Schedule of Works Model - Extrinsic material for LGIP

September 2017

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Contents

Purpose

The purpose of this report is to describe the process and information used in preparation of the schedule of works (SoW) model, to support the Scenic Rim's Local Government Infrastructure Plan (LGIP). Schedule of Works model is drafted in accordance with the Minister's Guidelines and Rules under the Planning Act 2016.

General Input Sheet

General Inputs

- Base Year - The base year is 2014, when the dwelling and population modelling commenced. The base cadastre used for the modelling is of December 2014 and the most recent available current replacement cost from the financial asset register used for existing trunk infrastructure is of June 2014.

- Term - The term is for 17 years, commencing in year 2014 till year 2031.

Application of Discounted Cash Flow

Discounted Cash Flow methodology is used to calculate net present value of the future infrastructure.

General Financial Inputs

Option 1 is used to calculate the Weighted Average Cost of Capital (WACC) percentage.

- Average 10 year bond rate - 3.37% is used as advised by Queensland Treasury Corporation

- Basic Margin on 10 year bond rate - 3.5% is the baseline figure quoted in LG Bulletin 06/01.

- WACC - 6.87% is used as the discount rate (total of the above two factors)

- Charge Factor - A collection factor of 50% (year 2018-2021), 60% (year 2022-2026) & 65% (year 2027-2031) is applied to all charges (residential and non-residential). Infrastructure charges are never collected respective to new lots created. Various factors that reduce the charge collection are:

  - lag from development approval to take up of the development,
  - various charging regimes in last decade and hence various charge rates and policies,
  - charges foregone in lieu of infrastructure while value of invoices raised does not account for offsets and trunk infrastructure provided through infrastructure agreements,
  - multiple approval & related infrastructure charge notices for a site, and
  - uncollected charges where use has commenced without paying the charge.

  Council is developing its ability to resolve above listed factors and forecast collection of charges more accurately which will diminish the charge factor and actual and anticipated revenue will be the same.

Escalation Rates

- Capital Escalation - Future Cap X - Producer Price Index (PPI) Roads and Bridge Index (ABS 6427, Index 3101) is used as most appropriate for annual indexation for the cost of infrastructure items. A rate of 3.87% is derived, as an annual average of the index.

- Land Escalation - 2.70% is used as 10 year average of the Consumer Price Index (CPI).

- Charges Escalation Rate - Infrastructure charges are governed by the *Planning Regulation 2017* which is dependent on the 3-yearly Producer Price Index average. There are too many external factors controlling the index and hence escalation rate at the base year (June 2014) was used as charge escalation rate.

Unit Rates

This section is not used in the same format. It is replaced with individual unit rates report on land required for future infrastructure including parks, stormwater and transport networks. It was too hard to generalise the land rates and apply for different infrastructure and hence tailored approach is undertaken to reflect more accurate pricing of new future infrastructure.

A land valuation firm John Olive & Associates Pty Ltd was engaged to undertake valuation as per the Minister's Guidelines & Rules under the Planning Act 2016 for all required new land and the report is available as an extrinsic material to the LGIP.

Catchment Demand

This section details existing and projected demand across respective catchments for:

- Dwellings;

- Non-residential floor space;

- Population for parks and community facilities network;

- Vehicle trip ends for transport network; and

- Impervious hectare for stormwater network.

Anticipated Growth Residential

This sub-section details the existing and projected residential dwellings for each census year starting at base year of 2014 when the modelling commenced. Hence dwellings at year 2014 show the stocktake of existing dwellings based on the various Council data bases available then. Details of the modelling on dwellings are available in the extrinsic material on Planning Assumptions.

To forecast charges revenue, charge amount is used as per residential development type according to the Fair Value Charges Resolution no.1, May 2015 version. The Fair Value charges are generally 10% to 15% discounted from the capped amount and has more detailed sub-categorisation.

Annual increase in demand per development type is difference of existing and projected dwellings for the next census year. Growth is distributed equally on an annual basis. This growth multiplied by charge rate is used to calculate the forecasted charges revenue for residential development annually.

The derived forecasted charges revenue is referenced in the Cash Flow Projections sheet of the Schedule of Works Model.

Anticipated Growth Non-residential

This sub-section details the existing and projected non-residential floor space for each census year starting at base year of 2014 when the modelling commenced. Details on how these data was derived are covered in the extrinsic material on Planning Assumptions.

To forecast charges revenue, charge amount is in accordance with the Fair Value Charges Resolution no.1, May 2015 version. The Fair Value charges are generally 10% to 15% discounted from the capped amount and has more detailed sub-categorisation. A concordance table is reflected in Planning Assumptions section of the LGIP document showing co-relation between the non-residential development type and fair value charge category. This connection is used to forecast non-residential charges revenue.

Annual increase in demand per development type is difference of existing and projected non-residential floor space for the next census year. Growth is distributed equally on an annual basis. This growth multiplied by charge rate is used to calculate the forecasted charges revenue for non-residential development annually. The derived forecasted charges revenue is referenced in the Cash Flow Projections sheet on the Schedule of Works Model.

Catchment Demand - Transport

The existing and projected transport demand is measured in vehicle trip ends for transport catchments. Transport catchments are mainly categorised based on the growth towns, i.e. priority infrastructure area and remaining rural area as outside priority infrastructure area. These catchments are similar to the population and dwelling projection catchment area as below:

- Beaudesert PIA
- Boonah PIA
- Canungra PIA
- Kalbar PIA
- Kooralbyn PIA
- Outside priority infrastructure area

Couple of basic assumptions are included in calculating catchment demand:

- For priority infrastructure area, six vehicle trip ends are assumed per dwelling and for dwelling that are outside priority infrastructure area, eight vehicle trip ends are assumed based on the information used in designing the network by the infrastructure team; and

- Transport demand is linked to the place of origin & resident which is dwelling and hence no trips are accounted for non-residential development.

It is acknowledged that Transport network is an open network and there will be some unaccounted trips for tourism and visitors which will be mainly on State Controlled Roads and comparatively lesser demand. So, for simplicity above assumptions are used in calculating transport demand.

Catchment Demand - Parks and Land for Community Facilities

The existing and projected demand for parks and land for community facilities is measured in number of people i.e. population. Parks and community facilities catchments are categorised based on the three Statistical Area 2 (SA2) boundaries that form the Scenic Rim region as below:

- Beaudesert
- Boonah
- Tamborine - Canungra

The existing and projected catchment demand is sourced from the Scenic Rim's population and development model where lot level information is listed and analysed.

Catchment Demand - Stormwater

The existing and projected demand for the stormwater network is measured in the impervious hectare generated by various development types. This impervious area is measured using generation rates for various land uses. Detailed explanation and methodology is included in the Stormwater Network section of the Infrastructure Planning Extrinsic Material. Stormwater catchments are categorised based on the system assessment and improvement plans for 4 key towns of the region as follows:

- Beaudesert
- Boonah
- Kalbar
- Canungra

Further catchments will be added in future iterations of LGIP when additional system assessment and improvement plans are prepared covering other towns of the region.

Existing Trunk Assets

The existing trunk assets are derived from the Scenic Rim's Financial Asset Register 2013-14 using the specific desired standards of service for each of the infrastructure network. Establishment cost which is baseline valuation is also sourced from the Financial Asset Register. The base year for this LGIP model is 2014 and hence the financial asset register of year 2013-14 was selected, this make the valuation year for all the existing trunk assets as 2014 and hence escalation is not applicable.

Basic Asset Data in the model is also sourced from the Financial Asset Register in terms of Asset ID, Asset Class, Description and Hierarchy. Further all individual asset items were allocated to a network catchment based on their location. This further allowed Asset Usage and Cost Allocation to the network catchments.

This has been an intensive exercise allocating attributes to each asset individually from various Council sources and cross checking to ensure quality assurance.

Existing Trunk Assets - Transport

The existing trunk assets are classified into asset classes as below:

- Bridge Concrete
- Bridge Timber
- Culvert
- Floodway
- Footbridge
- Footpath
- Formation - road
- Kerb
- Road furniture
- Seal pavement
- Sealed road

The existing assets were apportioned to the catchments using their location and were generally allocated to a catchment. Transport being an open network, it is unfeasible to measure demand for each existing asset item at the catchment level. Also, demand for existing visitors (tourist and outside local government area) are not taken into account, considering it being relatively low and mainly on state controlled road network.

Existing Trunk Assets - Parks and Land for Community Facilities

The existing trunk assets for parks and community facilities are classified into following asset classes:

- Civic Space
- Corridor Park
- Premier Park
- Recreation Park
- Sports Park
- General community space
- Community centre
- Library
- Art gallery
- Museum
- Indoor sports facility
- Aquatic centre

There is no baseline valuation or current replacement cost for the parks and community facilities land component. The baseline valuation only reflects the current replacement cost of the embellishments component from the financial asset register. There is no baseline valuation available for the assets located on the reserve land. When land is shared by multiple assets, baseline valuation is applied to primary asset only. Due to absence of baseline valuation information, existing parks and community facilities assets are undervalued which is reflected in the Summary Cost Schedule of the Schedule of Works Model.

Each asset is allocated to a catchment based on their location. There is cross catchment and outside local government area usage, which is relatively low and hence not considered for asset usage.

Existing Trunk Assets - Stormwater

The existing trunk assets for stormwater network are classified into following asset classes:

- Drainage Pits
- Drainage Pipes

The existing trunk assets located in the planned stormwater catchments are only included in the model. The baseline valuation is sourced from the financial asset register and land cost is not included in the current replacement cost of the asset.

Each asset is allocated to a catchment based on their location. In future, when further stormwater studies are undertaken, more data will be available to include trunk assets in other localities. Absence of data has undervalued existing and future stormwater assets which are reflected in the Summary Cost Schedule of the Schedule of Works Model.

Future Trunk Assets

The future trunk assets are derived from the Scenic Rim's Ten Year Capital Works Program 2016-17 by shortlisting only trunk assets. This data was further enhanced by undertaking catchment analysis to meet the demand for the year 2031.

Standard assumptions of the Schedule of Works model are used in most of the future asset's valuation as prescribed in the Minister's Guidelines and Rules. Variation is made particularly to the future assets that are delivered/ constructed during the making of this LGIP. Pragmatic approach is taken by not applying contingency cost, escalation or discounting to the future assets where the real cost of construction was available as LGIP is being drafted. Another variation is to the future assets at the base year of 2014, though LGIP making process commenced in 2014, the Future Trunk Assets were based on Ten Year Capital Works Program of 2016-17, so that latest information could be included and LGIP becomes a live implementable document.

For the purpose of the SC3.2 Schedule of Works section of the LGIP document, the establishment cost as reflected in column 4 of the table is the future asset cost (baseline valuation) at the year 2016 when the planning commenced. It does not include contingency cost, escalation, discounting and percentage of renewal.

Future Trunk Assets - Transport

The future trunk assets are explained in detail in the Transport Network section of the Infrastructure Planning Extrinsic Material. Other applicable assumptions are described in the above section relevant to all three infrastructure networks.

The future trunk assets for transport were sourced from the Ten Year Capital Works Program 2016-17 and the Eastern Ring Road was considered. Eastern ring road is identified to ease pressure on the town centre and support the through transport requirement and boost economic development.

The future transport assets were apportioned to the catchments using their location and were generally allocated to a catchment. Transport being an open network, it is unfeasible to measure demand for each existing asset item at the catchment level. Also, demand for visitors (tourist and outside local government area) are not taken into account, considering it being comparatively low and mainly on state controlled road network.

Future Trunk Assets - Parks and Land for Community Facilities

The future trunk assets are explained in detail in the Parks and Land for Community Facilities Network section of the Infrastructure Planning Extrinsic Material. Other applicable assumptions are described in the above section relevant to all three infrastructure networks.

There are recurring projects every year particularly Vibrant and Active Town and Villages program, Playground and Playground Shades Program where further planning and designing is required. Hence location is not determined in this version of LGIP. In future amendments of LGIP, this information will be available.

Each future park is allocated to a catchment based on their location. There is cross catchment and outside local government area usage, which is relatively low and hence not considered for asset usage.

Future Trunk Assets - Stormwater

The future trunk assets are explained in detail in the Stormwater Network section of the Infrastructure Planning Extrinsic Material. Stormwater infrastructure planning is based on system assessment and improvement plan which covered four key towns of the region. Future trunk assets were relevant to these studies and limited to these four towns.

In future amendments of LGIP, when further stormwater studies are undertaken, more data will be available to include future trunk assets required in other localities.

Summary Cost Schedule

The Summary Cost Schedule is an automated data representation table, which sources data from various tables from this model. Existing and future demand for each network for their respective catchments are sourced from Catchment Demand tables on each network.

The existing and future cost of trunk infrastructure is sourced from the Existing and Future Trunk Assets input tables. The two key attributes of demand and cost of trunk infrastructure determine the cost per unit demand which is the cost to serve an individual catchment for a particular network. The cost per unit demand can be utilised by the local government to make strategic decision of supplying future trunk infrastructure and can compare and analysis under supply for infrastructure.

Cash Flow Projections

The Cash Flow Projections sheet represents anticipated cost from Future Trunk Assets tables for each year and network. It also represents anticipated charges revenue from the Anticipated Growth - Residential and Non-residential tables. A variation is made to the Schedule of Works Model template by adding anticipated grants particularly for Transport infrastructure. This variation is undertaken to accommodate realistic effect on local government's financing.

The cumulative cash flow shows the shortfall from infrastructure charges revenue to fund the trunk infrastructure required to service the growth. This shortfall will be serviced through other sources of revenue including rates, loans and grants.