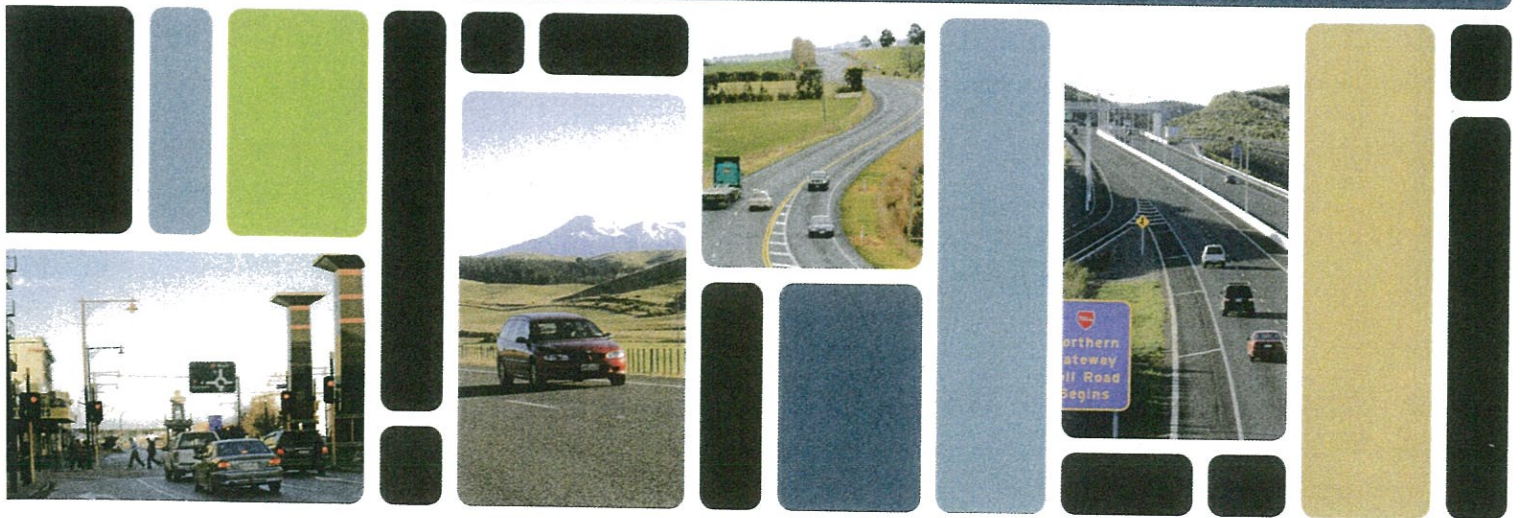


State highway classification

Consultation draft



One of the government's priorities is to make sure the state highway network is as effective as it can be in boosting New Zealand's economy. State highway classification is one step towards this.

We want to know what you think about the proposed draft state highway classification. You can send us your feedback in various ways (go to page 6).

Contents

What is state highway classification?	1
Why introduce a new classification?	2
Classifying the state highway network	3
The possible application of state highway classification	4
What levels of service can different categories of highways expect?	5
We want to know what you think	5
How to provide feedback	6
Appendix 1: Draft state highway classification	7
Appendix 2: Tables of state highways in each category	8
Appendix 3: Draft classification system - urban areas	12
Appendix 4: Criteria defined - what do you think?	13
Appendix 5: Heavy vehicles by average annual daily traffic including port tonnage and value	14
Appendix 6: Average annual daily traffic - vehicle flows	15
Appendix 7: Population centres	16
Appendix 8: International tourist road flow and airport passenger numbers	17



NZ TRANSPORT AGENCY
WAKA KOTAHI

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What is state highway classification?

Classifying the network is about understanding the function of our highways so we can make them safe, fit for purpose and increase their capacity to improve productivity. Is a highway primarily for moving freight to ports and airports, or people to job markets and tourists to key destinations? Is it connecting one region with another or helping people travel within a region? Is it performing several of these functions at the same time?

This draft document 'classifies' each highway according to these core functions by putting them into categories, eg national strategic, regional strategic. Then we will be able to say what people can expect when they use each category of road. For example, what speed can you expect to drive on each category of highway? What's the average travel time? How predictable is your trip? What sort of roadside facilities or rest areas are provided? Are passing lanes provided?

State highway classification is a tool to help us set the long-term strategic direction of our state highway network. It forms part of the State Highway Network Strategy (currently in development) and will help us manage the network effectively and contribute to long-term land transport planning for New Zealand.

State highway classification is not new to New Zealand. Different systems have been used over a number of years. One of the early systems labelled the single digit highways as national with red shields and the double digit highways as provincial with blue shields. National highways had a higher standard and had priority for funding. The 2007 National State Highway Strategy was the last update of classification and focused on planning and access management. It is now time to review our approach to classification.

We want to know what you think about the proposed categories and the criteria and thresholds we have used to create those categories. We will seek your feedback on appropriate levels of service later in 2011, although you're welcome to share your views with us now.

It's not just about maintaining the roads that we already have. It's about getting the most out of our state highway network and targeting the areas we know will deliver rewards to all New Zealanders.

One of the government's goals, for example, is to increase the efficiency of freight journeys across New Zealand. Once we understand more about the function of each highway through this classification approach, we can make sure our highways contribute to more efficient and safe journeys, whether for trucks or for cars getting people to and from work.

In time, road users will be able to use this classification approach to help them plan their journey. It will signal the conditions they can expect to experience on different highways. This will also be an important tool to encourage road users to modify their behaviour to match the network conditions.

Why introduce a new classification?

As population and traffic volumes continue to grow, new problems emerge on the network. A coordinated classification approach which combines all maintenance and improvement classification systems will help us to target strategic priorities like improving travel time, trip predictability and freight efficiency or making our roading system safer.

A single classification approach will be simpler and clearer. It will give us the ability to prioritise improvements needed to deliver the best returns for road users and ultimately the economy through increased reliability and efficiency.

Updating the way we classify state highways will deliver key benefits:

- **Better planning:** With a national overview of the network, aligning planning and operational activities on the ground will be more efficient. We'll be better placed to support local and regional aspirations for growth.
- **Smarter investment:** Investment can be targeted at those categories of state highway that aren't serving users as they are supposed to (ie the desired levels of service or road user experience).
- **Better customer service:** Road users will be able to use this classification approach to help them plan their journey. It will help us to deliver a more consistent and reliable experience across different categories of the network.
- **Safer roads:** It will be an important tool to encourage road users to modify their behaviour to match the network conditions.

The state highway network represents 11.6 percent of the total road network but accounts for almost half the kilometres driven each year.

Approaches to classify highway networks are widely used internationally. Routes are characterised as nationally, regionally or locally significant. That information then feeds into all aspects of highway planning and investment, and management of the roads.

We are drawing on this international best practice in developing our approach as well as on existing work, including the 2007 National State Highway Strategy and particularly work identifying key freight and tourism routes.

Current investment parameters and processes will remain the same. These are outlined in our Investment and Revenue Strategy, which gives a strategic framework for every funding decision. Activities are prioritised according to their strategic fit: (the extent to which they address key opportunities from a national perspective); effectiveness (how well they achieve particular outcomes identified in the strategic fit); and economic efficiency (how efficiently they use resources).

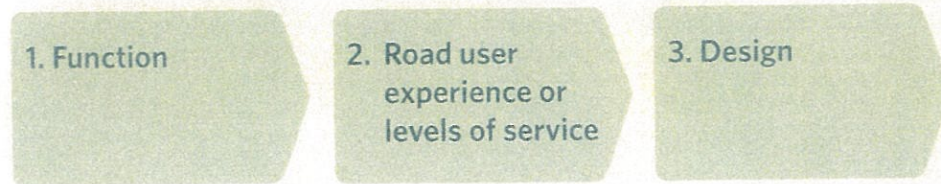
The classification approach is simply another tool to help determine strategic fit. We will then be better able to target funding to roads that need to be brought up to the agreed levels of service.

We will seek your feedback on levels of service later in 2011.

Classifying the state highway network

State highway network function, road user experience and design

Classifying the state highways involves placing them in categories based on the functions they perform. This information will help inform decisions about the level of service or road user experience that a particular category of highway should offer, and in turn, the design of the road that is needed to provide that level of service.



State highway classification places highways into categories based on their national or regional function within the overall network.

Over time we will work towards all the highways in a particular category offering a consistent level of service for users. However, the design of the highway may differ depending on which part of the country the highway travels through. For example a highway in the Waikato might need to be four lanes wide, but only two lanes wide in the Manawatu to give users the same level of service (average driving speed, safety etc.) This is because there are different volumes of traffic on the highway and the environment is different, so the design of the highway differs.

We are suggesting four highway categories with 'high volume routes' as a subset. We'd like to know what you think. Criteria have been suggested for each category, based on the functions served by the highway. A highway needs to meet agreed criteria to be included in a particular category. Balancing factors have been used in some locations to ensure national route continuity.

- **National strategic (with a high volume subset):** These are state highways that make a significant contribution to the social and economic wellbeing of New Zealand by connecting major population centres, international ports or major airports. They must meet threshold levels for at least three criteria (see below).

A high volume subset has been created for highways that meet the national strategic criteria and have high volumes of heavy commercial vehicles or general traffic.

- **Regional strategic:** These are state highways that contribute to the social and economic wellbeing of a region, and connect regionally significant places, ports or airports. They are also major connectors between regions. They must meet the threshold levels for at least two criteria.
- **Regional connector:** These are regional highways that link different regions, economic areas or tourist spots, and contribute to community wellbeing, They must meet the threshold levels for at least one criterion.
- **Regional distributor:** These are all other regional highways that generally distribute people within a region (and in a few instances between regions).

We are suggesting seven draft criteria:

- Freight highway volumes.
- Annual average daily traffic.
- Centres of population.
- Freight tonnes and value at ports and airports.
- Airport passenger numbers.
- International tourist flows on highways.
- Other strategically important issues, such as connecting isolated regions.

Key terms

Function: The purpose a road serves, such as moving freight to and from ports or passengers to and from airports, or linking major population areas.

Road user experience or levels of service: This includes such things as journey time, trip predictability, safety and environmental factors like signage, rest areas and passing lanes.

Design: Standards and design features such as the number of lanes, whether the road is divided and the width of the shoulder.

The following table explains the proposed relationship between the categories and criteria. We are interested in your feedback about the categories, the criteria and the thresholds which define and map each category. An explanation of these criteria is included in appendix 4 at the end of this document.

Criteria →	Freight highway volumes	Annual average daily traffic	Centres of population	Freight tonnes and value at ports, airports, inland ports	Airport passenger numbers	International tourist flows on state highways	Other strategically important issues
Category ↓							
1. National strategic (purple routes)* Meet at least three of the criteria	More than 800 heavy commercial vehicles per day	More than 30,000 vehicles per day	Major city More than 100,000	More than 2m tonnes or more than \$3b annually in value	More than 3m passengers annually	More than 60,000 travellers on route annually	
+ High volume routes (highlighted in blue)*	More than 1200 heavy commercial vehicles per day	More than 35,000 vehicles per day					
2. Regional strategic (green routes)* Meet at least two of the criteria	More than 400 heavy commercial vehicles per day	More than 10,000 vehicles per day	More than 30,000	Tonnage: more than 1m tonnes annually	More than 500,000 passengers annually	More than 20,000 travellers on route annually	Significant inter-regional lifeline
3. Regional connector (orange routes)* Meet at least one of the criteria	Same as regional strategic	More than 3000 vehicles per day	More than 10,000	Tonnage: more than 1m tonnes annually	More than 250,000 passengers annually	More than 20,000 travellers on route annually	
4. Regional distributor (yellow routes)* All other SH routes	Less than 400 heavy commercial vehicles per day	Less than 3000 vehicles per day	Less than 10,000	Tonnage less than 1m tonnes annually	Less than 250,000 passengers annually	Less than 20,000 travellers on route annually	

* see appendix 1

The possible application of state highway classification

The following maps show how the draft categories, criteria and thresholds could be applied to state highways.

The draft state highway classification map (appendix 1) shows which criteria and thresholds each highway meets. Also refer to appendix 3 for major urban areas.

This option clearly shows the function along the state highway network. High volume routes are a subset of national strategic which best reflects their place in the network, but are still able to be distinguished. Regional roads that connect different regions and tend to be longer routes or provide a significant link to major highways are distinct from the shorter regional roads that distribute traffic within a region. It also recognises high growth areas.

Tell us what you think.

What levels of service can different categories of highways expect?

Each of the four categories of road plus the high volume subset (national strategic and high volume, regional strategic, regional connector and regional distributor) will have an associated level of service that defines the experience that a road user should have on that particular state highway.

Once we have decided the function or role of each state highway and the criteria and thresholds used to define each category of road, we can establish an agreed and consistent level of service for each category of road.

You can include comments on levels of service in your feedback now. However, we will be seeking specific feedback on levels of service later in 2011.

Issues to consider are travel time, the predictability of your trip, safety, urban design and the environment. How does this road impact on the surrounding communities and the environment? What signage is best? What roadside facilities and rest areas are required? Is noise pollution an issue? Are more passing lanes needed?

We want to know what you think

This is the start of an NZTA conversation with you and other stakeholders about the future management of the state highways.

We expect the new classification, with final versions of thresholds, criteria and categories to be finalised later in 2011 after this engagement process.

Following that, we will seek further feedback on levels of service for each category of highway.

The first task is to agree the key function of each state highway.

State highway classification will be a key element of the next State Highway Network Strategy (currently in development) and will also be referenced in the National Infrastructure Plan.

Feedback process

We are talking with local government representatives, road user groups, individual road users and anyone with an interest in the state highway network.

We are particularly interested in your views on the draft criteria and thresholds because they are the foundation for this approach.

Your feedback will help us to decide the final thresholds, criteria and categories applied to state highways. This will in turn inform the proposed levels of service that road users can expect from each category of road (travel time, safety and design).

How to provide feedback

You are welcome to provide feedback by addressing the questions outlined below, or you can submit comments in a format of your own choice.

The closing date for feedback is 31 March 2011.

If you have questions before completing your feedback, phone Matt Grant on 04 894 6360 or email matt.grant@nzta.govt.nz.

Your feedback can be emailed to classification@nzta.govt.nz or posted to:

State highway classification
NZ Transport Agency
Private Bag 6995
44 Victoria Street
Wellington 6141

You can also submit your feedback online at www.nzta.govt.nz/consultation/classification-system.

Questions

QUESTION 1

Do you have any comments about the way the state highways have been categorised?

QUESTION 2

Do you have comments on any of the following criteria or thresholds that have been used to develop the proposed classification approach?

- Freight highway volumes.
- Annual average daily traffic.
- Centres of population.
- Freight tonnes and value at ports, airports and inland ports.
- Airport passenger numbers.
- International tourist flows on highways.
- Other strategically important issues.

QUESTION 3

What road user experience or level of service do you think is appropriate for each category of road? How important are the following to you?

- Travel time.
- Predictable trips.
- Safety.
- Good quality roadside facilities like rest areas.
- Road signage.
- Road maintenance.
- Road design (passing lanes, etc).
- Environmental impacts of a road (noise pollution, stormwater runoff, etc).
- Pleasant landscape.

QUESTION 4

Do you have any other comments on this classification approach?

Appendix 1: Draft state highway classification



Tables of state highways in each category

State highways are placed in categories, according to the criteria below. The categories are:

- **National strategic (with a high volume subset):** State highways that meet threshold levels for 'national strategic' for at least three criteria (see criteria below). A high volume subset has been created for highways that meet the national strategic criteria and have high volumes of heavy commercial vehicles or general traffic.
- **Regional strategic:** State highways that meet the thresholds levels for 'regional strategic' for at least two criteria.
- **Regional connector:** State highways that meet the thresholds levels for 'regional connector' for at least one criteria.
- **Regional distributor:** All other state highways.

Table 1: National strategic high volume - meet at least three criteria

Description	Freight volume	Annual average daily traffic	Centres of population	Port access for freight	Airport access for passengers	International tourism flows	Other strategically important issues
Criteria threshold level (national strategic high volume)	More than 1200 heavy commercial vehicles per day	More than 35,000 vehicles per day	Major city: more than 100,000	More than 2m tonnes or more than \$3b annually in value	More than 3m passengers annually	More than 60,000 travellers on route annually	
SH1 from SH16 intersection (Wellsford) to Auckland	✓	✓ Part of route		✓		✓	
SH1 Auckland to SH5 intersection (Taupo)	✓	✓ Part of route	✓	✓			
SH29, SH1 to Tauranga	✓		✓	✓			
SH16 (Port to SH18), SH18, SH20	✓	✓ Part of route	✓	✓			
SH20A, SH20B	✓			✓	✓		
SH2 Tauranaga to SH33 (Paengaroa)	✓		✓	✓			
SH2B, SH50A, SH50A Port of Napier to Hastings	✓		✓	✓			
SH1 Levin to Wellington	✓	✓ Part of route	✓	✓	✓		
SH2 Melling to Ngauranga	✓	✓	✓	✓			
SH15 Woodend north to Lineside Rd and Hornby Bypass + SH 73 + 73A	✓		✓	✓			

Appendix 2: Tables of state highways in each category

Table 2: National strategic routes - meet at least three criteria

Description	Freight volume	Annual average daily traffic	Centres of population	Port access for freight	Airport access for passengers	International tourism flows	Other strategically important issues
Criteria threshold level (national strategic)	More than 800 heavy commercial vehicles per day	More than 30,000 vehicles per day	Major city: more than 100,000	More than 2m tonnes or more than \$3b annually in value	More than 3m passengers annually	More than 60,000 travellers on route annually	
SH1, Whangarei to SH16 intersection (Wellsford), incl SH15A	✓			✓		✓	
SH1, Taupo to Levin	✓			✓		✓	
SH2, SH57 Hastings to Levin	✓		✓	✓			
SH1 Picton to Woodend	✓		✓	✓			
SH1 Hornby to Dunedin (incl SH74 Chch, SH88 Dunedin)	✓		✓	✓			

Appendix 2: Tables of state highways in each category

Table 3: Regional strategic routes - meet at least two criteria

Description	Freight volume	Annual average daily traffic	Centres of population	Port access for freight	Airport access for passengers	International tourism flows	Other strategically important issues
Criteria threshold level (regional strategic)	More than 400 heavy commercial vehicles per day	More than 10,000 vehicles per day	More than 30,000	More than 1m tonnes annually	More than 500,000 passengers annually	More than 20,000 travellers on route annually	
SH1 Whangarei to Kawakawa	✓					✓	
SH2 Pokeno to Tauranga	✓	✓ Part of route				✓	
SH33/30 Paengaroa to Rotorua	✓		✓			✓	
SH2, SH35 (Gisborne) to Napier			✓				✓ Significant inter-regional lifeline
SH3, Hamilton to SH57 (Manawatu Gorge) via New Plymouth (incl SH44)	✓	✓ Part of route	✓	✓			
SH5 Tirau to Rotorua	✓		✓			✓	
SH5 Rotorua to SH1 (Wairakei)	✓			✓		✓	
SH5 Taupo to Napier	✓		✓	✓			
SH2 Woodville to Melling	✓	✓ Part of route	✓	✓			
SH6 Blenheim to Renwick to SH60 intersection (Richmond)	✓		✓			✓	
SH62 Blenheim Bypass	✓		✓			✓	
SH60 Richmond to Motueka	✓					✓	
SH73 Chch to West Coast						✓	✓ Significant inter-regional lifeline
SH6/97/94 Cromwell to Milford Sound					✓	✓	
SH1 Dunedin to Invercargill	✓		✓				

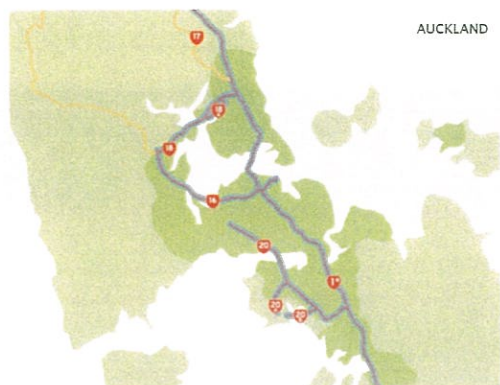
Appendix 2: Tables of state highways in each category

Table 4: Regional connector routes - meet at least one criteria

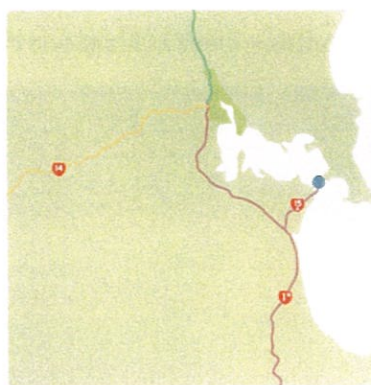
Description	Freight volume	Annual average daily traffic	Centres of population	Port access for freight	Airport access for passengers	International tourism flows	Other strategically important issues
Criteria threshold level (regional connector)	More than 400 heavy commercial vehicles per day	More than 3000 vehicles per day	More than 10,000	More than 1m tonnes annually	More than 250,000 passengers annually	More than 20,000 travellers on route annually	
SH22 Drury to Pukekohe		✓	✓				
SH25 Mangatarata to Thames		✓				✓	
SH26 Kopu to Paeroa	✓	✓					
SH27 Mangatarata to Tirau	✓	✓					
SH2 Paengaroa to Gisborne			✓				
SH30 Te Ngae to SH2 intersection to Whakatane		✓	✓				
SH39 Ngaruawahia to Otorohonga						✓	
SH3A New Plymouth Bypass	✓	✓					
SH54 Feilding to Ashhurst		✓	✓				
SH58 Paremata to Haywards	✓	✓					
SH6 Richmond to Greymouth to Cromwell			✓				
SH79/8 Christchurch to Cromwell			✓			✓	
SH80 to Mt Cook						✓	
SH8 Cromwell to Alexandra	✓	✓					
SH86 Dunedin Airport		✓				✓	

All other stage highways are in the regional distributor category.

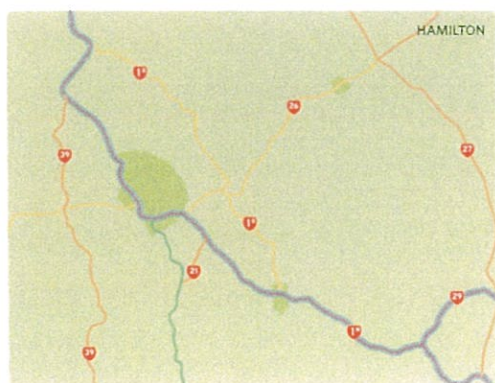
Appendix 3: Draft classification system – urban areas



AUCKLAND



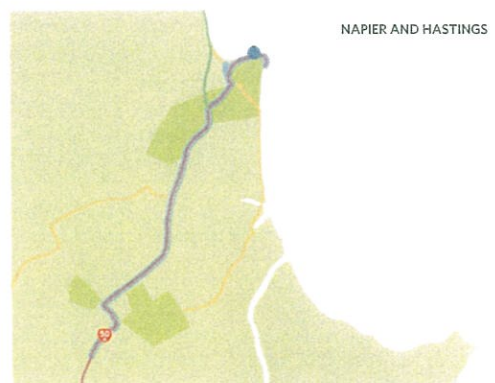
WHANGAREI



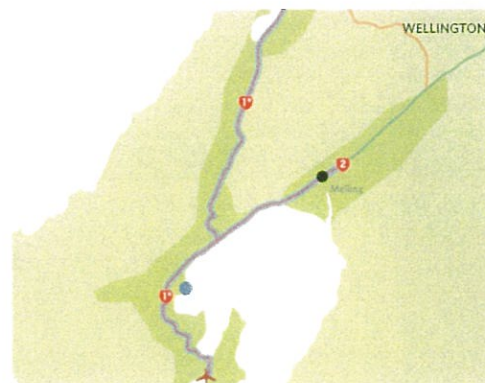
HAMILTON



TAURANGA



NAPIER AND HASTINGS



WELLINGTON



CHRISTCHURCH



DUNEDIN

- KEY**
- National strategic
 - Regional strategic
 - Regional connector
 - Regional distributor
 - High volume
 - Port
 - ▲ Airport
 - High density built-up area

Note: The maps show the classification of all current state highways. This includes state highways that are subject to revocation due to the improvement of the state highway network in some areas, eg SH17.

Appendix 4: Criteria defined – what do you think?

An explanation of each criterion, the rationale for its selection, and the data sources are set out below. We have used current data and future projections where these are available.

- 1. Freight highway volumes:** The key freight routes represent the most significant routes for freight flow. They have been identified using a combination of NZTA traffic counts of heavy vehicles (over 3.5 tonnes), economic data from Statistics New Zealand, regional and local freight studies and land transport plans, and the National Freight Demand Study 2008.

Please refer to appendix 5: Heavy vehicles by average annual daily traffic including port tonnage and value

- 2. Annual average daily traffic (AADT):** Flow volumes are a proxy for economic activity based on the movement of people. Data from NZTA traffic counts have been used for AADT.

Please refer to appendix 6: Average annual daily traffic – vehicle flows

- 3. Centres of population:** Major urban areas have the highest concentration of economic activity in employment and firms. Data and definitions are those provided by Statistics New Zealand. Projected population growth rates from Statistics New Zealand have been taken into account.

Please refer to appendix 7: Population centres

- 4. Freight flows (tonnes and value at ports, airports and inland ports):** Total annual tonnage and total annual value put through a port have been used as an indicator of a port's activity and national economic significance. Data on tonnages and value of freight through ports have been sourced from the Ministry of Transport.

Please refer to appendix 5: Heavy vehicles by average annual daily traffic including port tonnage and value

- 5. Airport passenger numbers:** The total annual passenger numbers are generally considered to be a more valid indicator of the significance of an airport than freight movements. In contrast to ports, the amount of freight movement to and from airports is small, even though its relative value might be high. Data on airport passenger numbers have been provided by major airports.

Please refer to appendix 8: International tourist road flow and airport passenger numbers

- 6. International tourist flows on state highways:** International tourism is New Zealand's second largest export industry, contributing significantly to export receipts and economic growth. Data on international tourism flows comes from Tourism New Zealand's tourism flows model.

Please refer to appendix 8: International tourist road flow and airport passenger numbers

- 7. Significant lifeline:** All regions within New Zealand are connected.

Other potential criteria considered:

- Economic worth of key areas of economic activity and growth agglomeration areas.
- All tourist numbers and bed nights – domestic and international.

Appendix 5: Heavy vehicles by average annual daily traffic including port tonnage and value



Appendix 6: Average annual daily traffic - vehicle flows



KEY

- < 3,000
- 3,000 - 10,000
- 10,000 - 30,000
- > 30,000

0 20 40 80 120 160km

Source: NZTA 2009

Large urban areas	
Centre	Population
Auckland	1,272,800
Hamilton	161,200
Tauranga	112,100
Napier/Hastings	121,900
Wellington	375,600
Christchurch	374,500
Dunedin	114,400

Main urban areas	
Centre	Population
Whangarei	50,500
Rotorua	55,600
New Plymouth	50,800
Gisborne	33,600
Palmerston North	79,000
Whanganui	40,000
Kapiti	38,300
Nelson	58,000
Blenheim	29,200
Invercargill	47,900

Secondary urban areas	
Centre	Population
Pukekohe	23,300
Cambridge	15,600
Te Awamutu	14,900
Whakatane	18,800
Tokoroa	13,500
Taupo	21,900
Hawera	11,050
Feilding	14,250
Masterton	20,000
Levin	19,600
Richmond	14,000
Greymouth	9,890
Ashburton	17,250
Timaru	27,500
Oamaru	12,950
Gore	9,870
Queenstown	10,000

Data source: Statistics New Zealand (2006)
www.stats.govt.nz/sitecore/content/statistics/Home/browse_for_stats/population_estimates_and_projections/SubnationalPopulationEstimates_HOT950%u0026_Technical%20Notes.asp

Appendix 8: International tourist road flow and airport passenger numbers



Further information

Please go to the NZTA website
www.nzta.govt.nz/consultation/classification-system

Our contact details

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