**

Technical Services Reports

Committee Consideration – 11 February 2021

Council Resolution – 25 February 2021

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| TS01.21 Integrated Transport Strategy and Precinct Plan Transport Impact Assessments – Budget Request |

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| **Committee** | 11 February 2021 |
| **Council** | 25 February 2021 |
| **Applicant** | City of Nedlands |
| **Employee Disclosure**  **under section 5.70 of**  **the Local**  **Government Act 1995**  **and section 10 of the**  **City of Nedlands**  **Code of Conduct for**  **Impartiality.** | Nil. |
| **Director** | Jim Duff – Director Technical Services |
| **CEO** | Mark Goodlet |
| **Attachments** | Nil. |
| **Confidential Attachments** | Nil. |

**Executive Summary**

The purpose of this report is to request Council approval for additional funds of $145,000 in 2020/21 and $50,000 in the 2021/22 financial year, to develop the City-wide Integrated Transport Strategy (ITS) and Transport Impact Assessments (TIA) for the Broadway, Waratah Avenue and Town Centre Precinct Plans in accordance with the Western Australian Planning Commission (WAPC) guideline.

The ITS will articulate the City’s long-term transport network aspirations and assist in informing the potential need and timing of future infrastructure upgrades. The ITS provides an integrated approach that guides future transport planning, project prioritisation for mitigation strategies required to address identified transport issues. It can also be used as an advocacy tool with Government or Developers to provide a strong nexus between infrastructure upgrades, their timing and future funding responsibilities.

The ITS underpins several of the City’s planning strategies including the local area precinct planning for Waratah, Broadway and the Town Centre. A TIA will be prepared for each of the precinct areas to identify the network performance and future infrastructure upgrade requirements. The TIAs provide the necessary traffic and transport inputs required under Draft State Planning Policy (SPP) 7.2 – with Council noting the precinct design for Waratah, Broadway and Town Centre as high priority projects.

Development of the ITS and supplementary precinct TIA’s enables the City to identify and predict the timing of potential mitigation measures or infrastructure upgrades associated with proposed developments. This approach provides an important nexus between the City’s Precinct Plans, Integrated Transport Strategy and potential Developer Contribution Plan (DCP).

**Recommendation to Council**

**Council**

1. **instructs the CEO to commence the development of the Integrated Transport Strategy and Transport Impact Assessments for the Broadway, Waratah Avenue and Town Centre Precinct Plans.**
2. **approves budget allocation of $145,000 in the 2020/21 and $50,000 in the 2021/22 financial year to engage a consultant to deliver the Integrated Transport Strategy and the Transport Impact Assessments for the Broadway, Waratah Avenue and Town Centre Precinct Plans.**

**Discussion/Overview**

**Background**

The ITS will identify and articulate the City’s long-term transport aspirations and assist in informing the potential need and timing of any infrastructure upgrades. The ITS provides an integrated approach that guides future transport planning and can be used as advocacy tool with Government or Developers to provide a strong nexus between infrastructure upgrade requirements, their timing and funding responsibilities.

The ITS considers:

* identification of constraints in current and planned road capacity, using LPS3 growth projections.
* Identification of measures to upgrade and improve the regional and local road connections to facilitate safe and efficient vehicle movement and reduce congestion.
* Identification of measures to upgrade and improve public transport connections and facilities to reduce congestion.
* Promotion of the use of active transport and reduce the reliance on private vehicle transport.
* Measures to create a safe environment for pedestrians and cyclists.
* Network Capacity
  + Road Hierarchy
  + Restricted Access Vehicle designated routes and
* Network Safety
  + Plan to address identified network safety concerns
  + Existing and future network improvements
  + LATMP
* Road user behaviour
  + Public Transport - Road/ Rail/ Marine/ Other
  + Active Transport -On-Road and Off-Road Shared Paths / Cycleways / Footpaths / Recreational Paths Formal & Informal

The City is currently developing a City-wide traffic model that provides information on the existing and future traffic network performance. The City-wide traffic model will be used to test development scenarios to ensure the need and timing of infrastructure upgrades is accurately captured in the ITS, Asset Management Plan and Long-term Financial plan.

**Planning and Strategic Framework**

Figure 1 overleaf provides an overview of where an ITS sits within the planning framework:

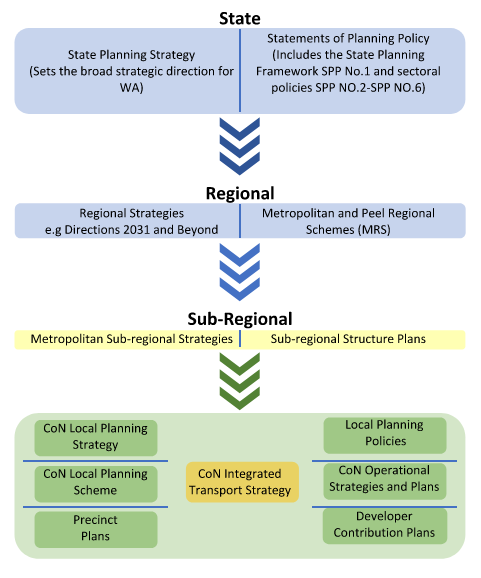


Figure 1 – The relationship of an Integrated Transport Strategy to the planning framework

The ITS is intended to underpin a variety of the City’s Strategic and Operational plans including the Strategic Community Plan, Corporate Business Plan, Local Planning Policies, Asset Management Plan and Lon-term Financial Plan (LTFP). The ITS also provides strategic direction and justification for transport planning decisions and will assists when responding to the community on transport or traffic enquiries.

**Developer Contributions Plan**

Given the increased in development associated with the adoption of LPS3 Council provided direction to Administration in October 2020 to commence work on a Developer Contribution Plan (DCP). The DCP will identify a range of infrastructure projects that developers will be required to contribute to when developing within the City. The combination of City-wide traffic modelling and ITS provides a strategic link between developer contributions for infrastructure upgrades. The ITS will also support the City’s strategic approach when negotiating with Federal and State Government to fund future infrastructure upgrades.

**Traffic Impact Assessments for Precinct Plans**

Council has identified the Waratah, Broadway and Town Centre Precincts as high priority projects, with future work to be undertaken within the transition zones for Stirling Highway and Hampden Village and Hollywood East precincts. Individual precinct TIA’s will be undertaken to determine future trip generation based on the City’s built form modelling outputs. These outputs will then be used to test a range of development scenarios to identify potential impacts on the movement network and any consequential upgrade requirements.

The TIAs are required to address the ‘Movement’ element of the Precinct Plan as indicated on the draft *SPP 7.2 Precinct Design Guidelines*. The TIAs will be developed in accordance with the *WAPC Transport Impact Assessment Guidelines volume 2*.

A total of six TIAs have been identified to be developed to support each Precinct Plan comprising the Broadway Precinct, Waratah Precinct, Town Centre Precinct, Stirling Highway East and West Precinct, Hampden Road and Hollywood East Precinct and Residential Transition Area Precinct. The Precincts are shown on Attachment 1 – Growth and Transition Areas.

The TIAs for Stirling Highway East and West Precinct, Hampden Road and Hollywood East Precinct and Residential Transition Area Precinct will be undertaken in financial year 2021/22. Council approval to fund these TIAs will be requested as part of the 2021/22 Budget approval process.

**Cost Estimate**

Administration prepared the following order of cost estimate:

* Integrated Transport Strategy

The ITS needs to be developed in accordance with the *WAPC ‘Guideline for the preparation of Integrated Transport Plans*, focusing on the following breakdowns:

* Review the existing data, establishment of goals and objectives and identification of needs, issues, and opportunities
* Identification of current and desired future infrastructure and services
* Assessment of alternative options
* Identification of targets/deliverables and feasibility & affordability assessment
* Implementation and delivery plan
* Monitoring and evaluation plan
* Transport Impact Assessment for Precinct Plans

In conjunction with the development of the ITS, six TIAs supporting the precinct areas need to be delivered. The reports are required to address the ‘Movement’ element of Precinct Plan as indicated on the *SPP 7.2 Precinct Design Guidelines*. The TIAs will also be in accordance with the *WAPC Transport Impact Assessment Guidelines volume 2, Planning Schemes, Structure Plans, and Activity Centre Plans* focusing on the following breakdown.

* Existing situation
* Internal transport network
* External transport network
* Integration with the surrounding area
* Analysis of internal and external transport networks

The cost estimate is as follows:

1. ITS – Collation of available data and one major round of consultation with the stakeholders. Fee estimate $50,000 (excl. GST).
2. Additional modelling using the City-wide model to support ITS scenarios and measures. Fee estimate $20,000 (excl. GST).
3. Three Precinct Plan TIAs in accordance with WAPC guidelines with the majority of modelling undertaken as indicated above. Fee estimate $75,000 (excl. GST), $25,000 for each precinct.
4. A contingency of $50,000 to allow for the above order of magnitude cost estimate.

The cost estimate to complete the ITS and three TIAs is $195,000. However, only three of the six TIAs are planned to be completed this financial year. Council approval to fund the remaining three TIAs will be requested as part of the 2021/22 budget approval process.

**Schedule**

The estimated schedule is as follows:

Feb 2021: Council Approval

March 2021: Advertise and evaluate RFT

April 2021: RFT Council approval

May - August 2021: ITS research, collation of data, stakeholder consultation, and the city-wide traffic model scenario developments

September 2021: Development of TIAs based on the scenarios identified from the first three months work and additional localised testing using either city-wide model or any other traffic modelling software.

October 2021: Final TIAs (following the City’s review and amendments) and a draft ITS for the City’s review.

November 2021: Final ITS

December 2021: Council review of ITS

February 2022: Council approval of ITS

**Risk**

In the absence of an Integrated Transport Strategic that provides a clear nexus between need and potential developer contributions the City will continue to deliver sub-optimal outcomes in terms of developer contributions towards community or transport related infrastructure. A DCP must have a clear nexus between need and funding responsibility. The ITS will assist in providing the linkage between the City’s LPS3 and provides a suitable link to the future DCP.

**Consultation**

Consultation with the key stakeholders such as the (UDIA) representing Developers, Department of Transport, Main Roads WA and Public Transport Authority, as well as a community consultation will be undertaken as part of the development of the ITS.

**Strategic Implications**

**How well does it fit with our strategic direction?**

The Strategic Community Plan includes the following objectives:

* Promote a movement network that foremost enables mobility, and particularly encourages non-car modes.
* Locate land uses (particularly higher density residences) and transport networks in a way that maximises efficiency.

The development of the ITS and TIAs will provide a framework for State and local governments, key stakeholders, and the community to work collaboratively together, guiding investment into the future and outlining further investigative tasks required to support development of the transport network.

**Who benefits?**

A successful ITS will outline a series of initiatives and investments that will help residents, workers, and visitors to the City.

**Does it involve a tolerable risk?**

The ITS and TIA developments are considered to reduce the risk of developing policies and plans with issues and problems.

**Do we have the information we need?**

Administration currently do not have sufficient information to develop the ITS and TIAs for Precinct Plans. Therefore, Administration requests additional budget to engage a consultant to develop the Integrated Transport Strategy and the priority Transport Impact Assessments.

**Budget/Financial Implications**

An estimated of $145,000 in 2020/21 and $50,000 in the 2021/22 financial year, to engage a consultant to develop both the ITS and three TIAs in support of the priority Precinct Plans. The Administration intends to commence the RFT for the project in March 2021, given the urgent and immediate development pressures being faced city wide.

**Can we afford it?**

The Integrated Transport Plan is not specifically provided for in the Long-Term Financial Plan. However, the Integrated Transport Plans and Traffic Impact Assessments for the Precinct Plans are considered essential by the Administration to satisfy the transport objectives outlined in the Strategic Community Plan and LPS3.

**How does the option impact upon rates?**

Cost savings will be identified in the 2020/21 budget. Funding $50,000 will be required in the 2021/22 financial year will be subject to Council’s consideration as part of the 2021/22 budget process to minimize potential impact on rates.

**Conclusion**

The Administration require additional budget funding of $195,000 to commence development of the Integrated Transport Strategy and the Transport Impact Assessments for the priority Precinct Plan areas to provide adequate supporting documentation for the Precinct Plans. The ITS and TIAs for Precinct Plans will guide the development of the Developer Contribution Plan.

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| TS02.21 Railway Road / Aberdare Road Intersection Upgrade |

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| **Committee** | 11 February 2021 |
| **Council** | 25 February 2021 |
| **Applicant** | City of Nedlands |
| **Employee Disclosure under section 5.70 of the Local Government Act 1995 and section 10 of the City of Nedlands Code of Conduct for Impartiality.** | Nil. |
| **Director** | Jim Duff – Director of Technical Services |
| **Attachments** | 1. Western Power Concept Design Report 2. MRRG and City of Subiaco Design Funding Approval 3. Concept Civil Works Design 4. Aberdare Road Land Availability Map 5. Key Stakeholder Endorsements |
| **Confidential Attachments** | Nil. |

**Executive Summary**

Council approved progressing the intersection upgrade concept design to detailed construction drawings at the October 2019 Council meeting. Further design work has revised the construction cost estimate from $1,500,000 to $4,005,669, predominantly due to underestimated Western Power service relocation costs, 20% contingency and 40% Administration overheads. The cost for detailed design has consequently also increased from the 2018/19 MRRG Road Improvement design project value of $112,500 to $345,000.

MRRG and the City of Subiaco have committed to their contribution of the additional design funding in December 2020, comprising $155,000 and $38,750, respectively.

This report seeks Council approval for additional municipal funds of $38,750 to finalise the design of the Railway Road / Aberdare Road intersection upgrade.

**Recommendation to Committee**

**Council:**

* 1. **approves an additional $38,750 in the City’s 2020/21 budget to finalise the design for the Railway Road / Aberdare Road intersection upgrade.**
  2. **upon completion of the design, approves the CEO to submit an MRRG Road Improvement or Black Spot Funding Application in 2021/22 for construction in 2022/23 and 2023/24.**
  3. **upon MRRG funding approval for construction in 2022/23 and 2023/24, agrees to consider including construction of the project in the 2022/23 and 2023/24 budgets for a total project cost of $4,005,669, comprising two thirds MRRG $2,503,543, one sixth City of Subiaco $625,886 and one sixth City of Nedlands (incl. 40% Administration overhead) $876,240.**

**Discussion/Overview**

**Background**

Railway Road and Aberdare Road are two busy distributor roads carrying over 18,000

vehicles per day. The intersection has recorded a significant number of accidents within the last 5 years. The data is dominated by same lane rear crashes (38) on Aberdare Road and thru-right crashes (12) making up around 90% of all accidents. The number of accidents makes this intersection a strong candidate for Black Spot funding to improve safety at this intersection.

The initial investigation was undertaken by the City of Subiaco in 2014. This resulted in State Government funding two design options that were finalised in 2016. The first option included road widening to the southern side of Aberdare Road. This option was not supported by the City of Nedlands based on the removal of significant trees. An alternative option was developed that would necessitate the relocation or protection of

major overhead and underground utility services that would far exceed the available budget.

**Construction Cost Estimate**

Council approved progressing the intersection upgrade concept design to detailed construction drawings at the October 2019 Council meeting. Further design work has revised the construction cost estimate from $1.5m to $4.0m predominantly due to underestimated Western Power service relocation costs, 20% contingency and 40% Administration overheads. The revised cost estimate comprises civil works $1.3m, service relocations $2.25m (Western Power $1.4m, Water Corporation $0.6m, ATCO $0.15m and Telstra $0.1m) and MRWA signals, signs and line-marking $0.2m.

The Western Power Concept design report is provided in Attachment 1. The Western Power costs comprise LV distribution relocation, transmission pole relocation and other unforeseen pilot cable and optical fibre telecommunications relocation. The Western Power Option 2 ±50% cost estimate is $1.4m. This has increased from the October 2019 cost estimate of $270,000. The October 2019 estimate was based on transmission pole relocation costs determined in design work undertaken in 2016.

**Design Progress**

The signals, signs and linemarking design has progressed to 85%. The detailed civil design has progressed to 50%, pending final pavement level design. Geotechnical investigation has been completed to inform the pavement design. Western Power, ATCO, Water Corporation and Telstra service relocation detailed design has not commenced. The lighting design contract has been awarded to Powerlyt and is yet to commence. Project final design completion is expected 30 June 2021.

**Design Funding**

In 2018/19 design funding was approved for $112,500 to improve the Railway Road / Aberdare Road intersection. The funding comprised two thirds MRRG $75,000, one sixth City of Subiaco $18,750 and one sixth City of Nedlands $18,750.

In December 2020 MRRG approved additional design funding for $232,500 comprising two thirds MRRG $155,000, one sixth City of Subiaco $38,750 and one sixth City of Nedlands $38,750 (Refer Attachment 2 – MRRG and City of Subiaco Design Funding Approval). The City of Subiaco has provided written approval in November 2020 to fund the additional $38,750 (Refer Attachment 2 – MRRG and City of Subiaco Design Funding Approval). Despite the increased project cost estimate the MRRG BCR ratio remains reasonable at 8.0.

The Western Power quote to proceed with detailed design is $133k. The balance of the additional $232,500 is planned to proceed with detailed design for the remaining design tasks which are essentially detailed pavement / civil design and Water Corporation service relocations.

Council approval is requested for additional municipal funds of $38,750 to finalise the design of the Railway Road / Aberdare Road intersection upgrade.

**Proposed Design**

The concept design is provided in Attachment 3 to demonstrate the design features. The design is a result of discussions with the City of Subiaco, Main Roads WA, Public Transport Authority and Department of Transport. The design is focused on optimising safety and efficiency based on future traffic demand.

The key features of the design are:

* Provision of a dual protected right turn lane for northbound traffic on Railway Road.
* Construction of additional lane capacity within the intersection on Aberdare Road.
* Removal of the existing on-road cycle lanes with construction of off-road shared paths (both sides) to improve safety and amenity.
* Re-alignment of the intersection to improve sightlines for drivers, pedestrians and cyclists.

The traffic model developed for the proposed modification indicates that the overall

intersection performance is expected to improve. These improvements are summarised in Table 1.

Table 1 – Expected Intersection Improvements

|  |  |  |
| --- | --- | --- |
|  | **Current** | **Opening Year** |
| Delay - Passenger Car Units per hour (AM Peak) | 41 | 28 |
| Delay - Passenger Car Units per hour (PM Peak) | 46 | 32 |
| Aberdare Road westbound queue length | 161m | 33m |
| Railway Road northbound queue length | 128m | 49m |

The intersection realignment will improve sight lines and encourage lower speeds within Aberdare Road as a result of the modified configuration. The proposed road configuration aligns with the Metropolitan Region Scheme (MRS) with the remaining section of land scheduled to be dedicated as road reserve in March 2020 (refer to Attachment 4). The design also integrates with any duplication of traffic lanes within Aberdare Road.

The proposed shared path facilities forms part of the Long-Term Cycle Network creating an important link to the hospital precinct, nearby schools and parks. The final alignment of the shared path is subject to further detailed investigation to minimise any adverse impact on the existing trees.

The road safety improvements will reduce the number and severity of accidents. The modifications will also reduce congestion and driver frustration which should have a positive effect on driver behaviour across the City’s road network.

**Acquisition of Railway Reserve**

The provision of an extra northbound lane on Railway Road will require acquisition of Railway Reserve. Preliminary discussions with the Public Transport Authority (PTA) have indicated their support for future transfer of land to the City.

**Tree Relocations and Removals**

A number of trees will need to be removed within the City of Nedlands as outlined in Table 2 with the majority of trees impacted being within the City of Subiaco.

Table 2 – Estimated Number of Tree Removals / Relocations

|  |  |  |  |
| --- | --- | --- | --- |
| **Local Government Authority** | **Type of Trees** | **Qty** | **Officer comments** |
| **City of Nedlands** | Semi-Mature Corymbia maculate | 5 | **Railway Road – Western verge**  The five trees proposed for removal are along Railway Road within 2m of the existing carriageway. The trees are semi mature, exhibit good health and vigour, range in height from 11-15m, and have canopy spread of approximately 10m. The canopy spread on the eastern side, extends over the carriageway by approximately 5 m.  The removal of these trees is required to enable the creation of protected right turn lanes on Railway Road to help reduce the number of right-angle crashes.  New plantings will be undertaken to replace the trees removed. |
| **City of Subiaco** | Semi-Mature Cassia fistula | 1 | **Aberdare Road - North Eastern Corner**  New plantings will be undertaken to replace the trees removed. |
| Semi-Mature Acacia saligna | 1 |
| Young Liquidamber styraciflua | 1 |
| Young Eucalyptus torquate | 1 | **Aberdare Road – Northern verge**  The trees in Aberdare Road are growing under power lines and will not have the potential to develop to mature specimens before they will be pruned back. The canopy cover created by these trees is limited and an improved canopy cover could be achieved if the corresponding number of trees were planted in alternative locations. |
| Mature Eucalyptus leucoxylon | 1 |
| Semi-Mature Eucalyptus torquate | 3 |
| Senescent Agonis flexuosa | 3 |
| Semi-Mature Melaleuca lanceolate | 2 |
| Semi-Mature Schinus molle | 1 |
| Semi-Mature Corymbia calophylla | 1 |
| Young Agonis flexuosa | 1 |
| Semi-Mature Eucalyptus grandis | 2 | **Railway Road – Western verge**  The loss of canopy cover from these trees will be replaced with tree planting in alternative sites. |
| Semi-Mature Eucalyptus botryoides | 2 |

**Key Relevant Previous Council Decisions:**

Ordinary Meeting of Council 22 October 2019, Item TS20.19.

*Council:*

*1. Supports progressing the concept design to detailed construction drawings for Black Spot funding submission, provided the City of Subiaco endorses the project;*

*2. To include the Railway Road/Aberdare Road intersection improvement project as part of the 2021/22 budget, provided the City of Subiaco endorses the project;*

*3. Approves the tree removal as detailed in Table 2 within the City of Nedlands to facilitate construction; and*

*4. That any trees not shown orange on the plan which require removal require Council approval.*

**Consultation**

Administration has worked collaboratively with the City of Subiaco, Main Roads Western Australia (MRWA), Public Transport Authority (PTA), the Department of Transport (DoT) and the Metropolitan Cemeteries Board in relation to the development of the design.

To date, the Administration has received written endorsement for the design by MRWA, PTA and DoT (Refer to Attachment 5). MRRG and the City of Subiaco have provided written approval for the additional design funding in December 2020 and November 2020, respectively (Refer to Attachment 2).

**Strategic Implications**

**How well does it fit with our strategic direction?**

The Strategic Community Plan includes the Value of Easy to get around; We strive for our City to be easy to get around by preferred mode of travel, whether by car, public transport, cycle or foot.

The Strategic Community Plan includes the following priorities:

* Maintain investment in roads, footpaths, cycle ways and drainage.
* Improve connectivity for pedestrians and cyclists on all paths and on roads.

The Railway / Aberdare intersection upgrade will improve the efficiency of the signalised intersection reducing congestion and will improve safety for drivers, pedestrians and cyclists.

**Who benefits?**

All users of the intersection will benefit from the upgrade which will result in:

* Reduced crashes.
* Reduced traffic congestion
* Improved safety for cyclists and pedestrians using the off road shared paths.

**Does it involve a tolerable risk?**

Implementation of the project will reduce the City’s risk profile by addressing historic crash statistics and improving road safety.

There is some financial risk with all road construction projects. The City has established project management practices to mitigate the risk of exceeding project budget.

**Do we have the information we need?**

Yes, there is sufficient information to proceed with completion of detailed design and progress to project construction.

**Budget/Financial Implications**

Anadditional $38,750 is required in the City’s 2020/21 budget to finalise the design for the Railway Road / Aberdare Road intersection upgrade.

Upon MRRG funding approval for construction, the 2022/23 and 2023/24 budgets will require municipal funding of $876,240. The total project cost will be $4,005,669, comprising two thirds MRRG $2,503,543, one sixth City of Subiaco $625,886 and one sixth City of Nedlands (incl. 40% Administration overhead) $876,240.

**Can we afford it?**

How well does the option fit within our Long Term Financial Plan? What do we need to do to manage he costs over the lifecycle of the asset / project / service?

With appropriate capital works prioritisation the project can be delivered within the Long Term Financial Plan. Project delivery costs can be managed through the City’s established project management practices.

**How does the option impact upon rates?**

Nil, provided the project is prioritised in the capital works planning and budgeting process to be delivered within the constraints of the Long Term Financial Plan.

**Conclusion**

In conclusion, Administration has worked collaboratively with the City of Subiaco, Main Roads WA, utility providers and funding agencies to reach agreement on the design and shared funding model for the proposed works at the intersection of Railway Parade/Aberdare Road. This report now seeks Council’s approval to proceed with the project.