



## Draft State Highway AADT Data Booklet 2013–2017

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## 1. PREFACE

Traffic information is fundamental to the management of the State Highway network. The measure of the traffic demand imposed on the network enables the New Zealand Transport Agency (NZTA) to optimise investment decision.

The purpose of this booklet is to provide summary information of NZTA traffic counting programme on the State Highway Network and detailed information of each count site.

The information contained in this publication is derived from NZTA's state highway traffic data collection system. The system consists of a range of equipment that includes sophisticated weigh-in-motion and vehicle classification collection, telemetry and simple portable tube traffic counters.

The data collection and processing, for the permanent weigh-in-motion (WiM) and continuously monitored telemetry sites is managed by NZTA's National Office in Wellington. The remaining sites, which represent the large majority of the sites throughout New Zealand, are counted at defined intervals throughout the year as part of the NZTA's regional traffic counting programmes managed by NZTA's regional offices.

NZTA welcomes any feedback on this publication. This document is available on the NZTA website at <http://www.nzta.govt.nz/resources/state-highway-traffic-volumes/>

## 2. DISCLAIMER

The traffic data contained in this document are intended to be used as an approximate indication of traffic flows at counting sites on state highways throughout New Zealand. Most sites are counted four times a year, with other sites counted on a continuous basis.

The limitations of the traffic counters and their installation, counting methods used, sensitivity of equipment, congestion effects, and various analysis procedures contribute to the error margin. These factors should be taken into account when using the AADT data.

For detailed design and project evaluation purposes, the actual traffic counts upon which this document is based can be obtained from the appropriate NZTA Region office.

NZTA and its employees or agents involved in preparation and publication of this document cannot accept liability for its contents or for any consequences arising from its use. People using the contents of this document should apply, and rely upon, their own skill and judgement. The contents should not be used in isolation from other sources of advice and information.

### 3. OVERVIEW

NZTA's traffic data collection programme includes regional contracts and a national contract.

#### *National Telemetry Traffic Monitoring Contract*

In 2017 this contract comprised 117 continuously monitored dual loop sites and 7 Weigh in Motion sites. Some sites are monitored in each direction separately.

The national telemetry sites cover the screenlines across the state highway network. Screenlines are lines drawn across the road network, with the aim of monitoring overall movements through a precinct. The sites are installed with permanent power and communications. This allows continuous data to be collected regularly without visiting the site.

#### *Regional Traffic Monitoring Contracts*

There were 1,509 traffic counting sites managed under local contracts during 2017.

### 4. STATE HIGHWAY TRAFFIC COUNT SITE SUMMARY

The table below shows the different type of traffic monitoring sites used in 2017.

Row Labels	Continuous								Non-Continuous					Virtual	Grand Total
	ATMS (Dual Loop)	ATMS (Single Loop)	Dual Loop	SCATS	Single Loop	National Contract Dual Loop	Tube	WiM	ATMS (Dual Loop)	Dual Loop	SCATS	Single Loop	Tube	Virtual	
01 - Northland			14			4				58			6	1	83
02 - Auckland	136	2	23	21	2	11		1	2	135	5	52		188	578
03 - Waikato						14		1		44	2	77	43	17	198
04 - Bay of Plenty						18		1		19		37	18	14	107
05 - Gisborne			2		1	2		1		6		9		0	21
06 - Hawkes Bay			9		5	3		1		10		25		7	60
07 - Taranaki						6				26		22		1	55
08 - Manawatu-Wanganui						9				37		61	3	3	113
09 - Wellington			40		81	10				4		6	1	38	180
10 - Nelson/Marlborough			7		27	9						1		5	49
11 - Canterbury			22		7	10	1	2		90		53	24	15	224
12 - West Coast			2		7	4				16		20	5	1	55
13 - Otago			23			14				81	3	14		2	137
14 - Southland			11			5				37		14		1	68
<b>Grand Total</b>	<b>136</b>	<b>2</b>	<b>153</b>	<b>21</b>	<b>130</b>	<b>119</b>	<b>1</b>	<b>7</b>	<b>2</b>	<b>563</b>	<b>10</b>	<b>391</b>	<b>100</b>	<b>293</b>	<b>1928</b>

### 5. TYPES OF SITES

Sites can be categorised by type of equipment used, their capability and their monitoring frequency

#### *Equipment Types*

- Weigh in Motion (WiM) sites are able to record each heavy vehicle (Vehicle weight >3.5t), date and time, vehicle type, axle loadings, axle space and speed data.

- Single loop sites provide vehicle counts only, dual loop sites are able to provide vehicle counts, length classifications and speed data if required.
- Dual loop sites and tube sites are also called classification sites as they are able to both count and classify vehicles by vehicle class
- Tube count sites – tubes are portable and are capable of providing vehicle counts, axle classifications and speeds.

#### *Monitoring Frequency*

- Continuous site – the site is intended to operate continuously for the entire year. The data gathered at continuous sites are used as control sites for the counts and classifications recorded at non-continuous sites.
- Non-continuous site are usually counted 4 times a year in different seasons for a period of at least 7 continuous days. Each non-continuous site has been assigned a primary control site, and a secondary and/or a tertiary control site as its backup control site.
- At all counted sites vehicle data is collected on a lane-by-lane basis, at 15 minute intervals for a period of at least 7 continuous days

Virtual sites have no equipment. Summary counts are calculated based on monitoring at other sites.

## 6. SITE LOCATIONS

Sites have two recorded locations, one based on a linear system, and one with spatial coordinates. There are tools available to convert between the two.

#### *Route Positions*

Highways have reference station signs placed at intervals along the highway. Route positions are based on distance past these signs. E.g. the bridge on SH3 across the Tareheru river in Gisborne is referenced as 035-0327/00.00 as it is zero meters past reference station sign 327.

For detail of this location referencing system see the online manual here

<https://www.nzta.govt.nz/resources/location-ref-management-sys-manual/>

This online tool can identify route positions <http://lrms.aucklandmotorways.com/>

Increasing\Decreasing\Both Attribute

All highways have a defined Increasing direction e.g. SH01N runs from Cape Rienga to Wellington. It is important to note that for some locations there are two sites listed, one for each direction.

#### *Spatial Coordinates*

Each site is also locatable using the Easting and Northing coordinates which are currently in the New Zealand Map Grid (NZMG) projection. Note that these may be migrated in future to the NZTM projection.

## 7. TRAFFIC MONITORING DATA ENQUIRIES – CONTACTS LIST

For general traffic monitoring queries and Nationally Managed Telemetry Sites:

NZTA Office	Contact Name	Phone No.	Email
National Office	Philip Blagdon	04 894 6337	<a href="mailto:philip.blagdon@nzta.govt.nz">philip.blagdon@nzta.govt.nz</a>

For regionally managed (non-telemetry) sites and queries relating to a specific region:

Region	NZTA Office	Contact Name	Phone No.	Email
1 Northland	Whangarei	Jon Craven	09 430 4355	<a href="mailto:jon.craven@nzta.govt.nz">jon.craven@nzta.govt.nz</a>
2 Auckland	Auckland	Kevan Fleckney	09 928 8718	<a href="mailto:kevan.fleckney@nzta.govt.nz">kevan.fleckney@nzta.govt.nz</a>
	Auckland Motorways	Michael Penney	09 539 9153	<a href="mailto:michael.penney@ama.nzta.govt.nz">michael.penney@ama.nzta.govt.nz</a>
3 Waikato	Hamilton	Dylan Gies	07 958 7231	<a href="mailto:dylan.gies@nzta.govt.nz">dylan.gies@nzta.govt.nz</a>
4 Bay of Plenty				
5 Gisborne	Napier	Jennifer Wilson-Kaio	06 974 6503	<a href="mailto:jennifer.wilson-kaio@nzta.govt.nz">jennifer.wilson-kaio@nzta.govt.nz</a>
6 Hawkes Bay				
7 Taranaki	Palmerston North	Jennifer Wilson-Kaio	06 974 6503	<a href="mailto:jennifer.wilson-kaio@nzta.govt.nz">jennifer.wilson-kaio@nzta.govt.nz</a>
8 Manawatu/Wanganui				
9 Wellington	Wellington	Anandita Pujara	04 890 4776	<a href="mailto:anandita.pujara@nzta.govt.nz">anandita.pujara@nzta.govt.nz</a>
10 Nelson/Marlborough				
11 Canterbury	Christchurch	Jude Ward	03 964 2813	<a href="mailto:jude.ward@nzta.govt.nz">jude.ward@nzta.govt.nz</a>
12 West Coast				
13 Otago	Dunedin	Judy Thompson	03 951 3011	<a href="mailto:judy.thompson@nzta.govt.nz">judy.thompson@nzta.govt.nz</a>
14 Southland				

## 8. RELATED DOCUMENTATION

The following documents are available from the NZTA webpage:

- Traffic Monitoring of State Highways Manual – SM052  
<http://www.nzta.govt.nz/resources/traffic-monitoring-state-hways/index.html>
- Historic Copies of Traffic Data Booklets 1975 – present  
<http://www.nzta.govt.nz/resources/state-highway-traffic-volumes/>
- Annual Weigh-In-Motion (WiM) Reports  
<http://www.nzta.govt.nz/resources/weigh-in-motion/>



## 8. AADT DATA TABLES

### **Region**

This is the NZTA Region, responsible for the specific section of State Highway where the traffic counting site is located.

### **SH State Highway**

This is the number given to the state highway on which the site is located.

**RS Reference Stations\*** are fixed points on the state highway.

### **RP Route Position\***

This is the distance from the last reference station to the specific location in kilometres.

### **Site Ref**

This is the unique identifier used within NZTA's Traffic Monitoring System (TMS). For further information on how these references are created, please refer to the Traffic Monitoring of State Highways Manual – SM052 on the NZTA website. <http://www.nzta.govt.nz/resources/traffic-monitoring-state-hways/index.html>

**Description** describes the traffic count site location.

### **Direction\***

This indicates if the AADT and % Heavy data, is reported separately in the increasing (Inc) and decreasing (Dec) directions or in both directions together.

Example: If you travel from Auckland to Wellington on SH1, you are travelling in the increasing direction, as SH1 starts at Cape Reinga.

### **Equipment**

This details the primary equipment type being used to collect traffic data at the specific location. There may be a combination of equipment types used at some sites.

### **AADT Annual Average Daily Traffic volume**

This is an estimate of the average daily traffic for a specified calendar year. The majority of the traffic counts provided in this publication have been undertaken at the particular count site over four or more weeks in the year. They are seasonally adjusted using continuous data obtained from Telemetry Sites. This provides a relatively robust estimate of the annual traffic volume for that location. Other traffic details such as the vehicle composition are available for some sites from the regional contact.

### **% Heavy**

This is an estimate of the proportion of the AADT which is deemed a heavy vehicle: i.e. greater than 3.5 tonnes for the current year.

### **Accepted Days**

This is the number of days for which valid traffic counts were accepted (after pass quality assurance) at a site for a specified calendar year.

For a site with no actual count data accepted (no accepted days), the AADT was estimated. It includes virtual sites, the sites use other party's summary data, (eg. SCATS count) and sites had no valid counts for a specified calendar year.

\*For further information on NZTA's location referencing system, please refer to "LRMS Manual" on the NZTA website.

<http://www.nzta.govt.nz/resources/location-ref-management-sys-manual/docs/SM051-intro.pdf>