Speed Limit Review – Buckville Road (Buckland)

The speed limit on Buckville Road, Buckland between Logan Road and a point 260m east of Logan Road has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Buckville Road is classified as a primary collector road under the one network road classification (ONRC). Buckville Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Buckville Road.
	Buckville Road connects to Logan Road on the western end of the road and Harrisville Road at the eastern end of the road. The primary use of the road is to serve through traffic but it also provides access to rural residential properties. The section of Buckland Road within the Auckland District is approximately 260 m in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records no crashes between 2016 and 2020. Buckville Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Buckville Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Medium lane (3.0 m to 3.5 m) and wide shoulder (>1.0 m to <2.0 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 1,986 vehicles per day (vpd). This level of traffic volume is consistent with the rural, primary collector nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Buckville Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Buckville Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Buckville Road has a mean operating speed of 60 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Logan Road**: 50 km/h • **Buckville Road** (east of a point 260m east of Logan Road): 80 km/h (within Waikato District)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	0.26
Annual Daily Traffic	1,986

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Straight	1.00
Carriageway width	Medium lane, wide shoulder	1.00
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	5 to <10	1.06
Traffic volume	1000 to <6000	1.40

The Infrastructure Risk Rating Score is 1.2. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80 km/h for Buckville Road between Logan Road and a point 260m east of Logan Road.

The majority of Buckville Road is within the Waikato District and has an 80 km/h speed limit. This very short section of Buckville Road within the Auckland District Urban Traffic Area which joins to a 50 km/h speed zone at the western end (Logan Road).

Based upon consultation feedback received and further technical assessment, the speed limit recommendation has been updated from 50km/h to 80km/h in order to:

- align with the speed limit on the Waikato District section of Buckville Road
- align with the speed limit assessed from Speed Management Guide, and
- improve speed limit consistency for road users.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment - Burnside Road (Ardmore)

Burnside Road, Ardmore, is divided into two sections and outlined as follows: [1]

- Section 1: Burnside Road between Papakura-Clevedon Road and 1100m north of Papakura-Clevedon Road
- Section 2: Burnside Road between 1100m north of Papakura-Clevedon Road and Clevedon-Takanini Road.

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Burnside Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.	
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.	
(c) the function and use of the road; and	This section of Burnside Road is classified as a secondary collector under the one network road classification (ONRC). This section is 1.1 km in length	This section of Burnside Road is classified as a secondary collector under the one network road classification (ONRC). This section is 910 m in length
	This section of Burnside Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is some on-street parking provide at the southern end of this section of road in the vicinity of Ardmore Hall, but apart from this there is no on-street parking along Burnside Road.	This section of Burnside Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along this section of Burnside Road.
	Burnside Road connects to Papakura-Clevedon Road at the southern end and Clevedon-Takanini Road at the northern end. Burnside Road is primarily used to access rural residential properties along the road.	
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.	
	CAS records zero crashes on this section of Burnside Road. Therefore, there are no DSI crashes.	CAS records zero crashes on this section of Burnside Road. Therefore, there are no DSI crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Burnside Road were determined using a combination of site drive-over footage and geomaps information	
	• **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width**: Narrow lane (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: Moderate	• **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width:** Narrow lane (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:	
	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 access per km	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 238 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 238 vehicles per day (vpd).

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

(i) any planned modification to the road; and	There are currently no known planned modifications to Burnside Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. Feedback from the consultation phase highlighted that some drivers on Burnside Rd are traveling at speeds higher than those currently posted. Of the two mentions of the proposed 60km/h speed limit in the feedback, one submitter felt the speed limit should be lower than proposed and the second higher than proposed, but less than the existing limit.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	Burnside Road has an existing speed limit of: • 80 km/h between Papakura-Clevedon Road and 1100m north of Papakura-Clevedon Road (with a variable 40 km/h school zone between Papakura-Clevedon Road and 120m northwest of Papakura-Clevedon Road) • 100 km/h between 1100m north of Papakura-Clevedon Road and Clevedon-Takanini Road
MegaMaps Mean Operating Speed (km/h)	Burnside Road has a mean operating speed of 57 km/h
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Papakura-Clevedon Road**: 80 km/h • **Clevedon-Takanini Road**: 100 km/h (proposed SaAS 80 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	0	0
DSI equivalents	0	0
Corridor Length (km)	1.100	0.910
Annual Daily Traffic	238	238

- Section 1
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2
  - The Collective Risk score is 0.00 For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section2	
	Category	Score	Category	Score
Road stereotype	Two-lane undivided	3.7	Two-lane undivided	3.7
Road alignment	Straight	1.00	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43	Moderate	1.43
Adjacent land use	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	1 to <2	1.15	1 to <2	1.15
Access density (per km)	5 to <10	1.06	2 to <5	1.03
Traffic volume	<1000	1.00	<1000	1.00

- Section 1: The Infrastructure Risk Rating Score is 1.2. For rural areas this corresponds to an IRR band of **Medium.**
- Section 2: The Infrastructure Risk Rating Score is 1.2. For rural areas this corresponds to an IRR band of **Medium.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h (Section 1 and 2)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80km/h for the full length of Burnside Road (with a variable 40 km/h school zone between Papakura-Clevedon Road and 120m northwest of Papakura-Clevedon Road)

Based upon consultation feedback received and further technical assessment, the speed limit recommendation has been updated from 60km/h to 80km/h in order to:

- improve likelihood of driver compliance with the new limit
- improve speed limit consistency for road users.

Key information driving this change includes that:

1) Consultation feedback received highlighted that some drivers on Burnside Road are traveling at speeds higher than those currently posted
2) it has been assessed that an 80km/h speed limit would be more consistent with nearby roads, and
3) a self-explaining road will likely lead to greater compliance plus reduce the number of signs and speed changes along the road length.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment - Golding Road (Pukekohe)

Golding Road, Pukekohe, is divided into two sections and outlined as follows: [1]

1. Section 1: Golding Road, between Pukekohe East Road and 100m south of Pukekohe East Road
2. Section 2: Golding Road, between 100m south of Pukekohe East Road and Logan Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Golding Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information.

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.	
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.	
(c) the function and use of the road; and	This section of Golding Road is classified as a secondary collector under the one network road classification (ONRC). This section is 0.1 km in length	This section of Golding Road is classified as a secondary collector under the one network road classification (ONRC). This section is 2.25 km in length
	Golding Road is a two-lane, undivided and sealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Barber Road. Golding Road connects to Pukekohe Road East at its northern end and Logan Road the southern end. The road is primarily used for through traffic but there is also access for a number of rural residential properties along its length.	

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.	
	CAS records zero crashes between 2016 and 2020. This section of Golding Road therefore has no Death and Serious Injury (DSI) crashes	CAS records eight crashes between 2016 and 2020 including 1 minor injury and 1 serious injury crash. This section of Golding Road therefore has one Death and Serious Injury (DSI) crash.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Golding Road were determined using a combination of site drive-over footage and geomaps information	
	• **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: Moderate	• **Road stereotype**: Two lane undivided • **Road Alignment**: Straight • **Carriageway Width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information:	
	• **Intersection density**: 1 <2 intersection per km • **Access density**: 1 to <2 access per km	• **Intersection density**: 1 <2 intersection per km • Access density: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,374 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,374 vehicles per day (vpd).
(i) any planned modification to the road; and	There are currently no known planned modifications to Golding Road.	
(j) the views of interested people and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021.	

	Submissions during consultation on Golding Road were split with 7 submitters wanting the existing speed limit retained and a further 6 either supporting the proposal for 60km/h or wanting something higher than 60km/h but less than 100km/h.

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The speed limit on Golding Road is: • 60 km/h between Pukekohe East Road and 100m south of Pukekohe East Road • 100 km/h between 100m south of Pukekohe East Road and Logan Road
MegaMaps Mean Operating Speed (km/h)	Golding Road has a mean operating speed of 68 km/h along its length
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Pukekohe East Road**: 60 km/h • **Royal Doulton Drive**: 100 km/h (proposed SaAS 60 km/h) • **Logan Road**: 80 km/h

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	**0**	**2**
DSI equivalents	0	**1**
Corridor Length (km)	0.1	2.25
Annual Daily Traffic	1,374	1,374

- Section 1
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2
  - The Collective Risk score is 0.09. For rural areas this corresponds to a Collective Risk band of **Medium**
  - The Personal Risk score is 17.7 For rural areas this corresponds to a Personal Risk band of **High**

Step 3: Calculate the IRR score

Feature	Section 1		Section2	
	Category	**Score**	**Category**	**Score**
Road stereotype	Two Lane Undivided	3.70	Two Lane Undivided	3.70
Road alignment	Straight	1.00	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43	Moderate	1.43
Adjacent land use	Rural Residential	1.50	Rural Residential	1.50
Intersection density (per km)	1 <2	1.15	1 <2	1.15
Access density (per km)	1 <2	1.01	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.40	< 1,000 vpd	1.40

- Section 1: The Infrastructure Risk Rating Score is 1.40. For rural areas this corresponds to an IRR band of **Medium**.
- Section 2: The Infrastructure Risk Rating Score is 1.40. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h for the full length of Golding Road (sections 1 and 2).

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80 km/h between 100m south of Pukekohe East Road and Logan Road (Auckland boundary)

Based upon consultation feedback received and further technical assessment, the speed limit recommendation has been updated from 60km/h to 80km/h in order to:

- *improve likelihood of driver compliance with the new limit*
- *improve speed limit consistency for road users.*

Key information driving this change includes that:

1) *The IRR of medium, in part driven by the straight nature of Golding Road*
2) *A Speed Management Guide recommended speed limit of less than 80km/h is driven by high personal risk, in turn driven by a single serious injury crash on the corridor. Without this crash, the safe an appropriate speed would be 80km/h as both collective and personal risk would reduce to low.*
3) *Implementing the 60km/h limit as proposed may result in poor compliance as the road may not self-explain, and*
4) *An 80km/h speed limit is supported by NZ Police.*

Speed Limit Review – Hillview Road (Bombay)

The speed limit on Hillview Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Hillview Road is classified as a secondary collector road under the one network road classification (ONRC). Hillview Road is a two-lane undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Hillview Road.
	Hillview Road connects to Portsmouth Road and Barber Road at its southern end and Ararimu Road at the northern end. The primary use of the road is to provide access to rural residential properties along the road, but it also carries some through traffic. Hillview Road is approximately 4.47km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records four injury crashes between 2016 and 2020, including 1 serious and 3 minor injury crashes. Hillview Road therefore has one Death and Serious Injury (DSI) crash. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Hillview Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Curved • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (<0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 480 vehicles per day (vpd). This level of traffic volume is consistent with the rural, secondary collector nature of the road.
(i) any planned modification to the road; and	There are no known planned modifications to Hillview Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. During the consultation phase 10 pieces of feedback were received on Hillview Road with three submitters supporting the change, two supporting the status quo and three wanting a lower limit but higher than that proposed in consultation. The two remain submitters did not indicate support of otherwise.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Hillview Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Hillview Road has a mean operating speed of 65 km/h
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Ararimu Road**: 60 km/h • **Portsmouth Road**: 100 km/h (proposed SaAS 80 km/h) • **Barber Road**: 100 km/h (proposed SaAS 80 km/h) • **Dale South Road**: 100 km/h (proposed SaAS 60 km/h) • **Stone Road**: 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	4
DSI crashes during the period	1
Corridor Length (km)	4.47
Annual Daily Traffic	480

The Collective Risk score is 0.04, and the Personal Risk score is 25.5. For rural areas this corresponds to a Collective Risk band of **Low-Medium**, and a Personal Risk band of **High**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.7
Road alignment	Curved	1.8
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	<1	1.00
Access density (per km)	2 to 5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.4. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is less than 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80 km/h for the full length of Hillview Road

Based upon consultation feedback received, engagement with Counties Manukau Road Policing and further technical assessment, the speed limit recommendation has been updated from 60km/h to 80km/h in order to:

- improve likelihood of driver compliance with the new limit
- improve speed limit consistency for road users.

Key information driving this change includes that:

1) the road is largely straight
2) the single serious injury crash occurred at one of two 90-degree curves in the road
3) engineering measures can be implemented to reduce the roadside risk at these curves
4) three submitters highlighted that 80km/h was a more appropriate speed for Hillview Road, and
5) an 80km/h speed limit is supported by NZ Police.

Speed Limit Assessment - Kawakawa-Orere Road (Kawakawa Bay)

Kawakawa-Orere Road, Kawakawa Bay, is divided into three section and outlined as follows: [1]

1. Section 1: Kawakawa-Orere Road between 500m south of Kawakawa Bay Coast Road and 1500m south of Kawakawa Bay Coast Road.
2. Section 2: Kawakawa-Orere between 1500m south of Kawakawa Bay Coast Road and 4150m south of Bertram Road
3. Section 3: Kawakawa-Orere Road between 4150m south of Bertram Road and the end of Kawakawa-Orere Road.

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Kawakawa-Orere Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments		
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*	**Section 3** *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.		
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.		
(c) the function and use of the road; and	This section of Kawakawa-Orere Road is classified as an Arterial under the one network road classification (ONRC). This section is 1 km in length	This section of Kawakawa-Orere Road is classified as an Arterial under the one network road classification (ONRC). This section is 2.65 km in length	This section of Kawakawa-Orere Road is classified as an Arterial under the ONRC. This section is 5.25 km in length
	Kawakawa-Orere Road is a two-way, two-lane, undivided and sealed road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along Kawakawa-Orere Road. Kawakawa-Orere Road connects Kawakawa Bay and Ōrere Point. The road is primarily used as a through route, although there are a number of rural residential properties along its length.		
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.		
	CAS records five crashes on this section of Kawakawa-Orere Road: two non-injury crashes, two minor-injury crashes and one serious injury crash. Therefore this section of road has one Death and Serious Injuries (DSI) crash.	CAS records seven crashes on this section of Kawakawa-Orere Road: three non-injury crash, three minor-injury crashes and one serious injury crash. Therefore this section of road has one Death and Serious Injuries (DSI) crash.	CAS records five crashes on this section of Kawakawa-Orere Road: two non-injury crash, one minor-injury crashes and two serious injury crashes. Therefore this section of road has two Death and Serious Injuries (DSI) crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Kawakawa-Orere Road were determined using a combination of site drive-over footage and geomaps information		
	• **Road stereotype**: Two lane undivided • **Road Alignment**: Curved • **Carriageway Width**: Medium lane (3.0 to 3.5 m) and wide shoulder (1.0 to <2.0 m) • **Roadside Hazards (in both directions)**: Moderate	• **Road stereotype**: Two lane undivided • **Road Alignment**: Tortuous • **Carriageway Width:** Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: Severe	• **Road stereotype**: Two lane undivided • **Road Alignment**: curved • **Carriageway Width**: Medium lane (3.0 to 3.5 m) and very narrow shoulder (0 to <0.5 m) • **Roadside Hazards (in both directions)**: Moderate

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Remote Rural using drive-over footage and geomaps. The IRR defines Remote Rural as "*Only occasional accesses and intersections are present. Surrounding land is rural with few houses and almost no industry*." It should be noted that the end of the road terminates into a private access road that serves eight properties.
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: <1 intersection per km • **Access density**: 2 to <5 access per km	• **Intersection density**: <1 intersection per km • **Access density**: 1 to <2 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1022 vehicles per day (vpd). This is similar to the 7-day traffic counts of 976 vpd.	The traffic volume in ADT was determined from MegaMaps as 1022 vpd.	The traffic volume in ADT was determined from MegaMaps as: 1022 vpd.
(i) any planned modification to the road; and	There are currently no known planned modifications to Kawakawa-Orere Road.		
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. A majority of submissions opposed lowering the speed limit Kawakawa-Orere Road to 60km/h with most submissions noting that driver error was a key cause of crashes on the route. While driver error maybe a factor in crashes on the corridor, the current travel speeds are resulting in a number of high severity crashes occurring along the corridor.		

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	The existing speed limit(s) on Kawakawa-Orere Road are as follows: • 80 km/h between 500m south of Kawakawa Bay Coast Road and 1500m south of Kawakawa Bay Coast Road (Section 1) • 100 km/h between 1500m south of Kawakawa Bay Coast Road and 4340m south of Bertram Road (Section 2) • 100 km/h between 4340m south of Bertram Road and the end of Kawakawa-Orere Road. (Section 3)
MegaMaps Mean Operating Speed (km/h)	Kawakawa-Orere Road has a mean operating speed of: • 66 km/h between 500m south of Kawakawa Bay Coast Road and 1500m south of Kawakawa Bay Coast Road. • 54 km/h between 1500m south of Kawakawa Bay Coast Road and 4340m south of Bertram Road • 66 km/h between 4340m south of Bertram Road and the end of Kawakawa-Orere Road
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Kawakawa-Orere Road (north of a point 500m south of Kakakawa Bay Coast Road):** 50 km/h • **Orere Point Road**: 100 km/h (proposed SaAS 60 km/h) • **Orere-Matingarahi Road**: 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2	Section 3
Crash Analysis Period (years)	5	5	5
Total injury crashes during period	3	4	3
DSI crashes during the period	1	1	2
Corridor Length (km)	1.00	2.84	5.06
Annual Daily Traffic	1022	1022	1022

- Section 1
  - The Collective Risk score is 0.20. For rural areas this corresponds to a Collective Risk band of **High**
  - The Personal Risk score is 53.6. For rural areas this corresponds to a Personal Risk band of **High.**
- Section 2
  - The Collective Risk score is 0.07 For rural areas this corresponds to a Collective Risk band of **Medium**
  - The Personal Risk score is 18.9. For rural areas this corresponds to a Personal Risk band of **High**
- Section 3
  - The Collective Risk score is 0.08. For rural areas this corresponds to a Collective Risk band of **Medium**
  - The Personal Risk score is 21.2. For rural areas this corresponds to a Personal Risk band of **High.**

Step 3: Calculate the IRR score

Feature	Section 1		Section2		Section3	
	Category	Score	Category	Score	Category	Score
Road stereotype	Two-lane undivided	3.7	Two-lane undivided	3.7	Two-lane undivided	3.7
Road alignment	Curved	1.80	Tortuous	6.00	Curved	1.80
Carriageway width	Medium lane, wide shoulder	1.00	Medium lane, very narrow shoulder	1.79	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	Moderate	1.43	Severe	2.80	Moderate	1.43
Adjacent land use	Rural residential	1.50	Rural residential	1.50	Remote rural	1.00
Intersection density (per km)	<1	1.00	<1	1.00	<1	1.00
Access density (per km)	2 to <5	1.03	2 to <5	1.03	1 to <2	1.01
Traffic volume	1000 to <6000	1.40	1000 to <6000	1.40	1000 to <6000	1.40

- Section 1: The Infrastructure Risk Rating Score is 1.40. For rural areas this corresponds to an IRR band of **Medium**.
- Section 2: The Infrastructure Risk Rating Score is 2.40. For rural areas this corresponds to an IRR band of **High.**
- Section3: The Infrastructure Risk Rating Score is 1.38. For rural areas this corresponds to an IRR band of **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is:

- Less than 80 km/h between 500m south of Kawakawa Bay Coast Road and 1500m south of Kawakawa Bay Coast Road (Section 1)
- Less than 80 km/h between 1500m south of Kawakawa Bay Coast Road and 4340m south of Bertram Road (Section 2)
- Less than 80 km/h between 4340m south of Bertram Road and the end of Kawakawa-Orere Road. (Section 3)

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation =

- *60 km/h for the section of Kawakawa-Orere Road between 500m south of Kawakawa Bay Coast Road and 4150m south of Bertram Road*
- *80km/h between 4150m south of Bertram Road and 150m west of Orere Point Road*
- *60km/h between 150m west of Orere Point Road and Orere Point Road*

Kawakawa-Orere Road is a self-explaining road as the mean operating speeds (between 54 km/h and 66 km/h) are close to the proposed safe and appropriate speeds, despite the existing 100 km/h speed limit. Engineering up of Kawakawa-Orere Road was considered, but dismissed due to the substantial and costly upgrades that would be required. The cost to do this would substantially outweigh any benefits.

Section 1 has both a high collective risk and high personal risk with a Medium IRR score, following review of the feedback the proposal is to proceed with **60km/h** as both crash risk metrics are high.

Section 2 has a Medium collective risk and High personal risk, the IRR rating for this section is High. With the high personal risk and high IRR, the proposal is to proceed with the 60km/h as consulted on.

Section 3 has a Medium collective risk and High personal risk. Following consultation the IRR score for this section of road was reviewed. The homogeneous length was updated to start at RP 4.750 extending to 150m west of Oerere Point Road, the alignment is considered to be curved to straight rather than winding as assessed above. Using the MegaMaps Edition 3 assessment tool, this makes the IRR score for the road Medium. To help provide speed limits that are sensible to drivers while managing crash risk the proposal for this section is **80km/h**. This recognises that the crash risk is less than Section 1 and the IRR is lower than Section 2. The 80km/h speed limit aligns with feedback from both the local community board and from NZ Police.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Portsmouth Road (Bombay)

The speed limit on Portsmouth Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Portsmouth Road is classified as a secondary collector road under the one network road classification (ONRC). Portsmouth Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Portsmouth Road.
	Portsmouth Road connects to Chamberlain Road at the eastern end and Bombay Road at the western end of the road. The primary use of the road is to provide access to rural residential properties. Portsmouth Road is approximately 2.03 km long.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020: Portsmouth Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Portsmouth Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 1 to <2 intersection per km • **Access density**: 5 to <10 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 519 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Portsmouth Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. Feedback during consultation indicated that the 60km/h speed limit was not supported due to the straight nature of the road and lack of crashes. NZ Police expressed support for 80km/h based upon their local knowledge and experience.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Portsmouth Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Portsmouth Road has a mean operating speed of 60 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Bombay Road** 100 km/h (proposed SaAS 60 km/h) • **Hillview Road**: 100 km/h (proposed SaAS 80 km/h) • **Barber Road** 100 km/h (proposed SaAS 80 km/h) • **Wootten Road** 100 km/h (proposed SaAS 80 km/h) • **Chamberlain Road 100** km/hr (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	2.03
Annual Daily Traffic	519

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	1 to <2	1.15
Access density (per km)	5 to <10	1.06
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.2. For rural areas this corresponds to an IRR band between **Medium**.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80 km/h for the full length of Portsmouth Road.

Based upon consultation feedback received and further technical assessment, the speed limit recommendation has been updated from 60km/h to 80km/h in order to:

- improve likelihood of driver compliance with the new limit
- improve speed limit consistency for road users.

Key information driving this change includes that:

1) The road straight and has good visibility
2) There is no development planned along the road
3) Changes made to the safe and appropriate speed on similar nearby roads, and
4) A review of the latest crash data (2017-2021) from CAS shows that there was a serious injury crash on Portsmouth Road in early 2021. A vehicle failed to stop at the intersection of Portsmouth Road and Barber Road.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.

Speed Limit Assessment - Tourist Road (Clevedon)

Tourist Road, Clevedon, is divided into two sections and outlined as follows: [1]

- Section 1: Tourist Road between Papakura-Clevedon Road and 200m west of Monument Road.
- Section 2: Tourist Road between 200m west of Monument Road and McNicol Road

These sections were chosen to create homogenous road sections that have consistent features (adjacent land use, access density, nature of the road, etc). Therefore, people can understand the reason for a speed limit change when they move between sections.

All sections of Tourist Road have been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
(a) the information about speed management developed and maintained by the Agency; and:	The information provided by the agency that has been included is listed below: • New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.	
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.	
(c) the function and use of the road; and	This section of Tourist Road is classified as a secondary collector under the one network road classification (ONRC). This section is 2.03 km in length	This section of Tourist Road is classified as a secondary collector under the one network road classification (ONRC). This section is 1.66 km in length
	This section of Tourist Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along this section of Tourist Road.	This section of Tourist Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road, and there is no on-street parking along this section of Tourist Road.
	Tourist road connects Papakura-Clevedon Road is the west to McNicol Road in the east. Tourist Road primarily serves through traffic but is also used to access rural residential properties along the road.	

[1] It is noted that the ONRC and MegaMaps sections differ from the proposed road sections. This is because AT has chosen to align the proposed speed limit changes with sections of similar road alignment (i.e tortuous vs curved) as specified within the IRR.

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) was used to determine the crash history between 2016 and 2020. CAS includes crashes for all road users and therefore the crash risk for all road users was considered.	
	CAS records two non-injury crashes on this section of Tourist Road. There is no DSI crash on this section.	CAS records three crashes on this section of Tourist Road, one serious injury, one minor injury and one non-injury crashes.
(e) the characteristics of the road and roadsides; and	The following characteristics for each section of Tourist Road were determined using a combination of site drive-over footage and geomaps information • **Road stereotype**: Two-lane undivided • **Road Alignment**: Straight • **Carriageway Width**: Medium lane (<3.0m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate	• **Road stereotype**: Two-lane undivided • **Road Alignment**: Curved • **Carriageway Width:** Medium lane (3.0 to 3.5m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*	The adjacent land use is classified as Rural Residential using drive-over footage and geomaps. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*
(g) the number of intersections and property accessways; and	The following were determined using a combination of site drive over footage and geomaps information: • **Intersection density**: <1 intersection per km • **Access density**: 5 to <10 access per km	• **Intersection density**: 1 to <2 intersection per km • **Access density**: 2 to <5 access per km
(h) traffic volume; and	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,204 vehicles per day (vpd).	The traffic volume in average daily traffic (ADT) was determined from MegaMaps as 1,204 vehicles per day (vpd).
(i) any planned modification to the road; and	There are currently no known planned modifications to Tourist Road.	
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk	

Requirement	Comments	
	Section 1 *(as applicable)*	**Section 2** *(as applicable)*
	Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. Feedback from the public on the speed limit was split with approximately 45% of submitters opposing the change and 45% wanting either the proposed limit or noted that the current limit was too high but 60km/h was too slow. Feedback from Police indicated they supported an 80km/h speed limit.	

In addition to the factors outlined in Table 1, further relevant information has been assessed and is summarised in Table 2 below.

Table 2: Additional Relevant Factors to Consider

Factor	Comment
Existing Speed Limit	Tourist Road has an existing speed limit of 100 km/h.
MegaMaps Mean Operating Speed (km/h)	Tourist Road has a mean operating speed of: • 62 km/h between Papakura-Clevedon Road and Monument Road. • 57 km/h between Monument Road and McNicol Road
Speed Limit on Adjoining Roads	The speed limits in the adjacent road network are: • **Papakura-Clevedon Road**: 100 km/h (proposed SaAS 80 km/h) • **Creightons Road**: 100 km/h (proposed SaAS 80 km/h) • **Monument Road**: 100 km/h (proposed SaAS 60 km/h) • **McNicol Road**: 100 km/h (proposed SaAS 60 km/h) • **Quinns Road**: 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Section 1	Section 2
Crash Analysis Period (years)	5	5
Total injury crashes during period	1	0
DSI crashes during the period	0	0
Corridor Length (km)	2.23	1.46
Annual Daily Traffic	1,204	1,204

- Section 1
  - The Collective Risk score is 0.00. For rural areas this corresponds to a Collective Risk band of **Low**
  - The Personal Risk score is 0.00. For rural areas this corresponds to a Personal Risk band of **Low**
- Section 2
  - The Collective Risk score is 0.12 For rural areas this corresponds to a Collective Risk band of **Medium-high**
  - The Personal Risk score is 3.5. For rural areas this corresponds to a Personal Risk band of **Low**

Step 3: Calculate the IRR score

Feature	Section 1		Section2	
	Category	Score	Category	Score
Road stereotype	Two-lane undivided	3.7	Two-lane undivided	3.7
Road alignment	Straight	1.0	Curved	1.80
Carriageway width	Medium lane, very narrow shoulder	1.79	Medium lane, very narrow shoulder	1.79
Roadside hazards (in both directions)	Moderate	1.43	Moderate	1.43
Adjacent land use	Rural residential	1.50	Rural residential	1.50
Intersection density (per km)	<1	1.00	1 to <2	1.15
Access density (per km)	5 to <10	1.06	2 to <5	1.03
Traffic volume	1000 to <6000	1.40	1000 to <6000	1.40

- Section 1: The Infrastructure Risk Rating Score is 1.42. For rural areas this corresponds to an IRR band of **Medium.**
- Section 2: The Infrastructure Risk Rating Score is 1.68. For rural areas this corresponds to an IRR band of **Medium-High.**

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is

- 80km/h for section 1
- less than 80 km/h for section 2

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation:

- 80km/h for Tourist Road between Papakura-Clevedon Road and 200m west of Monument Road.
- 60km/h for Tourist Road between 200m west of Monument Road and McNicol Road

Based upon consultation feedback received, further technical assessment, and engagement with Counties Manukau Road Policing the speed limit recommendation has been updated for section 1 of Tourist Road from 60km/h to 80km/h in order to:

- Improve likelihood of driver compliance with the new limit
- Improve speed limit consistency for road users.

Key information driving this change includes that:

1) A new proposal for introduction of engineering safety treatments at the intersection of Monument Road, and
2) An 80km/h speed limit is supported by NZ Police.

Section 2 has a medium-high collective risk with a medium-high IRR score, following review of the feedback the proposal is to proceed with **60km/h**.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limits will also reduce the potential and severity of crash risk for all road users.

Speed Limit Review – Wootten Road (Bombay)

The speed limit on Wootten Road, Bombay has been reviewed in accordance with the Land Transport Rule: Setting of Speed Limits 2017 (Setting of Speed Limits Rule). The review process is outlined in the Process Summary document attached.

Step 1: Determine the base information

Table 1: Setting of Speed Limits Rule Summary of Relevant Requirements (4.2(2))

Requirement	Comments
(a) the information about speed management developed and maintained by the Agency; and:	• New Zealand Transport Agency (NZTA) Speed Management Guide 2016 • Infrastructure Risk Rating Manual 2016 (IRR) • NZTA MegaMaps tool Refer to the Process Summary for further information.
(b) any relevant guidance on speed management provided by the Agency; and	The NZTA Speed Management Guide was used for the review and consideration of the speed limit.
(c) the function and use of the road; and	Wootten Road is classified as a secondary collector road under the one network road classification (ONRC). Wootten Road is a two-way, two-lane, undivided road. There are no pedestrian or cyclist amenities along this road. There is no on-street parking along Wootten Road.
	Wootten Road connects to Chamberlain Road and Portsmouth Road at the northern end and Paparata Road and Lowry Road at the southern end. The primary use of the road is to provide access to rural residential properties. This section of Wootten Road is approximately 1.16 km in length.
(d) crash risk for all road users; and	NZTA's Crash Analysis System (CAS) records zero crashes between 2016 and 2020: Wootten Road therefore has no Death and Serious Injury (DSI) crashes. CAS includes crashes for all road users and therefore crash risk for all road users were considered.
(e) the characteristics of the road and roadsides; and	The following characteristics for Wootten Road were determined using a combination of site drive-over footage and geomaps information. • **Road stereotype**: Two-lane undivided • **Road alignment**: Straight • **Carriageway width**: Narrow lane (<3.0 m) and very narrow shoulder (0 to <0.5 m) • **Roadside hazards (in both directions)**: Moderate
(f) adjacent land use; and	The adjacent land use is classified as Rural Residential using the drive over footage. The IRR defines Rural Residential as *"Rural area with accesses present to private dwellings and farms. There may be the occasional industry/ factory present. Some pedestrian and cyclist activity may also be present, particularly at certain times of the day, but with few crossing movements."*

Requirement	Comments
(g) the number of intersections and property accessways; and	A combination of site drive over footage and geomaps information revealed: • **Intersection density**: 2 to <3 intersection per km • **Access density**: 2 to <5 accesses per km
(h) traffic volume; and	Average daily traffic (ADT) was determined from MegaMaps as 312 vehicles per day (vpd). This level of traffic volume is consistent with the nature of this road.
(i) any planned modification to the road; and	There are no known planned modifications to Wootten Road.
(j) the views of interested persons and groups.	The programme team have undertaken early engagement with key partners and stakeholders on the first stage of Tranche 2. This has included the Automobile Association, Auckland Council Safety Collective, Auckland Regional Public Health Service / Healthy Auckland Together, Bike Auckland, Fire and Emergency, Greater Auckland, Kainga Ora, NZ Police, Road Transport Forum, Safekids Aotearoa, Walk Auckland and Waka Kotahi. Potential changes to the speed limits in this area were presented to the Local Board via meetings on 20 April 2021 and 1 June 2021. One piece of feedback was received during consultation on the Wootten Road speed limit, the submission did not support the proposed lower limit.

In addition to the factors outlined in Table 1, further relevant information was sought as summarised in Table 2 below.

Table 2: Additional Relevant Factors

AT also had regard to	
Current speed limit	The existing speed limit on Wootten Road is 100 km/h
MegaMaps Mean Operating Speed (km/h)	Wootten Road has a mean operating speed of 60 km/h.
Existing Speed limits on adjoining roads	The existing speed limits on adjoining roads are: • **Portsmouth Road**: 100 km/h (proposed SaAS 80 km/h) • **Chamberlain Road:** 100 km/h (proposed SaAS 60 km/h) • **Mile Road:** 100 km/h (proposed SaAS 60 km/h) • **Fahey Road:** 100 km/h (proposed SaAS 60 km/h) • **Paparata Road:** 100 km/h (proposed SaAS 80 km/h) • **Lowry Road:** 100 km/h (proposed SaAS 60 km/h)

Step 2: Determine the road safety metrics

Required Information for safety metrics calculations	Data
Crash Analysis Period (years)	5
Total injury crashes during period	0
DSI crashes during the period	0
Corridor Length (km)	1.16
Annual Daily Traffic	312

The Collective Risk score is 0.00, and the Personal Risk score is 0.0. For rural areas this corresponds to a Collective Risk band of **Low**, and a Personal Risk band of **Low**.

Step 3: Calculate the IRR score

Feature	Category	Risk Score
Road stereotype	Two-lane undivided	3.70
Road alignment	Straight	1.00
Carriageway width	Narrow lane, very narrow shoulder	2.01
Roadside hazards (in both directions)	Moderate	1.43
Adjacent land use	Rural Residential	1.50
Intersection density (per km)	2 to <3	1.25
Access density (per km)	2 to <5	1.03
Traffic volume	< 1,000 vpd	1.00

The Infrastructure Risk Rating Score is 1.3. For rural areas this corresponds to an IRR band of Medium.

Step 4: Identify the recommended safe and appropriate speed using the speed management guide tables

The safe and appropriate speed recommended by Table 2.2 of the Speed Management Guide is 80 km/h.

Step 5: Conclusion

Proposed safe and appropriate speed limit recommendation = 80 km/hr for the entire length of Wootten Road.

Based upon consultation feedback received and further technical assessment, the speed limit recommendation has been updated from 60km/h to 80km/h in order to:

- improve likelihood of driver compliance with the new limit
- improve speed limit consistency for road users.

Key information driving this change includes that:

1) The road straight and has good visibility
2) There is no development planned along the road, and

Changes made to the safe and appropriate speed on similar nearby roads, in particular Portsmouth Road and Paparata Roads.

Lowering the speed limit improves the credibility of speed limit setting and assists in explaining safe travel speeds better to visiting drivers. The reduced speed limit will also reduce the potential and severity of crash risk for all road users.