



Dorset Highways County Hall Colliton Park Dorchester DT1 1XJ

Portland Transport Capacity

TECHNICAL ASSESSMENT

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August 2012



Director for Environment Miles Butler

DORSET HIGHWAYS

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Contents

- 1.0 Background
- 2.0 Traffic Data
- 3.0 Future Development
- 4.0 Predicted Capacity
- 5.0 Traffic Model
- 6.0 Capacity Assessment
- 7.0 Conclusions

Appendices

- A. Collision Data
- B. TA 79/99 'Traffic Capacity of Urban Roads

Portland Transport Capacity

1.0 Background

Dorset Highways have been requested to assess how proposed development on Portland would affect the road network. The aim of this report is to identify the amount of development that can be accommodated before the network reaches capacity.

Portland is situated to the south of Weymouth and is solely accessed by the A354 Portland Beach Road. The amount of traffic able to travel to and from Portland is dictated by the capacity of Portland Beach Road. On Portland itself, the major 'pinch-point' has been identified as the A354 at Fortuneswell. This is a one-way stretch of road, which is up-hill and has a small lay-by for vehicles stopping at the local shops.

2.0 Traffic Data

The available traffic data in the area is listed in Table 2.1. Available data includes Automatic Traffic Counts (ATC), Manual Classified Counts (MCC) and Manual Classified Turning Counts (MTC).

Site	Location	Start	End	Туре
		Date	Date	
307	A354 Portland Beach Road	11/04/05	24/04/05	ATC
307	A354 Portland Beach Road	01/01/06	31/12/06	ATC
307	A354 Portland Beach Road	25/07/11	04/09/11	ATC
307	A354 Portland Beach Road	23/04/12	13/05/12	ATC
1920	C927 Wide Street	16/06/05	28/06/05	ATC
1903	A354 Easton Lane	16/06/05	28/06/05	ATC
L08178	A354 Fortuneswell (south-bound)	23/10/08	23/10/08	MCC
26998-09	A354 Portland Beach Road	22/10/09	22/10/09	MCC
75007-09	A354 High Street (north-bound)	08/07/09	08/07/09	MCC
75008-10	A354 Easton Lane	14/10/10	14/10/10	MCC
966274-09	C924 Castle Road	08/06/09	08/06/09	MCC
J05049	Chesil Beach Roundabout	04/10/05	04/10/05	MTC
J05050	Sailing Academy Roundabout	06/10/05	06/10/05	MTC
J05059	Victoria Square Roundabout	27/09/05	27/09/05	MTC
J05062	Victoria Square Gyratory	27/09/05	27/09/05	MTC
J05064	Cadets Corner	06/10/05	06/10/05	MTC

Table 2.1 – Summary of Existing Traffic Count Data

Automatic Traffic Counts have monitored Portland Beach Road over many years. The data for Site 307 identified in Table 2.1 is probably the most useful for this study.

A354 Portland Beach Road

Figure 2.1 shows the estimated Annual Average Daily Traffic (AADT) at Portland Beach Road since 1990. The Naval Base on Portland closed in 1995 and the Royal Navy also closed HMS Osprey in March 1999. Changes in traffic volumes could be attributed to these establishments closing. It can be seen that after a period of stability, traffic has reduced by approximately 6% in the last couple of years. This is possibly due to the recent road works in Weymouth and/or the current economic downturn.

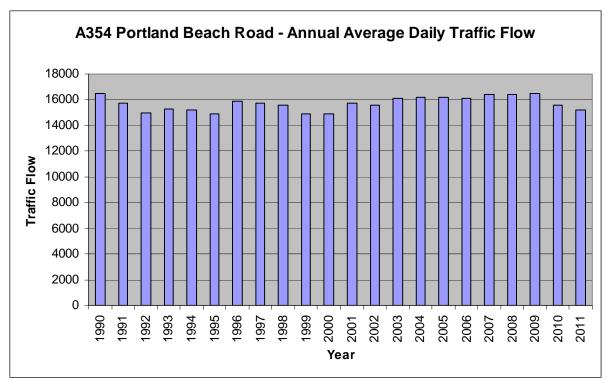


Figure 2.1 – A354 Portland Beach Road Traffic Flows

Seasonality

Portland Beach Road was monitored constantly during 2006. Figure 2.2 shows the traffic profile of that year. During the summer holidays, traffic increased by about 2,000 vehicles per day from the annual average of 16,000 to approximately 18,000 vehicles per day.

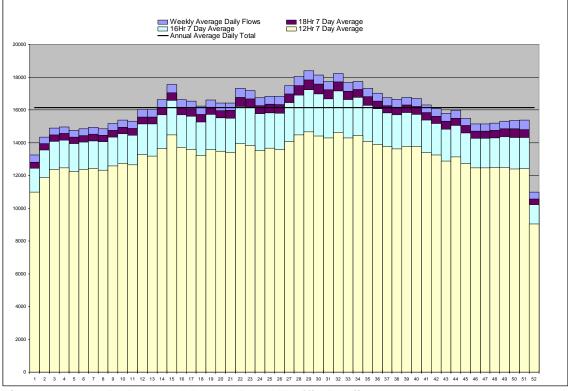


Figure 2.2 – A354 Portland Beach Road Traffic Profile 2006

Daily Traffic Flow Profiles

Daily traffic flow profiles of northbound and southbound traffic on A354 Portland Beach Road are shown in Figure 2.3 and Figure 2.4 respectively. The graphs show neutral season traffic flow profiles for 2005 and 2012. There are also profiles for the high season during August 2011.

It can be seen that in 2012 there were approximately 100 fewer vehicles leaving Portland in the morning and returning in the evening compared with 2005. There is a slight increase in traffic (southbound) arriving on Portland in the morning and leaving in the evening. The combined PM peak flow in April 2005 was nearly 1,600 vehicles per hour. In April 2012 the figure reduces to approximately 1,500 vehicles per hour. (A reduction of 6.25%, which compares favourably with the estimated AADT reduction.)

The Automatic Traffic Count data identifies the peak hours as (0800 – 0900 and 1700 – 1800). The busiest period is the PM peak (17:00-18:00).

During August, the morning peak period has less traffic but traffic increases during the middle of the day. In the PM peak, traffic levels are similar to those in the neutral season.

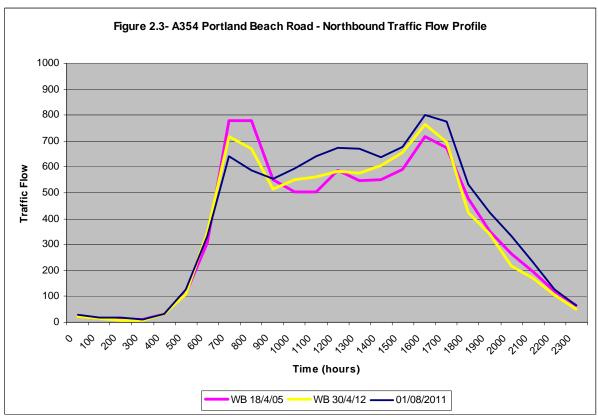


Figure 2.3 – A354 Portland Beach Road – Northbound Traffic Flow Profile

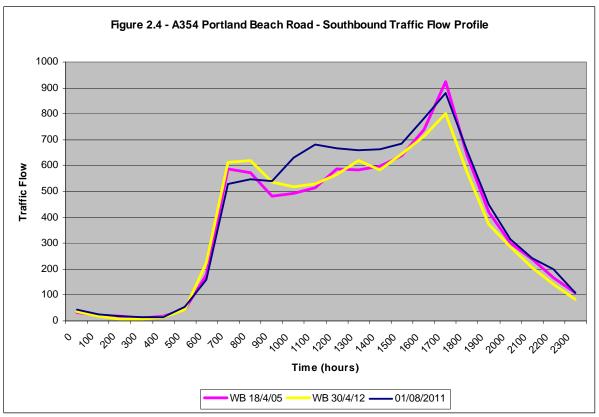


Figure 2.4 – A354 Portland Beach Road – Southbound Traffic Flow Profile

A354 Fortuneswell

A manual traffic count was undertaken at Fortuneswell in October 2008 from 0700 to 1900hrs. It shows the peak hour is 1700 to 1800hrs with a flow of 1050 vehicles. (Compared with a peak of 0800 to 0900 on Portland Beach Road)

A video camera survey was undertaken on Wednesday 20th June 2012. The results for the PM peak hour (1700-1800hrs) show vehicles using the lay-by outside the shops do not contribute greatly to traffic congestion. During this hour, 966 vehicles were observed.

A 12-hour profile of traffic flow on the A354 at Fortuneswell is shown in Figure 2.5. It has a similar profile to the southbound A354 at Portland Beach Road. The flow profile is similar for 2005 and 2008.

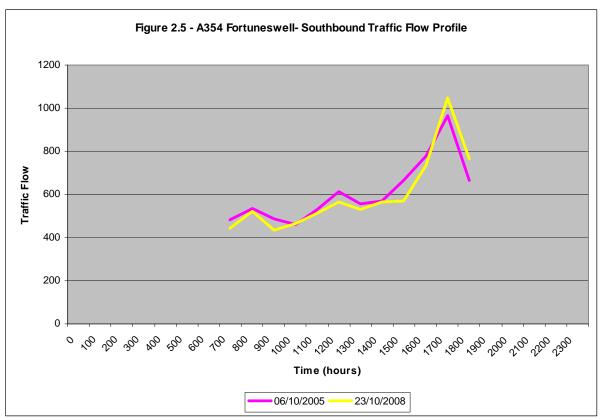


Figure 2.5 – A354 Fortuneswell – Southbound Traffic Flow Profile

Heavy Goods Vehicles

Table 2.2 shows the results of the manual traffic count undertaken at Fortuneswell on 23 October 2008. The data shows very few heavy goods vehicles in the PM peak (4 lorries out of 1050 motor vehicles). The busiest period for heavy goods is 0900-1100hrs, the proportion being approximately 7 to 8 percent (33 vehicles per hour). The number of heavy vehicles can affect the capacity of the road network or individual links.

Hour	Total Vehicles	Total HGV	% HGV
0700-0800	445	13	2.9%
0800-0900	520	21	4.0%
0900-1000	433	33	7.6%
1000-1100	465	33	7.1%
1100-1200	512	21	4.1%
1200-1300	567	23	4.1%
1300-1400	531	19	3.6%
1400-1500	566	26	4.6%
1500-1600	569	19	3.3%
1600-1700	735	19	2.6%
1700-1800	1050	4	0.4%
1800-1900	764	3	0.4%
0700-1900	7157	234	3.3%

Table 2.2 – A354 Fortuneswell Manual Traffic Survey Results

Collision Data

Collision data on the A354 between Chesil Beach roundabout and Portland Heights roundabout has been obtained for the last five years (March 2007 to February 2012).

The detailed data and location plots are shown in Appendix A.

In summary, during the five-year period, there were 2 fatal, 5 serious and 42 slight injury collisions. The two fatal collisions occurred on Portland itself and both involved drivers impaired by alcohol. Two of the serious collisions occurred at the Portland Heights roundabout. The other three serious collisions occurred on Portland Beach Road.

There does not appear to be a particular pattern to the collisions. It is difficult to predict the effect of an increase in traffic on the collision rate or number of accidents. For example, an increase in the volume of traffic could cause vehicle speeds to reduce. This could then lead to more accidents but of less severity than fewer vehicles travelling at a higher speed.

3.0 Future Development

In addition to the current level of traffic, future development is planned/ proposed within the Local Plan. Developers are also keen to build on other areas of the island. Additionally, it is highly likely that a certain amount of 'windfall' development will also occur.

Local Plan Proposals

Residential

The Local Plan suggests 384 dwellings (apartments) are to be completed at the former Hardy Complex between 2011 and 2021. These have been proposed for a long time but have not progressed due to the economic downturn.

Employment

The Local Plan also suggests 8.6 hectares of employment at Osprey Quay and 30.3 hectares of employment at Portland Port.

The number of trips generated by these developments has been calculated utilising trip rates from the TRICS database. A value of 3,344m2 per hectare has been assumed for the employment locations. These trip rates were originally calculated for the 2008 Weymouth Relief Road model and are shown in Table 3.1 with the actual trips shown in Table 3.2.

Location	PM Arrivals	PM Departures
Hardy Complex apartments	0.25	0.15
Industry at Portland Port	0.06	0.18
Industry at Osprey Quay	0.06	0.18
Easton/Weston Windfall	0.25	0.28

 Table 3.1 – PM peak Trip Rates (per dwelling for residential / per 100m² for employment)

Location	PM Arrivals	PM Departures
Hardy Complex apartments	96	58
Industry at Portland Port	61	182
Industry at Osprey Quay	17	52
Easton/Weston Windfall	67	78

Table 3.2 – PM Peak Trips Generated

Windfall Development

The TEMPRO database suggests 640 households to be completed in Easton/Weston and 183 at Fortuneswell between 2011 and 2031. For this report this has been assumed as windfall development. Trip rates have been calculated using the same method as for the local plan. The total trips are shown in table 3.3.

Location	PM Arrivals	PM Departures
Easton/Weston	160	179
Fortuneswell	46	53

Table 3.3 – Windfall Development Trips 2011 to 2031

Proposed Developments

Two developments are currently 'in process'. There are plans for housing at Bumpers Lane and for a Caravan Park at Coombefield Quarry.

Bumpers Lane

The Bumpers Lane transport assessment was submitted in January 2012. The planning application is for 83 units. The PM peak is assumed to be 1600-1700hrs. The estimated trip rates are shown in Table 3.4.

Bumpers Lane (1600-1700)	PM Arrivals	PM Departures
Trip Rate	0.328	0.216
Trip Generation	27	18
70% Trip Generation	18.9	12.6

Table 3.4 – Bumpers Lane Development – Estimated Trip Rates

At the Bumpers Lane junction with Wakeham it was assumed that 70% of the traffic would turn right into the development in the PM Peak. For a robust worst-case scenario, it has been assumed that all of the right turning traffic would arrive from Foords Corner.

Coombefield Quarry, Proposed Caravan Park

A transport assessment was written August 2011 to support the planning application. The application is for 600 units (caravans). Trip rates have been derived from the nearby Chesil Vista Holiday Park, which has 250 caravans. The PM peak is assumed to be 1630-1730hrs. The estimated trip rates are shown in Table 3.5.

Coombefield Quarry (1630-1730)	PM Arrivals	PM Departures
Trip Rate	0.125	0.058
Trip Generation	75	35

Table 3.5 – Coombefield Quarry Development – Estimated Trip Rates

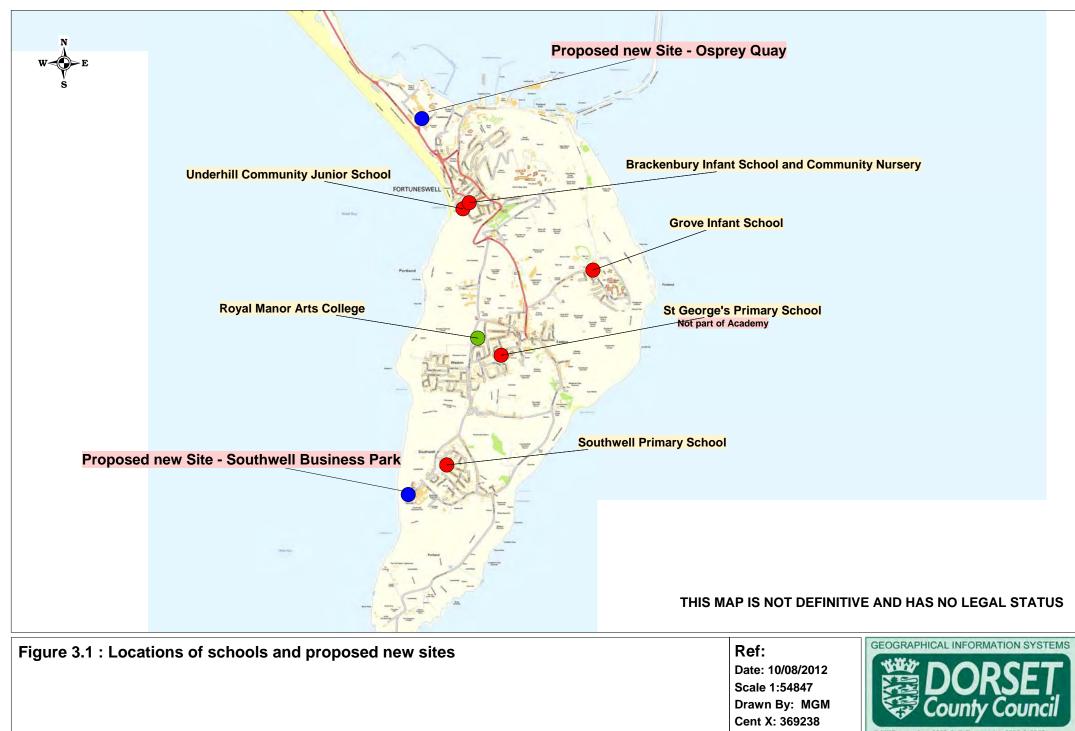
For a robust worst-case scenario, it has been assumed that all trips will travel at least as far as Foords Corner.

Portland Academy

There are proposals to merge Portland's schools into an Academy (with the exception of St George's Primary School located at Weston on the top of the island). The participating schools are :

The Grove Infant and Foundation Stage School, Brackenbury Infant School and Nursery, Underhill Junior School (Chesil Cove Federation), Southwell Community Primary School, Royal Manor Arts College

The Academy will be located at two sites, Osprey Quay and Southwell Business Park. Figure 3.1 shows the location of the schools and the proposed new site. It can be seen from Figure 3.1 that 2 of the participating schools are in Fortuneswell and the remainder on the 'top' of the island. The trip distribution on Portland may well change when this development is finished dependant on the education provision provided at each of the new sites. However, trips to and from the Island are unlikely to be affected.



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Cent Y: 71427

4.0 Predicted Capacity

Maximum capacity of a link is dependent many variables such as;

- the capacity of junctions at either end of the link,
- obstructions on the link,
- the types of vehicles travelling on the link,
- the width and gradient of the link.

A354 Portland Beach Road

Locally, it is known that congestion regularly occurs on the A31 Wimborne Bypass. This is a modern single lane stretch of highway with a junction at either end. Typical peak hour traffic flows on this link are **1,200 – 1,300 vehicles per hour**. It would be reasonable to assume that traffic flows greater than 1,300 vehicles per hour would cause significant congestion on a similar road such as the A354 Portland Beach Road.

A354 Fortuneswell

The video traffic survey undertaken at Fortuneswell was analysed in 5-minute intervals. Between 17:00 and 18:00, 966 vehicles were observed. This is an average of 80 vehicles every five minutes. The maximum throughput in a five-minute period was 100 between 17:20 and 17:25. Therefore, theoretically, at least **1,200 vehicles per hour** could be expected to flow through Fortuneswell.

Theoretical Calculation

The Department for Transport document, TA 79/99 'Traffic Capacity of Urban Roads' gives the maximum hourly vehicle capacity for various types of Urban Trunk Road. These capacities may be used as a guide to the existing capacity of urban roads. The document is contained in Appendix B.

The capacity of urban roads can be affected by a wide range of factors such as traffic speed, the frequency of side roads, the degree of parking and loading, bus stops and the gradient of the carriageway. Therefore, the document suggests that capacity flows may be up to 10% more or less than the values provided. Additionally, the road types contained in the document are all two-way roads as there is not enough data nationally regarding one-way roads such as Fortuneswell.

The one way system at Fortuneswell is similar to the UAP4 category. This is a busy high street carrying predominately local traffic with frontage activity including loading and unloading. Capacity values are dependent on carriageway width. Approximate carriageway widths were taken from aerial photography of the area. It can be seen from Figure 4.1 that the minimum carriageway width is approximately 3.6 metres. Therefore, the hourly flow in one direction is in the region of 1140 vehicles per hour (+/-10%) which gives **1026 to 1254 vehicles per hour**.

Portland Beach road is a modern stretch of highway with roundabouts at either end. Using TA79/99 for guidance the road is similar to the UAP1 category. This is a high standard single carriageway carrying predominantly through traffic with limited access. The carriageway is approximately 7.5 metres wide at Ferry Bridge (a potential pinch point) widening at times to some 9.0 metres. Therefore, the hourly flow in one direction is in the region of 1590 vehicles per hour (+/-10%) which gives **1431 to 1749 vehicles per hour**. However, this calculation

does not take account of the roundabouts at either end of the stretch of road. Therefore, the capacity is highly likely to be lower (as observed on the similar A31 Wimborne Bypass)

This document also suggests that a 15 to 20% heavy vehicle content could reduce the capacity on a single carriageway road by 150 vehicles per carriageway. The maximum percentage of heavy vehicles recorded at Fortuneswell is around seven percent.

Dorset County Council's Planning Policy Team are not aware of anything that is likely to lead to any significant increase in minerals or waste traffic on Portland.



Figure 4.1 : Approximate road widths - Fortuneswell one-way system

Note:- These have been measured from Aerial Photography, not on street and therefore are not definitive.

Ref: Date: 30/07/2012 Scale 1:2476 Drawn By: Cent X: 368592 Cent Y: 73494



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5.0 Traffic Model

A simple eight-zone SATURN traffic model has been developed to assess the distribution of the proposed development trips. It is based on a section of the SATURN model used to assess the Weymouth Relief Road scheme.

Although the base traffic flows are representative of the observed traffic, the model is very simple and is not fully representative with regards to capacities and delays. However, it is robust enough to ascertain predicted trip distributions of proposed developments.

A screen dump of the network is shown in Figure 5.1. The eight zones are described in Table 5.1, together with estimated trip end values based on the existing traffic counts.



Figure 5.1 – SATURN modelled network

Zone	Description	Origin Trip Ends	Destination Trip Ends
1	Portland Road	912	642
2	Whitehead Drive	8	22
3	Sailing Academy	75	34
4	Osprey Quay	31	11
5	Osprey Quay/ Portland Port	31	11
6	Portland Port	61	18
7	Fortuneswell	597	960
8	Chesil Beach Holiday Park	7	24
	Total	1722	1722

Table 5.1 – Portland Model Zones and Base Trips

The traffic demand is based on data from the flows from the manual turning counts undertaken during 2005. Single users class (all vehicles) matrices have been developed in a spreadsheet.

Zone	Description	Origin Trip Ends	Destination Trip Ends
1	Portland Road	1051	876
2	Whitehead Drive	8	22
3	Sailing Academy	75	34
4	Osprey Quay	31	11
5	Osprey Quay/ Portland Port	322	185
6	Portland Port	61	18
7	Fortuneswell	632	1017
8	Chesil Beach Holiday Park	7	24
	Total	2187	2187

 Table 5.2 – Forecast Trip Ends – with Local Plan development trips (Dev1)

Table 5.3 shows the forecast traffic demand with the Local Plan and predicted windfall trips for **2011-2031**applied. (Dev2)

Zone	Description	Forecast Origin Trip Ends	Forecast Destination Trip Ends
1	Portland Road	1257	1108
2	Whitehead Drive	8	22
3	Sailing Academy	75	34
4	Osprey Quay	31	11
5	Osprey Quay/ Portland Port	322	185
6	Portland Port	61	18
7	Fortuneswell	864	1223
8	Chesil Beach Holiday Park	7	24
	Total	2625	2625

 Table 5.3 – Forecast Trip Ends – with Local Plan, and predicted windfall trips (Dev2)

Table 5.4 shows the forecast traffic demand with the Local Plan, predicted windfall trips and the two proposed developments applied. (Dev3)

Zone	Description	Forecast Origin Trip Ends	Forecast Destination Trip Ends
1	Portland Road	1351	1155
2	Whitehead Drive	8	22
3	Sailing Academy	75	34
4	Osprey Quay	31	11
5	Osprey Quay/ Portland Port	322	185
6	Portland Port	61	18
7	Fortuneswell	912	1317
8	Chesil Beach Holiday Park	7	24
	Tota	2767	2767

Table 5.4 – Forecast Trip Ends – with Local Plan, predicted windfall trips and proposed developments (Dev3)

Model Calibration

Modelled traffic flows have been compared with observed data, as shown in Table 5.5. It can be seen that the base model closely replicates the observed flows and therefore calibrates well

From	Ta	Obs.	Model	Dev 1	Dev 2	Dev 3
From		Flow	Flow	Flow	Flow	Flow
Portland Road	Whitehead Drive	17	8	8	8	8
Portland Road	Portland Beach Road	874	888	1027	1233	1327
Portland Road	Chesil Beach Holiday Park	21	17	17	17	17
Whitehead Drive	Portland Beach Road	2	3	3	3	3
Whitehead Drive	Chesil Beach Holiday Park	0	0	0	0	0
Whitehead Drive	Portland Road	6	5	5	5	5
Portland Beach Road	Chesil Beach Holiday Park	2	7	7	7	7
Portland Beach Road	Portland Road	640	635	868	1100	1148
Portland Beach Road	Whitehead Drive	4	15	15	14	14
Whitehead Drive	Portland Road	4	3	3	3	3
Whitehead Drive	Chesil Beach Holiday Park	0	0	0	0	0
Whitehead Drive	Portland Beach Road	3	4	4	4	4
Portland Beach Road (N)	Sailing Academy	18	13	13	13	13
Portland Beach Road (N)	Portland Beach Road (S)	752	882	1021	1227	1321
Sailing Academy	Portland Beach Road (N)	21	53	53	53	53
Sailing Academy	Portland Beach Road (S)	5	22	22	22	22
Portland Beach Road (S)	Portland Beach Road (N)	533	604	837	1069	1117
Portland Beach Road (S)	Sailing Academy	5	22	22	22	22
Portland Beach Road	Lerret Road	7	4	143	143	143
Portland Beach Road	Victory Road	906	905	905	1111	1205
Lerret Road	Victory Road	5	20	78	78	78
Lerret Road	Portland Beach Road	24	11	244	244	244
Chiswell	Portland Beach Road	568	600	600	832	880
Chiswell	Lerret Road	4	7	42	42	42
Chiswell	Victory Road	81	11	11	11	11
Victoria Square (N)	Victory Road	913	936	994	1200	1294
Victoria Square (N)	Victoria Square (W)	13	0	0	0	0
Victory Road	Victoria Square (W)	105	21	21	21	21
Chiswell	Victoria Square (N)	543	597	632	864	912
Castle Road (N)	Castle Road (S)	29	40	40	40	40
Castle Road (N)	Victory Road	28	21	21	21	21
Victory Road	Castle Road (N)	17	18	18	18	18
Victory Road	Castle Road (S)	880	918	976	1182	1276

Table 5.5- Observed and modelled flows

6.0 Capacity Assessment

Table 6.1 shows the observed and modelled link flows on Portland Beach Road and Fortuneswell

From	То	Obs. Flow	Model Flow	Dev 1 Flow	Dev 2 Flow	Dev 3 Flow
Portland Beach Road	Northbound	697	657	890	1122	1170
Portland Beach Road	Southbound	802	895	1034	1240	1334
Fortuneswell	Southbound	966	959	1017	1223	1317

Table 6.1 - Observed and modelled flows - Portland Beach Road and Fortuneswell

In the Dev 1 scenario, modelled traffic flow on the A354 at Portland Beach Road of 890 to 1034 is significantly lower than the estimated capacity of **1200 to 1300.** The modelled traffic flow at Fortuneswell of 1017 is just less than the calculated capacity of 1026 - 1254.

For the Dev 2 scenario, modelled traffic flow on the A354 at Portland Beach Road rises to 1122 to 1240 which is within the estimated capacity of 1200 to 1300. The modelled flow at Fortuneswell is 1,223 vehicles per hour. This is just within the calculated capacity of 1026 - 1254.

In the Dev 3 scenario, modelled traffic flow on the A354 at Portland Beach Road (Southbound) has increased to 1334 which is just above the estimated capacity of 1200 to 1300. The modelled flow at Fortuneswell is 1317 which is above the calculated capacity of 1026 - 1254.

As previously mentioned, the model used to assess future developments is very basic. The precise amount of development that can be accommodated on Portland will depend upon their location and associated trip distributions and many permeations are possible. However, the examples tested give a good indication of possibilities.

7.0 Conclusions

This report identifies the current levels of traffic using the A354 at Portland Beach Road and Fortuneswell.

The study predicts the proposed Local Plan development of 384 dwellings and 38.9 hectares of employment plus 823 windfall dwellings could be accommodated by the A354 at Portland Beach Road and Fortuneswell.

Further development is predicted to cause capacity problems on the A354 at Portland Beach Road and Fortuneswell.

The precise amount of development that can be accommodated on Portland will depend upon their location and associated trip distributions.

There does not appear to be a particular pattern to previous vehicle collisions. It is difficult to predict the effect of an increase in traffic on the collision rate or number of accidents as many variables contribute to the occurrence of collisions.

The traffic model is simple and not fully representative with regards to capacities and delays. This in turn will present limitations to the assessments required in this brief. However, it is robust enough to ascertain predicted trip distributions of proposed developments. To achieve more comprehensive and representative results the model would require much more refinement.

APPENDIX A

Collision Data

INTERMEDIATE ACCIDENT REPORT

to 29/02/2012 (60) months

1 of 16 Run on: 31/ 05/2012

TRAFFMAP AccsMap - Accident Analysis System

Details of Personal Injury Accidents for Period - 01/03/2007

Selection: Notes: Selected using Manual Selection Vehicles Casualties Police Ref. Day Location Description Veh No / Type / Manv / Dir / Class Sex / Age / Sev Date Road No. Time Grid Ref. D/L R.S.C Weather Speed Account of Accident Veh 1 Car NWto SE Dri M 21 Serious Change lane to left A07W01297 A354 PORTLAND BEACH ROAD, Friday 16/03/2007 APPROX 325MTRS SOUTH OF A 354 2115hrs ENTRANCE TO CHESIL BEACH CAR Darkness: street lights present a Dry E 367.003 N 75,352 Fine without high winds 60 mph V1 TRAVELLING SOUTH AT SPEED LOST CONTROL CAUSING TO ROLL. NWto SE Veh 1 Car Stopping A07W02496 Monday A354 FORTUNESWELL ONE WAY 21/05/2007 STREET, OUTSIDE NO 83, Veh 2 Goods < 3.5t Going ahead NWto SE A 354 PORTLAND. 1240hrs Veh 3 Car Going ahead NWto SE FSP F 10 Slight Daylight:street lights present Drv E 368,698 N 73,452 Fine without high winds 30 mph V1 SLOWED FOR CROSSING PEDESTRIAN. V2 COLLIDED WITH REAR OF V1 AND V3 COLLIDED WITH REAR OF V2. +++++NO DETAILS FOR PASSENGER WITH INJURY, POSTCODE AS DRIVER 3 AND AGE ESTIMTED AT 11 YEARS+++++VALIDATED UNSEEN++++++LATE ADDITION, EXPORT WITH AUGUST Veh 1 M/C > 500 cc O/take s/veh o/sideNWto SE Dri M 21 Slight A07W02810 Thursday UC FORTUNESWELL. PORTLAND. Veh 1 M/C > 500 ccO/take s/veh o/side NWto SE Ped M 33 Slight 14/06/2007 U 2100hrs Daylight:street lights present Dry E 368.794 Fine without high winds N 73,347 30 mph PEDESTRIAN STEPPED OUT INTO ROAD FROM IN FRONT OF A PARKED BUS. V1 COLLIDED WITH PEDESTRIAN. SLIGHT INJURY TO RIDER AND TO PEDESTRIAN. NO DETAILS EXCHANGED. Veh 1 Car Going ahead S to N FSP F 43 Slight A07W03904 A354 PORTLAND ROAD AT Monday 20/08/2007 JUNCTION WITH UC ROAD LEADING Veh 1 Car Going ahead S to N RSP F 14 Slight TO BLUE WATER HORIZON PARK. A 354 1112hrs Veh 1 Car Going ahead S RSP F 11 Slight to N Daylight:street lights present Slight Veh 2 Car Going ahead S Dri F to N 47 Wet/Damp E 366,651 Veh 3 Car Going ahead Ν to S Raining with high winds N 76,380 Е Veh 4 Car Turning right to N 60 mph V1 BEHIND V2, V3 FLASHED V4 THEN PULLED OUT IN FRONT OF V2. V1 HIT REAR V2. +++AGE V4 ESTIMATED, NO POSTCODE++++++++++

INTERMEDIATE ACCIDENT REPORT

2 of 16 Run on: 31/05/2012

TRAFFMAP AccsMap - Accident Analysis System

Details of Personal Injury Accidents for Period - 01/03/2007 to 29/02/2012 (60) months

Selection:

Notes:

			Vehicles			Casualties
Police Ref.	Day Location Description Date	Veh No	o / Type / Ma	anv / Dir / Class		Sex / Age / Sev
Road No.	Time					
Grid Ref.	D/L					
	R.S.C					
	Weather					
	Speed					
	Account of Accident					
A07W04219	Friday A354 PORTLAND BEACH ROAD AT 07/09/2007 ROUNDABOUT WITH UC OSPREY	Veh 1 Veh 2	Car	Stopping Going ahead	SE to NE SE to NW Dri	M 36 Slight
A 354	0750hrs QUAY, WEYMOUTH.	ven 2	Cai	Going aneau	SE to NW DII	W 50 Slight
	Daylight:street lights present					
E 367,504	Dry					
N 74,653	Fine without high winds 50 mph					
	50 mpi					
	V2 STOPPED AT ROUNDABOUT AND WAS HIT FRO	OM BEHI	ND BY V1.			
A07W04499	Thursday A354 FORTUNESWELL, OUTSIDE TH	_{IE} Veh 1	Car	O/take s/veh o/side	SE to NW Ped	M 29 Slight
1 254	20/09/2007 NEW INN PUBLIC HOUSE, AT THE		Bus/coach	Wait go ahead held up	SE to NW	
A 354	0920hrs JUNCTION WITH UC MALLAMS, Daylight:street lights present					
E 368,626	Dry					
N 73,534	Fine without high winds					
	30 mph					
	PEDESTRIAN ALIGHTED FROM V1 BUS, THEN WA V2 WHICH WAS IN THE PROCESS OF OVERTAKING			US TO CROSS ROAD.	THEN SLIPPED O'	VER AND WAS HIT BY
A07W04847	Friday A354 PORTLAND BEACH ROAD	Veh 1	Car	Going ahead	NWto SE	
A 254	12/10/2007 APPROX 350 METRES NORTHEAST 2350hrs OF JUNCTION WITH ROAD TO	Veh 2	Car	Going ahead	SE to NW Dri	M 74 Slight
A 354	2350hrs OF JUNCTION WITH ROAD TO Darkness: no street lighting					
E 367,261	Dry					
N 74,901	Fine without high winds					
	60 mph					
	V1 SWERVES TO AVOID WILDLIFE AND INTO ON	COMING	V2.			
A07W05570	Saturday UC LERRET ROAD, APPROX 10 M	Veh 1		Starting	W to NE	
U	24/11/2007 EAST OF JUNCTION WITH A354 1033hrs ROUNDABOUT PORTLAND BEACH	Veh 2	Car	Going ahead	W to NE Dri	M 40 Slight
-	Daylight:street lights present					
E 368,005	Dry					
N 74,148	Fine without high winds					
	30 mph					
	V1 WAS EXITING LAYBY AND COLLIDED WITH N	EARSIDI	E FRONT OF V	/2.		

INTERMEDIATE ACCIDENT REPORT

3 of 16 Run on: 31/05/2012

TRAFFMAP AccsMap - Accident Analysis System

Details of Personal Injury Accidents for Period -	01/03/2007	to	29/02/2012	(60) months
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Selection:

Notes:

Selected using Manual Selection

			Vehicles					Cas	ualti	es
Police Ref. Road No.	Day Location Description Date Time	Veh No / Type / Manv / Dir / Class						ge / Sev		
rid Ref.	D/L R.S.C Weather Speed									
	Account of Accident									
07W05740	Monday A354 PORTLAND BEACH ROAD,	Veh 1	Car	Going ahead	N	to SE				
354 367,398	03/12/2007 APPROX 100M NORTH OF JUNCTION 1715hrs WITH HAM BEACH ROAD Darkness: street lights present a Wet/Damp	Veh 2 Veh 3	Car Car	Going ahead Going ahead	N N	to S to S	Dri Dri	M M		Slight Slight
74,740	Raining with high winds 60 mph									
	V1 STOPPED WHEN BONNET CAME OFF AND FLEW	V ACRO	SS ROAD. V2 V	WAS TRAVELLING BE	EHD	ND ANI	O STOP	PED	BUT	V3 HIT
.08D01632 354	Friday A354 FORTUNESWELL OUTSIDE 18/04/2008 HOUSE NO 59, AT THE JUNCTION 1528hrs WITH A354 HIGH STREET, Daylight:street lights present	Veh 1 Veh 2		Going ahead Wait to turn right		Vto SE Vto SW	Dri	F	39	Slight
368,760	Dry									
73,379	Fine without high winds 30 mph									
	V2 WAS WAITING TO TURN RIGHT INTO THE HIGH	I STREE	ET WHEN V1 CO	OLLIDED WITH REAR	V2.					
.08D01874 . 354	Sunday A354 CHISWELL, OUTSIDE NO 51, 04/05/2008 APPROX 35M NORTH OF UC 1300hrs CLEMENTS LANE, WEYMOUTH.	Veh 1 Veh 2		O/take m/veh o/side Going ahead	S N	to N to S	Dri Dri	M F		Fatal Slight
368,350	Daylight:street lights present Wet/Damp	Veh 2 Veh 2	Car Car	Going ahead Going ahead	N N	to S to S	FSP RSP	M M	46 13	Slight Slight
73,597	Fine without high winds 30 mph									
	V1 MOTORCYCLE TRAVELLING ON THE WRONG S OVER ALCOHOL LIMIT.	SIDE OF	THE ROAD, CO	DLLIDED WITH V2 HE	AD	ON. V	I FOUN	ID TO) BE	3 TIMES
.08D02100 . 354 . 366,669	Friday A354 PORTLAND BEACH ROAD, 09/05/2008 APPROX 45M SOUTH OF UC 0735hrs WHITEHEAD DRIVE, WEYMOUTH. Daylight:street lights present Dry	Veh 2 Veh 3		Going ahead Wait go ahead held up Wait go ahead held up Turning right	N N		Dri	М	19	Slight
N 76,309	Fine without high winds 30 mph									

V2 AND V3 WERE GOING SLOW IN TRAFFIC. V4 IN FRONT SUDDENLY TURNED RIGHT OFF MAIN ROAD. V1 HIT REAR OF V2 AND SHUNTED IT INTO REAR OF V3.

INTERMEDIATE ACCIDENT REPORT

4 of 16 Run on: 31/ 05/2012

TRAFFMAP AccsMap - Accident Analysis System

Details of Personal Injury Accidents for Period -	01/03/2007	to	29/02/2012	(60) months	
Selection:		Ν	otes:		

Selected using Manual Selection

Police Ref.	Day Location Description	Vehicles	nny / Dir / Class			asualti	
ronce Ref. Road No. Grid Ref.	Day Location Description Date Time D/L R.S.C Weather Speed Account of Accident	Veh No / Type / Ma	inv / Dir / Class		5	ex / Aş	ge / Sev
A08D02339 A 354 E 368,745 N 73,075	Wednesday A354 NEW ROAD, APPROX 20M 04/06/2008 SOUTH OF HOUSE NO 20, 2000hrs WEYMOUTH. Darkness: no street lighting Dry Fine without high winds 30 mph	Veh 1 Car Veh 2 Car	Going ahead LH bend Wait go ahead held up		Dri F	22	Slight
A08D03117 U E 368,955 N 73,272	V1 COLLIDED WITH THE REAR OF V2 WHICH WAS Friday UC VERNE COMMON ROAD, 25/07/2008 APPROX 40M EAST OF BEND AT 0751hrs A354 NEW ROAD, PORTLAND. Daylight:street lights present Dry Fine without high winds 30 mph	SLOWED IN TRAFFIG Veh 1 Car Veh 1 Car Veh 1 Car	C. Going ahead Going ahead Going ahead	S to N	FSP F	26	Slight Slight Slight
	30 mpai VI LOST CONTROL ON BENDS, HIT KERBSIDE THE	EN FLIPPED AND ROL	LED OVER.				
A08D05101 A 354 E 368,458	Tuesday A354 VICTORY ROAD AT THE 18/11/2008 JUNCTION WITH C924 CASTLE 1509hrs ROAD, PORTLAND. Daylight:street lights present Dry	Veh 1 M/C < 125 cc Veh 2 Car	Going ahead RH bend Turning right	S to N SW to S	Dri N	1 66	Slight
N 73,910	Fine without high winds 30 mph						
	AMBULANCE V2 WAS ON AN EMERGENCY CALL	AND PULLED OUT FR	OM JUNCTION AS V1	COLLIDED	WITH OF	FSIDE	OF V2.
A08D05132 A 354 E 368,847	Wednesday A354 FORTUNESWELL, OUTSIDE NO 19/11/2008 17, AT THE JUNCTION WITH UC 1900hrs BELLE VUE TERRACE, PORTLAND. Darkness: street lights present a Dry	Veh 1 Car Veh 2 Pedal cycle	Wait go ahead held up Going ahead	SE to NW SE to NW	Dri M	1 14	Slight
N 73,314	Fine without high winds 30 mph A VEHICLE WAS STAIONARY AND SIGNALLING R						

A VEHICLE WAS STAIONARY AND SIGNALLING RIGHT. V1 WAS STATIONARY BEHIND WHEN V2 CYCLIST TRAVELLING AT SPEED FTS AND DROVE INTO THE REAR OFFSIDE OF V1.

INTERMEDIATE ACCIDENT REPORT

5 of 16 Run on: 31/ 05/2012

TRAFFMAP AccsMap - Accident Analysis System

Selection:

Notes:

			Vehicles					isualt	
Police Ref.	Day Location Description	Veh N	lo / Type / Ma	nv / Dir / Class			Se	x / A	ge / Sev
Road No.	Date Time								
Grid Ref.	D/L								
	R.S.C								
	Weather								
	Speed								
	Account of								
	Accident								
A08W00211	Monday A354 AT THE ROUNDABOUT	Veh 1		Going ahead	N to	S Dr	i F	70	Slight
A 354	14/01/2008 JUNCTION WITH UC YEATS ROAD, 1200hrs PORTLAND.	Veh 2		Going ahead	W to				
A 334	1200hrs PORTLAND. Daylight:street lights present	Veh 2	Car	Going ahead	W to	S FS	P F	73	Slight
E 368,765	Dry								
N 72,909	Fine with high winds								
	30 mph								
	V1 EXITED MINOR ROAD INTO PATH OF V2.								
					_				
A08W00403	Saturday A354 CHISWELL, AT JUNCTION WIT 26/01/2008 UC BIG OPE, WEYMOUTH.	H Veh 1 Veh 2	Taxi Car	Wait go ahead held up			: г	24	Slight
A 354	1330hrs	Veh 3		Going ahead Going ahead	S to S to		i F	24	Slight
	Daylight:street lights present			00000					
E 368,377	Dry								
N 73,517	Fine without high winds								
	30 mph								
	UNKNOWN V1 SLOWED, V2 POSSIBLY HIT REAR	V1, V3 C	OLLIDED WITH	H REAR V2.					
A09D00082	Tuesday A354 PRIORY RD AT RBT JUNC WIT	H Veh 1	$M/C < 50 \ cc$	Turning right	SW to	N Dr	i F	38	Serious
	06/01/2009 UC YEATES ROAD, PORTLAND								
A 354	2221 hrs Darkness: street lights present a								
E 368,766	Frost/Ice								
N 72,917	Fine without high winds								
	30 mph								
	WHILST NEGIOTIATING RAB VI LOST TRACTION	AND FE	LL OVER RID	ER INJURED					
4.00000505		Veh 1	Car	Going ahead LH bend	NWto	E Dr	i F	41	Slight
A09D00595	Monday UC ALBION CRESCENT, PORTLAND 09/02/2009 OUTSIDE NO.5. NEAR JUNCTION TO) ven i	Cai	Going anead Err bend	10 00 10	L DI	1 1		Slight
U	1913hrs A354 FORTUNESWELL.								
E 360 500	Darkness: street lights present a Wet/Damp								
E 368,500 N 73,617	Fine without high winds								
., ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	30 mph								
	-								
	V1 LOST CONTROL ON BEND COLLIDED WITH PA	VEMEN	T THEN A WAI	L					

INTERMEDIATE ACCIDENT REPORT

6 of 16 Run on: 31/ 05/2012

TRAFFMAP AccsMap - Accident Analysis System

Details of Personal Injury Accidents for Period - 01/03/2007 to 29/02/2012 (60) months

Selection:

Notes:

	Vehicles Casualties
Police Ref.	Day Location Description Veh No / Type / Manv / Dir / Class Sex / Age / Sev
Road No.	Date Time
Grid Ref.	D/L
	R.S.C
	Weather
	Speed
	Account of
	Accident
400001335	Saturday A354 HIGH STREET, OUTSIDE NO 20, Veh 1 Car Going ahead SW to NE Ped M 25 Slight
A09D01325	Saturday A354 HIGH STREET, OUTSIDE NO 20, ven 1 Car Going anead Sw to NE Ped M 25 Slight 04/04/2009 FORTUNESWELL, PORTLAND.
A 354	1735hrs
	Daylight:street lights present
E 368,688	Dry
N 73,349	Fine without high winds
	30 mph
	DRUNKEN PEDESTRIANS WERE IN ROAD FIGHTING AND C1 WAS STRUCK BY UNKNOWN MAKE V1 WHICH FTS.
400001/20	Saturday A354 OUTSIDE NO 17 THE Veh 1 M/C < 50 cc Going ahead NW to SE Dri M 18 Slight
A09D01638	SaturdayA354 OUTSIDE NO 17 THEVeh IM/C < 50 cc
A 354	2033hrs
	Darkness: street lights present a
E 368,841	Dry
N 73,316	Fine without high winds
	30 mph
	V1 PIAGGIO MOPED DROVE INTO ONE WAY SYSTEM AS V2 FORD FIESTA TURNED ACROSS AND COLLIDED WITH V1. V1 HAD NO LIGHTS ON.
400001/07	Wednesday A354 OUTSIDE THE NEW STAR INN Veh 1 M/C < 50 cc Stopping NW to SE Dri M 16 Slight
A09D01695	Wednesday A354 OUTSIDE THE NEW STAR INN, Veh 1 M/C < 50 cc Stopping NW to SE Dri M 16 Slight 29/04/2009 FORTUNESWELL APPROX 15M SE OF Veh 2 Car Wait go ahead held up NW to SE
A 354	1900hrs JUNCTION WITH UC MALLAMS,
	Daylight:street lights present
E 368,636	Dry
N 73,529	Fine without high winds
	30 mph
	V1 BENELLI 50CC MOPED WAS TRAVELLING SE BEHIND V2 FORD TRANSIT. V2 SLOWED AND V1 DROVE INTO REAR OF V2.
A09D01905	Friday A354 HIGH STREET OUTSIDE NO 59 Veh 1 Car Turning right NW to SW Ped F 15 Slight
	15/05/2009 AT THE JUNCTION WITH A354
A 354	1045hrs FORTUNESWELL, PORTLAND.
F 2(0 777	Daylight:street lights present Wet/Damp
E 368,757	•
N 73,376	Fine without high winds
	30 mph
	V1 VW POLO TURNED RIGHT AND CLIPPED ELBOW OF C1 ON PEDESTRIAN CROSSING.

INTERMEDIATE ACCIDENT REPORT

7 of 16 Run on: 31/ 05/2012

TRAFFMAP AccsMap - Accident Analysis System

Details of Personal Injury Accidents for Period - 01/03/2007 to 29/02/2012 (60) months

Selection:

Notes:

				Vehicles					ualtie	
Police Ref.	Day Date	Location Description	Veh N	o / Type / Ma	nv / Dir / Class			Sex	/ Ag	e / Sev
Road No.	Time									
Grid Ref.	D/L									
	R.S.C									
	Weather Speed									
	•									
	Account of Accident									
4000010/1	T 1		Veh 1	Car	Going ahead	S to N				
A09D01961	Tuesday 19/05/2009	A354 PORTLAND BEACH ROAD APPROX 1500M SOUTH OF FERRY	Veh 2		Stopping	S to N	FSP	F	68	Slight
A 354	1200hrs	BRIDGE, PORTLAND.	Veh 3	Car	Going ahead	N to S				-
E 367,357	Daylight: n Dry	no street lighting								
E 307,337 N 74,775	Fine with h	nigh winds								
, , -	60 mph									
	V3 FORD FOO	CUS POLICE VEHICLE WAS TRAVELL	NG SOI	ITH ON AN EM	EPGENCY CALL V2	VALIVHAL	I ASTD	• • •	INS	TRAVELLING
		PULLED OVER AND STOPPED BUT W				VAUAIIAL	LASIN		AS	IRAVELLING
A09D02007	Friday	A354 PORTLAND BEACH RD AT UC	Veh 1	M/C > 500 cc	Going ahead	NWto SE	Dri	М	26	Serious
A07D02007	-	CHESIL BEACH CAR PARK &	Veh 1		Going ahead	NWto SE		М		Serious
A 354	2005hrs	APPROX 780M S OF UC WHITEHEAD								
E 366,861	Dayngnt.st Dry	treet lights present								
N 75,627		ut high winds								
	60 mph									
	PEDESTRIAN	WHO WAS CROSSING THE ROAD WA	AS STRU	CK BY V1 YAN	MAHA FAZER 500CC+	MOTORCY	CLE.			
A09D02306	Friday	UC VERNE COMMON ROAD AT THE	Veh 1	Goods < 3.5t	Reversing	SW to NE				
	-	T JUNCTION WITH A354 CASTLE	Veh 2	Car	Wait go ahead held up		Dri	F	24	Slight
U	1350hrs Davlightist	ROAD, PORTLAND. treet lights present								
E 368,470	Dayngin.st Dry	neet nghts present								
N 73,654	Fine witho	ut high winds								
	30 mph									
	V1 FORD TRA	ANSIT INTENDED TO TURN RIGHT AT	THE JU	NCTION, THEN	I CHANGED HIS MINI	O AND REVI	ERSED	ANE) STI	RUCK V2
	ROVER 25 W	HICH WAS WAITING BEHIND.								
A09D02587	Monday	A354 NEW ROAD APPROX 5M SOUT	H Veh 1	M/C > 125 cc	Going ahead RH bend	NWto SW	Dri	F	40	Slight
A 354		OF UC VERNE HILL ROAD, PORTLAND.								
A 354	1154hrs Daylight:st	treet lights present								
E 368,934	Dry									
N 73,264	Fine witho	ut high winds								
	30 mph									
	V1 HONDA C	B400 TOOK RIGHT HAND BEND WIDE	AND H	IT KERB.						

INTERMEDIATE ACCIDENT REPORT

8 of 16 Run on: 31/05/2012

TRAFFMAP AccsMap - Accident Analysis System

Details of Personal Injury Accidents for Period - 01/03/2007 to 29/02/2012 (60) months

Selection:

Notes:

Selected using Manual Selection

Police Ref. Road No.	Day Location Description Date	Vehicles Veh No / Type / Manv / Dir / Class	Casualties Sex / Age / Sev
Grid Ref.	Time D/L R.S.C Weather Speed		
	Account of Accident		
A09D03210 U E 368,982	Saturday UC VERNE HILL ROAD APPROX 45M 08/08/2009 EAST OF UC TILLYCOMBE ROAD, 2232hrs PORTLAND. Darkness: no street lighting Dry	Veh 1 Car Going ahead NE to SW Pe	d M 44 Fatal
N 73,276	Fine without high winds 60 mph		
		AS STRUCK BY UNKNOWN MAKE VI TRAVELLING SOU	THWEST. VI FTS. C1
A09D03328 A 354 E 367,094	Saturday A354 PORTLAND BEACH ROAD 15/08/2009 APPROX 1280M SOUTH OF A354 1114hrs PORTLAND ROAD, PORTLAND. Daylight: no street lighting Dry	Veh 1CarGoing aheadNW to SEVeh 2M/C > 500 ccGoing aheadSE to NW Dr	i M 54 Serious
N 75,189	Fine without high winds		
	60 mph		
	V1 AUDI A3 TRAVELLING SOUTH DROVE ACROSS	LANE DIVIDE INTO PATH OF V2 SUZUKI 1000 MOTORCY	CLE. D1 POSITIVE BT.
A09D04463 A 354 E 367,778	SaturdayA354 PORTLAND BEACH ROAD31/10/2009APPROX 325M NORTH OF UC0136hrsCOODIE WAY, PORTLAND.Darkness: street lights present aWet/Damp	Veh 1 Taxi Going ahead NW to SE RS	SP F 36 Slight
E 307,778 N 74,373	Fine without high winds		
	50 mph		
	INTOXICATED C1 EXITED MOVING V1 VAUXHALL	ASTRA.	
A09D04720	Friday A354 PORTLAND BEACH ROAD AT	Veh 1 Car Turning right W to W	
A 354	13/11/2009 THE JUNCTION WITH UC 1720hrs FERRYMANS WAY, PORTLAND. Darkness: street lights present a	Veh 2 $M/C < 125$ cc Going ahead S to N Dr	i M 20 Slight
E 366,670	Wet/Damp		
N 76,301	Raining without high winds 30 mph		
	V1 LEXUS IS 220D SPORT EXITED WITH A RIGHT T	URN FROM MINOR ROAD AND WAS STRUCK BY V2 WHI	CH WAS TRAVELLING

V1 LEXUS IS 220D SPORT EXITED WITH A RIGHT TURN FROM MINOR ROAD AND WAS STRUCK BY V2 WHICH WAS TRAVELLING NORTH ON MAJOR ROAD.

INTERMEDIATE ACCIDENT REPORT

9 of 16 Run on: 31/05/2012

TRAFFMAP AccsMap - Accident Analysis System

Details of Personal Injury Accidents for Period - 01/03/2007 to 29/02/2012 (60) months

Selection:

Notes:

Selected using Manual Selection

Police Ref. Road No. Grid Ref.	Vehicles Casualties Day Location Description Veh No / Type / Manv / Dir / Class Sex / Age / Sev Date Time D/L F.S.C Veh No / Type / Manv / Dir / Class Veh No / Type / Manv / Dir / Class By K.S.C Veh No / Type / Manv / Dir / Class Veh No / Type / Manv / Dir / Class Veh No / Type / Manv / Dir / Class Speed Account of Veh No / Type / Manv / Dir / Class Veh No / Type / Manv / Dir / Class
A09D04752 A 354 E 368,489 N 73,623	Accident Tuesday A354 FORTUNESWELL OUTSIDE NO Veh 1 Car Going ahead LH bend NW to SE Dri M 48 Slight 17/11/2009 4 ALBION CRESCENT, APPROX 26M Veh 1 Car Going ahead LH bend NW to SE RSP F 22 Slight 2350hrs WEST OF UC QUEENS ROAD, Veh 2 Goods < 3.5t Parked 0 to 0 F 22 Slight Darkness: street lights present a Veh 3 Car Parked 0 to 0 Veh 3 Veh 4 Car Parked 0 to Veh 4 Veh 4 Car Parked 0 to Veh 4 Veh 5 Veh 4 Veh 4
A09D04974 A 354 E 367,505 N 74,653	HIT REAR OF V4 FORD ESCORT INTO V5 PEUGEOT 405 INTO V6 VW LT35 TDI MWB. Thursday A354 PORTLAND BEACH ROAD AT Veh 1 Car Stopping SE to NW Dri F 41 Slight 26/11/2009 THE RAB JUNCTION WITH UC HAMM Veh 1 Car Stopping SE to NW FSP F 15 Slight 1529hrs BEACH ROAD, PORTLAND. Veh 2 Car Going ahead SE to NW Daylight:street lights present Wet/Damp Raining with high winds 50 mph V1 VW POLO ENTERING RAB STOPPED FOR UNKNOWN MAKE VEHICLE. V2 FORD FIESTA FOLLOWING V1 FTS AND STRUCK IT TO REAR.
A10D00767 A 354 E 366,856 N 75,640	Friday A354 PORTLAND BEACH RD AT UC Veh 1 M/C > 500 cc O/take m/veh o/side N to S Dri M 30 Slight 26/02/2010 TO CHESIL BEACH CAR PARK & Veh 2 Car Change lane to right N to S 1250hrs 770M SE OF UC WHITEHEAD DRIVE, Veh 2 Car Change lane to right N to S Daylight: no street lighting Dry Fine with high winds 60 mph
A10D01368 A 354 E 368,286 N 73,778	VI SUZUKI GXSR WAS IN FILTER LANE OVERTAKING WHEN V2 VOLVO 740 PULLED INTO FILTER LANE. V1 HIT REAR V2. Monday A354 VICTORIA SQUARE AT THE 12/04/2010 RAB JUNCTION WITH UC QUEEN Veh 1 M/C > 125 cc O/take m/veh o/side NW to SE Dri M 39 Slight Veh 2 Car Turning right NW to SW 1715hrs STREET, PORTLAND. Daylight:street lights present Dry Fine without high winds 30 mph

V1 HONDA CB500S WAS OVERTAKING SLOW MOVING TRAFFIC AND FAILED TO SEE V2 RENAULT LAGUNA WHICH WAS INDICATING TO TURN RIGHT.

INTERMEDIATE ACCIDENT REPORT

10 of 16 Run on: 31/05/2012

TRAFFMAP AccsMap - Accident Analysis System

Details of Personal Injury Accidents for Period - 01/03/2007 to 29/02/2012 (60) months

Selection:

Notes:

Delles Def	Dev. Leasting Description	Vehicles	Casualties
Police Ref.	Day Location Description Date	Veh No / Type / Manv / Dir / Class	Sex / Age / Sev
Road No.	Time		
Grid Ref.	D/L		
	R.S.C Worther		
	Weather Speed		
	Account of		
	Accident		
A10D027044	Thursday A354 PORTLAND BEACH ROAD	Veh 1 Car Going ahead W to SE	
A10D027044	24/06/2010 APPROX 20M SE OF RAB WITH UC	Veh 2 Bus/coach Going ahead SE to NW RSP	F 21 Slight
A 354	1827hrs HAMM BEACH ROAD, PORTLAND. Daylight:street lights present		
E 367,559	Daynght.street rights present Dry		
N 74,612	Fine without high winds		
	50 mph		
	V1 FERRARI 360 WAS TRAVELLING SEBOUND TO	VARDS PORTLAND. ON EXIT FROM RAB V1 LOST CONTRO	L HITTING V2
	LEYLAND DOUBLE DECKER BUS TRAVELLING N		
A10D032563	Wednesday A354 AT BUSTOP AND APPROX 15M	Veh 1 Car O/take s/veh o/side NW to SE Ped	F 08 Slight
	28/07/2010 NW OF A354, PORTLAND.	Veh 2 Bus/coach Wait go ahead held up NWto SE	-
A 354	1515hrs Daylight:street lights present		
E 368,758	Dry		
N 73,389	Fine without high winds		
	30 mph		
	CHILD RAN OUT IN FRONT OF V2 STATIONARY B	JS AND COLLIDED WITH V1. NO DETAILS FOR V2 BUS / D2	2 DRIVER.
A10D046829	Sunday A354 PORTLAND BEACH ROAD	Veh 1 Car Going ahead S to N	
	24/10/2010 OUTSIDE THE FERRY BRIDGE PH,	Veh 2 Pedal cycle Going ahead N to S Dri	M 11 Slight
A 354	2010hrs PORTLAND. Darkness: street lights present a		
E 366,676	Dry		
N 76,271	Fine without high winds		
	30 mph		
		HE PAVEMENT WITH FRIENDS. HE TRIED TO DO A TRICK SING CYCLE COLLIDED WITH THE SIDE OF THE CAR CAUS	
4 1000000000		Veh 1 Goods < 3.5t O/take s/veh o/side NW to SE Ped	F 14 Slight
A10D055520	Saturday A354 FORTUNESWELL AT A354, 18/12/2010 AND OUTSIDE NO 54 BOOTS THE	Ven 1 Obods < 5.5t	i it ongin
A 354	1804hrs CHEMIST, PORTLAND. Darkness: street lights present a		
E 368,763	Dry		
N 73,384	Fine without high winds		
	30 mph		
	V1 COLLIDED WITH C1 GIRL WHO RAN IN FRONT	OF V2 STATIONARY BUS. NO DETAILS V2/D2.	

INTERMEDIATE ACCIDENT REPORT

11 of 16 Run on: 31/05/2012

TRAFFMAP AccsMap - Accident Analysis System

Details of Personal Injury Accidents for Period - 01/03/2007 to 29/02/2012 (60) months

Selection:

Notes:

Selected using Manual Selection

		** 1	Vehicles					ualti	
Police Ref.	Day Location Description Date	Veh N	o / Type / Mai	nv / Dir / Class			Sex	/ Ag	e / Sev
Road No.	Time								
Grid Ref.	D/L								
	R.S.C								
	Weather								
	Speed								
	Account of								
	Accident								
A11D002491	Tuesday A354 PORTLAND BEACH ROAD RAB	Veh 1	Car	Stopping	NWto SE	FSP	F	69	Slight
A 354	18/01/2011 AT UC PRIVATE HAMM BEACH 1050hrs ROAD, PORTLAND.	Veh 2	Taxi	Stopping	NWto SE				
A 334	1050hrs ROAD, PORTLAND. Daylight:street lights present								
E 367,546	Dry								
N 74,651	Fine without high winds								
	50 mph								
	V2 STOPPED SUDDENLY IN LINE OF TRAFFIC, V1 H	HT REA	R OF V2						
	v2 STOTTED SODDENET IN LINE OF TRAFFIC, VIT		IK 01 V2.						
A11D011383	Sunday A354 FORTUNESWELL AT PRIVATE	Veh 1		Turning right	NE to NW				
A 354	13/03/2011 ENTRANCE TO LIBRARY, 1850hrs PORTLAND.	Veh 2	M/C < 125 cc	Going ahead LH bend	NWto SE	Dri	М	44	Slight
	Daylight:street lights present								
E 368,838	Dry								
N 73,317	Fine without high winds								
	30 mph								
	V1 PULLED SLOWLY OUT OF CAR PARK TO TURN	RIGHT	AND V2 MOTO	RCYCLE DRIVING SI	OWLY ARC	DUND	THE	BLIN	ID BEND
	TOWARDS THE CAR PARK MADE CONTACT WITH	REAR V	/1						
A11D022550	Saturday A354 PORTLAND BEACH ROAD AT	Veh 1	Car	Going ahead	SE to NW	Dri	М	26	Slight
	21/05/2011 PRIVATE UC TO BLUEWATER	Veh 2	Car	Stopping	SE to NW	Dri	М	43	Slight
A 354	1400hrs HORIZONS CHANDLERY AND CAFE, Daylight:street lights present		Car	Wait to turn right	SE to E	Dri	F		Slight
E 366,771	Dayingitt.succt rights present	Veh 3	Car	Wait to turn right	SE to E	FSP	M	10	e
N 75,869	Fine without high winds	Veh 3	Car	Wait to turn right	SE to E	RSP	IVI	11	Slight
,	60 mph								
	VACIONED TO TUDN DICUT OFF MAJOR DOAD M	2 DEUD							
	V3 SLOWED TO TURN RIGHT OFF MAJOR ROAD, V V2, WHICH WAS SHUNTED INTO REAR V3.	2 BEHI	ND SLOWED BU	UT V3 BEHIND V2 DII	O NOT REAG	JI IN I	IME	ANI	O HI I KEAK
		Val 1	Cor	Going ahead	NE to S				
A11D048549	Wednesday A354 340M SW OF VERNE HILL ROD 26/10/2011 NEW ROAD PORTLAND	Veh 1 Veh 2		Going ahead	NE to S S to NE	Dri	м	69	Slight
A 354	1507hrs	10112	Cui	Sonig uncau	5 WILL	DII	141	0)	Sugur
	Daylight:street lights present								
E 368,708	Dry								
N 73,041	Fine without high winds								
	40 mph								
	MI OROGOED OF MEDE MUNTE LAND COLUMNE			IC DI THE ODDOCITE	DIDECTION	r			

V1 CROSSED CENTRE WHITE LINE AND COLLIDED WITH V2 TRAVELLING IN THE OPPOSITE DIRECTION

INTERMEDIATE ACCIDENT REPORT

12 of 16 Run on: 31/05/2012

TRAFFMAP AccsMap - Accident Analysis System

Details of Personal Injury Accidents for Period - 01/03/2007 to 29/02/2012 (60) months Selection: Notes: Selected using Manual Selection Notes:					
Police Ref. Road No. Grid Ref.	Vehicles Casualties Day Location Description Veh No / Type / Manv / Dir / Class Sex / Age / Sev Date Time D/L R.S.C Weather Speed Account of				
x11D054203 354 367,037 75,294	Accident Wednesday A354 820M NW UC HAM BEACH Veh 1 Car Wait go ahead held up N to S 30/11/2011 ROAD BEACH ROAD PORTLAND Veh 2 Car Wait go ahead held up N to S Dri F 37 Slight 0903hrs Veh 3 Car Going ahead N to S Dri F 37 Slight Daylight:street lights present Wet/Damp Fine with high winds 60 mph Fine with high winds Fine with winds Fine winds Fine winds Fine				
112D003394 354 368,808 73,328	V1 AND V2 WERE STATIONARY AT TEMP STOP SIGN UNDER HUMAN CONTROL V3 BRAKES ON APPROACH CAUSING OFF SII WHEEL TO LOCK V3 SKIDS AND COLLIDES WITH REAR OF V2 V2 THROWN FORWARD AND COLLIDES WITH REAR OF V1 Monday A354 FORTUNESWELL AT JUNCTION Veh 1 Minibus Going ahead E to N Ped M 13 Slight 23/01/2012 WITH UC HAMBRO ROAD 1730hrs PORTLAND Darkness: street lights present a Dry Fine without high winds 20 mmb				
12D003890 354 366,671 76,300	30 mph PEDESTRIAN CROSSING ROAD USING PEDESTRIAN CROSSING AND WAS STRUCK ON THE ARM BY UNKNOWN V1 Friday A354 PORTLAND ROAD AT Veh 1 Taxi Turning right N to W 27/01/2012 JUNCTION WITH UC FERRYMANS Veh 2 M/C > 500 cc O/take s/veh o/side N to S Dri M 41 Slight 1445hrs WAY WEYMOUTH Daylight:street lights present Dry Fine without high winds				
12D003938 354 367,354 74,776	30 mph VI IN STATIONARY TRAFFIC TURNS RIGHT V2 OVERTAKING AT SAME TIME COLLIDES WITH V1 Friday A354 PORTLAND BEACH ROAD 220M Veh 1 Car Going ahead N to SE Dri F 18 Slight 27/01/2012 NORTH HAMM BEACH ROAD Veh 2 Car Going ahead SE to N 1853hrs PORTLAND Darkness: street lights present a Dry Fine without high winds				
	60 mph V1 LOST CONTROL AND CAREERED TO OFFSIDE OF ROAD COLLIDING WITH V2				

Appendix A

INTERMEDIATE ACCIDENT REPORT

13 of 16 Run on: 31/05/2012

TRAFFMAP AccsMap - Accident Analysis System

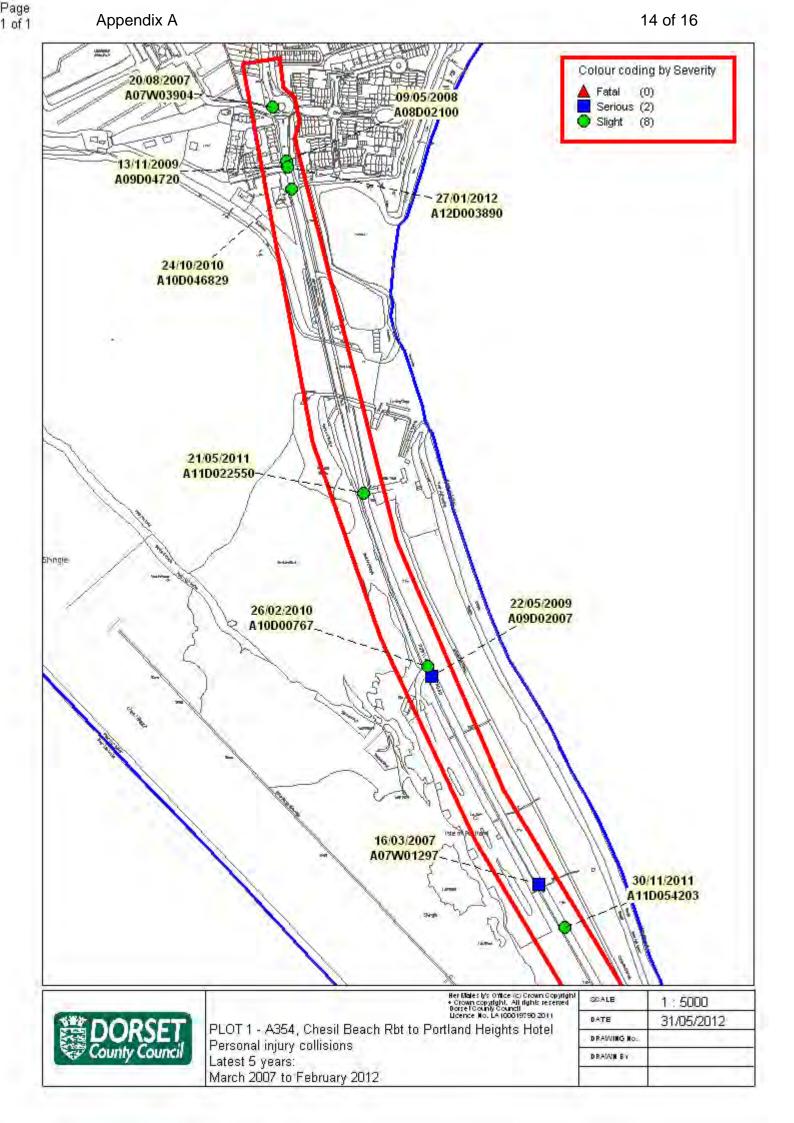
Details of Personal Injury Accidents for Period - 01/03/2007 to 29/02/2012 (60) months

Selection:

Notes:

Selected using Manual Selection

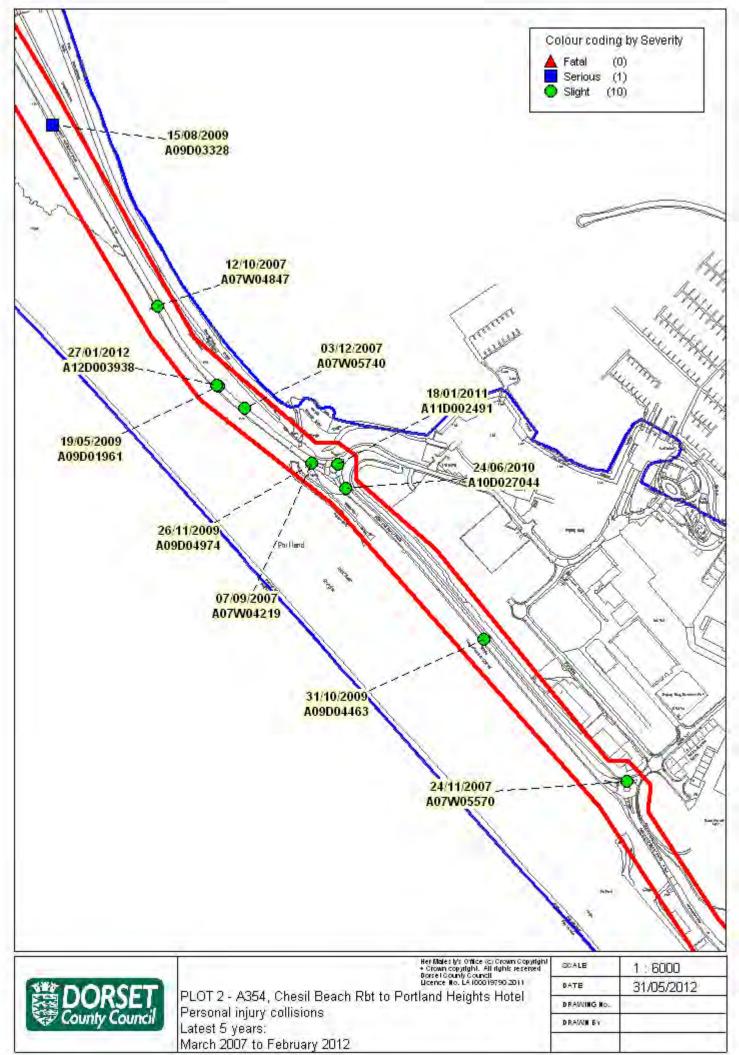
				Vehicles				Cas	sualties	
Police Ref.	Day	Location Description Veh No / Type / Manv / Dir / Class							k / Age / Sev	/
Deed Ne	Date									
Road No.	Time									
Grid Ref.	D/L									
	R.S.C									
	Weather									
	Speed									
	A									
	Account of Accident									
	110014014									
A12D007358	Monday	A354 VICTORIA SQUARE AT	Veh 1	Car	Going ahead	S to	N			
	20/02/2012	JUNCTION WITH A354 VICTORIA	Veh 2	Car	Wait go ahead held up	S to	N Dri	F	31 Slight	t
A 354	1030hrs	ROAD PORTLAND								
		reet lights present								
E 368,273	Dry									
N 73,748	Fine without	ut high winds								
	30 mph									

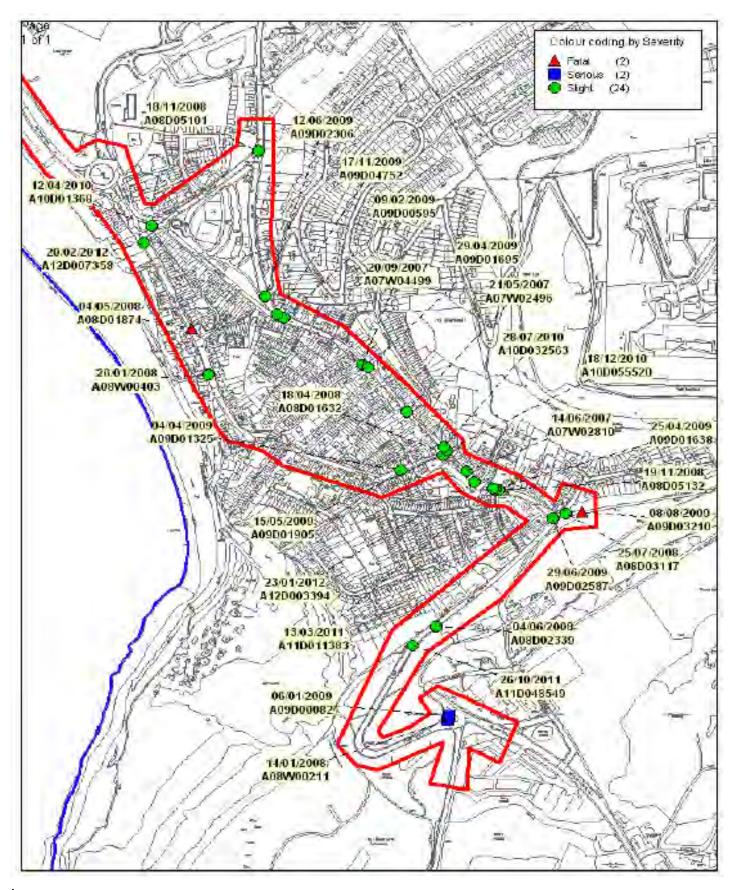


Page 1 of 1

Appendix A

15 of 16





	Her Mates t/s Office (c) Crown Copyright + Crown copyright, Ail rights reserved Dorse Locury Council	DOALE	1:6000
MA DODCET	Licence No. LA (000/19790 2011	DATE	31/05/2012
DOKOLI	PLOT 3 - A354, Chesil Beach Rbt to Portland Heights Hotel Personal injury collisions	DRAWING No.	
Se County Council	Latest 5 years:	DRAWN BY	
	March 2007 to February 2012		

APPENDIX B

TA 79/99 AMENDMENT NO 1 TRAFFIC CAPACITY OF URBAN ROADS

VOLUME 5 ASSESSMENT AND PREPARATION OF ROAD SCHEMES SECTION 1 PREPARATION AND IMPLEMENTATION

PART 3

TA 79/99 AMENDMENT NO 1

TRAFFIC CAPACITY OF URBAN ROADS

SUMMARY

Advice Note TA 79/99, published February 1999, was wrongly placed in Section 2 of DMRB Volume 5. All users should arrange for the document TA 79/99 to be inserted in Volume 5, Section 1, Part 3 of DMRB. References within the document to Section 2, Part 2 should also be corrected accordingly.

INSTRUCTIONS FOR USE

- 1. Remove Advice Note TA 79/99 from Volume 3 of the DMRB.
- Amend the volume references on all pages of TA 79/99 to read Volume 5, Section 1, Part 3 of DMRB.
- 3. Remove existing title page and insert amended title page and Note to Users in front of Contents sheet of TA 79/99.
- 4. Enter the details of the amendment on the Registration of Amendment sheet, sign and date to confirm that the amendment has been incorporated.

Note: A quarterly index with a full set of Volume Contents Pages is available separately from The Stationery Office Ltd. DESIGN MANUAL FOR ROADS AND BRIDGES

TA 79/99 Incorporating Amendment No 1 dated May 1999

Image: Market StateTHE HIGHWAYS AGENCYImage: Market StateTHE SCOTTISH OFFICE DEVELOPMENT DEPARTMENTImage: Market StateTHE WELSH OFFICE
Y SWYDDFA GYMREIGImage: Market StateTHE DEPARTMENT OF THE ENVIRONMENT FOR
NORTHERN IRELAND

Traffic Capacity of Urban Roads

Summary:

Advice Note TA 79/99, published February 1999, was wrongly placed in Section 2 of DMRB Volume 5.

Note to Users

- 1. Advice Note TA 79/99 published by the Highways Agency in February 1999 was placed erroneously in DMRB 5.2.2.
- 2. All users should arrange for the document TA 79/99 to be inserted in Volume 5, Section 1, Part 3 of DMRB. References within the document to Section 2, Part 2 should also be corrected accordingly.

REGISTRATION OF AMENDMENTS

Amend No	Page No	Signature & Date of incorporation of amendments	Amend No	Page No	Signature & Date of incorporation of amendments

REGISTRATION OF AMENDMENTS

Amend No	Page No	Signature & Date of incorporation of amendments	Amend No	Page No	Signature & Date of incorporation of amendments

VOLUME 5 ASSESSMENT AND PREPARATION OF ROAD SCHEMES SECTION 2 PREPARATION AND IMPLEMENTATION

PART 2

TA 79/99

TRAFFIC CAPACITY OF URBAN ROADS

Contents

Chapter

- 1. Introduction
- 2. General Principles
- 3. Determination of Urban Road Capacity
- 4. Assessment Procedure
- 5. Enquiries

1. INTRODUCTION

General

1.1 Traffic flows on urban trunk roads in Greater and Outer London has been analysed to assess the capacities that can be achieved for different road types and widths. From this information the main features that affect capacity have been defined and the results presented in tabular form.

1.2 This document supersedes section 5 and Appendix 2 of TD 20/85 "Traffic Flows and Carriageway Width Assessment". TD 20/85 is now entirely superseded by both this document and TA 46/97. TD 20/85 is hereby withdrawn.

1.3 For **rural** roads reference should be made to TA 46/97 "Traffic Flow Ranges for Use in the Assessment of New Rural Roads".

Scope

1.4 This Advice Note gives the maximum hourly vehicle capacity for various types of Urban Trunk Road. All capacities quoted are for traffic compositions including up to 15% heavy vehicles; corrections are provided for higher proportions.

1.5 The capacities may be used as starting points in the design and assessment of new urban trunk road links. They may also be used as a guide to the capacity of existing urban roads, and for assessing the likely effect on capacity of proposed changes to specific road features including carriageway width.

1.6 It should be borne in mind that the assessment of carriageway width is not based solely on peak hour travel demand.

Cost and environmental impact should also be taken into account. A judgement may therefore have to be made between adopting reduced width of carriageway, weighed against any adverse effects incurred by providing for a higher level of demand.

Implementation

1.7 This Advice Note should be used forthwith for all schemes for the construction of urban trunk roads including improvements, with the approval of the Overseeing Organisation. The exceptions are schemes currently being prepared where this would result in significant additional expense or delay progress.

Definitions

1.8 Urban Motorway

A motorway with a speed limit of 60 mph or less within a built up area.

1.9 Urban All-Purpose Road (UAP)

An all-purpose road within a built up area, either a single carriageway with a speed limit of 40 mph or less or a dual carriageway with a speed limit of 60 mph or less.

1.10 Capacity

For the purposes of this Advice Note, capacity is defined as the maximum sustainable flow of traffic passing in 1 hour, under favourable road and traffic conditions.

2. GENERAL PRINCIPLES

Application of Capacity values

2.1 The guidance in this document should be used flexibly. In some circumstances, the use of a reduced width of carriageway will result in significant savings or environmental benefits, which outweigh the disbenefits of congestion during peak periods.

2.2 The capacity of urban roads can be affected by a wide range of factors that may not always be accurately predicted by the road features identified. For this reason capacity flows may be up to 10% more or less than the values given in this document.

Features Affecting Capacity

2.3 The potential capacity of a link will not be reached if either the capacity of junctions along the link or the capacity of the adjoining network is lower than the link in question. The flow on an urban road may also be affected by turning movements restricting the mainline capacity. Such constraints should be identified at an early stage.

2.4 Urban roads normally have higher flows in the morning and evening peaks than at other times of day. Improving features that affect the capacity would help prevent congestion during these periods.

2.5 The flows given in the tables are the maximum that typical urban roads can carry consistently in an hour. The principal factors that may affect flow levels on urban roads are given in Table 1.

For motorways the prime determinant is the carriageway width, but for all-purpose roads flow is also affected by the speed limit, the frequency of side roads, the degree of parking and loading, the frequency of at grade pedestrian crossings, bus stops, and accesses.

2.6 The capacity of the lower width roads will be significantly reduced by parking and temporary width restrictions caused by such activities as maintenance and Statutory Undertakers' Works. The lowest widths are unlikely to be suitable for bus routes or for significant volumes of heavy goods vehicles.

2.7 Roads in Category UAP3 and UAP4 may carry high proportions of local traffic, resulting in an increase in turning movements at junctions and accesses.

2.8 Capacity will also be affected by prevailing weather and night conditions. The capacities shown are for "favourable" daylight conditions.

Feature	ROAD TYPE									
	Urban Motorway		Urban All-purpose							
	UM	UAP1	UAP2	UAP3	UAP4					
General Description	Through route with grade separated junctions, hardshoulders or hardstrips, and motorway restrictions.	High standard single/dual carriageway road carrying predominantly through traffic with limited access.	Good standard single/dual carriageway road with frontage access and more than two side roads per km.	Variable standard road carrying mixed traffic with frontage access, side roads, bus stops and at- grade pedestrian crossings.	Busy high street carrying predominantly local traffic with frontage activity including loading and unloading.					
Speed Limit	60mph or less	40 to 60 mph for dual, & generally 40mph for single carriageway	Generally 40 mph	30 mph to 40 mph	30mph					
Side Roads	None	0 to 2 per km	more than 2 per km	more than 2 per km	more than 2 per km					
Access to roadside development	None. Grade separated for major only.	limited access	access to residential properties	frontage access	unlimited access to houses, shops & businesses					
Parking and loading	none	restricted	restricted	unrestricted	unrestricted					
Pedestrian crossings	grade separated	mostly grade separated	some at-grade	some at-grade	frequent at-grade					
Bus stops	none	in lay-bys	at kerbside	at kerbside	at kerbside					

Table 1 Types of Urban roadsand the features that distinguish them

3. DETERMINATION OF URBAN ROAD CAPACITY

3.1 Table 1 sets out the types of Urban Roads and the features that distinguish between them and affect their traffic capacity. Tables 2 & 3 give the flow capacity for each road type described in Table 1.

3.2 Table 4 gives the adjustments when the proportion of heavy vehicles in a one way flow exceeds 15%. A heavy vehicle is defined in this context as OGV1, OGV2 or Buses and Coaches as given in the COBA Manual (DMRB 13.1 Part 4, Chapter 8).

3.3 The flows for road type UM in Table 2 apply to urban motorways where junctions are closely spaced giving weaving lengths of less than 1 kilometre. Urban motorways with layout and junction spacing similar to rural motorways can carry higher flows and TA46/97 "Traffic Flow Ranges for Use in the Assessment of New Rural Roads" will be more applicable.

3.4 Flows for single carriageways are based upon a 60/40 directional split in the flow. The one-way flows shown in Table 2 represent the busiest flow 60% figure.

3.5 The capacities shown apply to gradients of up to 5-6%. Special consideration should be made for steeper gradients, which would reduce capacity.

3.6 On-road parking reduces the effective road width and disrupts flow, e.g. where parking restrictions are not applied on road type UAP2 the flows are likely to be similar to UAP3 where unrestricted parking applies, see Table 1, Similarly effective parking restrictions can lead to higher flows.

		Two-way Single Carriageway- Busiest direction flow (Assumes a 60/40 directional split)								D	ual Car	riagewa	ay	
		Total number of Lanes							Num		anes in	each		
			2	2		2-3	3	3-4	4	4+	2 3 4			
	ageway dth	6.1m	6.75m	7.3m	9.0m	10.0m	12.3m	13.5m	14.6m	18.0m	6.75m 7.3m		11.0m	14.6m
	UM		Not applicable							4000	5600	7200		
	UAP1	1020	1320	1590	1860	2010	2550	2800	3050	3300	3350	3600	5200	*
Road type	UAP2	1020	1260	1470	1550	1650	1700	1900	2100	2700	2950	3200	4800	*
	UAP3	900	1110	1300	1530	1620	*	*	*	*	2300	2600	3300	*
	UAP4	750	900	1140	1320	1410	*	*	*	*	*	*	*	*

Table 2 Capacities of Urban Roads One-way hourly flows in each direction

Notes

- 1. Capacities are in vehicles per hour.
- 2. HGV $\leq 15\%$
- 3. (*) Capacities are excluded where the road width is not appropriate for the road type and where there are too few examples to give reliable figures.

Carriageway width		6.1m	6.75m	7.3m	9.0m	10.0m	11.0m
		2 lanes			2-31	3 lanes	
Road type	UAP1		2950	3250	3950	4450	4800
	UAP2	1800	2000	2200	2850	3250	3550

Table 3 Capacities of Urban One-Way roads, hourly flows

Notes

- 1. Capacities are in vehicles per hour.
- 2. Capacities for one way road types UAP1 at 6.1m width, UAP3 and UAP4 are not shown as there are too few examples to give reliable capacities.
- 3. Capacities for one-way roads (e.g. UAP2 at 7.3m and 11.0m carriageway widths) are generally less than capacities of dual carriageways in one direction shown in Table 2. The reason is that one-way roads are often of short lengths and form part of a gyratory system between junctions, necessitating high proportion of vehicle weaving and stopping, thereby decreasing the capacities.

	Total reduction in flow level (vehs/hr)						
Heavy Vehicle Content	UM and UAP dual carriageway road	Single carriageway UAP road having width of 10m or wider	Single carriageway UAP road having width less than 10m				
	per lane	per carriageway	per carriageway				
15 - 20%	100	100	150				
20 - 25%	150	150	225				

Table 4 Reduction in flow due to Heavy Vehicle Content

4. ASSESSMENT PROCEDURE

4.1 The capacities given in Tables 2 - 4 provide a guide for the assessment of an appropriate carriageway width and standard. They may be applied to both the design of new urban roads and to the improvement of existing roads. The capacities are intended to help designers make a judgement as to which carriageway standard is likely to provide an acceptable level of service within an urban context when operating close to capacity. The capacities apply to links and take no account of the effects of junctions.

4.2 For improvement options to existing roads the designer should make an appraisal of each of the road features and thereby determine the most appropriate road type given in Table 1. An assessment may then be made of the expected capacity using Tables 2 - 4. It should be calibrated with observed traffic flows to validate the appraisal, taking account of any network constraints that may limit a desirable flow. The effect of link capacity on changes to specific features should then be examined.

4.3 Observations of existing traffic flows should be undertaken by manual classified counts and account taken of hourly, daily and seasonal variations. Reference to continuous automatic traffic count data if available would assist in identifying periods of maximum flow levels and whether traffic levels are operating close to capacity.

4.4 For the design of new urban roads, the carriageway standard options presented herein provide a guide to the desirable standard of carriageway provision given the features of the road and expected traffic levels. They should not be used alone as a design tool, because factors other than peak hour flows should also be considered. They should be regarded as a starting point for more detailed analysis of traffic, economic and environmental aspects.

4.5 For the estimation of future traffic demand levels for urban roads where changes to travel patterns over a wide area are likely to occur, reference should be made to "Traffic Appraisal in Urban Areas" (DMRB Volume 12 Section 2 Part 1).

5. ENQUIRIES

All technical enquiries or comments on this document should be sent in writing as appropriate to:

Traffic, Safety and Environment Divisional Director Highways Agency St Christopher House Southwark Street London SE1 0TE

G CLARKE Traffic Safety and Environmental Divisional Director

The Deputy Chief Engineer The Scottish Office Development Department National Roads Directorate Victoria Quay Edinburgh EH6 6QQ

J HOWISON Deputy Chief Engineer

Head of Roads Major Projects Division Welsh Office Highways Directorate Cathays Park Cardiff CF1 3NQ

B H HAWKER Head of Roads Major Projects Division

Assistant Technical Director Department of the Environment for Northern Ireland Roads Service Clarence Court 10-18 Adelaide Street Belfast BT2 8GB

D O'HAGAN Assistant Technical Director