

Horsham Integrated Transport Strategy

Stage 1

“Final Draft”

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1 EXECUTIVE SUMMARY

Horsham Rural City Council has identified the need for an Integrated Transport Strategy to guide the development of transport infrastructure across the municipality in the short and longer terms.

The Horsham Integrated Transport Strategy is to be developed over 3 Stages and proposes to address a broad range of transport related issues across the municipality.

The first stage of the Strategy will address issues related to a strategic transport network incorporating a Horsham bypass of the Western Highway. Subsequent stages will address Horsham urban issues and broader municipality issues respectively.

A number of project drivers have been identified by Council to guide the project development and a vision and objectives against which to measure the Integrated Transport Strategy have been developed by Key Stakeholders.

Community and stakeholder engagement and consultation has been implemented by Council in accordance with Council's Community and Stakeholder Engagement Policy. A steering Committee has overseen the strategy process whilst a Key Stakeholder Group has participated in the strategy development.

Council appointed a number of stakeholders providing a broad representation of the Horsham community. These representatives have worked with representatives of Council and other participating authorities to advise on the development of a draft report for Council consideration. Views of the general public have been sought throughout the consultation process and progressive information from key stakeholder meetings and workshops has been published on Council's web site for general information.

Key stakeholders appointed advise on the development of the Integrated Transport Strategy have contributed significantly to the process. Stakeholder workshops were held to identify and analyse a range of transport issues, constraints and opportunities and then develop options and concepts to address these. A number of these concepts pertaining to Stage 1 of the Strategy have been developed further for analysis.

The principal Stage 1 issues identified and addressed include;

- trucks in the Horsham township
- public transport
- land use planning
- connectivity and congestion
- a bypass of Horsham
- river crossings (bridges),
- aerodrome expansion and
- rail realignment.

To assist in the assessment of vehicle movements through and throughout Horsham, VicRoads made available to Council "Origin and Destination" information gathered during the Western Highway bypass planning process. This data provides valuable information regarding the extent of traffic

issues identified and the feasibility of potential actions required to address them. It was demonstrated that a significant percentage of truck traffic within Horsham either terminate or commence trips in Horsham rather than travelling through it. The data also indicates the likely traffic demands, where the potential for congestion on various components of the road network are and where corrective measures would be most effective.

In particular it is clear that:

- Truck traffic appears not to be a significant contributor to peak hour delays.
- Traffic congestion is not a key driver for an expansion of the road network.
- A Western Highway bypass of Horsham would remove approximately 850 trucks from Horsham per day. This supports the need for a bypass to divert through traffic.
- Horsham generates approximately 1700 truck movements out of or into Horsham per day. This data supports the need for an expanded road network to support local truck traffic.

The status of key transport elements identified in Stage 1 of the Horsham Integrated Transport Strategy project have been presented in relation to important strategic and or advisory documents. Relevant reference documents have been used to highlight issues identified and put into context their perceived importance or otherwise from the perspective of the various interested parties.

The Key Transport Elements identified in Stage 1 of the Horsham Integrated Transport Strategy are:

- Network Connectivity
- Land Use Integration and Interface
- River Crossings
- Rail Realignment
- Floodplain
- Western Highway bypass of Horsham
- Aerodrome Expansion

Briefings on each of these key transport elements are included in the Strategy; they provide an understanding of the status of each element and puts into context any specific integration requirements.

An array of network options and opportunities to address the infrastructure gaps developed through the Key Stakeholder workshops is extensive. Some options are competing and many options are complimentary to each other. The best outcome for Horsham in regards to an integrated transport network lies somewhere within the range of opportunities and options identified.

Several bypass alignments and internal link road options were assessed by stakeholders. Stakeholder focus groups assessed whether each bypass or link road proposal would;

- provide the opportunity to remove trucks from Horsham
- provide acceptable connectivity between highways
- provide the opportunity to reduce congestion in Horsham
- provide acceptable interface with abutting land use
- provide additional priority river crossings

Further, the merit of any proposal was assessed against;

- whether it is considered to be the best outcome for Horsham, and
- the Horsham Integrated Transport Strategy Objectives

A Preliminary Draft Report prepared by the Consultant was released for public consideration and public submissions were received.

Following consideration of public submissions this Final Draft Strategy is prepared for Council consideration.

Strategic Directions to address the infrastructure gaps and provide a sound transport outcome for Horsham are detailed in the following tables:

Network Connectivity

Strategy		Relevant HITS Objectives	Relevant MSS Objectives	Timelines*
S1	Plan for the early formalisation of an inner link route to the west and north of the Horsham urban area to connect the arterial road network north of the river and enable the diversion of heavy vehicles travelling through Horsham on the Wimmera Highway in particular.	1	21.03-1 (3) 21.11-5 (1)	S
S2	Plan for an expanded link route for heavy vehicles further to the west of Horsham in the longer term as urban growth pushes to or beyond Curran Road.	1	21.03-1 (3) 21.11-5 (1)	L
S3	Promote Three Bridges Road and Golf Course Road as a heavy vehicle route from the west of Horsham to Stawell Road in the south once appropriate bridge and intersection upgrade works are completed.	1	21.03-1 (3) 21.11-5 (1)	S
S4	Plan for the timely development of a link road including a new river crossing in the south west quadrant of Horsham (Curran Rd/Plumpton Rd area) in close consultation with the BGLC and the WCMA to provide improved connectivity for local and emergency traffic.	1, 2	21.03-1 (3) 21.11-5 (1)	S
S5	Utilise the existing road network wherever practicable and acquire additional road reserves as appropriate to enhance road connectivity and intersection improvements.	1	21.03-1 (3) 21.11-5 (1)	O
S6	Plan for the timely improvement of intersections to facilitate safe and efficient movement	1	21.03-1 (3) 21.11-5 (1)	O
S7	Review Horsham's Road Hierarchy to encapsulate adopted recommendations from this Strategy.	1	21.03-1 (3) 21.11-5 (1)	S
S8	Develop an advisory signing strategy for heavy vehicle and tourist traffic passing through and around Horsham.	1	21.03-1 (3) 21.06-6 (1) 21.11-5 (1)	S

Land Use Integration and Interface

Strategy		Relevant HITS Objectives	Relevant MSS Objectives	Timelines*
S9	Complete a suite of Precinct Structure Plans (PSPs) for Horsham's nominated growth areas incorporating transport network improvements identified in this Strategy.	3	21.03-1(2) 21.05-2 (1,2,3,5)	S
S10	Mitigate or minimise any adverse impacts on environmentally sensitive and culturally significant sites when planning for development or expansion of the road network.	2, 3	21.05-2 (6,7)	O
S11	Support development that generally adheres to PSPs and maximises the potential of the integrated transport network.	3	21.03-1(2) 21.05-2 (1,2,3,5)	O

River Crossings

Strategy		Relevant HITS Objectives	Relevant MSS Objectives	Timelines*
S12	Plan for additional river crossings (road and pedestrian) generally aligned to Horsham's Framework for Managing Growth and PSPs over a prioritised timeframe.	2	21.03-1 (3) 21.05-2 (1,2,3)	O
S13	Plan for the early development of a new bridge crossing of the Wimmera River in the vicinity of Curran Road in conjunction with a new link road in Horsham's south-west quadrant.	2	21.03-1 (3) 21.05-2 (1,2,3)	S
S14	Plan for the longer term development of a new bridge crossing at Bennett Road to support local access between development on the south side of the river and the Horsham CAD. Refer this action to HITS Stage 2.	2, 3	21.03-1 (3) 21.05-2 (1,2,3)	M
S15	Investigate the longer term development of a bridge crossing at Baillie Street to support access to existing and potential residential development east of the river. Refer this action to HITS Stage 2.	2, 3	21.03-1 (3) 21.05-2 (1,2,3)	L

Rail Realignment

Strategy		Relevant HITS Objectives	Relevant MSS Objectives	Timelines*
S16	Instigate negotiations with the appropriate rail authorities to plan for the relocation of the rail line north of the planned urban area.	1, 2	21.05-4 (5) 21.11-3 (1)	M
S17	Should a Western Highway bypass alignment be adopted in the north and east quadrant investigate the merit of a rail realignment to be co-located partly within the future bypass corridor or at an alignment further to the north away from the aerodrome.	1, 2	21.11-3 (1)	M

Floodplain Management

Strategy		Relevant HITS Objectives	Relevant MSS Objectives	Timelines*
S18	Liaise closely with VicRoads and the WCMA to ensure that appropriate safeguards are in place to protect Horsham from development and/or works (including highway works) within the Wimmera River floodplain which could have a detrimental impact on flood management or the quality of catchment runoff.	1, 2	21.03-1 (2) 21.08-2 (1) 21.09-1 (1,2,3) 21.09-3 (1) 21.11-2 (4)	M

Western Highway Bypass

Strategy		Relevant HITS Objectives	Relevant MSS Objectives	Timelines*
S19	Support a bypass alignment to the north and east of Horsham which approximates VicRoads Option D or a variation thereof and which adequately addresses concerns regarding floodplain, cost benefit, aerodrome and social issues raised by the Planning (Amendment C72) Panel.	1, 2, 3	21.11-2 (1,2,3,4,5)	S

Aerodrome Expansion

Strategy		Relevant HITS Objectives	Relevant MSS Objectives	Timelines*
S20	Incorporate adopted recommendations from the Aerodrome Master Plan to ensure the integrity of an expanded facility can be maintained within the proposed integrated transport strategy.	1	21.11-2 (5) 21.11-4 (2,3)	S

Legend:

*

S (short term)	0 - 5 years
M (medium term)	6 - 15 years
L (long term)	16 - 30 years
O (ongoing)	0 – 30 years

The following Consultant recommendations are made for the creation of Stage 1 of an Integrated Road Network in and around Horsham:

Ref	Recommended Action	Timing/Trigger
R1	Three Bridges Rd bridge over Mackenzie River be improved to allow unrestricted use of Golf Course Rd	Timing: Immediate (this project is included in Council's current budget)
R2	The intersection of Three Bridges Rd and Horsham Noradjuha Rd be improved to cater for large turning vehicles	Trigger: the completion of the upgrade of Three Bridges Rd Bridge
R3	The intersection of Horsham Noradjuha Rd and Wimmera Hwy be improved to cater for large turning vehicles	Trigger: the completion of the upgrade of Three Bridges Rd bridge

R4	The intersection of Golf Course Rd and Kenny Rd be improved with the construction of a roundabout	Trigger: determined by Road Safety Audit to meet the safe and efficient movement of vehicles
R5	The intersection of Western Hwy/ Golf Course Rd/Henty Hwy/Plumpton Rd be improved by either traffic signalisation or a roundabout	Trigger: Delays to the efficient movement of freight at this intersection warrant immediate attention
R6	Pursue the opportunity to create a link from Plumpton Rd to Wimmera Hwy including a river crossing in the immediate vicinity of Curran Rd	Timing: commence liaison immediately
R7	Curran Rd road reserve between Wimmera Hwy and Western Hwy be widened to 40m wide to cater for future development and traffic demands and to provide suitable buffers to adjoining properties	Trigger: when residential development abuts the east side for the length between Wimmera Hwy and Remlaw Station Rd
R8	The intersection of Curran Rd and Western Hwy and Riley Rd be improved to cater for a realignment of the Western Hwy to the west to allow B-Double access over the rail line	Trigger: Delays to the efficient movement of freight due to restrictions at this intersection warrant immediate attention
R9	Upgrade Geodetic Rd immediately north from Riley Rd to facilitate B-Double traffic over the rail line	Trigger: In conjunction with R8
R10	Improve the intersection of Blue Ribbon Rd and Dooen School Rd to cater for turning traffic	Trigger: determined by Road Safety Audit to meet the safe and efficient movement of vehicles
R11	Improve the intersection of Wimmera Hwy/Henty Hwy/Dooen School Rd to cater for entering and turning traffic	Trigger: determined by Road Safety Audit to meet the safe and efficient movement of vehicles
R12	Implement with VicRoads assistance advisory signage installations on the arterial road network to direct heavy vehicles around Horsham on identified routes	Trigger: when road and intersection upgrades on the specific routes are implemented
R13	Support a Western Hwy bypass of Horsham on the alignment of VicRoads preferred Option D	Timing: immediate upon adoption of this strategy by Council
R14	Encourage VicRoads to further revise the Option D bypass interchange at Henty Hwy to incorporate a folded diamond interchange to reduce impact on properties and to reduce the impact on access via the local road network	Timing: immediate upon adoption of this strategy by Council
R15	Construct a full diamond interchange at the north end of bypass Option D to allow unrestricted access to Three Mile Rd and to Horsham via the current Western Hwy from the bypass	Timing: in conjunction with the construction of Option D
R16	Construct Three Mile Rd and Remlaw Station Rd from the Western Hwy to Wimmera Hwy in conjunction with bypass Option D	Timing: in conjunction with the construction of Option D
R17	Pursue the opportunity to relocate the rail line from Horsham and create a co-location opportunity for a rail line/bypass alignment	Timing: immediate upon adoption of this strategy by Council

Recommendations R1 to R12 inclusive are stand-alone infrastructure projects that are not bypass reliant.

The recommendations included in Table 5.3 are depicted in map form Plan No 5.3.1 in Section 5.3 of this Strategy.

2 CONTEXT

2.1 INTRODUCTION

Horsham Rural City Council has identified the need for an Integrated Transport Strategy to guide the development of transport infrastructure across the municipality ensuring that a high standard transport network is developed and maintained and can accommodate the accessibility requirements of the growing community.

Planning for Horsham's transport network must:

- address and resolve the existing deficiencies identified on the transport network;
- integrate with proposals from other transport related strategies;
- provide for identified and quantified future population changes and employment; and
- provide flexibility to accommodate planned and possible future changes to land use and transport systems.

The scope of Horsham's Integrated Transport Strategy is comprehensive, including:

- Consideration of all common transport modes;
- Consideration how transport systems would support the planned growth of the Horsham urban area;
- Analysis of current and anticipated transport issues, in particular in the Horsham Central Activity District (CAD);
- Assessment of transport issues across the balance of the municipality, including through-municipality transport connections.

Of particular significance is the proposed Western Highway bypass of Horsham. A Planning Panel Report was released on 20 January 2016 on VicRoads' preferred alignment option for the bypass. The Panel Report makes a range of recommendations, including a specific recommendation on the need for the Integrated Transport Strategy.

2.2 PURPOSE OF STAGE 1 OF HORSHAM INTEGRATED TRANSPORT STRATEGY

The overall Horsham Integrated Transport Strategy (incl Stages 1, 2 and 3) proposes to address a broad range of transport related issues across the municipality.

To allow Horsham Rural City Council to meet its obligations in regards to Transport Planning for a Western Highway bypass of Horsham the following staging of an overall Integrated Transport Strategy has been adopted.

Stage 1 – Bypass and Connectivity Issues:

The first stage of the Strategy will address issues related to a strategic transport network incorporating a Horsham bypass including:

- Consideration of bypass alignments including key transport related impacts of bypass alignment options;
- Future potential links for a bypass route(s) to the Wimmera and Henty Highways in both directions;
- Connections from each end of a bypass to Horsham and to strategic transport routes
- The interface to the Horsham urban area and other land of a bypass and the potential links to the other highways;
- Consideration of the purposes/functions of a Western Highway bypass to:
 - improve road safety and freight efficiency for the Western Highway corridor
 - improve amenity in urban Horsham
- Consideration of the railway line and proposals to relocate this, and the relationship of proposals to Western Highway bypass options;
- Planning for future growth and land use in Horsham including transport related impacts of potential network improvements;
- Bridges across the Wimmera River in or near the Horsham urban area to facilitate potential transport network links
- The potential staging and timing or triggers to the timing of proposed works.

These identified issues are the Key Transport Elements of Stage 1 of the Horsham Integrated Transport Strategy.

Stage 2 – Horsham Urban Issues

- CAD traffic congestion
- Alternative transport modes, buses, walking, cycling
- Railway corridor utilisation / removal

Stage 3 – Broader Municipality Issues

- Freight issues
- B-double routes
- Agricultural machinery

2.3 DRIVERS

The main drivers for the development of the Horsham Integrated Transport Strategy identified by Council are:

- a) Horsham Rural City Council's identification and programming for the preparation of a Transport Plan for the Horsham urban area in the 2015/16 Council Budget; this task was expanded by Council to an Integrated Transport Strategy (in 3 stages) that includes transport issues across the breadth of the municipality;
- b) Council's desire to deliver the transport related strategies identified in Councils "Framework for Managing Growth-2013"
- c) The specific recommendation of the need and urgency of an Integrated Transport Strategy for Horsham in the Planning Panel Report on VicRoads' preferred alignment option of the proposed Western Highway bypass of Horsham (20 January 2016);
- d) Addressing identified congestion areas close to the Central Activity District
- e) The need to plan for Horsham's urban growth, in particular to plan the management of traffic from Horsham's main growth area in the west, and how that will feed to the Central Activity District
- f) Planning for efficient freight and farm machinery access across the broader municipality

2.4 STRATEGIC DIRECTION

A “Vision” and “Project Objectives” against which to measure the Integrated Transport Strategy have been developed in conjunction with Key Stakeholders.

Vision:

“Our vision is for an integrated transport system that supports a sustainable, vibrant and prosperous community within Horsham and the surrounding region for now and into the future.”

(developed and adopted by Key Stakeholder Group – 27 May 2016)

Objectives:

1. To provide a safe, efficient, reliable and integrated transport network for the movement of people and goods.
2. To achieve an economically, socially and environmentally effective network of infrastructure that facilitates, connects, integrates and supports all modes of transport.
3. To actively support strategic land use, economic development, amenity and social interaction.
4. To foster broad community ownership of the Horsham Integrated Transport Strategy.

(developed and adopted by Key Stakeholder Group – 27 May 2016)

2.5 CONSULTATION

Community and stakeholder engagement and consultation has been implemented by Council in accordance with Council's Community and Stakeholder Engagement Policy.

A Steering Committee has overseen the strategy process whilst a Key Stakeholders Group has participated in advising on strategy development.

Key stakeholders appointed by Council and providing a broad representation of the Horsham community have worked with representatives of Council and other authorities. Views of the general public have been sought throughout the consultation process and progressive information from key stakeholder meetings and workshops have been published on Council's web site for general information.

Council engaged with local media to provide the community with on-going coverage of the Horsham Integrated Transport Strategy development process at various milestones.

Public submissions were invited from the community on the Horsham Integrated Transport Strategy Preliminary Draft Report. Public consultation sessions were held to allow the public the opportunity to seek further information and contribute specifically to the Horsham Integrated Transport Strategy Draft Recommendations.

Council specifically engaged with its community and industry partners seeking consideration of and submissions to the Horsham Integrated Transport Strategy Preliminary Draft Report.

Public submissions and submissions from Council's community and industry partners have been considered in this Final Draft Horsham Integrated Transport Strategy for consideration by Council.

Further details are included in Volume 2 of this Horsham Integrated Transport Strategy including:

- The establishment of the Steering Committee and the Key Stakeholder Group
- Community Input

3 CHALLENGES

3.1 IDENTIFIED TRANSPORT ISSUES AND CONSTRAINTS

Key stakeholders appointed by Council to advise on the development of the Integrated Transport Strategy have contributed significantly to the process. Stakeholder workshops were held to identify and analyse a range of transport issues and constraints.

The principal Stage 1 **Transport Issues** that impact on day-to-day activities include, but not limited to:

- Trucks in Horsham Township – particularly the desire to remove trucks from the centre of Horsham to improve amenity, reduce congestion and risk
- Public Transport – particularly level of service and access
- Land Use Planning – particularly growth areas of Horsham (residential and industrial)
- Bypass of Horsham – particularly the proximity to Horsham, the visual impact of a bypass and the alternatives to a bypass (function and alignment)
- River Crossings (Bridges) – particularly the need for additional river crossings to facilitate traffic flow, connectivity and emergency services
- Connectivity and Congestion – particularly the lack of connectivity across Horsham that contributes to congestion (Wilson St, McPherson St; Golf Course Rd intersection)
- Active Transport Modes and Connections – particularly the lack of dedicated bike paths around the Central Activity District
- Development of an Integrated Transport Strategy – particularly community ownership; like-to-like comparison and evaluation
- Aerodrome – particularly the potential limitations on expansion
- Railway Station – particularly the location and future of the railway station and rail services

The principal Stage 1 **Major Constraints** that impact on day-to-day activities include, but not limited to:

- Rail Line – the existing rail corridor restricts connectivity (ie.. traffic flow, pedestrian flow and development)
- Cost of Implementation of Infrastructure Planning and Improvements– the cost associated with achieving the best value may be prohibitive; who pays to meet the planning changes; can Horsham afford the cost of implementing changes
- The Wimmera River – a constraint on traffic and pedestrian flow and development
- Flood Issues – a constraint on development (road and other infrastructure)
- Horsham's Population and Growth – will the population and forecast growth survive a bypass; does Horsham meet the critical population mass to be sustainable post-bypass
- Impacts of bypass/ring roads/ network improvements on access

It is noted that the majority of these identified issues and constraints can readily be considered in Stage 1 of the Horsham Integrated Transport Strategy which will “*address issues related to a strategic transport network incorporating a Horsham bypass*”.

A full compilation of the Transport Issues and Major Constraints generated at the Key Stakeholder Workshops are included in Volume 2 of the Horsham Integrated Transport Strategy.

Additional Issues and Constraints have been identified through subsequent workshops and plenary sessions of the key stakeholders including:

- Artist in Residence Site on the south side of the Wimmera River approx 350m west of Curran Rd
- A Cultural Heritage site of significant sensitivity including south of the Wimmera River in the Pearsons Rd road reserve and adjacent to the west in private property
- The close proximity of the rail line to the Western Highway at the intersection of Western Highway with Geodetic Rd and Riley Rd restricting heavy vehicle access
- The close proximity of the rail line to the Henty Highway at the intersection of Gatehouse Rd restricting heavy vehicle access
- The poor performance of the intersection of Western Highway with Henty Highway and Golf Course Rd with long delays entering the Western Highway from Henty Highway and Golf Course Rd
- Access constraints at Derry Pde and Western Highway
- Poor intersection alignment at Golf Course Rd and Kenny Rd
- Development permits for residential land along the south of the Wimmera River
- Development permit for residential land on the north of the Wimmera River west of Curran Rd – (currently lapsed but not expired)
- Progressive status of development plans for the Caltex Service Station Site on the corner of Plumpton Rd and Stawell Rd

3.2 TRAFFIC DATA

Relevant Traffic Flow Data:

An integral component of Stage 1 of the Horsham Integrated Transport Strategy is the establishment of connectivity between highways and the ability of a Western Highway bypass of Horsham to integrate with these highways ie...

- Connectivity of Henty Highway north to Henty Highway south,
- Connectivity of Wimmera Highway west to Wimmera Highway east,
- Connectivity of all highway legs with a Horsham bypass

To determine the required level of connectivity between highways it is important to consider relevant traffic data which identifies the volume and vehicle distribution of traffic that travels straight through Horsham along these routes.

VicRoads has made available to the Horsham Integrated Transport Strategy process “Origin and Destination” information on vehicle flow into, through and out of Horsham. VicRoads commissioned AECOM and Skyhigh Traffic Survey Company to undertake an Origin and Destination study of Horsham in 2012 as part of the Horsham bypass planning process; data collected in this study is relevant to the Horsham Integrated Transport Strategy.

The following traffic data summary is relevant to this project:

- The study involved 24 hours of numberplate photography on the:
 - Western Highway at both entrances to Horsham (Dahlen and West Rd)
 - Henty Hwy at both entrances to Horsham (east of Gatehouse Rd and sth of Mackies Rd)
 - Wimmera Highway on the west approach into Horsham near Remlaw Station Rd (note that Wimmera Highway on east approach is shared with Henty Highway nth)
 - Horsham-Lubeck Rd east of Rokeskys Rd
- There are 6700 approx cars per day that enter Horsham on the major highways; 670 approx of these cars continue through, the remainder stop in Horsham.
- There are 1800 approx trucks that enter Horsham on the major highways per day; 1000 of these continue through, the remainder stop in Horsham
- Stawell Rd between Wimmera River and Horsham-Lubeck Rd carries 22,800 vehicles per day, 3,100 of these are trucks
- Table 3.2 presents data that identifies the volume and distribution of truck traffic into and out of Horsham on the arterial road network

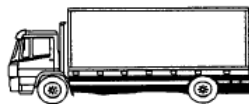
Table 3.2 – Distribution of Truck Traffic

Highway	Direction of Approach	No of Trucks per day	Distributed To/From					Terminates (T) /Commences (C) in Horsham
			Henty Hwy Nth	Henty Hwy Sth	Wimmera Hwy West	Western Hwy East	Western Hwy West	
Henty Hwy Nth	Inbound	264	-	18	15	1	5	225 (T)
	Outbound	298	-	15	29	1	4	249 (C)
Henty Hwy Sth	Inbound	107	15	-	0	0	7	85 (T)
	Outbound	110	18	-	0	0	16	76 (C)
Wimmera Hwy West	Inbound	130	29	0	-	18	3	79 (T)
	Outbound	144	15	0	-	11	3	115 (C)
Western Hwy East	Inbound	701	1	0	11	-	456	233 (T)
	Outbound	681	1	0	18	-	396	266 (C)
Western Hwy West	Inbound	628	4	16	3	396	-	209 (T)
	Outbound	666	5	7	3	456	-	195 (C)

To gauge a full appreciation of this data it is important to clearly demonstrate what constitutes a “truck”. The Skyhigh Report includes in its “truck” categories the following Classes of vehicle in accordance with Austroads Vehicle Classifications:

- Rigid Truck/Bus - Class 3, 4 and 5 vehicles
- Semi-trailers – Class 6, 7, 8 and 9 vehicles
- B-Doubles – Class 10 and Class 11 vehicles
- Road Train – Class 12 vehicles

These Classes of vehicle are demonstrated below:



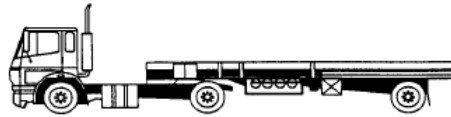
Class 3
Two Axle Truck



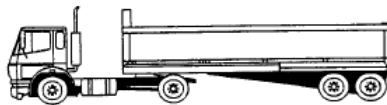
Class 4
Three Axle Truck



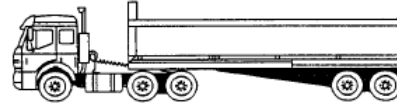
Class 5
Four Axle Truck



Class 6
Three Axle Articulated Vehicle



Class 7
Four Axle Articulated Vehicle



Class 8
Five Axle Articulated Vehicle



Class 9
Six Axle Articulated Vehicle



Class 10
B Double



Class 11
Double Road Train



Class 12
Triple Road Train

Presentation in map form of the truck movements detailed in Table 3.2 above are provided in Volume 2 of the Horsham Integrated Transport Strategy. Maps showing a breakdown of the identified truck movements in accordance with the 4 Austroads Vehicle Classification categories listed above are also included in Volume 2.

Summary of relevant traffic information detailed in Table 3.2:

- (T) No of trucks terminating their trip in Horsham per day = 830
- (C) No of Trucks commencing their trip in Horsham per day = 900
- Henty Highway nth /Henty Highway sth through movements (2 way truck flow) = 33 per day
- Wimmera Highway west /Henty Highway nth through movements (2 way truck flow) = 44 per day
- Western Highway /Western Highway through movements (2 way truck flow) = 850 per day
- Wimmera Highway west / Western Highway east through movements (2 way truck flow) = 29 per day
- Western Highway west /Henty Highway sth through movements (2 way truck flow) = 23 movements per day
- Wimmera Highway west generates 274 truck movements into/out of Horsham along Wilson St/Natimuk Rd each day; the majority of this traffic terminates or commences in Horsham.

Growth – generally between 1 and 2% per year

What this data tells us:

- The level of demand for Henty Highway to Henty Highway connectivity for trucks is low ie...33 trucks per day; this level of demand does not warrant any significant specific infrastructure to support that movement
- The level of demand for Wimmera Highway west to Henty Highway nth connectivity for trucks is low ie...44 trucks per day; this movement has the potential to increase with the further development of the agricultural industry at WIFT; this movement is a candidate for specific infrastructure to support this movement in the future as growth is experienced
- A Western Highway bypass of Horsham will remove approx 850 trucks from Horsham per day; this data clearly supports the need for a Western Highway bypass of Horsham
- Horsham is a transport hub; it generates approx 1700 truck movements out of / into Horsham per day; this data clearly supports the need for an expanded road network in and around Horsham to support the efficient movement of local truck traffic
- Horsham generates approx 2100 truck movements on Stawell Rd between Horsham-Lubeck Rd and Wimmera River per day; this data clearly supports the need for an expanded road network in and around Horsham to support the efficient movement of local truck traffic
- Wimmera Highway west is a significant contributor to congestion in Wilson St with 274 truck movements per day; this data clearly warrants significant specific infrastructure to distribute trucks around Horsham and avoid Wilson St

Relevant Traffic Congestion Data:

The Skyhigh Traffic Data also identified and quantified congestion on the Western Highway through Horsham and on the Wimmera Highway through Horsham. The following traffic data is relevant to this task:

- Peak hour congestion on Western Highway through Horsham typically contributes an extra 2 to 3 minutes to a through trip; this is generally experienced in late afternoon (at about finish of school time) and at early evening (end of work day);

- Peak hour congestion on Wimmera Highway through Horsham typically contributes an extra 4 to 5 minutes to a through trip; this is generally experienced in late afternoon (at about finish of school time);

What this data tells us:

- Truck traffic appears not to be a significant contributor to peak hour delays; the peak periods in Horsham typically align with peak periods in most regional centres; this suggests that congestion is predominately generated by local car traffic
- A Western Highway bypass of Horsham will offer only minor relief at peak traffic periods in Horsham (as distinct from the trip savings associated with a dedicated 100 km/h or 110 km/h route)
- Traffic congestion is not a key driver for an expansion of the road network in and around Horsham; it is expected that any additional river crossings and expansion of the network by default will assist in distributing traffic and reducing congestion at peak periods

3.3 KEY TRANSPORT ELEMENTS – REFERENCE TO IMPORTANT STRATEGIC AND/OR ADVISORY DOCUMENTS

Introduction

Before considering in detail any opportunities and outcomes that address infrastructure gaps, it is important that an understanding of each Key Transport Element is established with reference to important strategic and/or advisory documents.

Relevant reference documents have been used to highlight issues identified and put into context their perceived importance or otherwise from the perspective of the various interested parties.

Key Transport Elements identified in Stage 1 of the Horsham Integrated Transport Strategy are:

- Network Connectivity
- Land Use Integration and Interface
- River Crossings
- Rail Realignment
- Floodplain
- Western Highway bypass of Horsham
- Aerodrome Expansion

Briefings on each of the above-mentioned key transport elements provide an understanding of the existing status and put into context any specific integration requirements.

Council's Inception Report identifies that planning for the future upgrading and expansion of the Horsham Rural City road network must integrate with the proposals of other transport related strategies.

The following are briefing summaries on each of the above-mentioned Key Transport Elements; A full set of briefings on the key transport elements for Stage 1 are contained in Volume 2.

3.3.1 Network Connectivity

Horsham's Road Network

The existing road network is made up of a hierarchy of roads which consists of arterial roads connecting Horsham with other localities and regions and a network of local roads which supports access within and between settlement areas and precincts. Network connectivity is critical to the success of Horsham's Road Hierarchy in support of accessibility and the movement of people and goods.

The most recent version of Horsham's Road Hierarchy is included in Volume 2.

Arterial Roads

VicRoads is the road authority for the arterial road network supporting Horsham. The Wimmera and Henty Highways enter and exit Horsham township and intersect the Western Highway within Horsham. Together with a number of other major roads these constitute the arterial road network which forms the backbone of the Road Hierarchy.

VicRoads commissioned consultants to undertake a range of traffic studies to determine the volumes and origins and destinations of traffic entering and leaving Horsham via the arterial road network as part of the recent planning process for a bypass of Horsham. Analysis of this data provides a clearer picture of traffic types and behaviours accessing the network.

Graphical representations of heavy vehicle movements in and out of Horsham on the arterial network are provided in Volume 2.

A Western Highway bypass of Horsham is currently under review. The adopted alignment of a bypass will impact significantly on the arterial road network. There is likely to be a community demand for short to medium term measures to improve traffic management within Horsham prior to the construction of a bypass and longer term measures post any bypass construction.

Local Roads

Local roads make up the majority of the road network and are managed by Council. These range from access roads and collector and link roads providing connectivity between and with arterial roads and major destination points. The local road network typically includes on-road and off-road cycle paths, shared pathways and pedestrian paths all of which will be addressed in a subsequent stage of the Integrated Transport Strategy.

The day-to-day movement of local traffic within the urban area will typically be on the local road network, the efficiency of which will be a key component of the Horsham Integrated Transport Strategy.

Horsham Integrated Transport Strategy Inception Report - 2016

As outlined in the Horsham Integrated Transport Strategy Inception Report, an integrated transport strategy for Horsham is to be staged to fast track aspects of the Strategy pertaining to the Western Highway bypass planning process.

The Inception Report outlines the strategic planning function for road needs. It notes that planning for the future upgrading and extension of the Horsham Rural City road network must;

- Address and resolve existing deficiencies
- Integrate with other transport strategies
- Provide for quantified future population changes
- Provide flexibility to accommodate changes to land use and transport changes

Municipal Strategic Statement (MSS) – 2015 (proposed new)

Council in Clause 21.11-5 *Roads*, lists the following objective and strategies in support of its responsibility as the road authority for local roads in the municipality.

- Objective 1 To develop and maintain a network of roads and road corridors suitable for multiple forms of transport.
- Strategy 1.1 Prepare a plan of road corridors to link the developing areas to established areas, having proper regard for an appropriate hierarchy of roads, such as minor, access, collector and link.
- Strategy 1.2 Prepare a transport plan that identifies priorities for development of transport corridors compatible with new developments and ensuring appropriate links between relevant areas of the municipality.

Horsham Framework for Managing Growth - 2013

A number of *Access and Movement* Objectives in the Framework relevant to connectivity are;

- To provide an efficient movement network for vehicles, pedestrians and cyclists
- To provide appropriate connections to rural communities and town centres
- To improve connectivity for pedestrians, cyclists and vehicles across the Wimmera River

Key strategies in the Framework include;

- Prepare a sustainable transport plan for Horsham
- Improve connectivity between the Horsham CAD and surrounding urban area
- Encourage the use of perimeter roads and open space as interface treatments between urban and non-urban land

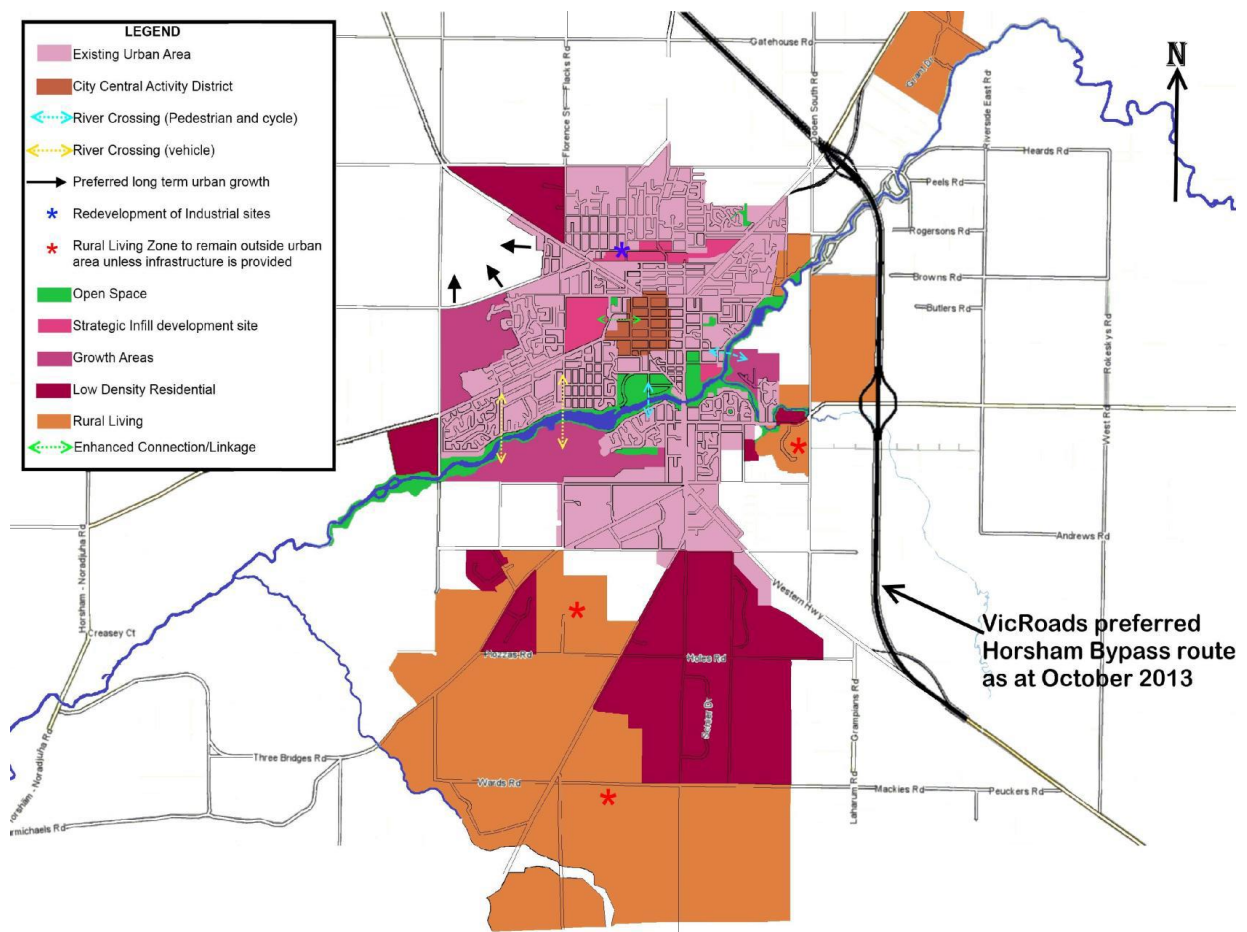
The Framework for Managing Growth is a reference document in the new MSS.

3.3.2 Land Use Integration and Interface

Horsham Framework for Managing Growth – 2013

The Horsham Framework for Managing Growth is also a reference document in the Horsham Planning Scheme and is designed to deliver the long term vision for the future urban growth and development of Horsham. The document sets out objectives, strategies, implementation measures and further strategic work and forms the basis of clause 21.05-2 *Horsham Framework for Managing Growth* in the *Municipal Strategic Statement (MSS)*. The Framework Plan is depicted in Figure 3.3.2 below.

Figure 3.3.2.



HORSHAM FRAMEWORK FOR MANAGING GROWTH - FRAMEWORK PLAN

A number of opportunities for growth have been identified in the Framework Plan together with some challenges and constraints. A number of those pertaining to a transport strategy are listed below.

Opportunities

Regional proximity and primacy – Horsham’s primacy as a regional centre in the State’s west, its proximity on the Melbourne to Adelaide freight route, and access to other main highways and roads is of strategic advantage.

Accessibility – Horsham’s relative flat landscape, mixed with its compact settlement pattern ensures that most houses are accessible to the CAD through walking and cycling.

Challenges

Existing environmental constraints – A need to ensure adequate protection of valued natural and cultural places and assets from the impacts of future development.

Protection of high quality agricultural land – The need to protect high-quality agricultural land from future development.

Constraints

A range of constraints has been mapped for reference in the Framework Plan. The identified areas are typically located adjacent to watercourses and floodways or areas of ecological significance. Planning overlays and areas of cultural significance are also indicated. A greater affected area is impacted under a partially constrained map due predominantly to the likely impact of flooding in a 1 in 100-year storm event. Copies of constraint mapping are included in Volume 2.

The Framework notes that constraints to urban growth are generally found to the east and south of the Horsham urban area. Another significant constraint identified in the mapping is the absence of sewer to areas south of Horsham, and the presence of reticulated water to only some lots within Haven. It is suggested that Haven could potentially be developed more intensively if appropriate infrastructure were to be provided given the presence of large lot LDRZ and Rural Living lots.

Housing Demand

In an assessment of *Settlement and Housing* the Framework for Managing Growth notes that; *‘Horsham’s population is projected to grow, however it must be recognised that Horsham is situated in a region experiencing population decline. Over the next 20-30 years, Horsham is likely to see a significant increase in population of residents 60 years and over, and population decline of residents aged 50 or less.’*

Growth Areas

Growth Areas have been identified as they demonstrate the most likely direction for outward growth of Horsham (see Fig. 1). Growth areas have been identified in the Framework Plan to:

- Identify land for future residential use.
- Assist authorities to co-ordinate and plan for future infrastructure upgrades.
- Assist in ensuring that the subject land (and adjoining land) is not used for a purpose which may compromise future residential use.

- Provide certainty for investors and landholders as to where future growth and change is likely to occur

To provide the necessary direction sought by Council, stakeholders, industry, and the community, the Framework for Growth has established directions for growth rather than boundaries.

Access and Movement

In support of land use and growth in Horsham the Framework Plan lists a broad range of objectives and supporting strategies to address access and movement issues identified;

Objectives:

- To provide an efficient movement network for vehicles, pedestrians and cyclists.
- To cater for potential future public transport improvements and new services.
- To improve the legibility of the Horsham CAD for visitors (way-finding, signage, ease of movement).
- To provide appropriate connections to rural communities and town centres.
- To promote walking through improved amenity and appropriate infrastructure provision (i.e: shade structures and verandas).
- Promote alternative forms of travel.
- To improve connectivity for pedestrians, cyclists and vehicles across the Wimmera River.
- Encourage opportunities for greater utilisation of major infrastructure including Horsham airport and railway line.

Municipal Strategic Statement (MSS) – 2015 (proposed new)

The Municipal Strategic Statement has been developed as the overall land use strategy for the Horsham Rural City Council. The MSS should be read in conjunction with the Horsham Rural City Council Plan which provides the overall corporate direction for the municipality. It sets out the vision, objectives and strategies for managing the use and development of land within the municipality. It provides the basis for the application of the local policies, zones and overlays and other provisions in the Horsham Planning Scheme.

Of particular interest is land use and development and council's affiliated statements of intent which will impact on the development of an integrated transport strategy. The following extracts or part thereof from the updated MSS have particular relevance.

21.01-2 Integrated planning and decision making

Planning authorities and responsible authorities shall rely on the policies, objectives and strategies contained in the Horsham Planning Scheme when making decisions on the use and development of land. Any conflicting policies, objectives or strategies should be interpreted such that the conflict is resolved in favour of net community benefit and sustainable development.

The use and development of land should not compromise achievement of long-term goals.

21.02-3 Population

In the 2011 Census, there were 19,687 permanent residents living within the boundaries of Horsham Rural City Council and there were 15,894 permanent residents living in Horsham Central, which consists of the City of Horsham, Riverside and Haven.

21.02-4 Economy

The Wimmera is recognised as one of the largest grain-growing regions in the world. In 2010, the Wimmera produced in excess of 3.5 million tonnes of grain, around 60% of which is exported, according to information from the Department of Environment and Primary Industries (DEPI).

In addition, the expected development of the Wimmera Intermodal Freight Terminal in Dooen, approximately 8km north-east of the Horsham Central Activity District, will assist in the production and export of grain from the Wimmera.

While agriculture is the largest employing industry in the rural parts of the Wimmera, the Horsham Central Activity District (including the surrounding urban areas) is the main employment location and accounts for 38% of all jobs in the Wimmera.

21.04 Key Issues

*Efficient and effective public transport within Horsham and connecting to larger centres
Opportunities for social connection
Have connected and accessible urban environments*

21.04-2 Land Use

Residential Land Use;

Horsham is well supplied with zoned residential land. The timely supply and sequencing of infrastructure to support the development of residential land is a key issue. Preparation of structure plans to guide future development of this land should address this issue.

Commercial Land Use;

Existing commercially zoned land in CAD is enough to meet projected commercial floor space demand for a 15-year time horizon.

Industrial Land Use;

Approximately 70% of Horsham industrially zoned land is currently vacant. Some of the vacant industrial land lacks access to infrastructure that would support its development.

Agricultural Land Use;

Agriculture is the dominant land use in the municipality, and the main economic driver for the region. Agriculture will remain a viable business for many years to come with increasing emphasis on export to emerging markets.

21.05-2 Horsham Framework for Managing Growth

Short to medium term urban growth opportunities for Horsham should be focused in the following areas:

*Town Centre (Horsham Central Activity District (CAD),
Existing Urban Area (Outside of CAD),
Strategic Infill Sites,
Regeneration and growth areas to the north and west of Horsham.*

21.05-3 Horsham Central Activity District

Objective 10; To protect and enhance connections to the west of the existing CAD in order to allow for future expansion of the CAD once conditions for expansion are achieved.

A range of strategies are listed in support of this objective.

21.05-4 Horsham North Urban Design Framework

Horsham North is physically separated from the remainder of Horsham, and the town centre, by the railway corridor and adjoining industrial land uses, which form a physical barrier and constraint to movement and access.The Horsham North Urban Design Framework provides direction for the future use and development of land in the area, and is included as a reference document in this Planning Scheme.

21.06-1 Housing

A growth scenario of 0.5% would result in an additional 110 people per year, and the need for an additional 71 households per year.

21.06-2 Industrial

There are a number of industrial areas established around Horsham catering for a range of industrial type uses.

21.06-3 Wimmera Intermodal Freight Terminal Precinct

The Precinct will facilitate the agglomeration of freight related land uses around key freight handling facilities and ensure the continued efficient and effective transfer of goods into and out of the region.

21.06-6 Tourism

A total of 1.5 million tourists are estimated to visit the region each year.

21.06-8 Mining and Extractive Industry

Provision of transport and energy infrastructure is critical to enable earth resources projects to proceed, particularly to transport raw materials to processing facilities and export ports. Improved use of rail transport is encouraged.

21.06-9 Developer Contributions

Infrastructure is not simply roads, pipes and cables, but also includes social and community infrastructure such as schools, health and welfare facilities, sporting facilities and learning opportunities.The costs associated with this infrastructure provision needs to be considered when identifying areas for development.Development contributions are an important part of the planning and development process.

21.07-2 Health and Wellbeing

The built and urban environment influences health in providing such things as safe footpaths for pedestrians, lighting, access to appropriate services and places for people to sit.

21.08-1 Biodiversity Conservation and Habitat Protection

The Shire has been extensively cleared as a result of its agricultural heritage. As such remnant vegetation is very valuable in terms of biodiversity, habitat, water table management and soil stabilisation.

3.3.3 River Crossings

Municipal Strategic Statement (MSS) – 2015 (proposed new)

Council has acknowledged the key role of roads and road infrastructure in its new MSS. The following Roads strategies (Clause 21.11-5; Objective 1) have particular relevance to the development of an integrated transport strategy for Horsham.

- Strategy 1.1 Prepare a plan of road corridors to link developing areas to established areas, having proper regard for an appropriate hierarchy of roads, such as minor, access, collector and link.
- Strategy 1.2 Prepare a transport plan that identifies priorities for development of transport corridors compatible with new developments and ensuring appropriate links between relevant areas of the municipality.

The issue of river crossings is potentially a key factor in the development of a sustainable road hierarchy which can support urban and wider municipal development and connectivity.

Horsham Framework for Managing Growth – 2013

The Framework Plan states the importance of accessibility and movement within any community. It summarizes eight key strategic directions to support future decision making and in particular one which supports additional river crossings vis;

Strategic Direction No. 7; Establish new linkages across the Wimmera river to improve connectivity between Horsham and communities to the south.

It is noted that future road bridges over the Wimmera River at Drummond St and Bennett Rd are shown on the Framework Plan; future pedestrian bridges are shown over the Wimmera River at the east of McPherson St and from Barnes Boulevard to the south bank development.

3.3.4 Rail Realignment

Rail Bypass Planning Report - 2013

Horsham Rural City Council, in conjunction with the then Department of Transport (now Department of Economic Development, Jobs, Transport and Resources (DEDJTR), engaged consultants to undertake an investigation and prepare a feasibility report to assess the benefits of realigning the Melbourne – Adelaide railway line to bypass central Horsham.

The purpose of the report amongst other things was to identify the “benefits associated with the new rail alignment and the redundant railway land both in relation to Horsham and the proposed Western Highway bypass”.

Typical costings were developed for a rail realignment (using Option 1A) for both ‘road over rail’ and ‘rail over road’ grade separated crossings. The report notes that as the road over rail has a lower cost with less land acquisition, it is recommended that this option be taken forward as the preferred grade separation form. For all rail realignment options considered, the indicative total project cost

range for road over rail is estimated to range between \$70 and \$85 million based on total length of corridor.

A summary of the seven rail realignments investigated is included in Volume 2.

Rail Realignment Option 3 aligns with Western Highway Bypass Option D and compares favourably with other options assessed.

The Rail Relocation Report concluded that;

The provision of a Horsham rail bypass beyond the developed areas of the township will be a catalyst for future land developments and regeneration of land previously occupied by aging rail infrastructure. The bypass will help unify and connect the township removing social and economic isolation and lead to enhanced productivity and liveability for the wider area.

Discussions with stakeholders for the preparation of a Horsham Aerodrome Master Plan, a project running concurrently with the preparation of this Strategy, has noted the potential for double-stacked containers to create an obstacle to aircraft movements if a rail corridor is too close to the aerodrome. This needs to be factored into future investigation of the railway alignment.

Municipal Strategic Statement (MSS) – 2015 (proposed new)

Council has responded to the rail relocation report acknowledging outcomes in its new MSS. In particular, it is stated that opportunities exist for significant cost savings in the co-ordination of a Western Highway bypass with a new rail corridor. Of particular relevance to the Horsham Integrated Transport Strategy project is;

- Objective 1 To plan for the redevelopment of the Horsham Rail Corridor
- Strategy 1.2 Liaise with VicRoads and the Australian Rail Track Corporation on the potential for concurrent implementation of the rail and highway bypasses.....
- Strategy 1.5 Facilitate improved transport connections (road, bicycle, pedestrian) across the rail corridor.

Horsham Framework for Managing Growth – 2013

The Framework Plan states the importance of accessibility within any community and identifies the existing rail corridor as an important infill opportunity. *Relocation of the railway presents opportunities to better connect Horsham North to the existing Horsham urban area.*

Rail Corridor Master Plan – 2016

The Master Plan provides a plan for the medium term in which the existing railway line and station will remain operational and the longer-term where there will be an opportunity for the railway line to bypass the City to the north. *“The relocation of freight operations from the centre of Horsham to the new Wimmera Intermodal Freight Terminal creates an opportunity to reinvigorate the rail corridor between Wawunna Road and McPherson Street”.*

The Vision for the Horsham Railway Corridor is; *The Horsham Railway Corridor will provide a new recreational and open space that helps connect the Horsham community, bringing people together from both sides of the railway line.*

Horsham Bypass Planning Panel Report - 2015

Council in its submission to the Panel made the following statements;

- *Horsham Rural City Council will also investigate the relocation of the railway line from the centre of Horsham as part of the Horsham Western Highway Bypass.*
- *The rail relocation would provide the opportunity to simplify potential flyovers at the Henty and Western Highway junctions.*
- *Council has a continuing priority to the return of passenger rail to Horsham, which is potentially in conflict with a rail bypass of Horsham.*
- *In the interim, Council will aim to revitalize the rail corridor within Horsham due to the significant social benefits in doing so.*

Council's recommendation to the Panel was that;

- *Planning for a rail bypass of Horsham, in conjunction with the Western Highway bypass, should proceed upon finalization of the route alignment for the Western Highway Bypass.*

It should be noted that the Panel supports the position of VicRoads that the PAO could be refined and land acquisition reduced if rail realignments precede the road bypass and therefore planning for the bypass should proceed.

Department of Economic Development, Jobs, Transport and Resources (DEDJTR)

Since the panel hearing DEDJTR has advised in writing that it supports co-location of the railway and bypass corridors, vis.

'It should be noted that in terms of integration across transport modes, a Western Highway bypass of Horsham on the alignment of VicRoads preferred Option D is the only bypass option that will deliver a potential integrated transport outcome. This co-location possibility is strongly supported by the transport portfolio.'

3.3.5 Floodplain ImpactsMunicipal Strategic Statement (MSS) – 2015 (proposed new)

Council outlines its concerns on flood management referencing a broad range of studies/reports by a number of relevant authorities over recent years and outlines its longer term vision for the management of the regions floodplains. A number of statements, objectives, strategies, implementations and other actions have been developed by Council relative to transport planning.

21.08-2 Catchment Management

The Wimmera and Glenelg Catchment Management Strategies prepared by the respective Catchment Management Authorities establish the land and water management priorities within the region. Land use and development decision making can have effects on the quality and quantity of water available for use.

Objective 1 To ensure healthy waterways.

- Strategy 1.1 Protect water supply catchments, reservoirs, floodplains and channels from the impacts from development and potential sources of pollution, including sediment runoff.*
- Strategy 1.3 Minimise the impact of works that have the potential to affect local drainage patterns.*

21.09-1 Flooding

Flooding presents risks to the development of land. Future planning exercises, such as structure planning, planning scheme amendments, and planning permit applications, should consider the risks associated with flooding and seek to ensure that use and development is commensurate with flood risk. Several flood investigations have been undertaken within the municipality. These investigations identify areas of high flood risk and low flood risk.

- Objective 1 To identify areas of high and low risk from flooding.*
- Objective 2 To minimise flood risk and promote sustainable use and development of the floodplain.*
- Objective 3 To recognise the natural flood carrying capacity of rivers, streams and wetlands and the flood storage function of floodplains.*

21.09-3 Climate Change

Climate change projections provided by the Victorian State Government predict that the Horsham Rural City Municipality can expect: - 'To have an increase in the intensity of rainfall but a decrease in the number of rainy days.'

- Objective 1 To Provide leadership and direction in response to climate change.*
- Strategy 1.1 Consider the impact of climate change in our key planning and building decisions.*

21.11-2 Horsham Western Highway Bypass

VicRoads have proposed a Western Highway Bypass for Horsham. Horsham Rural City Council will continue to support the Horsham Bypass implementation.

- Objective 4 To manage the impact of the floodplains of the area.*
- Strategy 4.1 Maintain the capacity of the floodplain to store and convey flood water.*
- Strategy 4.2 Plan for flood events greater than the 1% Annual Exceedance Probability flood event.*
- Strategy 4.3 Reduce existing flood problems, where possible.*
- Strategy 4.4 Ensure construction of the highway allow for the passage of flood water.*

Horsham Framework for Managing Growth - 2013

The Framework Plan has mapped environmental constraints on potential development to more accurately identify growth areas in and around the urban area of Horsham. The mapping clearly identifies areas where floodways may impact adversely on development of land and infrastructure.

The *Constraints Summary Plan* which superimposes the 100 year ARI event (flood recurrence) mapping over environmentally constrained land, shows that much of any bypass alignment east of Horsham, particularly south of the Wimmera River, will traverse floodplains requiring an elevated roadway with adequate floodway capacity. A constraints summary plan showing floodplains is included in Volume 2.

Planning Panel Report – 2015

The Planning Panel reviewing Amendment C72 (Horsham Bypass PAO) considered the impact of floodplains in its deliberations and concluded in its assessment of issues for alignment Option D (Section 7.13) that;

Potential flooding impacts are a matter of high significance when assessing the Option D route through the floodplain. The design of the Option D floodplain crossing should be reviewed in conjunction with WCMA to confirm the appropriate design standard; the length of floodplain crossing; the required floodway structures; and a more accurate estimate of costs. Based on this review, VicRoads should reassess whether Option D can be constructed at an acceptable cost and is still the preferred option.

VicRoads in its overview to the Panel of the *Objective Based Evaluation Model* used to assess route options stated that one of its secondary objectives was *to avoid or minimise impacts on areas of ecological sensitivity, floodplain function and heritage significance*. VicRoads submitted that Option D performs well on this objective as ‘flooding impacts can be designed out’.

Council submitted to the Panel *‘that it had major concerns with the potential floodplain impacts of Option D. It advised that the WCMA has indicated that the 2011 flood was between a 100 year and 200 year ARI and therefore have recommended that the Bypass be designed to meet a 100 ARI flood with climate change or a 200 year ARI flood and have requested the Panel to give clear guidance on the appropriate standards to be applied at the subsequent Planning Application Stage.’*

Most submitters to the panel on this subject were concerned that an Option D bypass would increase risks associated with flooding upstream. The Panel agreed that there is a good case in the Wimmera River floodplain to *‘strongly consider design parameters in excess of 100 year ARI event.’*

The Wimmera Catchment Management Authority (WCMA) has since advised that the design of Option D by VicRoads will be subject to the WCMA nil net effect assessment and that the 100 year ARI event is the current design standard that will be applied.

3.3.6 Western Highway Bypass of Horsham

The Western Highway Corridor

In the Western Highway Horsham Bypass Planning Panel Report (Dec 2015) a project overview states;

The Western Highway is the principal road link between Melbourne and Adelaide and serves interstate trade between Victoria and South Australia. The Western Highway is in the process of being progressively upgraded to improve freight movements and safety along its length. A Western Highway bypass of Horsham has been flagged in strategy and policy documents for many years.

The overall project objectives are to:

- Improve freight movement effectiveness for east-west (Melbourne-Adelaide) traffic
- Improve road safety, and
- Remove freight traffic from the centre of Horsham.

VicRoads Position as the Road Authority

VicRoads has been undertaking a planning study to determine an alignment for a future Western Highway bypass. The objectives of the planning study are to identify an alignment that will improve road safety and freight efficiency for the Western Highway corridor.

The five short listed options, 5A, 11, 12, B2 & D (D as a hybrid of B2 and 11) were investigated by technical specialists involving assessment of the options against the project objectives and associated assessment criteria through a multi-criteria analysis process (OBEM). The results of the assessments are documented in individual specialist study reports including, but not limited to, hydrology, traffic analysis, social assessment, land use, business and agricultural impacts, cultural heritage, flora & fauna and cost benefit analysis. The Barengi Gadjin Land Council (BGLC) has recently advised Council that it objected strongly to the inclusion of Option 5A following its exhibition.

Summaries the assessment outcomes for each of the five short listed options are included in Volume 2.

A planning panel was appointed by the Planning Minister to convene in October 2015 to consider the proposals. At a Directions Hearing in September 2015 VicRoads advised the Panel that it only wished to pursue Option D due to concerns expressed about the likely impact of Option B2 on any east-west runway extension at the Horsham Aerodrome.

Council Position

Council has been liaising with VicRoads on the matter of a Horsham bypass since planning commenced. In February 2013 Council articulated a range of issues it believed should be considered in the planning process, agreeing with the need for a bypass but stating that it did not believe any particular option stood out above others as an ideal alignment.

In September 2015 Council updated its position in relation to the bypass proposal; vis.

- Council maintains its strong support for the need for a Western Highway bypass of Horsham
- Council does not support the preferred route alignment options B2 and D as proposed in the VicRoads reports
- Council has not identified a clear preference for any route alignment

In its submission on a bypass to VicRoads and the Planning Panel, Council raised a number of concerns with the planning process together with some key issues which it believes should be considered in the assessment of a preferred bypass route including;

- Future potential links for the bypass route to the Wimmera and Henty Highways in both directions.
- Efficient connection to the Wimmera Intermodal Freight Terminal.
- Consideration of relocation of the railway line.
- Minimizing impact on residences, farms and farming practices, and not impeding future extensions to the Horsham Aerodrome runways.
- Passage of flood flows on the Wimmera River and Burnt Creek floodplain

Planning Panel Report – 2015

The Panel reviewing Amendment C72 (Horsham Bypass PAO) only considered VicRoads preferred route Option D although some general comments were made in relation to the assessment of other options exhibited (Refer Volume 2).

A total of eighty-five submissions were received covering a range of issues and concerns. The Panel concluded that the planning for Option D has a number of deficiencies and that further work is required. It noted that several key issues remain unresolved including the impact on a potential north-south aerodrome runway extension, uncertainties about crossing the Wimmera River floodplain and unclear social impacts, in particular around the Riding for the Disabled Centre. It recommended amongst other things that VicRoads in consultation with the Wimmera Catchment Management Authority (WCMA) and Horsham Rural City Council (HRCC) undertakes a review of issues identified by the Panel involving further community consultation.

The Panel subsequently recommended that Amendment C72 should be deferred pending re-examination of the strategic assumptions that underpinned the route selection choice. It also recommended that HRCC support the review by immediately commencing an Integrated Transport Plan for Horsham and a Master Plan for Horsham Aerodrome.

There are a number of Planning Panel recommendations to VicRoads that the Integrated Transport Strategy process has subsequently considered: ie..

- Alternative bypass alignments – a number of options were considered
- Cost of construction across the floodplain – VicRoads has advised that planning costs as presented are still relevant
- Henty Hwy deviation and overpass – alternative treatment option recommended to VicRoads
- Connection to other state highways – VicRoads has given an undertaking to review the Dimboola Rd interchange against the project objectives, freight efficiency and road safety
- Rail Relocation – Transport Portfolio has strongly supported co-location of rail and bypass
- Floodplain Management – Wimmera Catchment Management Authority has indicated that VicRoads design will be subject to the WCMA nil net effect assessment
- Aerodrome – the Draft Aerodrome Master plan provides clear indication and technical basis that Option D does not compromise the aerodrome

Horsham Integrated Transport Strategy Inception Report - 2016

As outlined in the Horsham Integrated Transport Strategy Inception Report, an integrated transport strategy for Horsham is to be staged to fast track aspects of the Strategy pertaining to the Western Highway Bypass Planning Process. Stage 1 in particular addresses amongst other matters the following bypass related issues;

- Bypass alignments
- Impacts of bypass options

- Opportunities presented
- Connectivity with the arterial road network
- Railway line relocation options

Municipal Strategic Statement (MSS) – 2015 (proposed new)

Council has reiterated its support for a bypass and includes a new clause 21.11-2 in its recently adopted MSS. The clause lists five objectives and seventeen strategies for the project. In summary the objectives seek to;

- Improve road safety
- Provide amenity benefits to residents
- Provide connections to intersecting highways
- Manage the impact on floodplains
- Ensure there is no adverse impact on aerodrome expansion

In its assessment of the policy framework around which the bypass proposal has been developed, the Ministerial Planning Panel stated that it “regards the new MSS as a seriously entertained document and that gives it considerable weighting in the assessment of Amendment C72.”

Horsham Framework for Managing Growth - 2013

The Framework Plan states the importance of accessibility within any community and identifies the importance of planning for a Western Highway bypass to give certainty for growth. The Framework suggests that long term growth is to be in the north and west of Horsham subject to future housing needs.

The Planning Panel for C72 noted that the significance of the *Horsham Framework for Managing Growth* lies in the fact that it impacts on the main reasons given by VicRoads as to why Bypass Option 5A was eliminated from the short list. That is this option would merely move the existing highway to another alignment within Horsham and does not fit with the strategic framework plan for Horsham’s current and future growth.

3.3.7 Aerodrome Expansion

Municipal Strategic Statement (MSS) – 2015 (proposed new)

Under Clause 21.11-4, *Horsham Airport*, Council outlines the status and potential for this facility and clearly outlines its longer term vision for the aerodrome vis;

The Horsham Airfield is a regional facility, located a short distance north of the city, providing a range of aerodrome services to the region. Opportunity exists to develop land adjacent the Horsham Aerodrome for airport related industries and other business that will benefit from co-location with the airport.

Airspace security of the facility requires that height restrictions be imposed upon development in the regional centre and surrounding areas to ensure safe functioning of the airport.

The Horsham Aerodrome is located in close proximity to a proposed Western Highway Horsham Ring Road. The potential exists to provide direct access to the aerodrome from the bypass, with further potential arising from the possible inclusion of a rail corridor collocated with the bypass. This potential access would assist in increasing import and export possibilities for the Wimmera region.

A number of objectives and strategies have been developed by Council to support this view;

- Objective 1 To protect the air safety of Horsham Aerodrome.*
Objective 2 To facilitate further development of the Horsham Aerodrome for airport uses.
Objective 5 To ensure the highway bypass does not impact adversely on the Horsham Airport.

Horsham Framework for Managing Growth - 2013

The Framework Plan states the importance of accessibility within any community and under *Access and Movement* identifies an objective supporting airport use;

- Objective Encourage opportunities for greater utilization of major infrastructure including Horsham airport and railway line.*
- Strategy Maintain the safe and efficient operation of the Horsham airfield through appropriate buffers and height restrictions on nearby land and encourage the development of adjacent land for complimentary industrial and business uses associated with airport use.*
- Strategy Prepare a Sustainable Transport Plan for Horsham.*

The Framework Plan has clearly identified the importance of an airport for Horsham and supported the ongoing development of the aerodrome precinct.

Planning Panel Report – 2015

The Panel reviewing Amendment C72 (Horsham Bypass PAO) considered the Horsham aerodrome in its deliberations and noted that the issue to be considered was whether any impacts resulting from the preferred alignment (Option D) are acceptable.

In its submission to the Panel Council stressed the importance of planning for the aerodrome's future and explained that it had embarked on a staged plan for the ultimate extension of both runways to 2000m in length, although the viability of the north-south runway extension to the north is unknown. The two main issues facing the Panel were;

- *Is the current operation and safety of the aerodrome likely to be compromised by option D?*
- *Will an extension of the north-south runway be constrained if option D proceeds?*

The Panel is of the view that a bypass located along Gatehouse Road would have minimal impact on the current operation of the aerodrome. It also stated that it supports planning for extensions to both runways in future and clarity about expansion plans is essential vis;

The Panel therefore supports Council's plans for an aerodrome master plan which it said should be a transparent and collaborative process with VicRoads involvement and should be prepared immediately.

Horsham Aerodrome Master Plan (HAMP)

A draft HAMP has recently been released for public comment. The conclusions drawn from the plan suggest that:

- An extension of the primary (08 /26) runway to the east is recommended in the medium to longer term.
- A short extension of the secondary north-south (17/35) runway to the south and within the current boundary is recommended in the longer term.
- An extension of the north-south (17/35) runway to the north without undue earthworks is feasible and is the preferred direction of expansion from an aviation and land use perspective.

The draft outcomes do not conflict with the Option D bypass alignment along Gatehouse Road.

3.4 IDENTIFYING THE INFRASTRUCTURE GAPS

Through the identification of transport issues and major constraints and through the assessment of relevant traffic data and various controlling and influential documents, infrastructure gaps have been identified.

Identified Infrastructure Gaps include:

- A shortage of river crossings
- Circulation and connectivity opportunity around Horsham
- A highway bypass of Horsham to take trucks out of Horsham
- Ring road/link road connections to support safe and efficient movement around Horsham
- Public transport services
- Connectivity of highways
- Intersection restrictions impacting on efficient movement of vehicles
- Aerodrome expansion
- Integration of land use with major transport routes

Further detail on the background to identifying these infrastructure gaps is included in Volume 2.

The challenge is to address these gaps in a manner that:

- Satisfies the specific issues identified in the project brief
- Satisfies the Horsham Integrated Transport Strategy adopted objectives
- Addresses concerns emanating from the Planning Panel Report
- Aligns with the objectives of Council's MSS
- Provides a sound transport outcome for Horsham

4 OPPORTUNITIES

4.1 ADDRESSING THE INFRASTRUCTURE GAPS

The preceding section of this report identified infrastructure gaps and highlighted the positions of various controlling and influential documents on the key transport elements associated with this Stage 1 of Horsham Integrated Transport Strategy.

Stakeholder Workshops provided the opportunity for all Key Stakeholders to identify “opportunities and outcomes” for Horsham that will reduce the impact of issues and constraints on their day-to-day activities (ie...identify the gaps and identify how to address these gaps); Key Stakeholders formed specific “Focus Groups” that identified the gaps and identified how to address these gaps for each of the identified key transport issues and constraints; the following list is a categorised record of the **Identified Opportunities**:

- Public Transport – create a new public transport hub; improve the level of service
- Connectivity – design a network that improves efficiency and amenity; consider ring road options in lieu of and/or to compliment a Horsham bypass; consider local road links to provide alternative routes; separate local traffic and heavy vehicles via a bypass
- Land Use Planning – integrate land use planning along corridors; encourage agricultural sector to WIFT; integrate a bypass with urban design framework;
- Opportunities Generated by a Horsham bypass – promote Horsham as an attractive diversion for cars/tourists (not trucks); create land development opportunities ie...gateway businesses incl service centre/transport hub; potential for “greening’ of Horsham entrances;
- River Crossings – provide additional bridges to support residential development along river frontage; provide addition bridges to facilitate traffic flow around Horsham and to support emergency services;
- Aerodrome – expand landside development incl residential; expand runways;
- Active Transport Modes and Connections – encourage people to use active transport modes (walking, riding) on short trips around Horsham; extend the active network

Identified Outcomes via the Key Stakeholder focus groups were extensive – plans identifying these outcomes are provided in Volume 2 as referenced in Table 4.1 below: these plans identify:

- Opportunities for additional bridges
- Opportunities for improved intersections
- Opportunities to upgrade existing roads
- Improvements to connectivity and circulation
- Potential New Link /Ring Road Opportunities
- Bypass Alternatives and Issues

It has been generally accepted within the Key Stakeholder Group that a Western Highway bypass of Horsham alone will not resolve all of Horsham’s transport issues; it is also generally accepted that an

expansion of the road network in and around Horsham is required to manage local traffic and improve safety and amenity.

Table 4.1

Volume 2 Plan No	Plan Description
1 of 7	Key Stakeholder Group Workshop - Bridges
2 of 7	Key Stakeholder Group Workshop - Intersection Improvements
3 of 7	Key Stakeholder Group Workshop - Existing Road Upgrades
4 of 7	Key Stakeholder Group Workshop – Potential New Link /Ring Road Opportunities incl Ring Road Option 1 and Ring Road Option 2
5 of 7	Key Stakeholder Group Workshop - Bypass Alternatives and Issues (Option D and Option 5B)
6 of 7	Key Stakeholder Group Workshop – Bypass Option 2A
7 of 7	Bypass Alternatives Not Workshopped by Key Stakeholder Group incl Options 5B variations 1 to 5 incl and Option D(Rev 1)

Identified Criteria for Assessment of Options

To enable assessment and evaluation of candidate projects and overall network solution opportunities the following Evaluation Criteria was identified through the Key Stakeholder Workshops:

Does the proposal:

- provide the opportunity to remove trucks from Horsham?
- provide acceptable connectivity between highways?
- provide the opportunity to reduce congestion in Horsham?
- provide acceptable interface with abutting land use?
- provide additional priority river crossings?

Further, the merits of any proposal are to be judged against:

- whether it is considered to be the best outcome for Horsham, and
- the Project Objectives

Where conflicting opportunities exist these should be determined in such a manner that the conflict is resolved in favour of overall transport and community benefit.

Further to the identified criteria for assessment of options developed by the Key Stakeholder Group, the Consultant adopted an assessment framework for the Consultants benefit in determining between conflicting outcomes and assessing what is the overall transport and community benefit; this assessment framework includes assessment of the outcome against the following assessment tools:

- Defendable

- Fundable
- Achievable
- Practical
- Sensitive
- Visionary
- Beneficial
- Sustainable (environmentally)
- Acceptable (culturally)

These assessment tools have an element of subjectivity, but the Consultant is drawing on the background information in numerous technical reports, significant traffic engineering, project management and triple-bottom-line assessment expertise to deliver a decisive recommendation for the benefit of Horsham Rural City Council and the Horsham Community. Further details on this assessment are presented in Volume 2.

4.2 KEY STAKEHOLDER GROUP POSITION AND CONSULTANT'S POSITION ON THE KEY TRANSPORT ELEMENTS

Through the development phase of opportunities to address the infrastructure gaps the Key Stakeholders and the Consultant developed positions on each of the Key transport Elements.

4.2.1 Network Connectivity

Key Stakeholder Group Position

Stakeholder workshops have identified a range of issues, constraints and opportunities, one of which revolved around the development of a new link road to provide better connectivity with the arterial road network and reduce the number of trucks in the urban area. A stakeholder focus group identified a range of concepts /actions to address connectivity generally.

The Connectivity focus group listed the following issues and opportunities relating to a potential link road in particular;

- Lack of connectivity linking town
- Lack of a north-south route on the west side of town
- Conflicting uses/modes of transport on local roads
- Investigate ring road option to improve traffic efficiency
- Design a network that improves amenity within Horsham
- Lack of river crossings constrains efficient traffic movements

Origin and destination traffic statistics indicate that a significant number of trucks entering the urban area are doing so to do business rather than passing through town. They also indicate that heavy vehicle through traffic between the west and south is fairly low.

The Key Stakeholder Group was presented with proposals for an internal link road to the south and west which could act as a truck detour of the CAD for arterial road traffic and double as an internal link road for all urban traffic. Irrespective of whether a future Western Highway bypass passes east or west of Horsham it was felt by stakeholders that a local link road to the east would not service any growth areas nor provide connectivity to the existing road network thus relieving the CAD of heavy vehicles; however a heavy vehicle link road on the east side would provide a strategic link to WIFT for all produce generated in the south east sector of Horsham Rural City Council, and beyond, and provide a strategic link for grain trucks on the Henty Hwy to access Portland if a bypass is created on the west side of Horsham. It is noted that Option D provides this strategic connection.

Two link road options covering the south, west and north sides of Horsham were subsequently workshopped by Key Stakeholders. A number of focus groups assessed the two alignments against identified issues and project objectives. The route options considered are included in Volume 2 (as referred in Table 4.1 as Plan 4 of 7). Assessment summaries focusing on the points of difference between the two options are presented in Table 4.2 below.

Figure 4.2

Alignment	Arguments for	Arguments against
Ring Road Option 2	<p>Provides higher speed route (80km/h) & shorter travel time.</p> <p>Diverts more trucks away from the town centre.</p> <p>Eliminates the need to use Plumpton Road through industrial area.</p> <p>Links to Wimmera Hwy to attract trucks away from Wilson St</p> <p>Includes improvement to Western Hwy/Golf Course Rd intersection</p>	<p>Departs from road reserves significantly</p> <p>Close to residential development.</p> <p>Impacts on proposed development west of Curran Rd.</p> <p>Higher speed could encourage diversion of Western Highway traffic.</p> <p>Higher acquisition costs.</p> <p>Wider road for access management.</p> <p>Less safe through built up area with higher speed</p> <p>Rail crossing at Gatehouse Rd & Henty Hwy.</p> <p>Higher speed, more noise</p> <p>Simply relocating the issue within Horsham – no advantage</p>
Consultant's Draft Alignment	<p>Uses existing road reserves mostly.</p> <p>Lower speed would discourage Western Highway traffic (60km/h).</p> <p>Minimal acquisition and interruption.</p> <p>Lower construction costs</p> <p>Safer intersections at lower speed.</p> <p>Plumpton Rd will encourage lower speeds</p> <p>Less impact on existing and proposed development.</p> <p>Links to Wimmera Hwy to attract trucks away from Wilson St</p> <p>Includes improvement to Western Hwy/Golf Course Rd intersection</p>	<p>Perceived noise issues on Curran Rd.</p> <p>Restrictions on through traffic may reduce diversion of trucks.</p> <p>Additional travel distance to WIFT.</p> <p>Plumpton Rd not adequate to carry expected traffic volume</p> <p>Safety issues at slow bend at Curran Rd bridge</p>

Consultant's Position

A Western Highway bypass to the east and north of Horsham would provide a heavy vehicle route for Western Highway and Wimmera and Henty Highway traffic from the north in the long term. A dedicated link to/from the Wimmera Hwy west is considered important to facilitate access to the Western Hwy and to WIFT; it is noted that the issue of connectivity from Wimmera Hwy west to WIFT is identified in the Planning Panel report. This Integrated Transport Strategy shall identify a link that facilitates, in the long term, access from the Wimmera Hwy west to WIFT that integrates with a bypass on the east and north of Horsham. However, connectivity between the Wimmera Highway from the west to the Western Hwy in the north and then to Henty Hwy and WIFT is considered important to reduce the impact of heavy vehicles on Wilson St and Darlot St in the short to medium term. Prior to the construction of a bypass, suitable heavy vehicle connectivity between the Western and the Henty and Wimmera Highways in the north will be required. Connectivity with areas to the south of Horsham will benefit immediately from the planned bridge improvement works that will remove the temporary load limit on the structure on the Mackenzie River bridge on Three Bridges Road. Although the internal link road concept could be a more efficient route and benefit local traffic movements it may be considered to be a longer term project if adopted.

Although the Option 2 alignment gained support from some stakeholders, the practicality of the alignment due to acquisition costs in the south and west and an upgraded rail crossing in the north is questionable. The proposed higher speed and more limited access on this alignment could unwittingly attract Western Highway through-traffic in lieu of the current highway route.

The Consultant's alignment is not dissimilar but would act more as a local collector road, within existing road reserves, with provision for connecting local truck movements with enough disincentives for through traffic. This would better reflect the surrounding environs in the south west in particular. Larger vehicles travelling to and from the west will be able to use Three Bridges Road and Golf Course Road in future. A number of suitable intersection treatments, rail crossing upgrades and significant pavement works would be needed in support of either alignment.

Subsequent to the stakeholder assessment of potential link road alignments, Council officers advised that the use of Riley Road in the north would be problematic for two reasons:

- a) the existing and potential development along this road; and
- b) Council's resolution in 2006 to impose a 6 tonne load limit on Riley Rd to protect residences from the impact of heavy vehicles unnecessarily using Riley Rd.

A re-routing of both options along Geodetic and Gatehouse Roads would address this concern.

It is the Consultant's view that a link road to the south, west and north would complement the Council's growth plan, support the industrial area around Golf Course Rd and Plumpton Road and provide connectivity to the north around the urban area. The issue of unsuitability of Plumpton Rd is a concern and the Key Stakeholder Group expects a better alternative to be considered. The Consultant considers that the relatively narrow width of Plumpton Rd is actually an advantage to manage traffic. The Option 5B bypass alignment suggests a sound alternative to avoid the Plumpton Rd link by creating a new link road from Golf Course Rd at the intersection of Kenny Rd to the

proposed location of the Curran Rd bridge; this alternative may be able to be developed to avoid culturally sensitive land (subject to BGLC liaison) and as an adjunct would promote the improvement to the Golf Course Rd/Kenny Rd intersection.

Both alignments would also provide a second river crossing at Curran Road and compliment a connector for a third local traffic crossing, possibly Bennett Rd, in line with the Framework for Managing Growth. The impact of trucks on the existing residences between Wimmera River and Wimmera Hwy will require countermeasures with protective sound buffers (eg...vegetation strips along each side of the road in the reservations at the rear of the properties that are currently set aside for this purpose, and wide naturestrips incorporating heavy planting of sound absorbing vegetation); creation of these buffers at an early stage is recommended.

Both alignments could also operate alongside a highway bypass in the same quadrant although the more conventional alignment of the Consultant's option in the south would fit better into the local road network as a collector road longer term.

BGLC has clearly identified in a submission to Council that a new river crossing on Curran Rd may be somewhat problematic given its proximity to scar trees and to cultural sensitive land to the west thereof.

4.2.2 Land Use Integration and Interface

Key Stakeholder Group Position:

Stakeholders have identified a number of issues and opportunities pertaining to land use and the development of an integrated transport strategy. In particular, a Key Stakeholder focus group addressing *Land Use* issues in Horsham noted the following;

- The distribution of industry from Agricultural enterprises in the north to light industry in the south
- The need to retain flexibility in growth areas
- The differentiation between industrial and residential uses and appropriate buffers
- The spasmodic development and separation of industry
- The impact of Horsham aerodrome on nearby land development
- The impact of floodplains on development potential
- What will Horsham look like following construction of a bypass

A number of opportunities have also been identified by the focus group including;

- The positioning of agricultural industries close to WIFT
- Now is an appropriate time to develop an urban design framework for all of Horsham
- Integrate land use planning along appropriate road corridors, existing and proposed
- Direct heavy traffic away from residential development
- Direct truck traffic through industrial areas where practicable
- Consider urban link road around commercial and residential precincts

A number of concepts/options to address identified issues were subsequently considered by stakeholders;

- The Framework for Managing Growth will inform planners as to how Horsham should logically grow
- The upgrading of the Mackenzie River Bridge will take some pressure off the central urban area and again allow east bound trucks access to the industrial area via Golf Course Road
- Encourage more industry to develop at the WIFT site to avoid a concentration of truck traffic into and out of Horsham industrial area
- Develop a road hierarchy to support land zoning and growth plans
- Industry will migrate towards arterial road network to improve connectivity options

Consultant's Position:

This Integrated Transport Strategy acknowledges the issues, opportunities and constraints to land use development that have been identified by stakeholders and documented in a range of other studies and reports to date. Discussions have informed concept developments for Stage 1 of the Strategy and it is emphasised that a strategic transport network will be an intrinsic component of the orderly development of the region and Horsham in particular.

Future investments in an integrated transport network need to be cognisant of Council's expectations and intentions relating to land use and growth plans so that appropriate infrastructure can be provided in a timely and orderly fashion. Planning well in advance of development will be required to ensure sound planning principles are adhered to and outcomes are affordable and defensible.

4.2.3 River Crossings

Key Stakeholder Group Position:

Stakeholder workshops have identified a range of issues, constraints and opportunities, one of which was the perceived lack of river crossings. A stakeholder focus group has subsequently identified a number of concepts and actions to address this issue and has suggested priorities for potential future crossings.

It has been suggested that there is a shortage of bridges over the Wimmera River resulting in a concentration of traffic on the Western Highway and excessive travel distances required for travel in a north-south direction. This is predicted to worsen as the urban growth occurs to the west and south of Horsham and without appropriate planning the Wimmera River is seen as a potential constraint on the longer term development of Horsham. The vulnerability of Horsham, exposed in recent floods and wildfires, was also front of mind in stakeholders consideration of this issue.

General support for one or more additional crossings was recorded by the focus group with the following noted in particular;

- Better access for emergency services and traffic deviations
- More appropriate distribution of traffic including heavy vehicles
- Shorter travel times for inter-city travel
- Potential for further land release for development

It is also acknowledged that improvements to the river crossing structure to remove the temporary load limit on Three Bridges Road south west of Horsham and a potential Western Highway bypass to

the east and north of Horsham will assist greatly in the management of traffic through and around Horsham longer term. Traffic data suggests that any time delays for through traffic due to peak hour congestion is minimal and will reduce when a bypass is constructed. The commissioning of any additional river crossings would therefore be for reasons other than time saving for through traffic.

The stakeholder focus group on bridges believes that planning for additional crossings cannot wait for a bypass to be constructed given its projected timeframe as the issue of heavy vehicle movement throughout the urban area is critical in the short to medium term. A number of options/concepts were considered and noted by the bridges focus group including;

- If as proposed a Western Highway bypass is planned for the eastern side of Horsham, then one or more crossings of the Wimmera River may be required to the west of the existing structure in McPherson Street.
- The rationale for additional crossings for vehicles and pedestrians/cyclists espoused by the Horsham Framework for Managing Growth (2013) is generally supported.
- If an alternative urban truck route to the south and west of Horsham is planned, then that bridge crossing should have the highest priority for construction.
- A bridge crossing on a link road generally west of the current growth area would support emergency services and provide a suitable diversion in the event of the any closure of the McPherson Street bridge prior to the construction of a bypass.
- Future bridge crossings should avoid, wherever practicable, conflict with any environmentally or culturally sensitive areas.
- Existing bridge structures should be suitably maintained or upgraded to cater for design traffic volumes and types.
- A link road bridge at say Curran Road would negate the need for two additional river crossings west of McPherson Street to support residential and light industrial development south of the river. It was generally accepted that one additional local traffic crossing at Bennett Road rather than Drummond Street could meet future local traffic needs. It must be noted that a bridge crossing at Bennett Road will necessitate intersection works at Natimuk Rd and contribute to traffic issues if easy access for trucks is created
- That a longer term structure could be considered to extend Baillie Street over the Wimmera River providing access to the 'Rural Living' zoned land on the east side of the Wimmera River adjacent to Cameron Road. This precinct may be isolated somewhat by a future bypass.

The Stakeholder Group has developed these concepts further in conjunction with potential road network upgrades which have been included in this Integrated Transport Strategy.

Consultant's Position:

The future development of Horsham or the mobility of the community should not be constrained by a lack of well-planned affordable infrastructure. The case for the continuing investigation of at least one additional strategically placed river crossing has strong support and should be pursued by infrastructure planners as a matter of importance to support Horsham's growth. This will ensure that Council's Road Hierarchy provides the necessary support for development well into the future and some of Horsham's vulnerabilities are addressed sooner rather than later.

This Integrated Transport Strategy has acknowledged the opportunities identified by the Key Stakeholder Group for additional strategically located river crossings and planned for the integration

of new and upgraded bridge infrastructure. However, concerns expressed by BGLC regarding intangible indigenous assets in the vicinity of Pearsons Rd that may impact on the location and type of river crossing are acknowledged.

4.2.4 Rail Realignment

Key Stakeholder Group Position:

Stakeholder workshops identified a range of issues, constraints and opportunities, one of which revolved around existing and potential rail corridors. Stakeholders have also identified a number of concepts and actions to address the issue of the rail relocation and the location of a future railway station.

General support for relocation of both the line and the station was recorded by a focus group of stakeholders with the following noted in particular;

- Potential for land release for redevelopment
- General community safety
- Opportunity for a new transport hub
- Reduced cost of a highway bypass

Consultant's Position:

The conclusions and recommendations in a range of recent well informed reports and hearings around the future development of Horsham provides a compelling case for the continuing investigation of a rail line relocation and corridor redevelopment.

This Integrated Transport Strategy acknowledges the opportunities identified and generally supported and planned for integration of any rail realignment and the introduction of any new services and/or facilities where appropriate. Should bypass Option D or a variation thereof be adopted Council should pursue a realignment strategy with the appropriate track authority to investigate co-location opportunities. It is noted that DEDJTR have advised that they support rail co-location with an adopted bypass alignment.

A consideration in the co-location of Option D and rail is the potential double stacking of containers on rail in the future; this issue may potentially be considered an impact on aeroplanes at the south end of the Horsham aerodrome. Opportunities for the railway line to be diverted much further to the north should be considered if double stacking is proven to be an impediment to the operation of the aerodrome.

4.2.5 Floodplain Management

Key Stakeholder Group Position:

Stakeholders have identified a number of issues and expressed concerns pertaining to constraints on infrastructure and land development due to the Wimmera River floodplain. Focus groups addressing link road options for Horsham have identified the likely impact on the feasibility of a link road alignment east of Horsham due to the land use type and sensitivities of the flood plain. Further consideration was rejected in favour of alignment options to the west side of Horsham, irrespective of any future bypass alignment.

Floodplain issues aligned with Option D are critical to the acceptance of Option D; if the WCMA and VicRoads are not able to demonstrate compliance with the Planning Panel recommendation in regards to design and function, then Option D is not deemed a suitable option by the Stakeholder Group.

Consultant's Position:

This Integrated Transport Strategy has acknowledged the issues and constraints to development that have been identified in a range of studies and reports when considering support for any key road alignments east and or south of the Wimmera River.

Similar to the Planning Panel deliberations on the feasibility of bypass Option D, due consideration will need to be given to any ring road alignment or future river crossings to test their likely feasibility in light of floodplain knowledge. Floodplain knowledge may also determine the practicality of some of the road network during flooding which could affect emergency services. Future investments by Council or others in an integrated network may be able to provide insurance against such events.

Consideration of any bypass alignment across floodplains will be the subject of further investigation between WCMA and VicRoads with subsequent reporting back to the Planning Minister for deliberation.

It is understood that the WCMA has confirmed the requirements for works on the floodplain, being that a 1% AEP flood event must be planned for. VicRoads is understood to have taken this magnitude flood into account in its planning. Council's position to date has been that a flood greater than 1% AEP should be taken into consideration, due to the need to consider climate change impacts, and other reasons.

4.2.6 Western Highway Bypass of Horsham

Key Stakeholder Group Position:

Stakeholder workshops have identified a range of issues, one of which revolved around development of a Western Highway bypass. Stakeholder focus groups have identified a range of concepts /actions to address the various issues. These concepts/actions were discussed by a plenary session of the Stakeholder Group to test support.

The bypass focus group listed the following key objectives for a bypass, in particular;

- General community safety
- Removal of inappropriate heavy vehicles from the town centre
- The provision of an internal 'ring' road should complement any bypass
- Realignment of the rail line to follow the bypass corridor

It was noted that any bypass alignment will improve safety and remove a significant percentage of heavy vehicles from the Horsham Central Activity District (CAD). Options to the north and east also provide the opportunity to realign the rail line in conjunction with a bypass and provide ready access to the Wimmera Intermodal Freight Terminal (WIFT), a major heavy vehicle destination at Dooen. These alignments are thought less likely to impact on future growth of the urban area and less likely to establish an unnatural boundary to future development.

A subsequent workshop involving a number of stakeholder focus groups addressed several bypass options presented to the group for consideration. Mindful of the Planning Panel's conclusions and stakeholders concerns, three general alignments only were assessed, namely Option 5B, Option D and Option 2A (note that Option 5B is a variation on VicRoads Option 5A; Option 2A is a new alignment well east of VicRoads Option 11 and well north of Option B2 departing the Western Highway near Pine Lake in the south and reconnecting at Wail in the north). Each focus group assessed the three general alignments against identified issues and project objectives. The route options are included on the plans in Appendix 1 as referenced in Table 6.1.

Although there is a range of views held by Key Stakeholders, Options 5B and D were the only two which were seriously considered as feasible alignments meeting an adequate number of assessment criteria however comments recorded on Option 2A are included below to acknowledge its consideration.

Assessment summaries addressing the points of difference are presented in Figure 4.3.

Figure 4.3.

Bypass Alignment	Arguments for	Arguments against
Alignment 5B	No impact on aerodrome. Little conflict with floodplain. Least impact on Agricultural land. River crossing more conveniently located. Provides connectivity to highways by integration with link or ring road options	Divides communities in the south. Provides unnatural barrier to growth. Amenity issues close to built-up areas due to extensive grade separations. Severance of many industrial lots. Doesn't support access to WIFT. No potential for rail co-location. Significant structures in a built up area (overpasses)
Alignment D	Convenient access to WIFT. Low amenity impact. Potential for rail co-location. Low impact on urban growth. Suitable offset from urban development. Lower social impact.	Significant floodplain management issues. A number of residences and farms are affected. Potential impact on aerodrome. Impacts on RDA site

	Attempts to follow title boundaries. Minimal severance of usable land. Integrates best with road network. Provides connectivity to highways by integration with link or ring road options	
Alignment 2A	Convenient access to WIFT. Moderate amenity impact. No impact on aerodrome	Remote from town. Very long hence very expensive. Some floodplain management issues. Severance of agricultural land. Property access complications. Less incentive for Horsham visitations. Does not complement ring road routes or connectivity of highways.

As polarized as some views are between an alignment to the east and north versus an alignment to the south and west, an eastern alignment has greater merit in its arguments as outlined above.

Consultant's Position:

The conclusions and recommendations emanating from the Planning Panel report around the planning for a Horsham bypass has provided the impetus for consideration of a bypass and its implications in the Integrated Transport Strategy. Having generally accepted that a Western Highway bypass of Horsham will benefit the ongoing development of the region and safety and amenity within Horsham, the Horsham community can influence the route selection process but ultimately it will be the road authority and funding agencies that will determine the preferred route or whether planning for a bypass continues at all.

This Integrated Transport Strategy acknowledges the VicRoads and Panel positions and plans for the integration of a bypass of the Horsham urban area which has the potential for general community support. The Strategy investigates mitigation measures for any perceived dis-benefits of a preferred bypass route and builds on the strengths and opportunities it presents to the community.

Unless the Panel finds serious flaws in the route selection process for Option D or a variation thereof this general alignment seems to fit reasonably comfortably within an integrated road network for Horsham. As identified during the Planning Panel process a number of concerns need to be addressed by the proponent to demonstrate net community benefit; in particular, matters pertaining to the runway extensions at the Horsham aerodrome, the mitigation of social impacts around Riverside and the Henty Highway intersection, and access for farming operations. It is considered that these concerns have been adequately addressed and broad community support for a bypass in the north-east quadrant has been identified through the public submission process.

An alignment the same as or similar to Option 5A whilst having some redeeming points would seem to have too many significant divisive factors which are likely to impact adversely on the orderly development of Horsham in both the short and longer terms. A Western Highway bypass in this quadrant is considered by the Consultant unlikely to gain broad community support. The public

submissions process suggested that stakeholder alignment Option 5B did not have broad community support. Notwithstanding this position, the benefits of this alignment can be addressed separately by developing the existing road network and complementing a bypass in the north-east quadrant. The development of a link road concept is included in '4.2.1 Network Connectivity'.

Alternative alignment Options 5B-1, 2, 3, 4 and 5 presented by a representative of the key stakeholder group offer similar advantages and attract similar disadvantages to Option 5B and the original VicRoads Option 5A; It has been clearly identified in a submission from BGLC that Option 5B and its variations dissect the significant cultural heritage site to the west of Pearsons Rd and as a consequence are considered untenable.

Alternative alignment Option D(Rev 1) presented by a representative of the key stakeholder group basically follows the southern portion of Option D but extends north of the aerodrome, it is also a candidate for consideration as an alternative bypass alignment if Option D does not proceed.

4.2.7 Aerodrome Expansion

Key Stakeholder Group Position:

Stakeholders have identified a number of issues and expressed concerns pertaining to constraints on aerodrome expansion and road access however these have not been workshopped further as it is felt the master planning process running in parallel to the Horsham Integrated Transport Strategy project will address these adequately.

Consultant's Position:

The conclusions and recommendations included in the Draft Aerodrome Master Plan provide clear indication and technical basis that Option D does not compromise the aerodrome.

If Council's vision for development in the aerodrome precinct is to come to fruition sooner rather than later some access upgrades will be required. Intersection improvements at the Western Highway and Geodetic Road / Riley Road, including the existing rail crossing, have been mooted with the Stakeholder Group as a necessary component of a link road concept linking the Wimmera Highway in the west to the Intermodal Freight Terminal in the north-east.

Any future bypass alignment in the vicinity of the aerodrome will need to provide for longer term connectivity close to where it deviates from the Western Highway to provide effective access to this precinct.

4.2.8 Public Submissions

The release of the Consultant's Preliminary Draft Report invited public submissions.

Public submissions were received by the Council.

It is noted that submissions are still being received at the time of preparation of this Final Draft Strategy.

Summary of Public Submissions referred to the Consultant:

Issue	Number of Submissions
Total Number of Submissions Received	295
Support for Bypass Option D as identified in the Consultants Preliminary Draft Report	139
Support for Bypass Option 5B	73
Submissions that provided general commentary with no nominated support for either Bypass Options D or 5B	62
Support for alternative bypass alignment other than Options D and 5B	21
Support for a ring road/link road to the west of Horsham	113
Do not support a ring road/link road to the west of Horsham	110

Public submissions have:

- confirmed the Consultant's views in relation to Option D as a suitable bypass alignment
- confirmed the Consultant's views in regards to additional river crossings and improved intersections
- confirmed the Consultant's view that a link road to the west of Horsham for the distribution of local traffic is worthy of further consideration notwithstanding concerns regarding significant cultural heritage sensitivities

One key item identified through the public submission process that has influence on the Final Draft Strategy is the potential link road from Golf Course Rd around the Pearsons Rd area to a potential bridge at Curran Rd / Pearsons Rd over the Wimmera River.

The BGLC submission, supported by Michael Stewart from BGLC who attended a Stakeholder presentation of submissions, expressed significant concern about any works near the lunette on and adjoining Pearsons Rd due to the intangible significance of this site.

It is considered that further liaison with BGLC be undertaken through the implementation of this Strategy to determine if an alternative approach via an extension to Plumpton Rd, with a river crossing as remote from the cultural sensitive area as can possibly be achieved, as a more desirable and achievable outcome. For the purposes of future liaison and discussion between Council and BGLC this alternative route alignment is included in the Final Draft Strategy.

Further details of public submissions are included in Volume 2.

5 PRIORITY OUTCOMES

5.1 INTRODUCTION

In addressing the infrastructure gaps the Key Stakeholder Group considered a range of options developed through a series of workshops as outlined in Section 4.1. A consolidation of network improvement opportunities presented by the Consultant as a Consultant's Draft network and was addressed in a subsequent workshop for scrutiny by focus groups and assessment against agreed measures.

Following assessment it was determined by the Consultant that the Consultant's Draft Network as presented had some elements that were considered unsatisfactory by a number of stakeholders, in particular around Plumpton/Curran Road and Riley/Gatehouse Road.

The Consultant subsequently considered stakeholder comments and considered alternative solutions in conjunction with the following relative aspects to develop a Consultant's recommendation for a Horsham Stage 1 Integrated Road Network in the Preliminary Draft Report:

- the workshop outcomes of the alternative options
- the identified project objectives
- the relevant background information
- the Consultants assessment framework

The Consultant then prepared a revised Preliminary Draft Report with clear recommendations on infrastructure upgrades that was presented to the public for consideration. Following consideration of public submissions this Final Draft Strategy is prepared for Council consideration.

The details of the Consultant's Final Draft Strategy recommendations for the Horsham Stage 1 Integrated Road Network are included in 5.2 and 5.3 below.

In arriving at the strategic directions the Project Brief 'issues' detailed in Section 2.2 and the Planning Panel 'concerns' detailed in Section 3.3.6 have been duly considered.

5.2 STRATEGIC DIRECTION TO ADDRESS THE INFRASTRUCTURE GAPS

5.2.1 Network Connectivity

Table 5.2

Strategy		Relevant HITS Objectives	Relevant MSS Objectives	Timelines*
S1	Plan for the early formalisation of an inner link route to the west and north of the Horsham urban area to connect the arterial road network north of the river and enable the diversion of heavy vehicles travelling through Horsham on the Wimmera Highway in particular.	1	21.03-1 (3) 21.11-5 (1)	S
S2	Plan for an expanded link route for heavy vehicles further to the west of Horsham in the longer term as urban growth pushes to or beyond Curran Road.	1	21.03-1 (3) 21.11-5 (1)	L

S3	Promote Three Bridges Road and Golf Course Road as a heavy vehicle route from the west of Horsham to Stawell Road in the south once appropriate bridge and intersection upgrade works are completed.	1	21.03-1 (3) 21.11-5 (1)	S
S4	Plan for the timely development of a link road including a new river crossing in the south west quadrant of Horsham (Curran Rd/Plumpton Rd area) in close consultation with the BGLC and the WCMA to provide improved connectivity for local and emergency traffic.	1, 2	21.03-1 (3) 21.11-5 (1)	S
S5	Utilise the existing road network wherever practicable and acquire additional road reserves as appropriate to enhance road connectivity and intersection improvements.	1	21.03-1 (3) 21.11-5 (1)	O
S6	Plan for the timely improvement of intersections to facilitate safe and efficient movement	1	21.03-1 (3) 21.11-5 (1)	O
S7	Review Horsham's Road Hierarchy to encapsulate adopted recommendations from this Strategy.	1	21.03-1 (3) 21.11-5 (1)	S
S8	Develop an advisory signing strategy for heavy vehicle and tourist traffic passing through and around Horsham.	1	21.03-1 (3) 21.06-6 (1) 21.11-5 (1)	S

5.2.2 Land Use Integration and Interface

Strategy		Relevant HITS Objectives	Relevant MSS Objectives	Timelines*
S9	Complete a suite of Precinct Structure Plans (PSPs) for Horsham's nominated growth areas incorporating transport network improvements identified in this Strategy.	3	21.03-1(2) 21.05-2 (1,2,3,5)	S
S10	Mitigate or minimise any adverse impacts on environmentally sensitive and culturally significant sites when planning for development or expansion of the road network.	2, 3	21.05-2 (6,7)	O
S11	Support development that generally adheres to PSPs and maximises the potential of the integrated transport network.	3	21.03-1(2) 21.05-2 (1,2,3,5)	O

5.2.3 River Crossings

Strategy		Relevant HITS Objectives	Relevant MSS Objectives	Timelines*
S12	Plan for additional river crossings (road and pedestrian) generally aligned to Horsham's Framework for Managing Growth and PSPs over a prioritised timeframe.	2	21.03-1 (3) 21.05-2 (1,2,3)	O
S13	Plan for the early development of a new bridge crossing of the Wimmera River in the vicinity of Curran Road in conjunction with a new link road in Horsham's south-west quadrant.	2	21.03-1 (3) 21.05-2 (1,2,3)	S
S14	Plan for the longer term development of a new bridge crossing at Bennett Road to support local access between development on the south side of the river and the Horsham CAD. Refer this action to HITS Stage 2.	2, 3	21.03-1 (3) 21.05-2 (1,2,3)	M

S15	Investigate the longer term development of a bridge crossing at Baillie Street to support access to existing and potential residential development east of the river. Refer this action to HITS Stage 2.	2, 3	21.03-1 (3) 21.05-2 (1,2,3)	L
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5.2.4 Rail Realignment

Strategy		Relevant HITS Objectives	Relevant MSS Objectives	Timelines*
S16	Instigate negotiations with the appropriate rail authorities to plan for the relocation of the rail line north of the planned urban area.	1, 2	21.05-4 (5) 21.11-3 (1)	M
S17	Should a Western Highway bypass alignment be adopted in the north and east quadrant investigate the merit of a rail realignment to be co-located partly within the future bypass corridor or at an alignment further to the north away from the aerodrome.	1, 2	21.11-3 (1)	M

5.2.5 Floodplain Management

Strategy		Relevant HITS Objectives	Relevant MSS Objectives	Timelines*
S18	Liaise closely with VicRoads and the WCMA to ensure that appropriate safeguards are in place to protect Horsham from development and/or works (including highway works) within the Wimmera River floodplain which could have a detrimental impact on flood management or the quality of catchment runoff.	1, 2	21.03-1 (2) 21.08-2 (1) 21.09-1 (1,2,3) 21.09-3 (1) 21.11-2 (4)	M

5.2.6 Western Highway Bypass

Strategy		Relevant HITS Objectives	Relevant MSS Objectives	Timelines*
S19	Support a bypass alignment to the north and east of Horsham which approximates VicRoads Option D or a variation thereof and which adequately addresses concerns regarding floodplain, cost benefit, aerodrome and social issues raised by the Planning (Amendment C72) Panel.	1, 2, 3	21.11-2 (1,2,3,4,5)	S

5.2.7 Aerodrome Expansion

Strategy		Relevant HITS Objectives	Relevant MSS Objectives	Timelines*
S20	Incorporate adopted recommendations from the Aerodrome Master Plan to ensure the integrity of an expanded facility can be maintained within the proposed integrated transport strategy.	1	21.11-2 (5) 21.11-5 (2,3)	S

Legend:

*

S (short term)	0 - 5 years
M (medium term)	6 - 15 years
L (long term)	16 - 30 years
O (ongoing)	0 – 30 years

5.3 ACTION PLAN

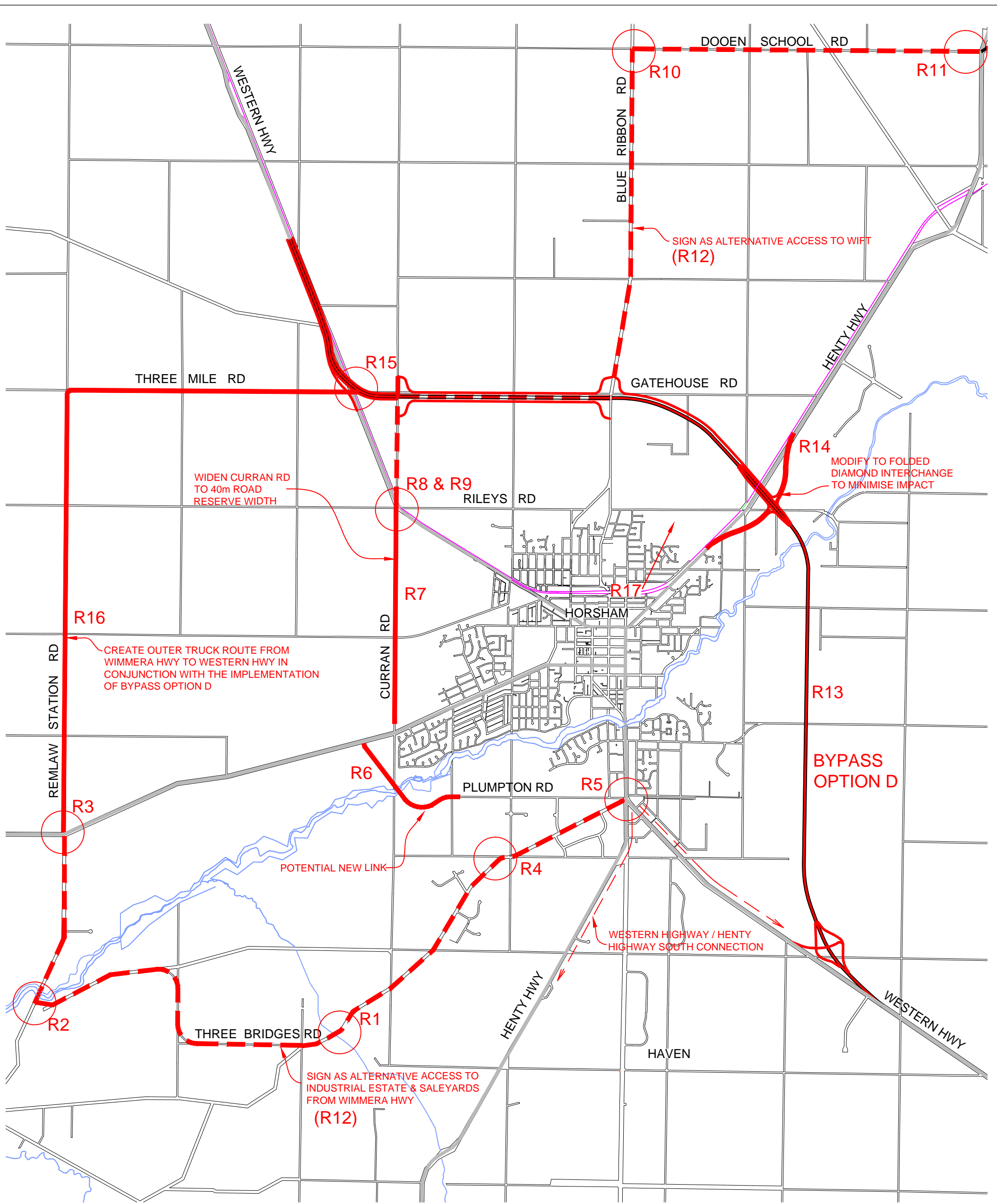
The following Consultant recommendations are made for the creation of Stage 1 of an Integrated Road Network in and around Horsham:

Table 5.3

Ref	Recommended Action	Timing/Trigger
R1	Three Bridges Rd bridge over Mackenzie River be improved to allow unrestricted use of Golf Course Rd	Timing: Immediate (this project is included in Council's current budget)
R2	The intersection of Three Bridges Rd and Horsham Noradjuha Rd be improved to cater for large turning vehicles	Trigger: the completion of the upgrade of Three Bridges Rd Bridge
R3	The intersection of Horsham Noradjuha Rd and Wimmera Hwy be improved to cater for large turning vehicles	Trigger: the completion of the upgrade of Three Bridges Rd bridge
R4	The intersection of Golf Course Rd and Kenny Rd be improved with the construction of a roundabout	Trigger: determined by Road Safety Audit to meet the safe and efficient movement of vehicles
R5	The intersection of Western Hwy/ Golf Course Rd/Henty Hwy/Plumpton Rd be improved by either traffic signalisation or a roundabout	Trigger: Delays to the efficient movement of freight at this intersection warrant immediate attention
R6	Pursue the opportunity to create a link from Plumpton Rd to Wimmera Hwy including a river crossing in the immediate vicinity of Curran Rd	Timing: commence liaison immediately
R7	Curran Rd road reserve between Wimmera Hwy and Western Hwy be widened to 40m wide to cater for future development and traffic demands and to provide suitable buffers to adjoining properties	Trigger: when residential development abuts the east side for the length between Wimmera Hwy and Remlaw Station Rd
R8	The intersection of Curran Rd and Western Hwy and Riley Rd be improved to cater for a realignment of the Western Hwy to the west to allow B-Double access over the rail line	Trigger: Delays to the efficient movement of freight due to restrictions at this intersection warrant immediate attention
R9	Upgrade Geodetic Rd immediately north from Riley Rd to facilitate B-Double traffic over the rail line	Trigger: In conjunction with R8
R10	Improve the intersection of Blue Ribbon Rd and Dooen School Rd to cater for turning traffic	Trigger: determined by Road Safety Audit to meet the safe and efficient movement of vehicles
R11	Improve the intersection of Wimmera Hwy/Henty Hwy/Dooen School Rd to cater for entering and turning traffic	Trigger: determined by Road Safety Audit to meet the safe and efficient movement of vehicles
R12	Implement with VicRoads assistance advisory signage installations on the arterial road network to direct heavy vehicles around Horsham on identified routes	Trigger: when road and intersection upgrades on the specific routes are implemented
R13	Support a Western Hwy bypass of Horsham on the alignment of VicRoads preferred Option D	Timing: immediate upon adoption of this strategy by Council
R14	Encourage VicRoads to further revise the Option D bypass interchange at Henty Hwy to incorporate a folded diamond interchange to reduce impact on properties and to reduce the impact on access via the local road network	Timing: immediate upon adoption of this strategy by Council
R15	Construct a full diamond interchange at the north end of bypass Option D to allow unrestricted access to Three Mile Rd and to Horsham via the current Western Hwy from the bypass	Timing: in conjunction with the construction of Option D
R16	Construct Three Mile Rd and Remlaw Station Rd from the Western Hwy to Wimmera Hwy in conjunction with bypass Option D	Timing: in conjunction with the construction of Option D
R17	Pursue the opportunity to relocate the rail line from Horsham and create a co-location opportunity for a rail line/bypass alignment	Timing: immediate upon adoption of this strategy by Council

Recommendations R1 to R12 inclusive are stand-alone infrastructure projects that are not bypass reliant.

The recommendations included in Table 5.3 are depicted in map form on the following Plan No 5.3.1



R - REFER "ACTION PLAN"



HORSHAM INTEGRATED TRANSPORT STRATEGY STAGE 1 INTEGRATED ROAD NETWORK

PLAN 5.3.1