



Bass Coast Shire Council

SURF PARADE, TOORAK ROAD TO VENUS STREET ONE WAY TRAFFIC SOLUTION

Traffic Investigation Report – Revision A

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CONTENTS

1.0	INTRODUCTION	1
2.0	SITE DESCRIPTION / EXISTING CONDITIONS.....	2
3.0	TRAFFIC USAGE.....	4
4.0	PROPOSAL	5
4.1	Advantages	5
4.2	Disadvantages.....	5
5.0	SUMMARY	7

APPENDICES

- A. Photographs
- B. Traffic Count Data

1.0 INTRODUCTION

Bass Coast Shire Council has requested that HDS Australia undertake an investigation into converting Surf Parade in Inverloch, between Toorak Road and Venus Street, into a one way street with traffic flow from west to east. Most of the traffic engineering issues discussed in this report would also apply for traffic flow from east to west, although consideration of this option was not specifically included as part of the project brief.

Bass Coast Shire Council has provided:

- Excerpt from Inverloch Design Framework 2003;
- Surf Parade crash data;
- Surf Parade traffic data between Toorak Road and Goroke Street;
- Surf Parade traffic data between Goroke Street and Veronica Street;
- Surf Parade traffic data between Veronica Street and Abbott Street, and
- Surf Parade traffic data between Abbott Street and Venus Street.

VicRoads has provided estimated AADT values for Bunurong Road from 2004 to 2010 inclusive.

It is understood that the purpose of the one way system will be to reduce the motorised traffic volume and encourage pedestrian and Human Powered Vehicle (HPV) traffic, such as bicycles.

2.0 SITE DESCRIPTION / EXISTING CONDITIONS

Inverloch is a seaside resort and fishing port located east of Wonthaggi. It has a population of about 5,000.

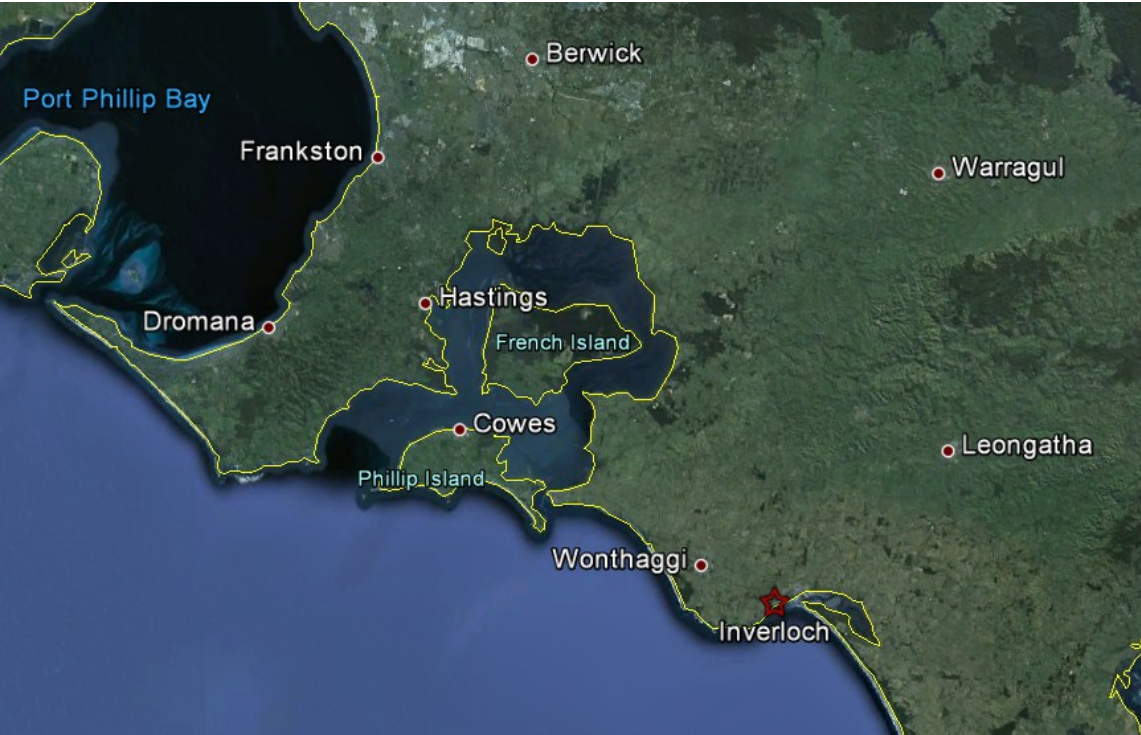


Figure 2.1 – Inverloch locality plan.



Figure 2.2 – Surf Parade, Inverloch

The section of Surf Parade under consideration is a two way carriageway which is about 3 km long and has a seal approximately 6.0 m wide. To the north the land is residential, and to the south is the foreshore. The road currently has a 50 km/h speed limit. There is minimal length of kerb and channel or edge strips. There is also minimal length or width of unsealed shoulder. There is vegetation on both sides of the carriageway, but the driveways and signage make it clear that the area is residential. The section of road includes two, two way, two lane bridges, one over Wreck Creek and one over Ayr Creek.

To the south there are pedestrian access paths and off street car parking to service the foreshore. At the east end there are a number of small on street parking bays on the south side of the carriageway, each about 20 m long. These are both parallel and angle parking.

3.0 TRAFFIC USAGE

Council undertook tube counts at four locations along Surf Parade in April/May 2013, with recorded volumes between 2700 and 3600 for east bound vehicles and between 2500 and 3200 for west bound vehicles for the survey periods. This approximates to 400 to 950 vehicles per day at the west end of the site and 800 to 1200 vehicles per day at the east end. Refer to Appendix B for a photograph showing the four locations and also for the detailed seven day count results.

Although the eastbound flow is measured as higher than the west bound flow, the difference is not considered significant, given the variation that can be expected in traffic volumes. The volume of motorcycles was under 5% and the volume of trucks in the 5% to 10% range. At the time of the traffic count, 50% of vehicles travelling from Goroke Street to Veronica Street were recorded as trucks. This is considered to be an aberration and the more typical 5% to 10% range recorded at the other sites is adopted in this report.

Traffic counts provided by VicRoads over an extended period show no significant growth in traffic volume from 2004 to 2010. No parking occupancy or pedestrian information is available.

Neither Council nor VicRoads could provide seasonally adjustment figures for Inverloch, but a factor of 4 is considered appropriate when comparing peak holiday periods with the April/May dates of the most recent traffic counts.

4.0 PROPOSAL

It is proposed to introduce a one way system along Surf Parade from Toorak Road to Venus Street, with proposed traffic flow from west to east. Note that, as stated in Section 1, much of this report would also apply should traffic flow from east to west be considered.

The purpose of the proposed one way flow is to enhance amenity for vulnerable road users, particularly cyclists and pedestrians making use of the foreshore. It is proposed that the existing 6 m wide pavement will be separated with the north side being used for east bound vehicles and the south side used as a shared path for cyclists and pedestrians.

4.1 Advantages

4.1.1 Public Space

The proposal provides a path suitable for walking, mobility scooters and recreational cycling by people with a wide range of abilities. This significantly increases the size of the cycle friendly network in Inverloch. The location is close to the beach and along the foreshore encouraging exercise and a healthy lifestyle.

The path, although still near to motorised traffic, would (with physical devices) provide adequate separation from motor vehicles and provide a pleasant and family friendly experience for people with a wide range of abilities.

4.2 Disadvantages

4.2.1 Non-Compliance

The primary consideration in introducing such a system is compliance. If the local community does not support the scheme, or there are people who regularly disregard it, the scheme will not work and potentially create dangerous situations for motorists. Means of obtaining compliance include education and signage, physical devices and legal enforcement.

- Education and information includes articles in the local press, letter drops and community meetings with residents and the installation of regulatory "one way" signage.
- Typical physical devices would include Separation or Riley kerb (see Photo No. 1) along the length of the road as well as the provision of left in left out (LiLo) treatments at the side streets (see Photo No. 2) and right in, right out treatments at the carparks. Painted linemarking and islands are not considered adequate to create compliance.
- Legal enforcement would require discussions with and cooperation from the local constabulary, and may be counterproductive to the tourist and sightseeing industries.

In addition, by making the street one way it will present motorists with an open street environment which, unless constrained, will encourage speeding. The physical devices

along the length of the street therefore serve two purposes and are considered important.

This will involve significant capital works.

4.2.2 Restrict Access

The proposal will restrict residents' use of their driveways, as they will only be able to turn left out onto Surf Parade and can only come to their property from the west. Similarly, those using the carparks and accessing the beach will also have to approach from the west side. All on street parking will need to be redesigned to allow passage of the pedestrian path and the off street parking will require the right in, right out treatment with allowance and consideration that this manoeuvre will now be passing through a dedicated pedestrian and cyclist area.

4.2.3 Use of "Back Streets"

By preventing traffic from travelling west on Surf Parade, the westbound vehicles will be moved to Ripple Drive and Lohr Avenue. From the traffic information supplied, it is believed that the extra traffic can be catered for by these streets, although Lohr Avenue has a narrow paved surface with frequent driveway access, potentially necessitating a one way treatment to safely cope with any increase in traffic volume. Certainly, the increase in volume will increase traffic noise and decrease amenity for these residents. This will also affect school buses and service vehicles, such as garbage trucks, which will need to adjust their routes accordingly, increasing travel time.

This may result in a change in the local road hierarchy and the need for additional capital works, such as the changing of priority at intersections.

As a traffic investigation report, no examination of the condition of the existing road pavement in Ripple Drive or Lohr Avenue was carried out, nor was the capacity of each pavement to carry additional traffic loads assessed. However, it is reasonable to assume that additional traffic on these streets may also necessitate the upgrade of their road pavement, especially in Lohr Avenue where residential street scheme paving is currently used.

4.2.4 Path Environment

At the east end of Surf Parade there is currently a shared path which runs parallel between the road and the beach. The proposed path runs between the road and the foreshore, but due to vegetation does not provide views of Bass Strait. The more able bodied pedestrians may prefer to walk along the beach, reducing the number of people using this path.

5.0 SUMMARY

The introduction of a one way system along Surf Parade, with the associated requirement for obtaining driver compliance, is likely to involve significant capital works. The gain in amenity for users of the foreshore may not be as great as expected, being less than that realised by the shared path at the eastern end of Surf Parade. This must be balanced against the loss of amenity to residents who cannot turn right out of their driveways and those in Lohr Avenue and Ripple Drive who will experience additional traffic.

It is therefore concluded that the introduction of a one way system along Surf Parade will not produce sufficient benefits to outweigh the significant capital cost of installing required physical devices as well as the social cost of disruption for residents and other regular vehicle users of Surf Parade such as school buses and service vehicles.

Other traffic calming and speed control methods, may be more appropriate to realise the benefits sought by this one way proposal.

Appendix A

Photographs



Photo No. 1 Sample showing use of separation kerbing

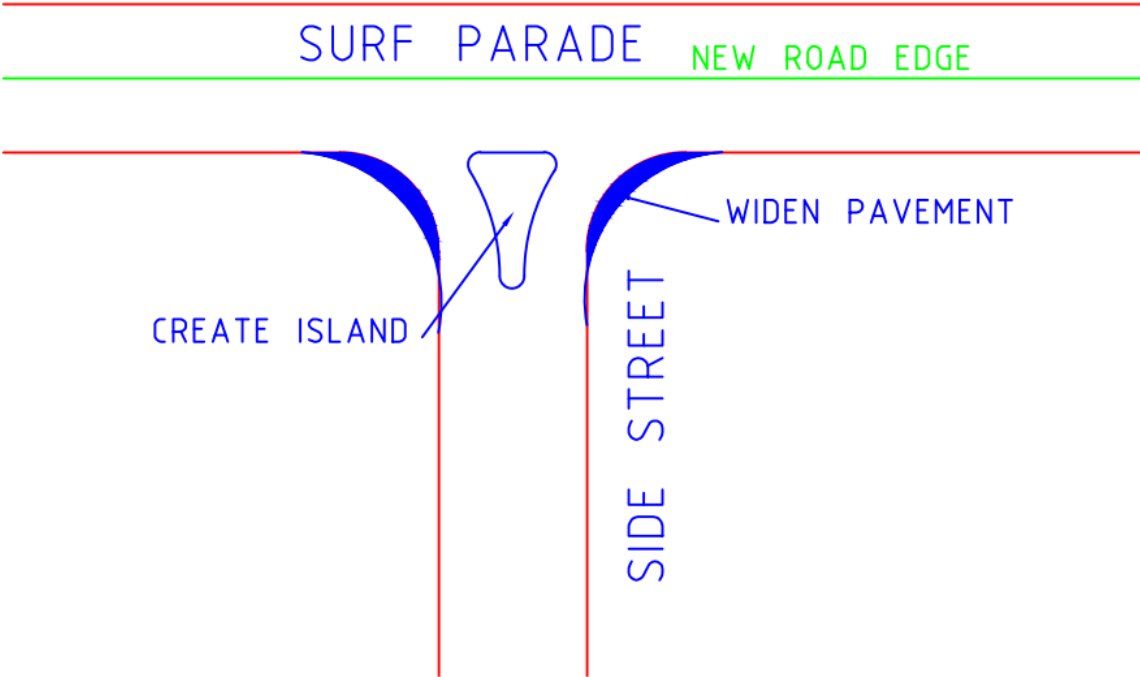


Photo No. 2 Sketch showing sample Left in, Left out (LiLo) treatment



Photo No. 3 Looking west across Abbott Street showing the path and on street parking on the left.



Photo No. 4 Looking east, east of Abbott Street, showing on street parking, existing path and open views of beach



Photo No. 5 Looking east across Goroke Street showing wide road pavement as well as side street and off street parking area.

Appendix B

Traffic Counts



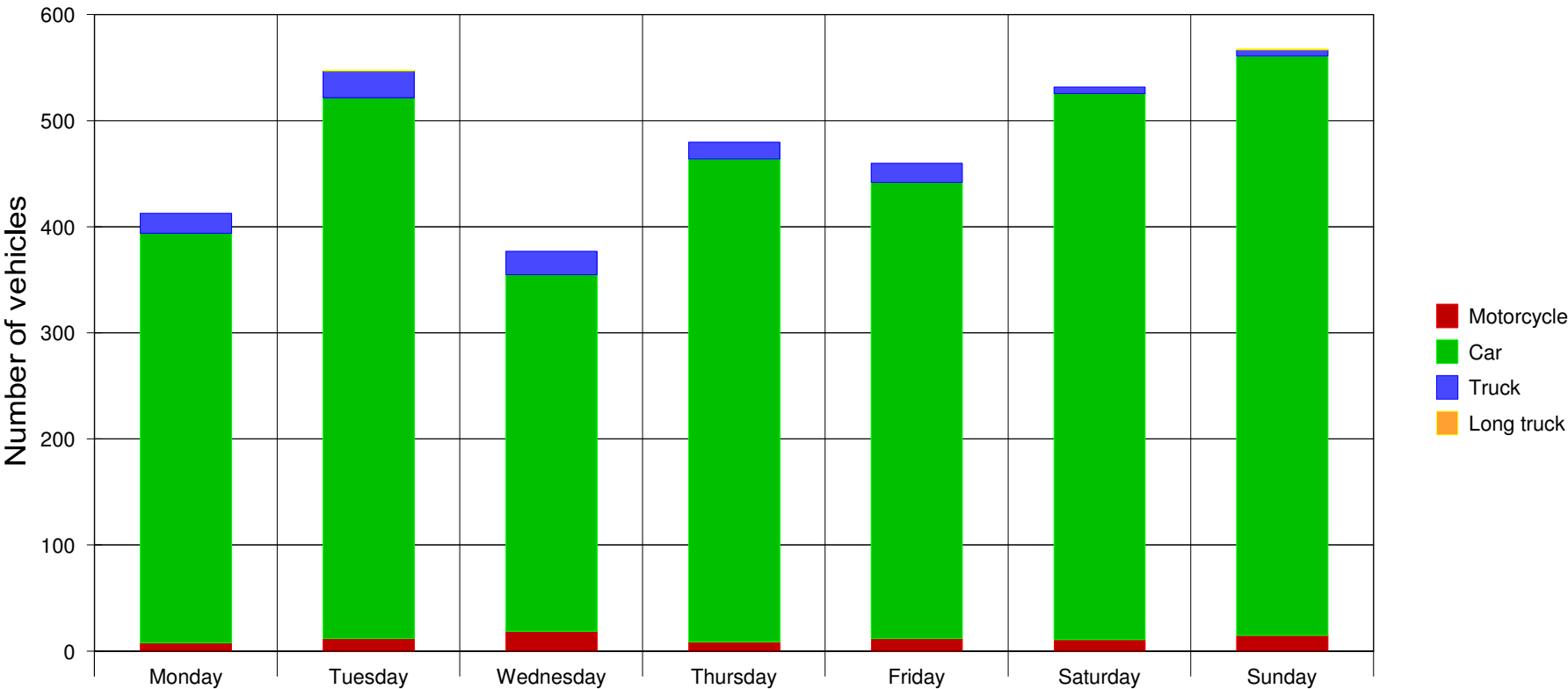
Location of traffic count data collected

Sierzega SRA - Traffic Count Report

Bass Coast Shire Council, 76 McBride Avenue, Wonthaggi, VIC 3995 | DX 34903 Wonthaggi
PO Box 118, Wonthaggi, VIC 3995 | 1300 3COAST (226 278) for standard call cost
basscoast@basscoast.vic.gov.au | www.basscoast.vic.gov.au
A/IN 6107150 740



Traffic Volumes between Toorak & Goroke



Statistics

Period: Tuesday, 30 April 2013, 14:59 o'clock to Tuesday, 7 May 2013, 17:09 o'clock

			Count +	%	Count -	%	Total	%	V15 +	Va +	V85 +	Vmax+	V15 -	Va -	V85 -	Vmax -
Speed violations:	0 %	Motorcycle	27	1.5	59	3.7	86	2.5	12	35	55	61	10	29	54	75
Average time interval:	1.4 sec	Car	1717	95.2	1461	92.8	3178	94.1	46	54	63	88	41	49	59	77
Traffic in column:	6 %	Truck	58	3.2	54	3.4	112	3.3	42	50	59	67	31	45	59	72
ADT:	476	Long truck	1	0.1	1	0.1	2	0.1	50	50	50	50	25	25	25	25
Truck Share:	3 %	Total	1803	53.4	1575	46.6	3378	100	45	53	63	88	39	48	58	74

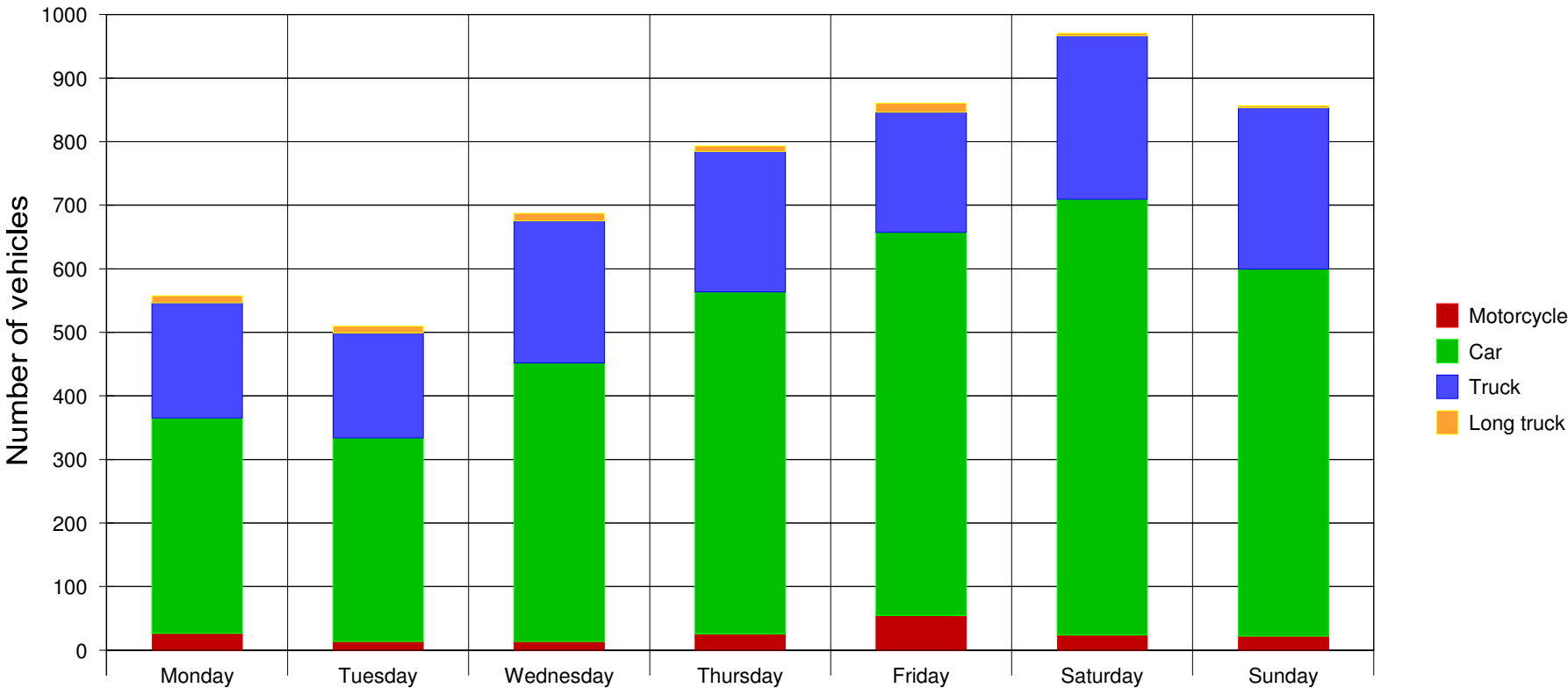


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Traffic Volumes between Goroke & Veronica



Statistics

Period: Tuesday, 7 May 2013, 07:15 o'clock to Tuesday, 14 May 2013, 06:49 o'clock

			Count +	%	Count -	%	Total	%	V15 +	Va +	V85 +	Vmax+	V15 -	Va -	V85 -	Vmax -
Speed violations:	0 %	Motorcycle	39	1.4	143	5.7	182	3.5	11	46	62	74	11	42	60	71
Average time interval:	1.2 sec	Car	2443	89.5	1059	42.2	3502	66.8	46	54	64	102	40	51	64	104
Traffic in column:	9 %	Truck	236	8.6	1256	50.1	1492	28.5	42	52	63	75	46	54	63	101
ADT:	750	Long truck	12	0.4	51	2	63	1.2	50	53	61	65	33	46	56	67
Truck Share:	30 %	Total	2730	52.1	2509	47.9	5239	100	45	54	64	102	43	52	63	104

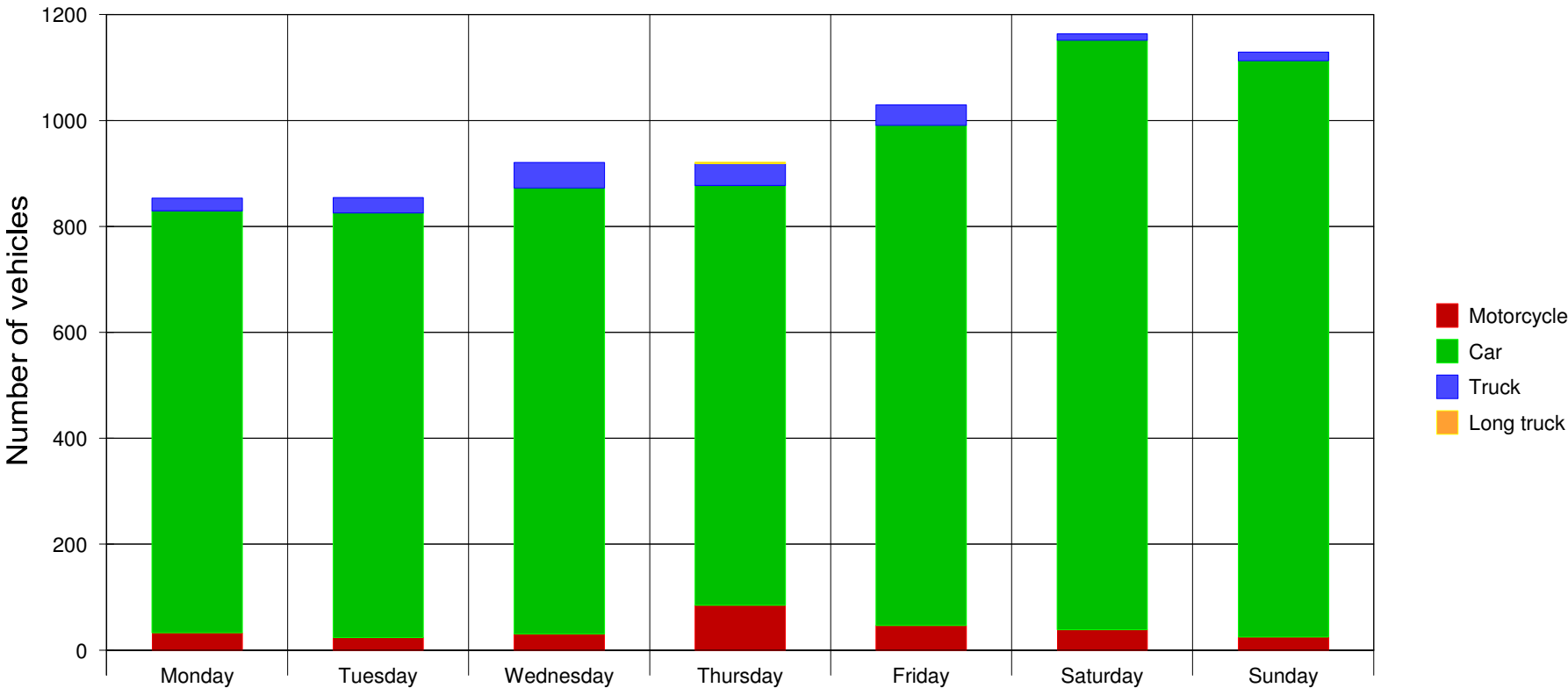


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Traffic Volumes between Veronica St and Abbotts St



Statistics

Period: Tuesday, 14 May 2013, 17:47 o'clock to Tuesday, 21 May 2013, 17:19 o'clock

			Count +	%	Count -	%	Total	%	V15 +	Va +	V85 +	Vmax+	V15 -	Va -	V85 -	Vmax -
Speed violations:	0 %	Motorcycle	132	3.7	152	4.6	284	4.1	9	14	17	61	9	18	38	67
Average time interval:	1.6 sec	Car	3362	93.3	3017	92.2	6379	92.8	37	45	54	75	38	45	54	73
Traffic in column:	7 %	Truck	109	3	101	3.1	210	3.1	34	42	49	64	26	40	52	67
ADT:	985	Long truck	2	0.1	1	0	3	0	16	22	27	27	21	21	21	21
Truck Share:	3 %	Total	3605	52.4	3271	47.6	6876	100	35	44	53	75	35	44	54	73

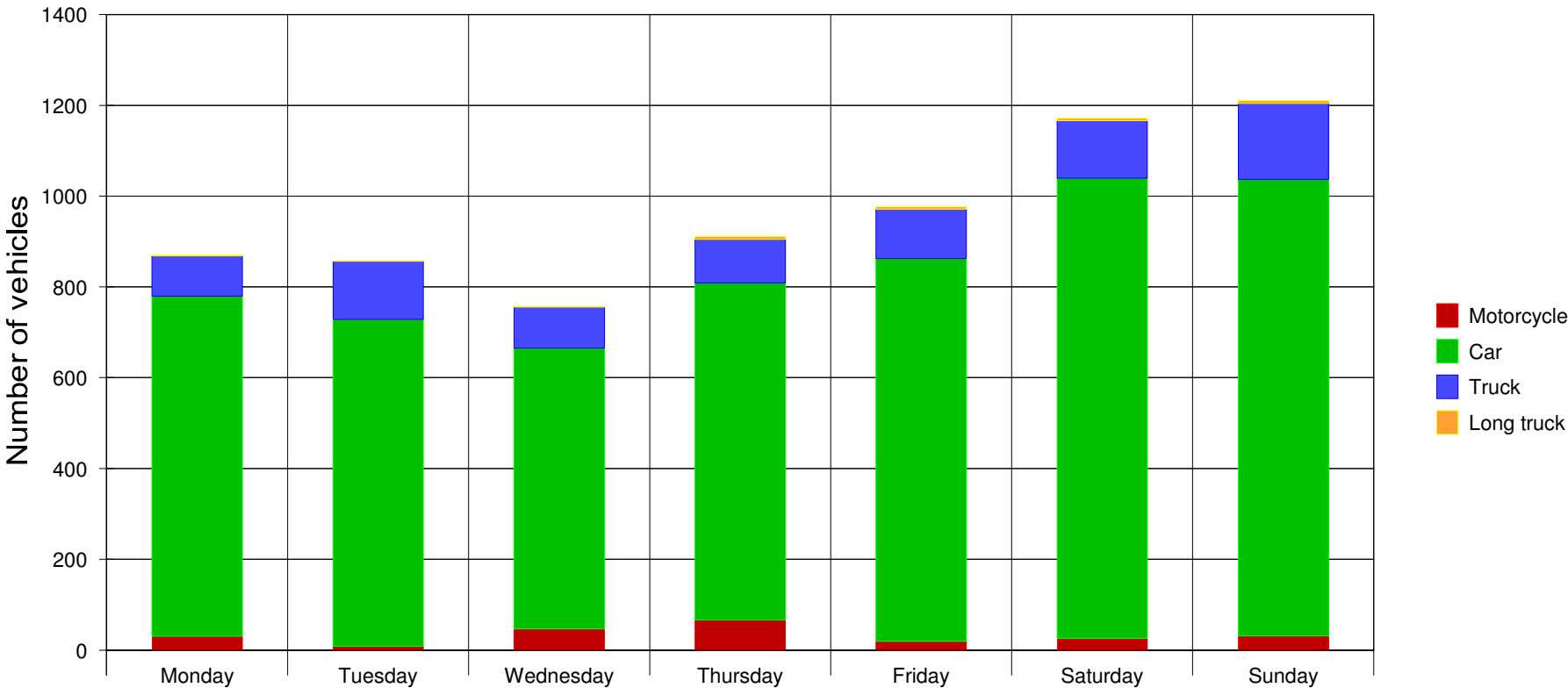


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Traffic Volumes between Abbotts St & Venus St



Statistics

Period: Wednesday, 15 May 2013, 03:32 o'clock to Wednesday, 22 May 2013, 01:45 o'clock

Speed violations: Average time interval: Traffic in column: ADT: Truck Share:	0 % 1.5 sec 8 % 976 12 %		Count +	%	Count -	%	Total	%	V15 +	Va +	V85 +	Vmax+	V15 -	Va -	V85 -	Vmax -
		Motorcycle	142	4	90	2.8	232	3.4	8	13	19	54	8	22	41	56
		Car	3001	85.2	2692	83.2	5693	84.2	32	39	47	62	34	40	48	65
		Truck	363	10.3	443	13.7	806	11.9	12	20	34	52	32	39	46	61
		Long truck	15	0.4	12	0.4	27	0.4	11	15	26	30	14	28	34	42
		Total	3521	52.1	3237	47.9	6758	100	21	36	46	62	33	40	47	65

