

Horsham Rural Road Network Plan

Road Hierarchy and Functional Overlays

Horsham Rural City Council

12 April 2022
Ref: 20191995R03



Building exceptional
outcomes together



Document History and Status

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1 Introduction

Horsham Rural City Council commissioned Tonkin to undertake a review of its rural roads to develop a plan to better manage the network. The review aims to:

- Identify important freight connections;
- Establish a priority farm machinery network;
- Reaffirm the nominated road hierarchy for the district;
- Confirm the desirable construction and maintenance standards for the road network;
- Identify specific locations for road safety improvements.

The rural road network plan will help Council better manage the **existing** sealed and unsealed network with finite resources for upgrading and maintenance. As part of the project Council will develop a set of achievable service level and maintenance standards across Council's sealed and unsealed rural road network.

Council already has a Road Management Plan that documents an existing road hierarchy based on a set of traditional classifications such as collector routes, link roads and minor or access roads.

However, the existing hierarchy is not transparently based on a range of indicators to describe 'why' one road is more important than other. The current plan defines only the minimum service standard to address potential liability issues under the provisions of the Road Management Act, rather than the practical service standard (maintenance regime) that can be expected by the community.

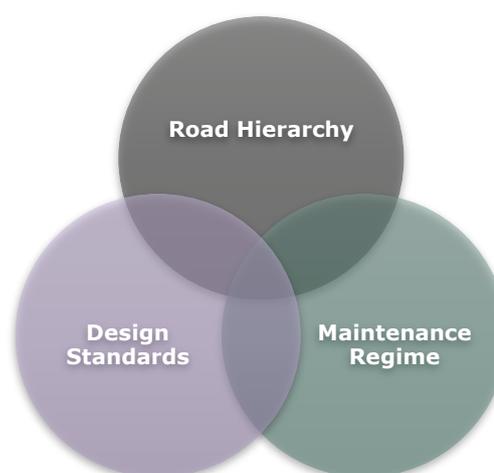
The plan will help Council better manage the existing road network with finite resources for upgrading and maintenance. As part of the project Council will develop a set of achievable service level and maintenance standards across Council's sealed and unsealed rural road network.

The Road Management Plan establishes the minimum maintenance standards Council aims to achieve in relation to its road network (rural and urban). This includes aspects like:

- The frequency of inspection of different classes of roads and footpaths
- The level of defects at which an intervention is triggered
- The response time for different types of defects.

This plan addresses the following three inter-related components.

- **Road Hierarchy** will define where the road fits in the overall rural network based on a range of criteria including social accessibility, freight / farming needs, and use for tourism.
- **Service Standards** will provide an indication of the expected width, form, construction and clear zones for each road classification.
- **Maintenance Regime** will outline the target levels of maintenance and condition rating that can be expected for each road classification.



The plan has been developed through community consultation and input through a Project Reference Group with a broad representative from the community throughout Horsham.



2 Process of Review

Council established a Project Control Group (PCG) with representation from the community throughout the district. The Group met on several occasions throughout the project (either in person or virtually due to ongoing COVID restrictions).

The review included a comparison of other Councils' and Austroads road hierarchy examples, to inform development of a road hierarchy model suitable for Horsham. This included Austroads Road Design Guidelines and road hierarchy documented by Glenelg Shire Road, South Gippsland Shire, Port Pirie Council (South Australia) and Clare and Gilbert Valleys Council (South Australia). The road hierarchy recommended is based on this review and supported by the PCG.

Council also held a series of community workshops at 9 venues around the district during May 2021 to seek input into its Rural Road Network Plan and Road Management Plan.

Feedback from this consultation included:

- There was mixed feedback on the general condition of the road network, although most comments reflected that the unsealed roads were typically well maintained for accessibility.
- Farm holdings are generally getting larger with blocks spread throughout the district, which results in increased travel and movement of machinery.
- There has been general support for the concept of a freight/farm machinery network.
- A minimum clearance envelope of 7m x 6m has been suggested to reflect increasing size of farm machinery.
- There is an increasing demand for larger freight vehicles to directly access farm properties, and this has an impact on the quality of the road network.
- Table drains require maintenance throughout the district. Many table drains are now overgrown and need clearance for wider vehicles.
- Council needs to consider how it goes about maintenance. Simply regrading roads over time creates a rill along the edge of the regrade where road is cut down over time, and this has an impact on drainage and safety.
- All weather access roads should be available to places of primary business in addition to residential properties.
- Road shoulders need regular maintenance especially on narrow-seal roads as wider vehicles need to use the shoulders.
- Maintenance standards should adopt quicker response times for pot holes on minor roads.

In addition, draft network maps were published on Council's web-site between July and October 2021 enabling further community comment on the plans. The maps included:

- Proposed road hierarchy
- Functional use overlays (freight, farm machinery and tourist routes)
- Proposed design and maintenance standards.

Feedback from this consultation and PCG has informed the proposed road hierarchy and functional routes.

Horsham Rural City Council urban rural balance

Rural Road Network Plan

What is happening?
Horsham Rural City Council is undertaking a review of its rural roads to develop a plan to better manage the network. The review aims to:

- Identify important freight connections in the municipality's rural areas
- Establish a priority farm machinery network, to manage the passage of agricultural implements with reduced potential for conflict with main traffic routes
- Improve road safety across the rural road network
- Rationalise the road network where appropriate.

The rural road plan will help Council better manage the existing sealed and unsealed network with finite resources for upgrading and maintenance. As part of the project Council will develop an achievable service level and maintenance standards across Council's sealed and unsealed rural road network.

Consideration of future major freight routes through the region will be examined by Council in partnership with Regional Roads Victoria as a separate project.

Do you have any key concerns with the rural roads?

Are there any specific road safety issues with the rural roads?

What are the major local freight roads in your area?

What are the main local roads regularly used by farm machinery?

What are the important roads in your local area for social access, bus routes, or tourism traffic?

Next Steps
Council will be working with community representatives to develop a revised rural road hierarchy. Community consultation on the new draft will be undertaken in the coming months.

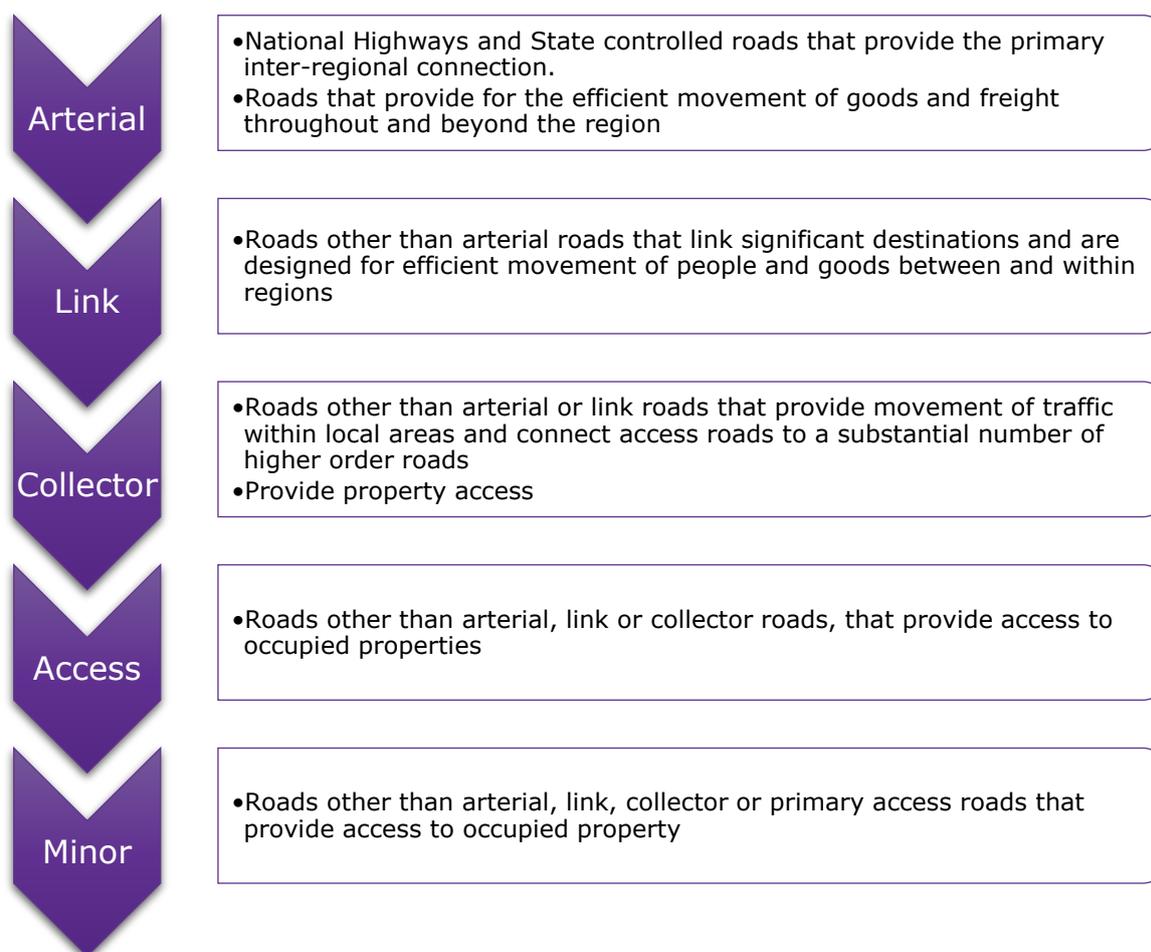
For further information see the "Have Your Say" section of our website or contact Lucy DeWit on 03 5382 9724.



3 Road Hierarchy

3.1 Proposed Road Hierarchy

The proposed road classifications are based on the following hierarchy.



Further definitions for each classification are listed below.



| Name | Description |
|------------------|---|
| ARTERIAL | <p>National Highways and State controlled roads that provide the primary inter-regional connection.</p> <p>Roads that provide for the efficient movement of goods and freight throughout and beyond the region.</p> <p>Traffic volumes will typically be greater than 500 vpd, and will cater for a wide range of vehicle types including restricted access vehicles (B-Double/A-Double)</p> <p>Sealed roads with at least one formal lane in each direction.</p> <p>Typically constructed to a higher design standard with operating speeds of 100 km/h.</p> |
| LINK | <p>Roads other than arterial roads that link significant destinations and are designed for efficient movement of people and goods between and within regions.</p> <p>Also provide property access.</p> <p>Link Roads may consist of a number of roads which form a route.</p> <p>Higher standard unsealed roads basic sealed roads</p> <ul style="list-style-type: none">• Roads forming a significant link between townships and major rural communities, and the Arterial Road Network• Roads may also form a significant link between main roads• Will generally carry all vehicle types• Will generally have average traffic counts greater than 100 vehicles per day• Will provide major access routes for heavy vehicle traffic |
| COLLECTOR | <p>Roads other than arterial or link roads that provide movement of traffic within local areas and connect access roads to a substantial number of higher order roads. Also provide property access.</p> <ul style="list-style-type: none">• Forms a route between local link roads and/or other major roads• Collects and feeds traffic from local access roads onto local link roads and/or other major roads• Will generally carry most vehicle types• Will generally have average daily traffic greater than 80 vehicles per day• Roads that may carry intermittent higher volumes of traffic, but would otherwise serve as general access roads; or• Roads serving at least 10 dwellings |



| Name | Description |
|---------------|---|
| ACCESS | <p>Roads other than arterial, link or collector roads, that provide access to occupied properties.</p> <ul style="list-style-type: none">• Serves at least 1 occupied residence• Links individual houses to higher classification roads• Does not carry regular heavy vehicles• Generally will have average daily traffic counts less than 80 vehicles per day |
| MINOR | <p>Roads other than arterial, link, collector or primary access roads that provide access to occupied property other than to the street address, or access to non-occupied abutting properties, and non-residential property.</p> <ul style="list-style-type: none">• Predominantly serves as access to non-residential properties only• Generally does not carry heavy vehicles• Generally no through roads• Generally have average daily traffic counts less than 20 vehicles per day• May have infrequent use only |



3.2 Functional Use Overlays

In addition to the road hierarchy outlined above the following functional use overlays are also proposed to inform the minimum construction and performance standards for each road.

| Name | Description |
|------------------------------|---|
| FREIGHT ROUTES | <ul style="list-style-type: none">• These are either existing or proposed routes that connect key destinations which currently service freight demands, including across municipal boundaries.• Many of these routes are part of the State road network.• These routes should be constructed to a higher standard, with a full lane in each direction and a minimum 6.2 m seal. |
| FARM MACHINERY ROUTES | <p>Dedicated routes for farm machinery are proposed to:</p> <ul style="list-style-type: none">• Aim to separate this traffic from other regular traffic• Provide routes to avoid certain areas, e.g. townships• Provide all weather access (not necessarily sealed)• Provide sufficient width and height clearance for larger machinery <p>It is not possible to provide this level of service on all routes, so priority routes are proposed to enable access across the municipality</p> <ul style="list-style-type: none">• Desirable clearance envelope for farm machinery is 7m road width and 6m height |
| TOURISM ROUTES | <p>These are aimed to service key tourism destinations, considering the limitations on hire cars, as some car hire companies do not allow driving off sealed roads.</p> <ul style="list-style-type: none">• These routes should include a sealed road pavement and widths suitable to accommodate vehicles towing caravans and/or motorhomes. |



3.3 Road Hierarchy Changes

Following community consultation and discussion with PCG the following changes are proposed to the road hierarchy plan including new functional overlays – particularly for the farm machinery routes.

| Issue | Detail of issue | Response |
|---|--|---|
| Grahams Bridge Rd, Bungalally/Wonwondah | Proposed to be made all-weather from Reynolds Rd to East-Wonwondah Rd. | This section (Reynolds to Wonwondah) currently classified as Minor. However the section south of Wonwondah Road and north of Reynolds are listed as access road. Suggest this section be reclassified as Access, and a short section north of Clynes Road, so that Grahams Bridge Road is classified consistently as Access Road. Further increase in classification as collector not supported as Laharum Road is defined collector for this local precinct. |
| Netherway Drive Quantong | Proposed to be made hard surface (i.e. all-weather) due to fire risk | Currently classified as Access Road as it serves several properties in Quantong. Appears to be signed as 'Dry Weather Only'. Classification is probably correct except for western end which is MINOR. Should be access for whole length. Current standard may be less than the target standard for an Access Road. Council to review current standard. |
| Grahams Bridge Rd, Bungalally/Wonwondah | Use for wide machinery | Could potentially be identified as farm machinery route, noting there are no other defined routes in this area. Perhaps better to list GB Road as the farm machinery to avoid conflict with other traffic on Laharum Road. |
| Exells Rd / Plush Hannans Rd | Suggested as a priority through road – links to Grahams Bridge Rd | Both roads currently classified as Access Roads, connecting Noradjuha Road and Laharum Road. Much of the road appears to have a narrow seal. Also listed as a Tourist Route due to wineries. Potential reclassification as a Collector route - or retain as access route and upgrade if required. Council to collect traffic volumes to assess existing usage relative to Collector route classification |



| Issue | Detail of issue | Response |
|---|---|---|
| Heavy vehicles – increase in large vehicles from Edenhope to Mockinya | Consider road width – Harrow – Clear Lake Rd and Jallumba – Mockinya Rd. | Jallumba-Clear Lake Road classified as Access Route while Jallumba-Mockinya is classified as Collector. Jallumba-Clear Lake potentially could be upgraded to collector route as it appears to provide connectivity between Clear Lake (Harrow-Clear Lake Road - also a collector) and Mockinya (Henty Highway as an arterial). Much of the route is already sealed. Council to check existing clearances and potential use larger vehicles. Consider traffic volumes on this route to confirm use by heavy vehicles |
| West Wail Road, Pimpinio | Poor condition | Currently classified as Access Road and has a narrow seal. Classification considered appropriate. Council to review condition |
| Drung Jung Rd, Longerenong | All weather access sought on this section | Classified as collector route between Horsham-Lubeck Road and Longerong Road, and is a sealed road. North of Longerong Road only classified as Minor Road as does not service any properties. Northern end to Wimmera Highway classified as Access route as it serves property on west side. Classifications appear appropriate. All weather access between Wimmera Highway and Horsham-Lubeck Road might be appropriate. For discussion |
| Dogwood Rd, Blackheath | Should be all-weather road from Byrneville Rd through to Dimboola-Minyip Rd. Would help to reduce traffic conflict on Blue Ribbon Rd. | Currently classified as Minor (only). Has been suggested as a farm machinery route to avoid use of Kalkee Road. |
| Mackies Rd, Bungalally | Better condition needed between Grahams Bridge Rd and Laharum Rd. Well trafficked road. | Classified as Access route between Henty Highway and Western Highway. Sealed between Henty and Grahams Brigde Road. Unsealed between GB Road and Western Highway. The section between GB Road and Laharum Road provides access to fewer properties. Classification considered appropriate. Council to review traffic |



| Issue | Detail of issue | Response |
|--|---|---|
| | | <p>volumes along road length to confirm use of GB-Laharum section and potential need for sealing</p> |
| Hierarchy issues | <p>Some roads have access to residences but are not shown as access roads, e.g. Dunstans Rd Telangatuk.</p> | <p>Dunstans Road classified minor due to limited properties. Classification considerer appropriate. North - south connectivity served by Telangatuk-East Rockladns Road. Council to check condition of road.</p> |
| Farm machinery route | <p>Continuation of Laharum – Brimpaen Rd alignment through to Mt Talbot Rd</p> | <p>Viewed top-down, there does appear to be a gap in the hierarchy between Telangatuk and Brimpaen (Rocklands Road to Hent Highway). Brimpaen-Laharum Road is a Link Road, but then Campbells Lane-Black Range Road are Access and Stubgate Road only a minor route. Geographically Black Range State Park reduces a convenient connection in this region. Need to understand traffic/transport demands in this region, and whether demands warrant establishment of a Collector-Link route. Consider external funding if warrant can be established?</p> |
| All-weather (/farm machinery) route - Bungallaly | <p>Suggestion of Reynolds Rd between Laharum Rd and Green Lake Rd.</p> | <p>Currently classified as eitehr Minor or Access (depending on section). Greenlake Road is Access Road and sealed. Potential to classify whole road as Access and nominate for farm machinery route, to provide east-west connectivity.</p> |
| Black Range Rd | <p>An important connection between Telangatuk and Brimpaen, e.g. for fire access.</p> | <p>Viewed top-down, there does appear to be a gap in the hierarchy between Telangatuk and Brimpaen (Rocklands Road to Hent Highway). Brimpaen-Laharum Road is a Link Road, but then Campbells Lane-Black Range Road are Access and Stubgate Road only a minor route. Geographically Black Range State Park reduces a convenient connection in this region. Need to</p> |



| Issue | Detail of issue | Response |
|---|---|---|
| | | <p>understand traffic/transport demands in this region, and whether demands warrant establishment of a Collector-Link route. Consider external funding if warrant can be established?</p> |
| <p>Hierarchy level of roads.</p> | <p>Mt Talbot Road, Brennans Road and Dyers Road need to be changed to access roads to link to the south from the inside of the mountain district out to the main roads of Telangatuk and across to the highway.</p> | <p>Viewed top-down, there does appear to be a gap in the hierarchy between Telangatuk and Brimpaen (Rocklands Road to Hent Highway). Brimpaen-Laharum Road is a Link Road, but then Campbells Lane-Black Range Road are Access and Stubgate Road only a minor route. Geographically Black Range State Park reduces a convenient connection in this region. Need to understand traffic/transport demands in this region, and whether demands warrant establishment of a Collector-Link route. Consider external funding if warrant can be established?</p> |
| <p>Rocklands – Telangatuk East Road</p> | <p>Not wide enough., Should be classified as a Link road – connections to port, arterial roads, Balmoral.</p> | <p>Currently classified as a collector route. Potential upgrade to Link Road? Current standard referenced by numerous people. Used as linkage beyond Horsham boundary. Also a bus route. Council to consider \$ and process for progressive widening/upgrade</p> |
| <p>Brennans Rd Telangatuk</p> | <p>Is not gravel over sand but bulldust and sand, with very heavy sand bogs along the way - it is more than just an access road, but a link road.</p> | <p>Currently Minor classification as does not appear to provide access to properties. Connection to Mt Talbot Road. Is road being used by other traffic? Council to review traffic volumes and actual usage</p> |
| <p>Hierarchy – certain roads</p> | <p>The following should be Access standard:, Mt Talbot Road, Mt Talbot Reserve Road, Brennans Road, Dyers Road</p> | <p>Viewed top-down, there does appear to be a gap in the hierarchy between Telangatuk and Brimpaen (Rocklands Road to Hent Highway). Brimpaen-Laharum Road is a Link Road, but then Campbells Lane-Black Range Road are Access and Stubgate Road only a minor route. Geographically Black Range State Park reduces a convenient</p> |



| Issue | Detail of issue | Response |
|---|--|--|
| | | connection in this region. Need to understand traffic/transport demands in this region, and whether demands warrant establishment of a Collector-Link route. Consider external funding if warrant can be established? |
| Old Noradjuha Rd then, J Sudholzs Rd then Keytes Rd Natimuk (south) | Request to be sealed, possibly Otta seal., This route is used by trucks as a bypass/truck detour by local trucks around Natimuk. , These roads are slippery and cause safety issues especially near the T intersection in front of Sudholz home, if unable to stop on slippery surface with heavy load | Currently classified as Access Route and not sealed (per Google). Southern end of Keytes Road only minor route as not servicing properties. Consider upgrade to Access Road and nominating for farm machinery? Traffic volume data to determine warrant. |
| Mitchell St Natimuk | Upgrade surface / drainage issues | Local road within township |
| Lanes Ave, Quantong | Upgrade Tuckers Rd - Hutchinsons Rd | Lanes Ave classified as Access Route. Road (now) provides access to numerous properties in Quantong. Wimmera Highway is nearby arterial. Retain as Access Route. Council to review condition between Tuckers and Hutchinson |
| Riley Rd, Horsham | Should be sealed | Need to consider function of Riley Road with any further residential growth in NW region of Horsham. This is an urban interface road and likely to be upgraded with future development. |

3.4 Final Road Hierarchy and Functional Overlays

Following additional consideration by Council and the PCG the road hierarchy plans have been updated. Refer Appendix A.



4 Prioritisation of Upgrades

Consideration has been given to the most appropriate mechanisms for assessing projects and the prioritisation of road upgrading. Note that Council has a separate but related Road Management Plan for this purpose. It is intended that the following comments/principles could be integrated into the RMP as a subsequent exercise.

4.1 PCG Comments

Council should consider a balanced approach to the prioritisation of routes for upgrading based on actual condition data compared to the minimum and target standards established within this document, while also taking account of a range of qualitative measures.

A range of factors (as identified by PCG) could be considered including:

- Current alternative access arrangements in the network: do alternative options exist in the precinct or will the upgrade establish a new key link in the network. This could consider spacing of alternative routes in the local precinct.
- Existing clearances and serviceability: while the existing routes might not meet the ideal targets, the routes might nonetheless be serviceable when compared to other routes that fall well-short of the desirable minimum standards
- Number of properties serviced by the route: roads that provide access to a greater number of properties / businesses could be prioritised over less-used routes
- Roads with the poorest conditions should be prioritised to provide a minimum level of service
- Key intra / inter-regional through routes: particularly for farm machinery routes to avoid use of the arterial roads could be prioritised.

4.2 Other Tonkin Example

Tonkin has prepared the following framework for other Councils to help choose which roads to treat first when budgets are limited.

A qualitative score is assigned against four priority factors:

- Functional Priority: This differentiates roads by a generalised function from a track to a rural arterial. This function ensures that high use roads are scored higher than low use roads.
- Social Priority: This ensures roads that have significant community importance are given higher priority than roads leading to a single dwelling.
- Freight Priority: This enables the industry use to be assessed and its associated freight use in the transport of goods. This could include consideration of farm machinery routes.
- Tourism Priority: This enables the tourist use to be assessed which can be particularly important in councils that rely on the tourism industry. This may be less relevant in Horsham except for a few roads identified in this plan.

A score between 0 (low priority) and 5 (high priority) is assigned to the roads under consideration. The four scores can be combined to provide a Priority Index for a segment by weighting each field. This priority index is used in the modelling to sort roads for treatment in priority order. This is particularly useful where budgets are limited, and the model can assign funds to high priority segments.



4.3 Proposed Prioritisation Method

We propose the following approach to the prioritisation of works based on previous Tonkin experience combined with a factor to account for farm machinery routes (reflecting PCG comments).

Note that Council's existing process already considers a number of factors including traffic volumes, road hierarchy, percentages of commercial vehicles and provision for future freight routes.

The following process is therefore an embellishment of Council's current process.

4.3.1 Function Priority

| Score | Function |
|-------|---|
| 1 | Access Track |
| 2 | Minor Route |
| 3 | Access Route |
| 4 | Collector Route |
| 5 | Link Route |
| - | Arterial Road (presumed under the control of the State) |

This is already considered by Council as 'hierarchy score'.

4.3.2 Freight Priority

| Score | Freight Priority | Measure |
|-------|----------------------|-------------------|
| 0 | No freight | No commercial use |
| 1 | Low freight | 0-5% |
| 2 | Medium freight | 5-10% |
| 3 | High freight use | 10-15% |
| 4 | Very high freight | 15-20% |
| 5 | Critical freight use | +20% |

This is already considered by Council as 'Heavy Vehicle' score, although we have added an additional breakdown to the percentage classifications.



4.3.3 Tourist Route

Routes identified as being a Tourist Route are provided an additional score, although the weighting to this factor can be adjusted.

4.3.4 Farm Machinery Priority

Routes identified as being a Farm Machinery Route are provided an additional score, although the weighting to this factor can be adjusted.

4.3.5 Traffic Volumes

Prioritisation is given to roads with higher traffic volumes on the following basis

| Score | Measure (daily volumes) |
|-------|-------------------------|
| 1 | 0-50 vpd |
| 2 | 50-100 vpd |
| 3 | 100—250 vpd |
| 4 | 250-500 vpd |
| 5 | + 500 vpd |

This is already considered by Council as 'Traffic Volume' score, although we have added an additional breakdown to the volume classifications.

4.3.6 Priority Weightings

In order to develop a single score of priority index a weighted average can be applied to each priority factor to provide a score out of 100. Suggested weightings are listed below that can be adjusted to best suit Horsham's requirements.

| Factor | Weighting |
|-----------------|-----------|
| Road Hierarchy | 30% |
| Freight Usage | 20% |
| Farm Machinery | 10% |
| Tourism | 10% |
| Traffic Volumes | 30% |



5 Design Standards

The following table specifies the preferred and minimum construction standards for each road category (excluding arterial roads). Additional details are provided for the functional overlay considerations.

| Road Category | Preferred Standard | Minimum Standard |
|-----------------------|---|---|
| Link Road | <ul style="list-style-type: none"> • Design speed of at least 80km/h • 6.6m wide bituminous seal • 7.0m wide pavement • 1.3m wide shoulders • 5.0m horizontal clearway from outer edge of traffic lane • More than 5.4m vertical clearway at outer edge of traffic lane | <ul style="list-style-type: none"> • Design speed of 70km/h • 6.2m wide bituminous seal • 6.6m wide pavement • 1.2m wide shoulders • 2.0m horizontal clearway from outer edge of traffic lane • 4.7m vertical clearway at outer edge of traffic lane |
| Collector Road | <ul style="list-style-type: none"> • Design speed of at least 80km/h • 6.2m wide bituminous seal • 6.6m wide pavement • 1.2m wide shoulders • 5.0m horizontal clearway from outer edge of traffic lane • More than 5.4m vertical clearway at outer edge of traffic lane | <ul style="list-style-type: none"> • Design speed of 60km/h • 6.0m wide unsealed full width pavement; or • 3.7m wide bituminous seal over a 4.1m wide pavement • 0.0m horizontal clearway from outer edge of traffic lane • 4.7m vertical clearway at outer edge of traffic lane |
| Access Road | <ul style="list-style-type: none"> • Design speed of 80km/h • 4.8m wide unsealed pavement • 1.2m wide shoulders • 4.0m horizontal clearway from outer edge of traffic lane • More than 5.4m vertical clearway at outer edge of traffic lane | <ul style="list-style-type: none"> • Design speed of 60km/h • 3.0m wide unsealed pavement • 1.0m wide shoulders • 0.0m horizontal clearway from outer edge of traffic lane • 4.3m vertical clearway at outer edge of pavement |
| Minor Road | <ul style="list-style-type: none"> • 5.4m wide earth formation | <ul style="list-style-type: none"> • Formed road only |



6 Maintenance Regime

6.1 Functional Maintenance Standards and Minimum Road Safety (Road Management Plan)

The following table specifies the functional maintenance standard for each road, along with the minimum safety standards as required in Council's Road Management Plan.

| Road Category | Functional Maintenance Standard | Road Management Plan Minimum Safety Standard |
|-----------------------|--|---|
| Link Road | <ul style="list-style-type: none"> • Renewal at average road segment roughness of 11 / condition score of 5 (on 0-6 scale where 0 is brand new and 6 is end of life) • Reseal when seal condition reaches to 4 (Usually between 13-17 years) • Maintenance of vegetation clearance envelope • Shoulder grading – once per five years | <ul style="list-style-type: none"> • Routine inspection program – twice yearly day time, every two years night time • Respond to potentially emergency hazards within 24 hours • Inspect other reported hazards within 1 week to ascertain required response |
| Collector Road | <ul style="list-style-type: none"> • Renewal based on comparison of road roughness • Reseal based on functional use, traffic volumes and road safety considerations • Maintenance of vegetation clearance envelope (per farm machinery network) • Shoulder grading – once per five years | <ul style="list-style-type: none"> • Routine inspection program – annually day time, every four years night time • Respond to potentially emergency hazards within 24 hours • Inspect other reported hazards within 1 week to ascertain required response |
| Access Road | <ul style="list-style-type: none"> • If sealed, as per rural collector road. • If unsealed then: <ul style="list-style-type: none"> - Resheeting based on periodic measurement of remaining gravel depth (usually, resheet when gravel depth is less than 50 mm) - Grading program based on RMP inspection frequency / defect identification (usually every alternate years) - Maintenance of vegetation clearance envelope (per farm machinery network) | <ul style="list-style-type: none"> • Routine inspection program – every two years day time • Respond to potentially emergency hazards within 24 hours • Inspect other reported hazards within 1 week to ascertain required response |



| | | |
|-------------------|--|--|
| Minor Road | <ul style="list-style-type: none"> Grading program based on RMP inspection frequency / defect identification (usually grade once per 4 years) | <ul style="list-style-type: none"> Routine inspection program – every three years day time Respond to potentially emergency hazards within 24 hours Inspect other reported hazards within 1 week to ascertain required response |
|-------------------|--|--|

6.2 Target Response Times for Defects

Council will aim to respond to reported road defects in a prioritised and timely manner depending on the significance of the defect/hazard and road classification.

| Description of Defect | Response Time | | | |
|--|----------------|-----------------|-----------------|-----------------|
| | Link | Collector | Access | Minor |
| Obstructions to Traffic | | | | |
| Fallen trees and/or limbs encroaching onto the traffic lane, materials fallen from vehicles, dead animals, wet clay and other slippery substances or other obstacles | 24 hrs | 24 hrs | 2 weeks | 2 weeks |
| Accumulation of dirt or granular materials on the traffic lane of sealed roads (of a quantity that creates a hazard) | 1 week | 2 weeks | 2 months | 2 months |
| Ponding of water > 300 mm deep, , oil spills, stray livestock – merge this with line 1 above. | 24 hrs | 24 hrs | 2 weeks | 2 weeks |
| Pavement or Surface Defects | | | | |
| Sealed Roads: Potholes in traffic lane of road pavement greater than 300 mm in diameter and greater than 100 mm deep. | 4 weeks | 2 months | 6 months | N.A. |
| Deformations greater than 100 mm under a 3 m straight edge | 1 month | 6 months | 6 months | N.A. |



| Description of Defect | Response Time | | | |
|---|-----------------|-----------------|------------------|---------------------|
| | Link | Collector | Access | Minor |
| Edge drop offs onto unsealed shoulder greater than 100 mm over the distance greater than 1 metre | 2 months | 2 months | 6 months | N.A. |
| Edge break exceeds 150 mm laterally over at least a 1 m length from the nominal edge of seal | 4 weeks | 2 months | 3 months | N.A. |
| When “bleeding” bitumen is sticking to tyres or shoes | 2 weeks | 2 weeks | 2 weeks | N.A. |
| Traffic islands have damaged paving or kerbing that presents a hazard to traffic and/or pedestrians | 4 weeks | 2 months | 3 months | N.A. |
| <u>Unsealed roads</u> | N/A | | 6 months | 12-24 months |
| Potholes in traffic lane of road pavement greater than 500 mm diameter and 150 mm deep. | | N/A | | 12 months |
| Deformations greater than 150 mm under a 3 metre straight edge (includes rutting). | N/A | N/A | 6 months | 12-24 months |
| Loose sand greater than 150 mm deep and greater than 10 m long | N/A | N/A | 12 months | 12-24 months |
| Corrugations greater than 50mm in depth for a length >500m or total road length. | N/A | N/A | 6 months | 12 months |

Drainage

| | | | | |
|--|----------|----------|----------|-----------|
| (Rural Roads) Blocked culverts and/or table drains, damaged headwalls | 2 months | 6 months | 6 months | 12 months |
| (Rural Roads) Broken or displaced pipes (causing hole in pavement or subsidence) in traffic lane | 24 hours | 1 week | 1 month | 2 months |



| Description of Defect | Response Time | | | |
|-----------------------|---------------|-----------|--------|-------|
| | Link | Collector | Access | Minor |

| ROADSIDE | | | | |
|--|-----------------|-----------------|------------------|---------------------|
| Vegetation – Trees, Shrubs and Grassed Areas | | | | |
| Trees, shrubs or grasses that have grown to restrict design sight distance to intersections or restrict viewing of safety signs | 4 weeks | 4 weeks | 2 months | 2 months |
| Vegetation intruding within an envelope over roadways from the back of shoulder and/or kerb and a minimum of 4.5 m height clearance over pavement and the trafficable portion of shoulders | 2 months | 6 months | 12 months | 12-24 months |

| ROADSIDE FURNITURE/SIGNAGE/PUBLIC UTILITIES | | | | |
|--|----------------|----------------|-----------------|-----------------|
| Safety Signs | | | | |
| Safety signs missing, illegible or damaged making them substantially ineffective | 4 weeks | 4 weeks | 2 months | 2 months |
| Regulatory Signs | | | | |
| Regulatory signs missing, illegible or damaged making them substantially ineffective | 1 week | 1 month | 2 months | 3 months |
| Warning Signs | | | | |
| Warning signs missing, illegible or damaged making them substantially ineffective | 1 week | 1 month | 2 months | 3 months |
| Temporary signs, associated either with works in progress or as a | 1 day | 1 day | 1 week | 2 weeks |

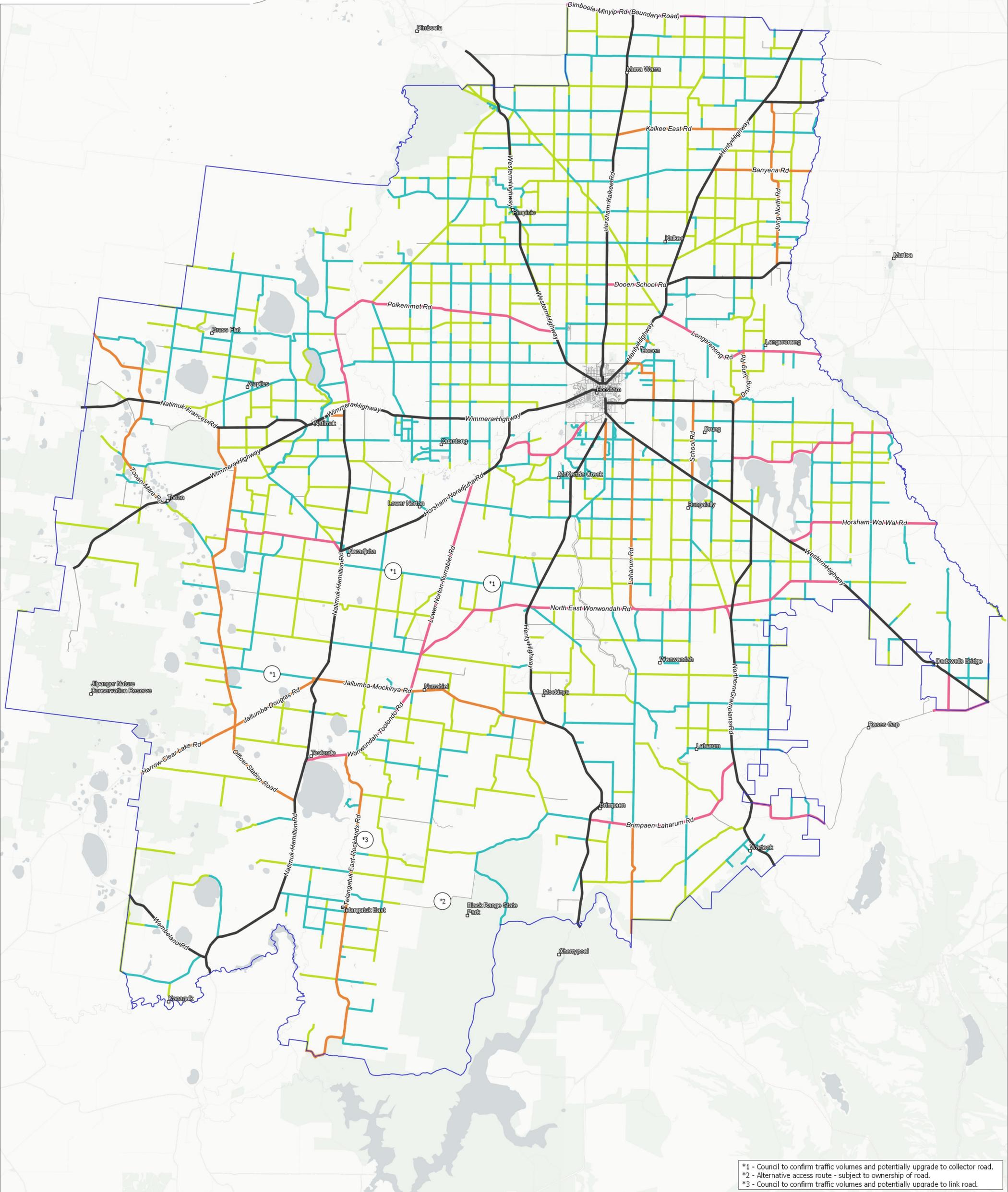


| Description of Defect | Response Time | | | |
|---|-----------------|-----------------|-----------------|-----------------|
| | Link | Collector | Access | Minor |
| preliminary response to other RMP hazards | | | | |
| Guideposts | | | | |
| Missing or damaged at a critical location making them substantially ineffective | 2 months | 2 months | 6 months | 6 months |
| Safety Barriers and Fencing | | | | |
| Missing or damaged at a critical location making them substantially ineffective | 4 weeks | 4 weeks | 2 months | 6 months |
| Pavement Markings / Line Marking | | | | |
| Missing, illegible or confusing at a critical location*** | 3 months | 3 months | 6 months | 6 months |
| STRUCTURES (BRIDGES AND MAJOR CULVERTS) | | | | |
| Damage affecting structural performance | 2 weeks | 2 weeks | 2 weeks | 4 weeks |



Appendix A – Road Hierarchy and Overlays

Road Hierarchy



*1 - Council to confirm traffic volumes and potentially upgrade to collector road.
 *2 - Alternative access route - subject to ownership of road.
 *3 - Council to confirm traffic volumes and potentially upgrade to link road.



0 2 4 6 8 km
 EPSG:28354

Horsham Rural City Council

Job Number: 20191995
 Filename: 20191995G0001A
 Revision: Rev A
 Date: 2022-04-12 14:32
 Drawn: Vanessa Keast-Pizzino

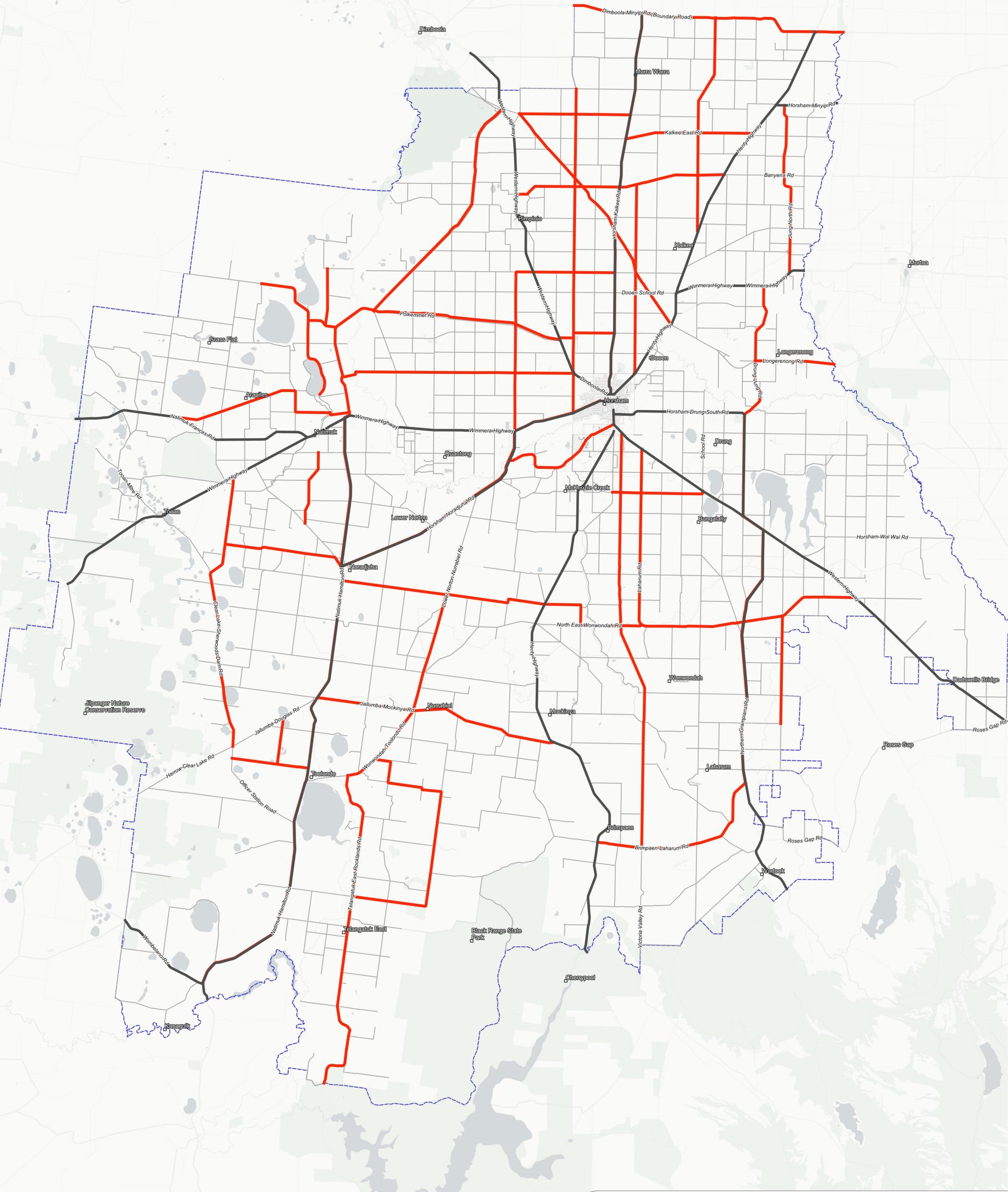
Data Acknowledgement:
 Road Data from Horsham Rural City Council, 2020
 Basemap from Positron, 2020

Legend

- Arterial Roads
- Link Rural
- Collector Rural
- Access Rural
- Minor Rural
- Horsham LGA

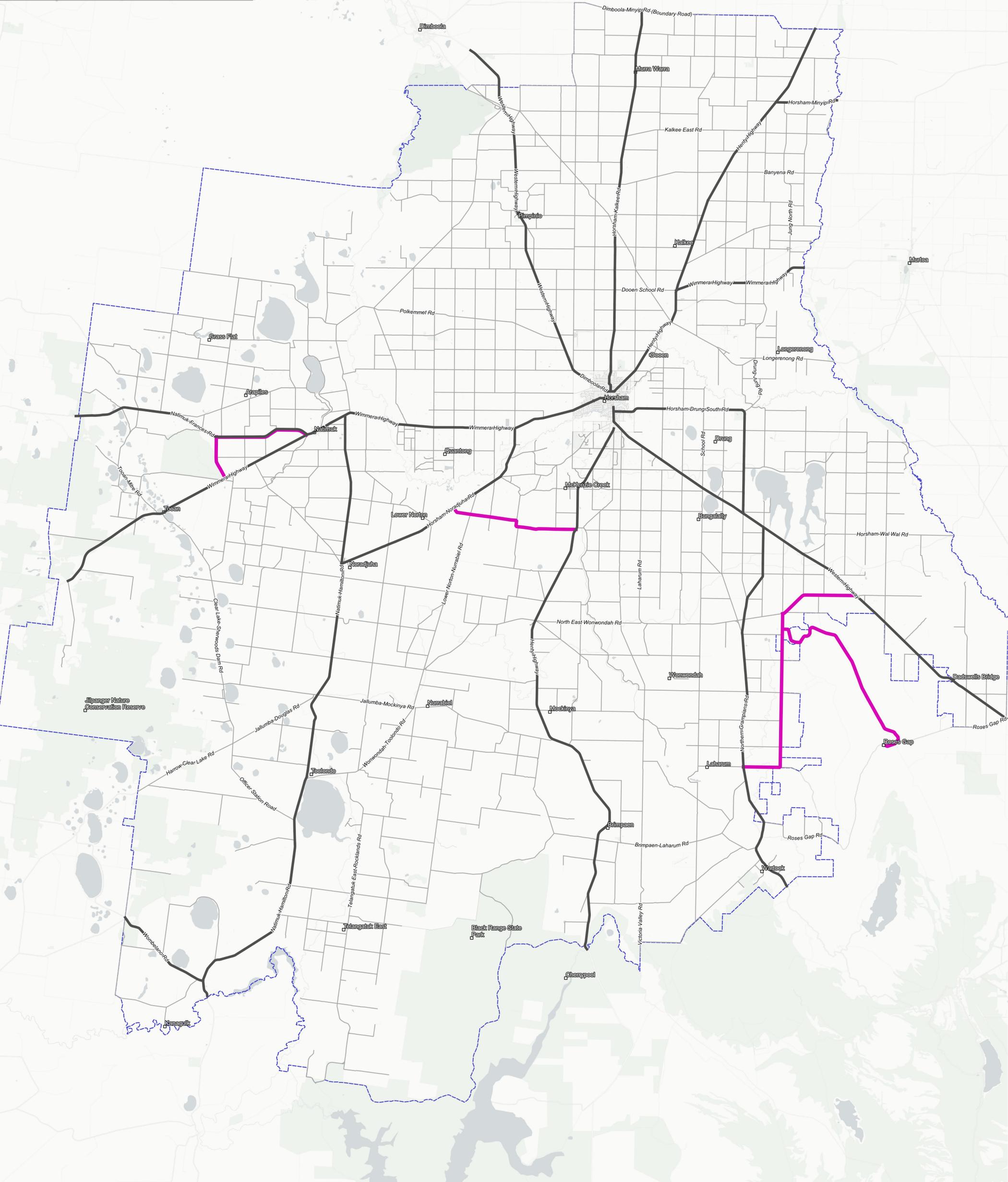
Horsham Rural Roads Road Hierarchy

Proposed Farm Machinery Routes



Tourism Routes

Council Roads
Access to key tourism destinations



Horsham Rural City Council

Job Number: 20191995
 Filename: 20191995GQ001A
 Revision: Rev A
 Date: 2022-04-12 14:59
 Drawn: Vanessa Keast-Pizzino

Data Acknowledgement:
 Road Data from Horsham Rural City Council, 2020
 Basemap from Positron, 2020

- Legend**
- Tourism Routes
 - Arterial Roads
 - Horsham LGA

Horsham Rural Roads Functional Use Tourism Routes