'Combined' accident rates and costs should be selected in COBA when:

i) local data for the 'Do-Minimum' are not available;
ii) local data have already been collected in 'combined' form and resources to disaggregate the data are not available; or,
iii) a large network is being used and 'accident-only' nodes would be difficult to identify.

4.2 Accident rates and severities have been falling steadily over time and the trend is expected to continue in the future. The Government has also announced National Casualty Reduction targets and the methodology and parameters in COBA are consistent with those targets.

4.3 Local data can be obtained from the appropriate police or local authority and should relate to a period when conditions on the road have been broadly unchanged (for example, no abnormal changes in traffic flow, no changes in junction design or road geometry, etc). Local data should normally cover the five years previous to the COBA assessment and must cover at least three years. The number of accidents in each year must be input, including zero for those links or years where no accidents occurred, and COBA will then internally produce a local accident rate (accidents per million vehicle kilometres) for each link.

4.4 For existing links where local accident data are not available and for new links, the program will use the default accident rates shown in Table 4/1, they are based on data from 1999-2001. There are fifteen accident types relating to the type of road which are further subdivided by speed limit. In the following tables many cells in the table are at present identical; when available data permit separate rates to be calculated users will be advised. The "Modern", "Older" and "Other" link descriptions used in the tables are defined as:

"Modern" roads designed and built to geometric standards relevant post 1980,
"Older" the majority of the major road network which was not built to recent standards. For single carriageways this description refers to 'A' roads only, and
"Other" 'B', 'C' and 'unclassified' single carriageway links.

4.5 The declining trend in accident rates was examined in TRL Report 382 and at a more disaggregate level in later work undertaken for the DETR. It was found that the changes in accident rates and the number of severities per accident are explained by the relationship:

$$A_N = A_0 \times \beta^N$$

Where: A_N = the accident rate or number of casualties per accident N years after base year;

A_0 = the accident rate or number of casualties per accident in the base year;

β^N = change coefficient raised to the power N (the number of years after the base year).

4.6 The values for the accident rate change coefficient β incorporated in the COBA program for the different link accident types are given in Table 4/1. They are the same for 'Link Only' and 'Link and Junction Combined' analyses and should be applied from any year from 1995 until year 2010. Between 2011 and 2020 and 2021 and 2030 the accident rate change is assumed to be one half and one quarter respectively of

the 1995 to 2010 reduction. For example, if the coefficient β is 0.9 for 1995 to 2010 then it is 0.95 for 2011 to 2020 (or [1 + β]/2). Zero change is assumed post 2030.

LINK ONLY (2000 Base)					
ACCIDENT TYPE	**ROAD TYPE**	**Accident Rate (Pia/mvkm)**		**β**	
1	D2 Motorway	0.089 *		1.001	
2	D3 Motorway	0.089 *		1.001	
3	D4 Motorway	0.089 *		1.001	
		30/40 mph		**50/60/70 mph**	
		Pia/mvkm	**β**	**Pia/mvkm**	**β**
4	Modern S2 Roads	0.297	0.984	0.174	0.973
5	Modern S2 Roads with HS	0.297	0.984	0.138	0.973
6	Modern WS2 Roads	0.297	0.984	0.113	0.973
7	Modern WS2 Roads with HS	0.297	0.984	0.102	0.973
8	Older S2 A Roads	0.297	0.984	0.226	0.973
9	Other S2 Roads	0.297	0.983	0.297	0.998
10	Modern D2 Roads	0.295	0.984	0.119	0.973
11	Modern D2 Roads with HS	0.295	0.984	0.089	0.973
12	Older D2 Roads	0.295	0.984	0.154	0.973
13	Modern D3+ Roads	0.295	0.984	0.119	0.973
14	Modern D3+ Roads with HS	0.295	0.984	0.089	0.973
15	Older D3+ Roads	0.295	0.984	0.154	0.973
LINK AND JUNCTION COMBINED (2000 Base)					
ACCIDENT TYPE	**ROAD TYPE**	**Accident Rate (Pia/mvkm)**		**β**	
1	D2 Motorway	0.098 **		1.001	
2	D3 Motorway	0.098 **		1.001	
3	D4 Motorway	0.098 **		1.001	
		30/40 mph		**50/60/70 mph**	
		Pia/mvkm	**β**	**Pia/mvkm**	**β**
4	Modern S2 Roads	0.844	0.984	0.293	0.973
5	Modern S2 Roads with HS	0.844	0.984	0.232	0.973
6	Modern WS2 Roads	0.844	0.984	0.190	0.973
7	Modern WS2 Roads with HS	0.844	0.984	0.171	0.973
8	Older S2 A Roads	0.844	0.984	0.381	0.973
9	Other S2 Roads	0.844	0.983	0.404	0.998
10	Modern D2 Roads	1.004	0.984	0.174	0.973
11	Modern D2 Roads with HS	1.004	0.984	0.131	0.973
12	Older D2 Roads	1.004	0.984	0.226	0.973
13	Modern D3+ Roads	1.004	0.984	0.174	0.973
14	Modern D3+ Roads with HS	1.004	0.984	0.131	0.973
15	Older D3+ Roads	1.004	0.984	0.226	0.973

Notes: HS refers to the one metre wide hard strip provided both sides of the carriageway;
* this rate includes accidents at merge/diverge areas and on slip roads;
** this rate includes accidents at the ends of the slip roads, for example, at roundabout, traffic signals etc.

Table 4/1: Default Accident Rates and Accident Rate Reduction Factor (β) (personal injury accidents per million vehicle kilometres - 2000 Base)

4.7 Table 4/2 shows the severity split incorporated in COBA in terms of casualties per accident by link type based on data for 1999 - 2001.

LINK ONLY CASUALTIES (2000 Base)							
ACCIDENT TYPE	**ROAD TYPE**	**CASUALTIES PER P.I.A.**					
Casualty Severity		**Fatal (f)**		**Serious (se)**		**Slight (sl)**	
1 – 3	Motorways	0.0229		0.1591		1.467	
Speed Limit		**30/40 mph**			**> 40 mph**		
Casualty Severity		**f**	**se**	**sl**	**f**	**se**	**sl**
4 – 8	S2 A Roads	0.0137	0.1647	1.133	0.0577	0.3294	1.249
9	Other S2 Roads	0.0098	0.1605	1.063	0.0296	0.2634	1.216
10 - 15	Dual Carriageways	0.0143	0.1546	1.145	0.0314	0.2005	1.312
LINK AND JUNCTION COMBINED CASUALTIES (2000 Base)							
Casualty Severity		**Fatal (f)**		**Serious (se)**		**Slight (sl)**	
1 – 3	Motorways	0.0220		0.1520		1.462	
Speed Limit		**30/40 mph**			**> 40 mph**		
Casualty Severity		**f**	**se**	**sl**	**f**	**se**	**sl**
4 - 8	S2 A Roads	0.0092	0.1392	1.157	0.0436	0.2855	1.286
9	Other S2 Roads	0.0075	0.1379	1.124	0.0262	0.2513	1.245
10 - 15	Dual Carriageways	0.0093	0.1253	1.222	0.0286	0.1861	1.314

Table 4/2: Average Number of Casualties per Accident (2000 Base)

4.8 Table 4/3 gives the casualty rate reduction factors β for each link type incorporated in the COBA program. The changes are assumed to apply up to 2010 with zero change thereafter.

LINK ONLY Change Factors β							
ACCIDENT TYPE	**ROAD TYPE**	**ALL SPEED LIMITS**					
	Casualty Severity	**Fatal (f)**		**Serious (se)**		**Slight (sl)**	
1 – 3	Motorways	0.960		0.946		1.010	
Speed Limit (mph)		**30/40 mph**			**> 40 mph**		
Casualty Severity		**f**	**se**	**sl**	**f**	**se**	**sl**
4 - 8	S2 A Roads	0.959	0.965	1.011	0.994	0.979	1.003
9	Other S2 Roads	0.979	0.966	1.010	0.988	0.973	1.007
10 - 15	Dual Carriageways	0.949	0.965	1.013	0.947	0.967	1.007
LINK AND JUNCTION COMBINED Change Factors β							
ACCIDENT TYPE	**ROAD TYPE**	**ALL SPEED LIMITS**					
	Casualty Severity	**Fatal (f)**		**Serious (se)**		**Slight (sl)**	
1 – 3	Motorways	0.960		0.946		1.010	
Speed Limit (mph)		**30/40 mph**			**> 40 mph**		
Casualty Severity		**f**	**se**	**sl**	**f**	**se**	**sl**
4 - 8	S2 A Roads	0.954	0.964	1.010	0.988	0.975	1.005
9	Other S2 Roads	0.973	0.961	1.011	0.985	0.973	1.008
10 - 15	Dual Carriageways	0.956	0.958	1.012	0.949	0.961	1.007

Table 4/3: Casualties Per Accident Change Factors β.

4.9 Table 4/4 shows the accident costs incorporated in COBA by link type using the average 1999 - 2001 severity splits given in Table 4/2. The severity split and hence cost varies considerably by link type. Junction accidents are, on average, less severe than those attributable to links and therefore the 'combined' link and junction cost is lower than the 'link-only' average. Because the severity of accidents is expected to reduce over time the average accident costs change each year and the costs in the table are only attributable to the Base year of the data.

LINK ONLY COSTS (2000 Base)			
ACCIDENT TYPE	**ROAD TYPE**	**ACCIDENT COSTS (£)**	
1 -3	Motorways	88,330	
Speed Limit		**30/40 mph**	**50/60/70 mph**
4 - 8	S2 A Roads	79,560	152,070
9	Other S2 Roads	73,320	107,080
10 - 15	Dual Carriageways	79,020	101,450
LINK AND JUNCTION COMBINED COSTS (2000 Base)			
1 - 3	Motorways	86,130	
Speed Limit		**30/40 mph**	**50/60/70 mph**
4 - 8	S2 A Roads	70,560	128,540
9	Other S2 Roads	67,890	101,400
10 - 15	Dual Carriageways	69,420	95,910

Table 4/4: Average Cost per Injury Accident by Link Type (2000 Base)
(2002 values and prices)

5. THE VALUATION OF ACCIDENTS AT JUNCTIONS

5.1 COBA can estimate the numbers and costs of accidents at junctions and on links separately. This is the recommended method for COBA appraisal and should be used unless information on junction characteristics is lacking. All new junctions should be coded for accident appraisal, as should all existing junctions where there are significant forecast traffic flow changes and where accidents are likely to occur; junctions which are coded for accident but not traffic delay purposes are called 'accident-only nodes'. In the absence of local data on junction-attributable accidents COBA default values for junctions should be used.

5.2 COBA incorporates two models that relate accidents at junctions to given flow configurations. These allow forecasts of future accident numbers to be derived for existing and new junctions. For existing junctions, the use of local accident data is recommended, with default values being used in the absence of such data. The number of accidents occurring 'at' (that is within 20 metres of) each junction as recorded by the appropriate police or local authority should be used. Local data should normally cover the five years previous to the COBA assessment and must cover at least three years.

5.3 The models are of two types, both of the basic form:

$$A = a\,(f)^b,$$

where A is the annual number of accidents, f is a function of traffic flow and a and b vary among junction types. They have been estimated by reference to accidents and flows at existing junctions. The choice of function varies according to junction type as indicated in Table 5/1 which also shows the associated values of a and b.

5.4 In the Cross Product (C) model, (f) is the value produced by multiplying the combined inflow from the two major opposing links by the sum of the inflows on the other one or two minor links. Inflows are measured in thousands of vehicles per annual average day. In the inflow (I) model, (f) is the value of the total inflow from all links in thousands of vehicles per annual average day. Where the user inputs local accident numbers for existing junctions, the COBA program calculates a 'local' value for a, with b being fixed at the national value.

5.5 As with links, accident rates and their severity at junctions have been falling steadily over time and the trend is expected to continue in the future. The Government has also announced National Casualty Reduction targets and the methodology and parameters in COBA are consistent with those targets.

5.6 The classification of junctions for accident assessment distinguishes three broad categories, that is, major/minor, signals and roundabouts (subdivided into standard, small, mini and signalled). Major/minor junctions include staggered, standard priority, multiple, Y-junctions and cross-roads. Staggered junctions can be treated either as crossroads or as pairs of three-arm junctions. Normally, where the stagger is significant and the junction effectively operates as two T-junctions, it should be coded as two three-arm junctions. This also applies to the coding of junctions for delay purposes (see Part 6 paragraph 8.22).

Junction Type	No. of Arms	Highest Link Standard (Single or Dual)	Formula Type	NON BUILT-UP (Above 40 MPH)			BUILT-UP (UP to 40 MPH)		
				Junction Type	Coeff 'a'	Power 'b'	Junction Type	Coeff 'a'	Power 'b'
PRIORITY	3	S	C	1	0.195	0.460	2	0.195	0.460
	3	D	C	3	0.195	0.460	4	0.195	0.460
	4	S	I	5	0.361	0.440	6	0.361	0.440
	4	D	C	7	0.240	0.710	8	0.240	0.710
	5	S	I	9	0.361	0.440	10	0.361	0.440
	5	D	I	11	0.361	0.440	12	0.361	0.440
PRIORITY WITH GHOST ISLANDS	3	S	C	13	0.195	0.460	14	0.195	0.460
	3	D	C	15	0.195	0.460	16	0.195	0.460
	4	S	I	17	0.361	0.440	18	0.361	0.440
	4	D	C	19	0.240	0.710	20	0.240	0.710
	5	S	I	21	0.361	0.440	22	0.361	0.440
	5	D	I	23	0.361	0.440	24	0.361	0.440
PRIORITY WITH SINGLE LANE DUALLING	3	S	C	25	0.195	0.460	26	0.195	0.460
	3	D	C	27	0.195	0.460	28	0.195	0.460
	4	S	I	29	0.361	0.440	30	0.361	0.440
	4	D	C	31	0.240	0.710	32	0.240	0.710
	5	S	I	33	0.361	0.440	34	0.361	0.440
	5	D	I	35	0.361	0.440	36	0.361	0.440
SIGNALS	3	S	I	37	0.223	0.610	38	0.223	0.610
	3	D	C	39	0.494	0.420	40	0.291	0.510
	4	S	C	41	1.378	0.200	42	1.378	0.200
	4	D	C	43	0.494	0.420	44	0.291	0.510
	5/6	S	I	45	0.254	0.620	46	0.254	0.620
	5/6	D	I	47	0.238	0.850	48	0.160	0.970
ROUNDABOUTS – STANDARD	3	S	C	49	0.033	0.760	50	0.033	0.760
	3	D	C	51	0.033	0.760	52	0.033	0.760
	4	S	C	53	0.024	0.890	54	0.048	0.740
	4	D	C	55	0.063	0.690	56	0.022	0.850
	5/6	S	I	57	0.007	1.770	58	0.014	1.530
	5/6	D	I	59	0.019	1.420	60	0.006	1.730
- SMALL	3	S	C	61	0.033	0.760	62	0.033	0.760
	3	D	C	63	0.033	0.760	64	0.033	0.760
	4	S	C	65	0.101	0.660	66	0.263	0.540
	4	D	C	67	0.101	0.660	68	0.263	0.540
	5/6	S	I	69	0.044	1.280	70	0.095	1.140
	5/6	D	I	71	0.044	1.280	72	0.095	1.140
- MINI	3	S	C	73	0.012	1.040	74	0.012	1.040
	3	D	C	75	0.012	1.040	76	0.012	1.040
	4	S	C	77	0.070	0.640	78	0.070	0.640
	4	D	C	79	0.070	0.640	80	0.070	0.640
	5/6	S	I	81	0.013	1.470	82	0.013	1.470
	5/6	D	I	83	0.013	1.470	84	0.013	1.470
- SIGNALLED	3	S	C	85	0.033	0.760	86	0.033	0.760
	3	D	C	87	0.033	0.760	88	0.033	0.760
	4	S	C	89	0.024	0.890	90	0.048	0.740
	4	D	C	91	0.063	0.690	92	0.022	0.850
	5/6	S	I	93	0.007	1.770	94	0.014	1.530
	5/6	D	I	95	0.019	1.420	96	0.006	1.730

Table 5/1: Junction Accident Parameters – 1997 Base

5.7 As an example, imagine a rural 4-arm major/minor junction with inflows as shown in Figure 5/1 (AADT in '000s):

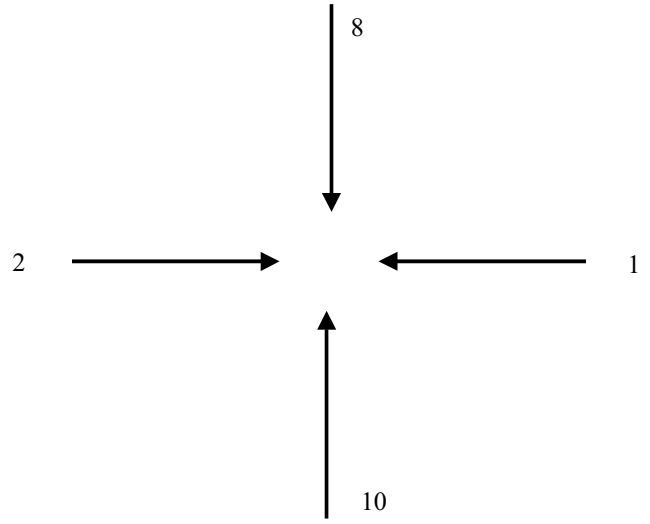

Figure 5/1: Example of 4-Arm Major Minor Junction

The major road in this case is a dual carriageway and so the relevant formula is for junction type 7, is of the Cross Product type, and is:

$$A = 0.24 (f)^{0.710}.$$

Given the above flows, the value of the flow factor (f) is 54 (that is, (8+10) x (1+2)) and the predicted number of personal injury accidents per annum is:

$$A = 0.24 (54)^{0.710} = 4.08.$$

5.8 In all applications of the Cross Product model, any combined inflow from the one or two minor opposing links that amounts to less than 1 (that is, 1000 AADT) will be taken by COBA to be 1 because such low flows were rarely encountered in the research which produced the accident formulae; consequently little evidence of the effect of changes in very low combined inflows was found. In such cases the formulae are sensitive only to changes in combined minor or major link inflows which involve inflow levels over 1000 (AADT). This cut-off applies also to the combined inflow from the two major flows. However it will usually be inappropriate to model such low flow junctions as paragraph 5.6 and Table 5/2 make clear.

If the junction had single carriageways only, the formula would be of the Inflow type for junction type number 5. Where the value of the flow factor (f) is 21 (that is, 10+8+2+1); the formula would be:

$$A = 0.361 (21)^{0.440} = 1.38$$

5.9 It must be stressed that these junction accident formulae have been derived from actual records of accidents and flows at junctions. The accident predictions for given junction types with flow levels and configurations outside the ranges recorded in the research are not a reliable guide to design, although they provide useful indications when used in conjunction with other methods of operational analysis. They should be used with great care when considering individual junctions, for example, junction accident rates may vary to some extent with the local spacing of junctions and other characteristics not included in the COBA accident formulae. When comparing the COBA accident benefits of different junction types (as part of an economic appraisal of preferred junction type), the user should check that the ranking by accident benefits accords with engineering judgement. Sensitivity tests using a range of likely accident rates may be appropriate. In

particular, comparisons based on flow levels outside the observed ranges of the COBA junction formulae set out in Table 5/2 should be scrutinised carefully, especially where the combined inflow minimum value of 1 is imposed in a Cross Product accident formula. In such cases accident predictions may not be sensitive to small changes in flows. The Overseeing Organisation should be consulted where the assessment of preferred junction type depends critically on accident benefits.

Junction Type		Thousands Veh/Day
3-Arm		
	Major/Minor	5 - 10
	Signal & Roundabout	15 - 20
4 or more Arm		
	Major/Minor	5 - 10 (Single) 15 - 20 (Dual)
	Signal	10 - 20 (Single) 25 - 35 (Dual)
	Roundabout	
	- Standard	25 - 30 (Single) 30 - 40 (Dual)
	- Small	25 - 35
	- Mini	15 - 20

Table 5/2: Observed Ranges of Flow in COBA Junction Accident Model Calibration

5.10 The costs and casualty split per personal injury accident in COBA for junctions are detailed in Table 5/3.

JUNCTION TYPE	COST OF ACCIDENT £	CASUALTIES PER P.I.A (2000 Base)		
		FATAL	SERIOUS	SLIGHT
1	£101,550	0.0265	0.2413	1.355
2	£67,690	0.0075	0.1350	1.144
3	£101,550	0.0265	0.2413	1.355
4	£67,690	0.0075	0.1350	1.144
5	£111,820	0.0295	0.2793	1.459
6	£66,320	0.0062	0.1292	1.244
7	£111,820	0.0295	0.2793	1.459
8	£66,320	0.0062	0.1292	1.244
9	£111,820	0.0295	0.2793	1.459
10	£66,320	0.0062	0.1292	1.244
11	£111,820	0.0295	0.2793	1.459
12	£66,320	0.0062	0.1292	1.244
13	£101,550	0.0265	0.2413	1.355
14	£67,690	0.0075	0.1350	1.144
15	£101,550	0.0265	0.2413	1.355
16	£67,690	0.0075	0.1350	1.144
17	£111,820	0.0295	0.2793	1.459
18	£66,320	0.0062	0.1292	1.244
19	£111,820	0.0295	0.2793	1.459
20	£66,320	0.0062	0.1292	1.244
21	£111,820	0.0295	0.2793	1.459
22	£66,320	0.0062	0.1292	1.244
23	£111,820	0.0295	0.2793	1.459
24	£66,320	0.0062	0.1292	1.244
25	£101,550	0.0265	0.2413	1.355
26	£67,690	0.0075	0.1350	1.144
27	£101,550	0.0265	0.2413	1.355
28	£67,690	0.0075	0.1350	1.144
29	£111,820	0.0295	0.2793	1.459
30	£66,320	0.0062	0.1292	1.244
31	£111,820	0.0295	0.2793	1.459
32	£66,320	0.0062	0.1292	1.244
33	£111,820	0.0295	0.2793	1.459
34	£66,320	0.0062	0.1292	1.244
35	£111,820	0.0295	0.2793	1.459
36	£66,320	0.0062	0.1292	1.244
37	£69,640	0.0092	0.1631	1.444
38	£64,330	0.0064	0.1157	1.214
39	£69,640	0.0092	0.1631	1.444
40	£64,330	0.0064	0.1157	1.214
41	£67,340	0.0095	0.1423	1.467
42	£64,660	0.0061	0.1177	1.253
43	£67,340	0.0095	0.1423	1.467
44	£64,660	0.0061	0.1177	1.253
45	£67,340	0.0095	0.1423	1.467
46	£64,660	0.0061	0.1177	1.253
47	£67,340	0.0095	0.1423	1.467
48	£64,660	0.0061	0.1177	1.253

Table 5/3:Junction Accident Costs (2002 values and prices) based on 2000 Base Severity Splits [Junction Types 1-48]

JUNCTION TYPE	COST OF ACCIDENT	CASUALTIES PER P.I.A (2000 Base)		
	£	FATAL	SERIOUS	SLIGHT
49	£54,470	0.0060	0.1019	1.214
50	£54,160	0.0027	0.0806	1.163
51	£54,470	0.0060	0.1019	1.214
52	£54,160	0.0027	0.0806	1.163
53	£54,470	0.0060	0.1019	1.214
54	£54,160	0.0027	0.0806	1.163
55	£54,470	0.0060	0.1019	1.214
56	£54,160	0.0027	0.0806	1.163
57	£54,470	0.0060	0.1019	1.214
58	£54,160	0.0027	0.0806	1.163
59	£54,470	0.0060	0.1019	1.214
60	£54,160	0.0027	0.0806	1.163
61	£54,470	0.0060	0.1019	1.214
62	£54,160	0.0027	0.0806	1.163
63	£54,470	0.0060	0.1019	1.214
64	£54,160	0.0027	0.0806	1.163
65	£54,470	0.0060	0.1019	1.214
66	£54,160	0.0027	0.0806	1.163
67	£54,470	0.0060	0.1019	1.214
68	£54,160	0.0027	0.0806	1.163
69	£54,470	0.0060	0.1019	1.214
70	£54,160	0.0027	0.0806	1.163
71	£54,470	0.0060	0.1019	1.214
72	£54,160	0.0027	0.0806	1.163
73	£54,470	0.0060	0.1019	1.214
74	£56,740	0.0028	0.0965	1.182
75	£54,470	0.0060	0.1019	1.214
76	£56,740	0.0028	0.0965	1.182
77	£54,470	0.0060	0.1019	1.214
78	£56,740	0.0028	0.0965	1.182
79	£54,470	0.0060	0.1019	1.214
80	£56,740	0.0028	0.0965	1.182
81	£54,470	0.0060	0.1019	1.214
82	£56,740	0.0028	0.0965	1.182
83	£54,470	0.0060	0.1019	1.214
84	£56,740	0.0028	0.0965	1.182
85	£47,820	0.0039	0.0703	1.258
86	£53,860	0.0031	0.0705	1.221
87	£47,820	0.0039	0.0703	1.258
88	£53,860	0.0031	0.0705	1.221
89	£47,820	0.0039	0.0703	1.258
90	£53,860	0.0031	0.0705	1.221
91	£47,820	0.0039	0.0703	1.258
92	£53,860	0.0031	0.0705	1.221
93	£47,820	0.0039	0.0703	1.258
94	£53,860	0.0031	0.0705	1.221
95	£47,820	0.0039	0.0703	1.258
96	£53,860	0.0031	0.0705	1.221

Table 5/3 (continued): Junction Accident Costs (2002 values and prices) based on 2000 Base Severity Splits [Junction Types 49-96]

5.11 As with links, accident rates and accident severity at junctions have been falling steadily over time and the trend is expected to continue in the future. The Government has also announced National Casualty Reduction targets and the methodology and parameters in COBA are consistent with those targets. The declining trend in accident rates was examined in TRL Report 382 and at a more disaggregate level in later work undertaken for the DTLR. It was found that the changes in accident rates and the number of severities per accident at junctions are explained by the relationship:

$$A_N = A_0 \times \beta^N$$

Where: A_N = the accident rate or number of casualties per accident N years after base year

A_0 = the accident rate or number of casualties per accident in the base year;

β = change coefficient; and

N = the number of years after base year.

5.12 The values for the change coefficient β found by the research are given in Table 5/4 for 'Major' and 'Minor' junctions in Built-up (BU = 30 or 40 mph speed limits) and Non Built-up (NBU = above 40 mph speed limit) locations. They are the same for each junction type. 'Major' means that a motorway or A Road is the highest link standard approaching the junction while 'Minor' means that only lower class roads approach the junction. The 'Major' values of β are held as default within the program and are assumed to apply for all years from 1995 to 2010. As with links, the number of casualties per accident post 2010 is held constant at the 2010 level. But between 2011 and 2020 and 2021 and 2030 the accident rate reduction is assumed to be one half and one quarter respectively of the 1995 to 2010 reduction. Zero change is assumed post 2030.

Junction Classification	Accident Rate β	Number of Casualties per Accident		
		Fatal β	Serious β	Slight β
Major, BU	0.991	0.949	0.962	1.010
Minor, BU	0.976	0.961	0.959	1.011
Major, NBU	0.984	0.968	0.958	1.006
Minor, NBU	0.996	0.976	0.972	1.011

Table 5/4: Accident and Casualty Severity Rate Change Coefficient β for Junctions