Road to Zero: Speed & Infrastructure Programme

Transportation Conference 2023

Brydon Sundgren (WSP) Ben Grapes (Waka Kotahi)



#### The Problem – NZ's Poor Road Safety

Ministry of Transport: 2021 Crash Statistics

| Road Safety Outcomes                  | s (2021)                |                       |
|---------------------------------------|-------------------------|-----------------------|
| Fatalities                            | 318                     | IT'S TIME WE          |
| Serious Injuries                      | 2,317                   | <b>STOPPED PAYING</b> |
| Deaths and Serious<br>Injuries (DSIs) | 2,635                   | THE ROAD TOLL         |
| Minor Injuries                        | 10,935                  |                       |
| Social cost of all crashes            | \$5 Billion per<br>year | ROAD TO<br>ZERO       |

# The Tricky Bit

#### From a Programme perspective



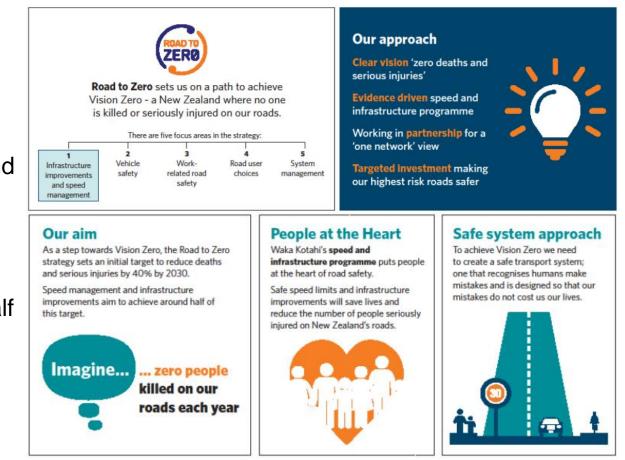




# **Our Programme**

#### What we deliver

- We are prioritising investment in proven interventions.
- We work in partnership with local government and the wider safety sector to find the right mix of safety solutions for each region.
- It is estimated that improvements delivered through the programme will contribute around half of all the 40% Road to Zero target.
- Key interventions include speed management, median and side barriers, rumble strips, round abouts and wide centrelines.





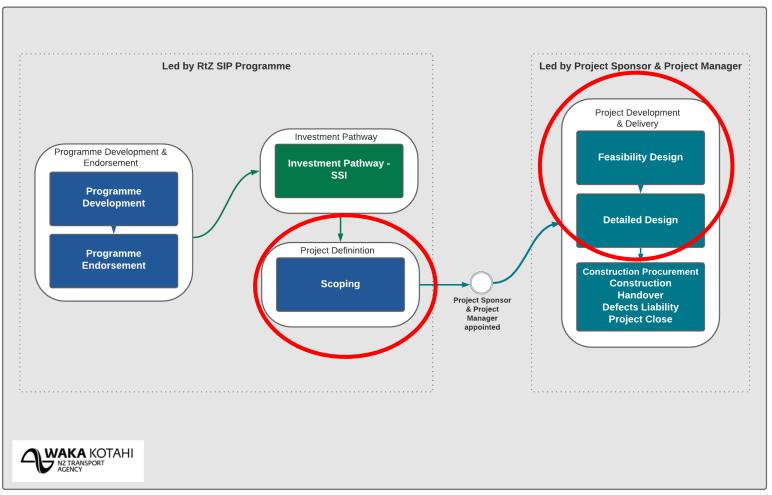
# **Strategic Programme**

#### Indicative 10-year intervention breakdown

| Bay of Plenty Region     \$ 71,000,000     10     \$ 262,000,000     26     \$ 333,000,000     36       TLA     Taranaki Region     \$ 17,000,000     3     \$ 151,000,000     14     \$ 168,000,000     16       Local Roads/SH     Gisborne Region     \$ 10,000,000     1     \$ 36,000,000     7     \$ 45,000,000     8       Hawke's Bay Region     \$ 50,000,000     7     \$ 162,000,000     15     \$ 213,000,000     23       NLTP Period     Manawatu-Wanganui Region     \$ 85,000,000     12     \$ 380,000,000     34     \$ 464,000,000     47  |   | Safe Networks Pipelin  | Feature | Intervention       |                       | Number / Length DSi Saved<br>(km) |           | Cost (to near<br>\$5 million) | Logo             | Logout - RequestorNZTA |  |
|--|---|------------------------|---------|--------------------|-----------------------|-----------------------------------|-----------|-------------------------------|------------------|------------------------|--|
| Provide adopticit to understanding     Part al Safe System Transformation     999 km     129     \$2,000,000,000     Part al Safe System Transformation     Part al Safe System Tr | Info                                    |                        |         | Speed Management   |                       |                                   |           | \$205,000,000                 |                  | ٩                      |  |
| Filter Proje   Northland Region   \$ 59,000,000   8 \$ 369,000,000   35 \$ 428,000,000   43     Auckland Region   \$ 839,000,000   130 \$ 266,000,000   51 \$ 1,105,000,000   180     Maixato Region   \$ 252,000,000   31 \$ 523,000,000   55 \$ 776,000,000   86     Bay of Plenty Region   \$ 17,000,000   10 \$ 262,000,000   26 \$ 333,000,000   36     TLA   Taranaki Region   \$ 17,000,000   3 \$ 151,000,000   14 \$ 168,000,000   16     Gisborne Region   \$ 10,000,000   1 \$ 36,000,000   7 \$ 45,000,000   88     Hurt Previod   Manawatu-Wanganui Region   \$ 50,000,000   12 \$ 380,000,000   34 \$ 464,000,000   47     Wellington Region   \$ 95,000,000   18 \$ 230,000,000   25 \$ 326,000,000   43   \$ 680,000,000   47     Treatment Philes   Yellington Region   \$ 261,000,000   43 \$ 419,000,000   11 \$ 128,000,000   43     Vest Coast Region   \$ 261,000,000   43 \$ 419,000,000   7 \$ 31,000,000   7     Canterbury Region   \$ 261,000,000   1 \$ 27,000,000   7 \$ 31,000,000   7   \$ 36,000,000   7     Grand Total   \$ 1,853,000,   | To review a projec                      |                        | dor     |                    | nsformation 999       | km                                | 129       | \$2,600,000,00                | LILO             | »                      |  |
| Pritter Proje   Auckland Region   \$ 839,000,000   130   \$ 226,000,000   51   \$ 1,105,000,000   180     Begin   Waikato Region   \$ 252,000,000   31   \$ 523,000,000   55   \$ 776,000,000   866     TA   Bay of Plenty Region   \$ 17,000,000   10   \$ 262,000,000   26   \$ 333,000,000   366     Local Readu/SH   Gisborne Region   \$ 10,000,000   1   \$ 36,000,000   7   \$ 45,000,000   23     NUTP Period   Manawatu-Wanganui Region   \$ 50,000,000   7   \$ 162,000,000   34   \$ 464,000,000   47     Checked Starte   Top of the South Region   \$ 29,000,000   18   \$ 230,000,000   25   \$ 326,000,000   43     Project Pathway   Canterbury Region   \$ 29,000,000   45   \$ 99,000,000   11   \$ 128,000,000   43     Project Pathway   Canterbury Region   \$ 261,000,000   43   \$ 419,000,000   43   \$ 680,000,000   75   \$ 31,000,000   76   \$ 31,000,000   77   \$ 31,000,000   77   \$ 31,000,000   77   \$ 31,000,000   77   \$ 31,000,000   77   |   | Region                 |         | Local Roads        | Local Roads Dsi Saved | State Highwa                      | ays State | Highways Dsi Sa               | Total Cost       | Total Dsi Saved        |  |
| Auckland Region   \$ 839,000,000   130   \$ 266,000,000   51   \$ 1,15,000,000   180     Region   \$ 252,000,000   31   \$ 523,000,000   25   \$ 776,000,000   36     Bay of Plenty Region   \$ 17,000,000   10   \$ 262,000,000   26   \$ 33,000,000   36     Local Road/JFH   Gisborne Region   \$ 10,000,000   1   \$ 36,000,000   7   \$ 45,000,000   23     Hawke's Bay Region   \$ 50,000,000   7   \$ 162,000,000   15   \$ 213,000,000   23     Mit Preidid   Manawatu-Wanganui Region   \$ 50,000,000   12   \$ 380,000,000   25   \$ 232,000,000   43     Checked Status   Wellington Region   \$ 29,000,000   18   \$ 230,000,000   25   \$ 31,000,000   43     Project Pathway   Canterbury Region   \$ 261,000,000   43   \$ 449,000,000   43   \$ 680,000,000   11   \$ 128,000,000   15     Treatment Philos   Canterbury Region   \$ 261,000,000   10   \$ 185,000,000   7   \$ 31,000,000   31     Gisouth Land Region   \$ 22,000,000   4   \$ 4,000,000   | Filter Ducie                            |                        |         | \$ 59,000,000      | 8                     | \$ 369                            | ,000,000  | 35                            | \$ 428,000,000   | 43                     |  |
| TLA   Bay of Plenty Region   \$ 71,000,000   10   \$ 262,000,000   26   \$ 333,000,000   36     TLA   Taranaki Region   \$ 17,000,000   3   \$ 151,000,000   14   \$ 168,000,000   16     Local Reads/SH   Gisborne Region   \$ 0,000,000   1   \$ 36,000,000   7   \$ 45,000,000   88     Hawke's Bay Region   \$ 50,000,000   7   \$ 162,000,000   15   \$ 213,000,000   23     NLTP Period   Manawatu-Wanganui Region   \$ 50,000,000   12   \$ 380,000,000   34   \$ 464,000,000   43     Checked Status   Top of the South Region   \$ 22,000,000   4   \$ 99,000,000   11   \$ 128,000,000   43   \$ 680,000,000   43     Project Pathway   Canterbury Region   \$ 22,000,000   43   \$ 419,000,000   7   \$ 31,000,000   7     Treatment Philice   Ket Coast Region   \$ 61,000,000   10   \$ 185,000,000   7   \$ 31,000,000   7     Treatment Philice   Sub-lotal   2,326 int /   635   \$ 5,010,000,000   13   \$ 5,010,000,000   13   \$ 5,010,000,000   13   | Filter Proje                            | Auckland Region        |         | \$ 839,000,000     | 130                   | \$ 266                            | ,000,000  | 51                            | \$ 1,105,000,000 | 180                    |  |
| TLA     Taranaki Region     \$ 17,000,000     3     \$ 151,000,000     14     \$ 168,000,000     16       Local Reader,5H     Gisborne Region     \$ 10,000,000     1     \$ 36,000,000     7     \$ 45,000,000     23       NLTP Period     Manawatu-Wanganui Region     \$ 50,000,000     12     \$ 380,000,000     34     \$ 464,000,000     47       Cnecked Status     Wellington Region     \$ 95,000,000     18     \$ 230,000,000     25     \$ 326,000,000     47       Project Pathway     Cancerbury Region     \$ 261,000,000     4     \$ 99,000,000     11     \$ 128,000,000     43     \$ 680,000,000     437       Project Pathway     Cancerbury Region     \$ 261,000,000     43     \$ 419,000,000     43     \$ 680,000,000     437       Treatment Philos     S 04,000,000     10     \$ 185,000,000     211     \$ 246,000,000     31       Treatment Philos     Sub- 1otal     Z,326 int /     G35     \$ 5,010,000,000     7     \$ 5,010,000,000     7       Total     Sub- 1otal     Z,326 int /     G35     \$ 5,010,000,0   | Region                                  | Waikato Region         |         | \$ 252,000,000     | 31                    | \$ 523                            | ,000,000  | 55                            | \$ 776,000,000   | 86                     |  |
| Idramatik Region   \$ 17,000,000   3 \$ 15,000,000   14 \$ 168,000,000   16     Idramatik Region   \$ 10,000,000   1 \$ 36,000,000   7 \$ 45,000,000   8     Idramatik Region   \$ 0,000,000   1 \$ 36,000,000   7 \$ 45,000,000   8     NUTP Period   Manawatu-Wanganui Region   \$ 50,000,000   12 \$ 380,000,000   34 \$ 464,000,000   43     Checked Status   Wellington Region   \$ 95,000,000   18 \$ 230,000,000   25 \$ 326,000,000   43     Project Pathway   Canterbury Region   \$ 261,000,000   43 \$ 419,000,000   43 \$ 680,000,000   87     Vest Coast Region   \$ 4,000,000   10 \$ 185,000,000   21 \$ 246,000,000   7     Otago Region   \$ 61,000,000   4 \$ 46,000,000   9 \$ 68,000,000   31     Southland Region   \$ 1,853,000,000   282 \$ 3,157,000,000   9 \$ 68,000,000   31     Grand Total   \$ 1,853,000,000   282 \$ 3,157,000,000   352 \$ 5,010,000,000   634     Total   \$ 1,853,000,000   282 \$ 3,157,000,000   352 \$ 5,010,000,000   13     Grand Total   \$ 1,853,000,000   232 \$ 1,812,800,000,000   13   5,010,000,000   13 <td></td> <td>Bay of Plenty Region</td> <td></td> <td>\$ 71,000,000</td> <td>10</td> <td>\$ 262</td> <td>,000,000</td> <td>26</td> <td>\$ 333,000,000</td> <td>36</td>  |   | Bay of Plenty Region   |         | \$ 71,000,000      | 10                    | \$ 262                            | ,000,000  | 26                            | \$ 333,000,000   | 36                     |  |
| Hawke's Bay Region   \$ 50,000,000   7   \$ 162,000,000   15   \$ 213,000,000   23     NLTP Period   Manawatu-Wanganui Region   \$ 85,000,000   12   \$ 380,000,000   34   \$ 464,000,000   47     Cnecked Status   Vellington Region   \$ 95,000,000   18   \$ 230,000,000   25   \$ 326,000,000   43     Project Pathway   Top of the South Region   \$ 29,000,000   43   \$ 419,000,000   43   \$ 680,000,000   87     Vest Coast Region   \$ 261,000,000   43   \$ 419,000,000   7   \$ 31,000,000   87     Vest Coast Region   \$ 4,000,000   10   \$ 125,000,000   7   \$ 31,000,000   7     Otago Region   \$ 61,000,000   10   \$ 185,000,000   21   \$ 246,000,000   31     Grand Total   \$ 1,853,000,000   282   \$ 3,157,000,000   9   \$ 68,000,000   13     Grand Total   \$ 1,853,000,000   282   \$ 3,157,000,000   352   \$ 5,010,000,000   634     Vest Coast Region   \$ 1,853,000,000   282   \$ 3,157,000,000   352   \$ 5,010,000,000   636  | TLA                                     | Taranaki Region        |         | \$ 17,000,000      | 3                     | \$ 151                            | ,000,000  | 14                            | \$ 168,000,000   | 16                     |  |
| NLTP Period   Hawke's Bay Region   \$ 50,000,000   7   \$ 162,000,000   15   \$ 213,000,000   23     Manawatu-Wanganui Region   \$ 85,000,000   12   \$ 380,000,000   34   \$ 464,000,000   47     Vellington Region   \$ 95,000,000   18   \$ 230,000,000   25   \$ 326,000,000   43     Top of the South Region   \$ 29,000,000   4   \$ 99,000,000   11   \$ 128,000,000   43     Project Pathway   Canterbury Region   \$ 261,000,000   43   \$ 419,000,000   43   \$ 680,000,000   87     Vest Coast Region   \$ 4,000,000   1   \$ 27,000,000   7   \$ 31,000,000   7     Otago Region   \$ 61,000,000   10   \$ 27,000,000   21   \$ 246,000,000   31     Grand Total   \$ 1,853,000,000   282   \$ 3,157,000,000   232   \$ 5,010,000,000   634     Grand Total   \$ 1,853,000,000   282   \$ 3,157,000,000   352   \$ 5,010,000,000   634     Grand Total   \$ 1,853,000,000   282   \$ 3,157,000,000   352   \$ 5,010,000,000   634     Total   \$ 2,  | Local Roads/SH                          | Gisborne Region        |         | \$ 10,000,000      | 1                     | \$ 36                             | ,000,000  | 7                             | \$ 45,000,000    | 8                      |  |
| Invalid ward of wang and in Region   3   3   3,000,000   12   3   350,000,000   34   3   404,000,000   47     Wellington Region   \$   95,000,000   18   \$   230,000,000   25   \$   326,000,000   43     Top of the South Region   \$   29,000,000   4   \$   99,000,000   11   \$   128,000,000   15     Checked Status   Top of the South Region   \$   261,000,000   43   \$   419,000,000   11   \$   128,000,000   15     Checked Status   Treatment Philos   \$   261,000,000   43   \$   419,000,000   43   \$   680,000,000   87     West Coast Region   \$   4,000,000   10   \$   185,000,000   21   \$   246,000,000   31     Southland Region   \$   22,000,000   4   \$   46,000,000   9   \$   68,000,000   13     Grand Total   \$   1,853,000,000   282   \$   3,157,000,000   352   \$   5,010,000,000   634     Total  | 100000000000000000000000000000000000000 | Hawke's Bay Region     |         | \$ 50,000,000      | 7                     | \$ 162                            | ,000,000  | 15                            | \$ 213,000,000   | 23                     |  |
| Checked statular   Top of the South Region   \$ 29,000,000   4   \$ 99,000,000   11   \$ 128,000,000   15     Project Pathway   Canterbury Region   \$ 261,000,000   43   \$ 419,000,000   43   \$ 680,000,000   87     Treatment Philos   West Coast Region   \$ 4,000,000   1   \$ 27,000,000   7   \$ 31,000,000   77     Grand Total   \$ 61,000,000   10   \$ 185,000,000   21   \$ 246,000,000   31     Grand Total   \$ 1,853,000,000   282   \$ 3,157,000,000   352   \$ 5,010,000,000   634     Total   \$ 1,853,000,000   282   \$ 3,157,000,000   352   \$ 5,010,000,000   634     Total   \$ 1,853,000,000   282   \$ 3,157,000,000   352   \$ 5,010,000,000   634     Total   \$ 2,326 int / 7,612 km   635   \$ 5,010,000,000   Foreer 0 y Ent   Foreer 0 y Ent   Foreer 0 y Ent     Sub-Total   | NLTP Period                             | Manawatu-Wanganui      | Region  | \$ 85,000,000      | 12                    | \$ 380                            | ,000,000  | 34                            | \$ 464,000,000   | 47                     |  |
| Project Pathway   Top of the South Region   \$ 29,000,000   4   \$ 99,000,000   11   \$ 128,000,000   15     Mest Coast Region   \$ 261,000,000   43   \$ 419,000,000   43   \$ 680,000,000   87     Otago Region   \$ 4,000,000   1   \$ 27,000,000   7   \$ 31,000,000   7     Otago Region   \$ 61,000,000   10   \$ 185,000,000   21   \$ 246,000,000   31     Southland Region   \$ 2,2,000,000   4   \$ 46,000,000   9   \$ 68,000,000   13     Grand Total   \$ 1,853,000,000   282   \$ 3,157,000,000   352   \$ 5,010,000,000   634     Total   \$ 2,326 int   218   \$ 1,280,000,000   500   5000,000   500   5000,000   500   5000,000   500   5000,000   500   5000,000   5000,000   5000,000   5000,000   5000,000   5000,000   5000,000   5000,000   5000,000,000   5000,000,000   5000,000,000   5000,000,000   5000,000,000   5000,000,000   5000,000,000   5000,000,000   5000,000,000   5000,000,000   5000,000,000   5000,000,000   5000,000,000 <t< td=""><td>Checked Status</td><td>Wellington Region</td><td></td><td>\$ 95,000,000</td><td>18</td><td>\$ 230</td><td>,000,000</td><td>25</td><td>\$ 326,000,000</td><td>43</td></t<>  | Checked Status                          | Wellington Region      |         | \$ 95,000,000      | 18                    | \$ 230                            | ,000,000  | 25                            | \$ 326,000,000   | 43                     |  |
| Treatment Philose   West Coast Region   \$ 4,000,000   1   \$ 27,000,000   7   \$ 31,000,000   7     Otago Region   \$ 61,000,000   10   \$ 185,000,000   21   \$ 246,000,000   31     Southland Region   \$ 22,000,000   4   \$ 46,000,000   9   \$ 68,000,000   13     Grand Total   \$ 1,853,000,000   282   \$ 3,157,000,000   352   \$ 5,010,000,000   634     Total   \$ 1,853,000,000   282   \$ 3,157,000,000   352   \$ 5,010,000,000   634     Total   \$ 2,326 int /   635   \$ 1,280,000,000   \$ 5,010,000,000   9 \$ 0.000,000   9 \$ 0.000,000   9 \$ 0.000,000   9 \$ 0.000,000   0 \$ 0.   | Checked Status                          | Top of the South Regio | on      | \$ 29,000,000      | 4                     | \$ 99                             | ,000,000  | 11                            | \$ 128,000,000   | 15                     |  |
| Treatment Phillose   Otago Region   \$ 61,000,000   10   \$ 185,000,000   21   \$ 246,000,000   31     Southland Region   \$ 22,000,000   4   \$ 46,000,000   9   \$ 68,000,000   13     Grand Total   \$ 1,853,000,000   282   \$ 3,157,000,000   352   \$ 5,010,000,000   634     37%   63%   -   -   -   -   -     Sub-1otal   2,326 int / 7,612 km   \$1,280,000,000   -   -   -     Science projects from table   -   -   -   -   -   -   | Project Pathway                         | Canterbury Region      |         | \$ 261,000,000     | 43                    | \$ 419                            | ,000,000  | 43                            | \$ 680,000,000   | 87                     |  |
| Otago Region   \$ 61,000,000   10   \$ 185,000,000   21   \$ 246,000,000   31     Southland Region   \$ 22,000,000   4   \$ 46,000,000   9   \$ 68,000,000   13     Grand Total   \$ 1,853,000,000   282   \$ 3,157,000,000   352   \$ 5,010,000,000   634     Sub-Total     Sub-Total   2,326 int   218   \$1,280,000,000   635     Total   2,326 int /   635   \$5,010,000,000   85     Select projects from table   |   | West Coast Region      |         | \$ 4,000,000       | 1                     | \$ 27                             | ,000,000  | 7                             | \$ 31,000,000    | 7                      |  |
| Grand Total   \$ 1,853,000,000   282   \$ 3,157,000,000   352   \$ 5,010,000,000   634     37%   63%   | Treatment Philosc                       | Otago Region           |         | \$ 61,000,000      | 10                    | \$ 185                            | ,000,000  | 21                            | \$ 246,000,000   | 31                     |  |
| 37%     63%       Sub-Total     2,326 int     218     \$1,280,000,000       Total     2,326 int /<br>7,612 km     635     \$5,010,000,000  |   | Southland Region       |         | \$ 22,000,000      | 4                     | \$ 46                             | ,000,000  | 9                             | \$ 68,000,000    | 13                     |  |
| Sub-Total     2,326 int /     218     \$1,280,000,000       Total     2,326 int /     635     \$5,010,000,000  |   | Grand Total            |         | \$ 1,853,000,000   | 282                   | \$ 3,157                          | ,000,000  | 352                           | \$ 5,010,000,000 | 634                    |  |
| Total 2,326 int / 635 \$5,010,000,000 Devered by Exit  |   |                        |         | 37%                |                       |                                   | 63%       |                               |                  |                        |  |
| Total 2,326 int / 635 \$5,010,000,000 Powered by Exil  |   | Sub-Total              |         |                    |                       | 2,326 int 218                     |           | \$1,280,000,00                | 0                | 44                     |  |
| Select projects from table   |   | Total                  |         |                    |                       |                                   | 635       | \$5,010,000,00                | 0                |                        |  |
|  |   |                        |         |                    |                       |                                   |           |                               |                  |                        |  |
|  | Map <mark>loading 🍃</mark>              |                        | New.    | Zealand Government |                       |                                   |           |                               |                  |                        |  |

# In Summary

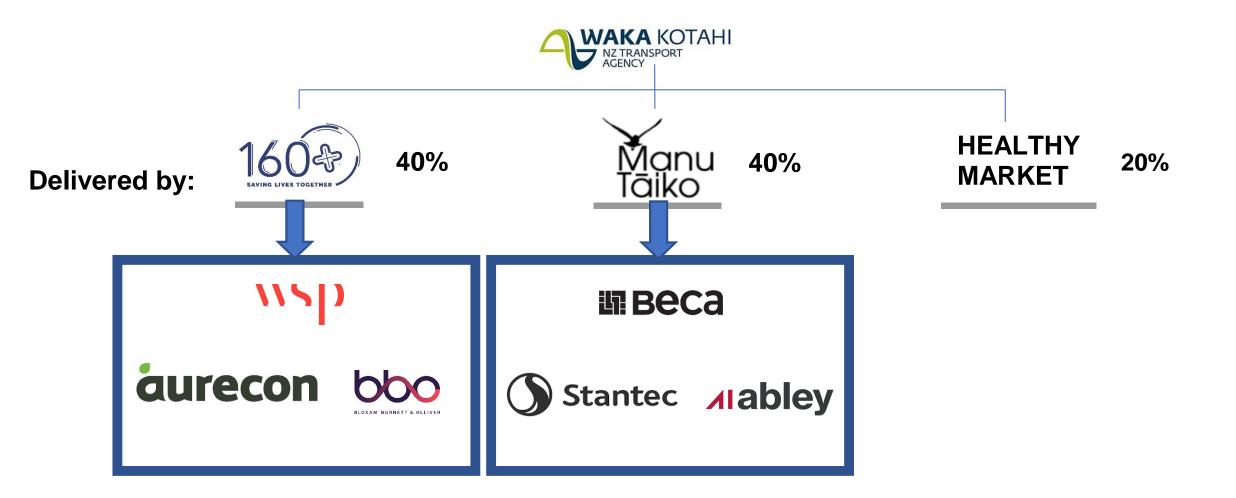
#### **Development to Implementation**

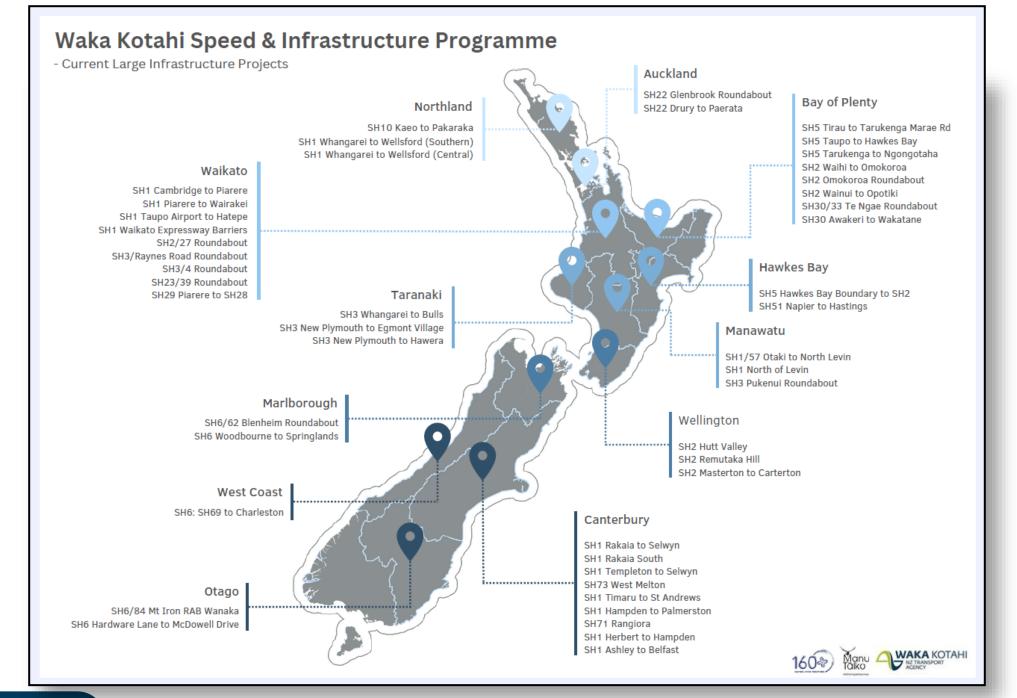


RtZ Speed and Infrastructure Programme - Highways - Overview (v1.3)



### **Project Delivery Mechanism**





### **SIP: Points of Interest**

Innovation

- SIP Design Framework
- Improving use of data for delivery
- Consistent DSI assessment tools
- Streamlined investment applications



### **SIP: Points of Interest**

Construction Safety

- Use of new NZ Guide to Temporary Traffic Management
- Eliminate
- Isolate
- Minimise



### **SIP: Points of Interest**

**Retrofitting Existing State Highways** 

- Cross-section design
- Co-ordination with other works & maintenance
- Whole of life safety by design
- Corridor use adapting to the changes
- Communication and engagement



### **Looking Ahead**

Increasing the roll-out of key interventions

#### Simplify & phase

Identify what sections of projects we can progress now that don't need detailed design and aren't controversial

#### Treatment length approach - break up projects to do the 80%, so the 20% doesn't hold everything up

#### Pragmatic design

- Clearer guidance to enable repeatable design elements
- Designers not designing from scratch every time

#### Unlock funding

- Unlock funding now to enable earlier construction (imp and property)
- Beyond this NLTP, move to SIP being funded as a Programme, not individual projects

#### Procurement

- In 2023/24 procure regional construction frameworks for 10-year partnerships
- Drive more certainty and security to invest in resources to support delivery at the correct scale and pace

#### Construction

- Improve construction safety for our contractors, lower the unit cost & increase productivity on site through targeted state highway closures
- Closures for weeks rather than 5 years of TTM

#### **Benefits Realisation –** sharing the success

# TOGHIONOONE.

