Land Supply and Development Monitoring (LSDM) Report 2019

SEQ Growth Monitoring Program (GMP)

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Disclaimer

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Message from the Housing Supply Expert Panel

Welcome to the second edition of the Land Supply and Development Monitoring (LSDM) Report. The Housing Supply Expert Panel commends all stakeholders on their continued effort in refining the Growth Monitoring Program to produce the second edition of the Report for 2019. The LSDM Report is a vital element in the regional planning framework for SEQ. The LSDM Report provides continuous feedback to Councils, industry and the community on the implementation of 3 key initiatives in *ShapingSEQ 2017*, namely, 'focusing 60 per cent of new housing development in the existing urban area', 'supporting better and more diverse housing, with a particular emphasis on promoting missing middle forms of housing' and 'right sizing our Urban Footprint so land supply constraints do not place unnecessary upward pressure on housing prices'.

The Housing Supply Expert Panel's job is to ensure that the LSDM Report meets best practice standards in its methodology, data sources and analysis. To this end, the Panel has reviewed and endorsed several methodological advances this year, including adoption of clearer criteria about when land is genuinely available to the market for the production of housing and industrial uses.

We expect that further enhancement of methodologies, new data sources and analysis techniques is an ongoing role which we are committed to achieving. The 2019 LSDM shows that SEQ has adequate supply to meet *ShapingSEQ 2017's* 15 years of supply policy objective and we are improving our efficiency in the use of land and diversity of housing types. This means that the region is generally on-track in meeting its adopted objectives for a more compact and diverse housing offer while allowing housing developers plenty of lead time in bringing their own planning into line with the *ShapingSEQ 2017* vision.

The Panel acknowledges that some geographies show emerging issues in relation to the benchmarks which is a key objective of the monitoring program. Of note is the methodology refinement which has contributed to a 16% reduction in estimated planned dwelling supply in expansion (greenfield) areas and a 27% reduction in estimated planned industrial land across the region. This together with work on the underutilised urban footprint and ongoing policy initiatives highlight the impacts of refined methodologies and policy decisions at both a State and local level. It is important that both levels of government remain agile and responsive to both land availability factors to ensure ample time for analysis and discussion with all stakeholders to understand and adjust policy responses accordingly.

The Panel received the Market factors report, an initiative suggested by the Panel last year. The report provides a critique of 10 key factors that influence dwelling demand. The full report is available in the new Market factors section. The report concluded that the market is working well in responding to changes in the levels of demand and supply. Further stabilisation is expected in the next 12 months prior to a resurgence in dwelling demand.

The Panel also recognised the need for greater collective dialogue and engagement from all stakeholders around the need for and benefits of housing diversity. It is great to see further work being undertaken on this issue through the establishment of a working group who are looking at a range of initiatives. Further work on understanding social housing as a component of the total stock of housing supply continues and the panel acknowledges the support of the Department of Housing

and Public Works. See the Housing Supply Expert Panel section of the report for more information on this initiative.

The Panel recognises the importance of continuing to support the long-term commitment to the monitoring program from both a resource and funding perspective. It is also important to continue to work towards an open data approach to the program. Opportunity to seek further commitment to the program to address these aspects may be an avenue to be explored through the City Deal.

Finally, many thanks to all involved for your ongoing commitment to what is nation leading work. I commend the second edition to you.

Julie Saunders

Chair of the Housing Supply Expert Panel

Introduction

More people are calling South East Queensland (SEQ) home and with this growth comes many exciting opportunities but also challenges. Working with local councils, we need to allocate land appropriately, to ensure future generations can live, work and play in SEQ.

It is important we continually monitor the region's land supply and development activity to ensure we have adequate land in the right locations to maintain SEQ's enviable lifestyle and unique characteristics. This will ensure we have the right infrastructure, housing and jobs we need now and in the years ahead.

The 2019 Land Supply and Development Monitoring (LSDM) Report is a key implementation action of *ShapingSEQ 2017*. It compiles a wide range of data in one easy-to-use location to monitor land supply and development activity across the SEQ region. This report's interactive online format acts as a central information point to help better monitor land supply across the region. It has been designed to deliver complex data in an easily understood way, through the use of graphs, maps and supporting explanations of technical concepts. Through this format users are able to tailor their experience to the level of detail they desire.

The 2019 LSDM Report is a key deliverable of the SEQ Growth Monitoring Program (GMP). In 2019, the GMP has built on and refined its 2018 reporting including annual data updates and the progression of best practice research and priority actions.

LSDM purpose

The 2019 Land Supply and Development Monitoring (LSDM) Report tracks residential and industrial land supply and development activity and land and house prices for South East Queensland (SEQ). It compares residential and industrial development activity and land supply in SEQ to the dwelling supply benchmarks, employment planning baselines and policy objectives of *ShapingSEQ 2017*.

The report has been prepared using data provided by local governments, utility providers and the Queensland Government Statistician's Office and has been reviewed in consultation with those stakeholders and the development industry.

The 2019 report is the second annual report of the Growth Monitoring Program (GMP) and will be subject to review and improvement as an ongoing program of government.

The primary objective of the report is to work progressively towards a single point of truth for land supply and development activity data in SEQ to better inform infrastructure planning and land supply planning and policy as part of the GMP. The long-term benefits of improved planning and policy are:

- being able to afford somewhere to live
- having access to employment and other services
- continuing to enjoy the unique SEQ lifestyle.

An established and ongoing monitoring program will streamline future regional plan reviews and provide the robust evidence to inform future policy decisions.

The 2019 LSDM Report reflects ongoing program improvements designed to:

- update existing data
- enhance data accuracy
- action best practice research
- inform better decision making
- continue to collaborate with stakeholders, and
- produce more refined reporting.

The publication of the second annual LSDM Report provides the opportunity to compare additional data year on year. Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) recognises that results will fluctuate on an annual basis, but the GMP continues to present data against the long-term dwelling supply benchmarks, employment planning baselines and policy objectives of *ShapingSEQ 2017*.

Growth Monitoring Program

South East Queensland (SEQ) is expected to grow by almost 1.9 million people between 2016 and 2041, requiring approximately 794,000 new dwellings and about 1 million new jobs. Therefore, it is important that growth is monitored and managed efficiently to support the economy and housing affordability.

To manage this growth the Queensland Government published *ShapingSEQ 2017*, in August 2017. *ShapingSEQ 2017* delivered on the Queensland Government's commitment to release a considered and effective growth management framework for the state's most populous region. It provides the framework to sustainably manage this growth, supported by 36 implementation actions.

The Growth Monitoring Program (GMP) is a key implementation action of *ShapingSEQ 2017* and includes the preparation of an annual Land Supply Development Monitoring (LSDM) Report, the updating of the Measures that Matter (MtM) dashboard and the continuation of the SEQ Housing Supply Expert Panel (HSEP), all of which were achieved in 2018.

In 2019, the second annual LSDM Report and MtM dashboard have been prepared with the support of the SEQ HSEP and a comprehensive stakeholder governance framework engaging state and local government, utility providers and the development industry.

Progressive implementation of the LSDM Report's best practice research findings, undertaken in collaboration with local governments, industry and utility providers, will help inform and improve future annual LSDM reporting and create a transparent and robust platform for ongoing land supply and development monitoring in SEQ.

In 2018, DSDILGP committed to developing a GMP roadmap to illustrate the progressive improvement of the monitoring program and relevant elements of the work programs. Since this time, DSDILGP has worked with the HSEP and other key stakeholders to prepare a five-year GMP roadmap, articulating the GMP's vision up to 2023 and incorporating opportunities for innovation and ongoing improvement. The roadmap reinforces the GMP's commitment to long-term progressive improvement to build a shared understanding of land supply and development data as we progress towards the next regional plan review.

SEQ

Summary

ShapingSEQ 2017 establishes that SEQ's expected population growth will require about 794,000 additional dwellings between 2016 and 2041 through its dwelling supply benchmarks and the creation of about 1 million more jobs.

Dwelling approvals in SEQ have exceeded *ShapingSEQ 2017*'s average annual benchmarks on average since 2016/17 despite decreasing in 2018/19. The capacity and realistic availability of planned dwelling supply in SEQ provide more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

Housing in SEQ is becoming more diverse and dwelling density is increasing in accordance with *ShapingSEQ 2017*'s preferred future.

The residential median sales prices have increased across SEQ since 2011/12 despite a decline in price for some categories in 2018/19.

There are approximately four years of supply of uncompleted lot approvals in SEQ, and seven years of supply of material change of use approvals for multiple dwellings in the SEQ consolidation area, meeting and above the minimum four years of supply sought by *ShapingSEQ 2017*.

The capacity and realistic availability of planned industrial employment supply in SEQ provide more than the minimum 15 years of supply sought by *ShapingSEQ 2017*. The estimated take-up of developed industrial land between 2011 and 2018 in SEQ was about 2595 hectares, with about 9101 hectares of planned industrial land remaining as at 2018. For:

- more information about the terms used above, click here.
- a map of the consolidation area defined by *ShapingSEQ 2017,* click here.
- a map of the urban footprint defined by *ShapingSEQ 2017*, click here.

Residential – SEQ

Planned dwelling supply – SEQ

The region has more than *ShapingSEQ 2017*'s required minimum of 15 years of dwelling supply in the pipeline.

The capacity and realistic availability of planned dwelling supply in the SEQ consolidation and expansion areas provide more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figures represent the number of dwellings that have been or could be approved, based on current planning intent, while the realistic availability figures provide land supply scenarios that assume some of the capacity is not realistically available by 2041.

The realistic availability scenarios consider factors that may constrain the availability of land for development. Such factors may include infrastructure availability, land ownership fragmentation, landowner intent, practical staging of and capability for development, and the age of existing development.

The realistic availability scenario for the expansion area improves upon the method applied in the 2018 LSDM Report. It uses the Current Intent to Service layer from the Ability to Service best practice research in 2019, in combination with other updated data, to derive new estimates of the realistic availability of planned dwelling supply. This approach forms a foundation for improvements in future years of reporting. For more information about these improvements, see the Best practice research and Technical notes.

In the SEQ consolidation area, the capacity of planned dwelling supply is about 559,500 dwellings, which exceeds the consolidation 2041 dwelling supply benchmark of 474,900 dwellings. However, the realistic availability of this supply may be lower, with an indicative range of:

- about 374,000 dwellings (around 15 years of supply) if 50 per cent of the capacity, that is not yet built or approved, is not available for development by 2041[1]
- about 466,000 dwellings (around 20 years of supply) if 25 per cent of the capacity, that is not yet built or approved, is not available for development by 2041.

Major sources of consolidation planned dwelling supply in SEQ include the following local government areas:

- Brisbane
- Gold Coast
- Moreton Bay.

In the SEQ expansion area, the capacity of planned dwelling supply is about 548,000 dwellings, while the realistic availability is about 353,000 dwellings. These figures exceed the 2041 expansion dwelling supply benchmark of 318,800 dwellings.

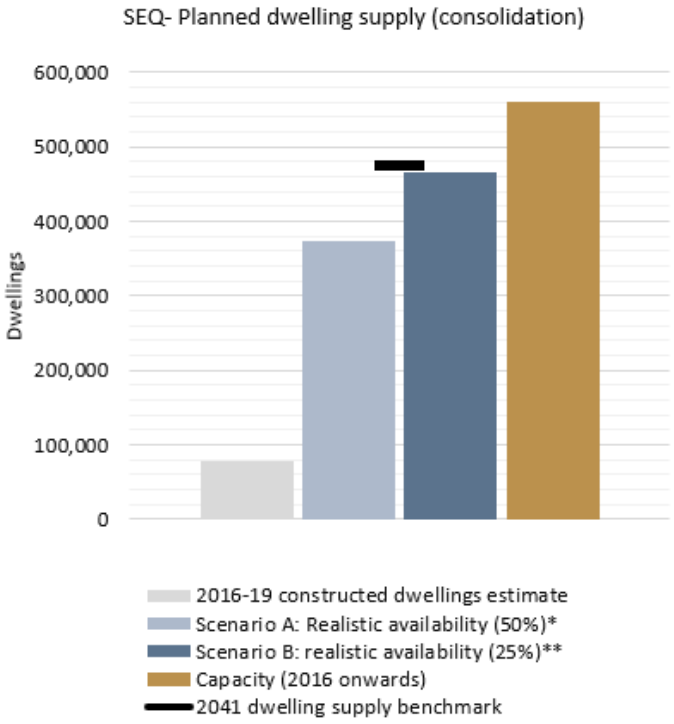
Major sources of expansion planned dwelling supply in SEQ include the following local government areas:

- Ipswich
- Logan
- Moreton Bay.

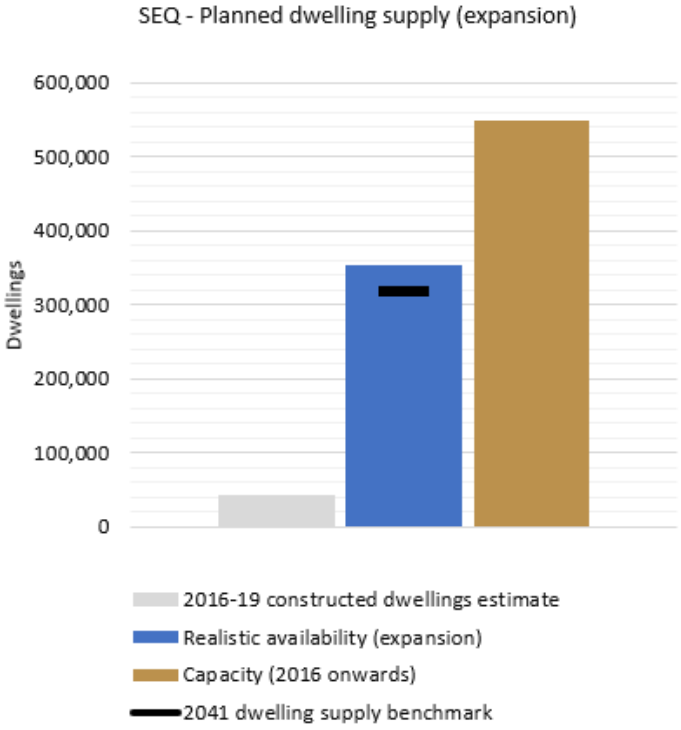
The amount of planned dwelling supply and the comparisons to the 2041 dwelling supply benchmarks vary across local government areas, as does the status of infrastructure projects that would support realisation of the supply. Further detail is provided in each local government section.

For more detail about the calculation of planned dwelling supply, see the Technical notes.

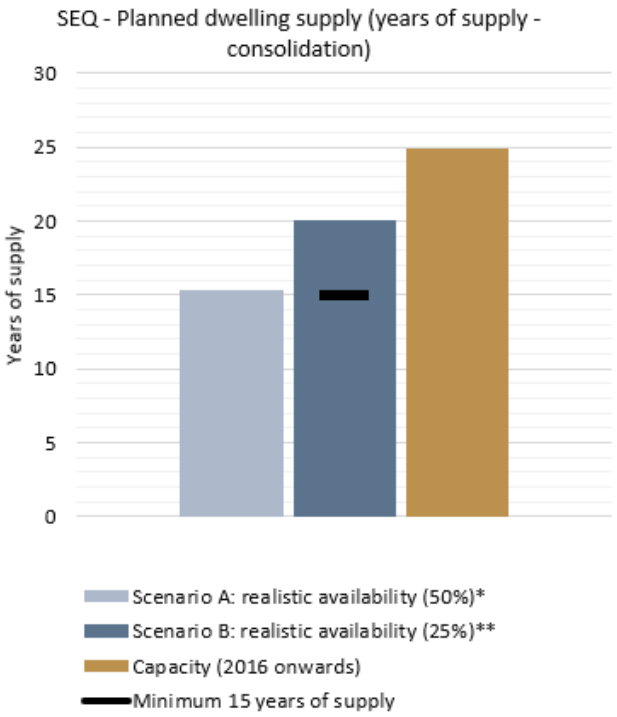
[1] Scenario A: Assumes that 50 per cent of the capacity, that is not yet built or approved, is not available for development by 2041. Scenario B: Assumes that 25 per cent of the capacity, that is not yet built or approved, is not available for development by 2041.



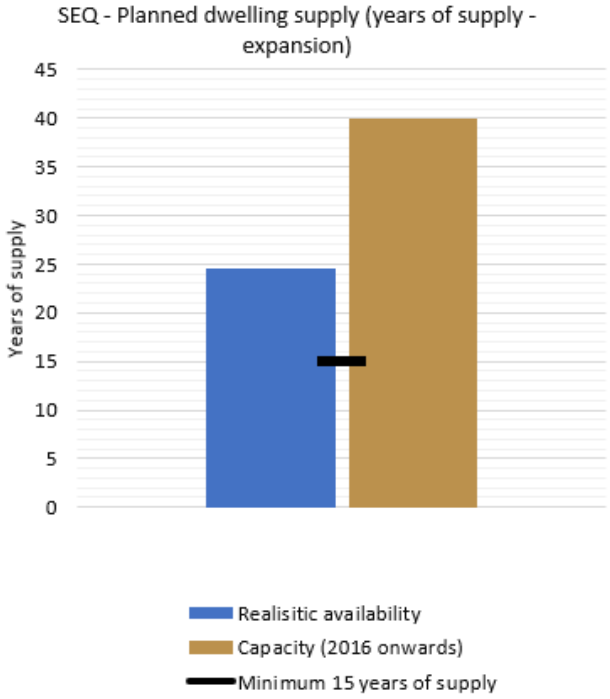
This graph shows the number of dwellings that have been or could be approved based on current planning intent compared against the 2041 dwelling supply benchmark within consolidation areas.



This graph shows the number of dwellings that have been or could be approved based on current planning intent compared against the 2041 dwelling supply benchmark within expansion areas. To view fact sheets on the concept of realistic availability, click here.



This graph shows the number of years of supply of dwellings that have been or could be approved based on current planning intent compared against the 2041 dwelling supply benchmark within consolidation areas.



This graph shows the number of years of supply of dwellings that have been or could be approved based on current planning intent compared against the 2041 dwelling supply benchmark within expansion areas.

Note: The planned dwelling supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report.

Approved supply – SEQ

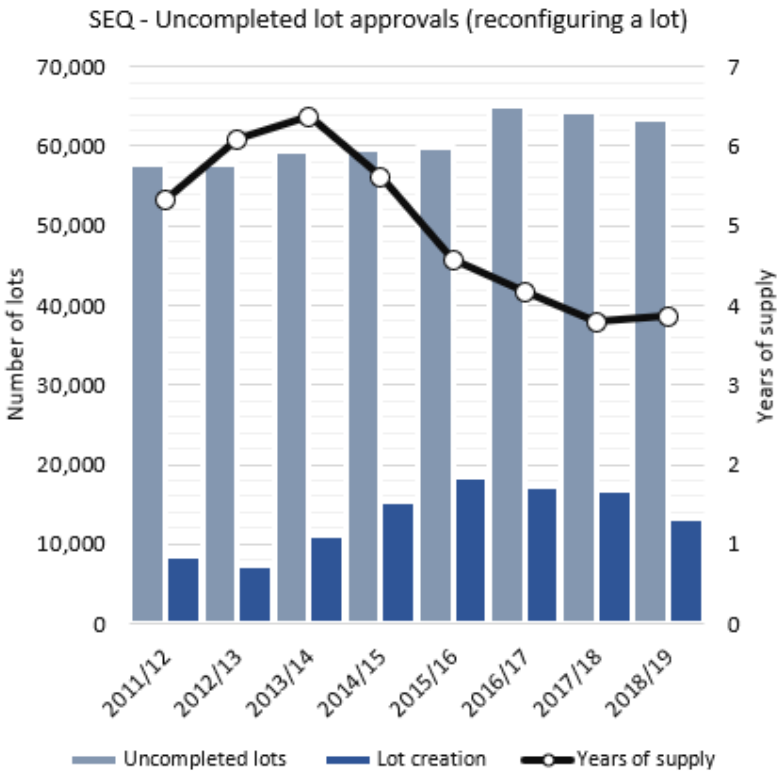
There is 4 or more years of new lot approvals (overall) and multiple dwelling approvals (consolidation).

Approved supply is measured by analysing uncompleted lot approvals and uncompleted multiple dwelling approvals across the region.

There are about 3.9 years of supply of uncompleted lot approvals across the SEQ consolidation and expansion areas overall. This is marginally lower than the minimum four years of supply sought by *ShapingSEQ 2017*, with the total number of current uncompleted lot approvals at 63,326 which is close to a historical high. Of the uncompleted lots, approximately 37 per cent have operational works approvals for the 2018/19 period.

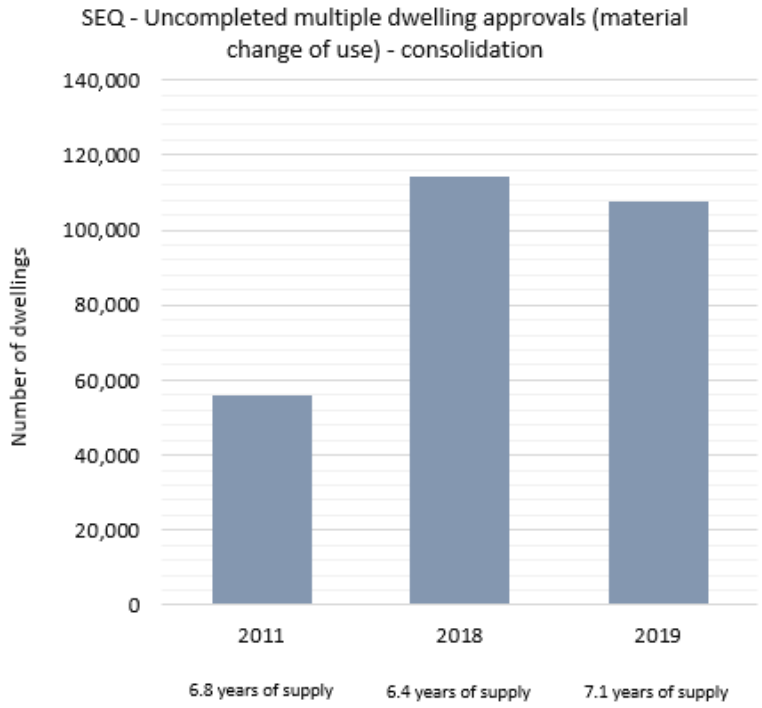
The very high rate of lot creation from 2015/16 to 2017/18 has increased the average annual demand figure used in calculating years of supply and contributed to a slightly lower years of supply figure for 2018/19. Lot creation peaked in 2015/16 and has since declined.

There are about 7.1 years of supply of uncompleted multiple dwellings approvals in the SEQ consolidation area. This exceeds the minimum four years of supply sought by *ShapingSEQ 2017*. The number of uncompleted multiple dwelling approvals fell slightly from June 2018 to June 2019, but the years of supply has increased because the rate of multiple dwelling construction fell from June 2018 to 2019, decreasing the assumed level of demand in the years of supply calculation. A similar trend can be observed in many local government areas. For details of the calculation and comparability over time of the approved supply figures, refer to the Technical notes.



This graph shows the number of lots that have a development permit but have not yet been certified (uncompleted lots) as at 30 June each year and the number of lots that have been created in the 12 months up to 30 June each year.

This graph shows the number of uncompleted lot approvals which also have operational works approvals as at 30 June each year.



This graph shows the number of multiple dwellings that have a material change of use development permit but have not yet been constructed (uncompleted multiple dwellings) in the consolidation area as at 30 June 2011, 30 June 2018 and 30 June 2019.

Dwelling growth – SEQ

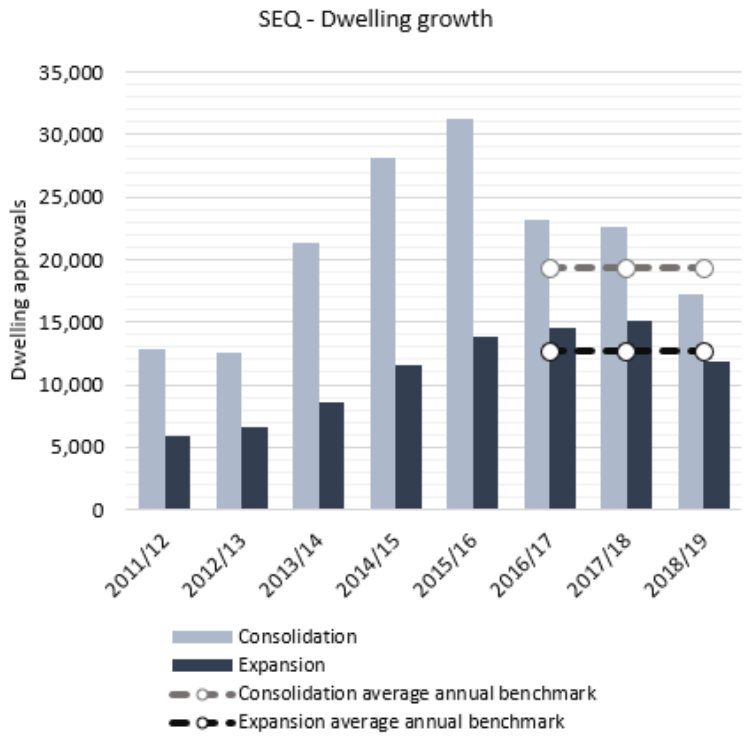
SEQ is exceeding *ShapingSEQ 2017* benchmarks for dwelling growth.

On average, dwelling approvals (used to measure dwelling growth) in the SEQ consolidation and expansion areas have exceeded the average annual benchmarks since 2016/17. Following higher growth during 2016/18, in 2018/19 there were 17,189 dwelling approvals in the SEQ consolidation area, which was approximately 2150 dwellings less than the consolidation average annual benchmark of 19,333 additional dwellings. There were 11,875 dwelling approvals in the SEQ expansion area in 2018/19, which was approximately 780 dwellings less than the expansion average annual benchmark of 12,646 additional dwellings.

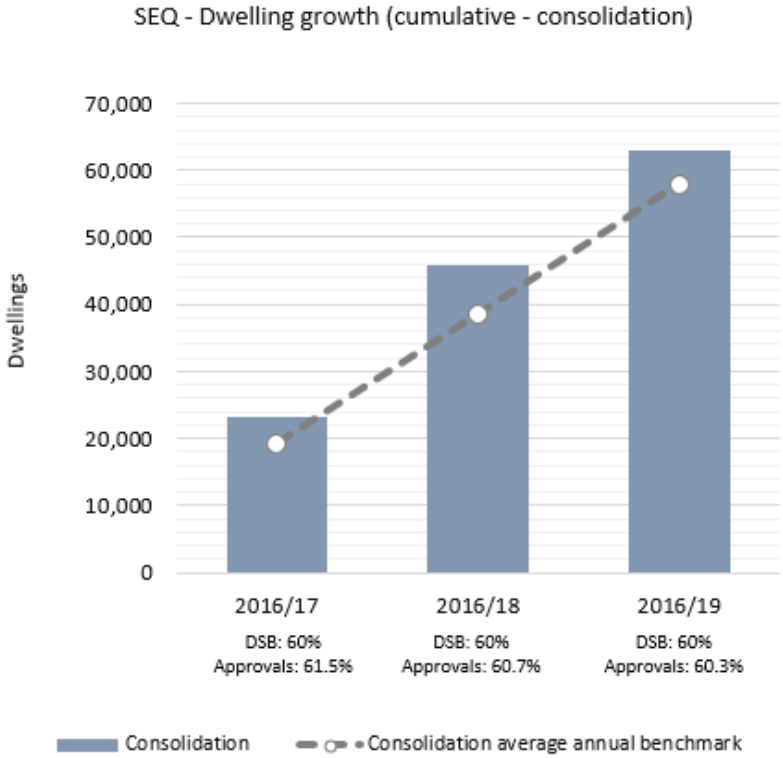
Approximately 60 per cent of dwelling approvals were in the SEQ consolidation area for 2016/17 to 2018/19, which is the same as its expected share of dwelling growth to 2031 identified in *ShapingSEQ 2017*. Approximately 40 per cent of dwelling approvals over the same period were in the expansion area, which is also the same as its expected share identified in *ShapingSEQ 2017*.

As the actual number of dwelling approvals for 2016/17 to 2018/19 in the consolidation and expansion areas are above the average annual benchmarks, SEQ is on track to be able to accommodate the 2041 dwelling supply benchmarks.

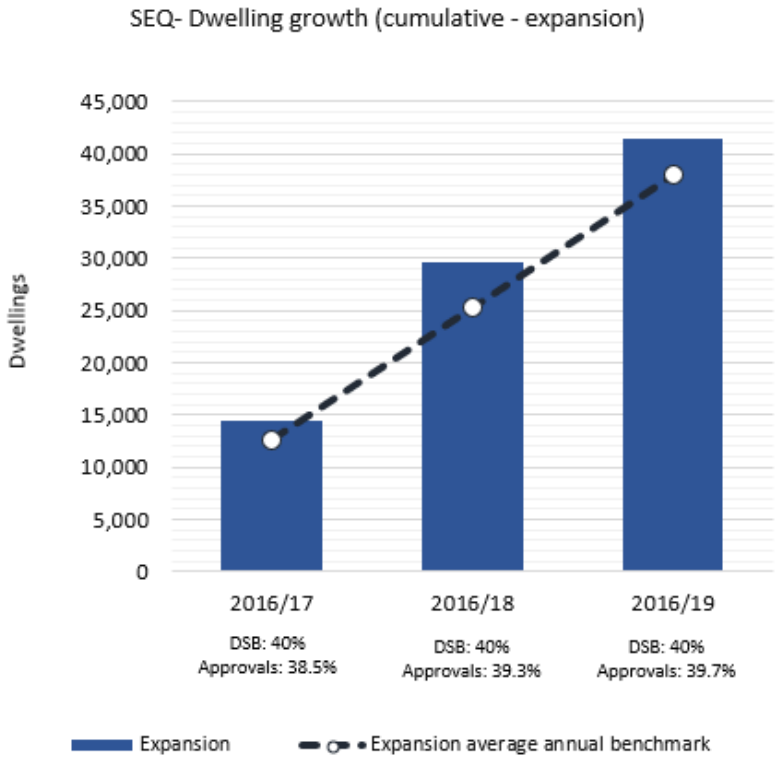
For more information about improvements to the measurement of net growth over time, see Moving forward. For more detail about dwelling approvals, see the Technical notes.



This graph shows annual dwelling approvals compared against *ShapingSEQ 2017*'s average annual benchmarks.



This graph shows the cumulative dwelling growth in the consolidation area against *ShapingSEQ 2017's* consolidation average annual benchmark.



This graph shows the cumulative dwelling growth in the consolidation area against *ShapingSEQ 2017's* expansion average annual benchmark.

Note: The average annual benchmark (2016 to 2031) has been adjusted since the 2018 Land Supply and Development Monitoring Report to reflect the growth rate of the most recent 2018 Queensland Government dwelling projections for SEQ. This adjustment has resulted in the average annual benchmark increasing marginally for the consolidation and expansion area in each local government. For more detail about the adjustment method and reasoning, see the Technical notes.

Changes in dwelling density – SEQ

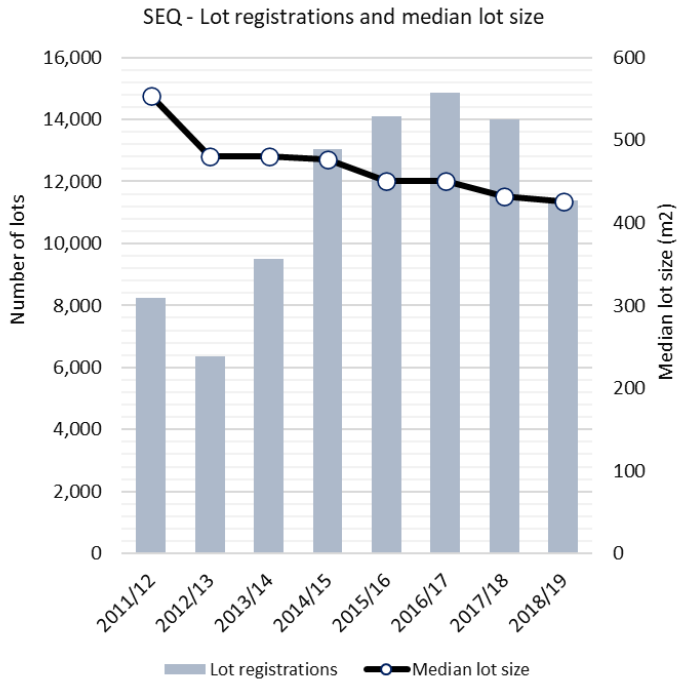
Housing density in the region is increasing.

Overall dwelling density (measured through median size of new lots and mean population-weighted dwelling density) is increasing across SEQ in accordance with the *ShapingSEQ 2017*Measures that Matter preferred future for higher dwelling densities and smaller lots.

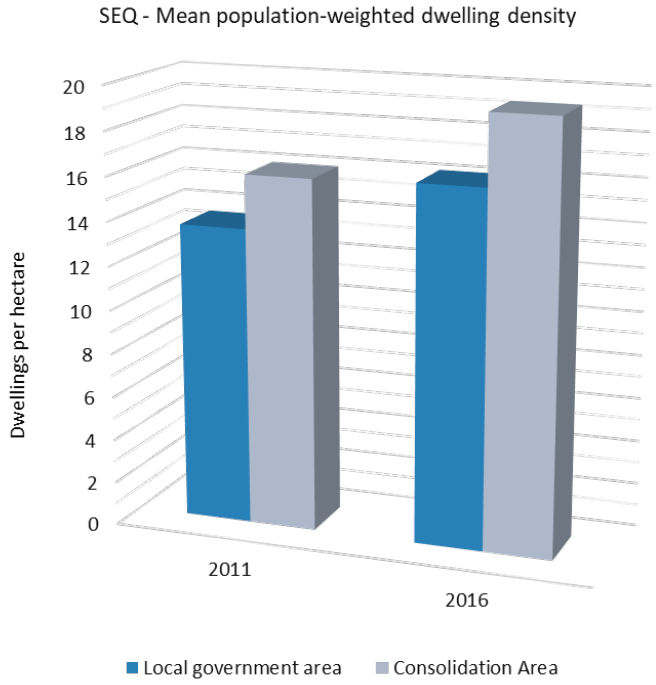
Mean population-weighted dwelling density increased across SEQ between 2011 and 2016, from 13.6 to 16.2 dwellings per hectare. This represents the average dwelling density at which the population of SEQ lives and is comparable to the net residential density as used by *ShapingSEQ 2017*. In the consolidation area, mean population-weighted dwelling density increased from 16.1 to 19.4 dwellings per hectare.

Between 2011/12 and 2018/19, the median size of new lots in SEQ decreased from 553m^2 to 426m^2. This was accompanied by an upward trend in the volume of lot registrations to 2016/17, followed by a decline since. This trend is generally consistent across most local governments in SEQ, with smaller median lot sizes indicative of higher dwelling densities in subdivisions over time.

For more detail about the calculation of mean population-weighted dwelling density and median size of new lots, see the Technical notes.



This graph shows the number and median size of new lots registered annually.



This graph shows the dwelling density (mean population-weighted dwelling density) at which people were living in 2011 and 2016.

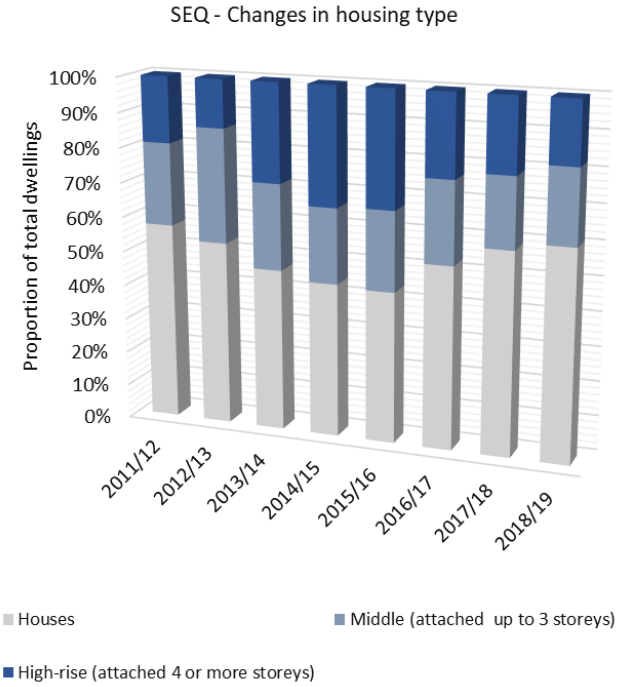
Changes in housing type – SEQ

Housing across the region is becoming more diverse.

Recent dwelling approvals in SEQ indicate an increase in housing diversity. This is consistent with the *ShapingSEQ 2017* Measures that Matter preferred future to provide a greater diversity of housing across the region.

Houses in SEQ comprised 57 per cent (59,635 dwellings) of new dwelling approvals for 2016/17 to 2018/19, which was less than existing dwelling stock as at the 2016 Census (72 per cent). The proportion of dwelling approvals for middle (about 22 per cent or 22,744 dwellings) for 2016/17 to 2018/19 remained the same as for the existing dwelling stock at the 2016 Census (22 per cent). The proportion of dwelling approvals for high-rise (21 per cent or 22,104 dwellings) exceeded existing dwelling stock (6 per cent as at the 2016 Census) over the same period.

For more detail about dwelling approvals, see the Technical notes.



This graph shows the proportion of dwelling approvals that are for houses, middle (attached dwellings up to three storeys) and high-rise (attached dwellings four storeys or more) annually.

Sales and price – SEQ

The residential median sales prices across SEQ have increased since 2011/12 despite a decline in price for some categories in 2018/19.

Residential sales numbers across SEQ have declined since reaching a peak between 2014/15 and 2016/17.

The median sales price for vacant lots (per lot and per square metre) and houses in the expansion area, increased from 2017/18 to 2018/19, continuing the trend from 2011/2012. However, median sales prices have declined or remained the same for all other categories from 2017/18 to 2018/19.

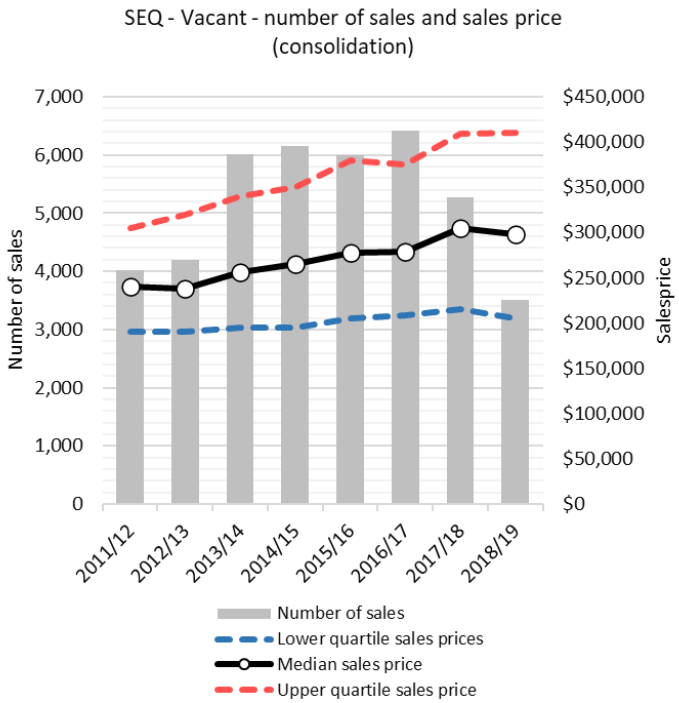
The lower quartile sales price has generally grown at a slower or similar rate to the median sales price for most categories between 2011/12 and 2018/19. The exception is price per square metre of

vacant lots in the expansion area, where the lower quartile sales price has increased by approximately 32% more than the median.

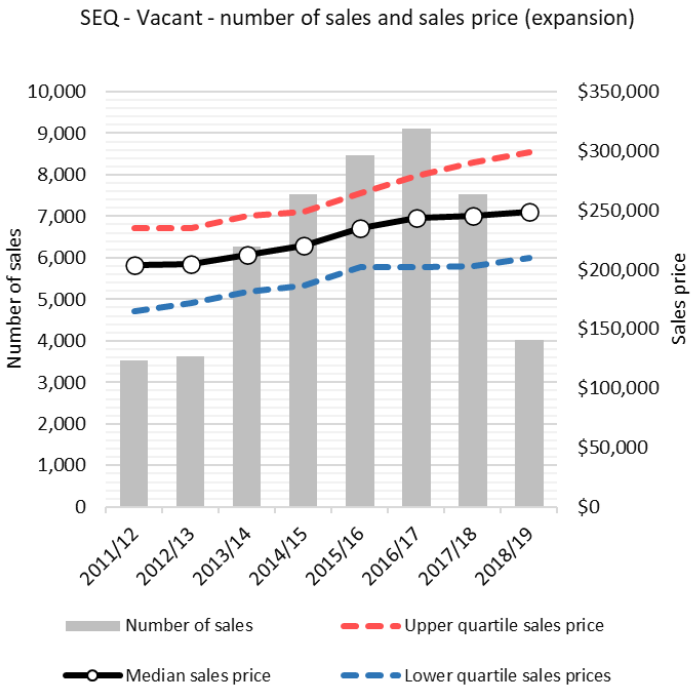
The general trend in the number of sales across all categories in SEQ was for sales to peak between 2014/15 and 2016/17 and decline by 2017/18. This decline in the number of sales has continued into 2018/19 for all categories. The rate of growth in median sales price from 2011/12 to 2018/19 was greater or similar in the consolidation area than for the expansion area across all categories.

Across SEQ, median sales price is higher across all categories in the consolidation area compared to the expansion area. Some local government areas depart from this general trend. For example, the major expansion growth areas of Ipswich, Logan and Moreton Bay generally have greater median sales prices in the expansion area than in the consolidation area.

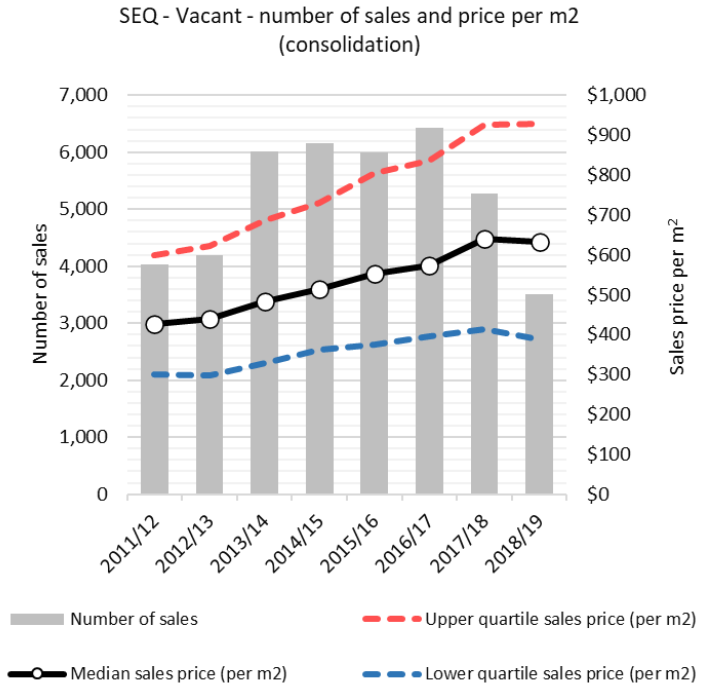
For more detail about the median sales price and number of sales, see the Technical notes.



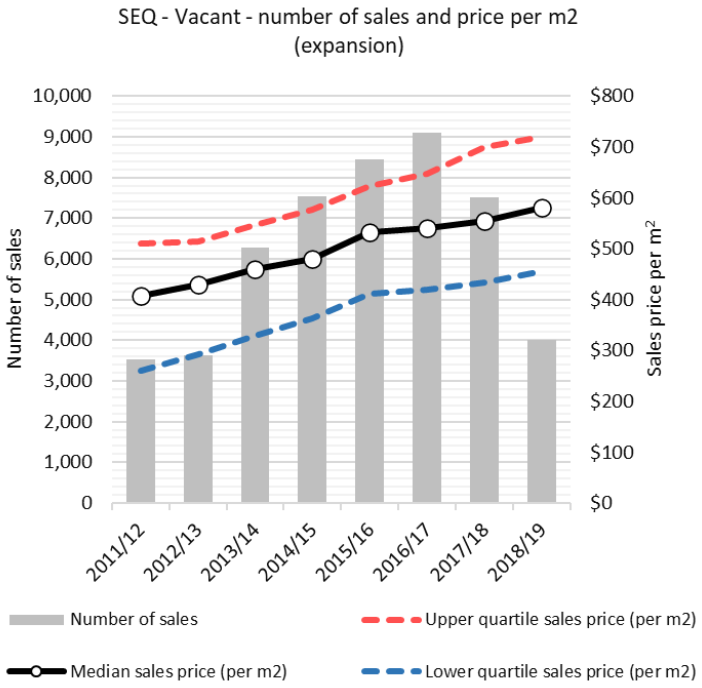
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the consolidation area.



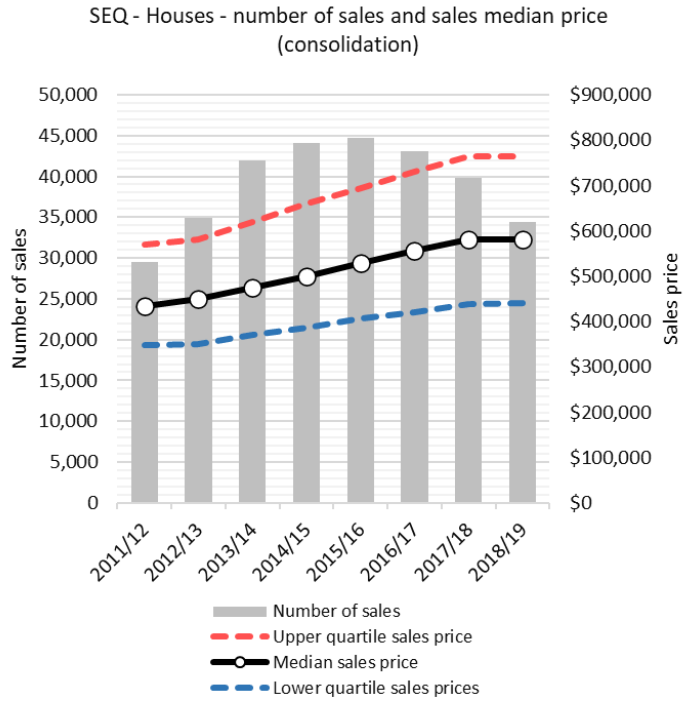
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the expansion area.



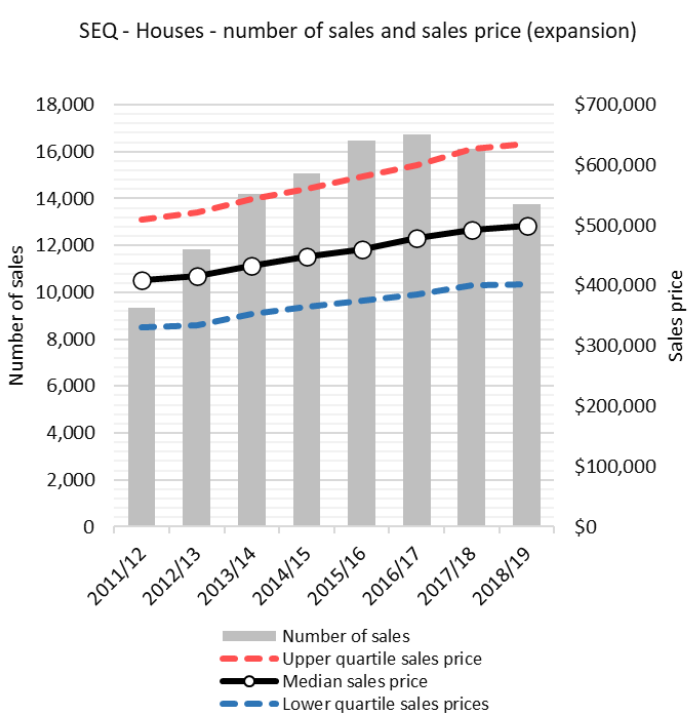
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the consolidation area.



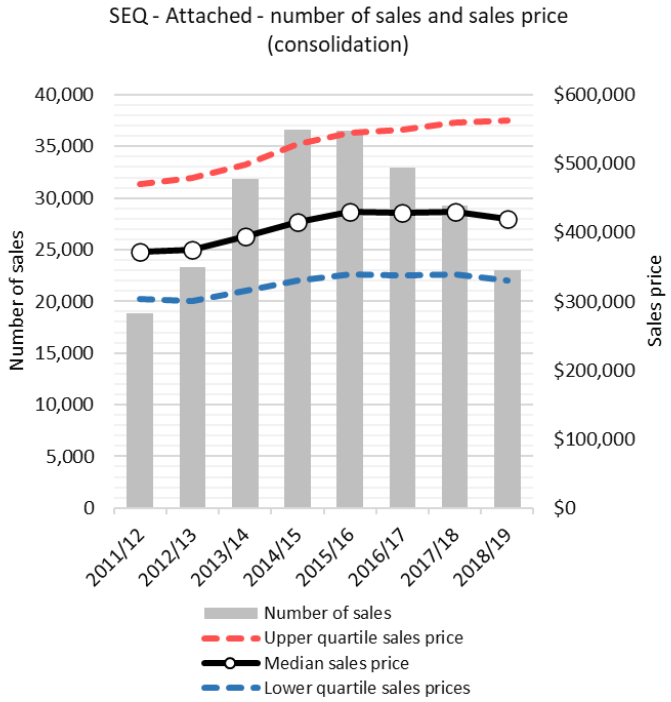
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the expansion area.



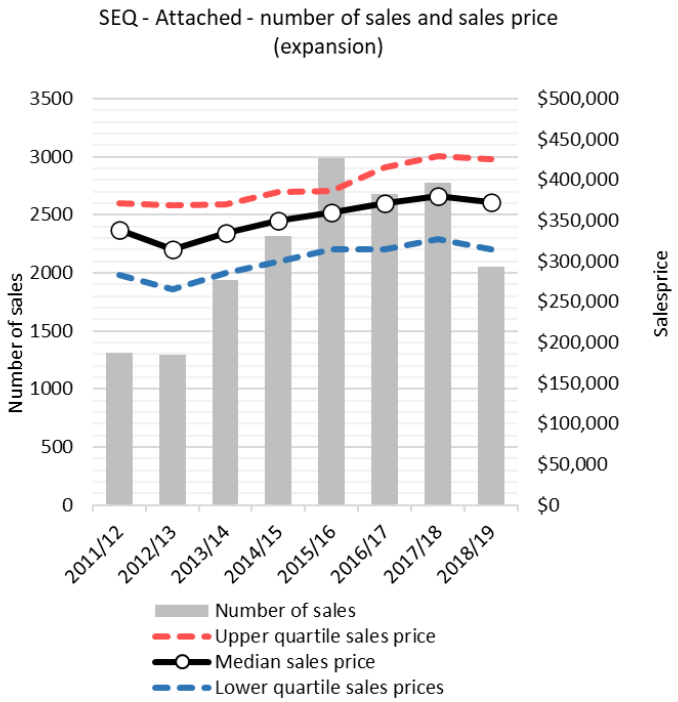
This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the consolidation area.



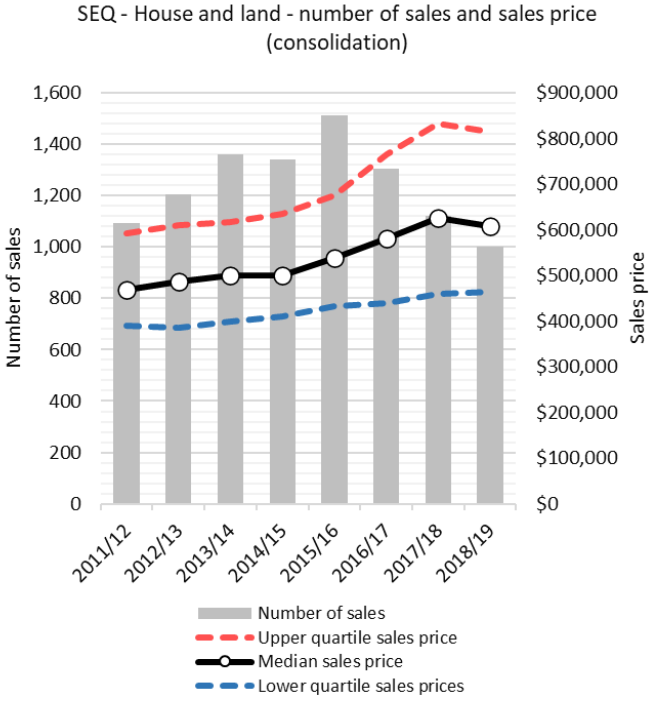
This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the expansion area.



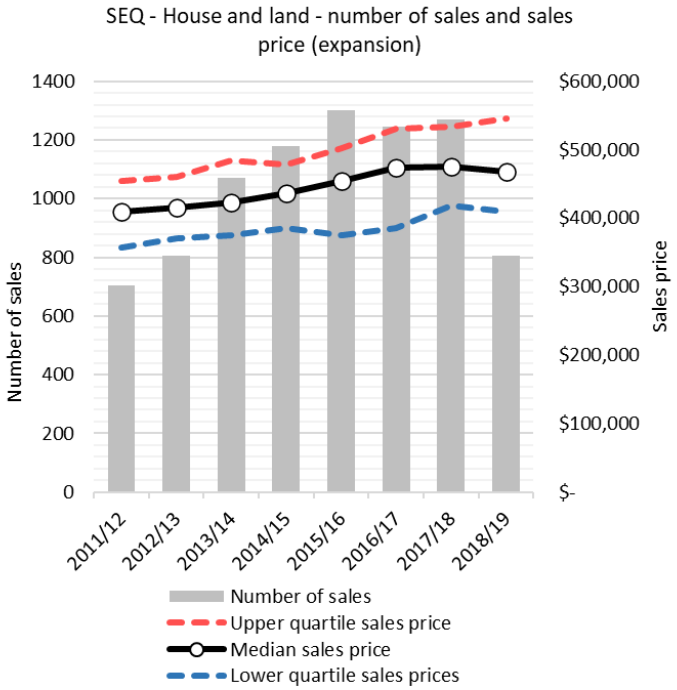
This graph shows the number of sales and the lower, median and upper quartile sales price for attached dwellings in the consolidation area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for attached dwellings in the expansion area.



This graph shows the number of sales and the lower, median and upper quartile sales price for house-land packages in the consolidation area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for house-land packages in the expansion area.

Industrial – SEQ

Planned industrial land supply/take-up – SEQ

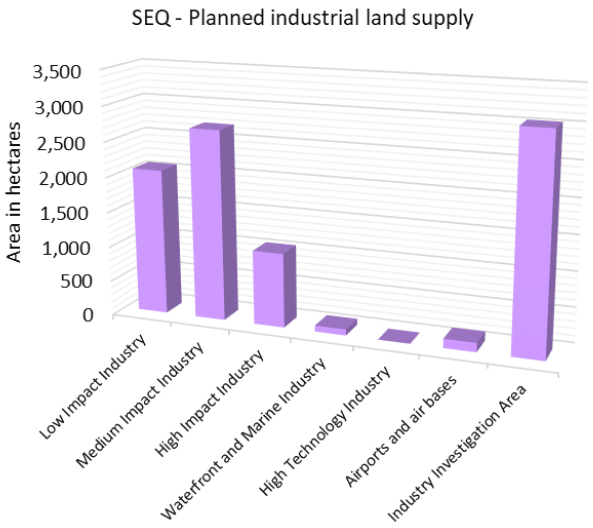
The region has about 9,100ha of vacant land planned for industrial purposes.

The estimated take-up of developed industrial land between 2011 and 2018 in SEQ was about 2595 hectares, the majority of which occurred on land zoned low, medium or high impact industry, as well as industry investigation. The four areas of greatest take-up were Ipswich, Toowoomba, Brisbane, and Scenic Rim.

There were about 9100 hectares of planned industrial land in SEQ as at 2018. This planned industrial land comprised land across all types, including land intended for high, medium and low impact industry, waterfront and marine industry and airports and airbases, as well as substantial industry investigation areas of approximately 3039 hectares.

The 2019 planned industrial land estimate improves upon the estimate provided in the 2018 LSDM Report. It has been derived by trialling the application of the developability rules for determining the impact of constraints from the Developable Area best practice research in 2019.

For more detail about these improvements and planned industrial land and take-up, see the Best practice research and Technical notes.



This graph shows the number of hectares of planned industrial land as at 2018 by industrial land category.

Note: The planned industrial land measure identifies land that may be developable in the long term based on current zoning or intent and applicable constraints in a planning instrument. Much of this land may not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry. Also, planned industrial land is a gross area which does not include any allowance for roads, infrastructure corridors, open space and the like.

The Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) notes ongoing improvements are required to continue to mature the industrial land monitoring. In partnership with stakeholders, DSDILGP will explore improved methods in 2020, building from the work undertaken in 2018 and 2019.

Planned industrial employment supply – SEQ

The region has more than *ShapingSEQ 2017*'s required minimum of 15 years of industrial employment supply in the pipeline.

The capacity and realistic availability of planned industrial employment supply in SEQ provide more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figure represents the number of employees that could be supported by industrial developments that have been or could be approved, based on current planning intent, while the realistic availability figure provides a supply scenario that assumes some of the capacity is not realistically available by 2041.

The realistic availability scenario considers factors that may constrain the availability of land for industrial development and employment. Such factors include constraints affecting the feasibility of development and lower than assumed employment densities.

The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the outcomes from the Developable Area best practice research in 2019 and a refined set of economic and developability criteria to estimate realistic availability in selected Major Enterprise

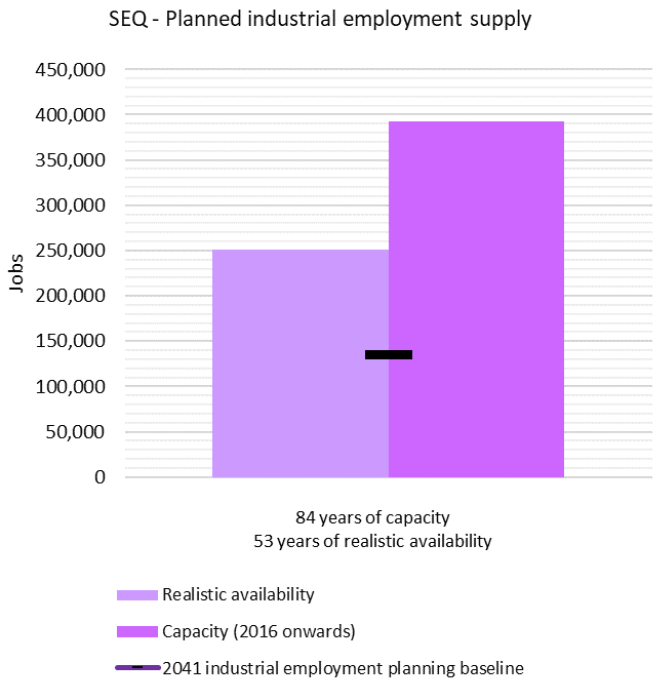
and Industrial Areas. For more information about these improvements, see the Best practice research and Technical notes.

The capacity of planned industrial employment supply in SEQ is about 392,000 employees, while the realistic availability of this supply is about 251,000 employees. These figures are markedly above the 2041 industrial employment planning baseline of about 134,000 employees. However, some excess of planned industrial employment supply may be appropriate to facilitate strategic economic development opportunities when they arise. This need was recognised by the Best practice research in the 2018 LSDM Report.

The main local government areas contributing to industrial employment supply in SEQ are Ipswich, Brisbane, Toowoomba and Logan.

The planned industrial employment supply and 2041 industrial employment planning baselines vary across local government areas, as does the status of infrastructure projects that would support realisation of the supply. Further detail is provided in each local government section.

For more detail about the calculation of planned industrial employment supply, see the Technical notes.



This graph shows the number of employees that could be supported by industrial developments, that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s 2041 industrial employment planning baseline.

Note: The planned industrial employment supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These

improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report. Much of the planned industrial employment supply will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry.

Brisbane

Summary

ShapingSEQ 2017 establishes that Brisbane's expected population growth will require an additional 188,200 dwellings between 2016 and 2041 through its dwelling supply benchmarks.

The capacity and realistic availability of planned dwelling supply in the Brisbane expansion area provides more than the minimum 15 years of supply sought by *ShapingSEQ 2017*. However, the capacity of planned dwelling supply in the Brisbane consolidation area is less than the 2041 dwelling supply benchmark.

Dwelling approvals in Brisbane have exceeded the average annual benchmarks for consolidation and expansion area growth on average since 2016/17, despite decreasing in 2018/19. Growth in the consolidation area should proportionately increase as expansion land supply diminishes and consolidation capacity increases through amended planning and development schemes. This could be supported by the provision of key regional transport infrastructure.

Housing in Brisbane has become increasingly diverse and dwelling density in Brisbane has increased in accordance with the *ShapingSEQ 2017* preferred future.

There are about three years of supply of uncompleted lot approvals in Brisbane, which is less than the minimum four years of supply sought by *ShapingSEQ 2017*. However, the total number of uncompleted lot approvals is the highest it has been in Brisbane for 10 years. There are about 6.1 years of supply of uncompleted multiple dwelling approvals in the Brisbane consolidation area, which exceeds the minimum four years of supply sought by *ShapingSEQ 2017*.

There are more than 15 years of planned industrial employment supply in Brisbane, however the capacity and realistic availability of planned industrial employment supply falls slightly below the 2041 employment planning baseline sought by *ShapingSEQ 2017*. The realisation of this planned industrial employment supply would be supported by the development of the Melbourne to Brisbane Inland Rail and improved connections to the Port of Brisbane.

Residential – Brisbane

Planned dwelling supply – Brisbane

The capacity and realistic availability of planned dwelling supply in the Brisbane consolidation and expansion areas provide more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figures represent the number of dwellings that have been or could be approved, based on current planning intent, while the realistic availability figure provides a land supply scenario that assumes some of the capacity is not realistically available by 2041.

The realistic availability scenario considers factors that may constrain the availability of land for development. Such factors may include infrastructure availability, land ownership fragmentation, landowner intent, practical staging of and capability for development, and the age of existing development.

The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the Current Intent to Service layer from the Ability to Service best practice research in 2019, in combination with other updated data, to derive new estimates of the realistic availability of planned dwelling supply. This approach forms a foundation for improvements in future years of reporting. For more information about these improvements, see the Best practice research and Technical notes.

In the Brisbane consolidation area, the capacity of planned dwelling supply is about 163,000 dwellings. This represents 16 years of supply and is about 14,000 dwellings less than the consolidation 2041 dwelling supply benchmark of 176,800 dwellings.

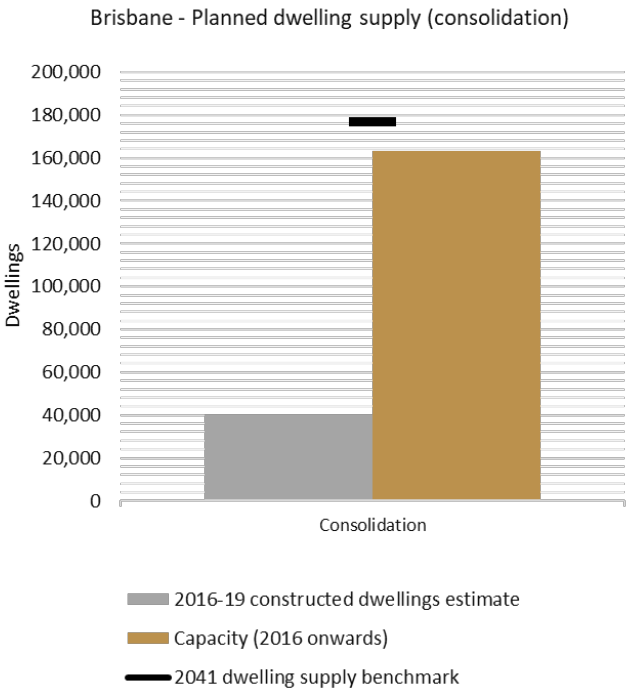
In the Brisbane expansion area, the capacity and realistic availability of planned dwelling supply are roughly 13,000 and 12,000 dwellings respectively. These figures are slightly more than the expansion 2041 dwelling supply benchmark of 11,400 dwellings.

Realisation of the planned dwelling supply in the Brisbane consolidation area is expected to be supported by the provision of key regional transport infrastructure including Brisbane Metro, Cross River Rail as well as transport infrastructure identified in *ShapingSEQ 2017* and the State Infrastructure Plan, including busway extensions and other high-frequency public transport connections.

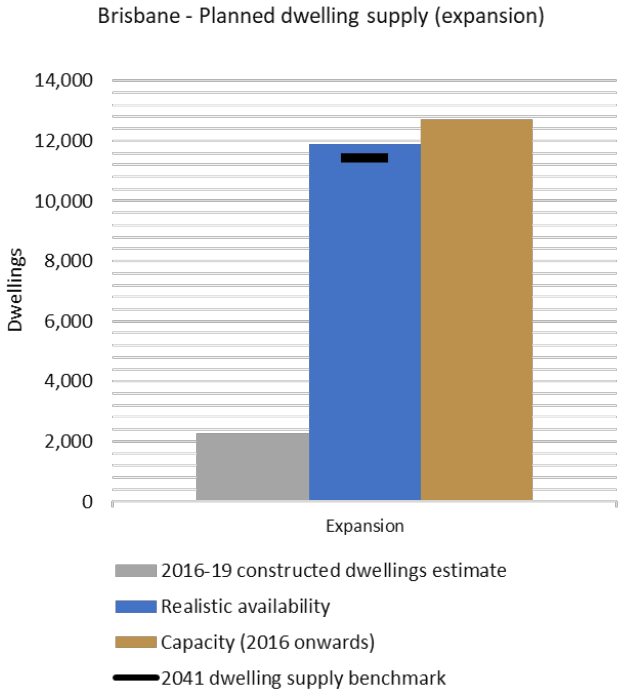
Brisbane City Council has recently adopted and is currently preparing amendments to the Brisbane City Plan 2014 which may affect planned dwelling supply in the consolidation area. Also, Economic Development Queensland has recently adopted and is preparing amendments to development schemes for Priority Development Areas which are expected to increase planned dwelling supply in the consolidation area.

Brisbane City Council has also nominated future growth nodes in the strategic framework of Brisbane City Plan 2014 as areas to investigate potentially higher dwelling densities. Future neighbourhood planning and any resulting planning scheme amendments in these areas could support the increase of planned dwelling supply over time. Where amendments proceed, and data sources are updated, their effect on planned dwelling supply will be included in future years of LSDM Reporting.

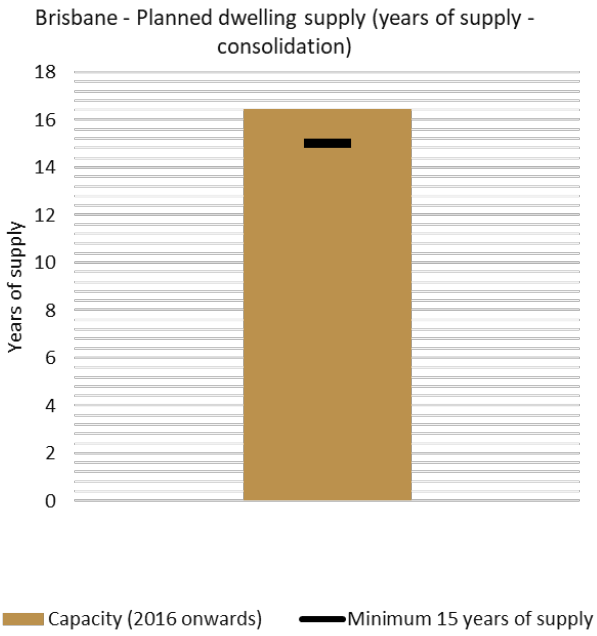
For more detail about the calculation of planned dwelling supply, including years of supply, and a list of planning and development scheme amendments recently adopted or in process for Brisbane, see the Technical notes.



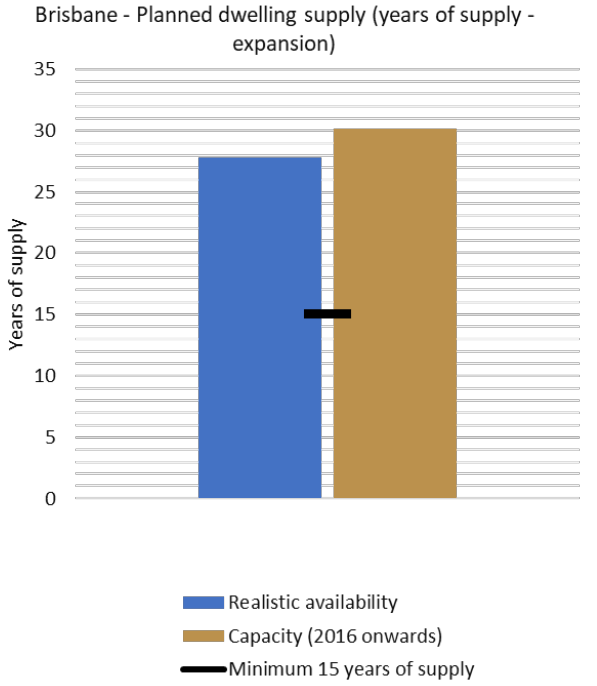
This graph shows the number of dwellings that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s dwelling supply benchmarks in consolidation areas.



This graph shows the number of dwellings that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s dwelling supply benchmarks in expansion areas. To view fact sheets on the concept of realistic availability, click here.



This graph shows the number of years of supply of dwellings that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s minimum 15 years of supply policy objective in consolidation areas.



This graph shows the number of years of supply of dwellings that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s minimum 15 years of supply policy objective in expansion areas.

Note: The planned dwelling supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local

governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report.

Approved supply – Brisbane

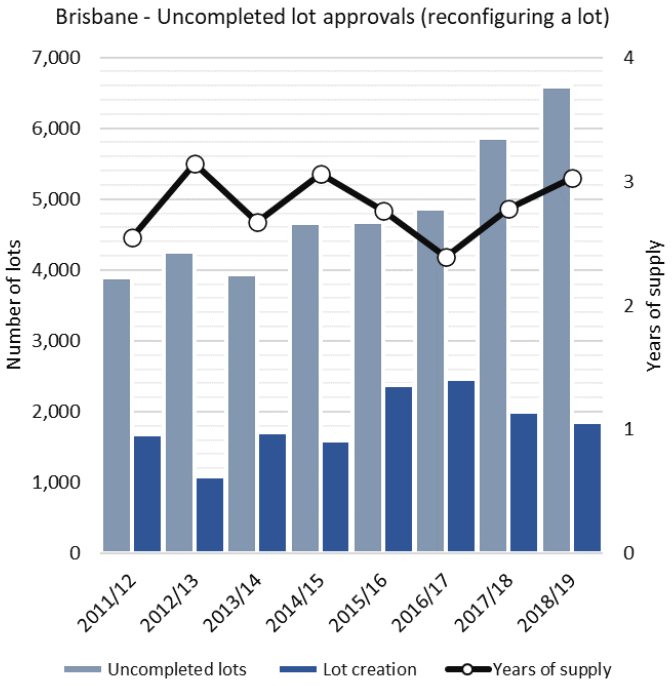
Approved supply is measured by analysing uncompleted lot approvals and uncompleted multiple dwelling approvals across Brisbane.

There are about three years of supply of uncompleted lot approvals in the Brisbane consolidation and expansion areas overall, which is less than the minimum four years of supply sought by *ShapingSEQ 2017*. There is currently a total of 6582 uncompleted lot approvals, the highest it has been in Brisbane for about 10 years. The years of supply shows a general trend of about three years or less since 2011/12. Of these uncompleted lots, approximately 28 per cent have operational works approvals for the 2018/19 period. The high rate of lot creation from 2015/16 to 2018/19 has contributed to the slightly low years of supply figure.

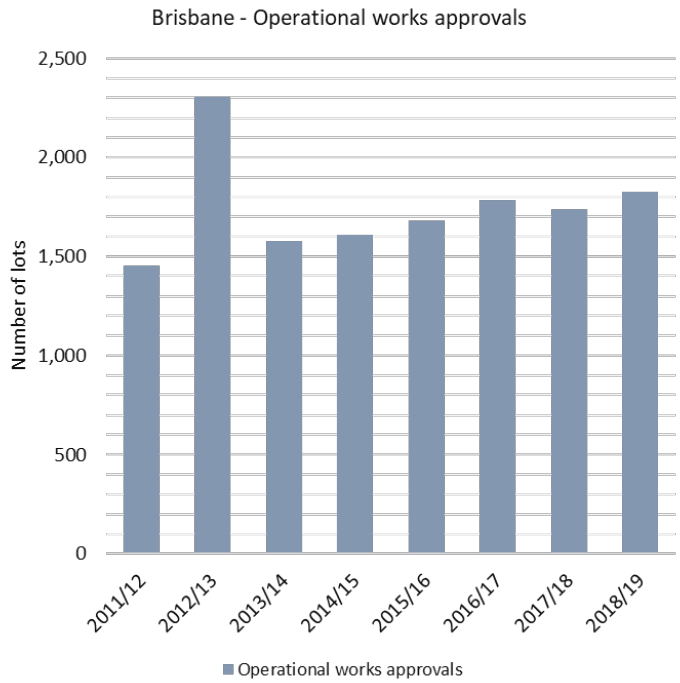
There are about 6.1 years of supply of uncompleted multiple dwelling approvals in the Brisbane consolidation area. This is more than the minimum four years of supply sought by *ShapingSEQ 2017*.

The number of uncompleted multiple dwelling approvals fell slightly from June 2018 to June 2019, but the years of supply has increased because the rate of multiple dwelling construction fell from June 2018 to 2019, decreasing the assumed level of demand in the years of supply calculation.

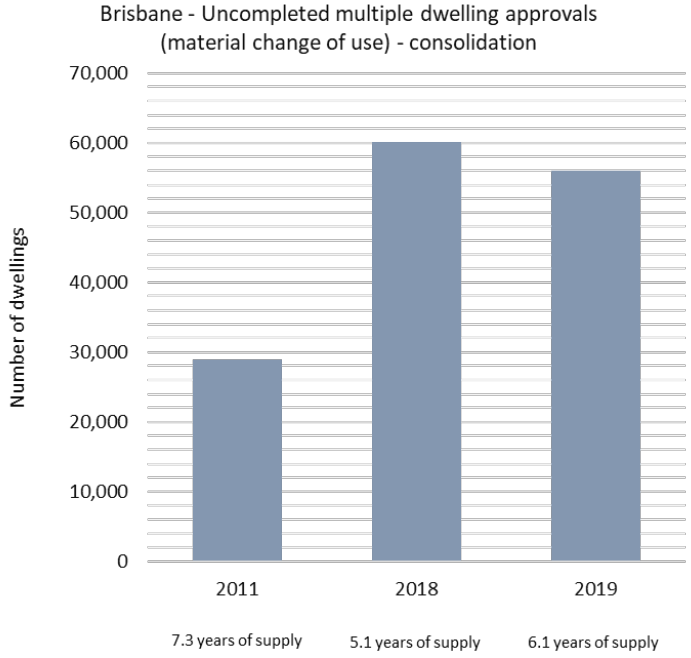
For details of the calculation and comparability over time of the approved supply figures, refer to the Technical notes.



This graph shows the number of lots that have a development permit but have not yet been certified (uncompleted lots) as at 30 June each year as well as the number of lots that have been created in the 12 months up to 30 June each year.



This graph shows the number of uncompleted lot approvals which also have operational works approvals as at 30 June each year.



This graph shows the number of multiple dwellings that have a material change of use development permit but have not yet been constructed (uncompleted multiple dwellings) in the consolidation area as at 30 June 2011, 30 June 2018 and 30 June 2019.

Note: The years of supply for uncompleted multiple dwelling approvals is determined by dividing the total number of uncompleted multiple dwellings by the average annual attached dwelling building approvals of the previous four years. The years of supply for uncompleted lot approvals is determined by dividing the total number of uncompleted lots by the average annual lot certifications of the previous four years.

Dwelling growth – Brisbane

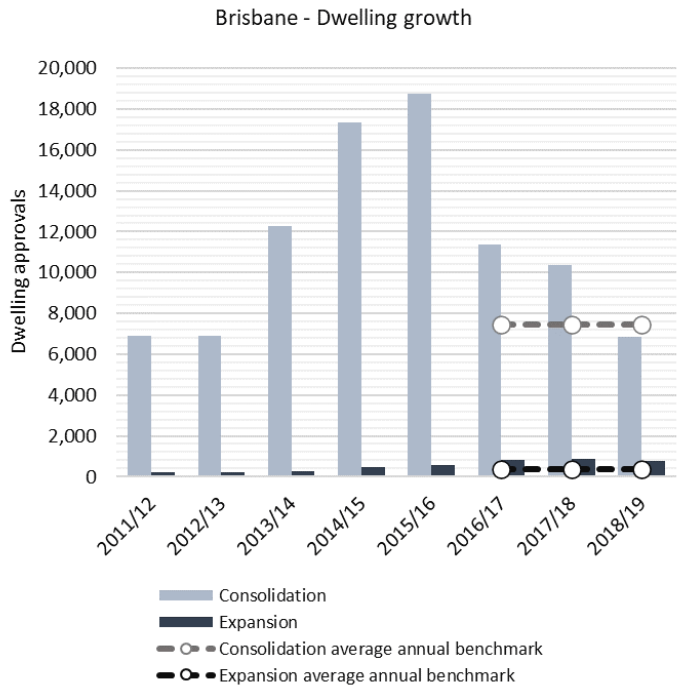
On average dwelling approvals (used to measure dwelling growth) in Brisbane have exceeded the average annual benchmark since 2016/17.

Following higher growth during 2016/18, in 2018/19 there were 6860 dwelling approvals in Brisbane's consolidation area, which was approximately 600 dwellings less than the consolidation average annual benchmark of 7463 additional dwellings. There were 763 dwelling approvals in Brisbane's expansion area in 2018/19, which was approximately 415 dwellings more than the expansion average annual benchmark of 346 additional dwellings.

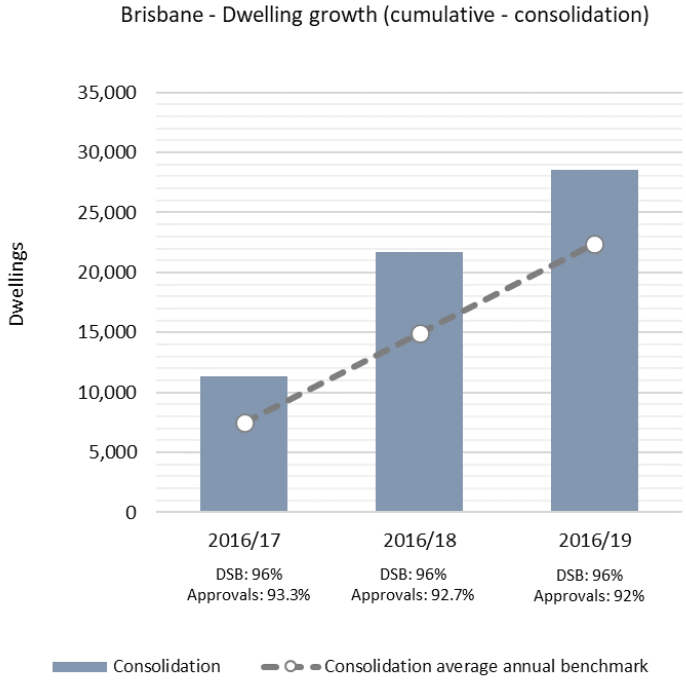
Dwelling approvals in the Brisbane consolidation and expansion areas for 2016/17 to 2018/19 were similar to its expected shares of dwelling growth to 2031 identified in *ShapingSEQ 2017* (96 per cent), with growth in the expansion area above its expected share of four per cent. Eight per cent of dwelling approvals were in the Brisbane expansion area for 2016/17 to 2018/19. Approvals in the consolidation area (92 per cent) over the same period were less than its expected share of 96 per cent.

Growth in the consolidation area should proportionately increase as expansion land supply diminishes and consolidation capacity increases through amended planning and development schemes. This could be supported by the provision of key regional transport infrastructure.

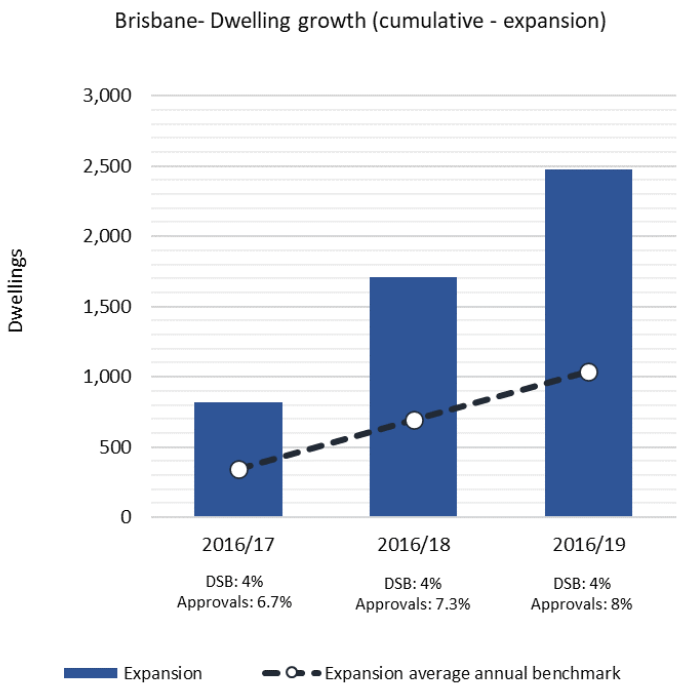
As the actual number of dwelling approvals for 2016/17 to 2018/19, in the consolidation and expansion areas, are above the average annual benchmarks, Brisbane is on track to be able to accommodate the 2041 dwelling supply benchmarks. For more information about improvements to the measurement of dwellings and net growth over time, see Moving forward. For more detail about dwelling approvals, see the Technical notes.



This graph shows annual dwelling approvals compared against *ShapingSEQ 2017*'s average annual benchmarks.



This graph shows the cumulative dwelling growth in the consolidation area against *ShapingSEQ 2017*'s consolidation average annual benchmark.



This graph shows the cumulative dwelling growth in the expansion area against *ShapingSEQ 2017*'s expansion average annual benchmark.

Note: The average annual benchmark (2016 to 2031) has been adjusted since the 2018 Land Supply and Development Monitoring Report to reflect the growth rate of the most recent 2018 Queensland Government dwelling projections for SEQ. This adjustment has resulted in the average annual benchmark increasing marginally for the consolidation and expansion area in each local government. For more detail about the adjustment method and reasoning, see the Technical notes.

Changes in dwelling density – Brisbane

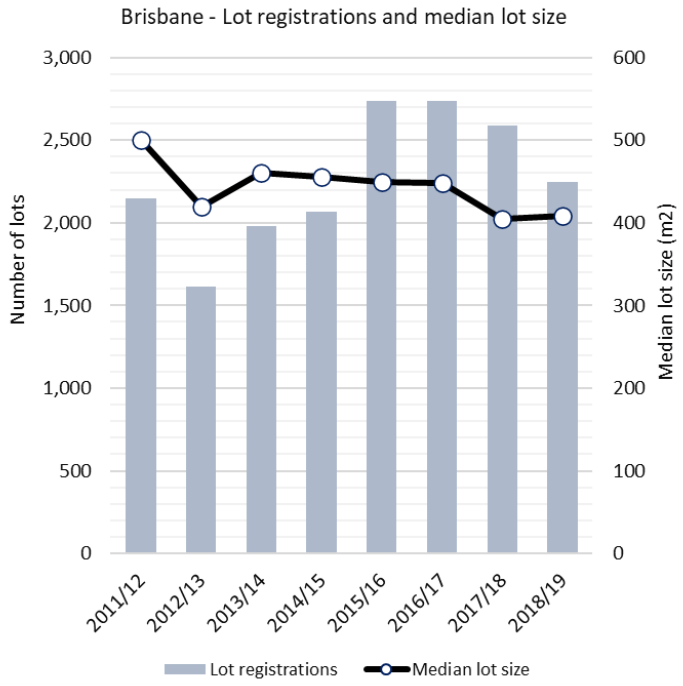
Overall dwelling density (measured through median size of new lots and mean population-weighted dwelling density) has been increasing in Brisbane in accordance with the *ShapingSEQ 2017* Measures that Matter preferred future for higher dwelling densities and smaller lots.

Mean population-weighted dwelling density increased in Brisbane overall between 2011 and 2016, from 17.5 dwellings per hectare to 22.6 dwellings per hectare. This represents the average dwelling density at which the population of Brisbane lives and is comparable to the net residential density as used by *ShapingSEQ 2017*. In the consolidation area, mean population-weighted dwelling density increased from 17.9 to 23.2 dwellings per hectare.

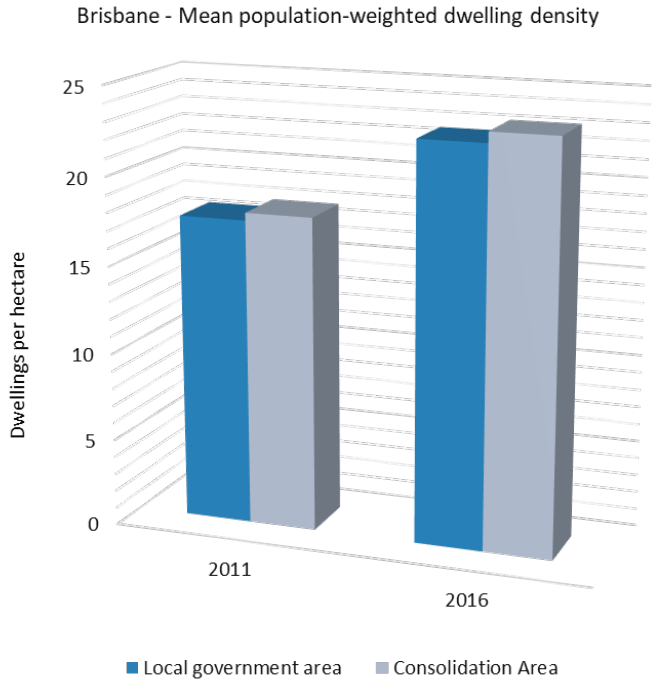
Although slightly higher in 2018/19 than the previous year, the median size of new lots in Brisbane decreased overall from 500m^2 to 408m^2 from 2011/12 to 2018/19. This was associated with a general trend to higher lot registrations up to 2016/17 followed by a decline since. This measure is indicative of increased dwelling densities in new urban subdivisions in Brisbane.

Changes to Brisbane's planning scheme and Priority Development Area development schemes over time have contributed to increased planned dwelling densities and encouraged smaller lots.

For more detail about the calculation of mean population-weighted dwelling density and median size of new lots, see the Technical notes.



This graph shows the number and median size of new lots registered annually.



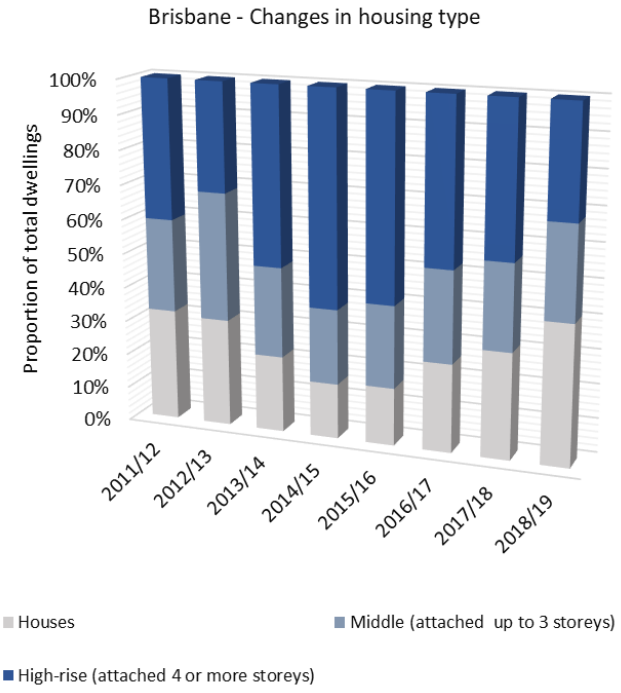
This graph shows the dwelling density (mean population-weighted dwelling density) at which people were living in 2011 and 2016.

Changes in housing type – Brisbane

Recent dwelling approvals indicate an increase in housing diversity in Brisbane, consistent with the *ShapingSEQ 2017* Measures that Matter preferred future.

Houses in Brisbane comprised 31 per cent (9714 dwellings) of all new dwelling approvals for 2016/17 to 2018/19, which was less than the proportion of existing dwelling stock as at the 2016 Census (66 per cent). Dwelling approvals for middle (26 per cent or 8127 dwellings) and high-rise (43 per cent or 13,214 dwellings) over the same period were higher than their share of the dwelling stock (middle 25 per cent, high-rise nine per cent) as at the 2016 Census.

For more detail about dwelling approvals, see the Technical notes.



This graph shows the proportion of dwelling approvals that are for houses, middle (attached dwellings up to three storeys) and high-rise (attached dwellings four storeys or more) annually.

Sales and price – Brisbane

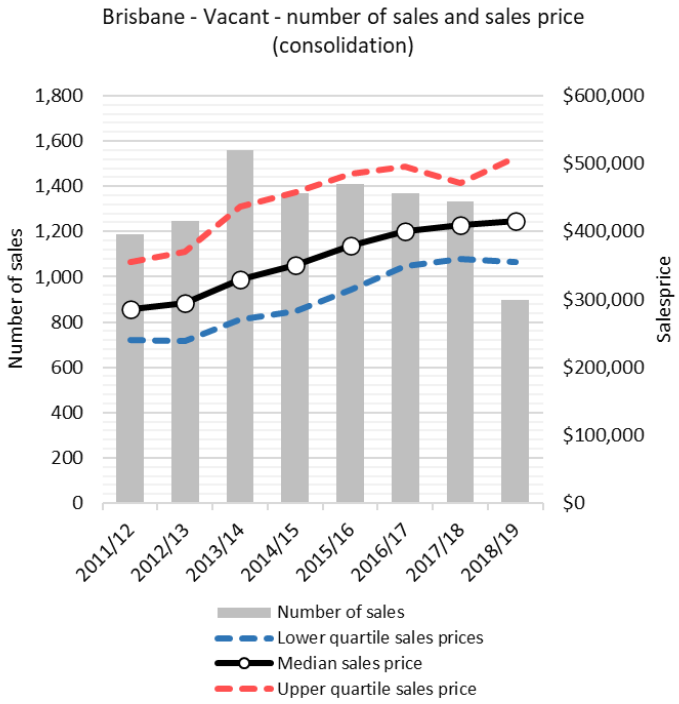
The number of sales has decreased from 2017/18 to 2018/19 for all categories in Brisbane except house-land packages in the expansion area which have increased.

The median sales price for all categories is higher in Brisbane than for South East Queensland (SEQ). The rate of median price growth was also higher than, or the same, in Brisbane as for SEQ for all categories except vacant lots (per lot and per square metre) in the expansion area, and attached dwellings in the consolidation area.

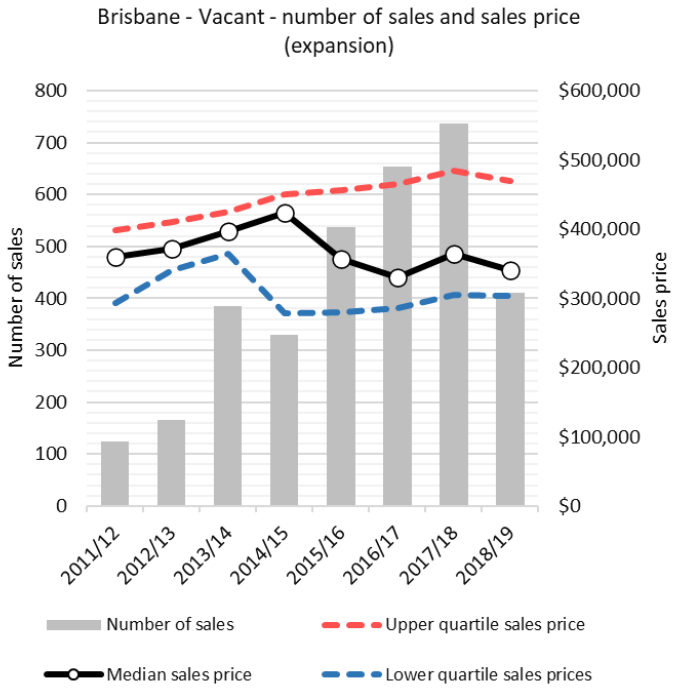
In the Brisbane consolidation area, from 2011/12 to 2018/19, the greatest growth in median sales price was for house-land packages (42 per cent) and vacant lots (46 per cent per lot and 59 per cent per square metre).

The rate of median price growth was higher or the same in the Brisbane consolidation area than the expansion area for all categories except attached dwellings.

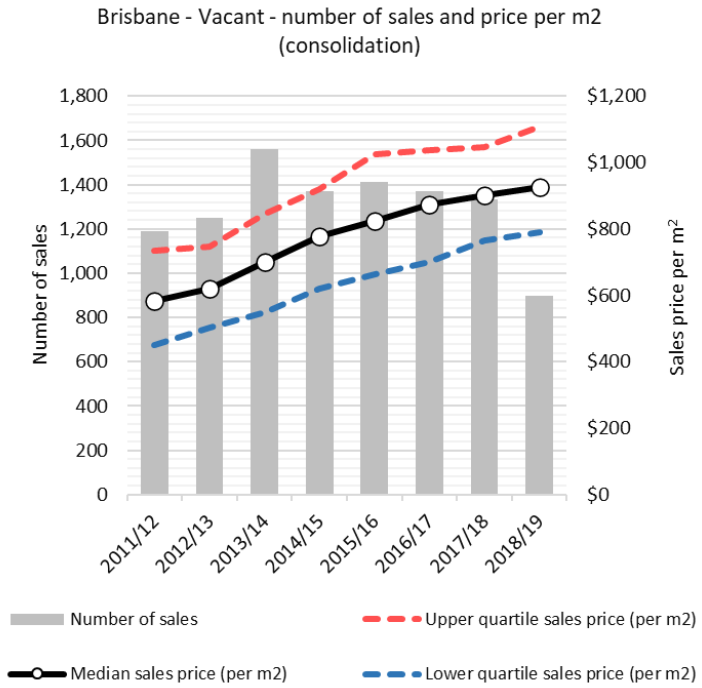
For more detail about the median sales price and number of sales, see the Technical notes.



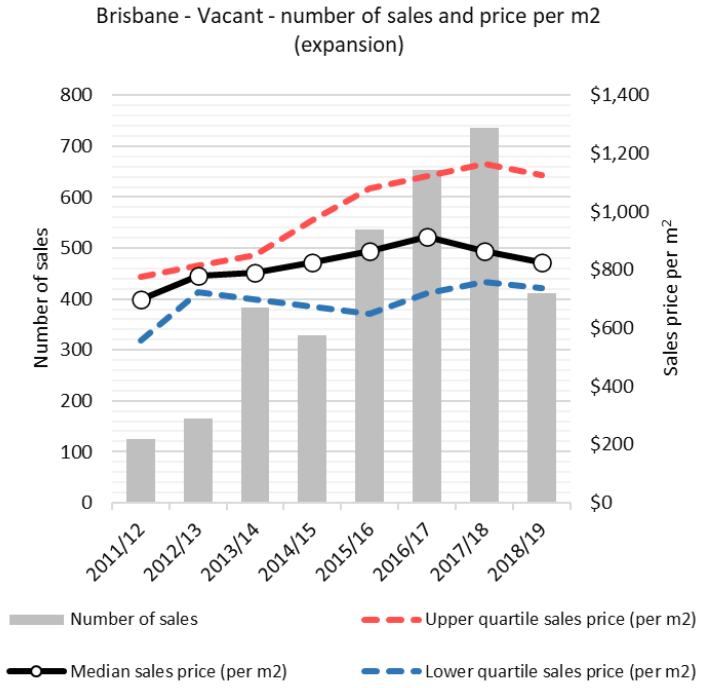
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the consolidation area.



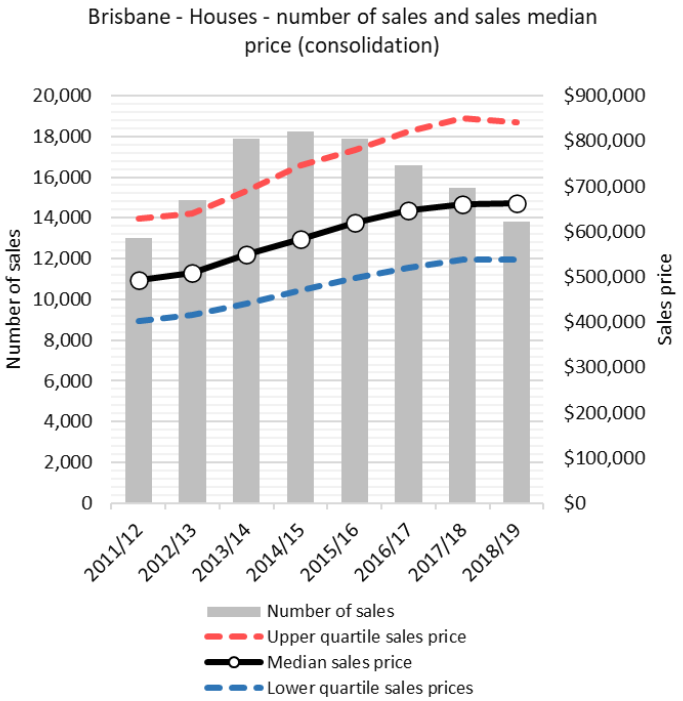
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the expansion area.



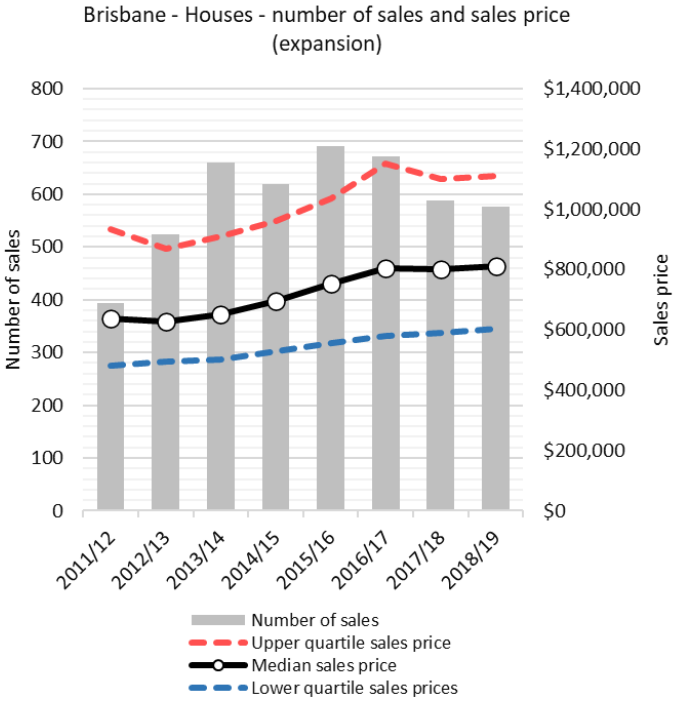
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the consolidation area.



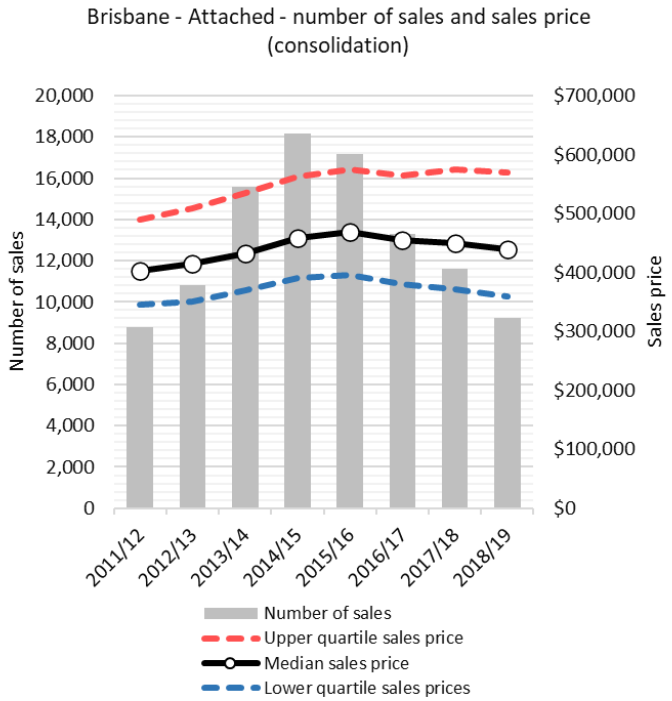
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the expansion area.



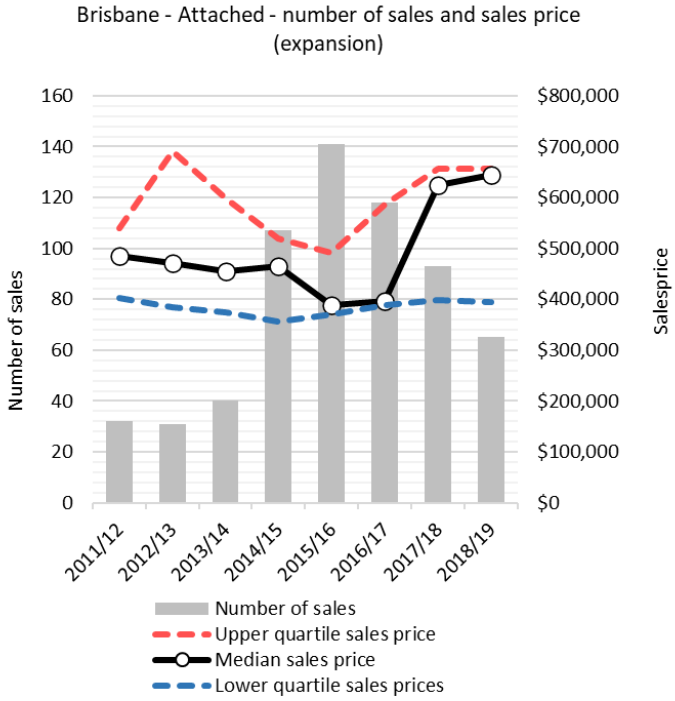
This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the consolidation area.



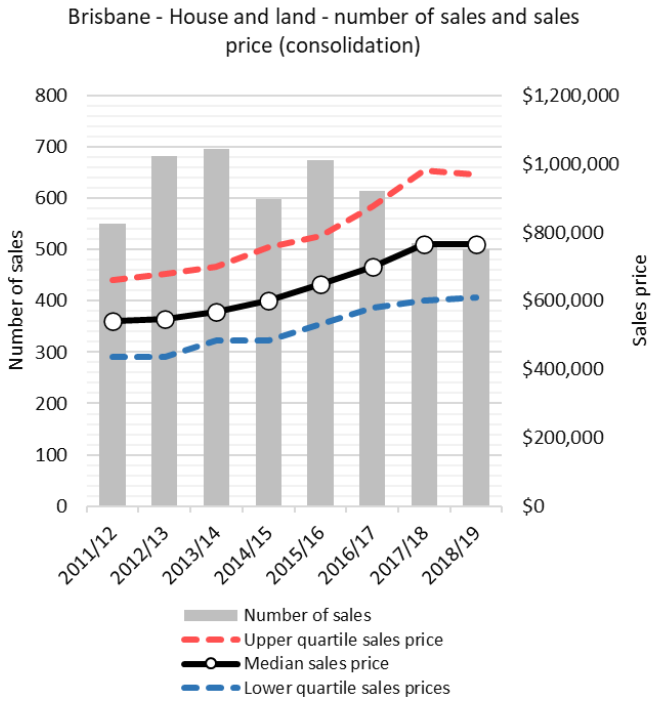
This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the expansion area.



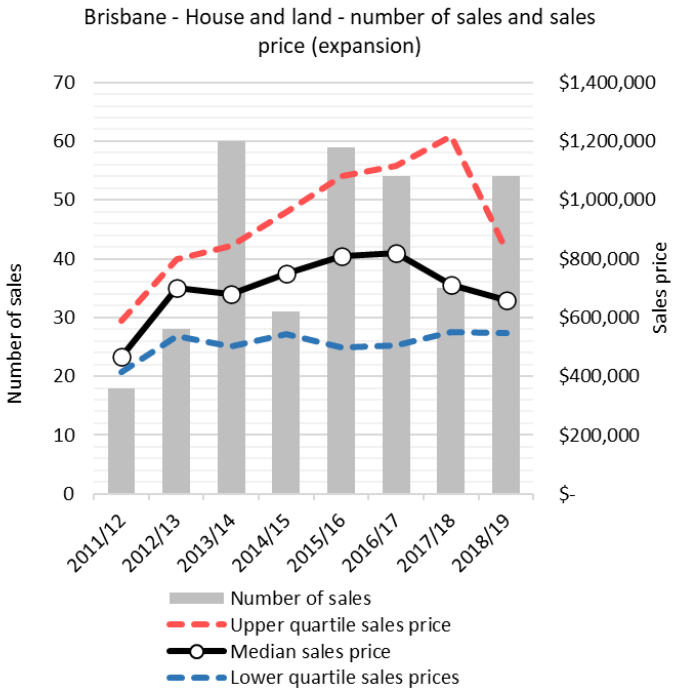
This graph shows the number of sales and the lower, median and upper quartile sales price for attached dwellings in the consolidation area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for attached dwellings in the expansion area.



This graph shows the number of sales and the lower, median and upper quartile sales price for house-land packages in the consolidation area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for house-land packages in the expansion area.

Industrial – Brisbane

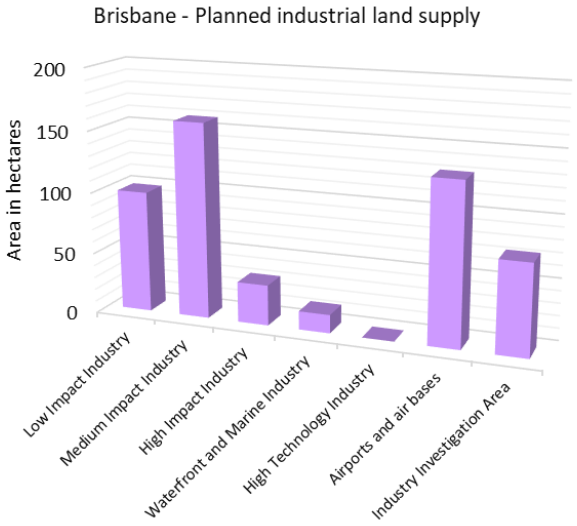
Planned industrial land supply/take-up – Brisbane

The estimated take-up of developed industrial land between 2011 and 2018 in Brisbane was about 378 hectares. The majority of this take-up was on land intended for medium and high impact industry, followed by airports and air bases, and then low impact industry, and industry investigation.

There were about 511 hectares of planned industrial land in Brisbane as at 2018. This planned industrial land comprised land intended for high, medium and low impact industry and other land categories, including airports and airbases and industry investigation areas.

The 2019 planned industrial land estimate improves upon the estimate provided in the 2018 LSDM Report. It has been derived by trialling the application of the developability rules for determining the impact of constraints from the Developable Area best practice research in 2019.

For more detail about these improvements and planned industrial land and take-up, see the Best practice research and Technical notes.



This graph shows the number of hectares of planned industrial land as at 2017 by industrial land category.

Note: The planned industrial land measure identifies land that may be developable in the long term based on current zoning or intent and applicable constraints in a planning instrument. Much of this land will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry. Also, planned industrial land is a gross area which does not include any allowance for roads, infrastructure corridors, open space and the like.

The Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) notes ongoing improvements are required to continue to mature the industrial land monitoring. In partnership with stakeholders, DSDILGP will explore improved methods in 2020, building from the work undertaken in 2018 and 2019.

Planned industrial employment supply – Brisbane

The capacity and realistic availability of planned industrial employment supply in Brisbane provide the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figure represents the number of employees that could be supported by industrial developments that have been or could be approved, based on current planning intent, while the realistic availability figure provides a supply scenario that assumes some of the capacity is not realistically available by 2041.

The realistic availability scenario considers factors that may constrain the availability of land for industrial development and employment. Such factors include constraints affecting the feasibility of development and lower than assumed employment densities.

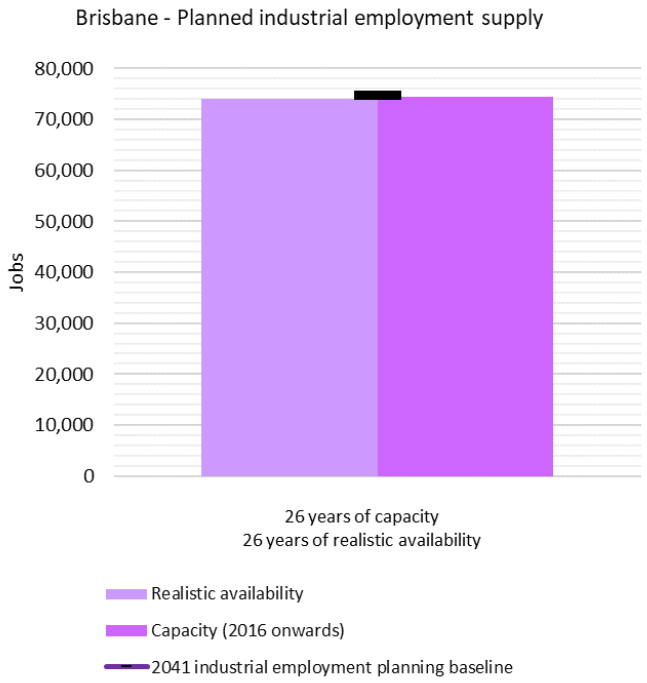
The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the outcomes from the Developable Area best practice research in 2019 and a refined set of economic and developability criteria to estimate realistic availability in selected Major Enterprise and Industrial Areas. For more information about these improvements, see the Best practice research and Technical notes.

The capacity of planned industrial employment supply in Brisbane is about 74,500 employees. The realistic availability of this supply is about 74,100 employees. These fall very slightly below the 2041 industrial employment planning baseline of about 74,700 employees and represent about 26 years of supply.

The realisation of this planned industrial employment supply in Brisbane would be supported by the development of the Melbourne to Brisbane Inland Rail and improved connections to the Port of Brisbane.

There are planning and development scheme amendments, either recently adopted or in process, that may affect planned industrial employment supply in Brisbane. Where amendments proceed, and data sources are updated, their effect on industrial employment supply will be included in future years of LSDM Reporting.

For more detail about the calculation of planned industrial employment supply, and identification of relevant planning and development scheme amendments, see the Technical notes.



This graph shows the number of employees that could be supported by industrial developments, that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s 2041 industrial employment planning baseline.

Note: The planned industrial employment supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report. Much of the planned industrial employment supply will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry.

Gold Coast

Summary

ShapingSEQ 2017 establishes that Gold Coast's expected population growth will require an additional 158,900 dwellings between 2016 and 2041 through its dwelling supply benchmarks.

The capacity and realistic availability of planned dwelling supply in the Gold Coast consolidation and expansion areas provides more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

Dwelling approvals have declined in 2018/19 and remain below the consolidation average annual benchmark in the Gold Coast consolidation area and above the benchmark in the expansion area. Growth in the consolidation area should proportionately increase as expansion land supply diminishes and consolidation capacity increases through amended planning and development schemes. This could be supported by the provision of key regional transport infrastructure, and will require, in some locations, the redevelopment of existing attached dwellings.

Recent dwelling approvals on the Gold Coast indicate a lower proportion of houses and a higher proportion of high-rises relative to existing dwelling stock, consistent with the *ShapingSEQ 2017* preferred future. However, the proportion of one to three storey attached dwelling approvals was lower, relative to existing dwelling stock, which is inconsistent with the *ShapingSEQ 2017* preferred future. Dwelling density on the Gold Coast has increased in accordance with the *ShapingSEQ 2017* preferred future.

There are about 1.7 years of supply of uncompleted lot approvals on the Gold Coast, which is below the minimum four years of supply sought by *ShapingSEQ 2017*. The total number of uncompleted lot approvals has been declining since 2011/12. As the supply of expansion land diminishes, it is expected that the supply of uncompleted lot approvals and lot creation would reduce to lower levels. There are about 9.8 years of supply of uncompleted multiple dwelling approvals in the Gold Coast consolidation area.

The capacity and realistic availability of planned industrial employment supply on the Gold Coast exceed the 15 years of supply sought by *ShapingSEQ 2017* and exceed the 2041 industrial employment planning baseline.

Residential – Gold Coast

Planned dwelling supply – Gold Coast

The capacity and realistic availability of planned dwelling supply in the Gold Coast consolidation and expansion areas provides more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figures represent the number of dwellings that have been or could be approved, based on current planning intent, while the realistic availability figure provides a land supply scenario that considers whether some of the capacity is not realistically available by 2041.

The realistic availability scenario considers factors that may constrain the availability of land for development. Such factors may include infrastructure availability, land ownership fragmentation,

landowner intent, practical staging of and capability for development, and the age of existing development.

The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the Current Intent to Service layer from the Ability to Service best practice research in 2019, in combination with other updated data, to derive new estimates of the realistic availability of planned dwelling supply. This approach forms a foundation for improvement in future years of reporting. For more information about these improvements, see the Best practice research and Technical notes.

In the Gold Coast consolidation area, the capacity of planned dwelling supply is about 141,900 dwellings, about 14,000 more than the consolidation 2041 dwelling supply benchmark of 127,900 dwellings.

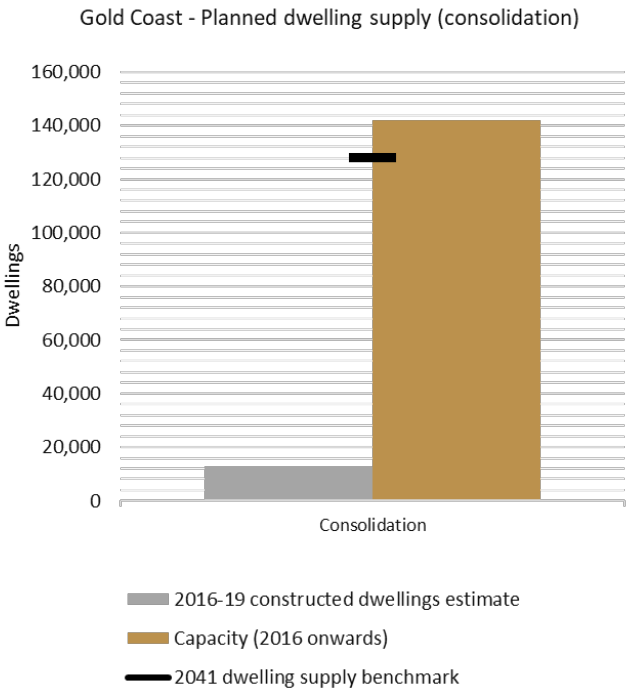
In the Gold Coast expansion area, the capacity and realistic availability of planned dwelling supply are about 47,000 and 45,000 dwellings respectively, well above the expansion 2041 dwelling supply benchmark of 31,000 dwellings.

Realisation of planned dwelling supply in the Gold Coast consolidation area will require, in some locations, the redevelopment of existing attached dwellings, and would be supported by extension of high-frequency public transport connections, including light rail services from Broadbeach to Coolangatta, as identified in *ShapingSEQ 2017* and the State Infrastructure Plan.

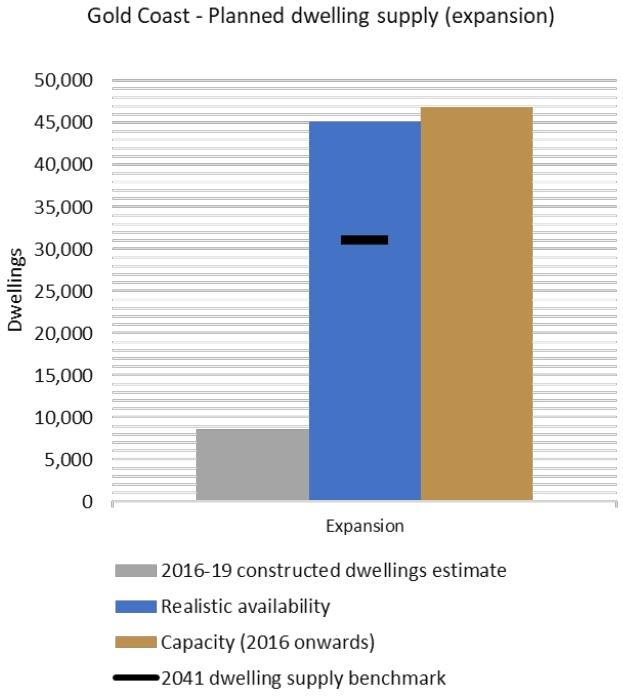
The City of Gold Coast is preparing amendments to its planning scheme, which may affect planned dwelling supply. As part of the proposed Major 2/3 update, the City has identified three priority areas for growth at Biggera Waters, Labrador and Southport West, which include proposed changes to zoning, height and density provisions. The diversification of dwelling choice in the identified priority growth areas will also be supported by the introduction of the new Low-medium residential density zone.

Where amendments proceed, and source data is updated, their effect on planned dwelling supply will be included in future years of LSDM Reporting.

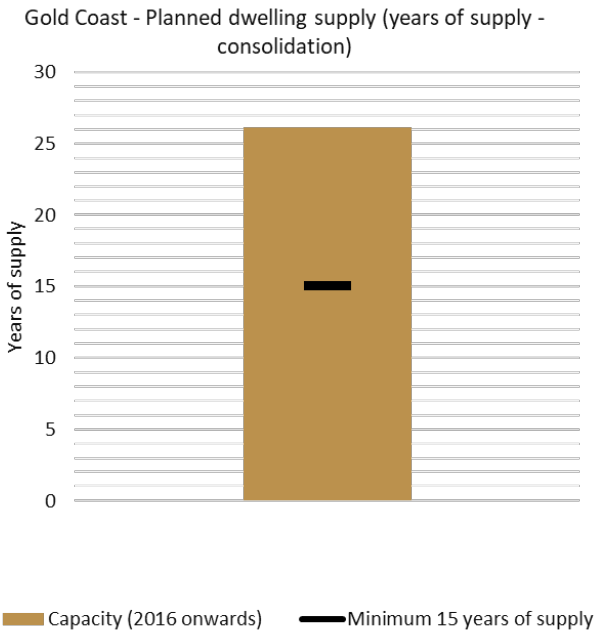
For more detail about the calculation of planned dwelling supply, including years of supply, and a list of planning and development scheme amendments recently adopted or in process for Gold Coast, see the Technical notes.



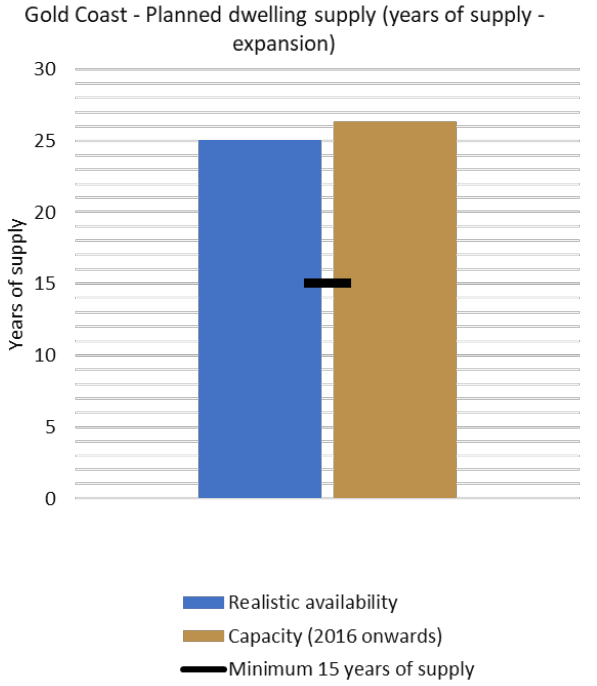
This graph shows the number of dwellings that have been or could be approved based on current planning intent compared against *ShapingSEQ 2017*'s dwelling supply benchmarks in consolidation areas.



This graph shows the number of dwellings that have been or could be approved based on current planning intent compared against *ShapingSEQ 2017*'s dwelling supply benchmarks in expansion areas. To view fact sheets on the concept of realistic availability, click here.



This graph shows the number of years of supply of dwellings that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s minimum 15 years of supply policy objective in consolidation areas.



This graph shows the number of years of supply of dwellings that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s minimum 15 years of supply policy objective in expansion areas.

Note: The planned dwelling supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local

governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report.

Approved supply – Gold Coast

Approved supply is measured by analysing uncompleted lot approvals and uncompleted multiple dwelling approvals across Gold Coast.

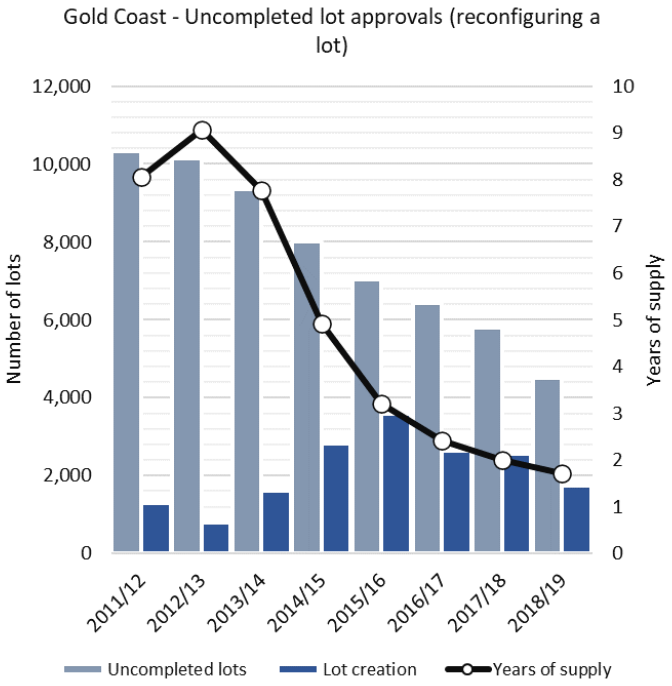
There are about 1.7 years of supply of uncompleted lot approvals in the Gold Coast consolidation and expansion areas overall, less than the minimum four years of supply sought by *ShapingSEQ 2017*. The total number of uncompleted lot approvals has declined since 2011/12, and lot creation has declined over the past four years, with the total number of current uncompleted lot approvals at 4510. Of these uncompleted lots, approximately 31 per cent have operational works approvals for the 2018/19 period.

As the supply of expansion land diminishes, it is expected that the supply of uncompleted lot approvals and lot creation would reduce to lower levels, similar to the circumstances in Brisbane where there is limited remaining expansion land.

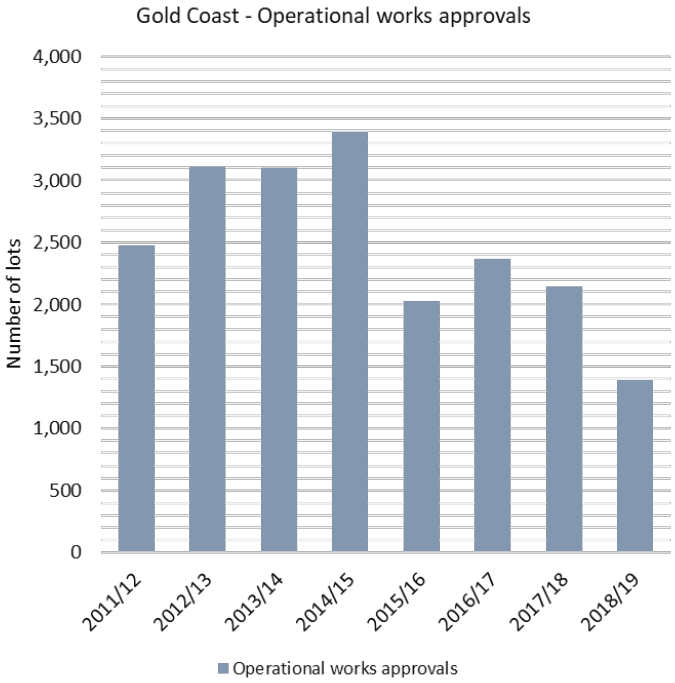
In contrast, Gold Coast has about 9.8 years of supply of uncompleted multiple dwelling approvals in the consolidation area, well above the minimum four years of supply sought by *ShapingSEQ 2017*.

The number of uncompleted multiple dwelling approvals fell slightly from June 2018 to June 2019, but the years of supply has increased because the rate of multiple dwelling construction fell from June 2018 to 2019, decreasing the assumed level of demand in the years of supply calculation.

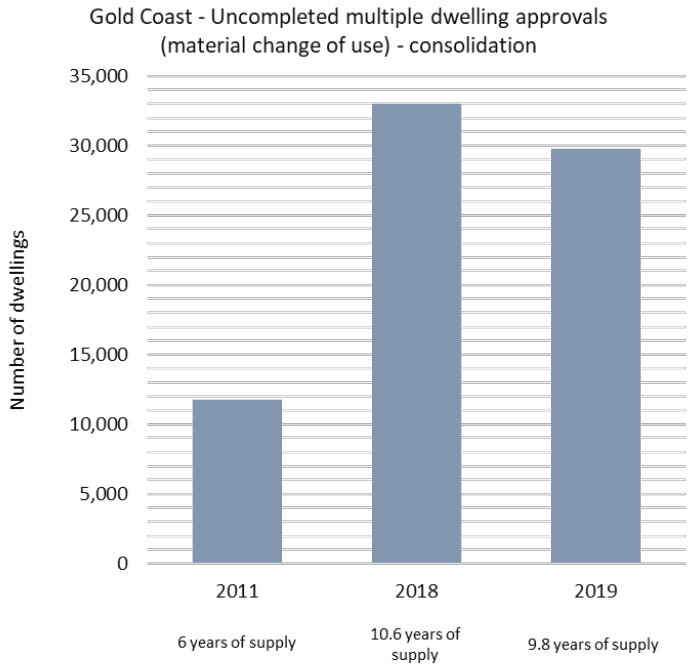
For details of the calculation and comparability over time of the approved supply figures, refer to the Technical notes.



This graph shows the number of lots that have a development permit, but have not yet been certified (uncompleted lots) as at 30 June each year as well as the number of lots that have been created in the 12 months up to 30 June each year.



This graph shows the number of uncompleted lot approvals which also have operational works approvals as at 30 June each year.



This graph shows the number of multiple dwellings that have a material change of use development permit but have not yet been constructed (uncompleted multiple dwellings) in the consolidation area as at 30 June 2011, 30 June 2018 and 30 June 2019.

Note: The years of supply for uncompleted multiple dwelling approvals is determined by dividing the total number of uncompleted multiple dwellings by the average annual attached dwelling building approvals of the previous four years. The years of supply for uncompleted lot approvals is determined by dividing the total number of uncompleted lots by the average annual lot certifications of the previous four years.

Dwelling growth – Gold Coast

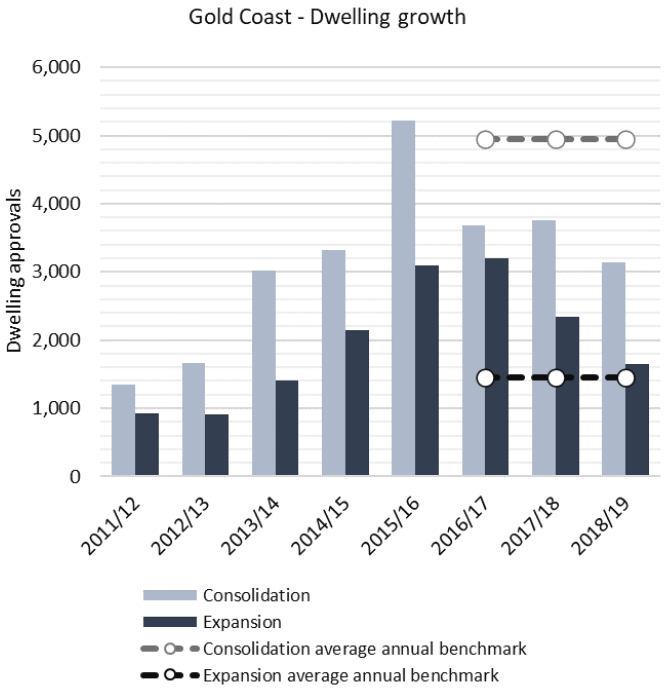
In the Gold Coast consolidation area, dwelling approvals (used to measure dwelling growth) have typically been below the consolidation average annual benchmark. In the Gold Coast expansion area dwelling approvals have exceeded the expansion average annual benchmark in recent years despite declining from a peak in 2016/17.

There were 3146 dwelling approvals in the Gold Coast consolidation area in 2018/19, which was approximately 1800 fewer than the consolidation average annual benchmark of 4942 additional dwellings. Over the same period, there were 1654 dwelling approvals in the Gold Coast expansion area, which was 200 dwellings more than the expansion average annual benchmark of 1454 additional dwellings.

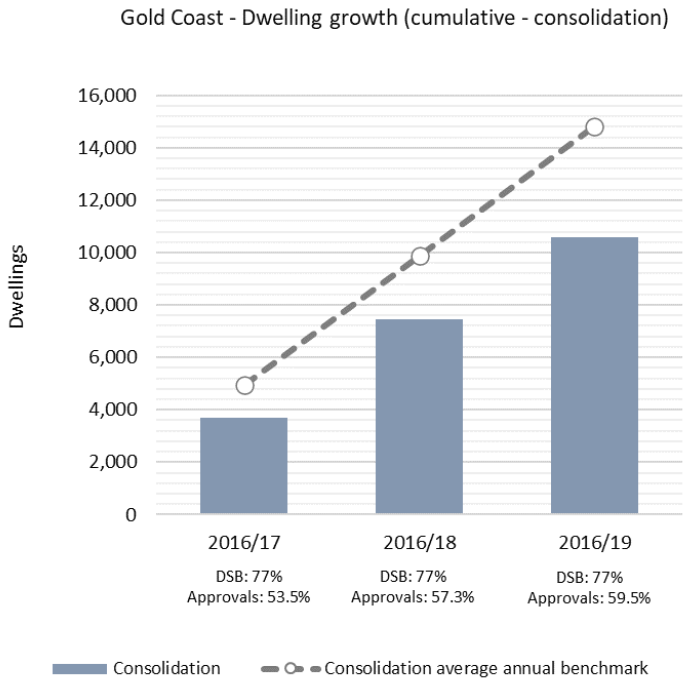
Approximately 41 per cent of dwelling approvals were in the Gold Coast expansion area for 2016/17 to 2018/19, which exceeded its expected share of dwelling growth to 2031 identified in *ShapingSEQ 2017* (23 per cent). Dwelling approvals in the consolidation area (approximately 60 per cent) over the same period were less than its expected share of 77 per cent but are continuing to move towards the expected share since 2016/17.

Growth in the consolidation area should proportionately increase as expansion land supply diminishes and consolidation capacity increases through amended planning and development schemes. This could be supported by the provision of key regional transport infrastructure, and will require, in some locations, the redevelopment of existing attached dwellings.

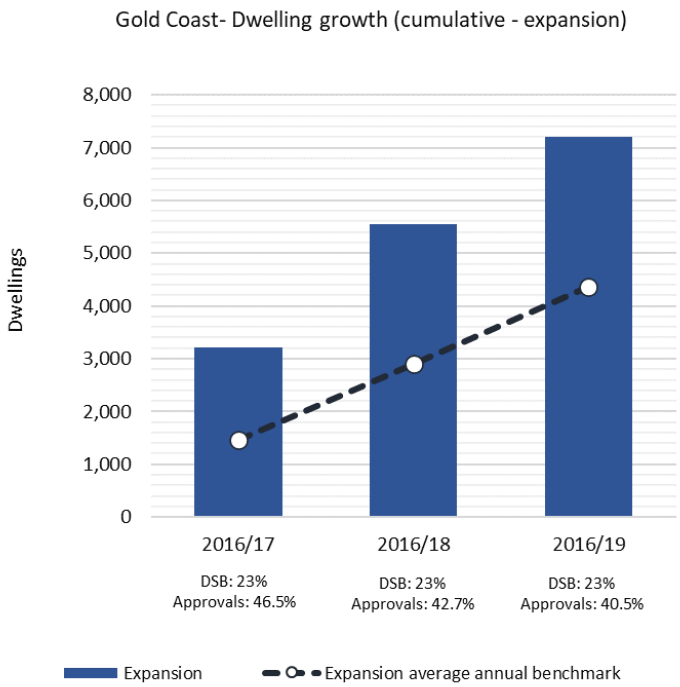
For more information about improvements to the measurement of net growth over time, see Moving forward. For more detail about dwelling approvals, see the Technical notes.



This graph shows annual dwelling approvals compared against *ShapingSEQ 2017*'s average annual benchmarks.



This graph shows the cumulative dwelling growth in the consolidation area against *ShapingSEQ 2017*'s consolidation average annual benchmark.



This graph shows the cumulative dwelling growth in the expansion area against *ShapingSEQ 2017*'s expansion average annual benchmark.

Note: The average annual benchmark (2016 to 2031) has been adjusted since the 2018 Land Supply and Development Monitoring Report to reflect the growth rate of the most recent 2018 Queensland Government dwelling projections for SEQ. This adjustment has resulted in the average annual benchmark increasing marginally for the consolidation and expansion area in each local government. For more detail about the adjustment method and reasoning, see the Technical notes.

Changes in dwelling density – Gold Coast

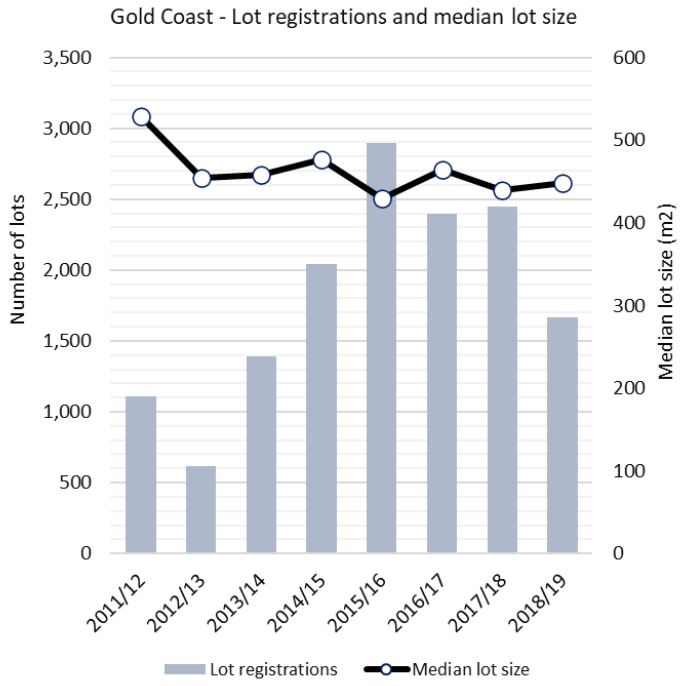
Dwelling density (measured through median size of new lots and mean population-weighted dwelling density) is increasing on the Gold Coast in accordance with the *ShapingSEQ 2017* Measures that Matter preferred future for higher dwelling densities and smaller lots.

Mean population-weighted dwelling density increased on the Gold Coast overall between 2011 and 2016, from 20.2 to 23.4 dwellings per hectare. This represents the average dwelling density at which the population of Gold Coast lives and is comparable to the net residential density as used by *ShapingSEQ 2017*. In the consolidation area, mean population-weighted dwelling density increased from 23.2 to 27.5 dwellings per hectare.

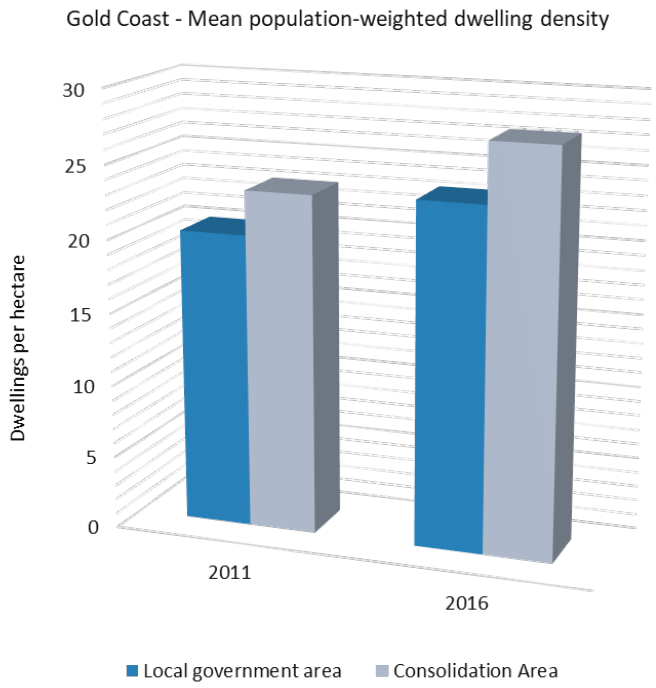
Although slightly higher in 2018/19 than the previous year, median size of new lots decreased from 529m^2 to 448m^2 from 2011/12 to 2018/19 on the Gold Coast. This was associated with a general trend to higher lot registrations up to 2015/16 followed by a decline since.

Changes to the Gold Coast planning scheme, and Priority Development Area development schemes over time, have supported increased dwelling densities.

For more detail about the calculation of mean population-weighted dwelling density and median size of new lots, see the Technical notes.



This graph shows the number and median size of new lots registered annually.



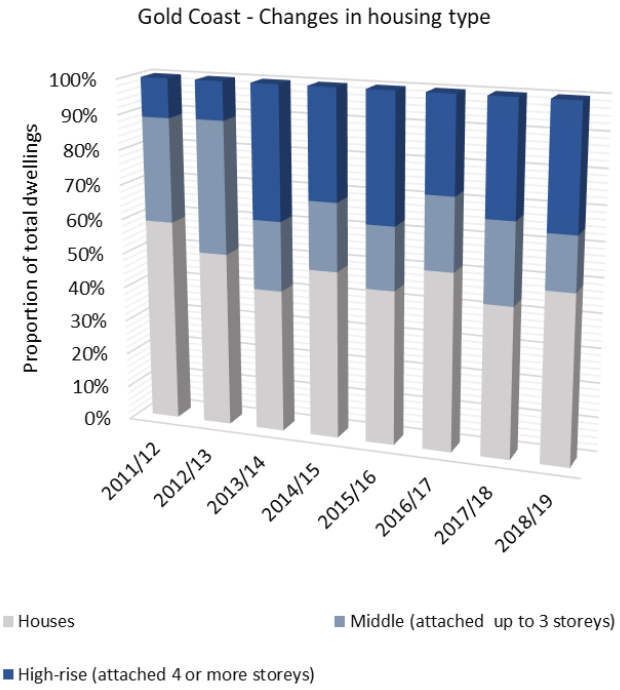
This graph shows the dwelling density (mean population-weighted dwelling density) at which people were living in 2011 and 2016.

Changes in housing type – Gold Coast

Recent dwelling approvals indicate a reduction in the proportion of houses and an increase in the proportion of high-rise on the Gold Coast, consistent with the *ShapingSEQ 2017* Measures that Matter preferred future. Recent dwelling approvals also show a reduction in the proportion of middle, which is not consistent with the preferred future.

Forty-eight per cent (8574 dwellings) of new dwelling approvals on the Gold Coast for 2016/17 to 2018/19 were for houses, which was less than their proportion of the existing dwelling stock (56 per cent as at the 2016 Census). Dwelling approvals for middle (20 per cent or 3622 dwellings) were proportionately less than the share of existing dwellings as at the 2016 Census (32 per cent). The proportion of dwelling approvals for high-rise (32 per cent or 5603 dwellings) exceeded their proportion of the existing dwelling stock (12 per cent).

For more detail about dwelling approvals, see the Technical notes.



This graph shows the proportion of dwelling approvals that are for houses, middle (attached dwellings up to three storeys) and high-rise (attached dwellings four storeys or more) annually.

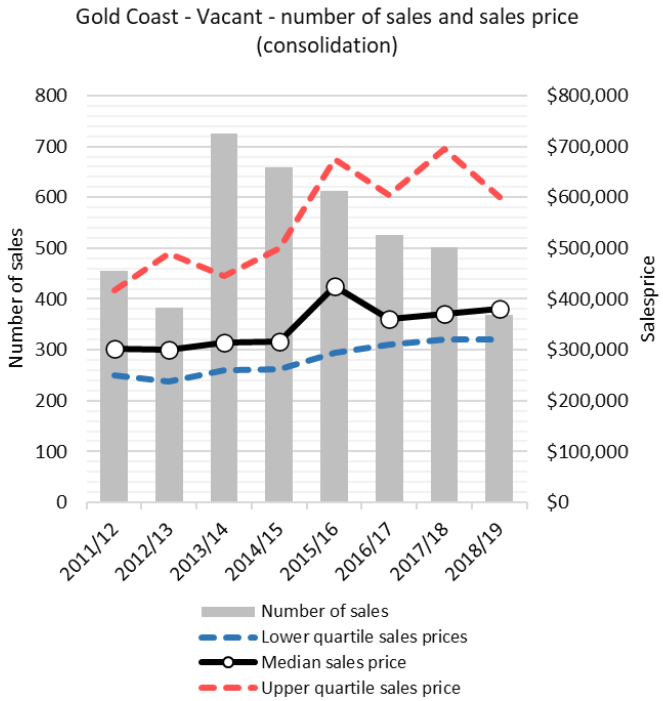
Sales and price – Gold Coast

The number of sales has decreased from 2017/18 to 2018/19 for all categories on the Gold Coast.

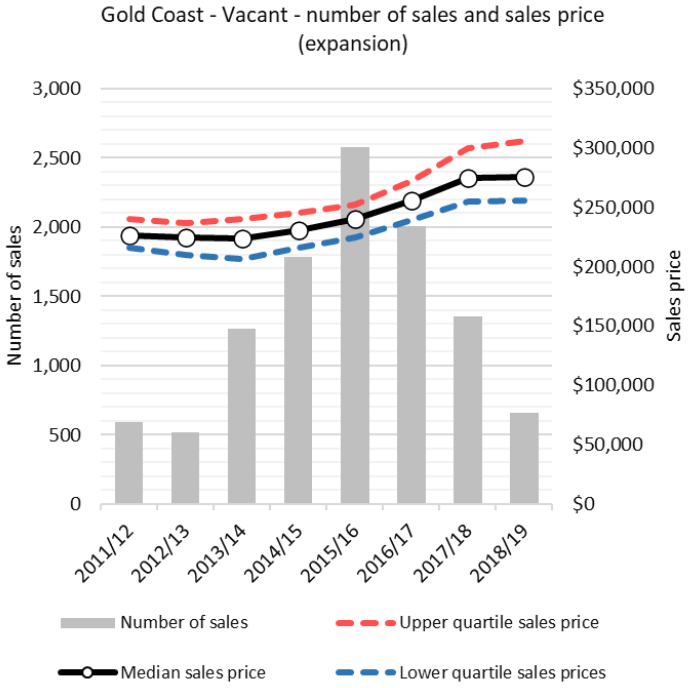
The median sales price for all categories is higher on the Gold Coast than for South East Queensland (SEQ). The rate of median price growth on the Gold Coast for all categories exceeded or was similar to SEQ, except for vacant lots per square metre in the expansion area.

Over the 2011/12 to 2018/19 period, the greatest growth in median sales price within Gold Coast was for vacant lots per square metre (84 per cent) in the consolidation area.

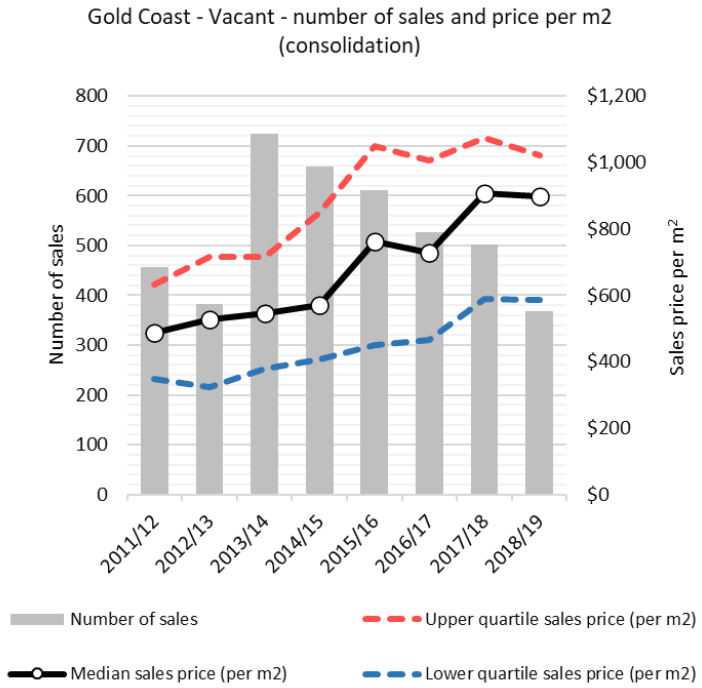
For more detail about the median sales price and number of sales, see the Technical notes.



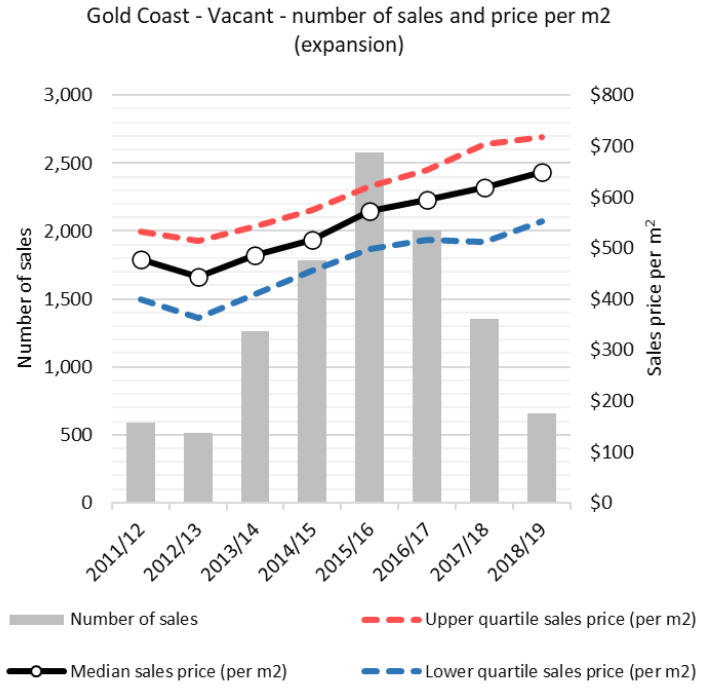
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the consolidation area.



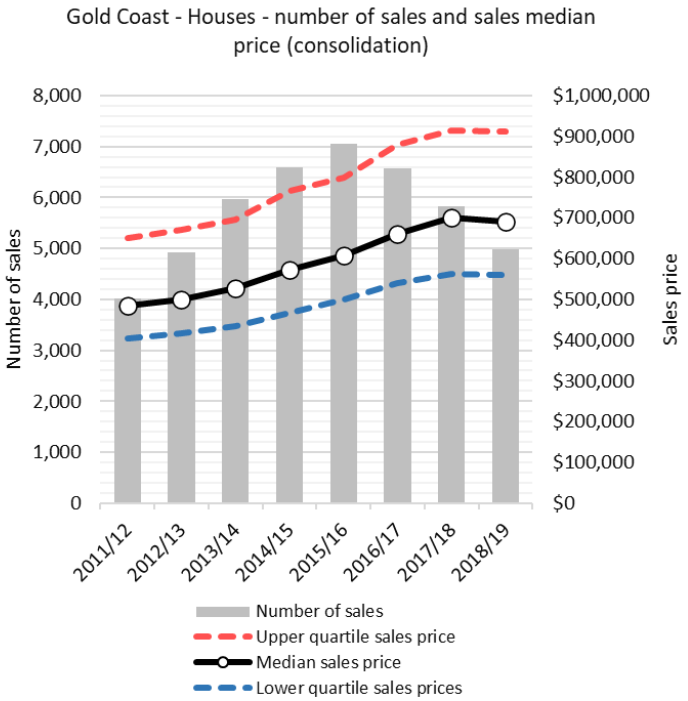
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the expansion area.



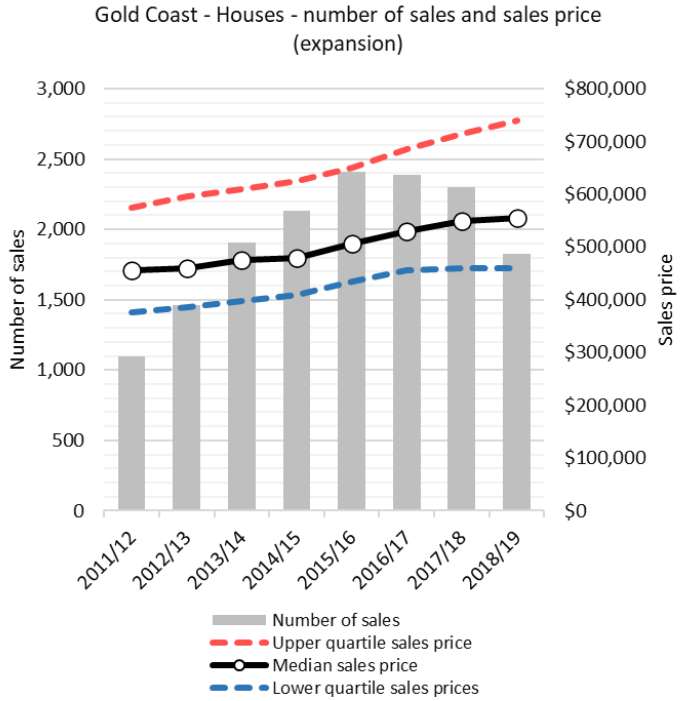
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the consolidation area.



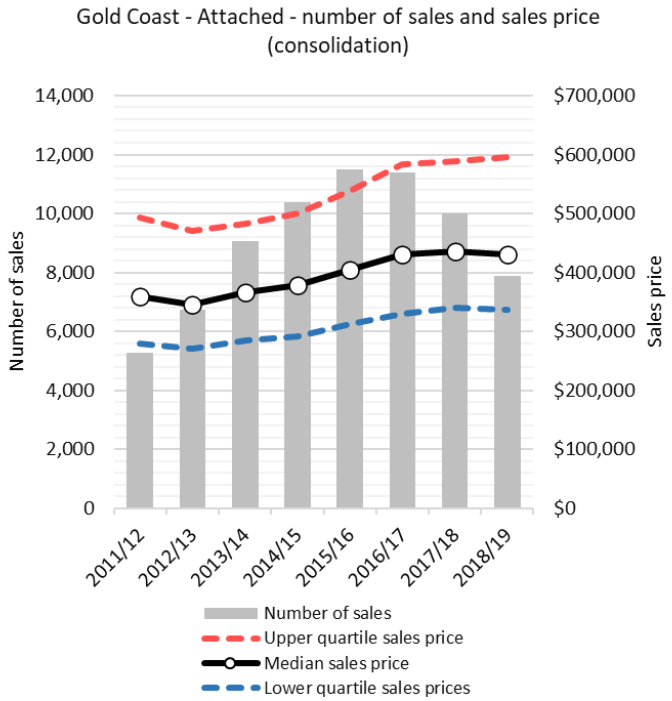
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the expansion area.



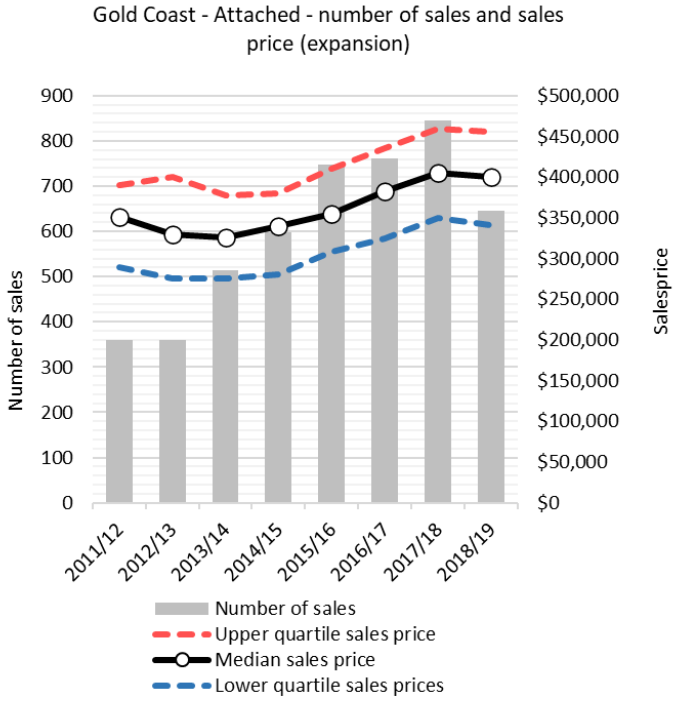
This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the consolidation area.



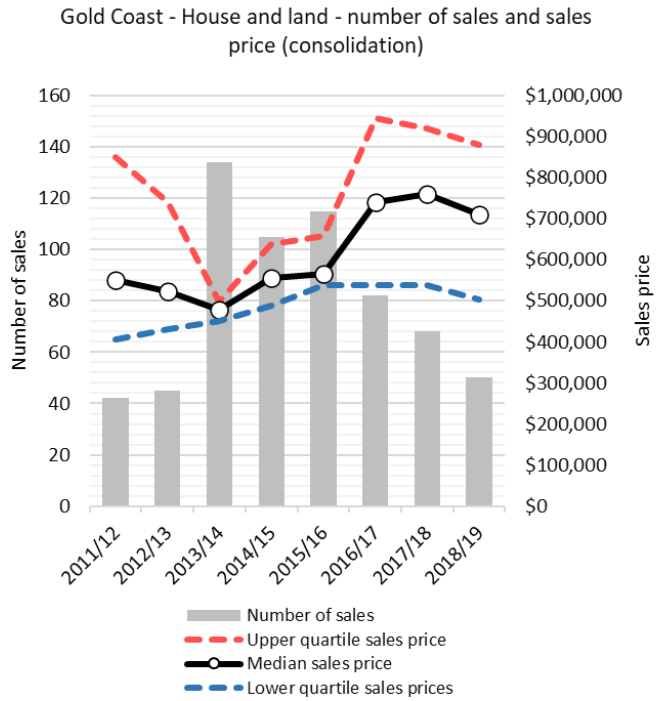
This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the expansion area.



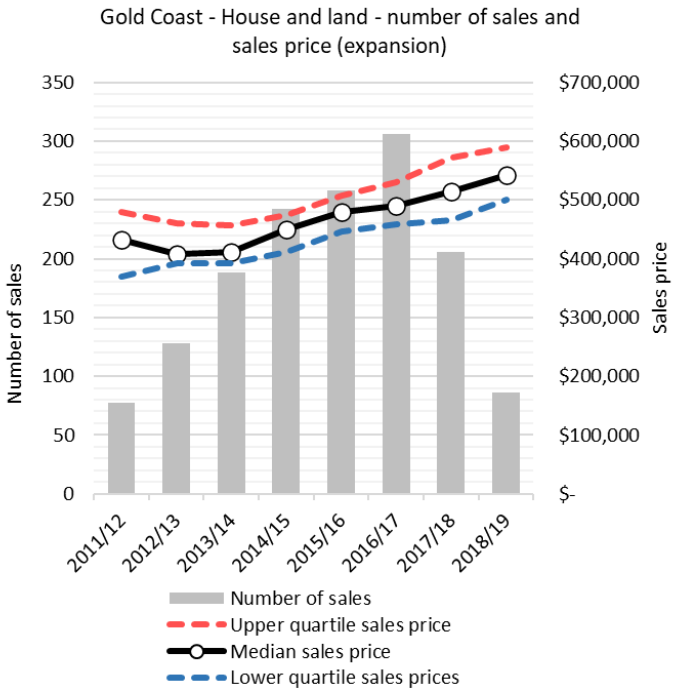
This graph shows the number of sales and the lower, median and upper quartile sales price for attached dwellings in the consolidation area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for attached dwellings in the expansion area.



This graph shows the number of sales and the lower, median and upper quartile sales price for house-land packages in the consolidation area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for house-land packages in the expansion area.

Industrial – Gold Coast

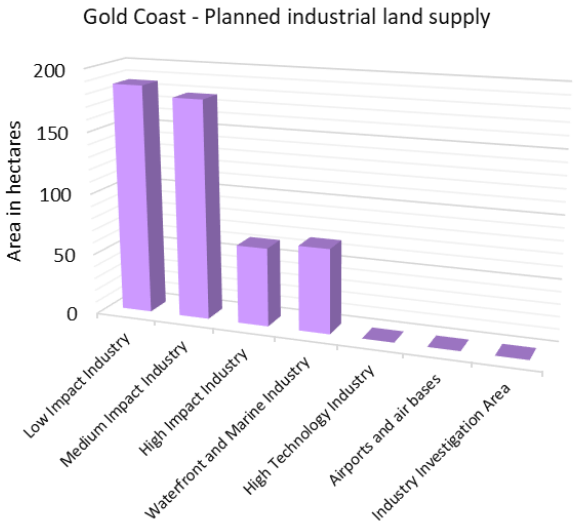
Planned industrial land supply/take-up – Gold Coast

About 151 hectares of developed industrial land was taken-up on the Gold Coast between 2011 and 2018. The take-up occurred mostly on land intended for low and medium impact industry.

There were about 497 hectares of planned industrial land on the Gold Coast as at 2018. This planned industrial land comprised land intended for low, medium and high impact industry, and waterfront and marine industry.

The 2019 planned industrial land estimate improves upon the estimate provided in the 2018 LSDM Report. It has been derived by trialling the application of the developability rules for determining the impact of constraints from the Developable Area best practice research in 2019.

For more detail about these improvements and the meaning and calculation of the planned industrial land and take-up measures, see the Best practice research and Technical notes.



This graph shows the number of hectares of planned industrial land as at 2018 by industrial land category.

Note: The planned industrial land measure identifies land that may be developable in the long term based on current zoning or intent and applicable constraints in a planning instrument. Much of this land will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry. Also, planned industrial land is a gross area which does not include any allowance for roads, infrastructure corridors, open space and the like.

The Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) notes ongoing improvements are required to continue to mature the industrial land monitoring. In partnership with stakeholders, DSDILGP will explore improved methods in 2020, building from the work undertaken in 2018 and 2019.

Planned industrial employment supply – Gold Coast

The capacity and realistic availability of planned industrial employment supply on the Gold Coast provide the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figure represents the number of employees that could be supported by industrial developments that have been or could be approved, based on current planning intent, while the realistic availability figure provides a supply scenario that considers whether some of the capacity is not realistically available by 2041.

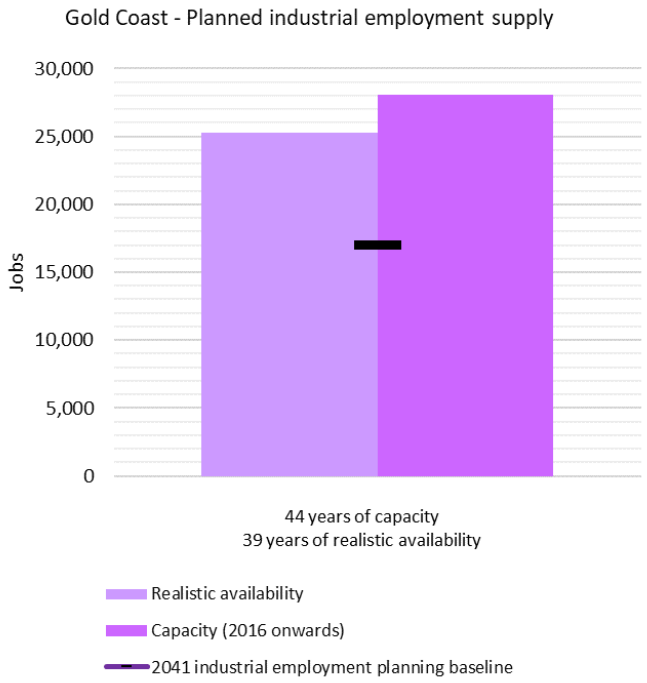
The realistic availability scenario considers factors that may constrain the availability of land for industrial development and employment. Such factors include constraints affecting the feasibility of development and lower than assumed employment densities.

The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the outcomes from the Developable Area best practice research in 2019 and a refined set of economic and developability criteria to estimate realistic availability in selected Major Enterprise and Industrial Areas. For more information about these improvements, see the Best practice research and Technical notes.

The capacity of planned industrial employment supply on the Gold Coast is about 28,000, while the realistic availability of this supply is about 25,250 employees. The capacity figure represents about 44 years of supply and is markedly above the 2041 industrial employment planning baseline of about 17,000 employees. The realistic availability figure represents about 39 years of supply and is also well above the 2041 industrial employment planning baseline.

The realisation of this planned industrial employment supply on the Gold Coast, in particular at Yatala-Stapylton, may be supported by improved connections to the Port of Brisbane.

For more detail about the calculation of planned industrial employment supply, and identification of planning scheme amendments that may affect supply, see the Technical notes.



This graph shows the number of employees that could be supported by industrial developments, that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s 2041 industrial employment planning baseline.

Note: Note: The planned industrial employment supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report. Much of the planned industrial employment supply will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry.

Ipswich

Summary

ShapingSEQ 2017 establishes that Ipswich's expected population growth will require an additional 111,700 dwellings between 2016 and 2041 through its dwelling supply benchmark.

Dwelling approvals in the Ipswich consolidation area have typically been below the consolidation average annual benchmark in recent years, while dwelling approvals in the Ipswich expansion area exceeded the average annual benchmark in 2017/18 for the first time and declined below the benchmark in 2018/19.

The capacity and realistic availability of planned dwelling supply in the Ipswich consolidation and expansion areas provides more than the minimum 15 years of supply sought by *ShapingSEQ 2017*. Increased dwelling growth in the consolidation area may be supported over time by planning scheme changes to increase planned dwelling supply. High rates of expansion dwelling growth would be expected to continue as urban development momentum gathers and continues in the major growth areas of Ripley Valley and Springfield.

Recent dwelling approvals indicate an increase in housing diversity in Ipswich, and dwelling density has also increased, consistent with the *ShapingSEQ 2017* preferred future.

There are about 6.1 years of supply of uncompleted lot approvals in Ipswich, which exceeds the minimum four years of supply sought by *ShapingSEQ 2017*. There are about 11.8 years of supply of multiple dwelling approvals in the Ipswich consolidation area, which also exceeds the minimum four years of supply sought by *ShapingSEQ 2017*.

The capacity and realistic availability of the planned industrial employment supply in Ipswich provide the minimum 15 years of supply sought by *ShapingSEQ 2017* and substantially exceed the 2041 industrial employment planning baseline.

Residential – Ipswich

Planned dwelling supply – Ipswich

The capacity and realistic availability of planned dwelling supply in the Ipswich consolidation and expansion areas provide more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figures represent the number of dwellings that have been or could be approved, based on current planning intent, while the realistic availability figure provides a land supply scenario that considers whether some of the capacity is not realistically available by 2041.

The realistic availability scenario considers factors that may constrain the availability of land for development. Such factors may include infrastructure availability, land ownership fragmentation, landowner intent, practical staging of and capability for development, and the age of existing development.

The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the Current Intent to Service layer from the Ability to Service best practice research in 2019, in combination with other updated data, to derive new estimates of the realistic availability of planned

dwelling supply. This approach forms a foundation for improvement in future years of reporting. For more information about these improvements, see the Best practice research and Technical notes.

In the Ipswich consolidation area, the capacity of planned dwelling supply is about 31,700 dwellings. This figure is slightly above the consolidation 2041 dwelling supply benchmark of 27,900.

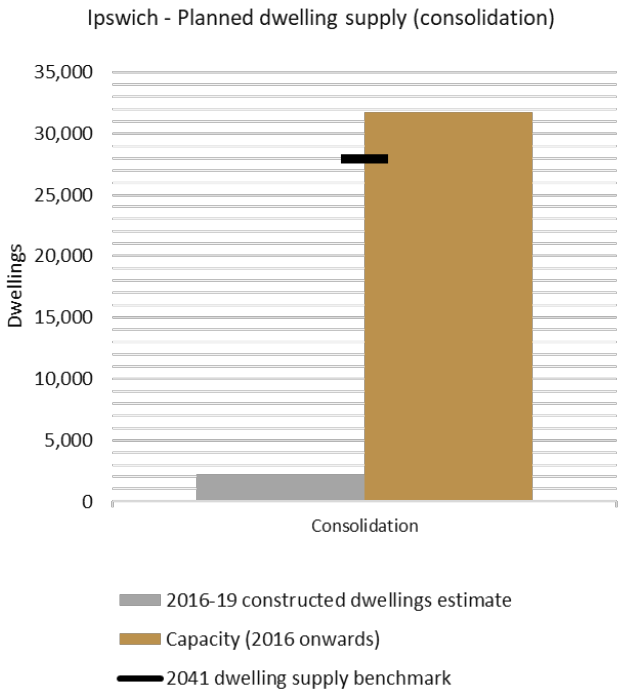
In the Ipswich expansion area, the capacity of planned dwelling supply is about 124,000 dwellings and significantly above the expansion 2041 dwelling supply benchmark of 83,800 dwellings. The realistic availability of this supply is about 81,000 dwellings, which equates to about 24 years of supply and is above *ShapingSEQ 2017*'s 15 years of supply policy objective.

Realisation of the planned dwelling supply in the expansion area needs to be supported by sub-regional sewerage and local road upgrades for the Ripley Valley Priority Development Area. It would also be supported by region-shaping infrastructure identified in *ShapingSEQ 2017* and the State Infrastructure Plan, including the Ipswich to Springfield Public Transport Corridor.

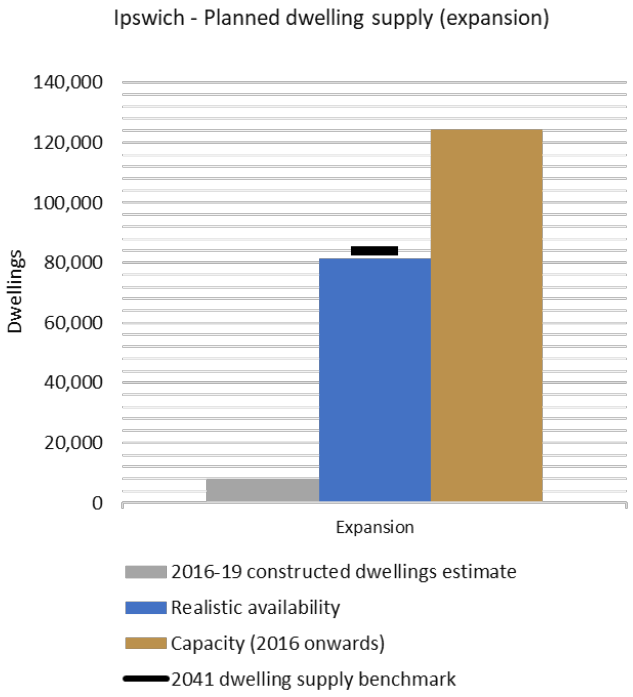
Ipswich City Council has identified, in the strategic framework of its planning scheme, a variety of areas for further investigation to encourage increased planned dwelling supply in the Ipswich consolidation area. Council is currently preparing a new planning scheme which may affect planned dwelling supply in Ipswich.

Where the scheme proceeds, and source data is updated, its effect on planned dwelling supply will be included in future years of LSDM Reporting

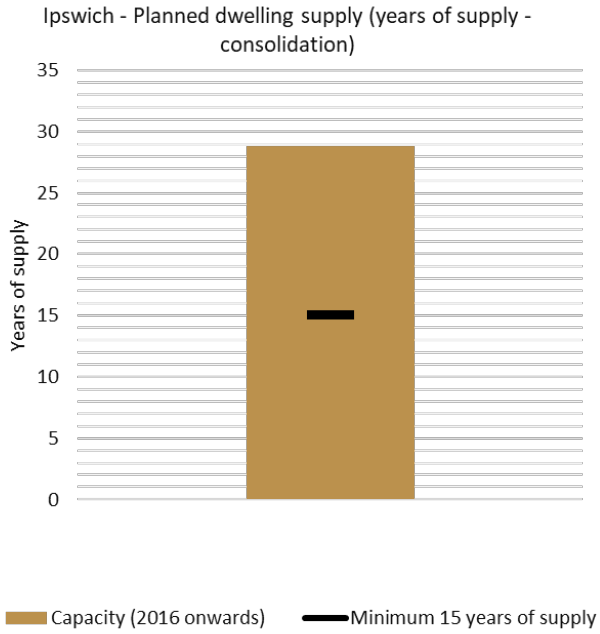
For more detail about the calculation of planned dwelling supply, including years of supply, see the Technical notes.



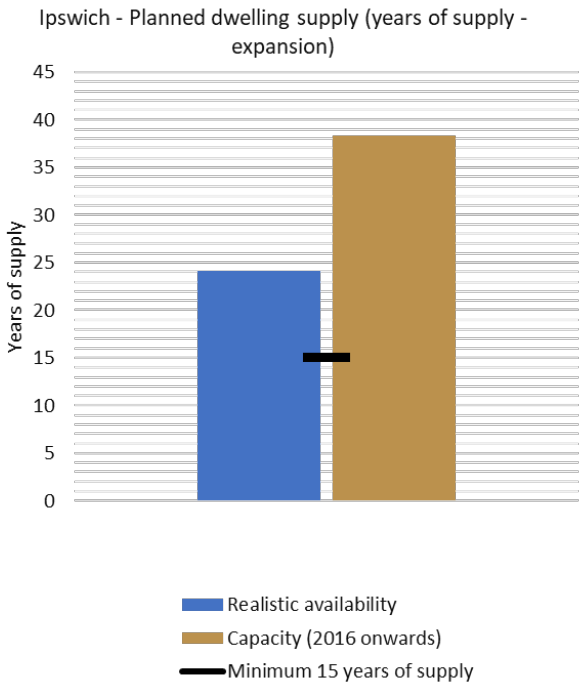
This graph shows the number of dwellings that have been or could be approved based on current planning intent compared against *ShapingSEQ 2017*'s dwelling supply benchmarks in consolidation areas.



This graph shows the number of dwellings that have been or could be approved based on current planning intent compared against *ShapingSEQ 2017*'s dwelling supply benchmarks in expansion areas. To view fact sheets on the concept of realistic availability, click here.



This graph shows the number of years of supply of dwellings that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s minimum 15 years of supply policy objective in consolidation areas.



This graph shows the number of years of supply of dwellings that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s minimum 15 years of supply policy objective in expansion areas.

Note: The planned dwelling supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressivel (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report.

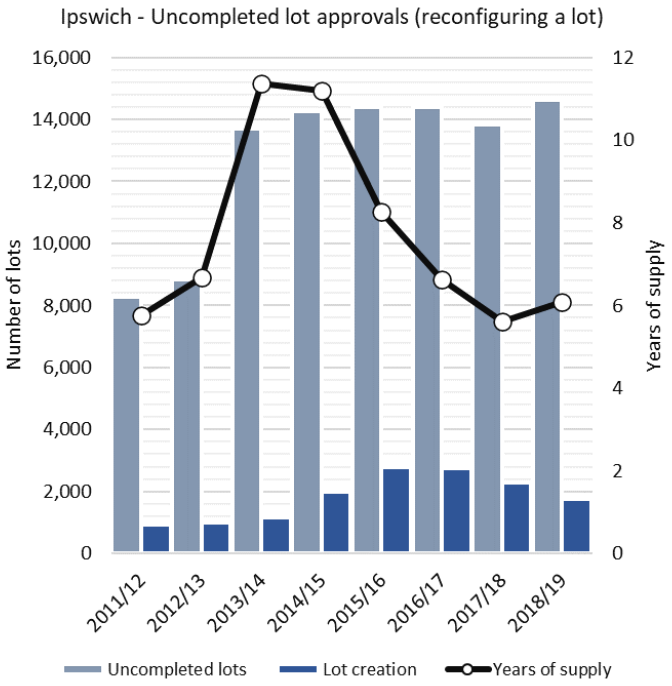
Approved supply – Ipswich

Approved supply is measured by analysing uncompleted lot approvals and uncompleted multiple dwelling approvals approvals across Ipswich.

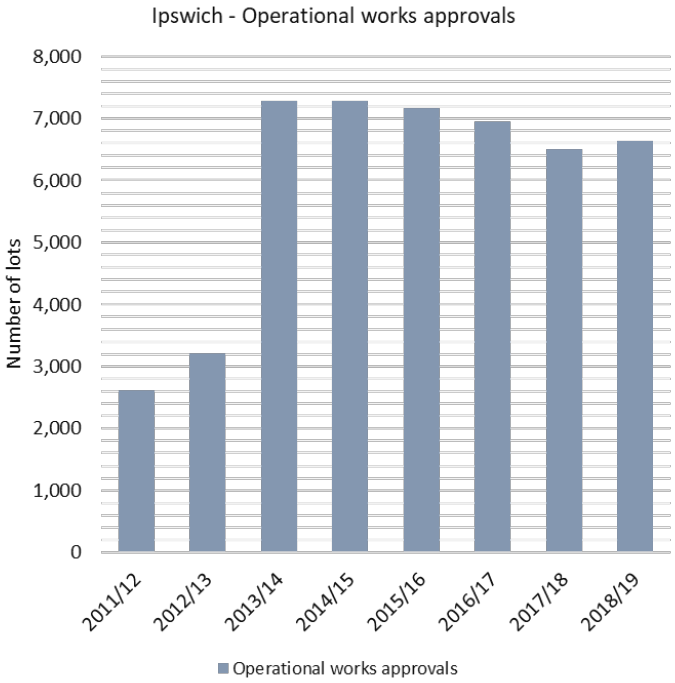
There are about 6.1 years of supply of uncompleted lot approvals in the Ipswich consolidation and expansion areas overall, which exceeds the minimum four years of supply sought by *ShapingSEQ 2017*. The total number of uncompleted lot approvals for 2018/19 is 14,613 which is a long-term historical high for Ipswich. Of these uncompleted lots, approximately 45 per cent have operational works approvals for the 2018/19 period.

Ipswich also has about 11.8 years of supply of uncompleted multiple dwelling approvals in the consolidation area, well above the minimum four years of supply sought by *ShapingSEQ 2017*.

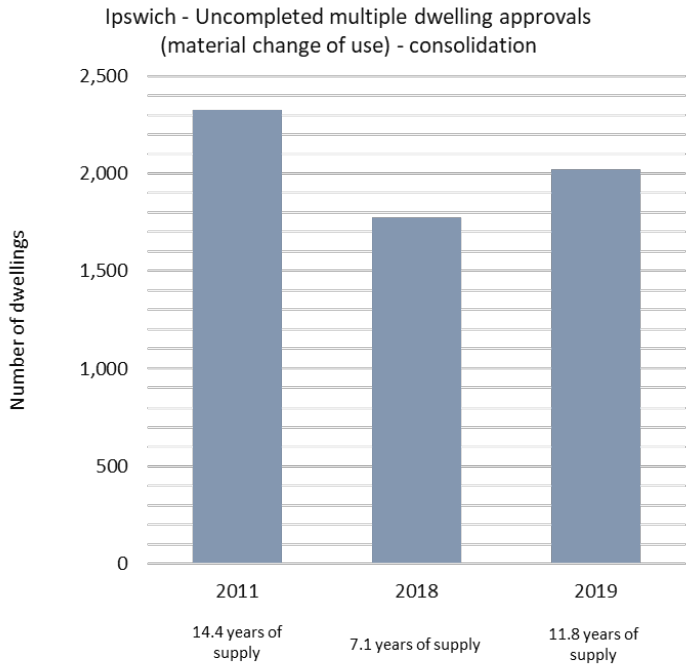
For details of the calculation and comparability over time of the approved supply figures, refer to the Technical notes.



This graph shows the number of lots that have a development permit but have not yet been certified (uncompleted lots) as at 30 June each year and the number of lots that have been created in the 12 months up to 30 June each year.



This graph shows the number of uncompleted lot approvals which also have operational works approvals as at 30 June each year.



This graph shows the number of multiple dwellings that have a material change of use development permit but have not yet been constructed (uncompleted multiple dwellings) in the consolidation area as at 30 June 2011, 30 June 2018 and 30 June 2019.

Note: The years of supply for uncompleted multiple dwelling approvals is determined by dividing the total number of uncompleted multiple dwellings by the average annual attached dwelling building approvals of the previous four years. The years of supply for uncompleted lot approvals is determined by dividing the total number of uncompleted lots by the average annual lot certifications of the previous four years.

Dwelling growth – Ipswich

In the Ipswich consolidation area, dwelling approvals (used to measure dwelling growth) have been below the consolidation average annual benchmark in recent years. In the Ipswich expansion area, dwelling approvals slightly exceeded the expansion average annual benchmark in 2017/18 following an upward trend, but declined below the benchmark in 2018/19.

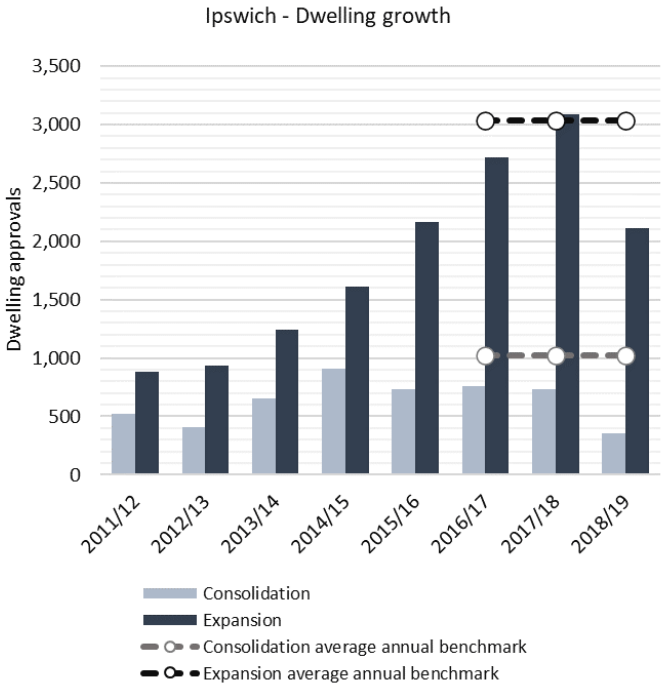
There were 354 dwelling approvals in the Ipswich consolidation area in 2018/19, which was approximately 700 dwellings less than the consolidation average annual benchmark of 1024 additional dwellings. Over the same period, there were 2114 dwelling approvals in the Ipswich expansion area, which was approximately 900 dwellings less than the expansion average annual benchmark of 3036 additional dwellings.

Eighty-one per cent of dwelling approvals were in Ipswich's expansion area for 2016/17 to 2018/19, which is more than its expected share of dwelling growth to 2031 identified in *ShapingSEQ 2017* (75 per cent). Dwelling approvals in the consolidation area were approximately 19 per cent over the same period, which is less than its expected share of 25 per cent.

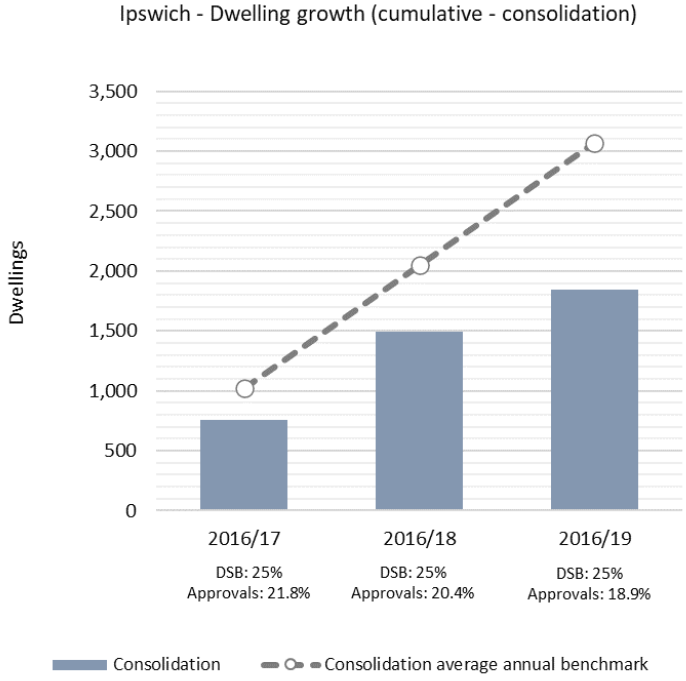
A high share for expansion dwelling growth would be expected as urban development momentum gathers and continues in the major growth areas of Ripley Valley and Springfield.

Increased dwelling growth in the consolidation area may be supported over time by investigations for planning scheme changes to increase planned dwelling supply.

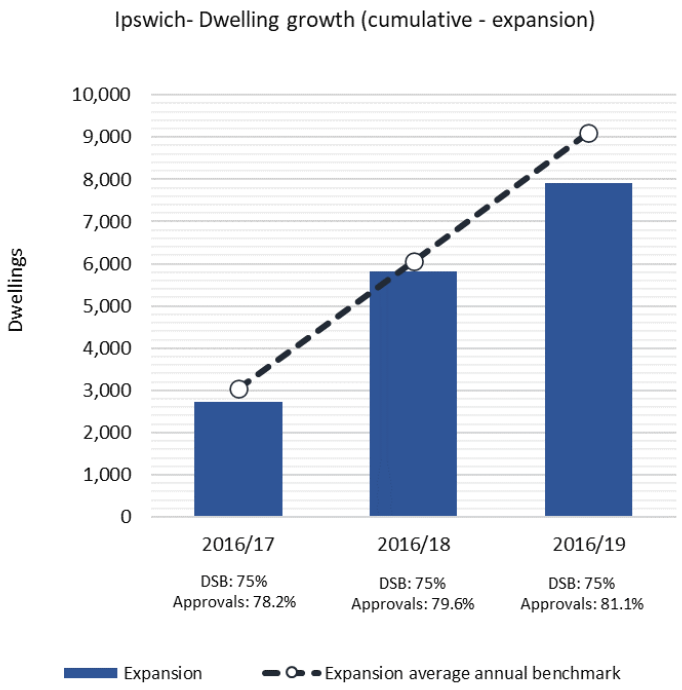
For more information about improvements to the measurement of net growth over time, see Moving forward. For more detail about dwelling approvals, see the Technical notes.



This graph shows annual dwelling approvals compared against *ShapingSEQ 2017*'s average annual benchmarks.



This graph shows the cumulative dwelling growth in the consolidation area against *ShapingSEQ 2017*'s consolidation average annual benchmark.



This graph shows the cumulative dwelling growth in the expansion area against *ShapingSEQ 2017*'s expansion average annual benchmark.

Note: The average annual benchmark (2016 to 2031) has been adjusted since the 2018 Land Supply and Development Monitoring Report to reflect the growth rate of the most recent 2018 Queensland Government dwelling projections for SEQ. This adjustment has resulted in the average annual benchmark increasing marginally for the consolidation and expansion area in each local government. For more detail about the adjustment method and reasoning, see the Technical notes.

Changes in dwelling density – Ipswich

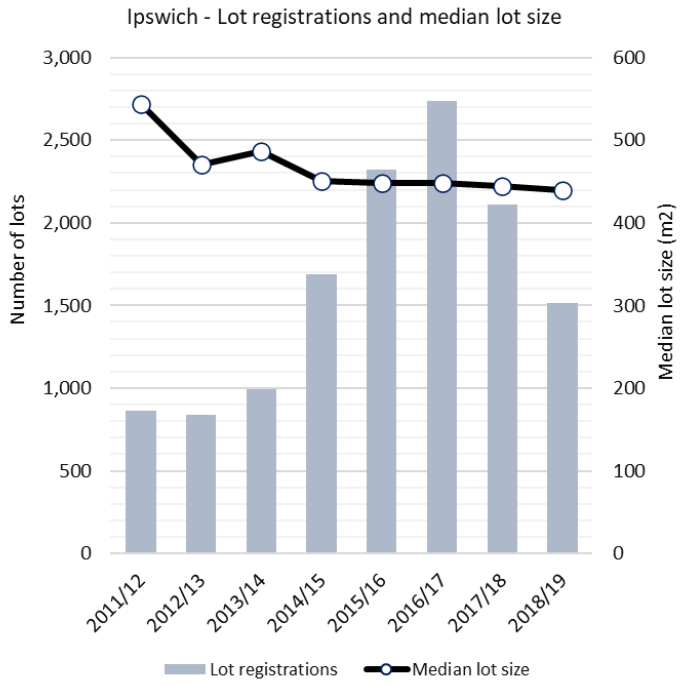
Overall dwelling density (measured through median size of new lots and mean population-weighted dwelling density) is increasing in Ipswich in accordance with the *ShapingSEQ 2017* Measures that Matter preferred future for higher dwelling densities and smaller lots.

Mean population-weighted dwelling density increased in Ipswich between 2011 and 2016, from 8 to 8.7 dwellings per hectare. This represents the average dwelling density at which the population of Ipswich lives and is comparable to the net residential density as used by *ShapingSEQ 2017*. In the consolidation area, mean population-weighted dwelling density increased from 8.6 to 9.1 dwellings per hectare.

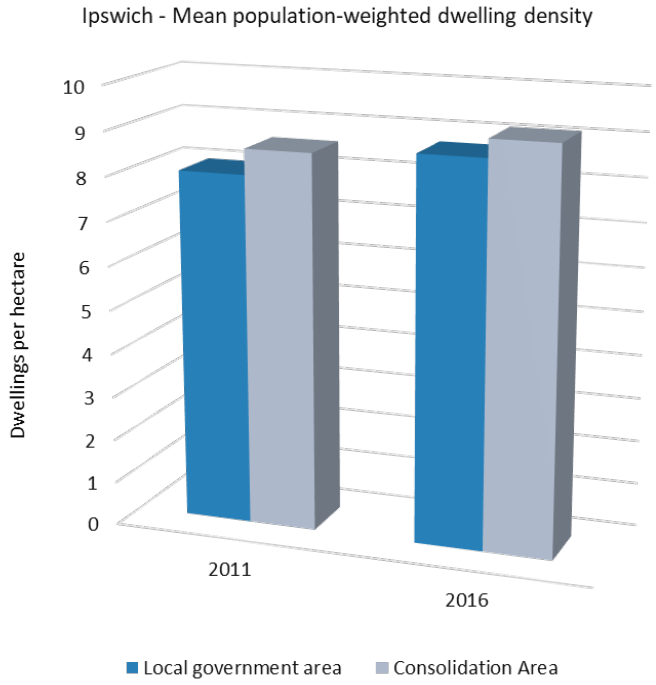
The median size of new lots in Ipswich decreased from 544m^2 to 439m^2 from 2011/12 to 2018/19. This was accompanied by a trend to higher lot registrations up to 2016/17 followed by decline since. This measure indicates increased dwelling densities in new urban subdivisions in Ipswich.

Ipswich's planning framework has supported increased dwelling densities and smaller lots over time.

For more detail about the calculation of mean population-weighted dwelling density and median size of new lots, see the Technical notes.



This graph shows the number and median size of new lots registered annually.



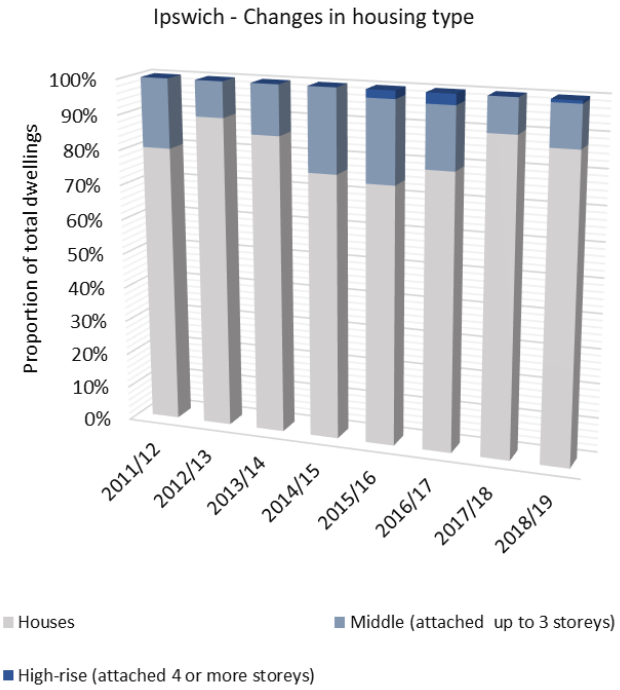
This graph shows the dwelling density (mean population-weighted dwelling density) at which people were living in 2011 and 2016.

Changes in housing type – Ipswich

Recent dwelling approvals indicate an increase in housing diversity in Ipswich, consistent with the *ShapingSEQ 2017* Measures that Matter preferred future.

Eighty-six per cent (8365 dwellings) of all new dwelling approvals in Ipswich for 2016/17 to 2018/19 were for houses, which was less than existing dwelling stock (89 per cent as at the 2016 Census). Dwelling approvals for middle (13 per cent or 1281 dwellings) and high-rise (one per cent or 124 dwellings) over the same period were higher than their share of the dwelling stock (middle 11 per cent, high-rise zero per cent) as at the 2016 Census.

For more detail about dwelling approvals, see the Technical notes.



This graph shows the proportion of dwelling approvals that are for houses, middle (attached dwellings up to three storeys) and high-rise (attached dwellings four storeys or more) annually.

Sales and price – Ipswich

The number of sales has decreased from 2017/18 to 2018/19 for all categories in Ipswich, except house-land packages in the consolidation area which slightly increased.

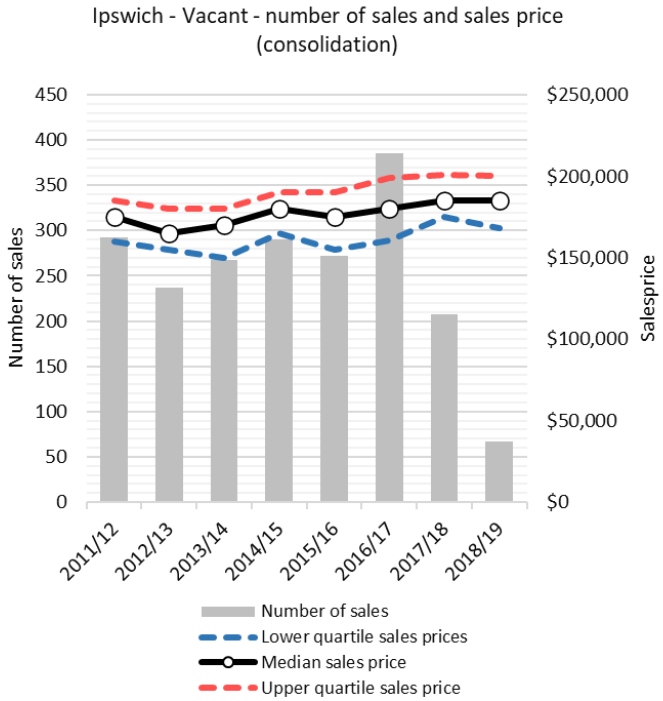
The median sales price for all categories is lower in Ipswich than for South East Queensland (SEQ).

The rate of median sales price growth between 2011/12 and 2018/19 was lower for Ipswich than SEQ for all categories except house and land package in the expansion area and attached dwellings in the consolidation and expansion area.

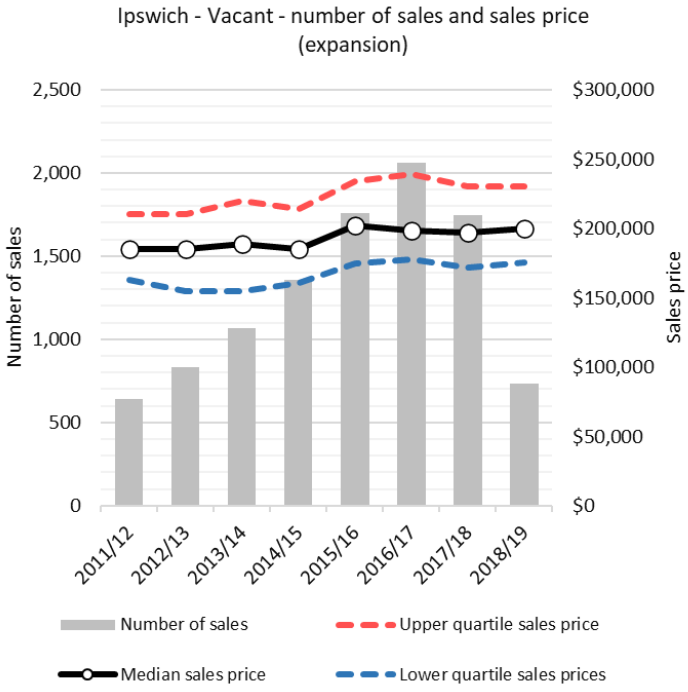
Over the 2011/12 to 2018/19 period, the greatest growth in median sales price within Ipswich was for vacant lots per square metre in the consolidation area (31 per cent).

The rate of median price growth and actual prices for houses are higher in the expansion area than in the consolidation area within Ipswich. This is contrary to the outcome for all of SEQ.

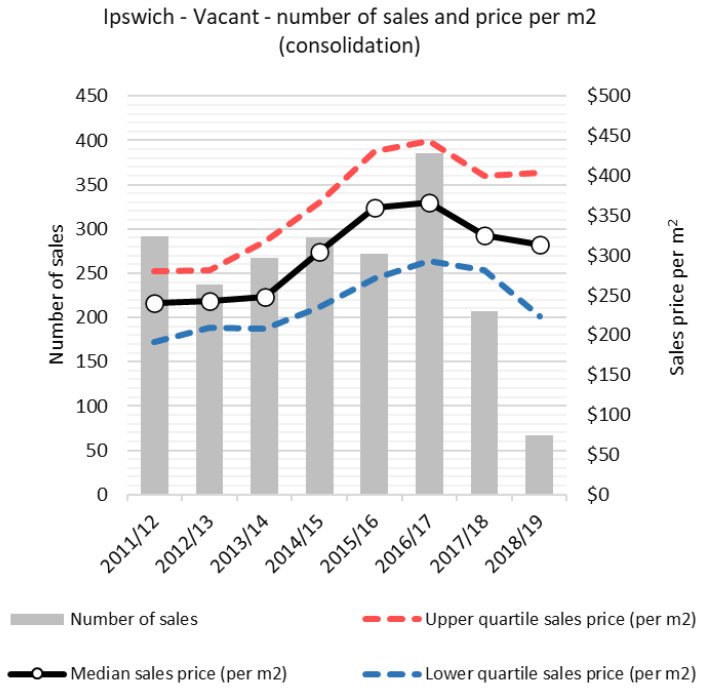
For more detail about the median sales price and number of sales, see the Technical notes.



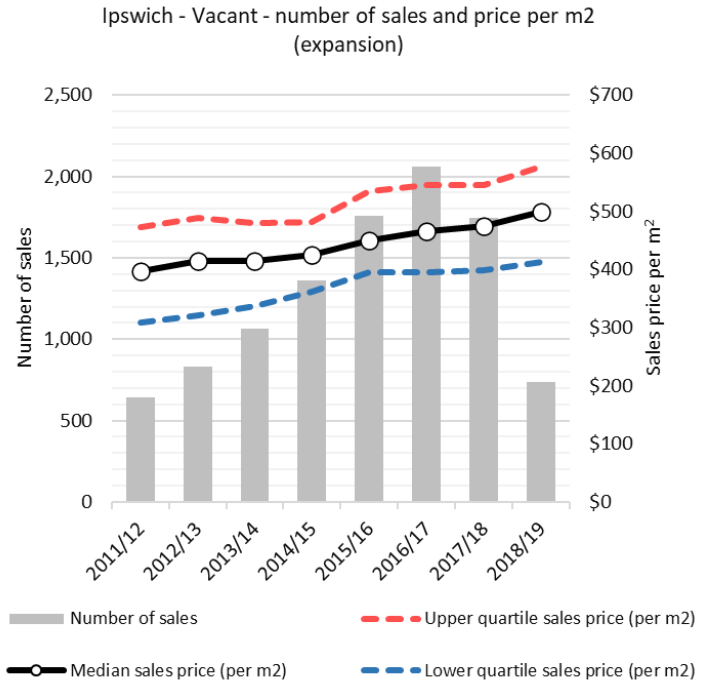
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the consolidation area.



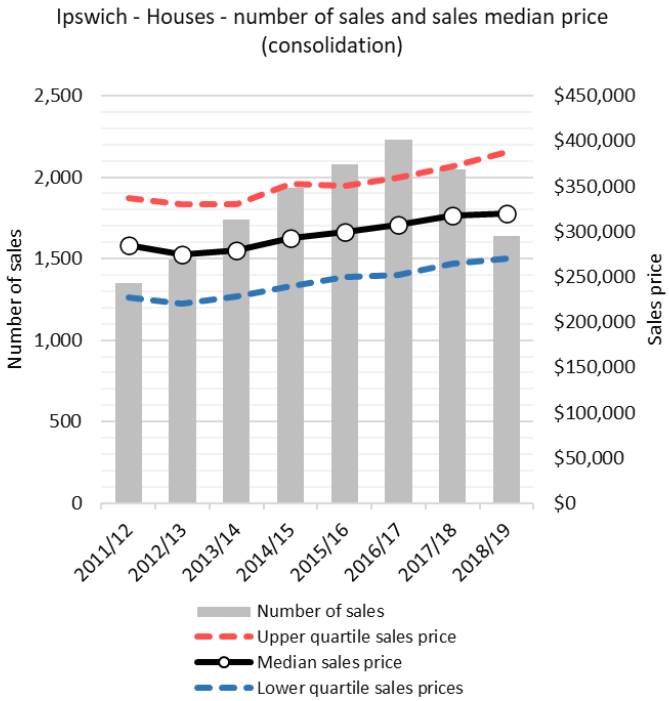
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the expansion area.



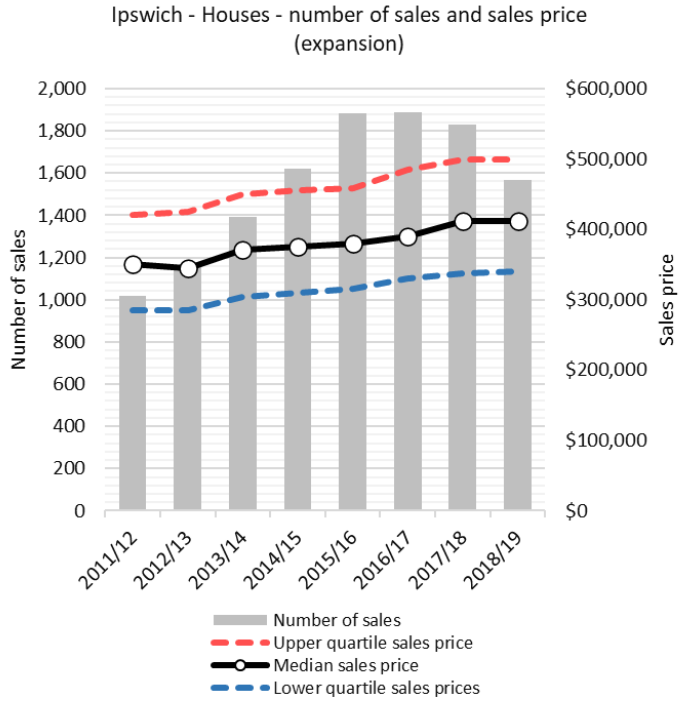
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the consolidation area.



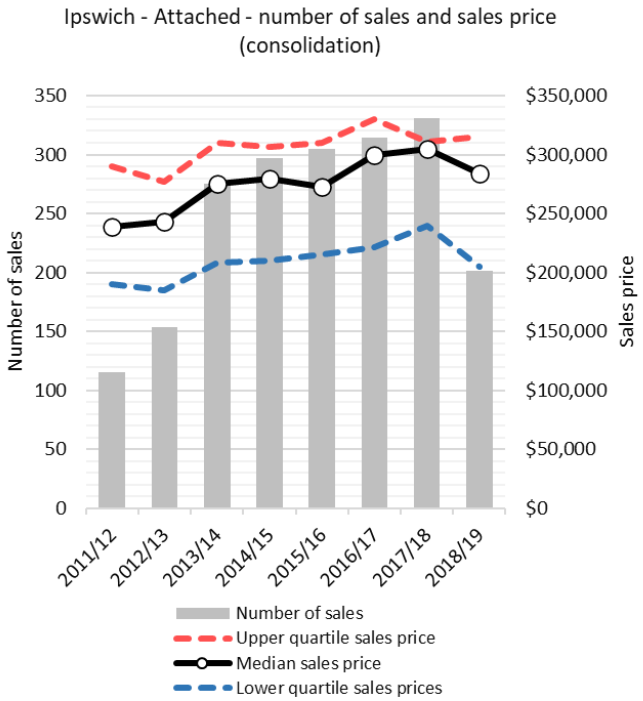
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the expansion area.



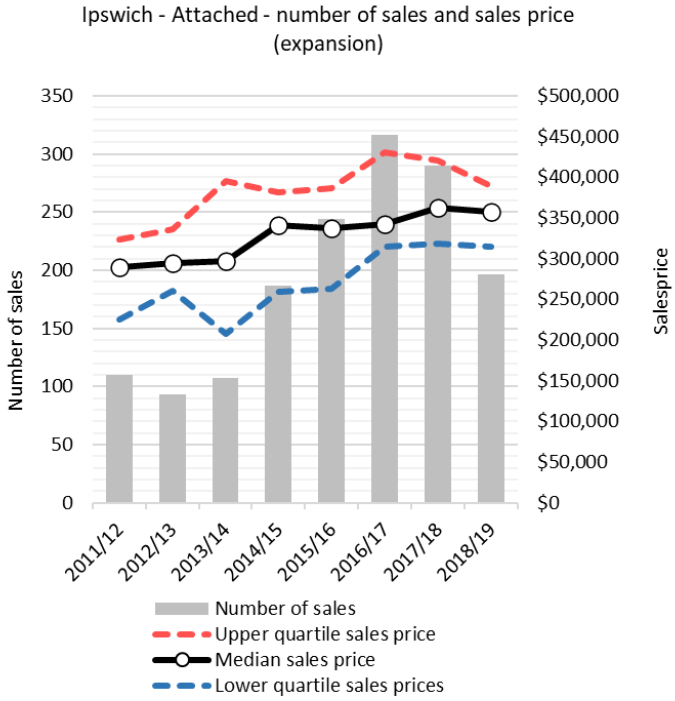
This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the consolidation area.



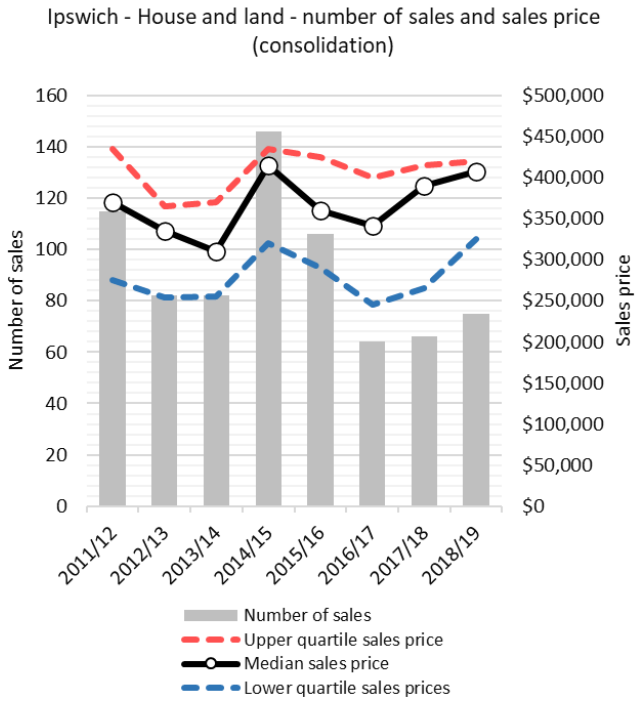
This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the expansion area.



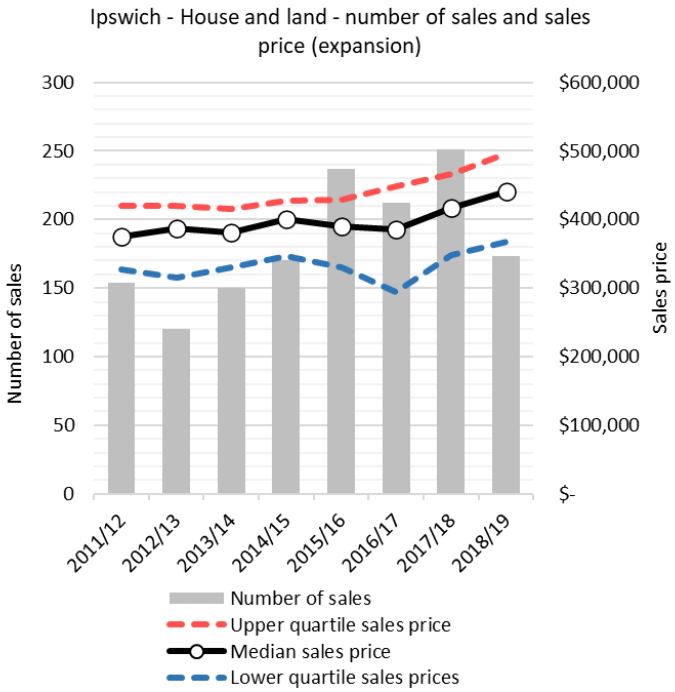
This graph shows the number of sales and the lower, median and upper quartile sales price for attached dwellings in the consolidation area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for attached dwellings in the expansion area.



This graph shows the number of sales and the lower, median and upper quartile sales price for house-land packages in the consolidation area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for house-land packages in the expansion area.

Industrial – Ipswich

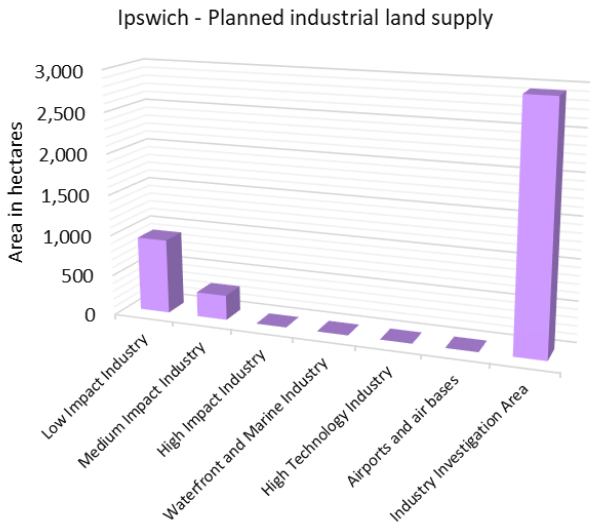
Planned industrial land supply/take-up – Ipswich

The estimated take-up of developed industrial land between 2011 and 2018 in Ipswich was about 1056 hectares. The take-up occurred on land intended for low and medium impact industry and industry investigation.

There were about 4165 hectares of planned industrial land in Ipswich as at 2018. This planned industrial land comprised land intended for medium and low impact industry, and an industry investigation area of approximately 2945 hectares.

The 2019 planned industrial land estimate improves upon the estimate provided in the 2018 LSDM Report. It has been derived by trialling the application of the developability rules for determining the impact of constraints from the Developable Area best practice research in 2019.

For more detail about these improvements and planned industrial land and take-up, see the Best practice research and Technical notes.



This graph shows the number of hectares of planned industrial land as at 2018 by industrial land category.

Note: The planned industrial land measure identifies land that may be developable in the long term based on current zoning or intent and applicable constraints in a planning instrument. Much of this land may not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry. Also, planned industrial land is a gross area which does not include any allowance for roads, infrastructure corridors, open space and the like.

The Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) notes ongoing improvements are required to continue to mature the industrial land monitoring. In partnership with stakeholders, DSDILGP will explore improved methods in 2020, building from the work undertaken in 2018 and 2019.

Planned industrial employment supply – Ipswich

The capacity and realistic availability of planned industrial employment supply in Ipswich provide the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figure represents the number of employees that could be supported by industrial developments that have been or could be approved, based on current planning intent, while the realistic availability figure provides a supply scenario that considers whether some of the capacity is not realistically available by 2041.

The realistic availability scenario considers factors that may constrain the availability of land for industrial development and employment. Such factors include constraints affecting the feasibility of development and lower than assumed employment densities.

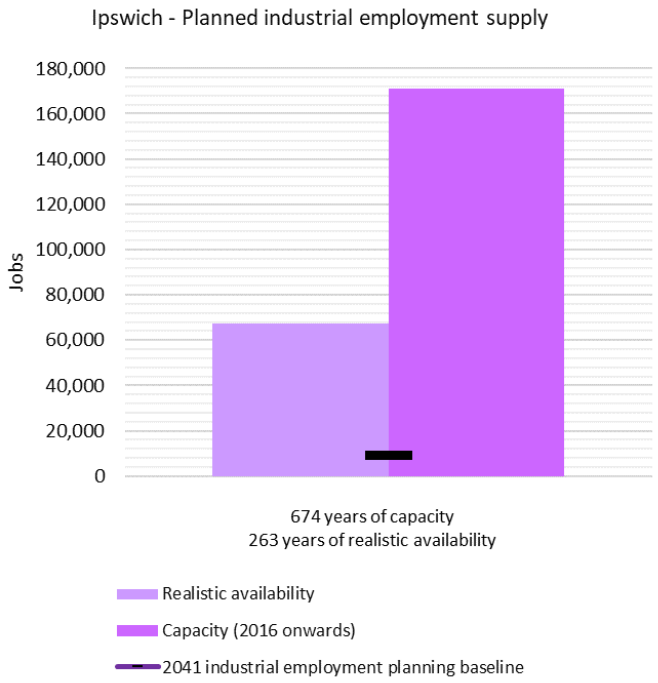
The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the outcomes from the Developable Area best practice research in 2019 and a refined set of economic and developability criteria to estimate realistic availability in selected Major Enterprise and Industrial Areas. For more information about these improvements, see the Best practice research and Technical notes.

The capacity of planned industrial employment supply in Ipswich is about 171,200 employees, while the realistic availability of this supply is about 67,450 employees. Most of the capacity of this supply is at Ebenezer and Swanbank. These figures are considerably greater than the 2041 industrial employment planning baseline of about 8,700 employees. However, some excess of planned industrial employment supply may be appropriate to facilitate strategic economic development opportunities when they arise. This need was recognised by the Best practice research in the 2018 LSDM Report.

The realisation of this planned industrial employment supply would be supported by the development of the Melbourne to Brisbane Inland Rail and the associated long-term opportunities for a transport and logistics hub. In addition, a potential link to support freight movement between the Logan Motorway and Ebenezer may also support realisation of the planned industrial employment supply.

Ipswich City Council is currently preparing a new planning scheme which may affect planned industrial employment supply in Ipswich. Where the scheme proceeds, and source data is updated, its effect on planned industrial employment supply will be included in future years of LSDM Reporting.

For more detail about the calculation of planned industrial employment supply see the Technical notes.



This graph shows the number of employees that could be supported by industrial developments, that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s 2041 industrial employment planning baseline.

Note: The planned industrial employment supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report. Much of the planned industrial employment supply will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry.

Lockyer Valley

Summary

ShapingSEQ 2017 establishes that Lockyer Valley's population growth will require an additional 9600 dwellings between 2016 and 2041 through its dwelling supply benchmarks.

The capacity and realistic availability of planned dwelling supply in the Lockyer Valley expansion area provides more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

In recent years, dwelling approvals in the Lockyer Valley have been consistently below the expansion average annual benchmark (there is no consolidation area in the Lockyer Valley). However, dwelling growth in the Lockyer Valley may increase as availability of and access to local employment opportunities and services increases.

Recent dwelling approvals continue the dominance of houses in the Lockyer Valley, and dwelling density has not changed significantly, contrary to the *ShapingSEQ 2017* preferred future.

The area currently has about 12.7 years of supply of uncompleted lot approvals, which far exceeds the minimum four years of supply sought by *ShapingSEQ 2017*.

The capacity and realistic availability of planned industrial employment supply in the Lockyer Valley provide more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

Residential – Lockyer Valley

Planned dwelling supply – Lockyer Valley

The capacity and realistic availability of planned dwelling supply in Lockyer Valley, which is wholly within the expansion area, provide more than the 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figure represents the number of dwellings that have been or could be approved, based on current planning intent, while the realistic availability figure provides a land supply scenario that considers whether some of the capacity is not realistically available by 2041.

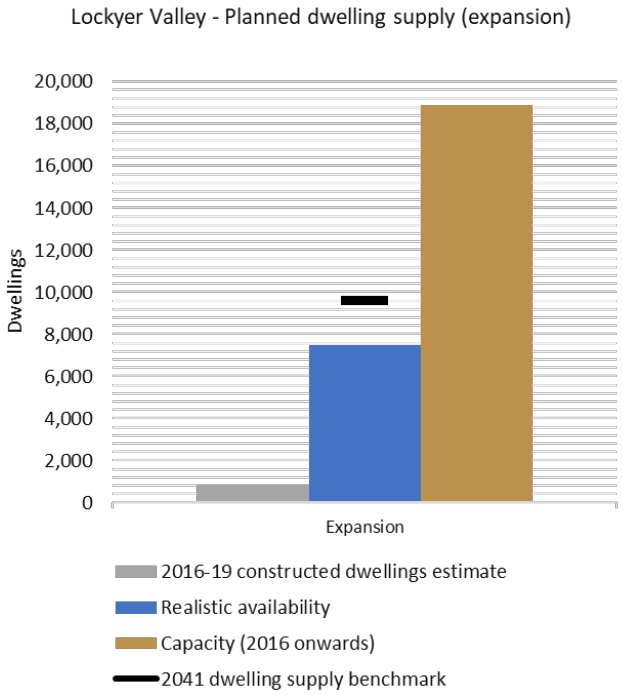
The realistic availability scenario considers factors that may constrain the availability of land for development. Such factors may include infrastructure availability, land ownership fragmentation, landowner intent, practical staging of and capability for development, and the age of existing development.

The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the Current Intent to Service layer from the Ability to Service best practice research in 2019, in combination with other updated data, to derive new estimates of the realistic availability of planned dwelling supply. This approach forms a foundation for improvement in future years of reporting. For more information about these improvements, Best practice research and Technical notes.

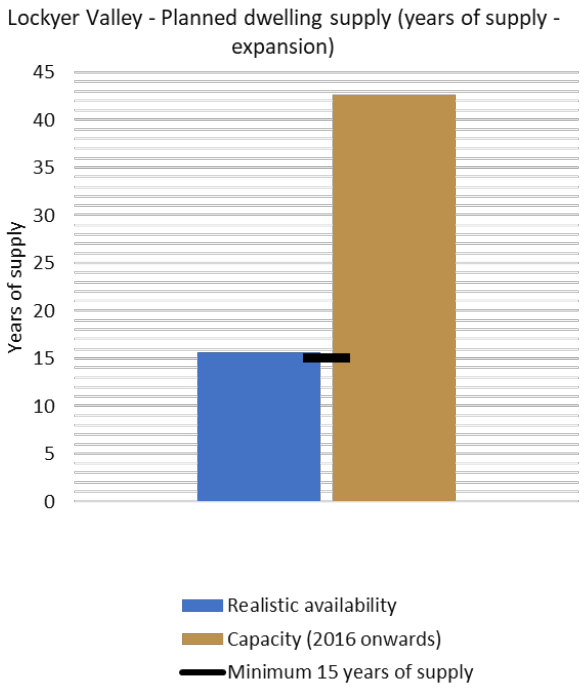
The capacity of planned dwelling supply in Lockyer Valley is about 18,900 dwellings, which is significantly above the expansion 2041 dwelling supply benchmark of 9600 dwellings. The realistic availability of this supply is about 7500 dwellings, which equates to about 16 years of supply and is above *ShapingSEQ 2017*'s 15 years of supply policy objective.

Lockyer Valley Regional Council is preparing a new planning scheme which may affect planned dwelling supply. Where the scheme proceeds, and source data is updated, its effect on planned dwelling supply will be included in future years of LSDM Reporting.

For more detail about the calculation of planned dwelling supply, including years of supply, see the Technical notes.



This graph shows the number of dwellings that have been or could be approved based on current planning intent compared against *ShapingSEQ 2017*'s dwelling supply benchmarks in expansion areas. To view fact sheets on the concept of realistic availability, click here.



This graph shows the number of years of supply of dwellings that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s minimum 15 years of supply policy objective in expansion areas.

Note: The planned dwelling supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report.

Approved supply – Lockyer Valley

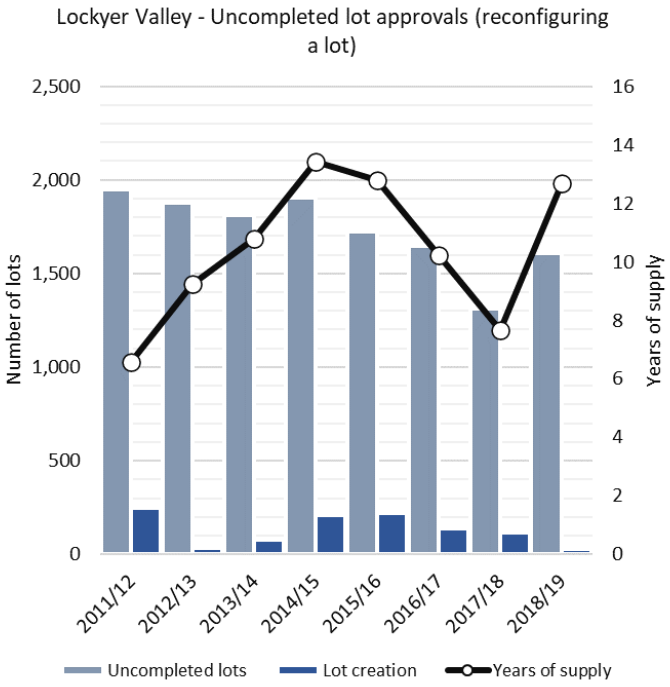
Approved supply is measured by analysing uncompleted lot approvals across Lockyer Valley.

Lockyer Valley has about 12.7 years of supply of uncompleted lot approvals. This is well above the minimum four years of supply sought by *ShapingSEQ 2017*. The total number of current uncompleted lot approvals is 1608. Of these lots, approximately 23 per cent have operational works approvals for the 2018/19 period.

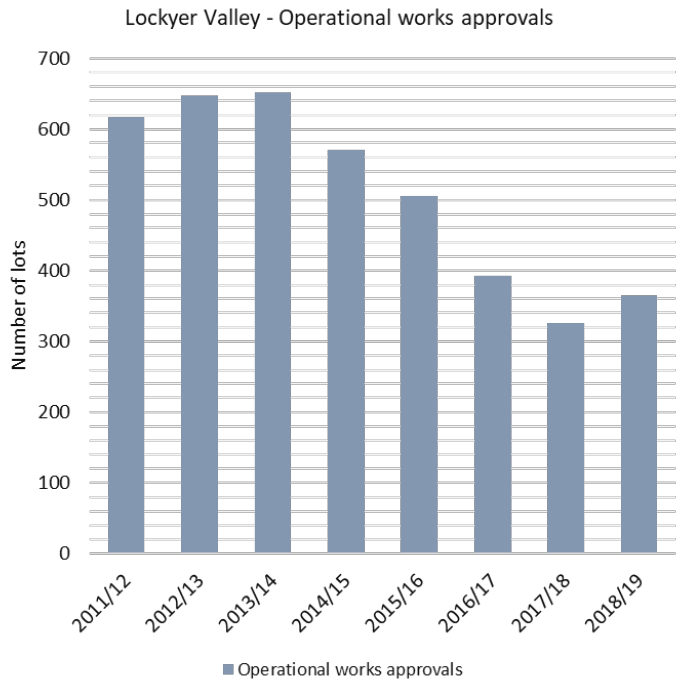
The total number of uncompleted lot approvals increased in 2018/19, reversing the previous downward trend. Declining lot creation has also contributed to an increase in the years of supply.

There are no uncompleted multiple dwelling approvals to report for Lockyer Valley because it has no consolidation area.

For details of the calculation and comparability over time of the approved supply figures, refer to the Technical notes.



This graph shows the number of lots that have a development permit but have not yet been certified (uncompleted lots) as at 30 June each year, as well as the number of lots that have been created in the 12 months up to 30 June each year.



This graph shows the number of uncompleted lot approvals which also have operational works approvals as at 30 June each year.

Note: The years of supply for uncompleted lot approvals is determined by dividing the total number of uncompleted lots by the average annual lot certifications of the previous four years.

Dwelling growth – Lockyer Valley

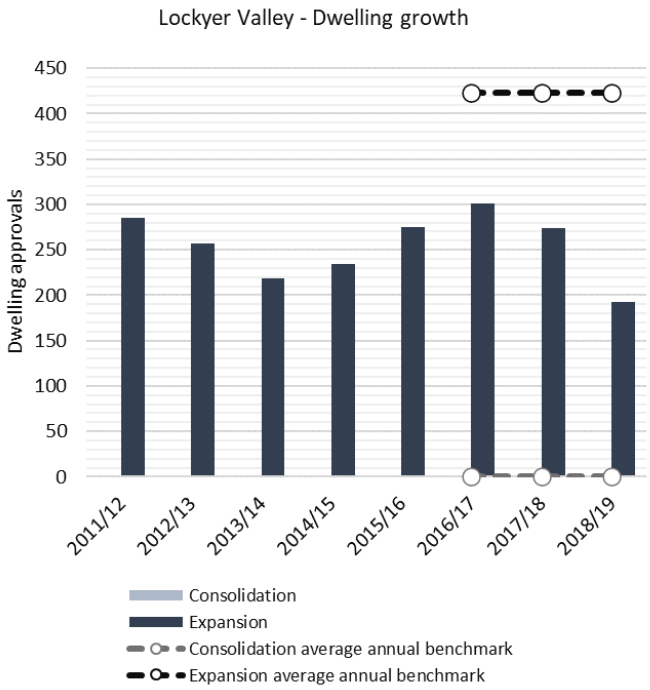
The expansion area applies to the whole of the Lockyer Valley, and this report indicates that there is more than 15 years of planned dwelling supply.

In recent years, dwelling approvals (used to measure dwelling growth) in Lockyer Valley have been consistently below the expansion average annual benchmark.

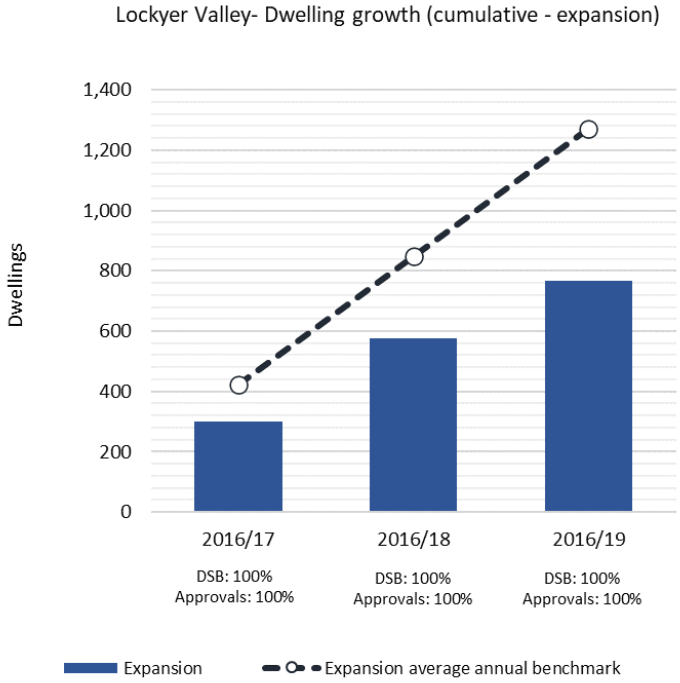
There were 192 dwelling approvals in the Lockyer Valley expansion area in 2018/19, which was approximately 230 fewer than the expansion average annual benchmark of 423 additional dwellings.

Dwelling growth in the Lockyer Valley may increase as availability of and access to local employment opportunities and services increases.

For more information about improvements to the measurement of net growth over time, see Moving forward. For more detail about dwelling approvals, see the Technical notes.



This graph shows annual dwelling approvals compared against *ShapingSEQ 2017*'s average annual benchmark.



This graph shows the cumulative dwelling growth in the expansion area against *ShapingSEQ 2017*'s expansion average annual benchmark.

Note: The average annual benchmark (2016 to 2031) has been adjusted since the 2018 Land Supply and Development Monitoring Report to reflect the growth rate of the most recent 2018 Queensland Government dwelling projections for SEQ. This adjustment has resulted in the average annual

benchmark increasing marginally for the consolidation and expansion area in each local government. For more detail about the adjustment method and reasoning, see the Technical notes.

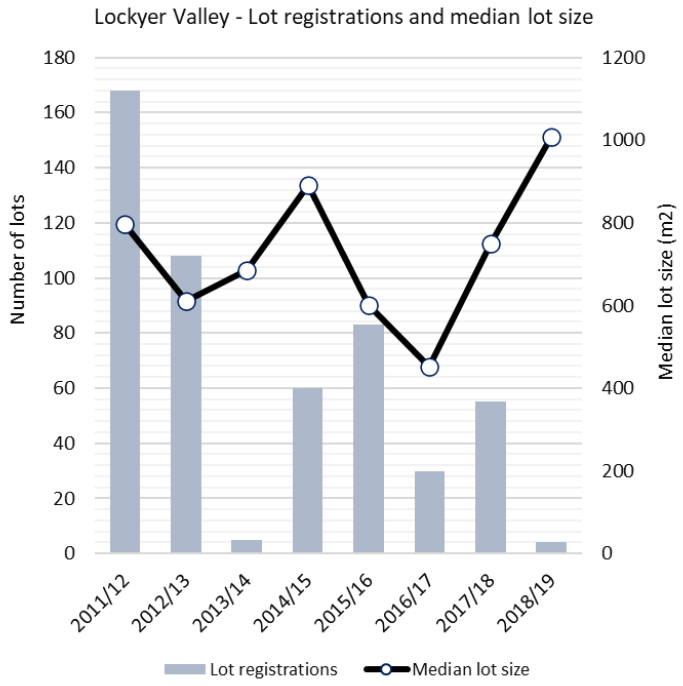
Changes in dwelling density – Lockyer Valley

Dwelling density (measured through median size of new lots and mean population-weighted dwelling density) has not changed significantly in Lockyer Valley in recent years and has not contributed to the *ShapingSEQ 2017*Measures that Matter preferred future for increased dwelling densities and smaller lot sizes.

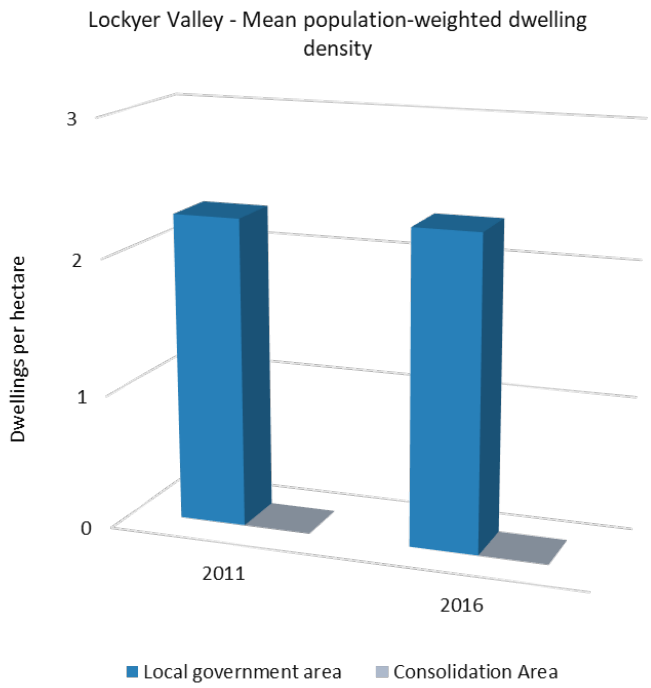
Mean population-weighted dwelling density in the Lockyer Valley remained static between 2011 and 2016, at 2.3 dwellings per hectare. This represents the average dwelling density at which the population of Lockyer Valley lives and is comparable to the net residential density used by *ShapingSEQ 2017*.

The median size of new lots in the Lockyer Valley fluctuated from 2011/12 to 2018/19. This fluctuation may be due to the small number of lot registrations each year. Median lot size is generally larger in rural council areas, relative to coastal and urban local governments in SEQ.

For more detail about the calculation of mean population-weighted dwelling density and median size of new lots, see the Technical notes.



This graph shows the number and median size of new lots registered annually.



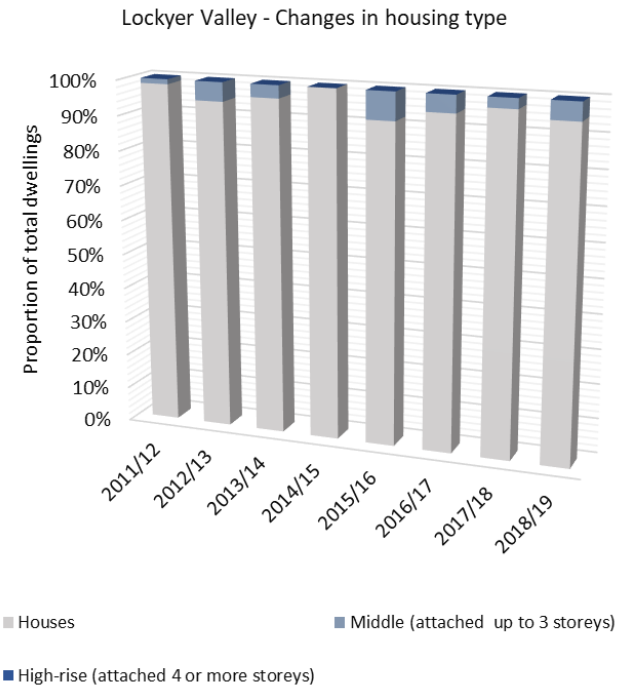
This graph shows the dwelling density (mean population-weighted dwelling density) at which people were living in 2011 and 2016.

Changes in housing type – Lockyer Valley

Housing in the Lockyer Valley is predominantly houses in urban and rural residential environments, and recent dwelling approvals indicate continuation of this characteristic.

Ninety-six per cent (734 dwellings) of all new dwelling approvals in Lockyer Valley for 2016/17 to 2018/19 were for houses, which was a slightly higher proportion than for existing dwelling stock as at the 2016 Census (95 per cent). Dwelling approvals for middle were four per cent (33 dwellings) over the same period, which was slightly less than for dwelling stock as at the 2016 Census (five per cent). There were no approvals for high-rise dwellings for 2016/17 to 2018/19.

For more detail about dwelling approvals, see the Technical notes.



This graph shows the proportion of dwelling approvals that are for houses, middle (attached dwellings up to three storeys) and high-rise (attached dwellings four storeys or more) annually.

Sales and price – Lockyer Valley

Sales prices and the number of sales have only been reported for the expansion area because no consolidation area is identified for Lockyer Valley. Sales prices have also only been reported for years with 10 or more sales.

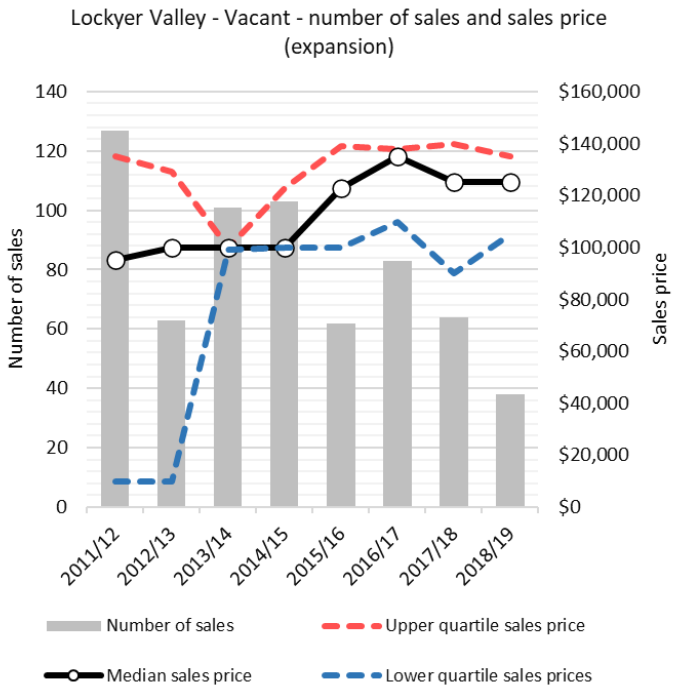
The number of sales has decreased from 2017/18 to 2018/19 for all categories in Lockyer Valley.

The median sales price for all categories is lower in Lockyer Valley than for South East Queensland (SEQ).

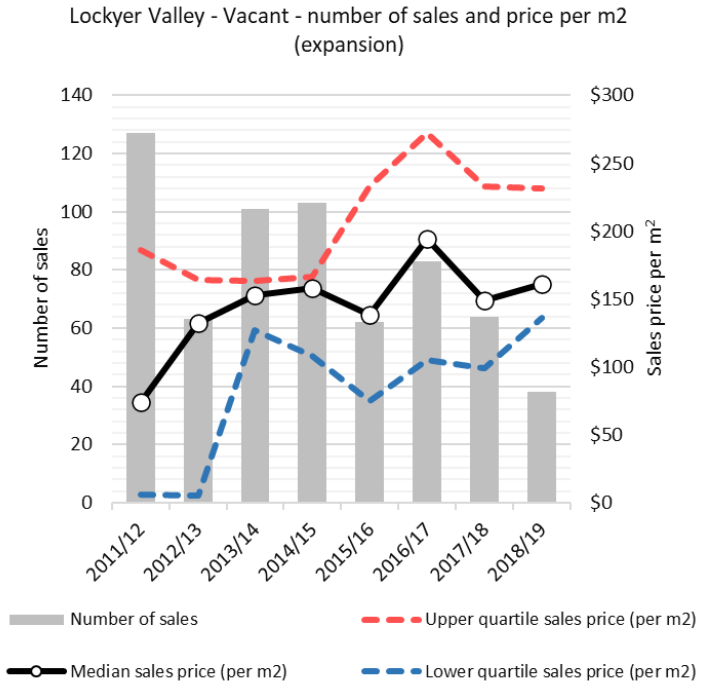
The rate of growth in median sales price from 2011/12 to 2018/19 was higher than or similar to SEQ for all categories, except houses. Vacant lots are about half the median sales price of SEQ but experienced a high rate of median price growth since 2011/12 (32 per cent per lot and 118 per cent per square metre).

The number of sales for Lockyer Valley is low, particularly for vacant lots, house-land packages, and attached dwellings. This is typical for rural local government areas in SEQ and contributes to more variation in median sales price from year to year.

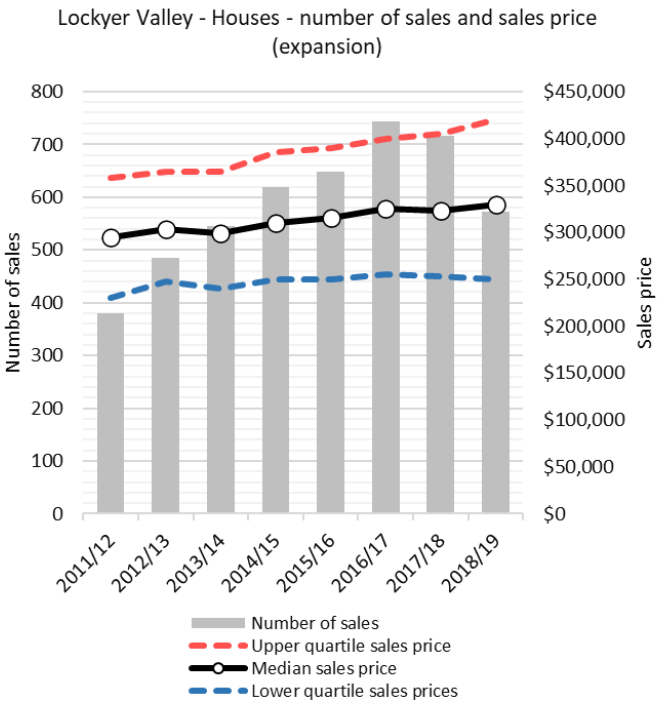
For more detail about the median sales price and number of sales, see the Technical notes.



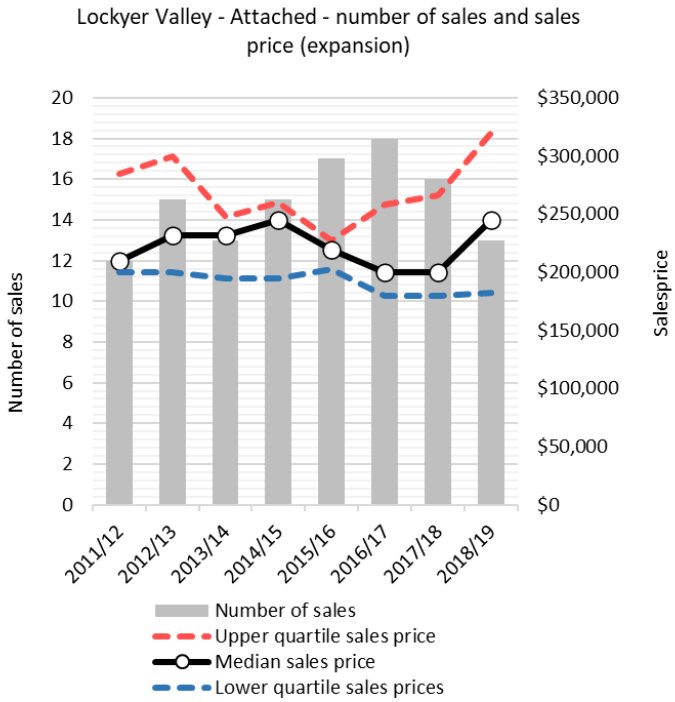
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the expansion area.



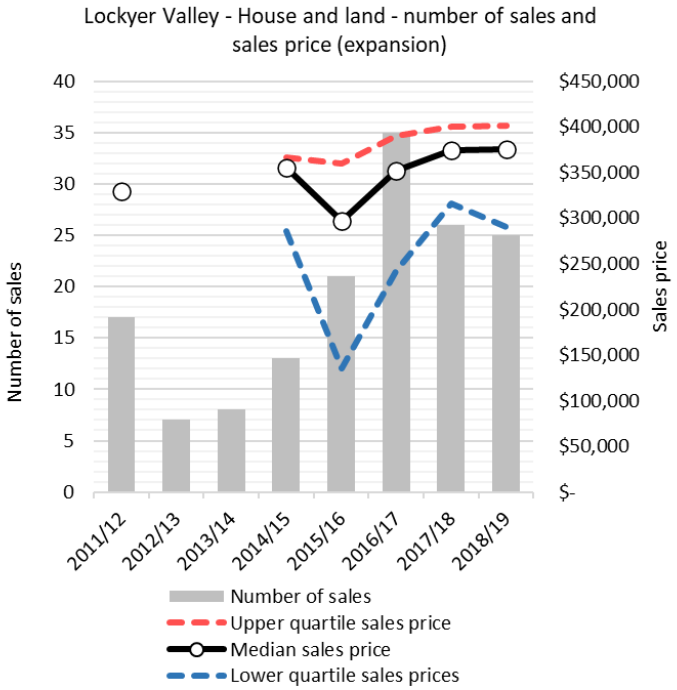
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the expansion area.



This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the expansion area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for attached dwellings in the expansion area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for house-land packages in the expansion area.

Industrial – Lockyer Valley

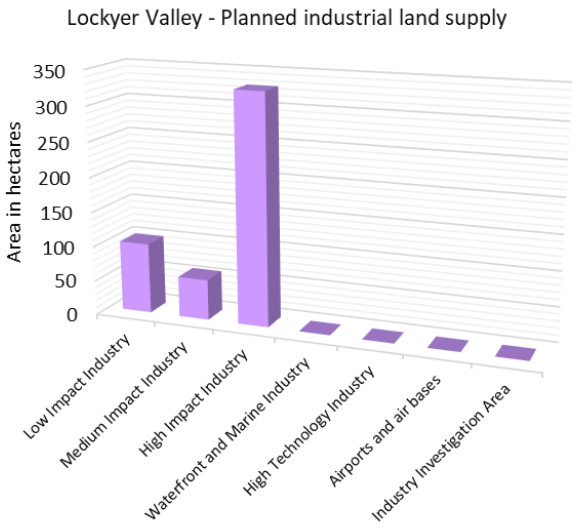
Planned industrial land supply/take-up – Lockyer Valley

The estimated take-up of developed industrial land between 2011 and 2018 in Lockyer Valley was about 4 hectares. The take-up occurred on land intended for low impact industry.

There were about 488 hectares of planned industrial land in Lockyer Valley as at 2018. This planned industrial land comprised land intended for low, medium and high impact industry.

The 2019 planned industrial land estimate improves upon the estimate provided in the 2018 LSDM Report. It has been derived by trialling the application of the developability rules for determining the impact of constraints from the Developable Area best practice research in 2019.

For more detail about these improvements and planned industrial land and take-up, see Best practice research and Technical notes.



This graph shows the number of hectares of planned industrial land as at 2018 by industrial land category.

Note: The planned industrial land measure identifies land that may be developable in the long term based on current zoning or intent and applicable constraints in a planning instrument. Much of this land will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry. Also, planned industrial land is a gross area which does not include any allowance for roads, infrastructure corridors, open space and the like.

The Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) notes ongoing improvements are required to continue to mature the industrial land monitoring. In partnership with stakeholders, DSDILGP will explore improved methods in 2020, building from the work undertaken in 2018 and 2019.

Planned industrial employment supply – Lockyer Valley

The capacity and realistic availability of planned industrial employment supply in Lockyer Valley provides the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figure represents the number of employees that could be supported by industrial developments that have been or could be approved, based on current planning intent, while the realistic availability figure provides a supply scenario that considers whether some of the capacity is not realistically available by 2041.

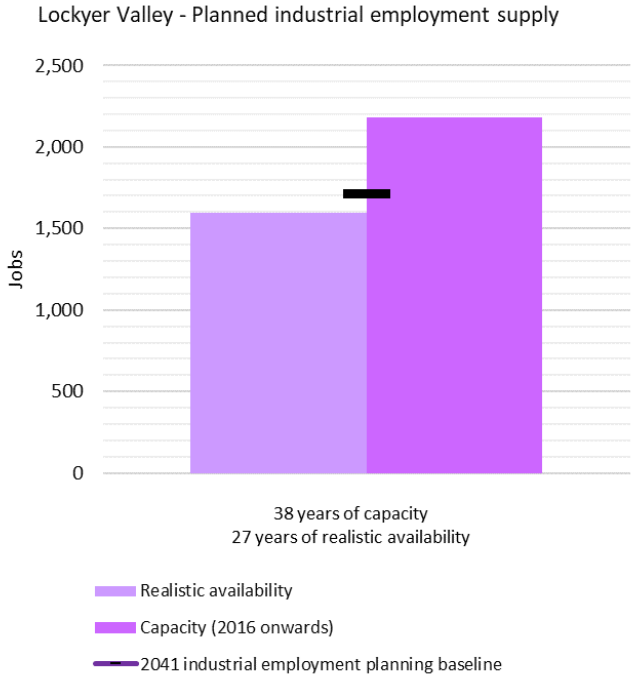
The realistic availability scenario considers factors that may constrain the availability of land for industrial development and employment. Such factors include constraints affecting the feasibility of development and lower than assumed employment densities.

The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the outcomes from the Developable Area best practice research in 2019 and a refined set of economic and developability criteria to estimate realistic availability in selected Major Enterprise and Industrial Areas. For more information about these improvements, see the Best practice research and Technical notes.

The capacity of planned industrial employment supply in Lockyer Valley is about are about 2200 employees, which represents 38 years of supply and is above the 2041 industrial employment planning baseline of about 1700 employees. The realistic availability of this supply is about 1600 employees, which represents 27 years of supply and is slightly below the 2041 employment planning baseline.

Lockyer Valley Regional Council is preparing a new planning scheme which may affect planned industrial employment supply. Where the scheme proceeds, and source data is updated, its effect on planned industrial employment supply will be included in future years of LSDM Reporting.

For more detail about the calculation of planned industrial employment supply, see the Technical notes.



This graph shows the number of employees that could be supported by industrial developments, that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s 2041 industrial employment planning baseline.

Note: The planned industrial employment supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report. Much of the planned industrial employment supply will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry.

Logan

Summary

ShapingSEQ 2017 establishes that Logan's population growth will require an 89,900 additional dwellings between 2016 and 2041 through its dwelling supply benchmarks.

The capacity and realistic availability of planned dwelling supply in the Logan consolidation area provides more than the minimum 15 years of supply sought by *ShapingSEQ 2017*. The capacity and realistic availability of planned dwelling supply in the Logan expansion area also exceeds the minimum 15 years of supply sought by *ShapingSEQ 2017*.

In recent years, dwelling approvals in the Logan expansion area have been below the expansion area average annual benchmark, while dwelling approvals in the consolidation area have exceeded the consolidation average annual benchmark. Increased expansion area dwelling growth is now supported by a subregional infrastructure arrangement for sewerage provision and upgrades to local roads for the Greater Flagstone and Yarrabilba priority development areas.

Recent dwelling approvals indicate an increase in housing diversity in Logan, and dwelling density has also increased, consistent with the *ShapingSEQ 2017* preferred future.

There are about 4.2 years of supply of uncompleted lot approvals and 10.2 years of uncompleted multiple dwelling approvals in Logan, which are above the minimum four years of supply sought by *ShapingSEQ 2017*.

The capacity and realistic availability of planned industrial employment supply in Logan provide more than the minimum 15 years of supply sought by *ShapingSEQ 2017* and exceed the 2041 industrial employment planning baseline.

Residential – Logan

Planned dwelling supply – Logan

The capacity and realistic availability of planned dwelling supply in the Logan consolidation and expansion areas provide more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figures represent the number of dwellings that have been or could be approved, based on current planning intent, while the realistic availability figure provides a land supply scenario that considers whether some of the capacity is not realistically available by 2041.

The realistic availability scenario considers factors that may constrain the availability of land for development. Such factors may include infrastructure availability, land ownership fragmentation, landowner intent, practical staging of and capability for development, and the age of existing development.

The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the Current Intent to Service layer from the Ability to Service best practice research in 2019, in combination with other updated data, to derive new estimates of the realistic availability of planned dwelling supply. This approach forms a foundation for improvement in future years of reporting. For more information about these improvements, see the Best practice research and Technical notes.

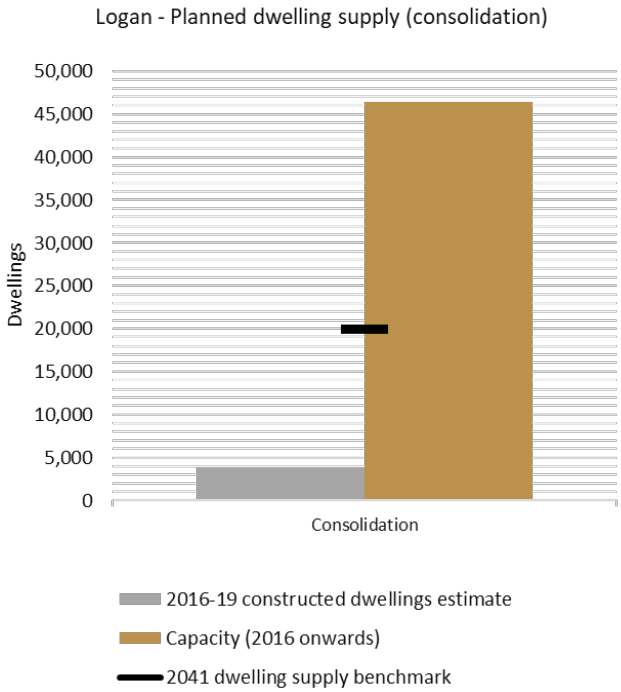
In the Logan consolidation area, the capacity of planned dwelling supply is significantly greater than the consolidation 2041 dwelling supply benchmark of 19,900 dwellings.

In the Logan expansion area, the capacity of planned dwelling supply is significantly greater than the expansion 2041 dwelling supply benchmark of 70,000 dwellings. The realistic availability of this supply is about 68,000 dwellings which equates to around 27 years of supply and is above *ShapingSEQ 2017*'s 15 years of supply policy objective.

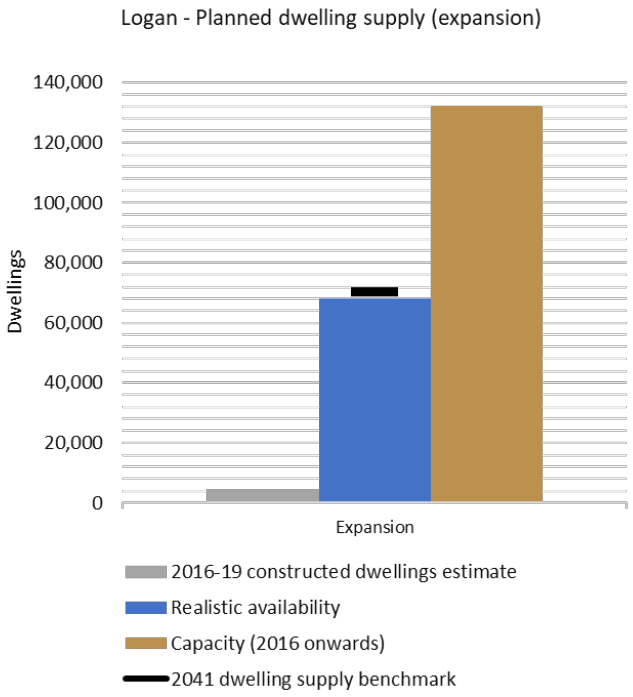
Much of the planned dwelling supply in the Logan expansion area is located within the Greater Flagstone and Yarrabilba priority development areas. Realisation of this planned dwelling supply is now supported by a sub-regional infrastructure agreement for sewerage provision and upgrades to local roads. It also needs to be supported by upgrades to state roads and the Salisbury to Beaudesert rail corridor and would be supported by frequent public transport services as identified by *ShapingSEQ 2017*.

Logan City Council is preparing planning scheme amendments which may affect planned dwelling supply. Where the scheme proceeds, and source data is updated, its effect on planned dwelling supply will be included in future years of LSDM Reporting.

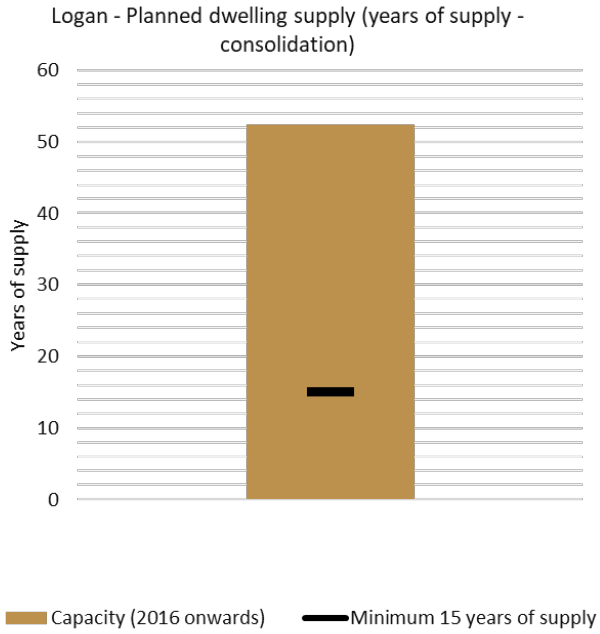
For more detail about the calculation of planned dwelling supply, including years of supply, and a list of planning scheme amendments either recently adopted or in process for Logan, see the Technical notes.



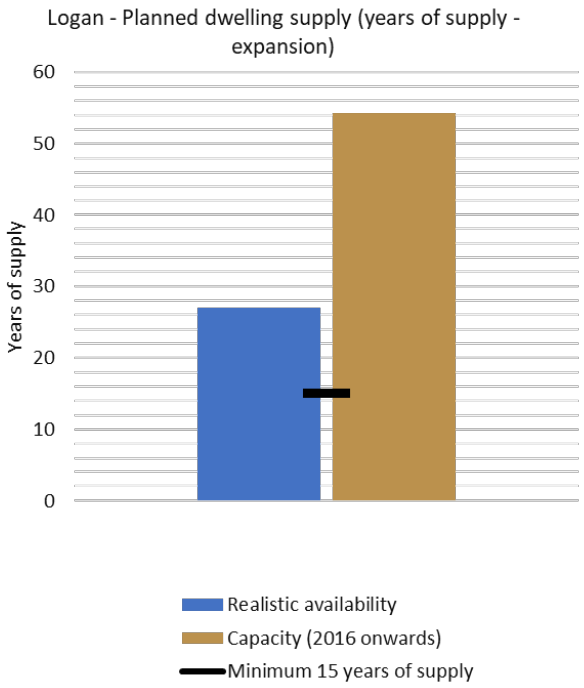
This graph shows the number of dwellings that have been or could be approved based on current planning intent compared against *ShapingSEQ 2017*'s dwelling supply benchmarks in consolidation areas.



This graph shows the number of dwellings that have been or could be approved based on current planning intent compared against *ShapingSEQ 2017*'s dwelling supply benchmarks in expansion areas. To view fact sheets on the concept of realistic availability, click here.



This graph shows the number of years of supply of dwellings that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s minimum 15 years of supply policy objective in consolidation areas.



This graph shows the number of years of supply of dwellings that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s minimum 15 years of supply policy objective in expansion areas.

Note: The planned dwelling supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report.

Approved supply – Logan

Approved supply is measured by analysing uncompleted lot approvals and uncompleted multiple dwelling approvals across Logan.

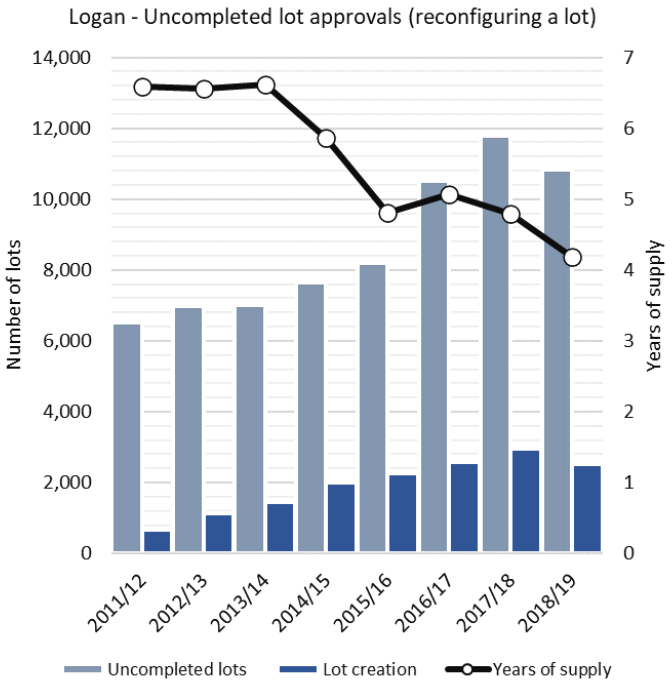
There are about 4.2 years of supply of uncompleted lot approvals in the Logan consolidation and expansion areas overall, which is slightly above the minimum four years of supply sought by *ShapingSEQ 2017*. The total number of uncompleted lot approvals currently is 10,834 which is about 944 lots below the long-term historical high for Logan. Of the uncompleted lots, approximately 40 per cent have operational works approvals for the 2018/19 period.

The years of supply of lot approvals have consistently been above four years of supply since 2011/12. A decline in the years of supply in recent years has been accompanied by an increasing rate of lot creation which peaked in 2017/18 before declining in 2018/19.

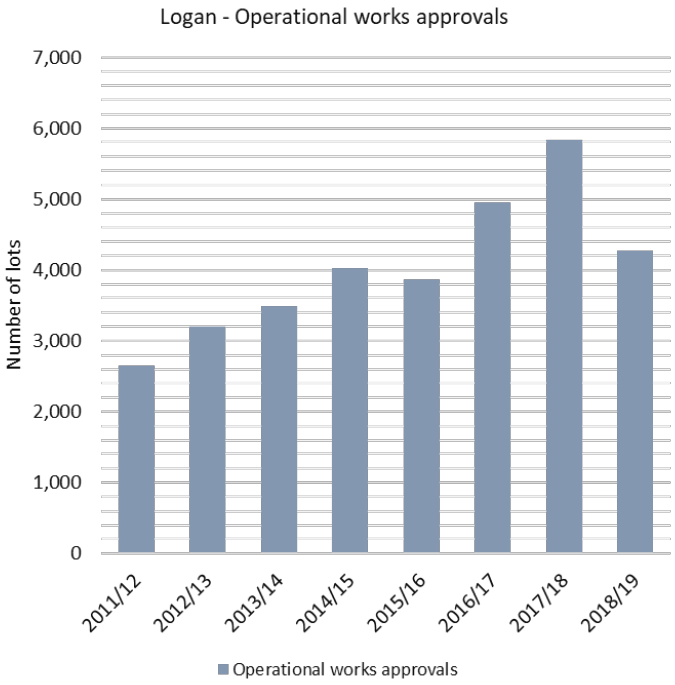
Logan has about 10.2 years of supply of uncompleted multiple dwelling approvals in the consolidation area, which is well above the minimum four years of supply sought by *ShapingSEQ*

2017. The supply of uncompleted multiple dwelling approvals fell slightly from June 2018 to June 2019.

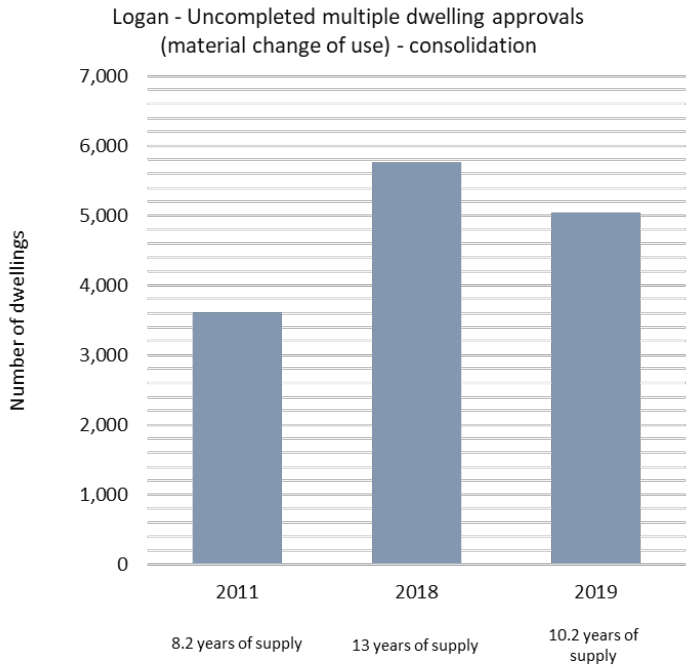
For details of the calculation and comparability over time of the approved supply figures, refer to the Technical notes.



This graph shows the number of lots that have a development permit but have not yet been certified (uncompleted lots) as at 30 June each year and the number of lots that have been created in the 12 months up to 30 June each year.



This graph shows the number of uncompleted lot approvals which also have operational works approvals as at 30 June each year.



This graph shows the number of multiple dwellings that have a material change of use development permit but have not yet been constructed (uncompleted multiple dwellings) in the consolidation area as at 30 June 2011, 30 June 2018 and 30 June 2019.

Note: The years of supply for uncompleted multiple dwelling approvals is determined by dividing the total number of uncompleted multiple dwellings by the average annual attached dwelling building approvals of the previous four years. The years of supply for uncompleted lot approvals is determined by dividing the total number of uncompleted lots by the average annual lot certifications of the previous four years.

Dwelling growth – Logan

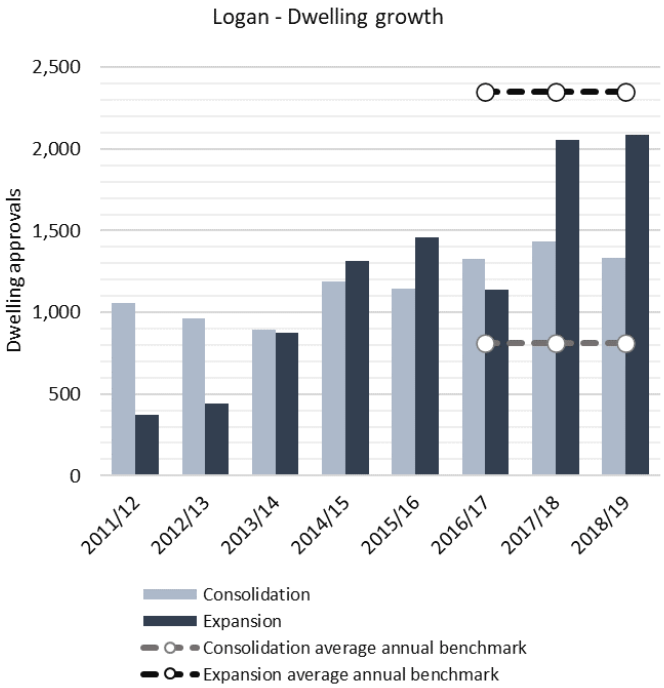
In the Logan consolidation area, dwelling approvals (used to measure dwelling growth) have consistently exceeded the consolidation average annual benchmark. In the Logan expansion area, dwelling approvals have been below the expansion average annual benchmark, but approvals from 2016/17 to 2018/19 indicate a significant upward trend towards the benchmark.

In 2018/19, there were 1332 dwelling approvals in the Logan consolidation area, which was approximately 520 dwellings more than the consolidation average annual benchmark of 812 additional dwellings. There were 2085 dwelling approvals in the Logan expansion area in 2018/19, which was approximately 270 dwellings below the expansion average annual benchmark of 2351 additional dwellings.

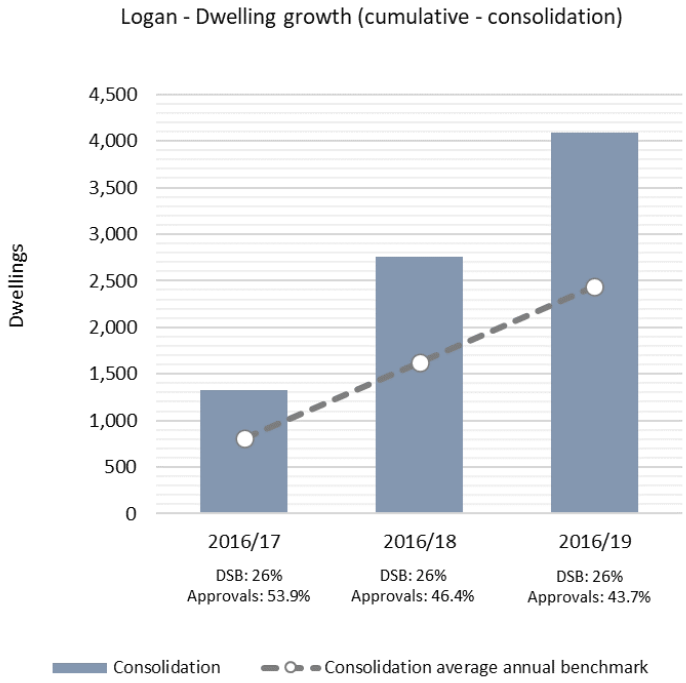
Approximately 44 per cent of dwelling approvals from 2016/17 to 2018/19 were in Logan's consolidation area, which is more than its expected share of dwelling growth to 2031 identified in *ShapingSEQ 2017* (26 per cent). Approximately 56 per cent of dwelling approvals were in Logan's expansion area over the same period, below its expected share of 74 per cent.

Increased expansion dwelling growth is now supported by a sub-regional infrastructure arrangement for sewerage provision and upgrades to local roads for the planned dwelling supply in the Greater Flagstone and Yarrabilba priority development areas.

For more information about improvements to the measurement of net growth over time, see Moving forward. For more detail about dwelling approvals, see the Technical notes.



This graph shows annual dwelling approvals compared against *ShapingSEQ 2017*'s average annual benchmarks.



This graph shows the cumulative dwelling growth in the consolidation area against *ShapingSEQ 2017*'s consolidation average annual benchmark.

This graph shows the cumulative dwelling growth in the expansion area against *ShapingSEQ 2017*'s expansion average annual benchmark.

Note: The average annual benchmark (2016 to 2031) has been adjusted since the 2018 Land Supply and Development Monitoring Report to reflect the growth rate of the most recent 2018 Queensland Government dwelling projections for SEQ. This adjustment has resulted in the average annual benchmark increasing marginally for the consolidation and expansion area in each local government. For more detail about the adjustment method and reasoning, see the Technical notes.

Changes in dwelling density – Logan

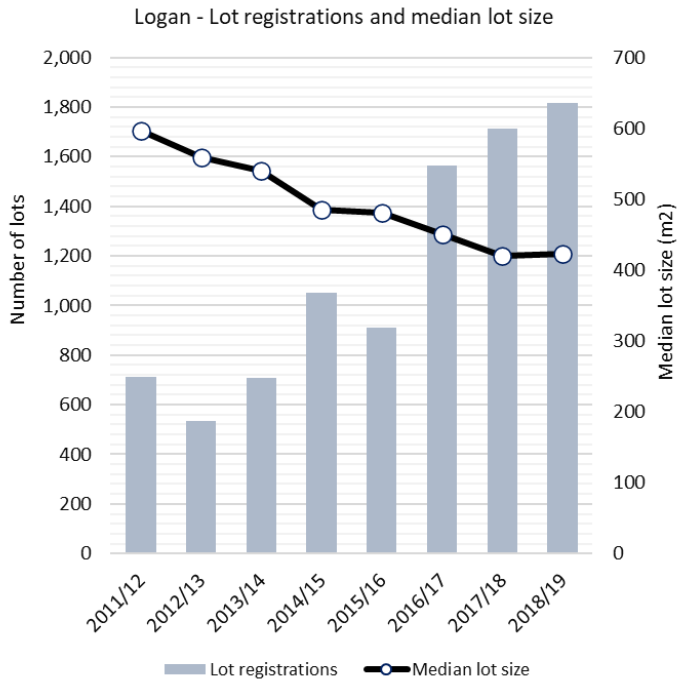
Dwelling density (measured through median size of new lots and mean population-weighted dwelling density) is increasing in Logan in accordance with the *ShapingSEQ 2017* Measures that Matter preferred future for higher dwelling densities and smaller lots.

Mean population-weighted dwelling density in Logan increased between 2011 and 2016, from 8.9 to 9.7 dwellings per hectare. This represents the average dwelling density at which the population of Logan lives and is comparable to the net residential density as used by *ShapingSEQ 2017*. In the consolidation area, mean population-weighted dwelling density increased from 10.8 to 11.7 dwellings per hectare.

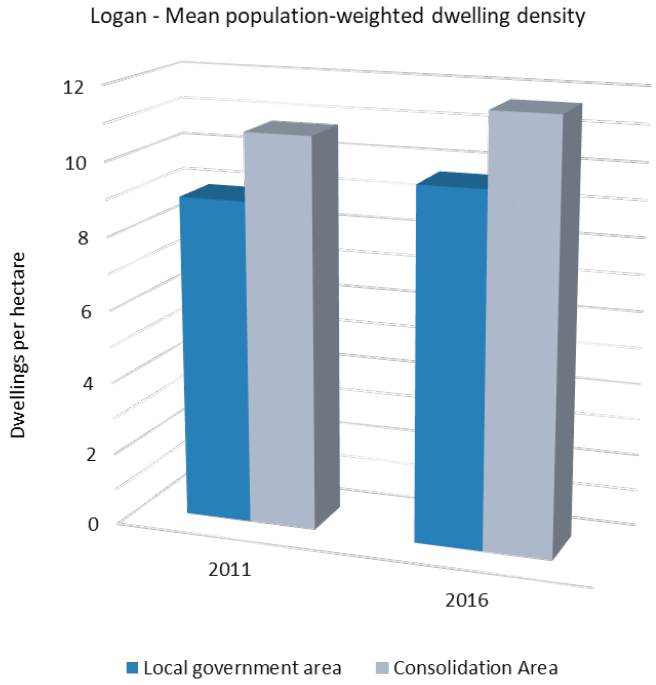
The median size of new lots in Logan decreased from 596m^2 to 423m^2 from 2011/12 to 2018/19. This was accompanied by a significant increase in lot registrations over the same period. This measure is indicative of increased dwelling densities in new urban subdivisions in Logan.

The planning scheme and Priority Development Area development schemes in place across Logan have supported increased dwelling densities and smaller lots over time.

For more detail about the calculation of mean population-weighted dwelling density and median size of new lots, see the Technical notes.



This graph shows the number and median size of new lots registered annually.



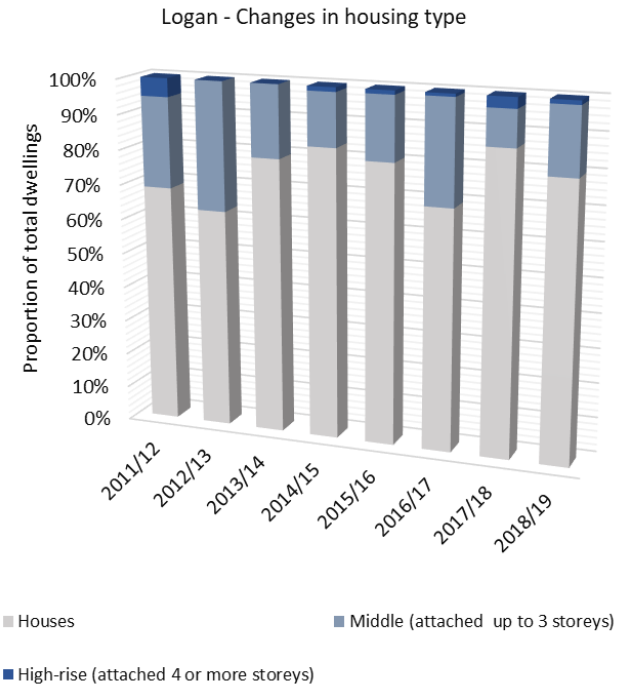
This graph shows the dwelling density (mean population-weighted dwelling density) at which people were living in 2011 and 2016.

Changes in housing type – Logan

Recent dwelling approvals indicate an increase in housing diversity in Logan, consistent with the *ShapingSEQ 2017* Measures that Matter preferred future.

Seventy-nine per cent (7452 dwellings) of all new dwelling approvals in Logan from 2016/17 to 2018/19 were for houses, which was less than for the existing dwelling stock (86 per cent as at the 2016 Census). Dwelling approvals for middle (19 per cent or 1751 dwellings) and high-rise (2 per cent or 169 dwellings) over the same period were higher than their share of the dwelling stock (middle 14 per cent, high-rise zero per cent) as at the 2016 Census.

For more detail about dwelling approvals, see the Technical notes.



This graph shows the proportion of dwelling approvals that are for houses, middle (attached dwellings up to three storeys) and high-rise (attached dwellings four storeys or more) annually.

Sales and price – Logan

Sales prices have not been reported for years with fewer than 10 sales.

The number of sales has decreased from 2017/18 to 2018/19 for all categories in Logan except house-land packages in the expansion area.

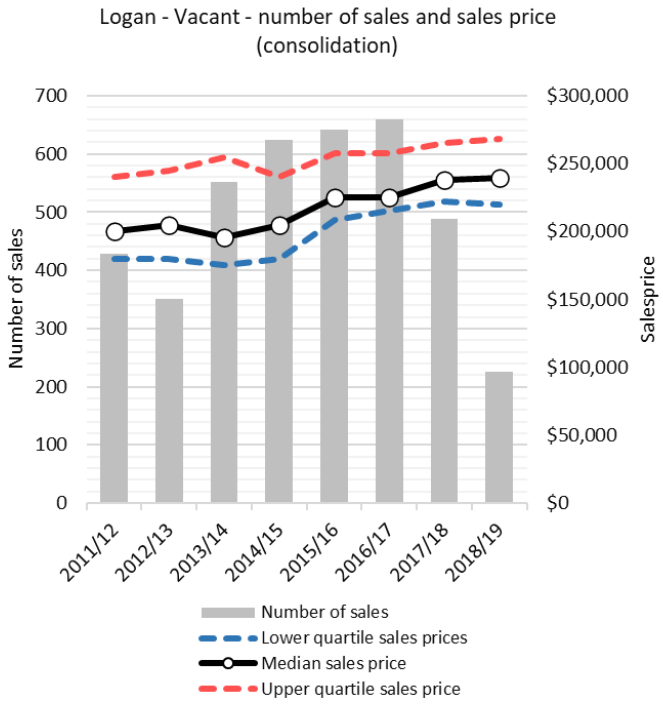
The median sales price for all categories is lower in Logan than for South East Queensland (SEQ).

The rate of growth in median sales price from 2011/12 to 2018/19 was lower in Logan than SEQ for all categories except for vacant lots per square metre in the expansion area which increased by 91 per cent.

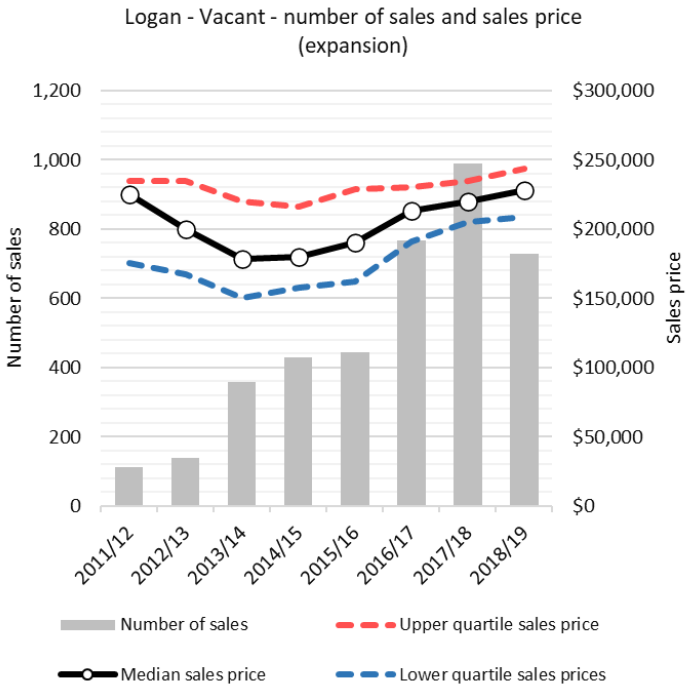
The next highest rate of median sales price growth was for vacant lots per square metre in the consolidation area (about 39 per cent). Unlike SEQ as a whole, attached dwellings in the consolidation area experienced a decline in median sales price from 2011/12 to 2018/19.

Unlike SEQ as a whole, median sales price for houses, house-land packages, attached dwellings and vacant lots per square metre are higher in the Logan expansion area than the consolidation area.

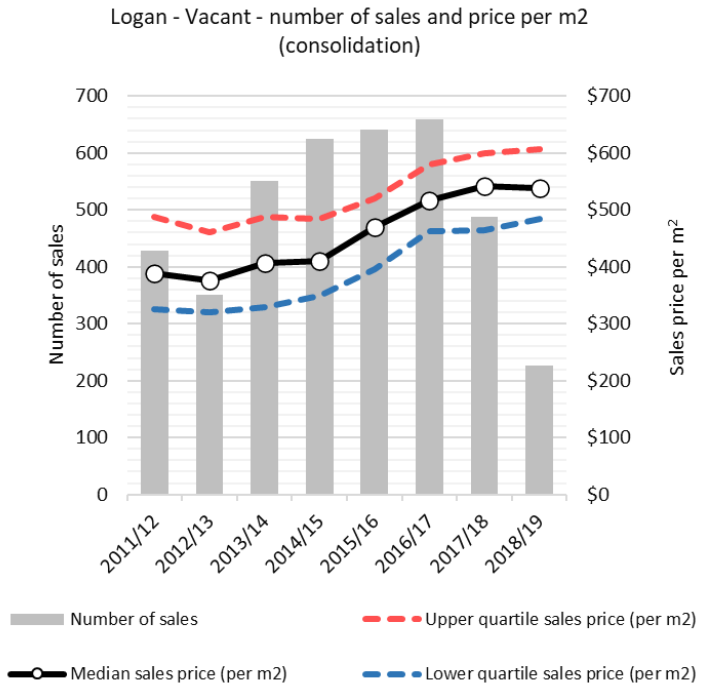
For more detail about the median sales price and number of sales, see the Technical notes.



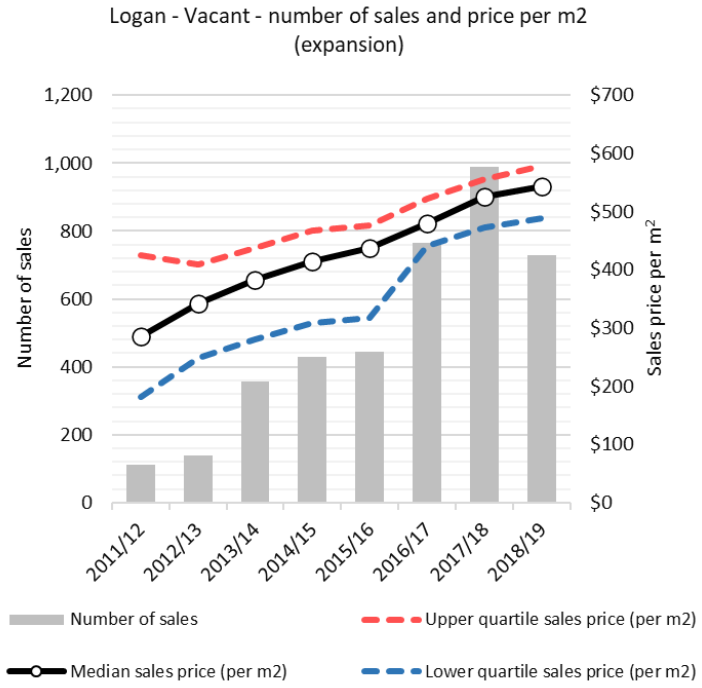
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the consolidation area.



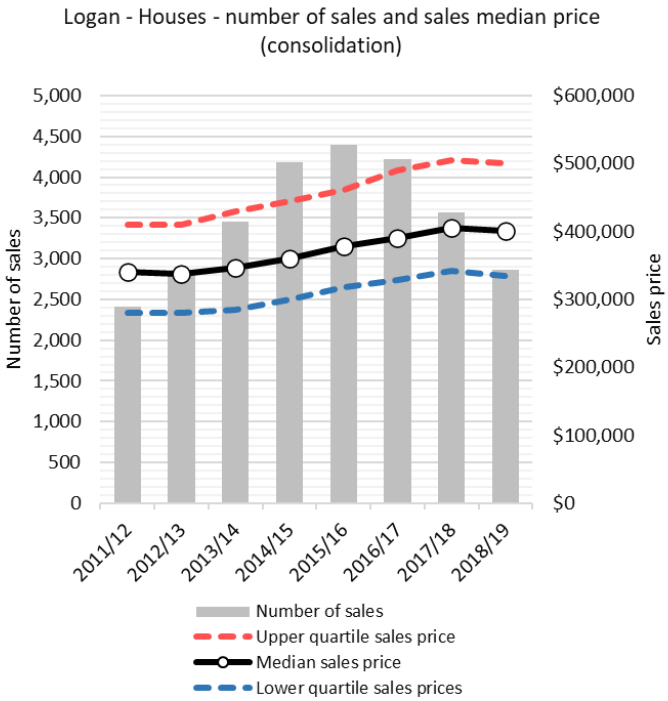
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the expansion area.



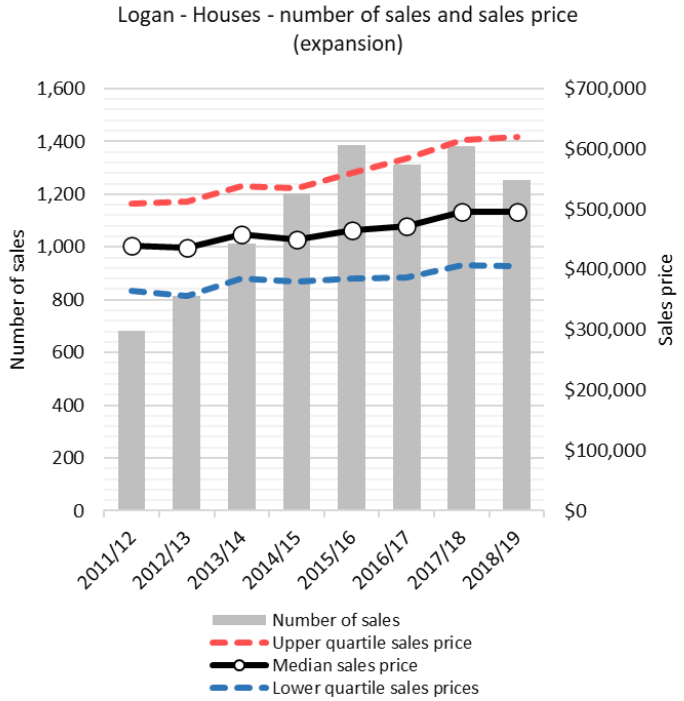
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the consolidation area.



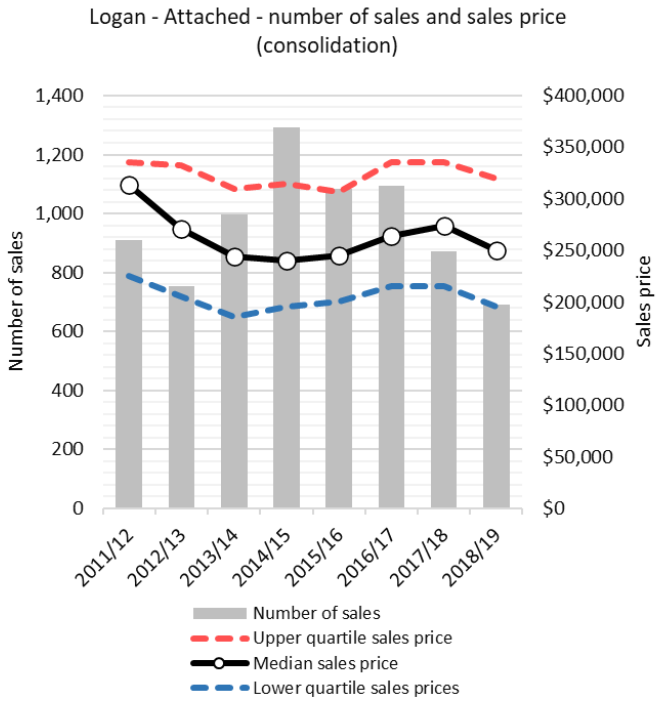
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the expansion area.



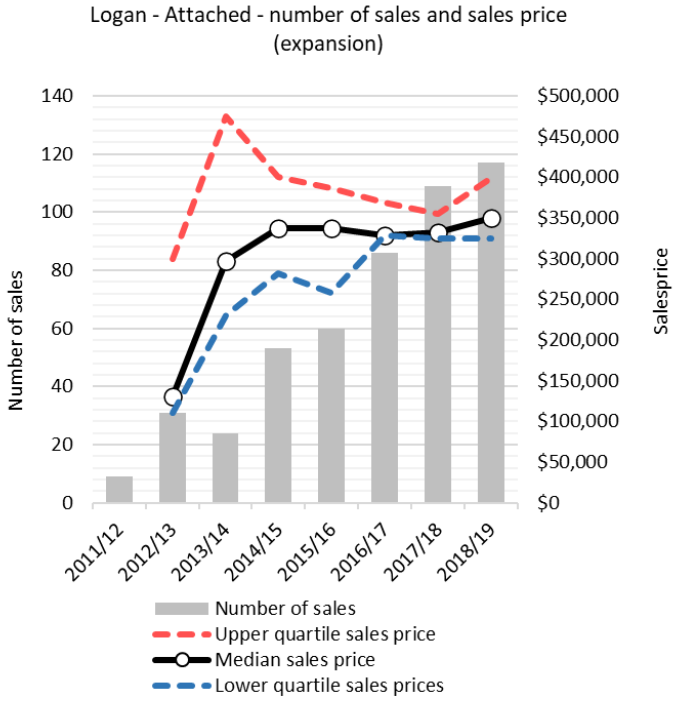
This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the consolidation area.



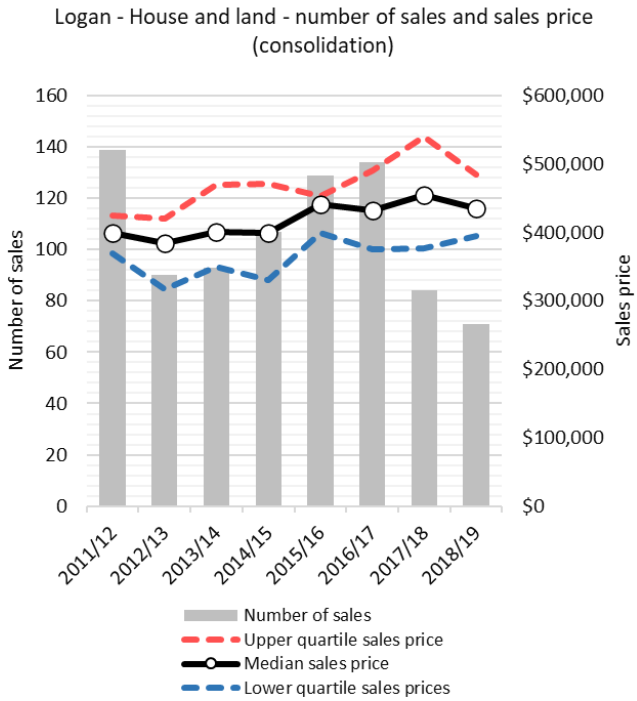
This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the expansion area.



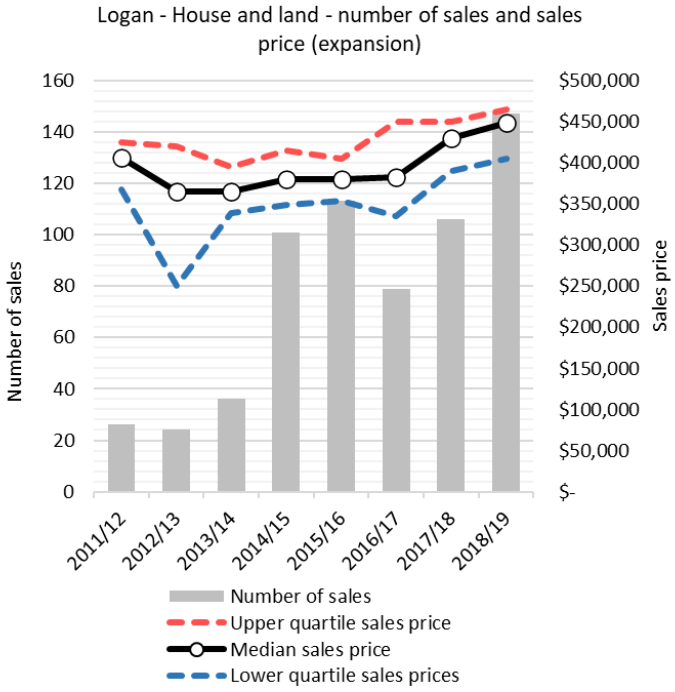
This graph shows the number of sales and the lower, median and upper quartile sales price for attached dwellings in the consolidation area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for attached dwellings in the expansion area.



This graph shows the number of sales and the lower, median and upper quartile sales price for house-land packages in the consolidation area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for house-land packages in the expansion area.

Industrial – Logan

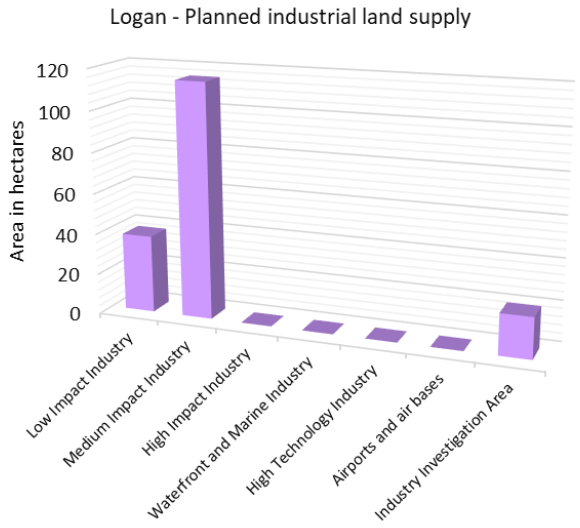
Planned industrial land supply/take-up – Logan

The estimated take-up of developed industrial land between 2011 and 2018 in Logan was about 76 hectares, on land intended for low and medium impact industry.

There were about 172 hectares of planned industrial land in Logan as at 2018. This planned industrial land comprised land intended for low and medium impact industry and industry investigation area.

The 2019 planned industrial land estimate improves upon the estimate provided in the 2018 LSDM Report. It has been derived by trialling the application of the developability rules for determining the impact of constraints from the Developable Area best practice research in 2019.

For more detail about these improvements and developable industrial land and take-up, see Best practice research and the Technical notes.



This graph shows the number of hectares of planned industrial land as at 2018 by industrial land category.

Note: The planned industrial land measure identifies land that may be developable in the long term based on current zoning or intent and applicable constraints in a planning instrument. Much of this land will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry. Also, planned industrial land is a gross area which does not include any allowance for roads, infrastructure corridors, open space and the like.

The Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) notes ongoing improvements are required to continue to mature the industrial land monitoring. In partnership with stakeholders, DSDILGP will explore improved methods in 2020, building from the work undertaken in 2018 and 2019.

Planned industrial employment supply – Logan

The capacity and realistic availability of planned industrial employment supply in Logan provide the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figure represents the number of employees that could be supported by industrial developments that have been or could be approved, based on current planning intent, while the realistic availability figure provides a supply scenario that considers whether some of the capacity is not realistically available by 2041.

The realistic availability scenario considers factors that may constrain the availability of land for industrial development and employment. Such factors include constraints affecting the feasibility of development and lower than assumed employment densities.

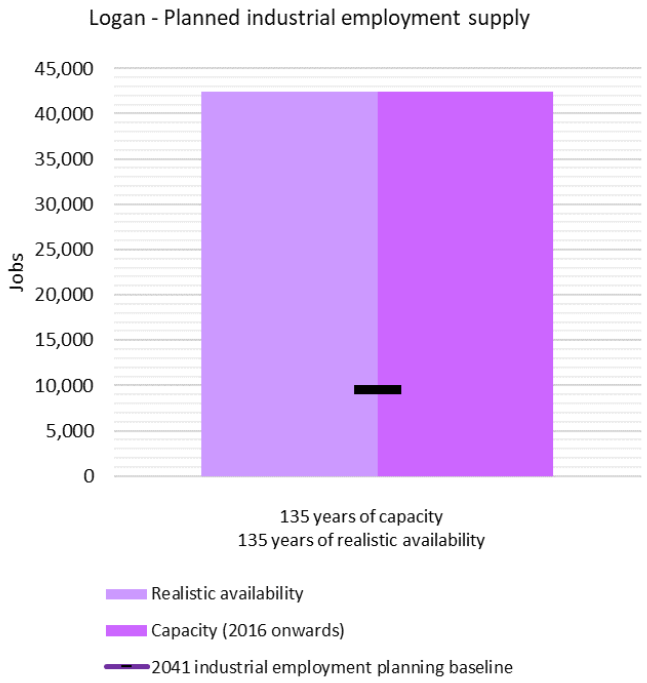
The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the outcomes from the Developable Area best practice research in 2019 and a refined set of economic and developability criteria to estimate realistic availability in selected Major Enterprise and Industrial Areas. For more information about these improvements, see the Best practice research and Technical notes.

The capacity of planned industrial employment supply in Logan is about 42,500 employees, while the realistic availability of this supply is also about 42,500 employees. These figures are greater than the 2041 industrial employment planning baseline of about 9500 employees. However, some excess of planned industrial employment supply may be appropriate to facilitate strategic economic development opportunities when they arise. This need was recognised by the Best practice research in the 2018 LSDM Report.

The realisation of this planned industrial employment supply would be supported by improved and more direct connections to the Port of Brisbane, including the southern extension of the Gateway Motorway as identified by *ShapingSEQ 2017*, which would support the planned Park Ridge industrial area.

Logan City Council is preparing planning scheme amendments which may affect planned industrial employment supply. Where amendments proceed, and data sources are updated, their effect on industrial employment supply will be included in future years of LSDM Reporting.

For more detail about the calculation of planned industrial employment supply, and identification of planning scheme amendments that may affect supply, see the Technical notes.



This graph shows the number of employees that could be supported by industrial developments, that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s 2041 industrial employment planning baseline.

Note: The planned industrial employment supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report. Much of the planned industrial employment supply will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry.

Moreton Bay

Summary

ShapingSEQ 2017 establishes that Moreton Bay's expected population growth will require an additional 88,300 dwellings between 2016 and 2041 through its dwelling supply benchmark.

The capacity and realistic availability of planned dwelling supply in the Moreton Bay consolidation and expansion areas provide more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

Dwelling approvals in Moreton Bay have exceeded the average annual benchmarks on average since 2016/17 despite decreasing in 2018/19.

Recent dwelling approvals indicate an increase in housing diversity in Moreton Bay, and dwelling density has also increased, consistent with the *ShapingSEQ 2017* preferred future.

There are about 3.7 years of supply of uncompleted lot approvals in Moreton Bay, slightly below the minimum four years of supply sought by *ShapingSEQ 2017*. The high rate of lot creation in Moreton Bay has contributed to the low years of supply figure. There are about 7.5 years of supply of uncompleted multiple dwelling approvals in the Moreton Bay consolidation area, which also exceeds the four years of supply sought by *ShapingSEQ 2017*.

The capacity and realistic availability of the planned industrial employment supply in Moreton Bay provide more than the minimum 15 years of supply sought by *ShapingSEQ 2017* and exceeds and is equal to the 2041 industrial employment planning baseline.

Residential – Moreton Bay

Planned dwelling supply – Moreton Bay

The capacity and realistic availability of planned dwelling supply in the Moreton Bay consolidation and expansion areas provide more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figures represent the number of dwellings that have been or could be approved, based on current planning intent, while the realistic availability figure provides a land supply scenario that considers whether some of the capacity is not realistically available by 2041.

The realistic availability scenario considers factors that may constrain the availability of land for development. Such factors may include infrastructure availability, land ownership fragmentation, landowner intent, practical staging of and capability for development, and the age of existing development.

The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the Current Intent to Service layer from the Ability to Service Best practice research in 2019, in combination with other updated data, to derive new estimates of the realistic availability of planned dwelling supply. This approach forms a foundation for improvement in future years of reporting. For more information about these improvements, see the Best practice research and Technical notes.

In the Moreton Bay consolidation area, the capacity of planned dwelling supply is about 78,000 dwellings. This figure is significantly above the consolidation 2041 dwelling supply benchmark.

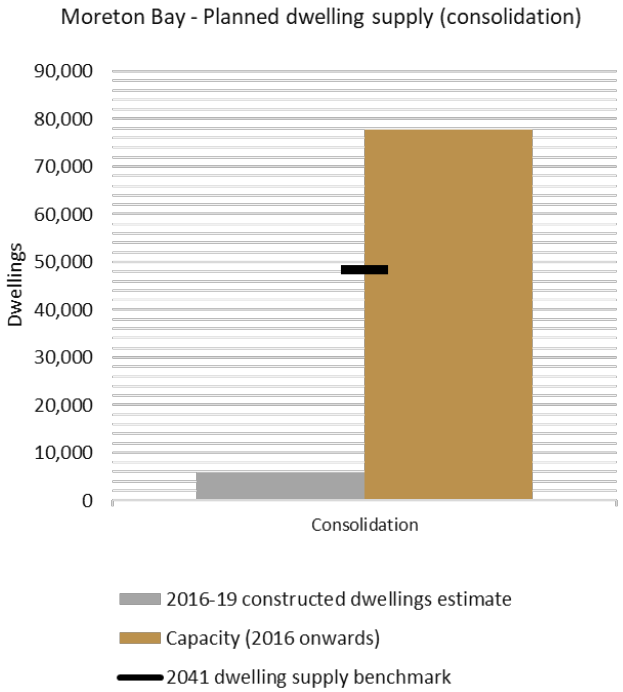
In the Moreton Bay expansion area, the capacity of planned dwelling supply is about 86,000 dwellings which is significantly above the expansion 2041 dwelling supply benchmark of 40,100. The realistic availability of this supply is about is 37,000 dwellings, which equates to about 16 years of supply and is above *ShapingSEQ 2017*'s 15 years of supply policy objective.

Much of the planned dwelling supply in the Moreton Bay expansion area is located within the proposed master planned community of Caboolture West. This supply has been included in the capacity figure but excluded from the realistic availability scenario in accordance with the realistic availability method. Realisation of this planned dwelling supply needs to be supported over time by transport, water and sewerage infrastructure. The provision of that infrastructure is subject to future arrangements.

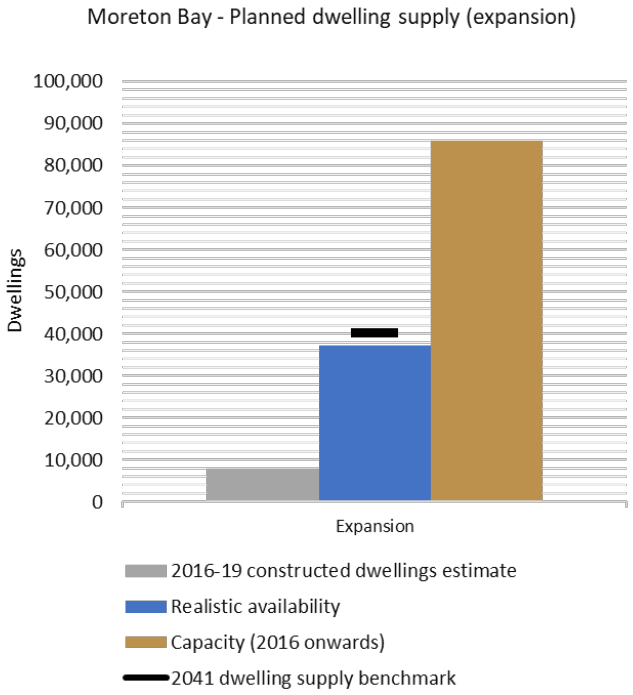
Moreton Bay Regional Council is preparing a planning scheme amendment which may affect planned dwelling supply. Council is currently undertaking a Regional Growth Management Strategy 2041. This includes a review of Council's planning assumptions, improved monitoring of development and land use and infrastructure planning of future urban development areas, as such this work may impact on planned dwellings supply. Ultimately, this work may inform future planning scheme amendments. Council has also resolved to commence detailed land use and infrastructure planning for Caboolture West and this work will also inform a future planning scheme amendment.

Where amendments proceed, and source data is updated, their effect on planned dwelling supply will be included in future years of LSDM Reporting.

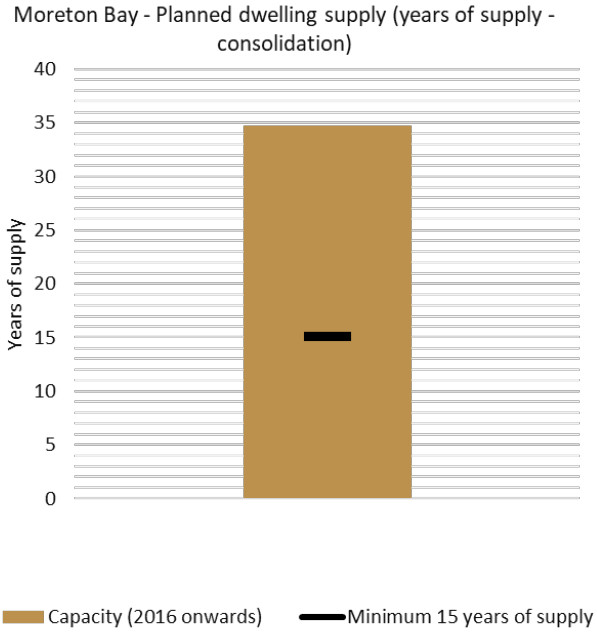
For more detail about the calculation of planned dwelling supply, including years of supply, see the Technical notes.



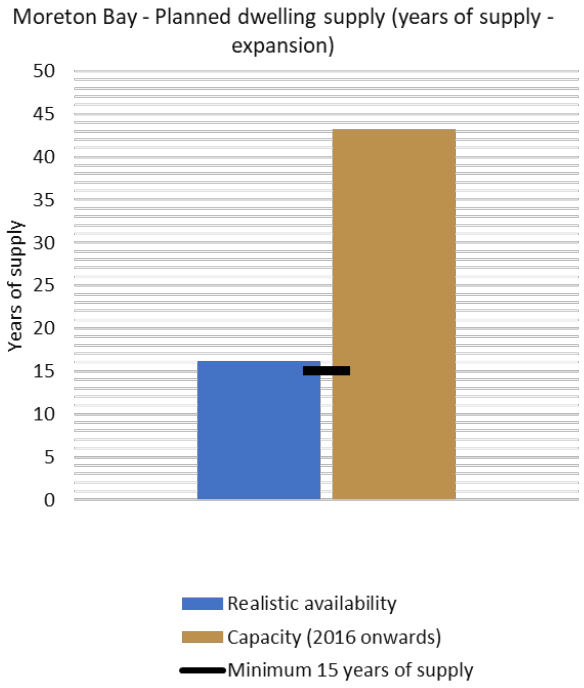
This graph shows the number of dwellings that have been or could be approved based on current planning intent compared against *ShapingSEQ 2017*'s dwelling supply benchmarks in consolidation areas.



This graph shows the number of dwellings that have been or could be approved based on current planning intent compared against *ShapingSEQ 2017*'s dwelling supply benchmarks in expansion areas. To view fact sheets on the concept of realistic availabilit, click here.



This graph shows the number of years of supply of dwellings that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s minimum 15 years of supply policy objective in consolidation areas.



This graph shows the number of years of supply of dwellings that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s minimum 15 years of supply policy objective in expansion areas.

Note: The planned dwelling supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report.

Approved supply – Moreton Bay

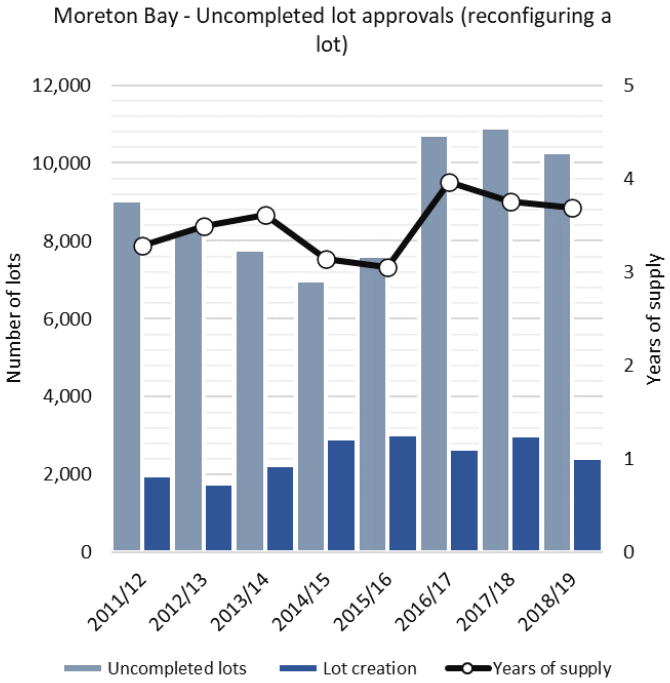
Approved supply is measured by analysing uncompleted lot approvals and uncompleted multiple dwelling approvals across Moreton Bay.

There are about 3.7 years of supply of uncompleted lot approvals in the Moreton Bay consolidation and expansion areas overall, which is just short of the minimum four years of supply sought by *ShapingSEQ 2017*.

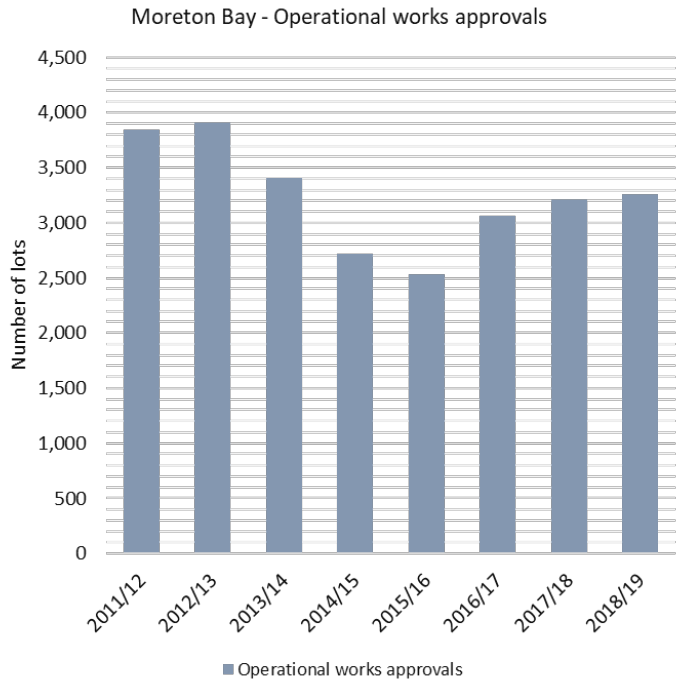
The total number of uncompleted lot approvals currently is 10,266 which is about 635 lots below the long-term historical high for Moreton Bay. Of the uncompleted lots, approximately 32 per cent have operational works approvals for the 2018/19 period. The high rate of lot creation from 2015/16 to 2018/19 has contributed to the slightly low years of supply figure.

In contrast, Moreton Bay has about 7.5 years of supply of uncompleted multiple dwelling approvals in the consolidation area, which is well above the minimum four years of supply sought by *ShapingSEQ 2017*. The supply of uncompleted multiple dwelling approval increased slightly from June 2018 to June 2019.

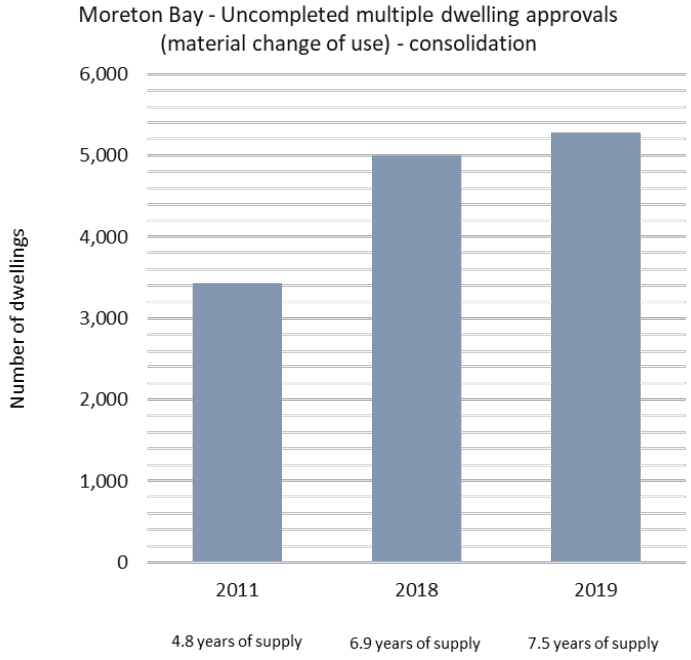
For details of the calculation and comparability over time of the approved supply figures, refer to the Technical notes.



This graph shows the number of lots that have a development permit but have not yet been certified (uncompleted lots) as at 30 June each year and the number of lots that have been created in the 12 months up to 30 June each year.



This graph shows the number of uncompleted lot approvals which also have operational works approvals as at 30 June each year.



This graph shows the number of multiple dwellings that have a material change of use development permit but have not yet been constructed (uncompleted multiple dwellings) in the consolidation area as at 30 June 2011, 30 June 2018 and 30 June 2019.

Note: The years of supply for uncompleted multiple dwelling approvals is determined by dividing the total number of uncompleted multiple dwellings by the average annual attached dwelling building approvals of the previous four years. The years of supply for uncompleted lot approvals is

determined by dividing the total number of uncompleted lots by the average annual lot certifications of the previous four years.

Dwelling growth – Moreton Bay

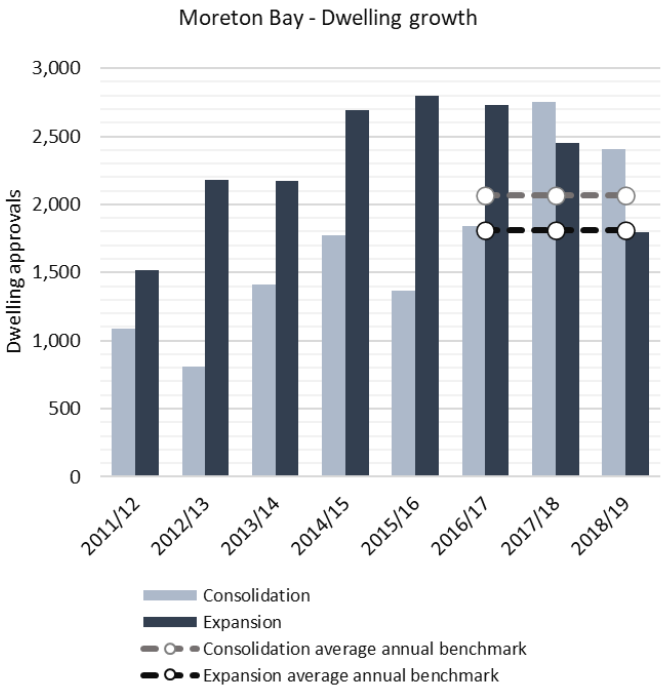
Dwelling approvals (used to measure dwelling growth) in Moreton Bay have exceeded the average annual benchmarks on average since 2016/17. Dwelling approvals in the Moreton Bay consolidation area increased, exceeding the consolidation average annual benchmark for the first time in 2017/18, and remain above the benchmark. Dwelling approvals in the Moreton Bay expansion area exceeded the expansion average annual benchmark for a number of years until declining to slightly below the benchmark in 2018/19.

In 2018/19, there were 2406 dwelling approvals in Moreton Bay's consolidation area, which was approximately 340 dwellings more than the consolidation average annual benchmark of 2069 additional dwellings. There were 1794 dwelling approvals in Moreton Bay's expansion area in 2018/19, which was approximately 15 dwellings less than the expansion average annual benchmark of 1807 additional dwellings.

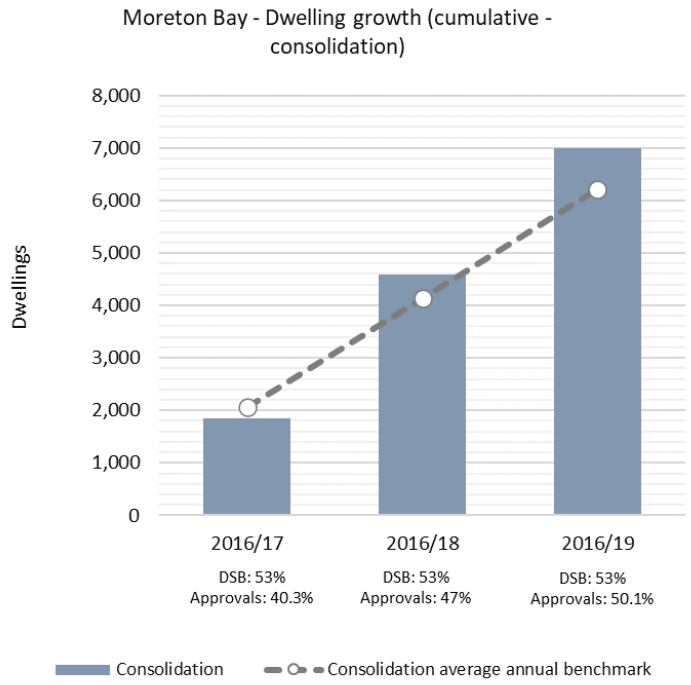
Approximately 50 per cent of dwelling approvals for 2016/17 to 2018/19 were in Moreton Bay's consolidation area, which is less than its expected share of dwelling growth to 2031 identified in *ShapingSEQ 2017* (53 per cent). Approximately 50 per cent of dwelling approvals were in Moreton Bay's expansion area over the same period, which exceeds its expected share of 47 per cent.

As the actual number of dwelling approvals for 2016/17 to 2018/19 in the consolidation and expansion areas are above the average annual benchmarks, Moreton Bay is on track to be able to accommodate the 2041 dwelling supply benchmark.

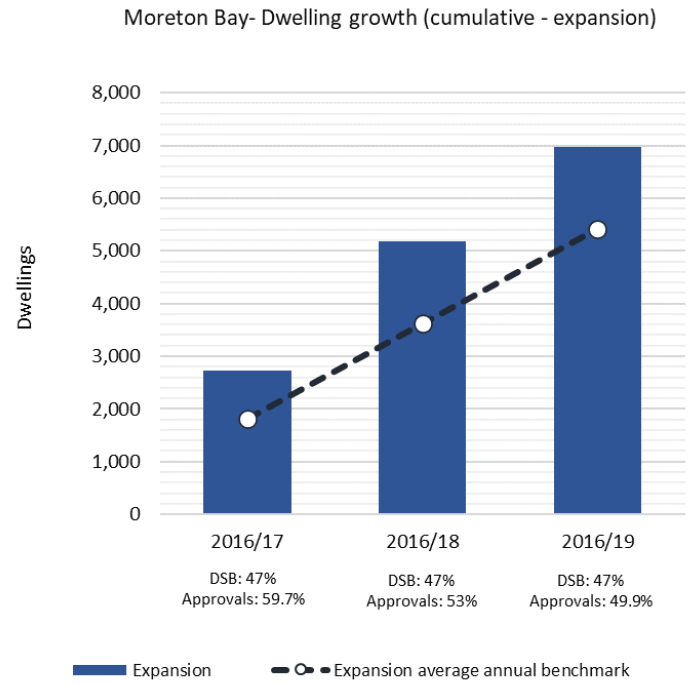
For more information about improvements to the measurement of net growth over time, see Moving forward. For more detail about dwelling approvals, see the Technical notes.



This graph shows annual dwelling approvals compared against *ShapingSEQ 2017*'s average annual benchmarks.



This graph shows the cumulative dwelling growth in the consolidation area against *ShapingSEQ 2017*'s consolidation average annual benchmark.



This graph shows the cumulative dwelling growth in the expansion area against *ShapingSEQ 2017*'s consolidation average annual benchmark.

Note: The average annual benchmark (2016 to 2031) has been adjusted since the 2018 Land Supply and Development Monitoring Report to reflect the growth rate of the most recent 2018 Queensland Government dwelling projections for SEQ. This adjustment has resulted in the average annual benchmark increasing marginally for the consolidation and expansion area in each local government. For more detail about the adjustment method and reasoning, see the Technical notes.

Changes in dwelling density – Moreton Bay

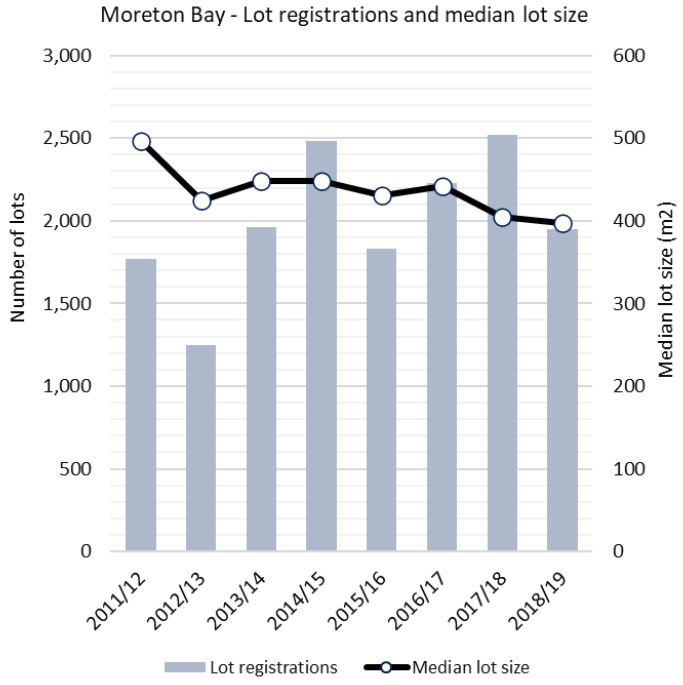
Dwelling density (measured through median size of new lots and mean population-weighted dwelling density) is increasing in Moreton Bay in accordance with the *ShapingSEQ 2017*Measures that Matter preferred future for higher dwelling densities and smaller lots.

Mean population-weighted dwelling density in Moreton Bay increased between 2011 and 2016, from 9.2 to 10.4 dwellings per hectare. This represents the average dwelling density at which the population of Moreton Bay lives and is comparable to the net residential density as used by *ShapingSEQ 2017*. In the consolidation area, mean population-weighted dwelling density increased from 10.9 to 11.7 dwellings per hectare.

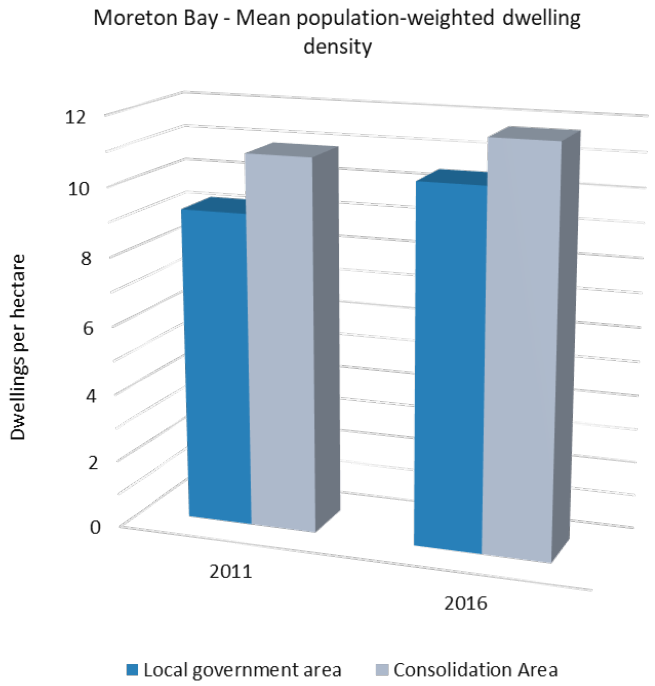
The median size of new lots in Moreton Bay decreased from 496m^2 to 397m^2 from 2011/12 to 2018/19. The number of lot registrations fluctuated over the same period. This measure is indicative of an increase in dwelling densities in new urban subdivisions in Moreton Bay.

Changes to Moreton Bay's planning scheme over time have increased planned densities and allowed smaller lots.

For more detail about the calculation of mean population-weighted dwelling density and median size of new lots, see the Technical notes.



This graph shows the number and median size of new lots registered annually.



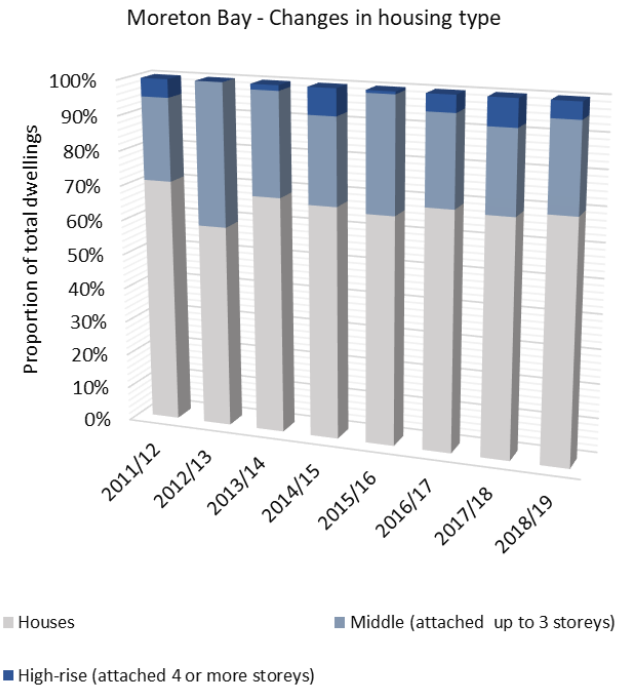
This graph shows the dwelling density (mean population-weighted dwelling density) at which people were living in 2011 and 2016.

Changes in housing type – Moreton Bay

Recent dwelling approvals indicate an increase in housing diversity in Moreton Bay, consistent with the *ShapingSEQ 2017* Measures that Matter preferred future.

Sixty-nine per cent (9667 dwellings) of all new dwelling approvals in Moreton Bay for 2016/17 to 2018/19 were for houses, which was less than for the existing dwelling stock (82 per cent as at the 2016 Census). Dwelling approvals for middle (25 per cent or 3483 dwellings) and high-rise (six per cent or 826 dwellings) over the same period were higher than their share of the dwelling stock (middle 16 per cent, high-rise two per cent) as at the 2016 Census.

For more detail about dwelling approvals, see the Technical notes.



This graph shows the proportion of dwelling approvals that are for houses, middle (attached dwellings up to three storeys) and high-rise (attached dwellings four storeys or more) annually.

Sales and price – Moreton Bay

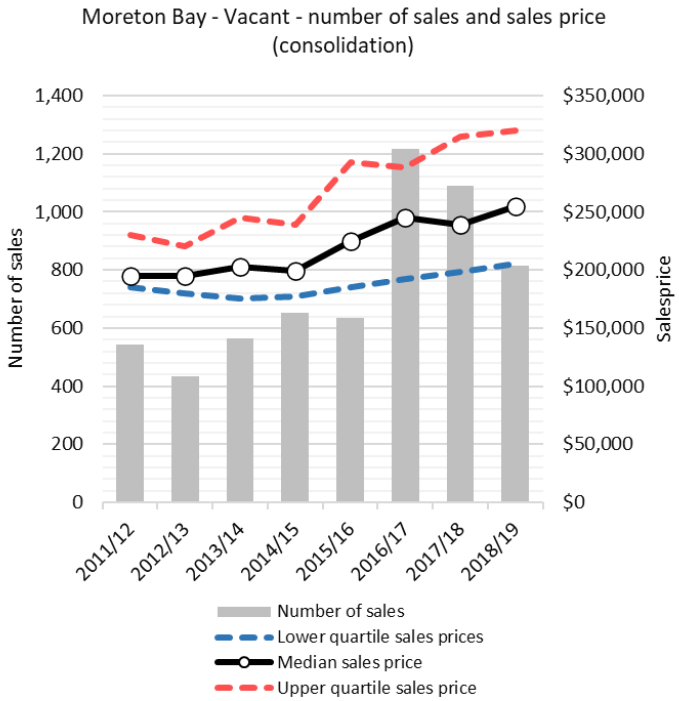
The number of sales has decreased from 2017/18 to 2018/19 for all categories in Moreton Bay.

The median sales price for all categories in the consolidation area is lower in Moreton Bay than for South East Queensland (SEQ). Conversely, in the expansion area, the median sales price for all categories except attached dwellings is the same or higher in Moreton Bay than for SEQ.

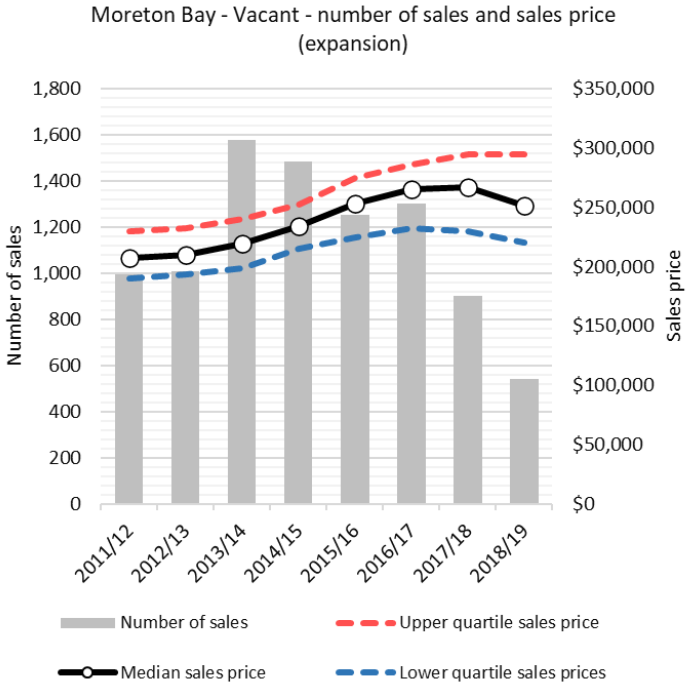
Over the 2011/12 to 2018/19 period, vacant lots in the consolidation area had the highest rate of median sales price growth (31 per cent per lot and 63 per cent per square metre). Over the same period, vacant lots per square metre in the expansion area also had a high rate of median price growth (38%).

The median price for all categories except vacant lots per lot is higher in the expansion area than the consolidation area in Moreton Bay. This is contrary to the outcome for SEQ.

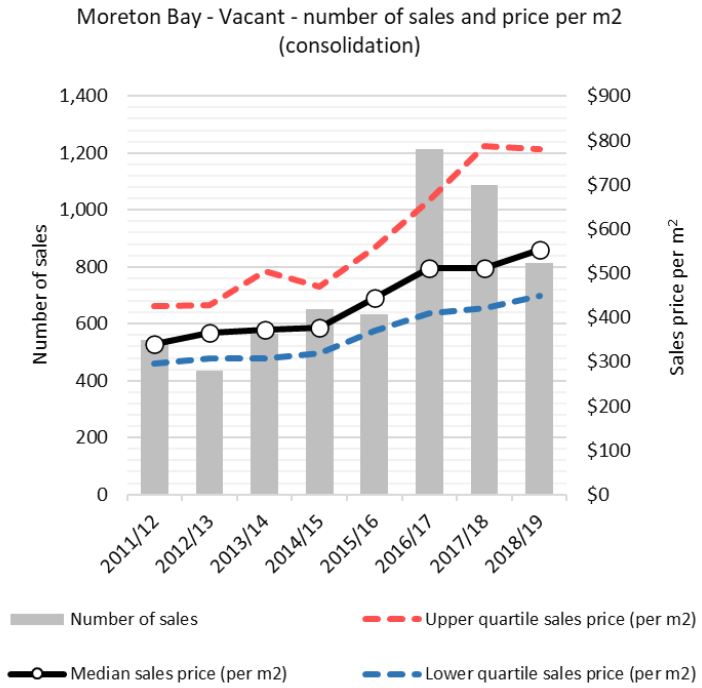
For more detail about the median sales price and number of sales, see the Technical notes.



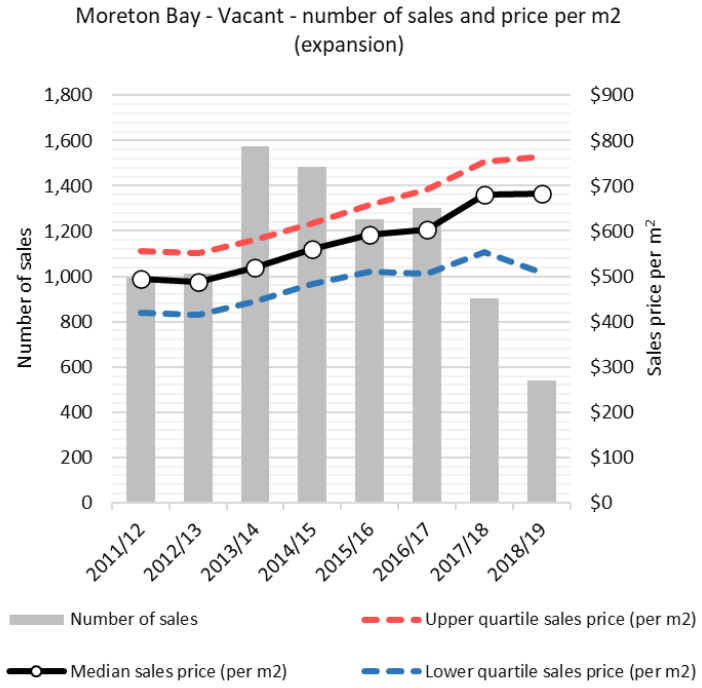
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the consolidation area.



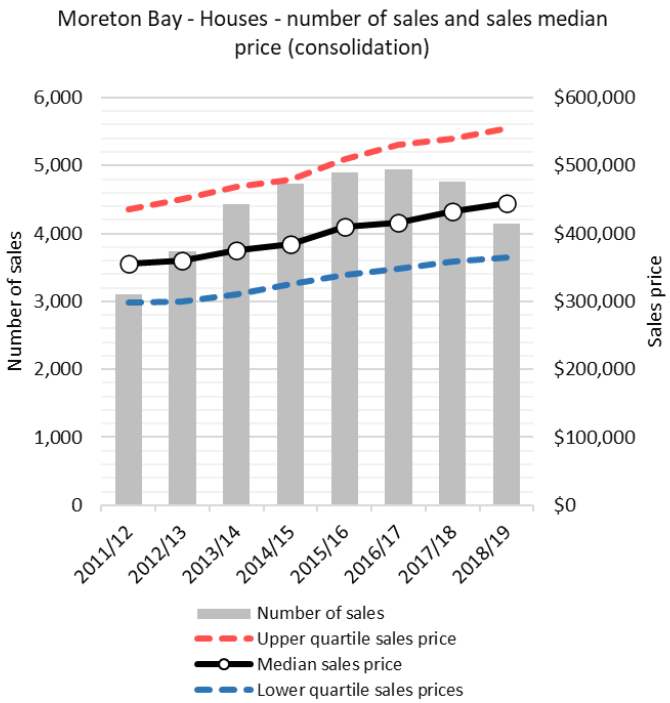
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the expansion area.



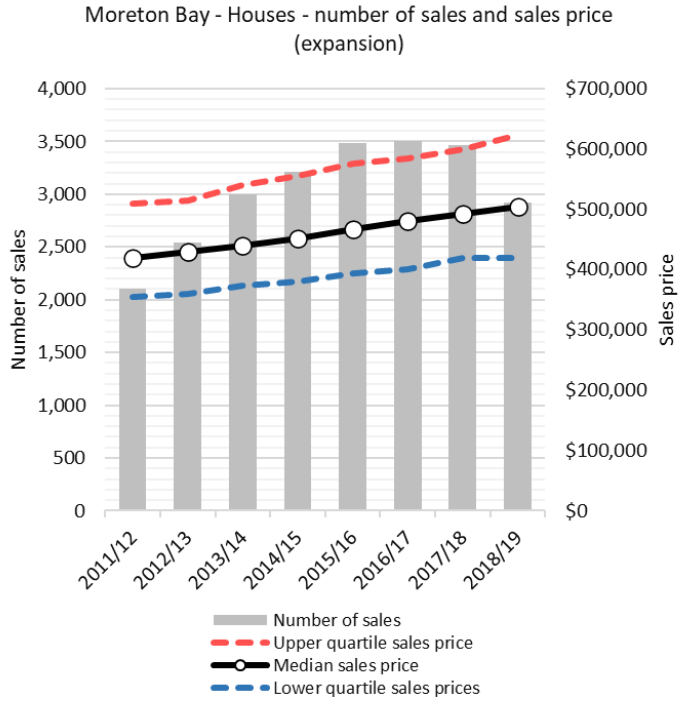
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the consolidation area.



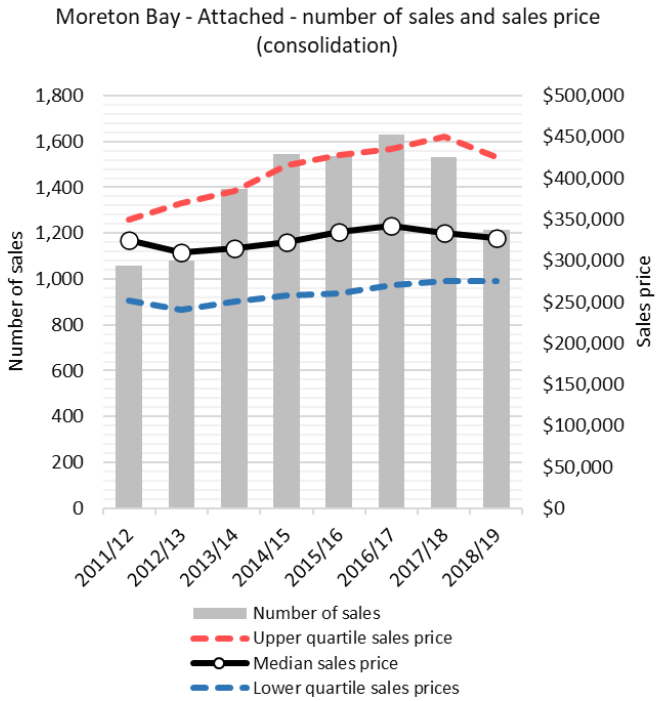
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the expansion area.



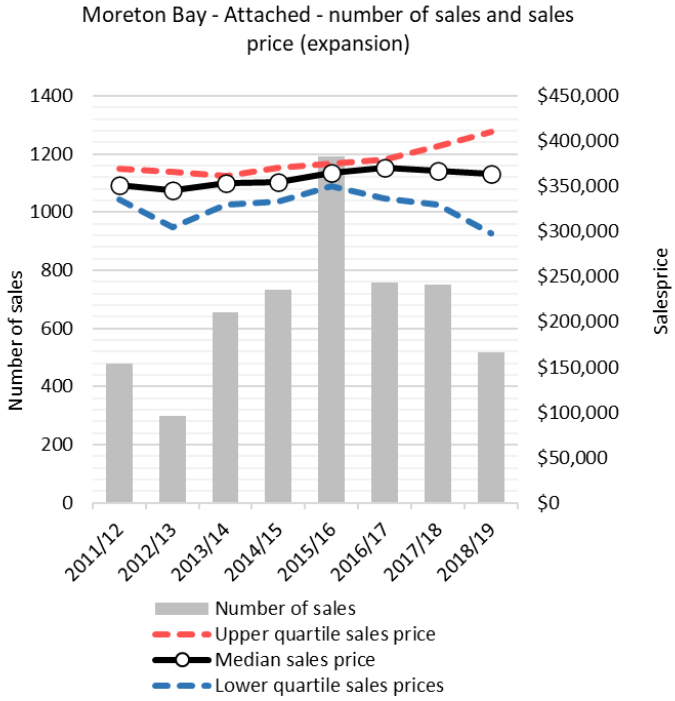
This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the consolidation area.



This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the expansion area.



This graph shows the number of sales and the lower, median and upper quartile sales price for attached dwellings in the consolidation area.



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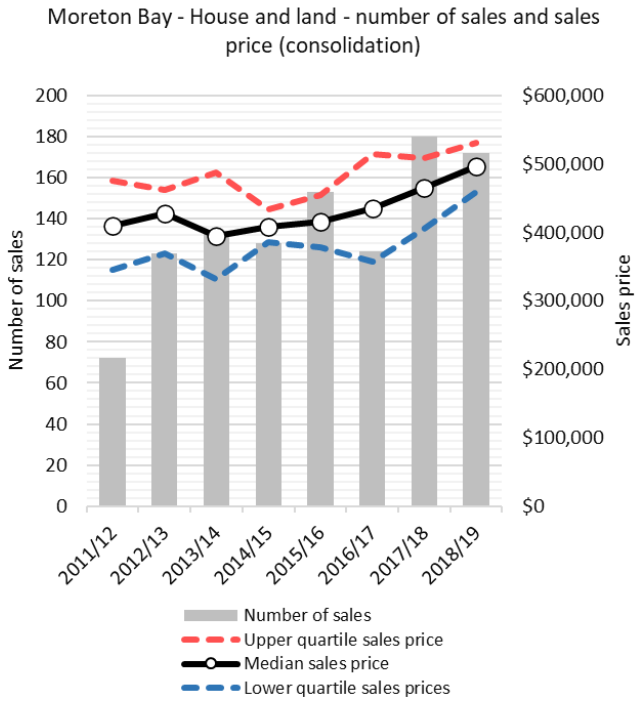
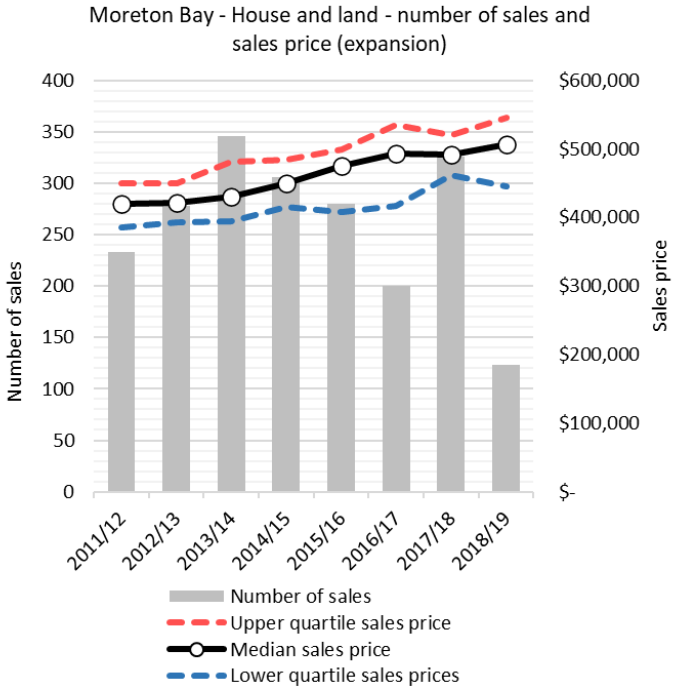


This graph shows the number of sales and the lower, median and upper quartile sales price for house-land packages in the consolidation area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for house-land packages in the expansion area.

Industrial – Moreton Bay

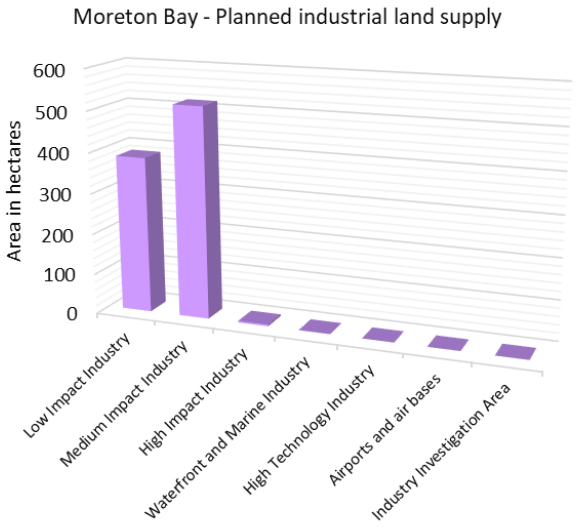
Planned industrial land supply/take-up – Moreton Bay

The estimated take-up of developed industrial land between 2011 and 2018 in Moreton Bay was about 127 hectares. The take-up occurred on land intended for low, medium and high impact industry.

There were about 907 hectares of planned industrial land in Moreton Bay as at 2018. This planned industrial land comprised land intended for low and medium impact industry.

The 2019 planned industrial land estimate improves upon the estimate provided in the 2018 LSDM Report. It has been derived by trialling the application of the developability rules for determining the impact of constraints from the Developable Area best practice research in 2019.

For more detail about these improvements and planned industrial land and take-up, see the Best practice research and Technical notes.



This graph shows the number of hectares of planned industrial land as at 2018 by industrial land category.

Note: The planned industrial land measure identifies land that may be developable in the long term based on current zoning or intent and applicable constraints in a planning instrument. Much of this land will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry. Also, planned industrial land is a gross area which does not include any allowance for roads, infrastructure corridors, open space and the like.

The Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) notes ongoing improvements are required to continue to mature the industrial land monitoring. In partnership with stakeholders, DSDILGP will explore improved methods in 2020, building from the work undertaken in 2018 and 2019.

Planned industrial employment supply – Moreton Bay

The capacity and realistic availability of planned industrial employment supply in Moreton Bay provide the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figure represents the number of employees that could be supported by industrial developments that have been or could be approved, based on current planning intent, while the realistic availability figure provides a supply scenario that considers whether some of the capacity is not realistically available by 2041.

The realistic availability scenario considers factors that may constrain the availability of land for industrial development and employment. Such factors include constraints affecting the feasibility of development and lower than assumed employment densities.

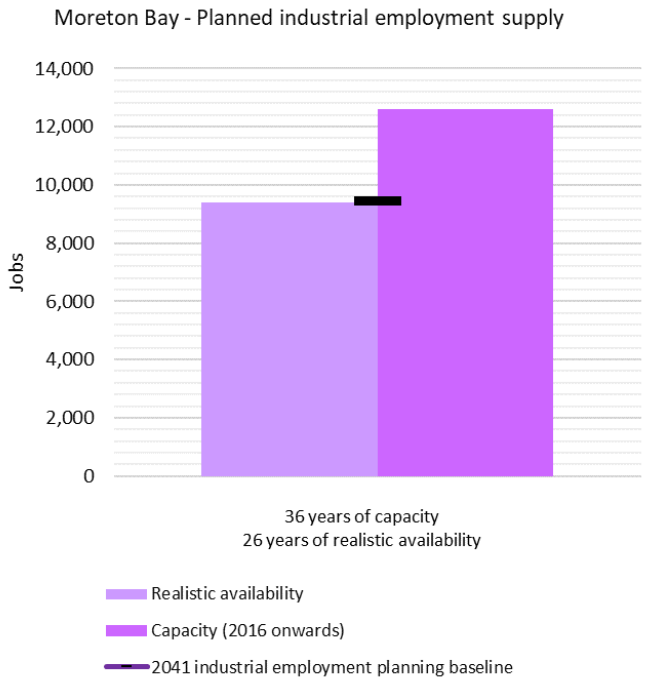
The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the outcomes from the Developable Area best practice research in 2019 and a refined set of economic and developability criteria to estimate realistic availability in selected Major Enterprise and Industrial Areas. For more information about these improvements, see the Best practice research and Technical notes.

The capacity of planned industrial employment supply in Moreton Bay is about 12,600 employees, which represents about 36 years of supply and is above the 2041 industrial employment planning baseline of 9400 employees. The realistic availability of this supply is about 9400 employees, which represents 26 years of supply and is equal to the 2041 industrial employment planning baseline.

The realisation of this planned industrial employment supply in Moreton Bay would be supported by infrastructure identified in *ShapingSEQ 2017* such as the north/south urban arterial, the proposed northern intermodal freight facility and the Beerburrum to Nambour Rail Upgrade Project, which are anticipated to relieve pressure on the strategic road network and improve freight efficiency.

Moreton Bay Regional Council is preparing a planning scheme amendment which may affect planned industrial employment supply. Where amendments proceed, and data sources are updated, their effect on industrial employment supply will be included in future years of LSDM Reporting.

For more detail about the calculation of planned industrial employment supply, see the Technical notes.



This graph shows the number of employees that could be supported by industrial developments, that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s 2041 industrial employment planning baseline.

Note: The planned industrial employment supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report. Much of the planned industrial employment supply will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry.

Noosa

Summary

ShapingSEQ 2017 establishes that Noosa's population growth will require 6400 additional dwellings between 2016 and 2041 through its dwelling supply benchmarks.

The capacity and realistic availability of planned dwelling supply in Noosa provides more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

Dwelling approvals in Noosa have exceeded the average annual benchmark on average since 2016/17. Increased dwelling growth in the consolidation area may be supported over time by the changes expected to be made for the proposed new planning scheme.

Recent dwelling approvals indicate an increase in housing diversity in Noosa, and dwelling density has also increased slightly, consistent with the *ShapingSEQ 2017* preferred future.

There is about one year of supply of uncompleted lot approvals in Noosa, which is below the minimum four years of supply sought by *ShapingSEQ 2017*. There are about 7.8 years of uncompleted multiple dwelling approvals in the Noosa consolidation area.

The capacity and realistic availability of planned industrial employment supply in Noosa provide more than the minimum 15 years of supply sought by *ShapingSEQ 2017* and exceed the 2041 industrial employment planning baseline.

Residential – Noosa

Planned dwelling supply – Noosa

The capacity and realistic availability of planned dwelling supply in the Noosa consolidation and expansion areas provides more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figures represent the number of dwellings that have been or could be approved, based on current planning intent, while the realistic availability figure provides a land supply scenario that considers whether some of the capacity is not realistically available by 2041.

The realistic availability scenario considers factors that may constrain the availability of land for development. Such factors may include infrastructure availability, land ownership fragmentation, landowner intent, practical staging of and capability for development, and the age of existing development.

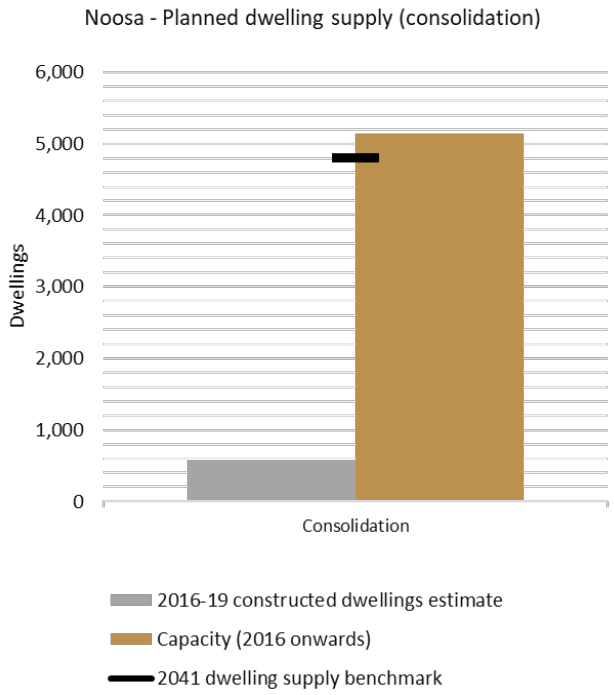
The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the Current Intent to Service layer from the Ability to Service best practice research in 2019, in combination with other updated data, to derive new estimates of the realistic availability of planned dwelling supply. This approach forms a foundation for improvement in future years of reporting. For more information about these improvements, see the Best practice research and Technical notes.

In the Noosa consolidation area, the capacity of planned dwelling supply is about 5140 dwellings and marginally above the consolidation 2041 dwelling supply benchmark of 4800 dwellings.

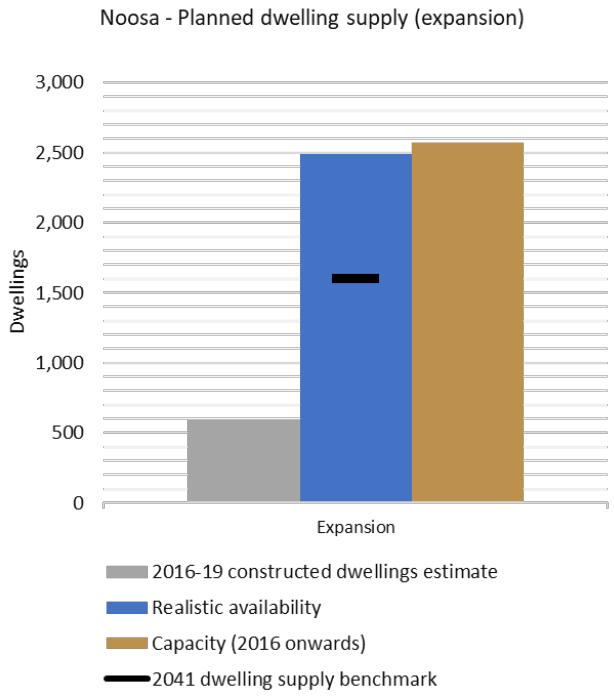
In the Noosa expansion area, the capacity and realistic availability of planned dwelling supply is about 2600 and 2500 dwellings respectively. These figures are above the expansion 2041 dwelling supply benchmark of 1600 dwellings.

Noosa Shire Council is preparing a new planning scheme which is expected to increase planned dwelling supply in the consolidation area. Where the scheme proceeds, and source data is updated, its effect on planned dwelling supply will be included in future years of LSDM Reporting.

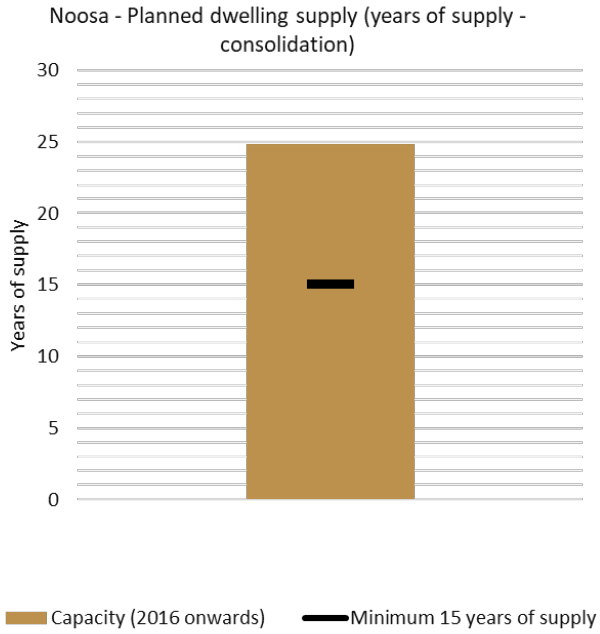
For more detail about the calculation of planned dwelling supply, including years of supply, see the Technical notes.



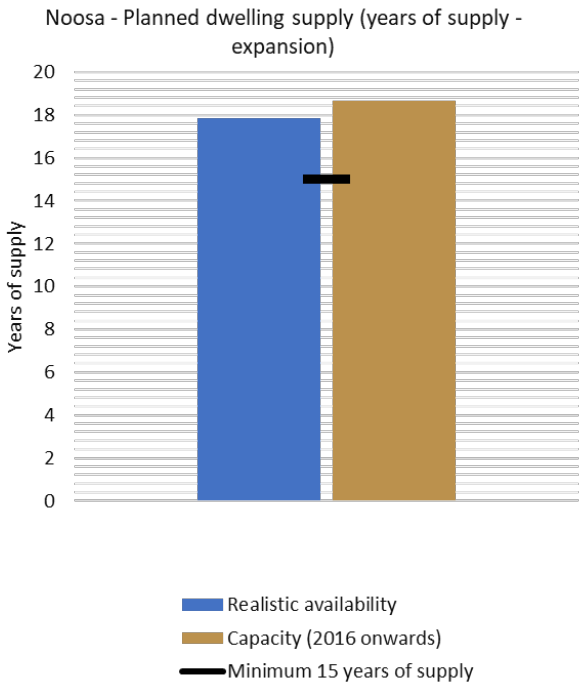
This graph shows the number of dwellings that have been or could be approved based on current planning intent compared against *ShapingSEQ 2017*'s dwelling supply benchmarks in consolidation areas.



This graph shows the number of dwellings that have been or could be approved based on current planning intent compared against *ShapingSEQ 2017*'s dwelling supply benchmarks in expansion areas. To view fact sheets on the concept of realistic availability, click here.



This graph shows the number of years of supply of dwellings that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s minimum 15 years of supply policy objective in consolidation areas.



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Approved supply – Noosa

Approved supply is measured by analysing uncompleted lot approvals and uncompleted multiple dwelling approvals across Noosa.

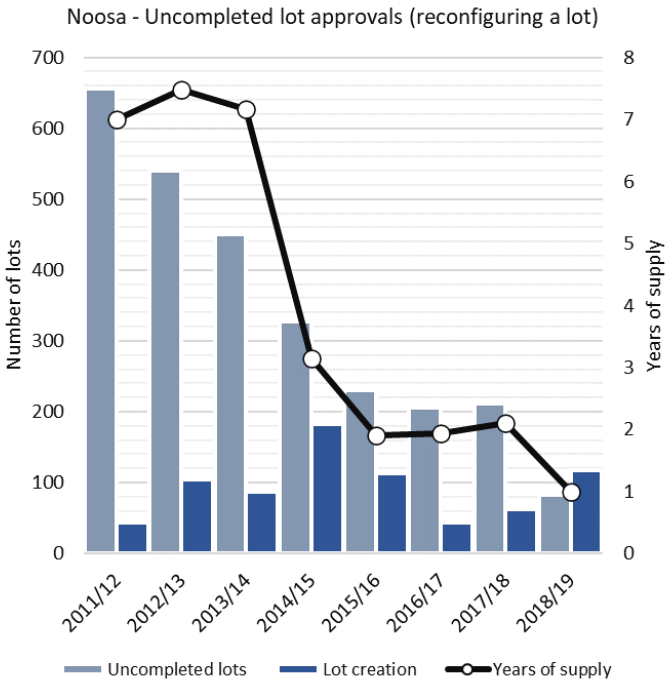
There is about one year of supply of uncompleted lot approvals in the Noosa consolidation and expansion areas overall, less than the minimum four years of supply sought by *ShapingSEQ 2017*. The total number of current uncompleted lot approvals has also been declining since 2011/12, with the current uncompleted lot approvals at 83. Of the uncompleted lots, approximately 48 per cent have operational works approvals for the 2018/19 period. Lot creation declined since 2014/15, but increased again in 2017/18, which has contributed to the lower years of supply figure.

As the supply of expansion land diminishes in Noosa, it is expected that the supply of approvals and lot creation would reduce to lower levels, similar to the circumstances on the Gold Coast and Brisbane, where there is limited remaining expansion land.

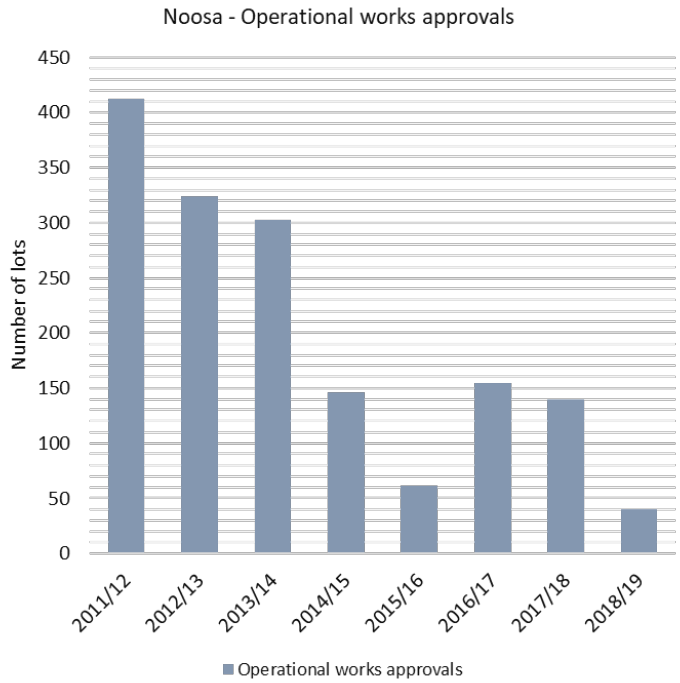
In contrast, Noosa has about 7.8 years of supply of uncompleted multiple dwellings approvals in the consolidation area. This is well above the minimum four years of supply sought by *ShapingSEQ 2017*.

Although the number of uncompleted multiple dwelling approvals has remained similar from June 2018 to June 2019, the years of supply has decreased because the rate of multiple dwelling construction increased greatly from June 2018 to 2019, increasing the assumed level of demand in the years of supply calculation.

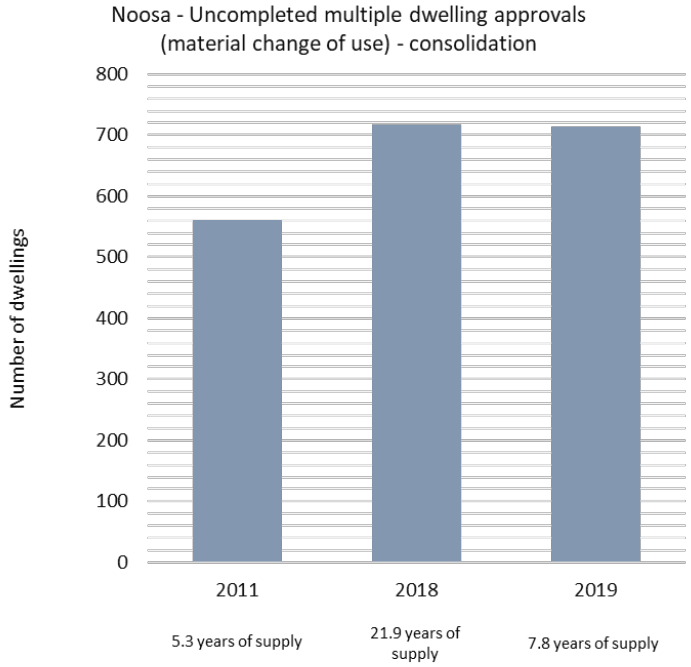
For details of the calculation and comparability over time of the approved supply figures, refer to the Technical notes.



This graph shows the number of lots that have a development permit, but have not yet been certified, as at 30 June each year (uncompleted lots) as well as the number of lots that have been created in the12 months up to 30 June each year.



This graph shows the number of uncompleted lot approvals which also have operational works approvals as at 30 June each year.



This graph shows the number of multiple dwellings that have a material change of use development permit but have not yet been constructed (uncompleted multiple dwellings) in the consolidation area as at 30 June 2011, 30 June 2018 and 30 June 2019.

Note: The years of supply for uncompleted multiple dwelling approvals is determined by dividing the total number of uncompleted multiple dwellings by the average annual attached dwelling building approvals of the previous four years. The years of supply for uncompleted lot approvals is

determined by dividing the total number of uncompleted lots by the average annual lot certifications of the previous four years.

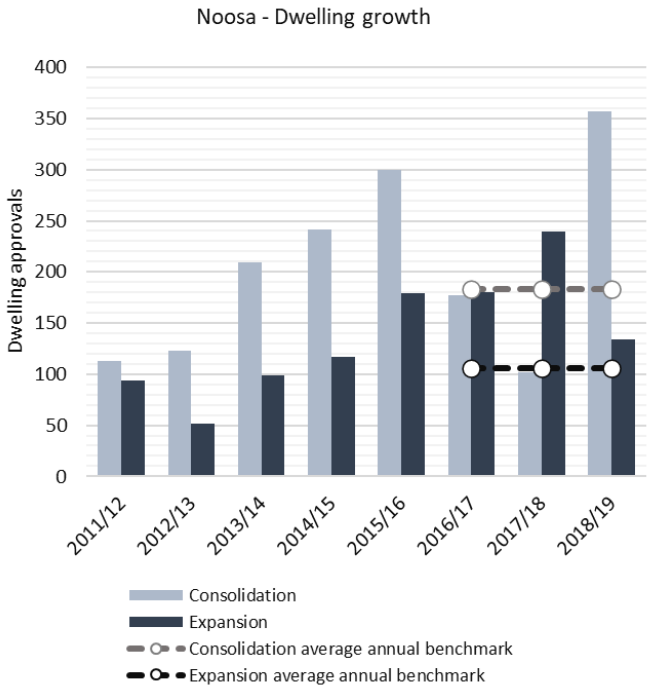
Dwelling growth – Noosa

Dwelling approvals (used to measure dwelling growth) in the Noosa have exceeded the average annual benchmarks in 2018/19 and on average since 2016/17. In 2018/19, there were 134 dwelling approvals in Noosa's expansion area, which was about 30 dwellings more than the expansion average annual benchmark of 106 additional dwellings. There were 357 dwelling approvals in Noosa's consolidation area in 2018/19, which was about 175 dwellings more than the consolidation average annual benchmark of 184 additional dwellings.

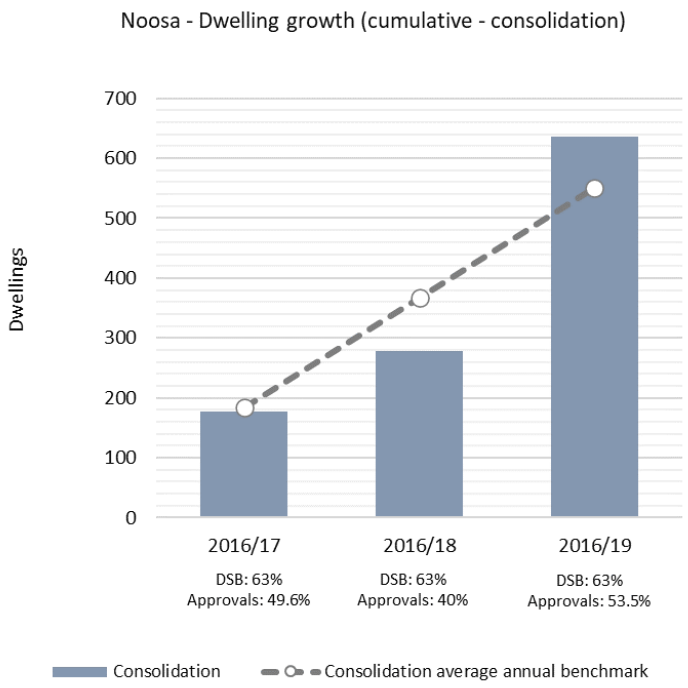
Approximately 46 per cent of dwelling approvals for 2016/17 to 2018/19 were in Noosa's expansion area, which is more than its expected share of dwelling growth to 2031 identified in *ShapingSEQ 2017* (37 per cent). Approximately 54 per cent of dwelling approvals were in Noosa's consolidation area over the same period, which is less than its expected share of 63 per cent.

Increased dwelling growth in the consolidation area may be supported over time by the changes expected to be made for the proposed new planning scheme, i.e. increased planned dwelling supply in the consolidation area.

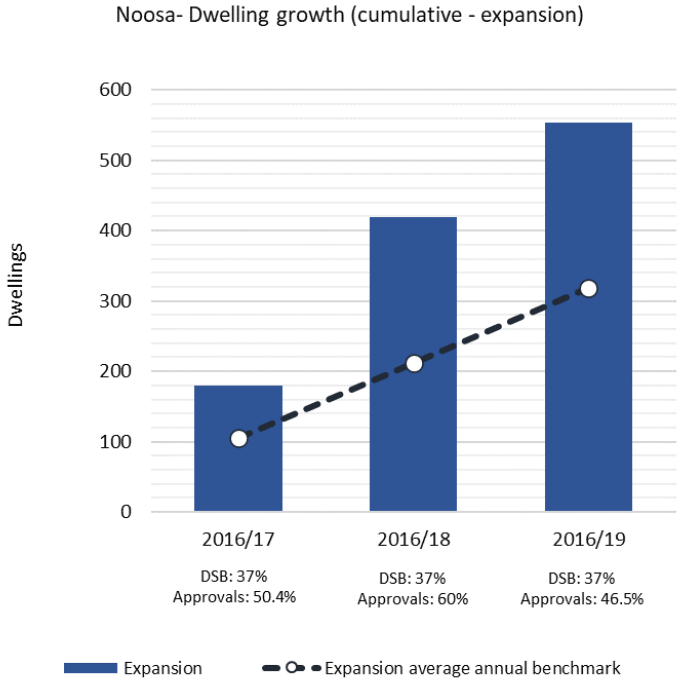
As the actual number of dwelling approvals for 2016/17 to 2018/19 in the consolidation and expansion areas are above the average annual benchmarks, Noosa is on track to be able to accommodate the 2041 dwelling supply benchmarks. For more information about improvements to the measurement of net growth over time, see Moving forward. For more detail about dwelling approvals, see the Technical notes.



This graph shows annual dwelling approvals compared against *ShapingSEQ 2017*'s average annual benchmark.



This graph shows the cumulative dwelling growth in the consolidation area against *ShapingSEQ 2017*'s consolidation average annual benchmark.



This graph shows the cumulative dwelling growth in the expansion area against *ShapingSEQ 2017*'s consolidation average annual benchmark.

Note: The average annual benchmark (2016 to 2031) has been adjusted since the 2018 Land Supply and Development Monitoring Report to reflect the growth rate of the most recent 2018 Queensland Government dwelling projections for SEQ. This adjustment has resulted in the average annual

benchmark increasing marginally for the consolidation and expansion area in each local government. For more detail about the adjustment method and reasoning, see the Technical notes.

Changes in dwelling density – Noosa

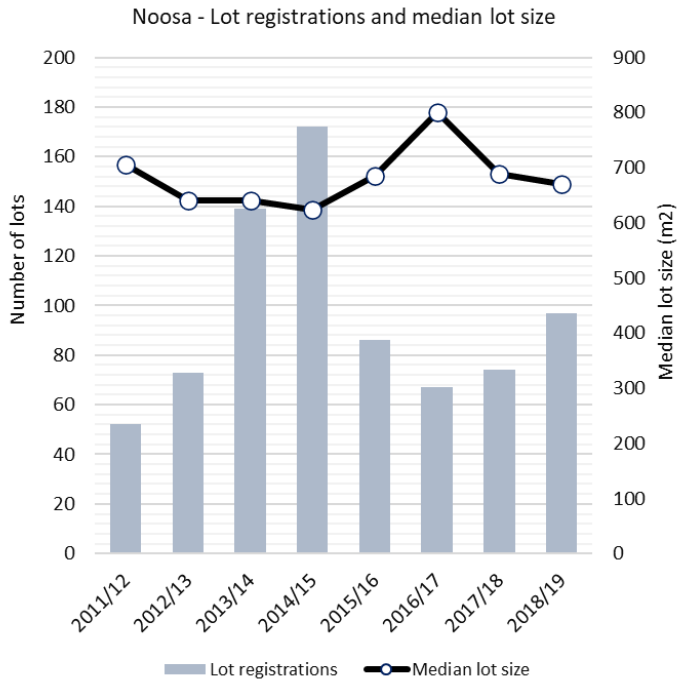
Dwelling density (measured through median size of new lots and mean population-weighted dwelling density) has increased slightly in Noosa in recent years in accordance with the *ShapingSEQ 2017* Measures that Matter preferred future for higher dwelling densities and smaller lots.

Mean population-weighted dwelling density in Noosa increased slightly between 2011 and 2016, from 7.9 to eight dwellings per hectare. This represents the average dwelling density at which the population of Noosa lives and is comparable to the net residential density as used by *ShapingSEQ 2017*. In the consolidation area, mean population-weighted dwelling density slightly increased from 11.1 to 11.4 dwellings per hectare.

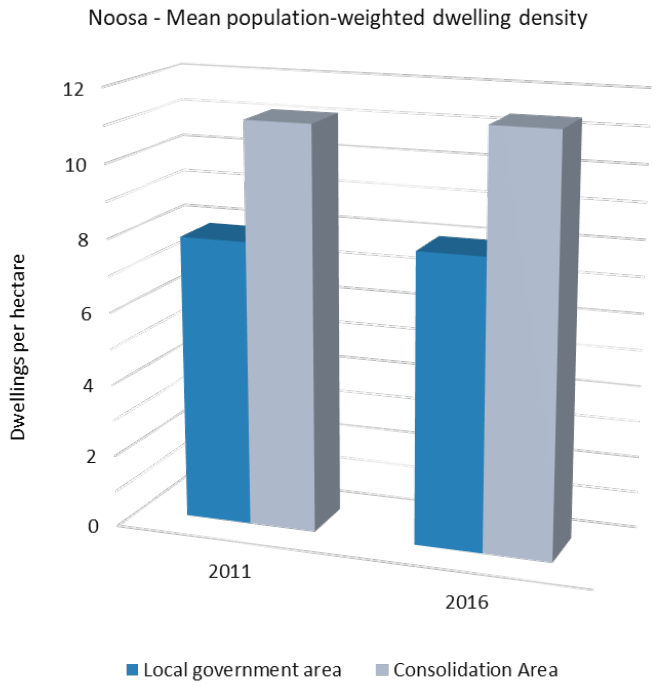
The median size of new lots in Noosa slightly decreased from 706m^2 to 671m^2 from 2011/12 to 2018/19. Lot sizes peaked at 800m^2 in 2016/17. The number of lot registrations fluctuated over the same period and is mostly small, contributing to the variability in the median lot size from year to year.

The proposed new planning scheme for Noosa provides the opportunity to support higher dwelling densities in the future, which may contribute to the *ShapingSEQ 2017* Measures that Matter preferred future for increased dwelling densities and smaller lot sizes over time.

For more detail about the calculation of mean population-weighted dwelling density and median size of new lots, see the Technical notes.



This graph shows the number and median size of new lots registered annually.



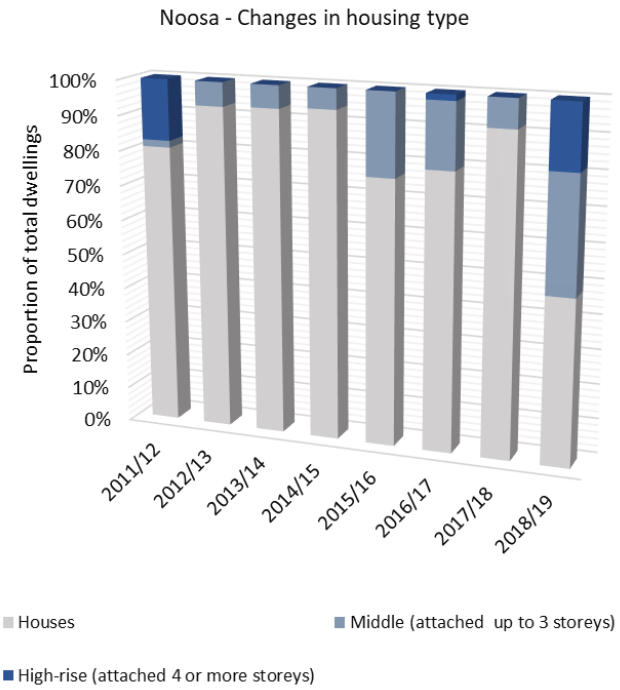
This graph shows the dwelling density (mean population-weighted dwelling density) at which people were living in 2011 and 2016.

Changes in housing type – Noosa

Recent dwelling approvals, for 2018/19 indicate an increase in housing diversity in Noosa, consistent with the *ShapingSEQ 2017* Measures that Matter preferred future.

Seventy per cent (832 dwellings) of all new dwelling approvals in Noosa for 2016/17 to 2018/19 were for houses, which was less than the existing dwelling stock (77 per cent as at the 2016 Census). Dwelling approvals for middle (22 per cent or 260 dwellings) were proportionately less than the share of existing dwellings as at the 2016 Census (23 per cent). The proportion of approvals for high-rise (eight per cent or 97 dwellings) was greater than the existing dwelling stock as at the 2016 Census (one per cent).

For more detail about dwelling approvals, see the Technical notes.



This graph shows the proportion of dwelling approvals that are for houses, middle (attached dwellings up to three storeys) and high-rise (attached dwellings four storeys or more) annually.

Sales and price – Noosa

Sales prices have not been reported for years with fewer than 10 sales.

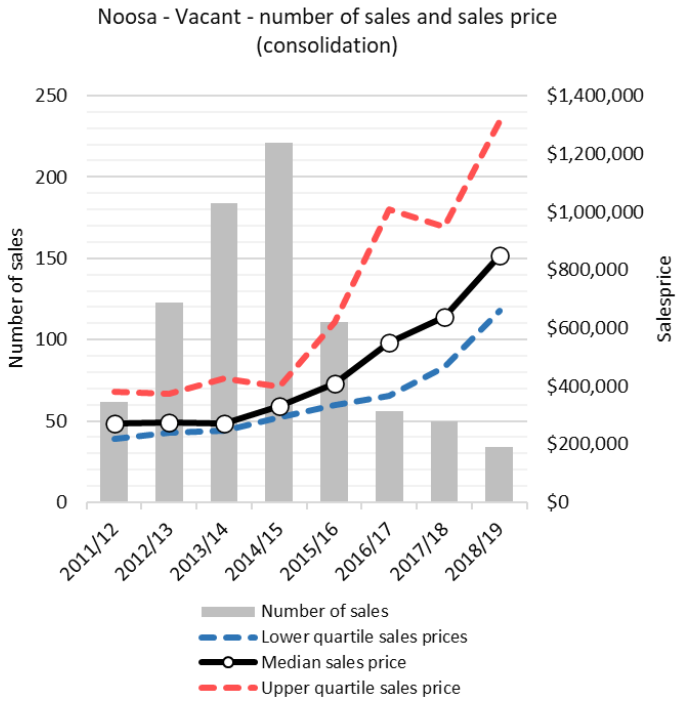
The number of sales has decreased from 2017/18 to 2018/19 for all categories in Noosa.

The median sales price for vacant lots, houses and attached dwellings in the consolidation area is higher in Noosa than for South East Queensland (SEQ). Similarly, the median sales price for vacant lots and houses in the expansion area is higher or the same in Noosa than for SEQ.

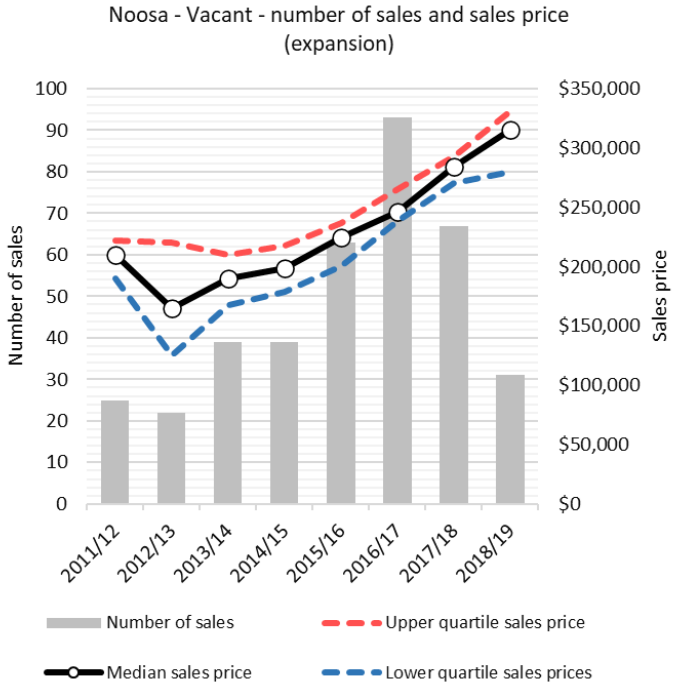
The rate of median sales price growth was also higher in Noosa than for SEQ between 2011/12 and 2018/19 for all categories with a reported median price in 2018/19 except attached dwellings in the expansion area. Over the same period, the greatest growth in median sales price was for vacant lots in the consolidation area (215 per cent per lot and 192 per cent per square metre).

For all categories with a reported median price, the rate of median price growth and actual prices are higher in the consolidation area than in the expansion area within Noosa. This is consistent with the outcome for all of SEQ.

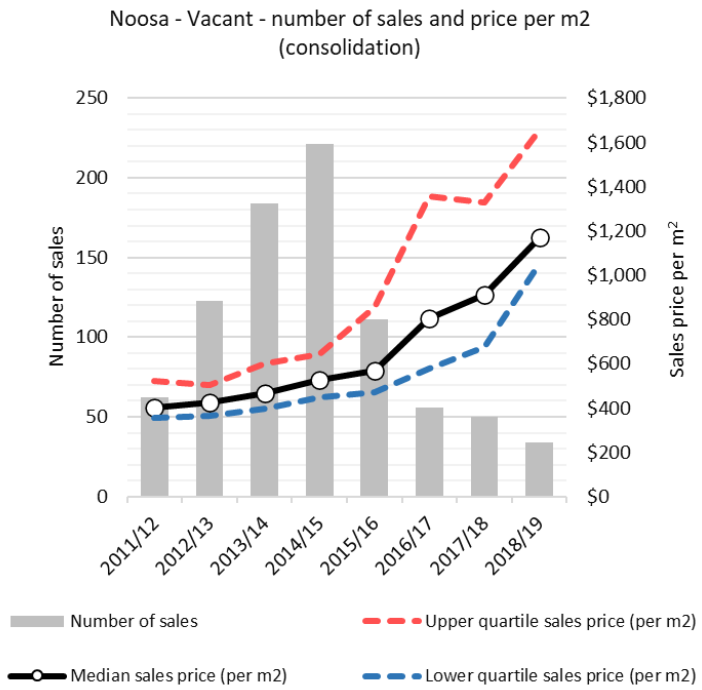
For more detail about the median sales price and number of sales, see the Technical notes.



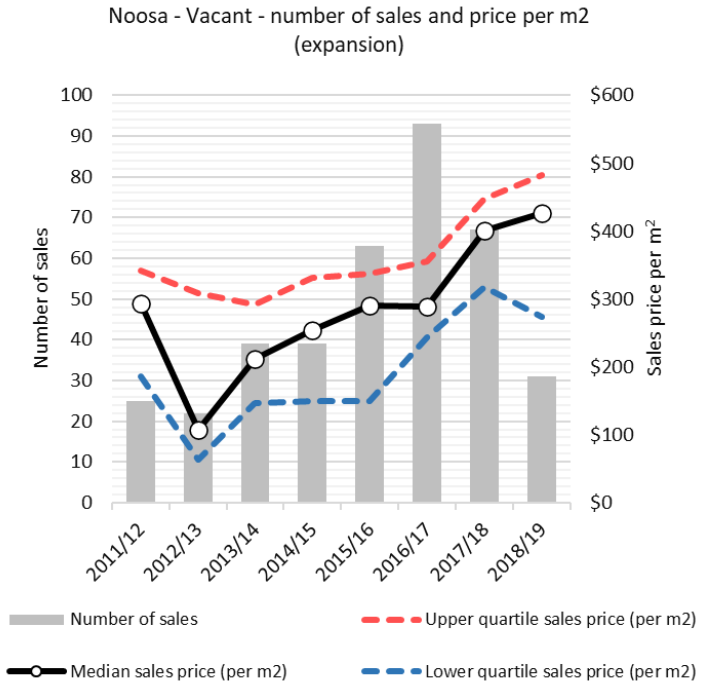
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the consolidation area.



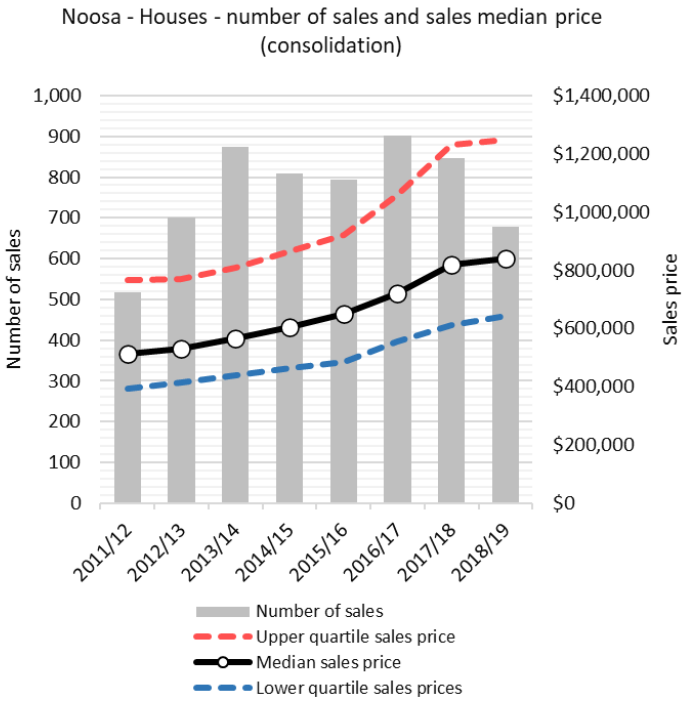
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the expansion area.



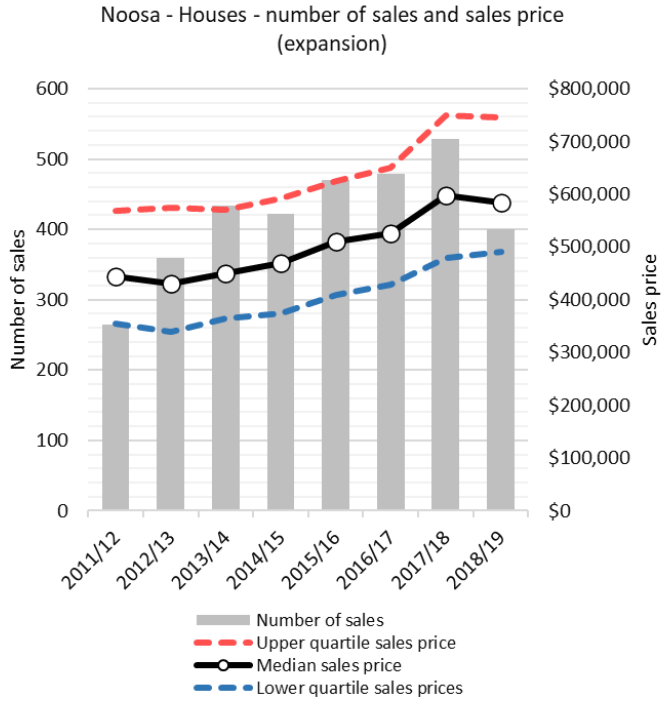
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the consolidation area.



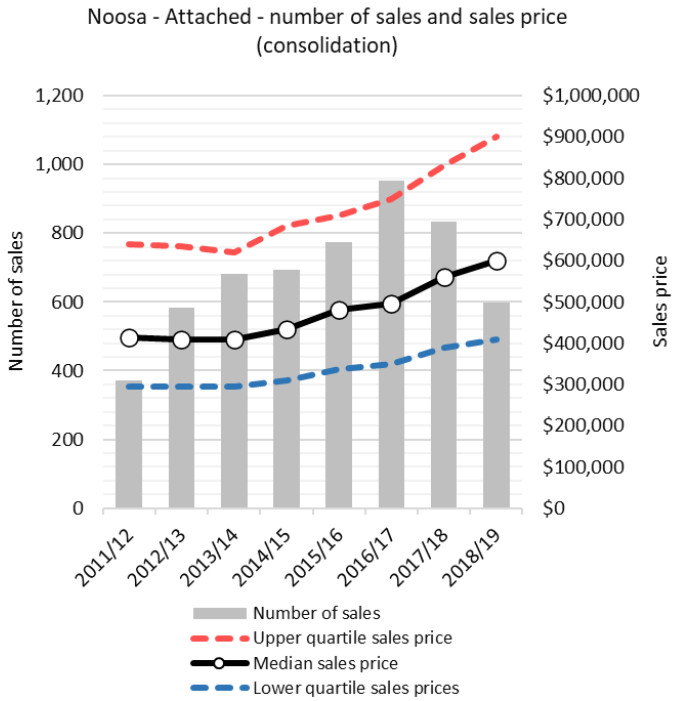
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the expansion area.



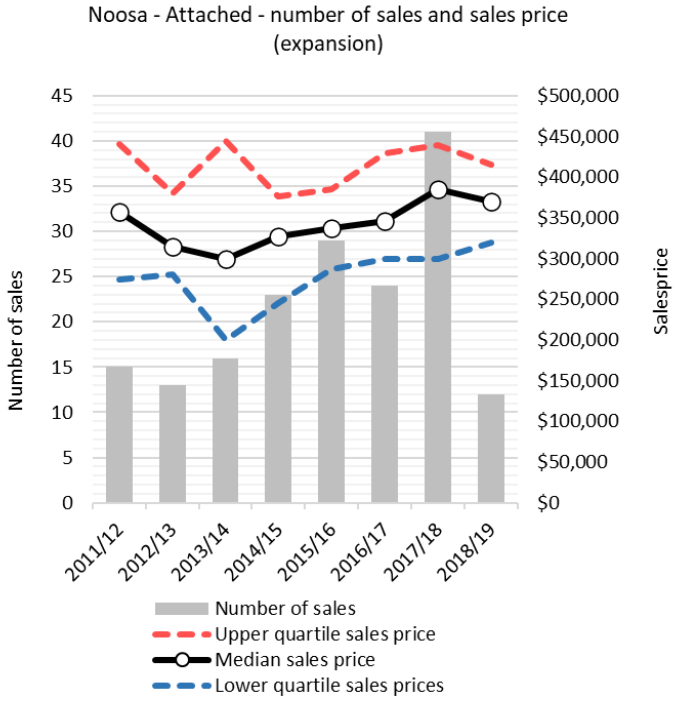
This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the consolidation area.



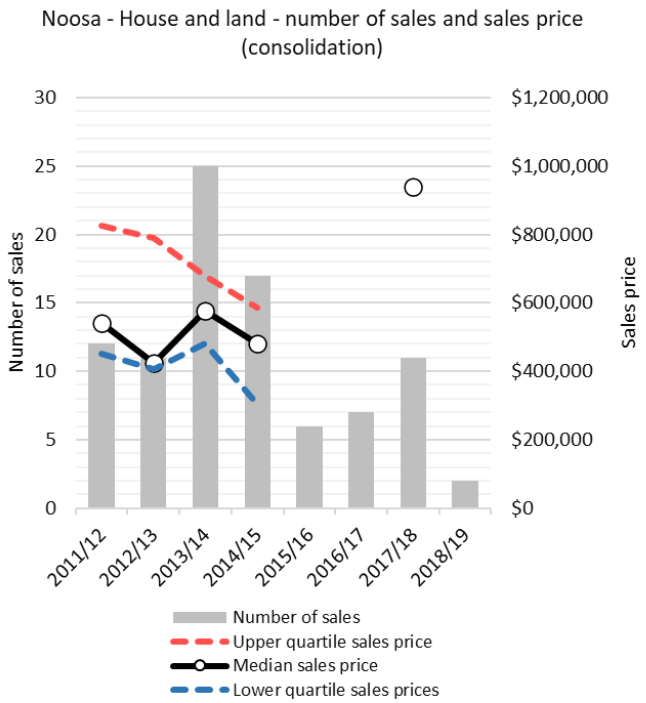
This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the expansion area.



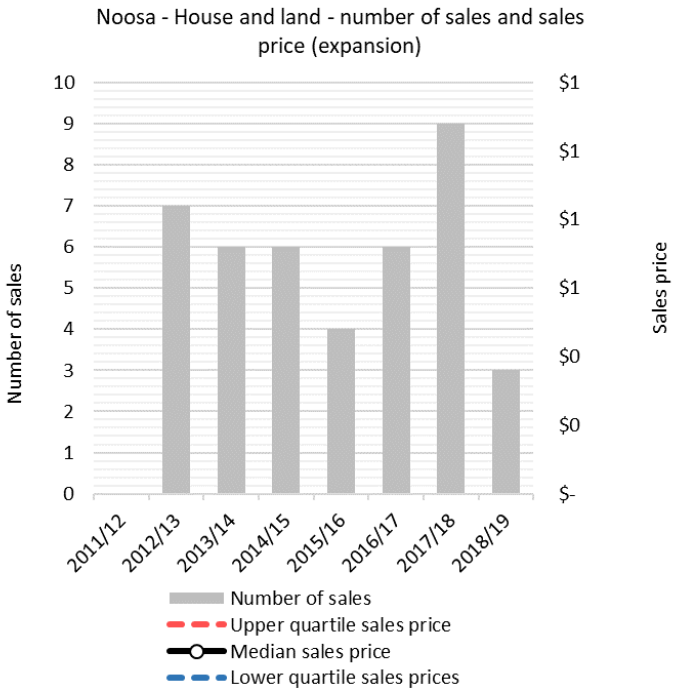
This graph shows the number of sales and the lower, median and upper quartile sales price for attached dwellings in the consolidation area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for attached dwellings in the expansion area.



This graph shows the number of sales and the lower, median and upper quartile sales price for house-land packages in the consolidation area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for house-land packages in the expansion area.

Industrial – Noosa

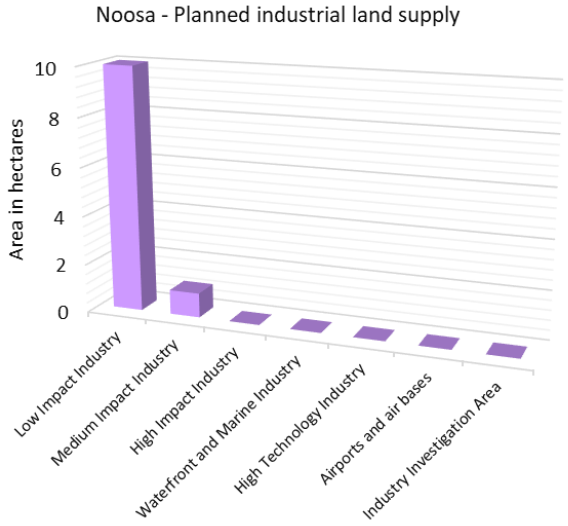
Planned industrial land supply/take-up – Noosa

About 6 hectares of developed industrial land was taken-up in Noosa between 2011 and 2018. The take-up occurred on land intended for low and medium impact industry.

There were about 12 hectares of planned industrial land in Noosa as at 2018. This planned industrial land mostly comprised land intended for low and medium impact industry.

The 2019 planned industrial land estimate improves upon the estimate provided in the 2018 LSDM Report. It has been derived by trialling the application of the developability rules for determining the impact of constraints from the Developable Area best practice research in 2019.

For more detail about these improvements and planned industrial land and take-up, see the Best practice research and Technical notes.



This graph shows the number of hectares of planned industrial land as at 2018 by industrial land category.

Note: The planned industrial land measure identifies land that may be developable in the long term based on current zoning or intent and applicable constraints in a planning instrument. Much of this land will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry. Also, planned industrial land is a gross area which does not include any allowance for roads, infrastructure corridors, open space and the like.

The Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) notes ongoing improvements are required to continue to mature the industrial land monitoring. In partnership with stakeholders, DSDILGP will explore improved methods in 2020, building from the work undertaken in 2018 and 2019.

Planned industrial employment supply – Noosa

The capacity and realistic availability of planned industrial employment supply in Noosa provides more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figure represents the number of employees that could be supported by industrial developments that have been or could be approved, based on current planning intent, while the realistic availability figure provides a supply scenario that considers whether some of the capacity is not realistically available by 2041.

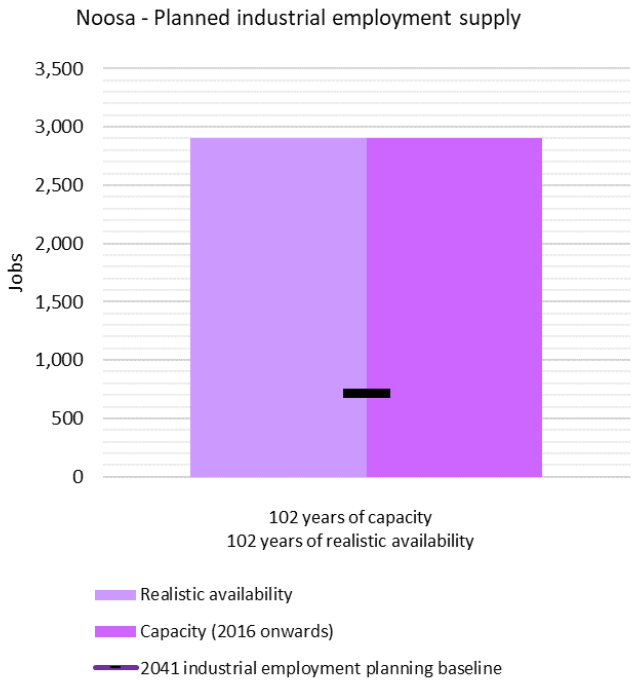
The realistic availability scenario considers factors that may constrain the availability of land for industrial development and employment. Such factors include constraints affecting the feasibility of development and lower than assumed employment densities.

The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the outcomes from the Developable Area best practice research in 2019 and a refined set of economic and developability criteria to estimate realistic availability in selected Major Enterprise and Industrial Areas. For more information about these improvements, see the Best practice research and Technical notes.

The capacity of planned industrial employment supply in Noosa is about 2900 employees, representing 102 years of supply. The realistic availability of this supply is also 2900 employees. These are well above the 2041 industrial employment planning baseline of about 700 employees.

Noosa Shire Council is preparing a new planning scheme which may affect planned industrial employment supply. Where amendments proceed, and data sources are updated, their effect on industrial employment supply will be included in future years of LSDM Reporting.

For more detail about the meaning and calculation of the capacity and realistic availability of planned industrial employment supply and years of supply measures, see the Technical notes.



This graph shows the number of employees that could be supported by industrial developments, that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s 2041 industrial employment planning baseline.

Note: The planned industrial employment supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report. Much of the planned industrial employment supply will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry.

Redland

Summary

ShapingSEQ 2017 establishes that Redland's population growth will require an additional 17,200 dwellings between 2016 and 2041 through its dwelling supply benchmarks.

The capacity and realistic availability of planned dwelling supply in the Redland consolidation and expansion areas provide more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

Dwelling approvals have exceeded annual benchmark in the Redland consolidation area in recent years but declined below the benchmark in 2018/19. Dwelling approvals in the expansion area remain above the average annual benchmark.

Recent dwelling approvals indicate that housing in Redland has become more diverse and dwelling density has also increased, in accordance with the *ShapingSEQ 2017* preferred future.

There are about 2.5 years of supply of uncompleted lot approvals in Redland, which is below the minimum four years of supply sought by *ShapingSEQ 2017*. The high rate of lot creation over the past 5 years has contributed to the decline in the years of supply figure. In contrast, there are about 6.1 years of supply of uncompleted multiple dwelling approvals in the Redland consolidation area, which is above the minimum four years of supply sought by *ShapingSEQ 2017*. The high rate of lot creation over the past four years has contributed to the decline in years of supply figure.

The capacity and realistic availability of planned industrial employment supply in Redland is less than the minimum 15 years of supply sought by *ShapingSEQ 2017*. Redland City Council is required to investigate the Southern Thornlands area, which is identified as a Potential Future Growth Area in *ShapingSEQ 2017*, to determine its potential as a future employment area, which may help address the shortfall in planned industrial employment supply.

Residential – Redland

Planned dwelling supply – Redland

The capacity and realistic availability of planned dwelling supply in the Redland consolidation and expansion areas provide more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figures represent the number of dwellings that have been or could be approved, based on current planning intent, while the realistic availability figure provides a land supply scenario that considers whether some of the capacity is not realistically available by 2041.

The realistic availability scenario considers factors that may constrain the availability of land for development. Such factors may include infrastructure availability, land ownership fragmentation, landowner intent, practical staging of and capability for development, and the age of existing development.

The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the Current Intent to Service layer from the Ability to Service best practice research in 2019, in combination with other updated data, to derive new estimates of the realistic availability of planned

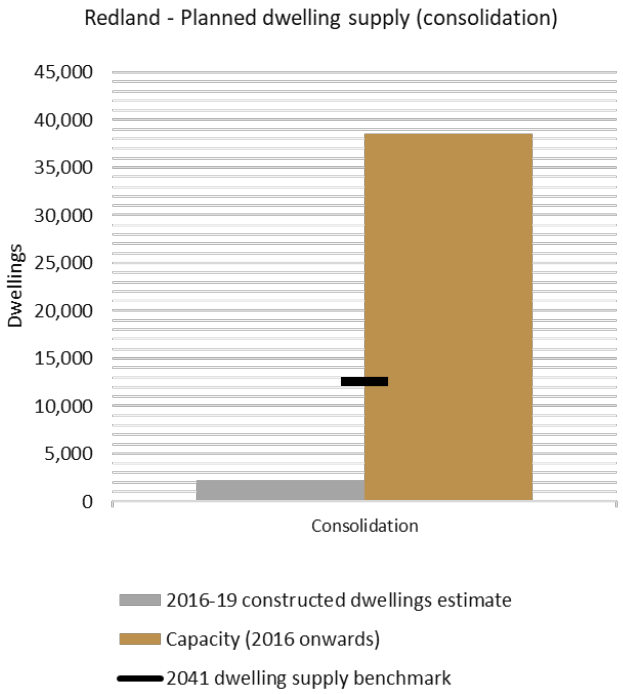
dwelling supply. This approach forms a foundation for improvement in future years of reporting. For more information about these improvements, see the Best practice research and Technical notes.

In the Redland consolidation area, the capacity of planned dwelling supply is about 38,500 dwellings, which is significantly above the consolidation 2041 dwelling supply benchmark of 12,500 dwellings.

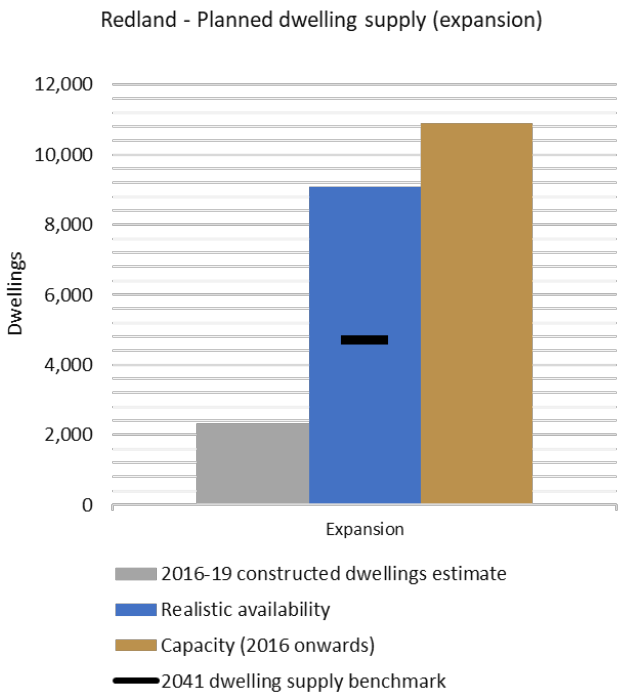
In the Redland expansion area, the capacity of planned dwelling supply is about 10,900 dwellings, while the realistic availability of this supply is about 9100 dwellings. These are greater than the expansion 2041 dwelling supply benchmark of 4700 dwellings.

The realisation of the planned dwelling supply in the consolidation area would be supported by the provision of key region-shaping infrastructure as identified in *ShapingSEQ 2017* and the State Infrastructure Plan, including extension of the Eastern Busway to Capalaba. It could also be supported by high frequency rail services to Cleveland, subject to future investigation if sufficient dwelling densities are achieved in the corridor.

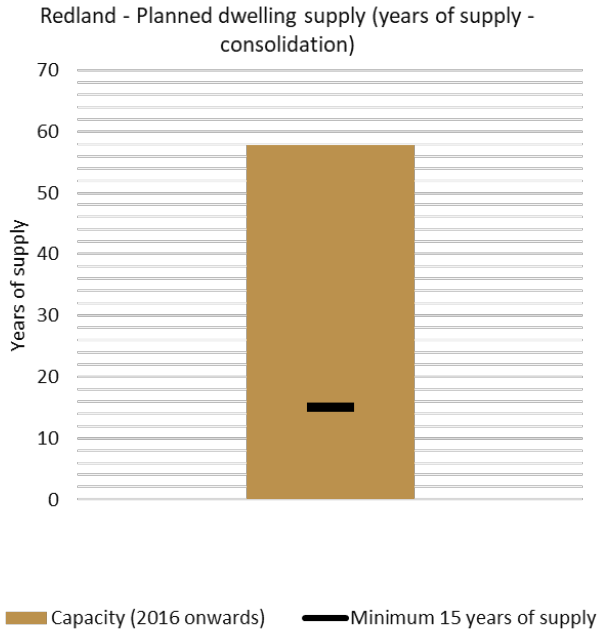
For more detail about the calculation of planned dwelling supply, including years of supply, see the Technical notes.



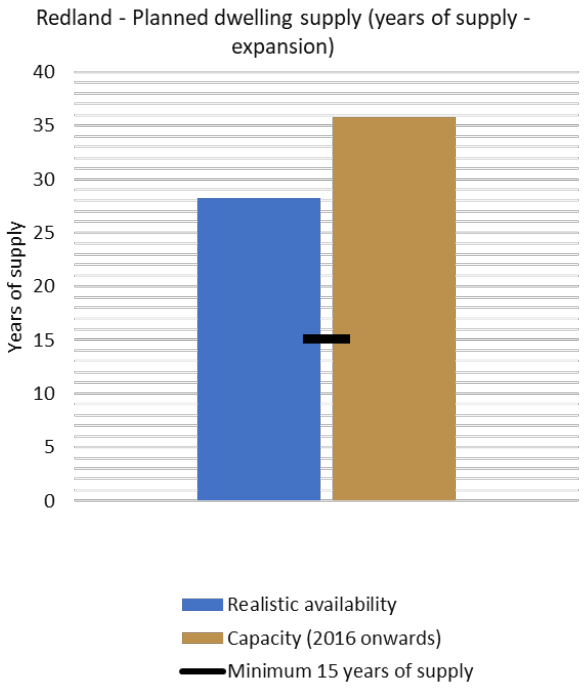
This graph shows the number of dwellings that have been or could be approved based on current planning intent compared against *ShapingSEQ 2017*'s dwelling supply benchmarks in consolidation areas.



This graph shows the number of dwellings that have been or could be approved based on current planning intent compared against *ShapingSEQ 2017*'s dwelling supply benchmarks in expansion areas. To view fact sheets on the concept of realistic availability, click here.



This graph shows the number of years of supply of dwellings that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s minimum 15 years of supply policy objective in consolidation areas.



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Approved supply – Redland

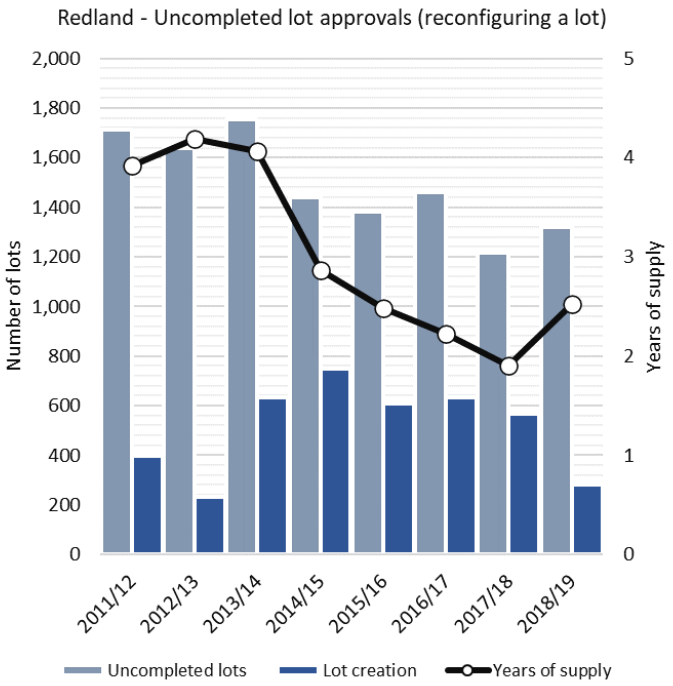
Approved supply is measured by analysing uncompleted lot approvals and uncompleted multiple dwelling approvals across Redland.

There are about 2.5 years of supply of uncompleted lot approvals in the Redland consolidation and expansion areas overall, which is below the minimum four years of supply sought by *ShapingSEQ 2017*. The high rate of lot creation from 2015/16 to 2017/18 has contributed to the decline in years of supply figure until 2017/18. The total number of current uncompleted lot approvals has declined since its peak in 2013/14, with the current uncompleted lot approvals at 1321. Of the uncompleted lots, approximately 44 per cent have operational works approvals for the 2018/19 period.

In contrast, Redlands has about 6.1 years of supply of uncompleted multiple dwelling approvals in the consolidation area, which is above the minimum four years of supply sought by *ShapingSEQ 2017*.

The number of uncompleted multiple dwelling approvals fell slightly from June 2018 to June 2019, but the years of supply has increased because the rate of multiple dwelling construction fell from June 2018 to June 2019, decreasing the assumed level of demand in the years of supply calculation.

For details of the calculation and comparability over time of the approved supply figures, refer to the Technical notes.



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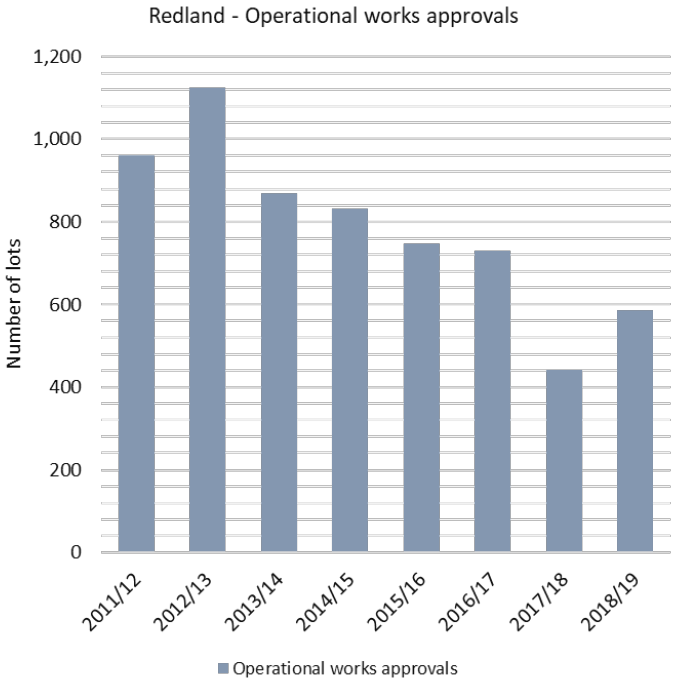
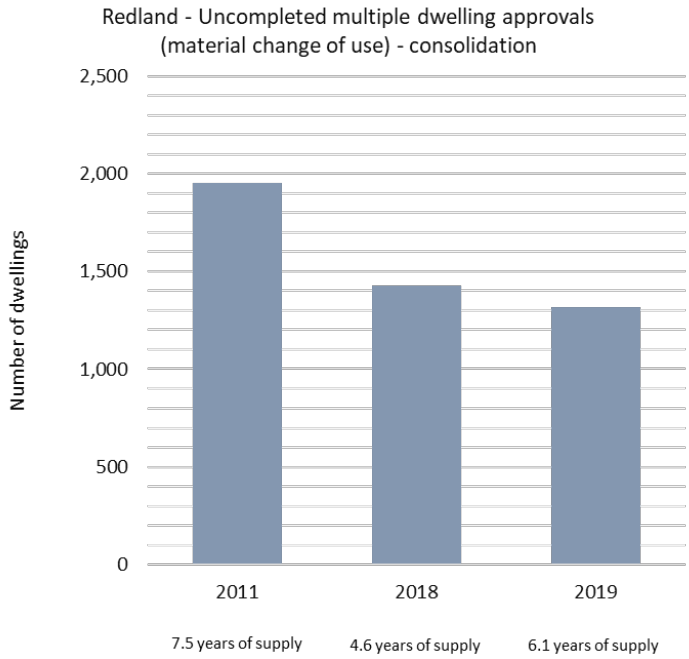


This graph shows the number of uncompleted lot approvals which also have operational works approvals as at 30 June each year.



This graph shows the number of multiple dwellings that have a material change of use development permit but have not yet been constructed (uncompleted multiple dwellings) in the consolidation area as at 30 June 2011, 30 June 2018 and 30 June 2019.

Note: The years of supply for uncompleted multiple dwelling approvals is determined by dividing the total number of uncompleted multiple dwellings by the average annual attached dwelling building approvals of the previous four years. The years of supply for uncompleted lot approvals is determined by dividing the total number of uncompleted lots by the average annual lot certifications of the previous four years.

Dwelling growth – Redland

In the Redland consolidation area, dwelling approvals (used to measure dwelling growth) have exceeded the average annual benchmark in recent years but declined below the benchmark in 2018/19. In the Redland expansion area, dwelling approvals exceeded the expansion average annual benchmark despite declining in 2018/19.

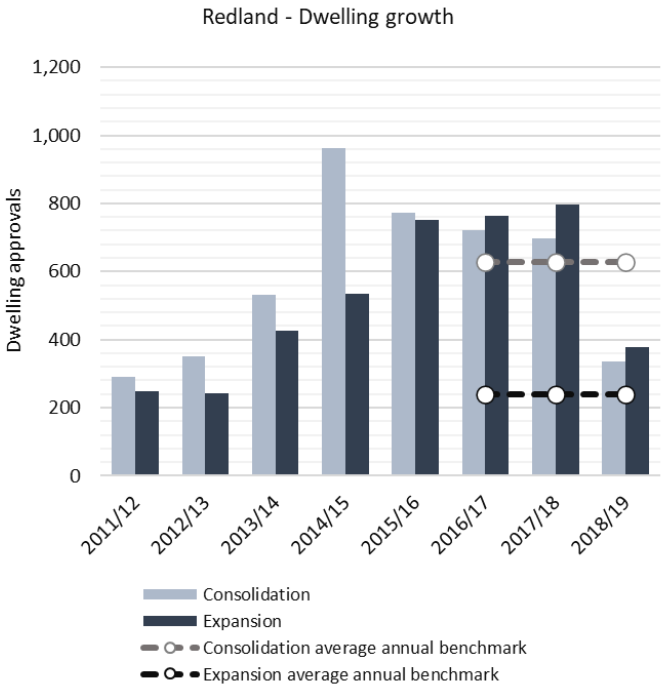
In 2018/19, there were 337 dwelling approvals in the Redland consolidation area, which was approximately 290 dwellings less than the consolidation average annual benchmark of 628 additional dwellings. There were 378 dwelling approvals in the Redland expansion area in 2018/19, which was approximately 140 dwellings more than the expansion average annual benchmark of 240 additional dwellings.

Approximately 52 per cent of dwelling approvals for 2016/17 to 2018/19 were in Redland's expansion area, which is more than its expected share of dwelling growth to 2031 identified in *ShapingSEQ 2017* (28 per cent). Approximately 48 per cent of dwelling approvals were in the

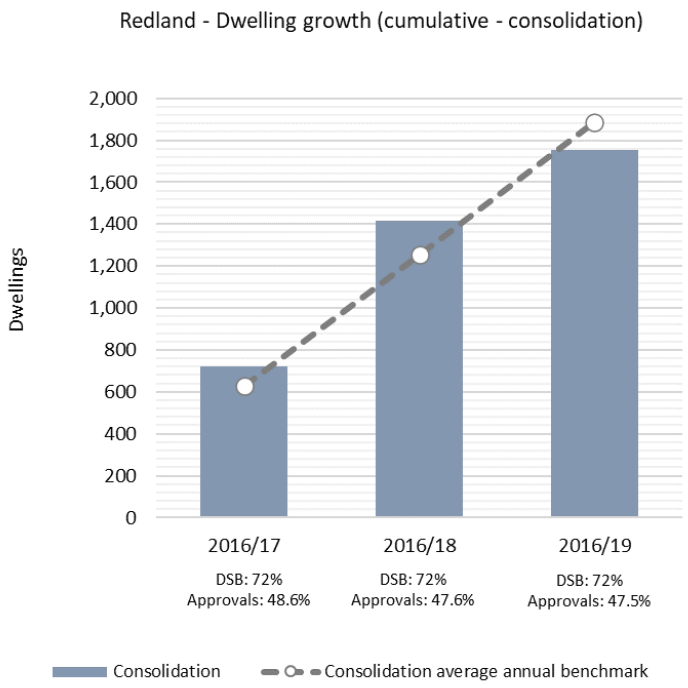
Redland consolidation area over the same period, which was less than its expected share of 72 per cent.

As the actual number of approvals between 2016/17 to 2018/19 in the expansion area is above the average annual benchmarks, Redland is on track to be able to accommodate the expansion 2041 dwelling supply benchmark.

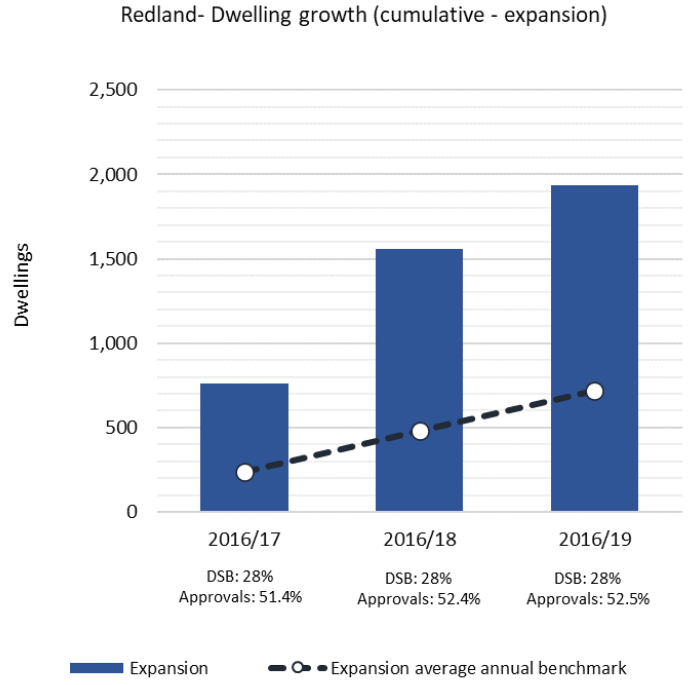
For more information about improvements to the measurement of net growth over time, see Moving forward. For more detail about dwelling approvals, see the Technical notes.



This graph shows annual dwelling approvals compared against *ShapingSEQ 2017*'s average annual benchmarks.



This graph shows the cumulative dwelling growth in the consolidation area against *ShapingSEQ 2017*'s consolidation average annual benchmark.



This graph shows the cumulative dwelling growth in the expansion area against *ShapingSEQ 2017*'s consolidation average annual benchmark.

Note: The average annual benchmark (2016 to 2031) has been adjusted since the 2018 Land Supply and Development Monitoring Report to reflect the growth rate of the most recent 2018 Queensland Government dwelling projections for SEQ. This adjustment has resulted in the average annual

benchmark increasing marginally for the consolidation and expansion area in each local government. For more detail about the adjustment method and reasoning, see the Technical notes.

Changes in dwelling density – Redland

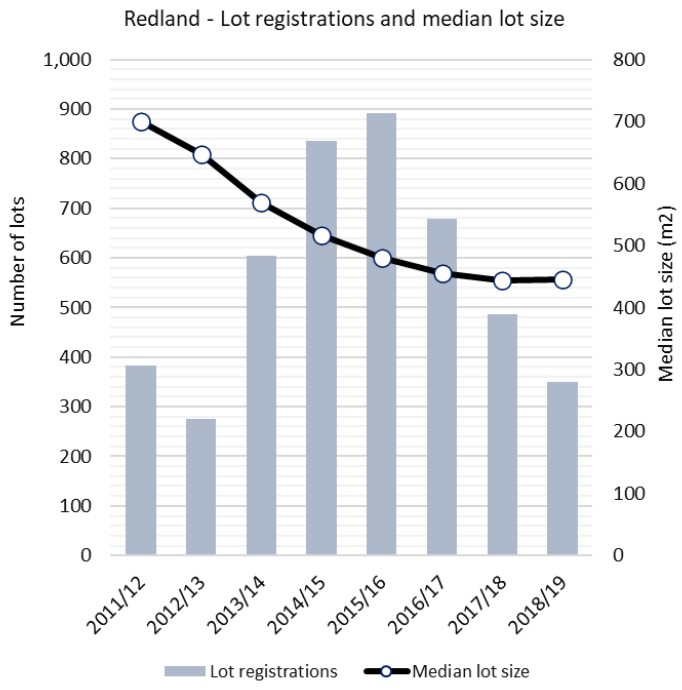
Dwelling density (measured through median size of new lots and mean population-weighted dwelling density) is increasing in Redland in accordance with the *ShapingSEQ 2017*Measures that Matter preferred future for higher dwelling densities and smaller lots.

Mean population-weighted dwelling density in Redland increased between 2011 and 2016, from 8.9 to 9.2 dwellings per hectare. This represents the average dwelling density at which the population of Redland lives and is comparable to the net residential density as used by *ShapingSEQ 2017*. In the consolidation area, mean population-weighted dwelling density slightly increased from 9.5 to 9.8 dwellings per hectare.

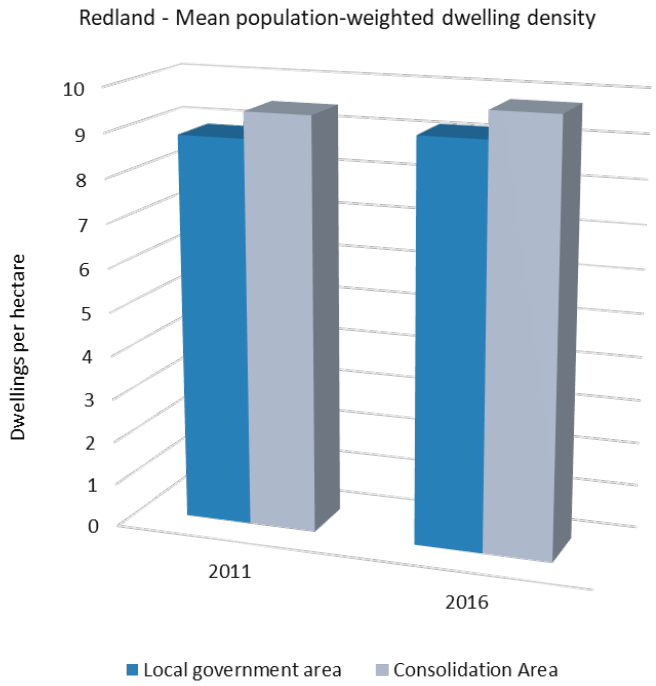
The median size of new lots in Redland significantly decreased from 700m^2 to 446m^2 from 2011/12 to 2018/19. This was associated with a significant upward trend in the volume of lot registrations to 2015/16, which has since declined.

This measure is indicative of increased dwelling densities in new urban subdivisions across the Redland area.

For more detail about the calculation of mean population-weighted dwelling density and median size of new lots, see the Technical notes.



This graph shows the number and median size of new lots registered annually.



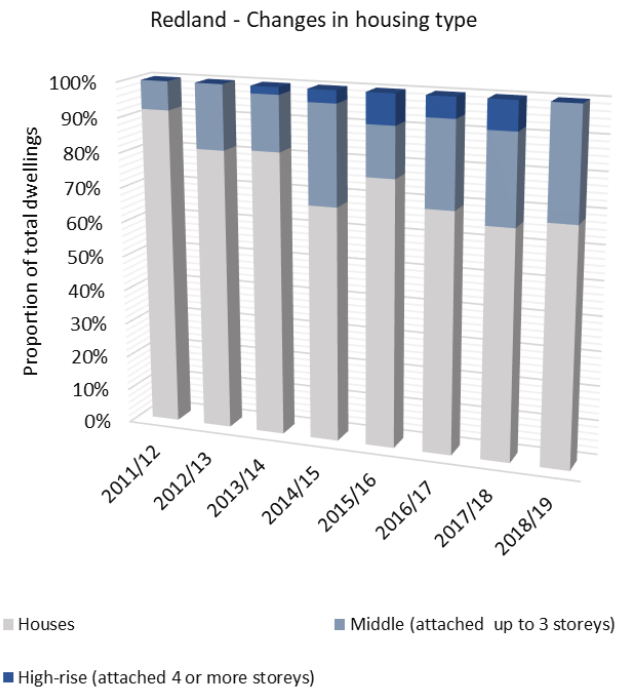
This graph shows the dwelling density (mean population-weighted dwelling density) at which people were living in 2011 and 2016.

Changes in housing type – Redland

Recent dwelling approvals in Redland indicate an increase in housing diversity consistent with the *ShapingSEQ 2017*Measures that Matter preferred future.

Sixty-eight per cent (2504 dwellings) of all new dwelling approvals in Redland for 2016/17 to 2018/19 were for houses, which was less than for the existing dwelling stock (85 per cent as at the 2016 Census). Dwelling approvals for middle (26 per cent or 978 dwellings) and high-rise (six per cent or 210 dwellings) over the same period were higher than their share of the dwelling stock (middle 14 per cent, high-rise one per cent) as at the 2016 Census.

For more detail about dwelling approvals, see the Technical notes.



This graph shows the proportion of dwelling approvals that are for houses, middle (attached dwellings up to three storeys) and high-rise (attached dwellings four storeys or more) annually.

Sales and price – Redland

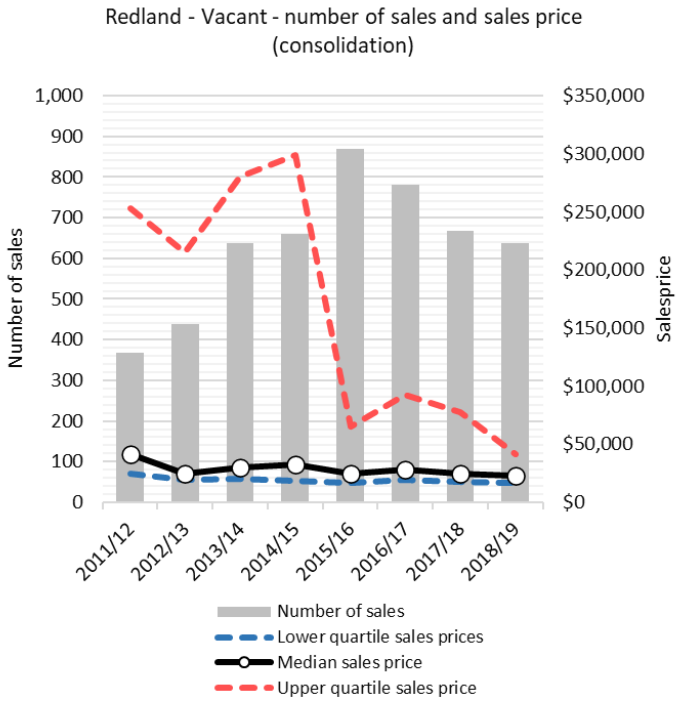
The number of sales has decreased from 2017/18 to 2018/19 for all categories in Redland.

The median sales price for all categories in the expansion area is higher in Redland than for South East Queensland (SEQ). Conversely, the median sales price for each category in the consolidation area is lower in Redland than for SEQ.

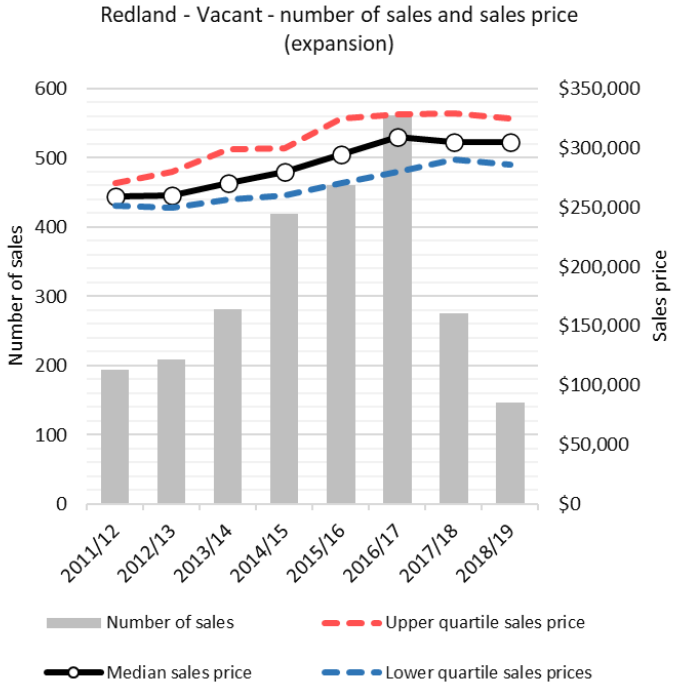
The rate of median sales price growth in Redland was lower than or similar to SEQ as whole between 2011/12 and 2018/19 for all categories except house and land packages and vacant lots per square metre in the expansion area.

The rate of median price growth from 2011/12 to 2018/19 was higher in the expansion area than the consolidation area for all categories except houses, attached dwellings and detached dwellings. The median sales price for vacant lots in the consolidation area decreased by 44 per cent per lot and 42 per cent per square metre. The relatively low median sales price for vacant lots in the consolidation area ($23,000) is due to the substantial supply of vacant lots on the Southern Moreton Bay islands.

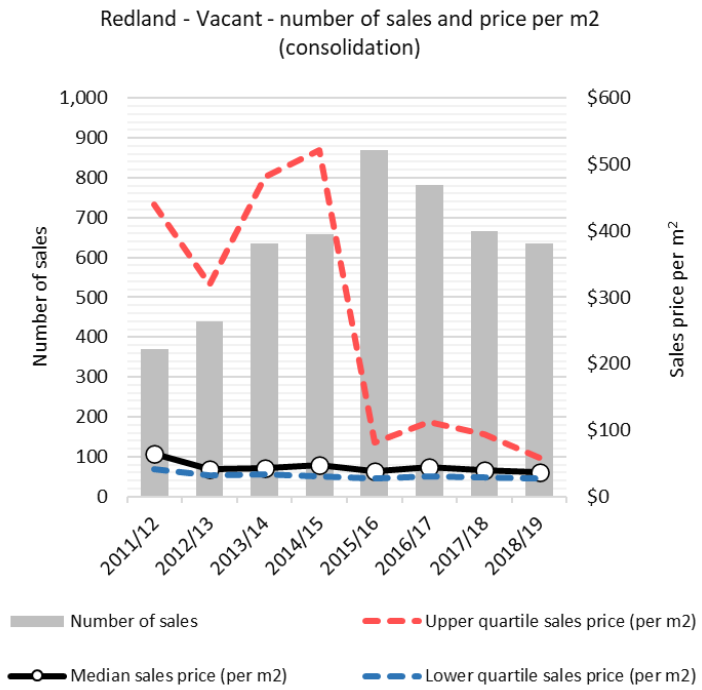
For more detail about the median sales price and number of sales, see the Technical notes.



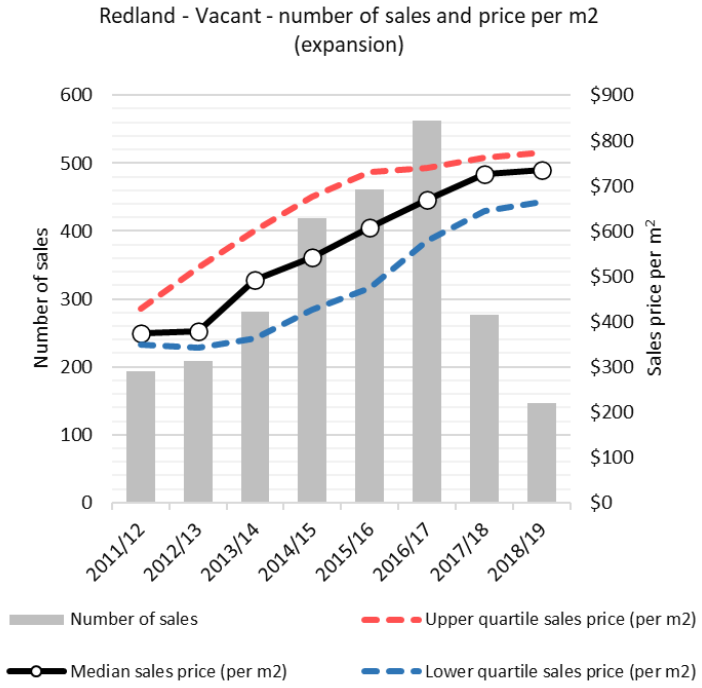
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the consolidation area.



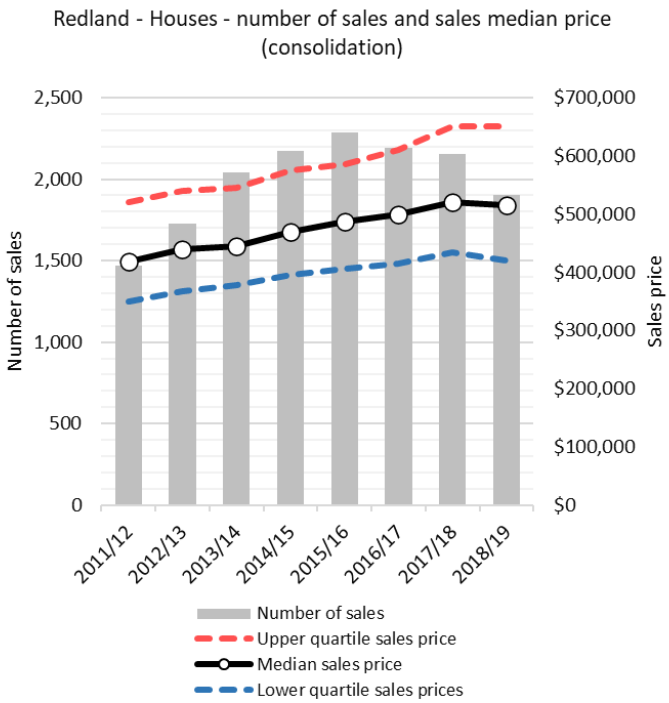
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the expansion area.



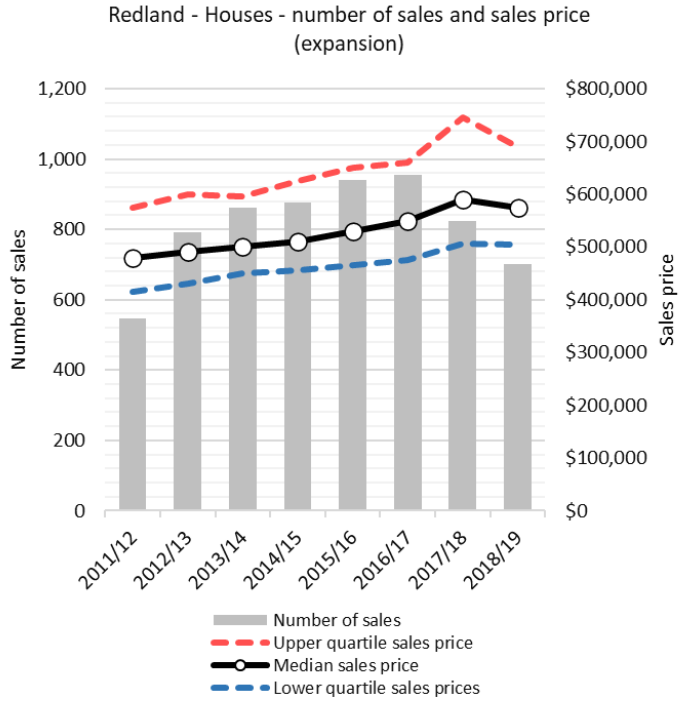
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the consolidation area.



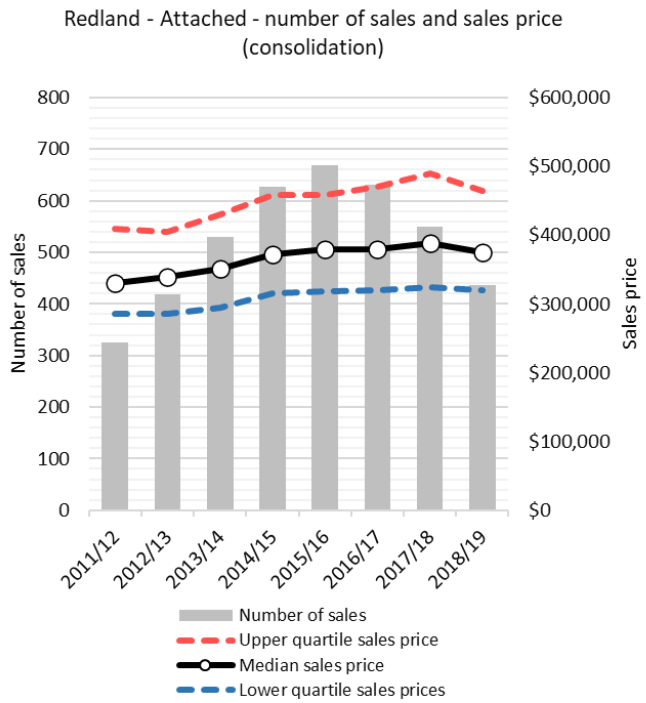
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the expansion area.



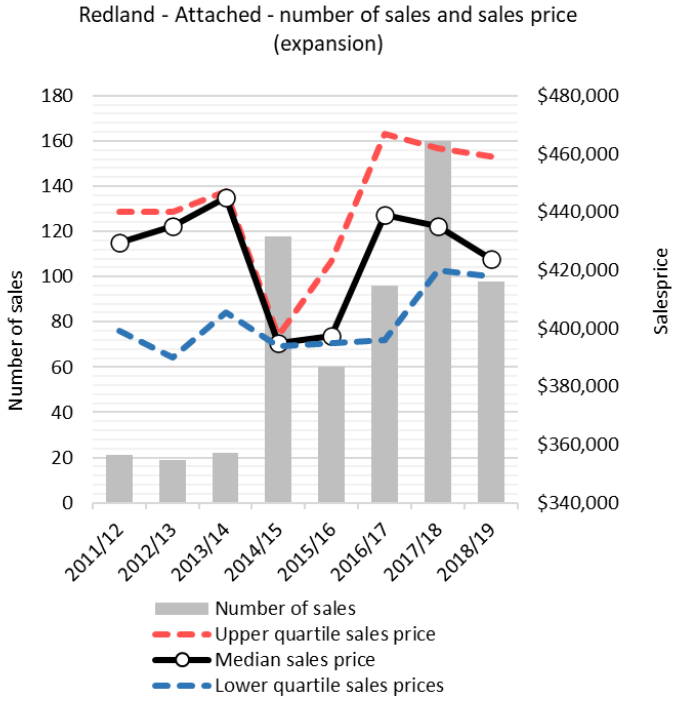
This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the consolidation area.



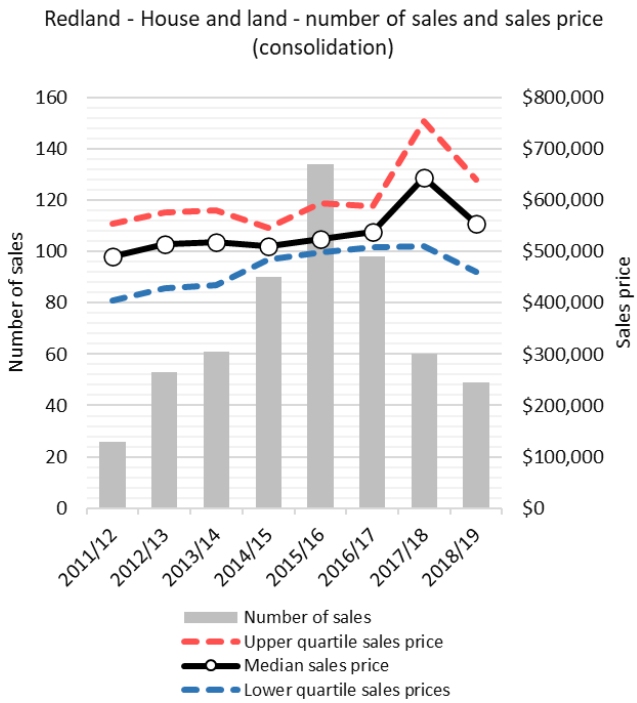
This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the expansion area.



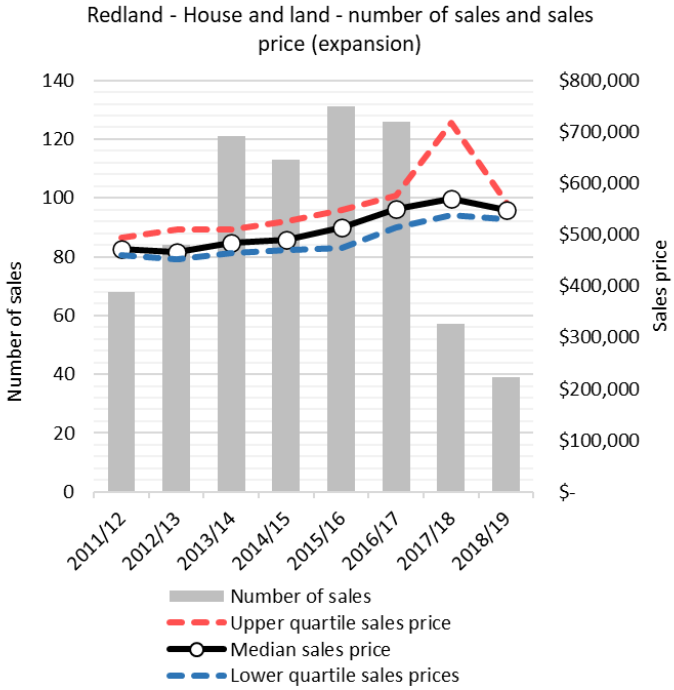
This graph shows the number of sales and the lower, median and upper quartile sales price for attached dwellings in the consolidation area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for attached dwellings in the expansion area.



This graph shows the number of sales and the lower, median and upper quartile sales price for house-land packages in the consolidation area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for house-land packages in the expansion area.

Industrial – Redland

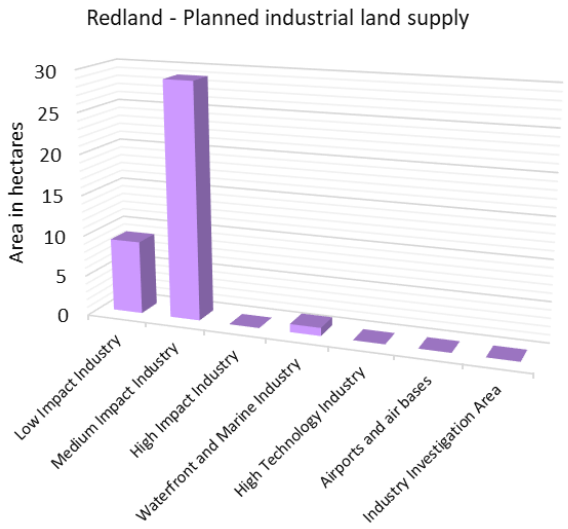
Planned industrial land supply/take-up – Redland

About four hectares of developed industrial land was taken-up in Redland between 2011 and 2018. The take-up occurred on land intended for low and medium impact industry.

There were about 39 hectares of planned industrial land in Redland as at 2018. This planned industrial land mostly comprised land intended for low and medium impact industry.

The 2019 planned industrial land estimate improves upon the estimate provided in the 2018 LSDM Report. It has been derived by trialling the application of the developability rules for determining the impact of constraints from the Developable Area best practice research in 2019.

For more detail about these improvements and planned industrial land and take-up, see the Best practice research and Technical notes.



This graph shows the number of hectares of planned industrial land as at 2018 by industrial land category.

Note: The planned industrial land measure identifies land that may be developable in the long term based on current zoning or intent and applicable constraints in a planning instrument. Much of this land will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry. Also, planned industrial land is a gross area which does not include any allowance for roads, infrastructure corridors, open space and the like.

The Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) notes ongoing improvements are required to continue to mature the industrial land monitoring. In partnership with stakeholders, DSDILGP will explore improved methods in 2020, building from the work undertaken in 2018 and 2019.

Planned industrial employment supply – Redland

The capacity and realistic availability of planned industrial employment supply in Redland is less than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figure represents the number of employees that could be supported by industrial developments that have been or could be approved, based on current planning intent, while the realistic availability figure provides a supply scenario that considers whether some of the capacity is not realistically available by 2041.

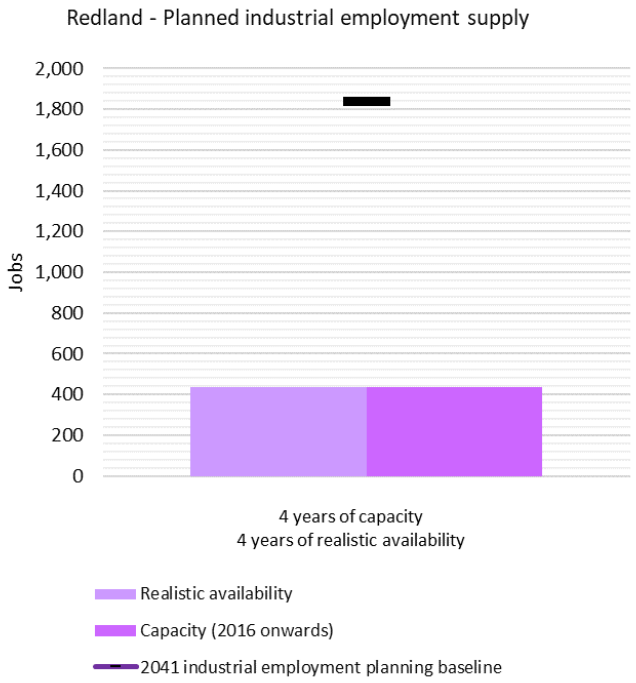
The realistic availability scenario considers factors that may constrain the availability of land for industrial development and employment. Such factors include constraints affecting the feasibility of development and lower than assumed employment densities.

The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the outcomes from the Developable Area best practice research in 2019 and a refined set of economic and developability criteria to estimate realistic availability in selected Major Enterprise and Industrial Areas. For more information about these improvements, see the Best practice research and Technical notes.

Both the capacity and realistic availability of planned industrial employment supply is about 440 employees. These figures are about 1400 employees less than the 2041 industrial employment planning baseline of about 1840 employees.

Land within the Southern Thornlands area in Redland City (outside the *ShapingSEQ 2017* urban footprint) has been identified as a Potential Future Growth Area by *ShapingSEQ 2017*. Redland City Council is required to investigate this area in the short-term, including its potential as a future employment area. The investigations must determine its appropriate use, with the intent of the area defined, and appropriately reflected in the planning scheme, by the end of 2019. Engagement is continuing as to Council's resolution of planning for this area. Any planning scheme changes could help to address the shortfall in the planned industrial employment supply. Where amendments proceed, and data sources are updated, their effect on industrial employment supply will be included in future years of LSDM Reporting.

For more detail about the calculation of planned industrial employment supply, see the Technical notes.



This graph shows the number of employees that could be supported by industrial developments, that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s 2041 industrial employment planning baseline.

Note: The planned industrial employment supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report. Much of the planned industrial employment supply will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry.

Scenic Rim

Summary

ShapingSEQ 2017 establishes Scenic Rim's population growth will require 10,000 additional dwellings between 2016 and 2041 through its dwelling supply benchmarks.

The capacity of planned dwelling supply in the Scenic Rim provides more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

In recent years, dwelling approvals in the Scenic Rim have been consistently below the expansion area average annual benchmark (there is no consolidation area in the Scenic Rim). Dwelling growth in the Scenic Rim may increase as the availability of local employment opportunities, e.g. at the Bromelton State Development Area, and the availability of services increases.

Housing in the Scenic Rim is becoming more diverse in accordance with *ShapingSEQ 2017*'s preferred future, however dwelling density has not changed significantly contrary to the *ShapingSEQ 2017* preferred future.

There are about 13.9 years of supply of uncompleted lot approvals in the Scenic Rim, which exceeds the minimum four years of supply sought by *ShapingSEQ 2017*.

The capacity and realistic availability of planned industrial employment supply in the Scenic Rim provide more than the minimum 15 years of supply sought by *ShapingSEQ 2017* and exceed the 2041 industrial employment planning baseline.

Residential – Scenic Rim

Planned dwelling supply – Scenic Rim

The capacity of planned dwelling supply in Scenic Rim, which is wholly within the expansion area, provides more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figure represents the number of dwellings that have been or could be approved, based on current planning intent, while the realistic availability figure provides a land supply scenario that considers whether some of the capacity is not realistically available by 2041.

The realistic availability scenario considers factors that may constrain the availability of land for development. Such factors may include infrastructure availability, land ownership fragmentation, landowner intent, practical staging of and capability for development, and the age of existing development.

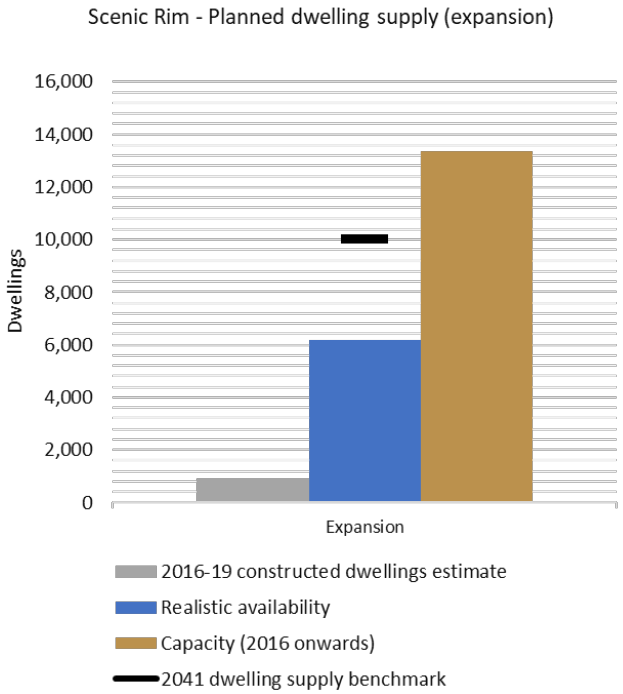
The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the Current Intent to Service layer from the Ability to Service best practice research in 2019, in combination with other updated data, to derive new estimates of the realistic availability of planned dwelling supply. This approach forms a foundation for improvement in future years of reporting. For more information about these improvements, see the Best practice research and Technical notes.

The capacity of planned dwelling supply in Scenic Rim is about 13,350 dwellings, which is 3350 dwellings more than the expansion 2041 dwelling supply benchmark of 10,000 dwellings. The

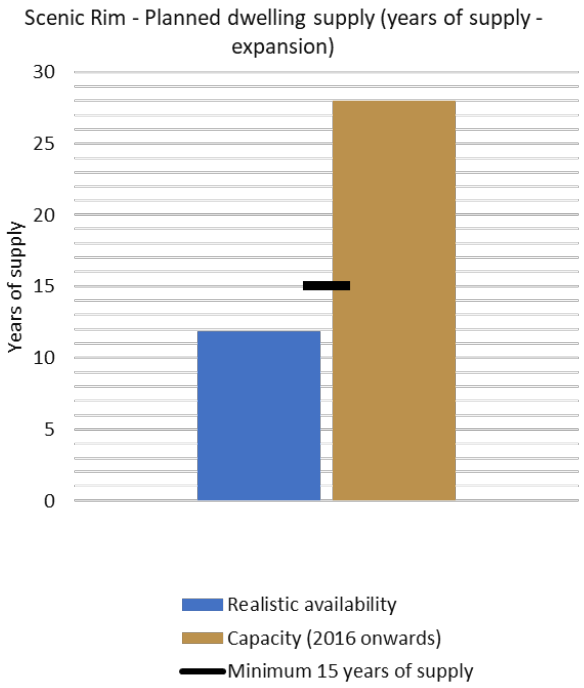
realistic availability of this supply is about 6200 dwellings, which equates to about 12 years of supply and is below *ShapingSEQ 2017* 15 years of supply policy objective.

The Scenic Rim Regional Council is preparing a new planning scheme which may affect planned dwelling supply. Where the scheme proceeds, and source data is updated, its effect on planned dwelling supply will be included in future years of LSDM Reporting.

For more detail about the calculation of planned dwelling supply, including years of supply, see the Technical notes.



This graph shows the number of dwellings that have been or could be approved based on current planning intent compared against *ShapingSEQ 2017*'s dwelling supply benchmarks in expansion areas. To view fact sheets on the concept of realistic availability, click here.



This graph shows the number of years of supply of dwellings that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s minimum 15 years of supply policy objective in expansion areas.

Note: The planned dwelling supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report.

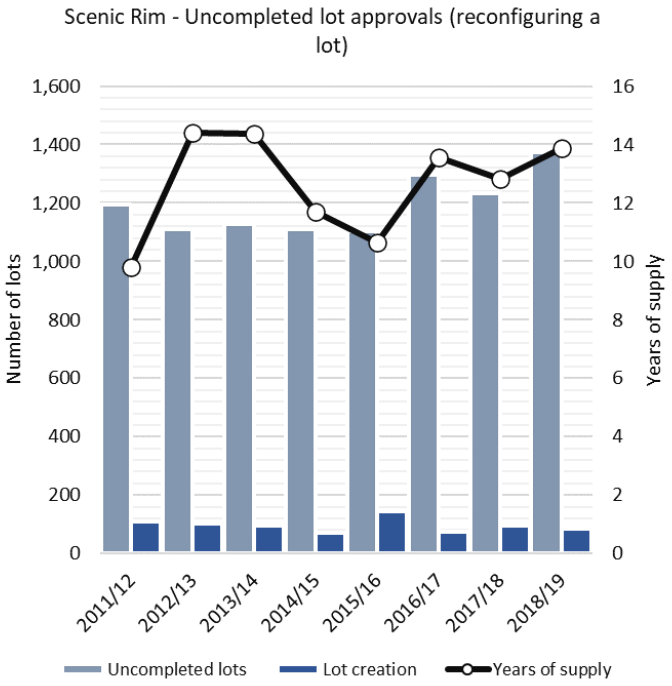
Approved supply – Scenic Rim

Approved supply is measured by analysing uncompleted lot approvals across Scenic Rim.

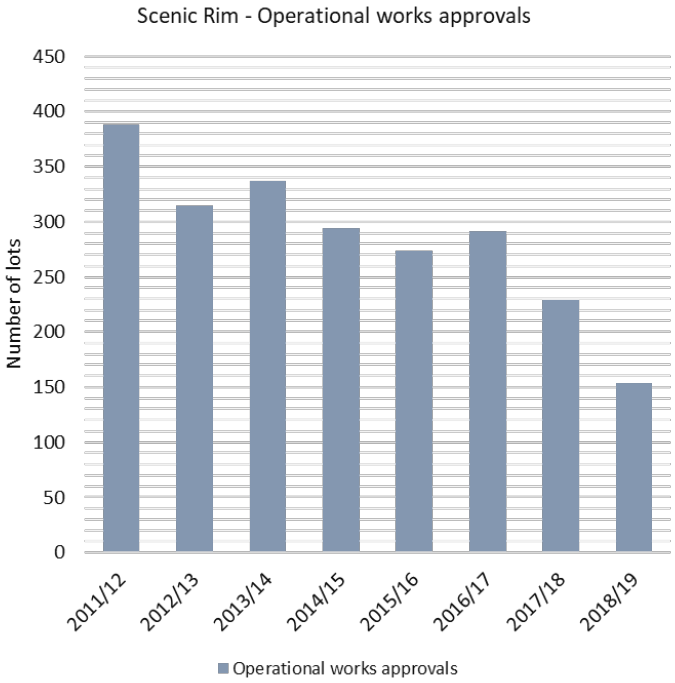
Scenic Rim has about 13.9 years of supply of uncompleted lot approvals. This is well above the minimum four years of supply sought by *ShapingSEQ 2017*. The total number of uncompleted lot approvals and the rate of lot creation have remained relatively stable from 2011/12, with the uncompleted lot approvals increasing to a historical high of 1373 in 2018/19. Of the uncompleted lots, approximately 11 per cent have operational works approvals for the 2018/19 period.

There are no uncompleted multiple dwelling approvals to report for Scenic Rim because it has no consolidation area.

For details of the calculation and comparability over time of the approved supply figures, refer to the Technical notes.



This graph shows the number of lots that have a development permit, but have not yet been certified (uncompleted lots) as at 30 June each year, as well as the number of lots that have been created in the 12 months up to 30 June each year.



This graph shows the number of uncompleted lot approvals which also have operational works approvals as at 30 June each year.

Note: The years of supply for uncompleted lot approvals is determined by dividing the total number of uncompleted lots by the average annual lot certifications of the previous four years.

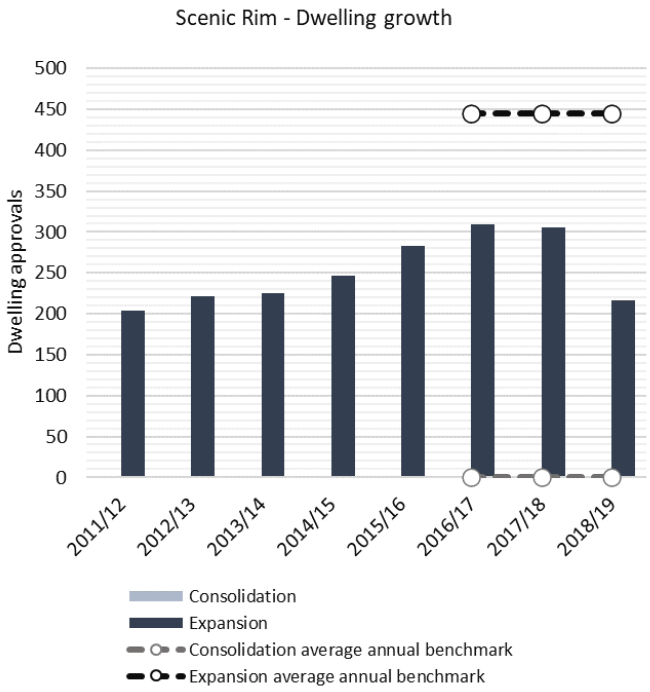
Dwelling growth – Scenic Rim

The expansion area applies to the whole of the Scenic Rim, and Scenic Rim is preparing a new planning scheme which may affect planned dwelling supply.

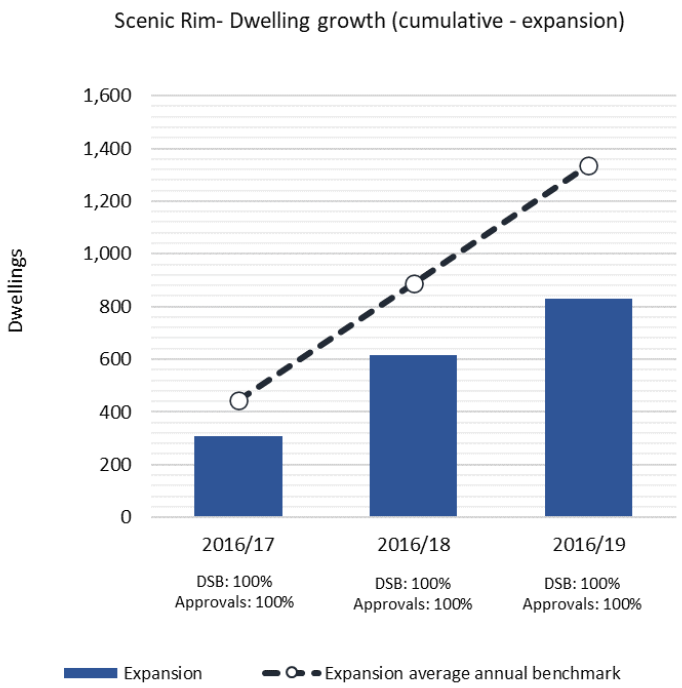
In recent years, dwelling approvals (used to measure dwelling growth) in Scenic Rim have been consistently below the expansion average annual benchmark. There were 216 dwelling approvals in the Scenic Rim expansion area in 2018/19, which was about 230 dwellings less than the expansion average annual benchmark of 445 additional dwellings.

Dwelling growth in the Scenic Rim may increase as the availability of local employment opportunities, e.g. at the Bromelton State Development Area, and the availability of services increases.

For more information about improvements to the measurement of net growth over time, see Moving forward. For more detail about dwelling approvals, see the Technical notes.



This graph shows annual dwelling approvals compared against *ShapingSEQ 2017*'s average annual benchmark.



This graph shows the cumulative dwelling growth in the expansion area against *ShapingSEQ 2017*'s consolidation average annual benchmark.

Note: The average annual benchmark (2016 to 2031) has been adjusted since the 2018 Land Supply and Development Monitoring Report to reflect the growth rate of the most recent 2018 Queensland Government dwelling projections for SEQ. This adjustment has resulted in the average annual benchmark increasing marginally for the consolidation and expansion area in each local government. For more detail about the adjustment method and reasoning, see the Technical notes.

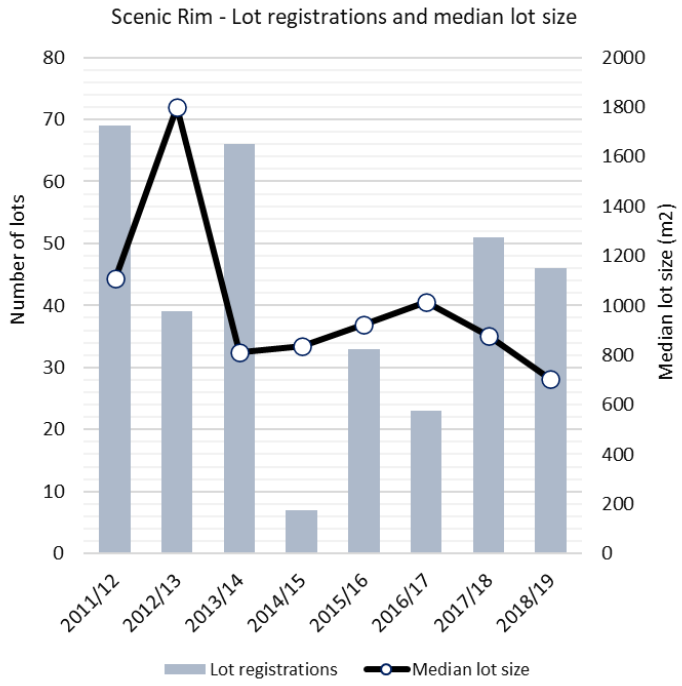
Changes in dwelling density – Scenic Rim

Dwelling density (measured through median size of new lots and mean population-weighted dwelling density) has not changed significantly in Scenic Rim in recent years and has not contributed to the *ShapingSEQ 2017* Measures that Matter preferred future for increased dwelling densities and smaller lot sizes.

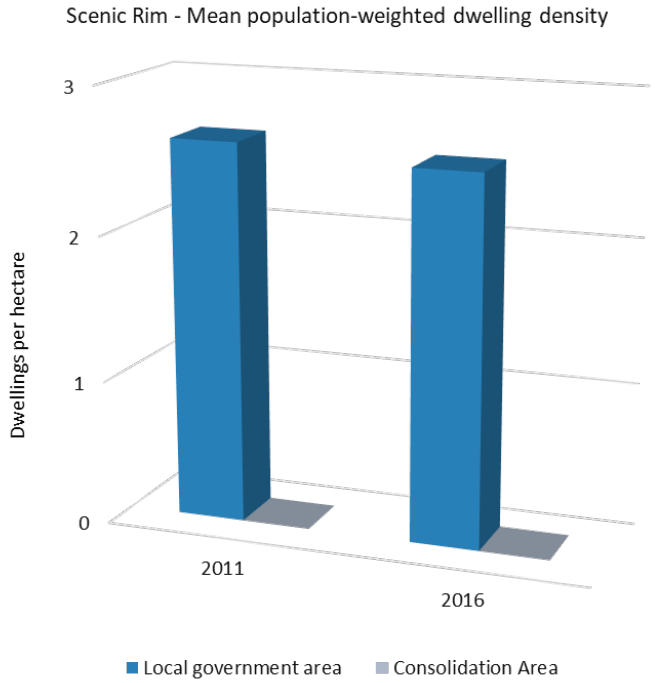
There was a minor decrease in mean population-weighted dwelling density in the Scenic Rim between 2011 and 2016, from 2.6 to 2.5 dwellings per hectare. This represents the average dwelling density at which the population of Scenic Rim lives and is comparable to the net residential density as used by *ShapingSEQ 2017*.

Consistent with other rural local governments, there have been significant fluctuations in median lot size in Scenic Rim, particularly from 2011/12 to 2013/14. The median size of new lots stabilised in recent years. This may be related to the small number of lot registrations in Scenic Rim over that period.

For more detail about the calculation of mean population-weighted dwelling density and median size of new lots, see the Technical notes.



This graph shows the number and median size of new lots registered annually.



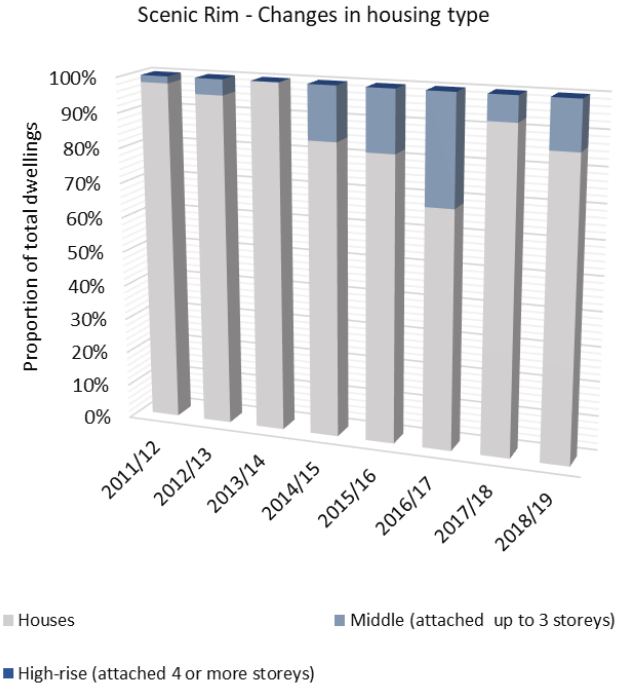
This graph shows the dwelling density (mean population-weighted dwelling density) at which people were living in 2011 and 2016.

Changes in housing type – Scenic Rim

Recent dwelling approvals indicate an increase in housing diversity in Scenic Rim, consistent with the *ShapingSEQ 2017* Measures that Matter preferred future.

Eighty-two per cent (682 dwellings) of all new dwelling approvals in the Scenic Rim for 2016/17 to 2018/19 were for houses, which was a lower proportion than for existing dwelling stock as at the 2016 Census (95 per cent). The proportion of dwelling approvals for middle (18 per cent or 149 dwellings) also exceeded existing dwelling stock as at the 2016 Census (six per cent). There were no approvals for high-rise dwellings for 2016/18.

For more detail about dwelling approvals, see the Technical notes.



This graph shows the proportion of dwelling approvals that are for houses, middle (attached dwellings up to three storeys) and high-rise (attached dwellings four storeys or more) annually.

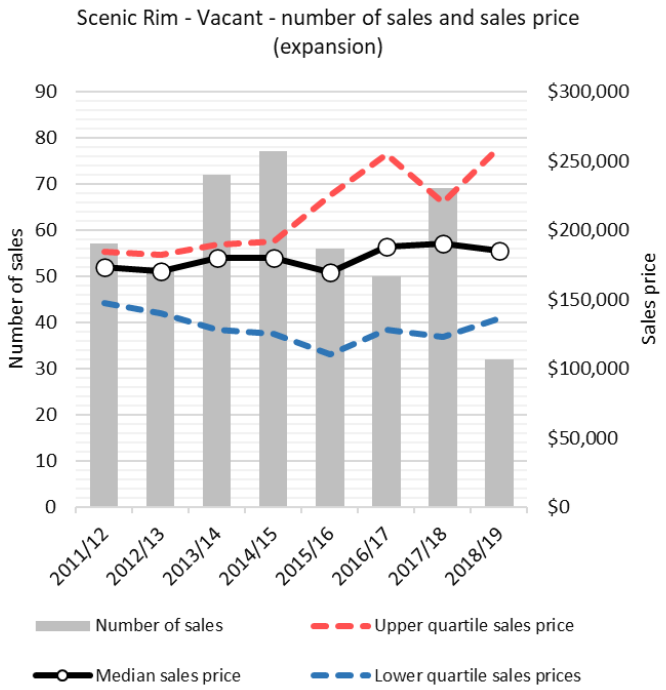
Sales and price – Scenic Rim

Sales prices and the number of sales have only been reported for the expansion area because no consolidation area is identified for Scenic Rim. Sales prices have also only been reported for years with 10 or more sales.

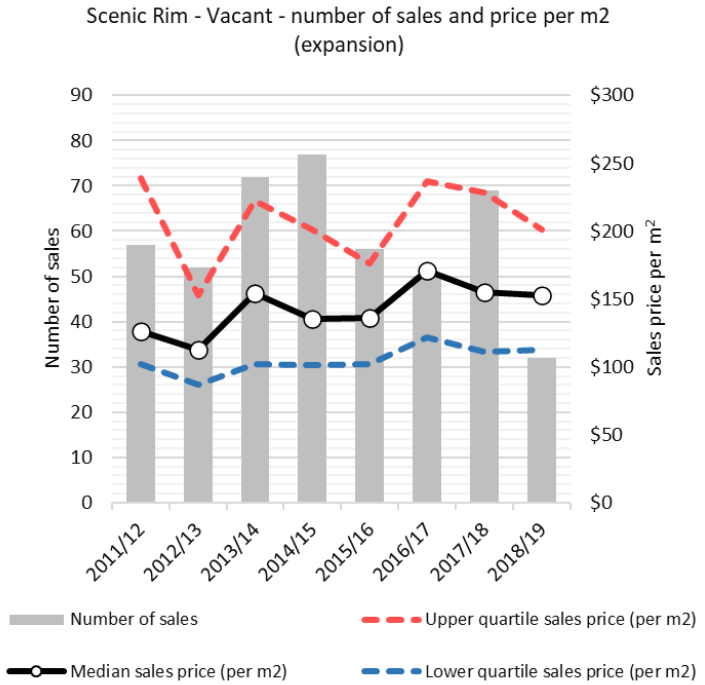
The number of sales has decreased from 2017/18 to 2018/19 for all categories in Scenic Rim except house-land packages. The low number of sales is typical for rural local government areas in South East Queensland (SEQ) and contributes to fluctuations in price from year to year.

The median sales price for all categories is lower in the Scenic Rim than SEQ as a whole. The rate of growth in median sales price from 2011/12 to 2018/19 in the Scenic Rim is also lower than in SEQ as a whole for all categories with a reported median price.

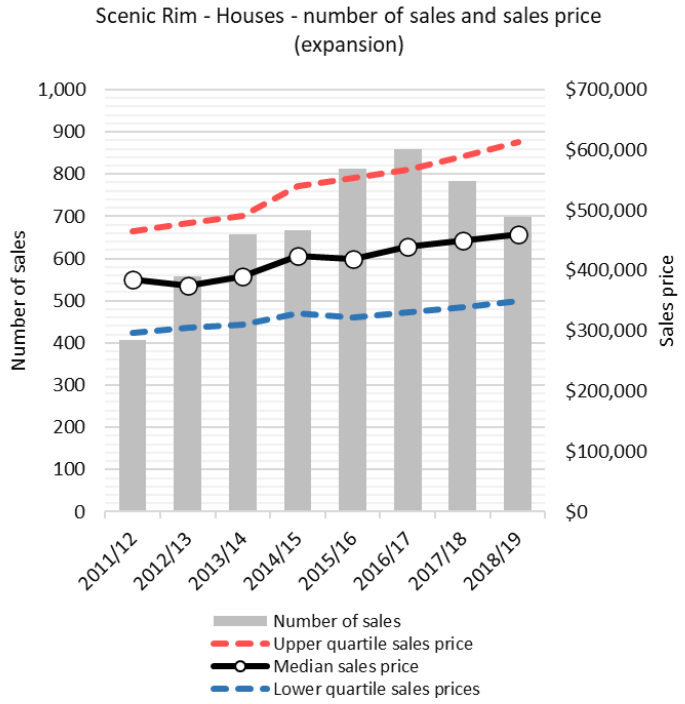
For more detail about the median sales price and number of sales, see the Technical notes.



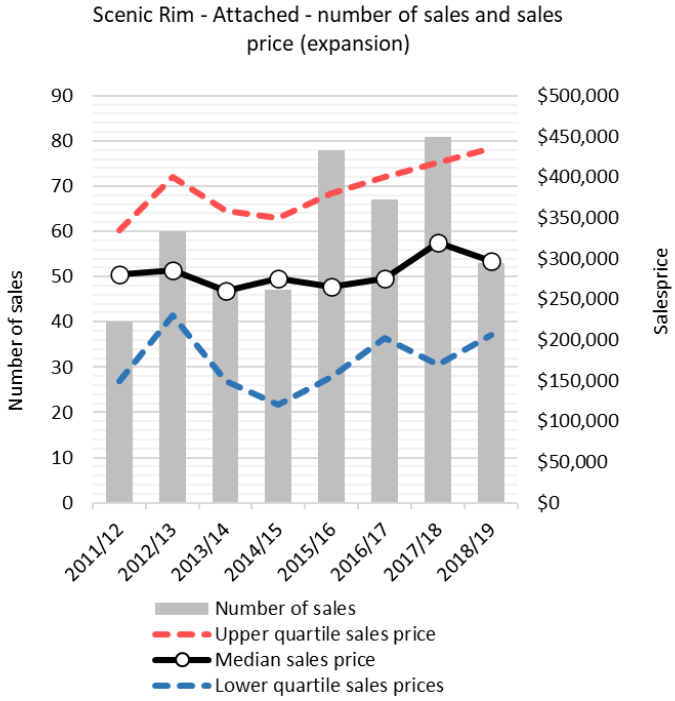
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the expansion area.



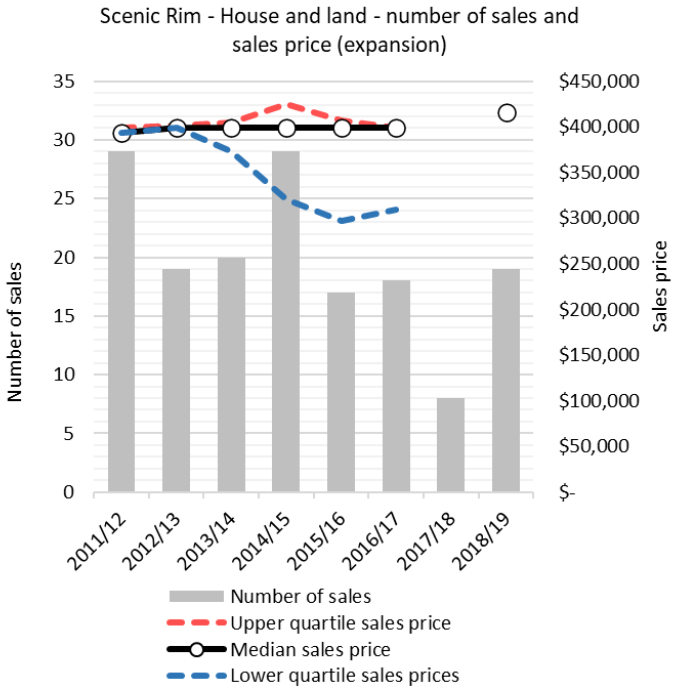
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the expansion area.



This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the expansion area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for attached dwellings in the expansion area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for house-land packages in the expansion area.

Industrial – Scenic Rim

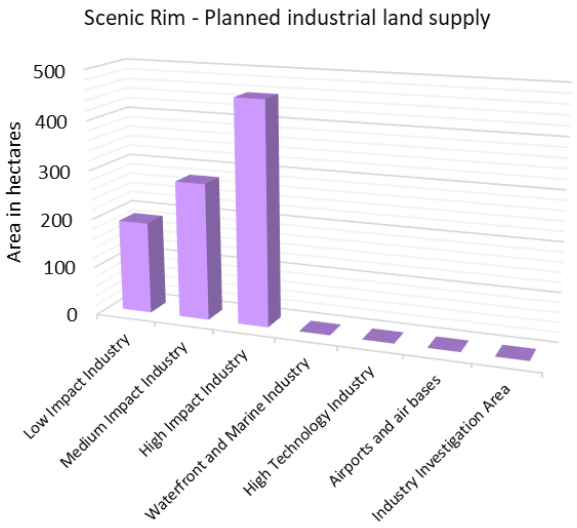
Planned industrial land supply/take-up – Scenic Rim

About 215 hectares of developed industrial land in Scenic Rim was taken up between 2011 and 2018. The take-up mostly occurred on land intended for high impact industry.

There were about 923 hectares of planned industrial land in Scenic Rim as at 2018. This planned industrial land comprised land intended for low, medium and high impact..

The 2019 planned industrial land estimate improves upon the estimate provided in the 2018 LSDM Report. It has been derived by trialling the application of the developability rules for determining the impact of constraints from the Developable Area best practice research in 2019.

For more detail about these improvements and planned industrial land and take-up, see the Best practice research and Technical notes.



This graph shows the number of hectares of planned industrial land as at 2018 by industrial land category.

Note: The planned industrial land measure identifies land that may be developable in the long term based on current zoning or intent and applicable constraints in a planning instrument. Much of this land will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry. Also, planned industrial land is a gross area which does not include any allowance for roads, infrastructure corridors, open space and the like.

DSDILGP notes ongoing improvements are required to continue to mature the industrial land monitoring. In partnership with stakeholders, DSDILGP will explore improved methods in 2020, building from the work undertaken in 2018 and 2019.

Planned industrial employment supply – Scenic Rim

The capacity and realistic availability of planned industrial employment supply in Scenic Rim provide the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figure represents the number of employees that could be supported by industrial developments that have been or could be approved, based on current planning intent, while the realistic availability figure provides a supply scenario that considers whether some of the capacity is not realistically available by 2041.

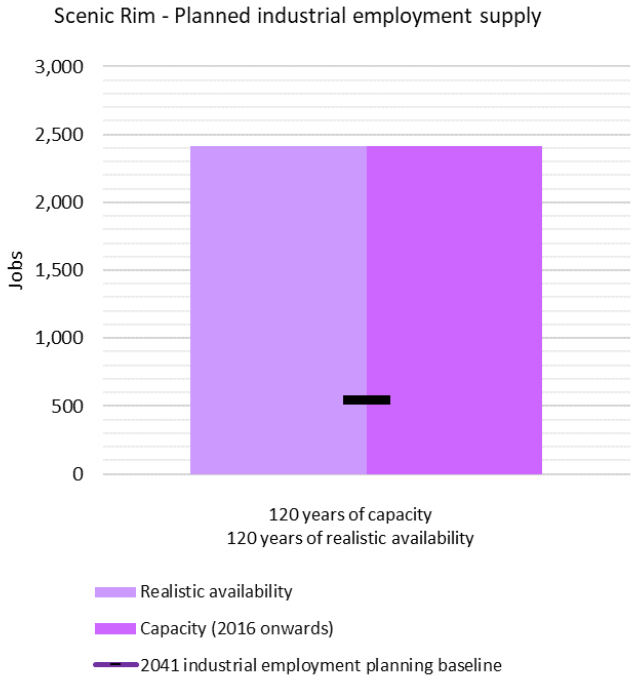
The realistic availability scenario considers factors that may constrain the availability of land for industrial development and employment. Such factors include constraints affecting the feasibility of development and lower than assumed employment densities.

The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the outcomes from the Developable Area best practice research in 2019 and a refined set of economic and developability criteria to estimate realistic availability in selected Major Enterprise and Industrial Areas. For more information about these improvements, see the Best practice research and Technical notes.

Both the capacity and realistic availability of planned industrial employment supply in Scenic Rim is about 2400 employees. These figures are much greater than the 2041 industrial employment planning baseline of about 500 employees. A large proportion of this supply is provided at the Bromelton State Development Area. Some excess of planned industrial employment supply may be appropriate to facilitate strategic economic development opportunities when they arise. This need was recognised by the Best practice research in the 2018 LSDM Report.

Scenic Rim Regional Council is preparing a new planning scheme which may affect planned industrial employment supply. Where the scheme proceeds, and source data is updated, its effect on planned industrial employment supply will be included in future years of LSDM Reporting.

For more detail about the calculation of planned industrial employment supply, see the Technical notes.



This graph shows the number of employees that could be supported by industrial developments, that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s 2041 industrial employment planning baseline.

Note: The planned industrial employment supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report. Much of the planned industrial employment supply will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry.

Somerset

Summary

ShapingSEQ 2017 establishes Somerset's population growth will require an additional 6200 dwellings between 2016 and 2041 through its dwelling supply benchmarks.

The capacity and realistic availability of planned dwelling supply in the Somerset expansion area provides more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

In recent years, dwelling approvals in Somerset have consistently been below the expansion average annual benchmark (there is no consolidation area in Somerset). Dwelling growth in Somerset may increase as the availability of local employment opportunities and services increases.

Housing diversity in Somerset has not changed, contrary to the *ShapingSEQ 2017* preferred future, however dwelling density is increasing in accordance with the *ShapingSEQ 2017*'s preferred future.

There are about 68 years of supply of uncompleted lot approvals in Somerset, which far exceeds the minimum four years of supply sought by *ShapingSEQ 2017*.

The capacity and realistic availability of planned industrial employment supply in Somerset provide more than the minimum 15 years of supply sought by *ShapingSEQ 2017* and exceeds the 2041 industrial employment planning baseline.

Residential – Somerset

Planned dwelling supply – Somerset

The capacity and realistic availability of planned dwelling supply in Somerset, which is wholly within the expansion area, provides more than the 15 years of supply minimum sought by *ShapingSEQ 2017*.

The capacity figure represents the number of dwellings that have been or could be approved, based on current planning intent, while the realistic availability figure provides a land supply scenario that considers whether some of the capacity is not realistically available by 2041.

The realistic availability scenario considers factors that may constrain the availability of land for development. Such factors may include infrastructure availability, land ownership fragmentation, landowner intent, practical staging of and capability for development, and the age of existing development.

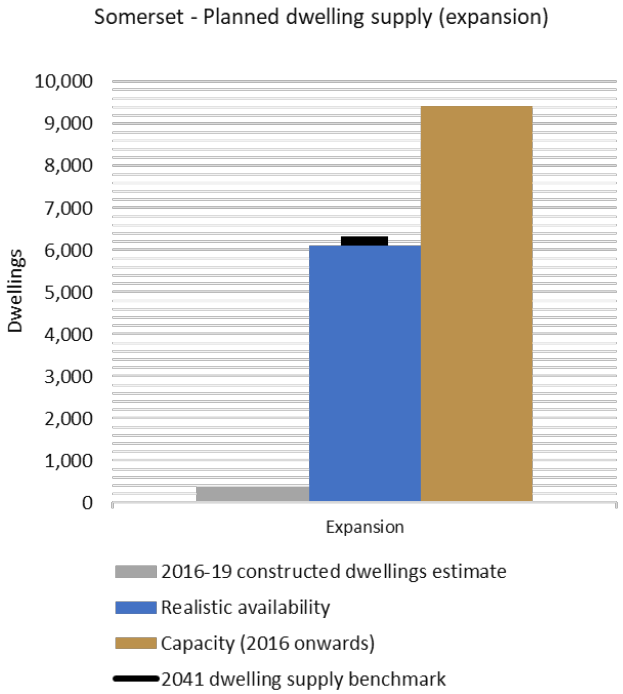
The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the Current Intent to Service layer from the Ability to Service best practice research in 2019, in combination with other updated data, to derive new estimates of the realistic availability of planned dwelling supply. This approach forms a foundation for improvement in future years of reporting. For more information about these improvements, see the Best practice research and Technical notes.

The capacity of planned dwelling supply in Somerset is about 9400 dwellings and exceeds the expansion 2041 dwelling supply benchmark of 6200 dwellings. The realistic availability of this supply

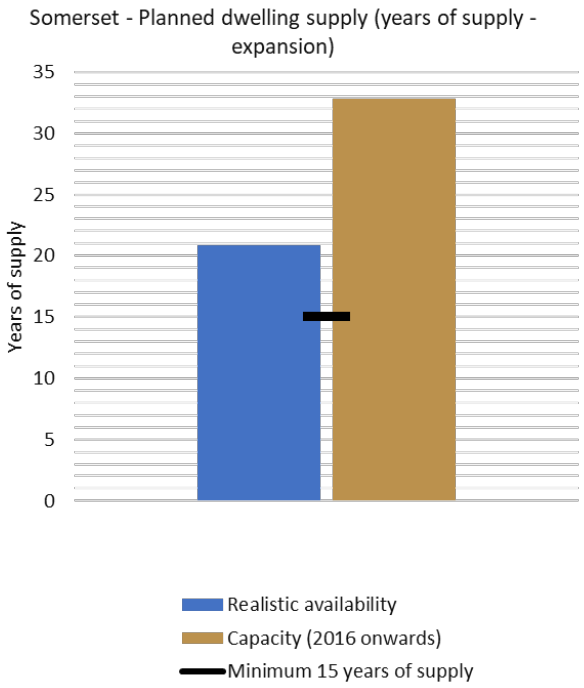
is about 6110 dwellings, equates to about 21 years of supply and is above *ShapingSEQ 2017*'s 15 years of supply policy objective.

Somerset Regional Council is preparing a planning scheme amendment which is expected to increase planned dwelling supply. Where the scheme proceeds, and source data is updated, its effect on planned dwelling supply will be included in future years of LSDM Reporting.

For more detail about the calculation of planned dwelling supply, including years of supply, see the Technical notes.



This graph shows the number of dwellings that have been or could be approved based on current planning intent compared against *ShapingSEQ 2017*'s dwelling supply benchmarks in expansion areas. To view fact sheets on the concept of realistic availability, click here.



This graph shows the number of years of supply of dwellings that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s minimum 15 years of supply policy objective in expansion areas.

Note: The planned dwelling supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report.

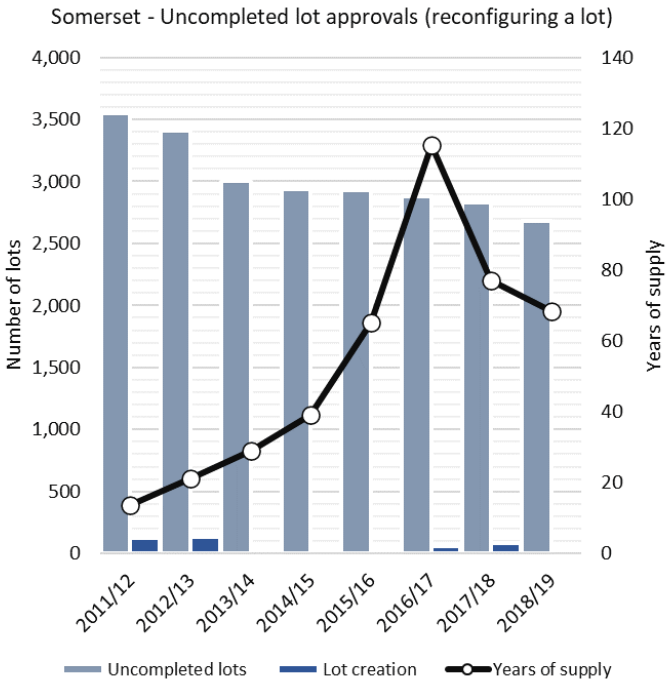
Approved supply – Somerset

Approved supply is measured by analysing uncompleted lot approvals across Somerset.

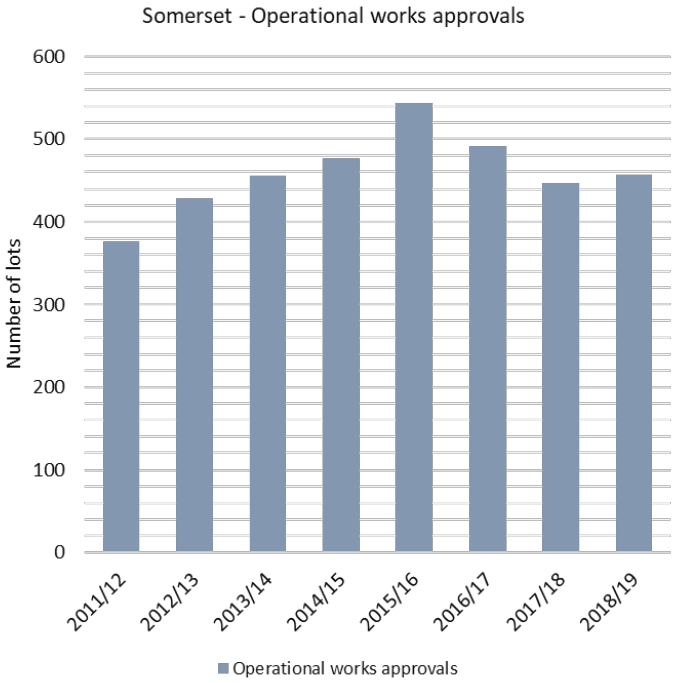
Somerset has about 68 years of supply of uncompleted lot approvals, which far exceeds the minimum four years of supply sought by *ShapingSEQ 2017*. However, the total number of uncompleted lot approvals has actually been declining slightly from 2011/12. The total number of uncompleted lot approvals for the 2018/19 period is 2682. Of the uncompleted lots, approximately 17 per cent have operational works approvals for the 2018/19 period. The very high years of supply figure is entirely due to the very low rate of lot creation in recent years.

There are no uncompleted multiple dwelling approvals to report for Somerset because it has no consolidation area.

For details of the calculation and comparability over time of the approved supply figures, refer to the Technical notes.



This graph shows the number of lots that have a development permit, but have not yet been certified (uncompleted lots) as at 30 June each year as well as the number of lots that have been created in the 12 months up to 30 June each year.



This graph shows the number of uncompleted lot approvals which also have operational works approvals as at 30 June each year.

Note: The years of supply for uncompleted lot approvals is determined by dividing the total number of uncompleted lots by the average annual lot certifications of the previous four years.

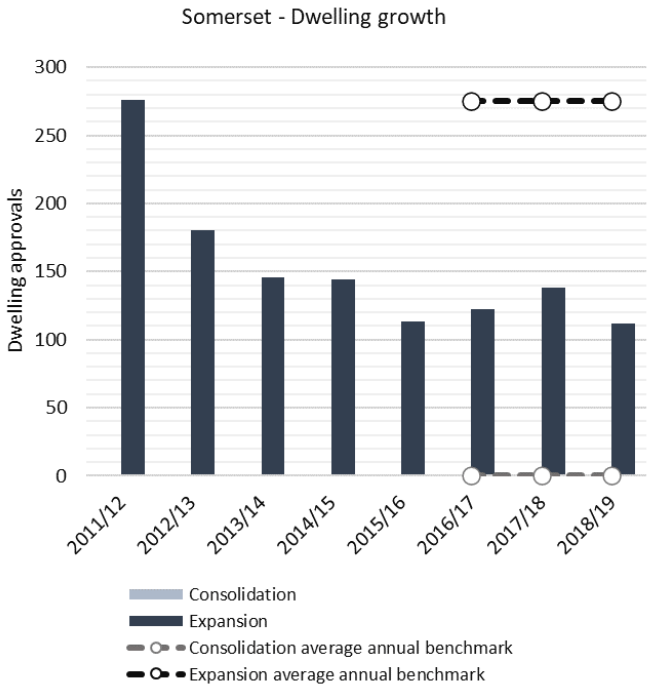
Dwelling growth – Somerset

The expansion area applies to the whole of Somerset, and this report indicates that there is more than 15 years of planned dwelling supply.

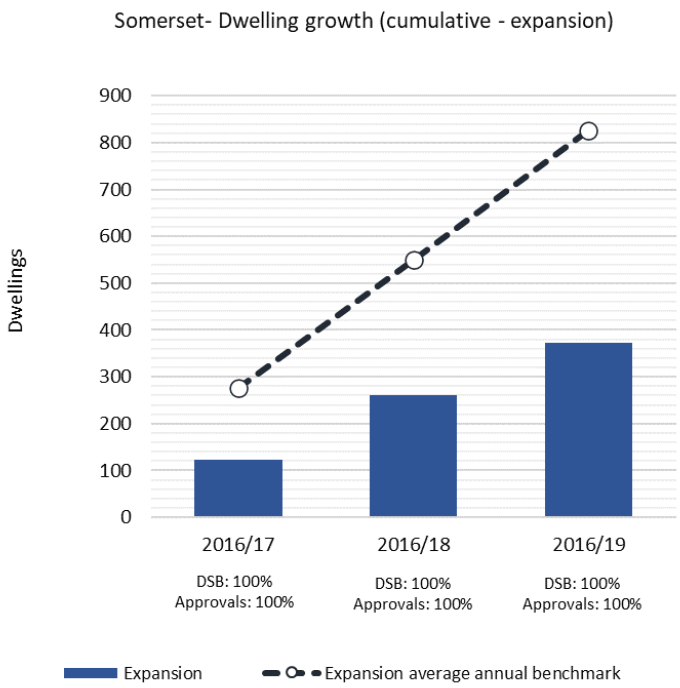
In recent years, dwelling approvals (used to measure dwelling growth) in Somerset have been consistently below the expansion average annual benchmarks. There were 112 dwelling approvals in Somerset's expansion area in 2018/19, which was about 160 dwellings less than the expansion average annual benchmark of 275 additional dwellings.

Dwelling growth in Somerset may increase as the availability of local employment opportunities and services increases.

For more information about improvements to the measurement of net growth over time, see Moving forward. For more detail about dwelling approvals, see the Technical notes.



This graph shows annual dwelling approvals compared against *ShapingSEQ 2017*'s average annual benchmark.



This graph shows the cumulative dwelling growth in the expansion area against *ShapingSEQ 2017*'s consolidation average annual benchmark.

Note: The average annual benchmark (2016 to 2031) has been adjusted since the 2018 Land Supply and Development Monitoring Report to reflect the growth rate of the most recent 2018 Queensland Government dwelling projections for SEQ. This adjustment has resulted in the average annual benchmark increasing marginally for the consolidation and expansion area in each local government. For more detail about the adjustment method and reasoning, see the Technical notes.

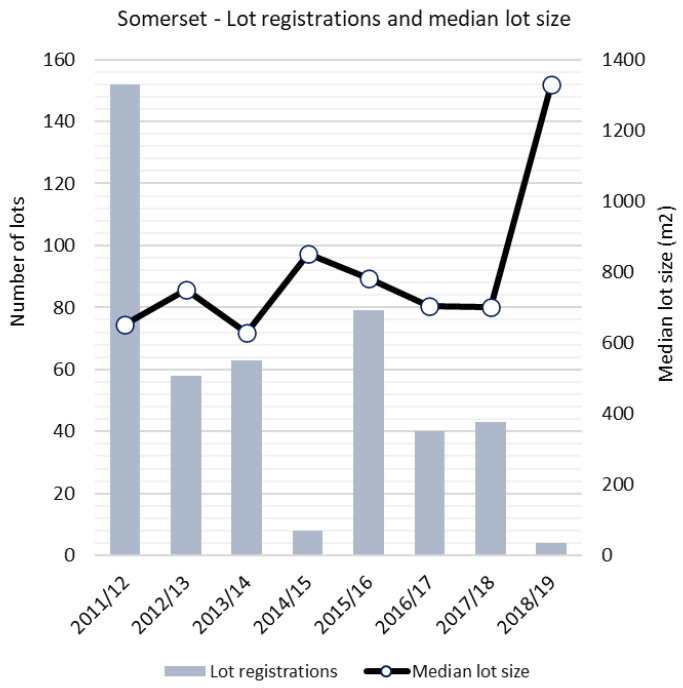
Changes in dwelling density – Somerset

Dwelling density (measured through median size of new lots and mean population-weighted dwelling density) is increasing in Somerset in accordance with the *ShapingSEQ 2017*Measures that Matter preferred future for higher dwelling densities and smaller lots.

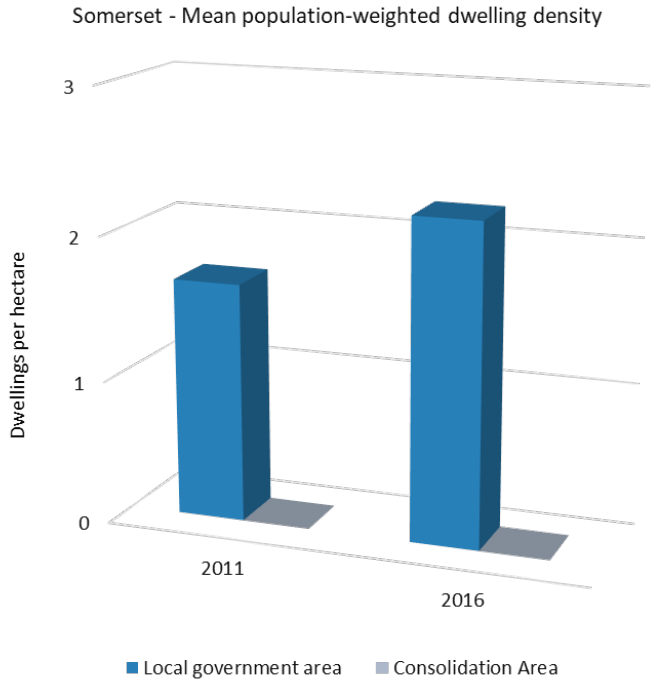
Mean population-weighted dwelling density in Somerset increased between 2011 and 2016, from 1.7 to 2.2 dwellings per hectare. This represents the average dwelling density at which the population of Somerset lives and is comparable to the net residential density as used by *ShapingSEQ 2017*.

Consistent with other rural local governments, there have been significant fluctuations in median size of new lots in Somerset between 2011/12 and 2018/19. This fluctuation may be related to the small number of lot registrations in Somerset over that period.

For more detail about the calculation of mean population-weighted dwelling density and median size of new lots, see the Technical notes.



This graph shows the number and median size of new lots registered annually.



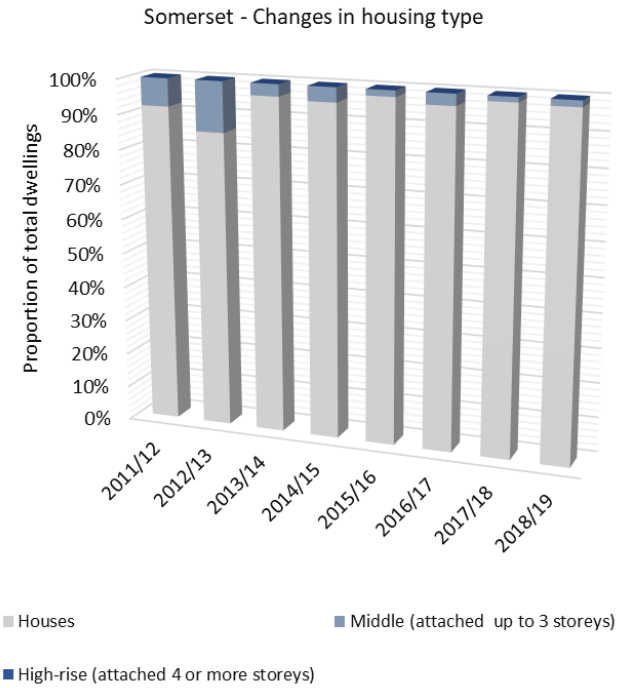
This graph shows the dwelling density (mean population-weighted dwelling density) at which people were living in 2011 and 2016.

Changes in housing type – Somerset

Housing in Somerset is predominantly houses in urban and rural residential environments, and recent dwelling approvals have been consistent with that characteristic.

The proportion of dwelling approvals for houses (98 per cent or 364 dwellings) and middle (two per cent or eight dwellings) for 2016/17 to 2018/19 was the same as for the existing dwelling stock as at the 2016 Census (houses 98 per cent, middle two per cent). There were no approvals for high-rise dwellings in Somerset between 2016-18.

For more detail about dwelling approvals, see the Technical notes.



This graph shows the proportion of dwelling approvals that are for houses, middle (attached dwellings up to three storeys) and high-rise (attached dwellings four storeys or more) annually.

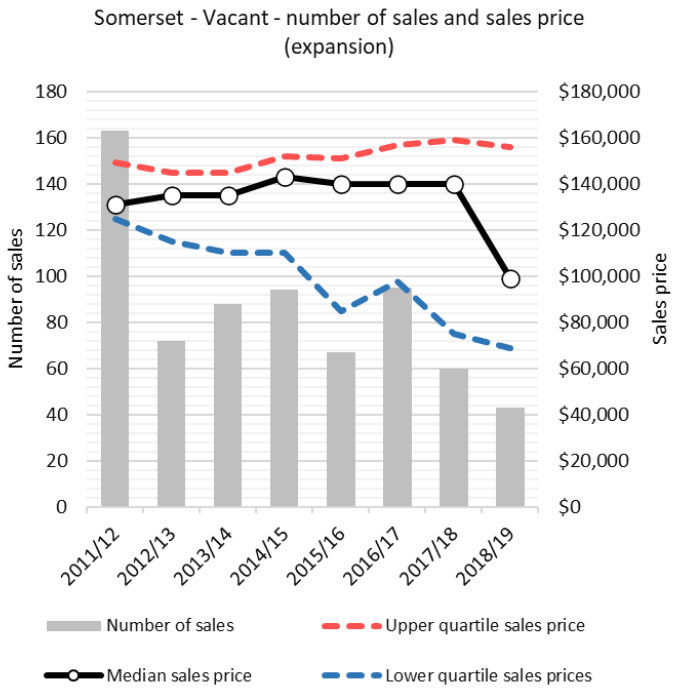
Sales and price – Somerset

Sales prices and the number of sales have only been reported for the expansion area because no consolidation area is identified for Somerset. Sales prices have also only been reported for years with 10 or more sales.

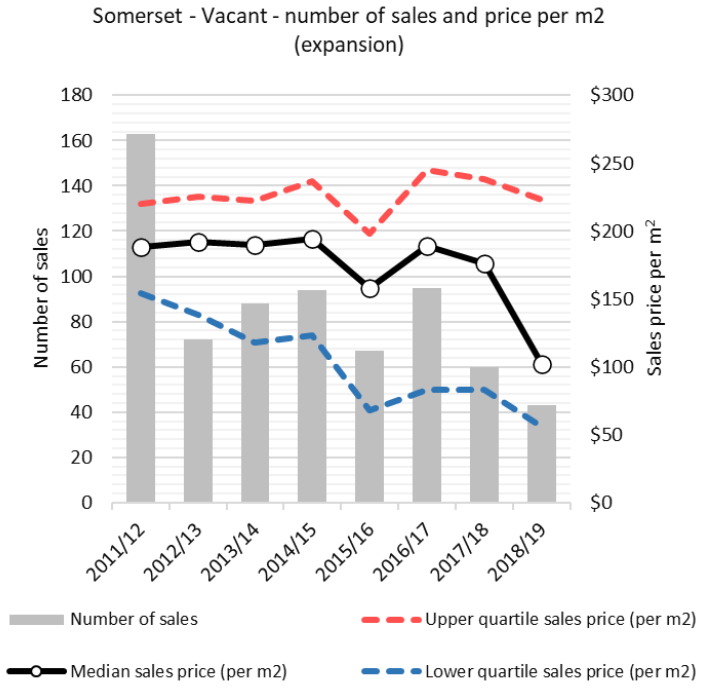
The number of sales has decreased from 2017/18 to 2018/19 for all categories in Somerset except attached dwellings which have remained the same. The low number of sales is typical for rural local government areas in South East Queensland (SEQ) and contributes to fluctuations in price from year to year.

The median sales price for all categories is lower in Somerset than for SEQ as a whole. The rate of growth from 2011/12 to 2018/19 in median sales price in all categories with a reported median price except house-land packages is also lower than for SEQ. The median sales price for attached dwellings and vacant lots (per lot and per square metre) declining.

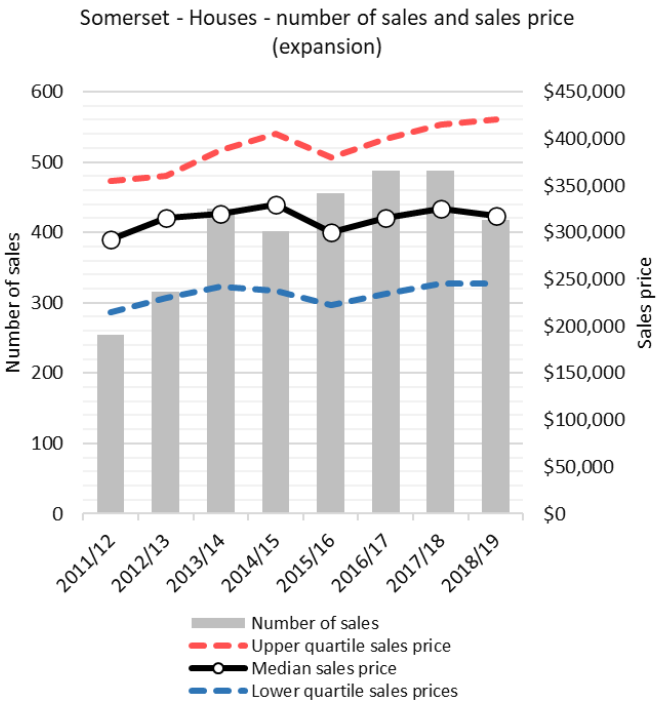
For more detail about the median sales price and number of sales, see the Technical notes.



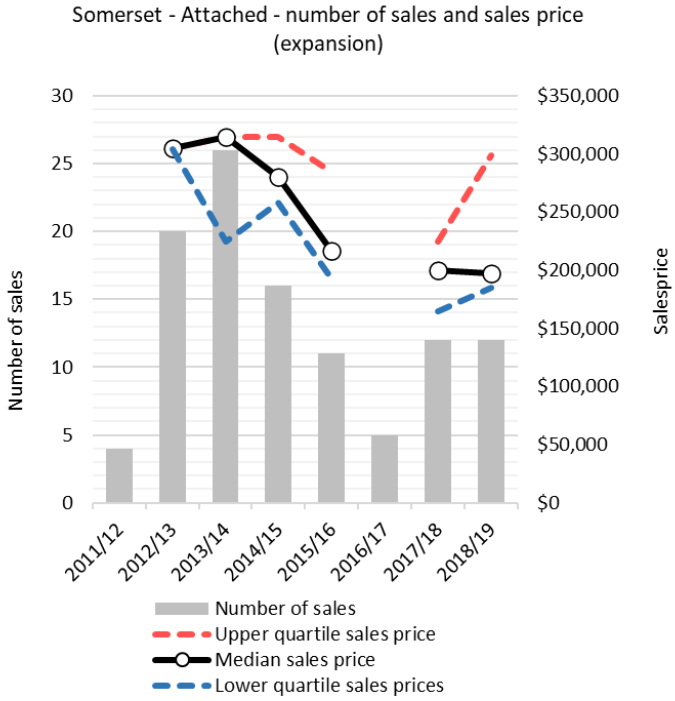
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the expansion area.



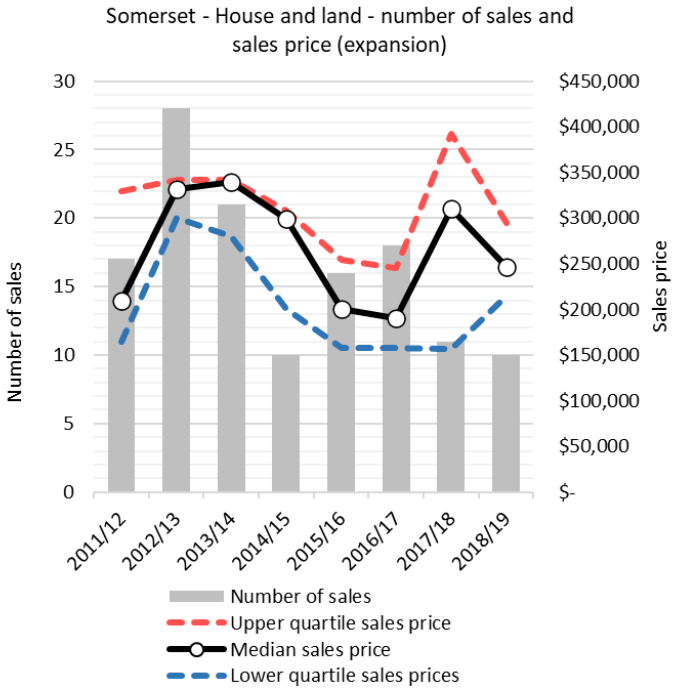
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the expansion area.



This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the expansion area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for attached dwellings in the expansion area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for house-land packages in the expansion area.

Industrial – Somerset

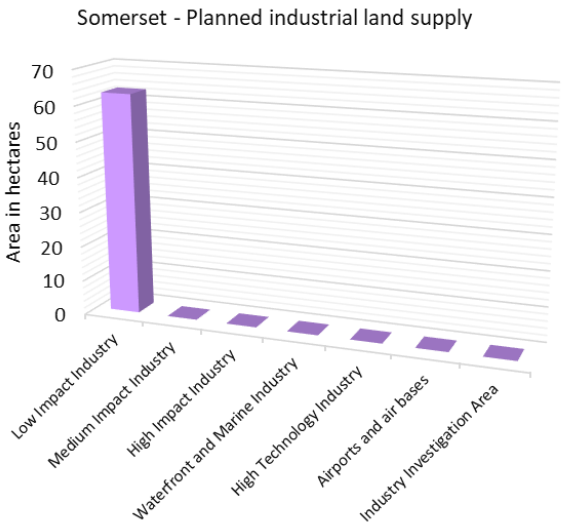
Planned industrial land supply/take-up – Somerset

The estimated take-up of developed industrial land between 2011 and 2018 in Somerset was about 0.4 hectares. The take-up occurred on land intended for low impact industry.

There were about 63 hectares of planned industrial land in Somerset as at 2018. This planned industrial land comprised land intended for low impact industry.

The 2019 planned industrial land estimate improves upon the estimate provided in the 2018 LSDM Report. It has been derived by trialling the application of the developability rules for determining the impact of constraints from the Developable Area best practice research in 2019.

For more detail about these improvements and planned industrial land and take-up, see the Best practice research and Technical notes.



This graph shows the number of hectares of planned industrial land as at 2018 by industrial land category.

Note: The planned industrial land measure identifies land that may be developable in the long term based on current zoning or intent and applicable constraints in a planning instrument. Much of this land will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry. Also, planned industrial land is a gross area which does not include any allowance for roads, infrastructure corridors, open space and the like.

The Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) notes ongoing improvements are required to continue to mature the industrial land monitoring. In partnership with stakeholders, DSDILGP will explore improved methods in 2020, building from the work undertaken in 2018 and 2019.

Planned industrial employment supply – Somerset

The capacity and realistic availability of planned industrial employment supply in Somerset provide the minimum 15 years of supply sought by *ShapingSEQ 2017*.

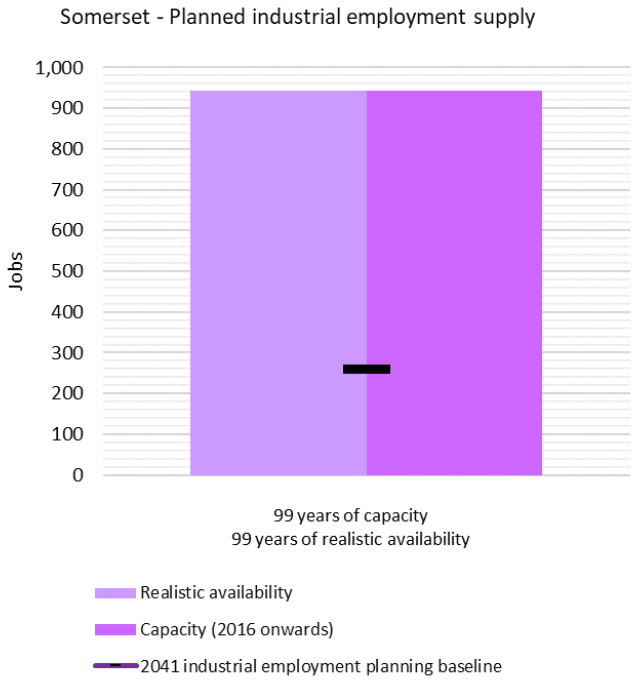
The capacity figure represents the number of employees that could be supported by industrial developments that have been or could be approved, based on current planning intent, while the realistic availability figure provides a supply scenario that considers whether some of the capacity is not realistically available by 2041.

The realistic availability scenario considers factors that may constrain the availability of land for industrial development and employment. Such factors include constraints affecting the feasibility of development and lower than assumed employment densities.

The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the outcomes from the Developable Area best practice research in 2019 and a refined set of economic and developability criteria to estimate realistic availability in selected Major Enterprise and Industrial Areas. For more information about these improvements, see the Best practice research and Technical notes.

Both the capacity and realistic availability of planned industrial employment supply is about 940 employees. These figures are distinctly greater than the 2041 industrial employment planning baseline of about 260 employees.

For more detail about the calculation of planned industrial employment supply, see the Technical notes.



This graph shows the number of employees that could be supported by industrial developments, that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s 2041 industrial employment planning baseline.

Note: The planned industrial employment supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report. Much of the planned industrial employment supply will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry.

Sunshine Coast

Summary

ShapingSEQ 2017 establishes that Sunshine Coast's population growth will require 87,000 additional dwellings between 2016 and 2041 through its dwelling supply benchmarks.

The capacity and realistic availability of planned dwelling supply in the Sunshine Coast expansion area provide more than the minimum 15 years of supply sought by *ShapingSEQ 2017*. However, the capacity of planned dwelling supply in the Sunshine Coast consolidation area is significantly less than the 2041 dwelling supply benchmark. Opportunities to increase the planned dwelling supply in the consolidation area may be facilitated through changes to the Sunshine Coast planning scheme, for example, through the potential densification of development around critical high-frequency public transport like the proposed Mass Transit Project.

Dwelling approvals in the Sunshine Coast expansion and consolidation areas have exceeded the expansion and consolidation average annual benchmarks in recent years. Dwelling approvals indicate a slightly lower proportion of houses and a higher proportion of high-rise relative to existing dwelling stock, in accordance with *ShapingSEQ 2017*'s preferred future. Dwelling density on the Sunshine Coast is also increasing in accordance with *ShapingSEQ 2017*'s preferred future.

There are about 2.4 years of supply of uncompleted lot approvals, which is below the minimum four years of supply sought by *ShapingSEQ 2017*. The high rate of lot creation in Sunshine Coast has contributed to the low years of supply figure. There are about 6.1 years of uncompleted multiple dwelling approvals in the Sunshine Coast consolidation area.

The capacity and realistic availability of planned industrial employment supply on the Sunshine Coast provide more than the minimum 15 years of supply sought by *ShapingSEQ 2017* and exceed the 2041 industrial employment planning baseline.

Residential – Sunshine Coast

Planned dwelling supply – Sunshine Coast

The capacity and realistic availability of planned dwelling supply in the Sunshine Coast consolidation and expansion areas provide the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figure represent the number of dwellings that have been or could be approved, based on current planning intent, while the realistic availability figure provides a land supply scenario that considers whether some of the capacity is not realistically available by 2041.

The realistic availability scenario considers factors that may constrain the availability of land for development. Such factors may include infrastructure availability, land ownership fragmentation, landowner intent, practical staging of and capability for development, and the age of existing development.

The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the Current Intent to Service layer from the Ability to Service Best practice research in 2019, in combination with other updated data, to derive new estimates of the realistic availability of planned

dwelling supply. This approach forms a foundation for improvement in future years of reporting. For more information about these improvements, see the Best practice research and Technical notes.

In the Sunshine Coast consolidation area, the capacity of planned dwelling supply is about 39,400 dwellings, about 14,000 less than the consolidation 2041 dwelling supply benchmark of 53,700.

In the Sunshine Coast expansion area, the capacity of planned dwelling supply is about 40,500 dwellings and above the expansion 2041 dwelling supply benchmark of 33,300 dwellings. The realistic availability of this supply is about 32,500 dwellings, which equates to about 19 years of supply and is above *ShapingSEQ 2017*'s 15 years of supply policy objective.

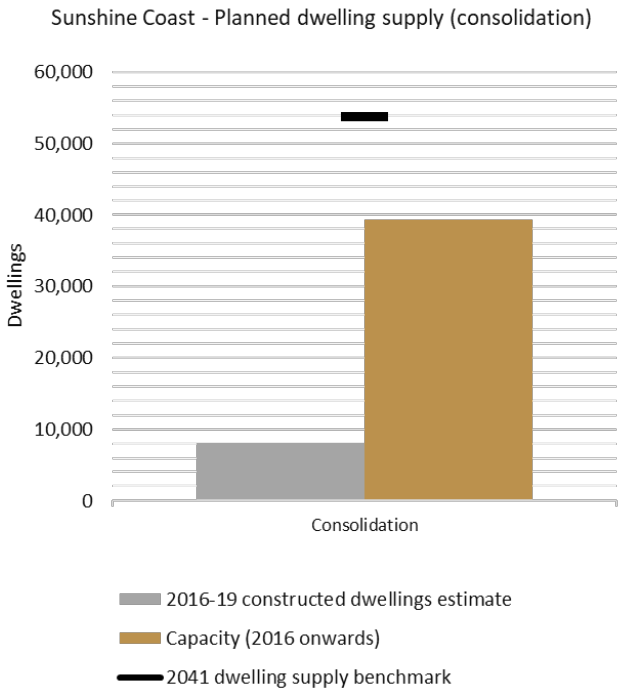
A substantial proportion of the expansion planned dwelling supply is provided by the Caloundra South Priority Development Area and the Palmview structure plan area. The Beerwah East Major Development Area may form a part of the Sunshine Coast's planned dwelling supply in the future. Realisation of the planned dwelling supply in Caloundra South and Palmview is expected to be supported over time by infrastructure delivered under existing infrastructure agreements.

Sunshine Coast Council's planning scheme identifies opportunities to increase the planned dwelling supply in the consolidation area. In particular, through potential densification of development in the Sunshine Coast Enterprise Corridor, including around critical high-frequency public transport being considered in the Sunshine Coast Mass Transit Project. Such planning scheme changes would contribute to addressing the identified shortfall in planned dwelling supply compared to the 2041 dwelling supply benchmark.

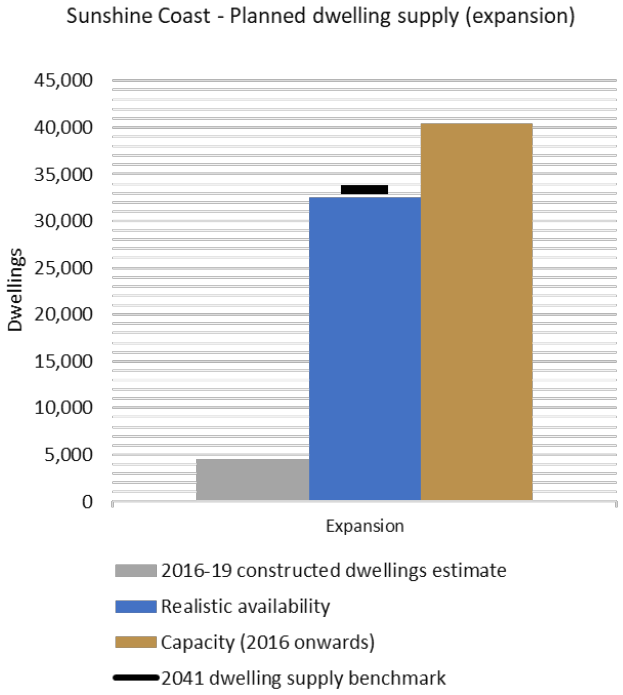
It is important to note there may be scope for additional consolidation planned dwelling supply under the current planning scheme, the Sunshine Coast Planning Scheme 2014, the scale of which was not able to be clearly determined from the available data. This may include additional yield that could be achieved in the Sunshine Coast Enterprise Corridor, even without future potential changes to the planning scheme to respond mass transit outcomes.

A number of planning and development scheme amendments in Sunshine Coast, either recently adopted or in process, are expected to increase planned dwelling supply overall. Where amendments proceed, and source data is updated, their effect on planned dwelling supply will be included in future years of LSDM Reporting.

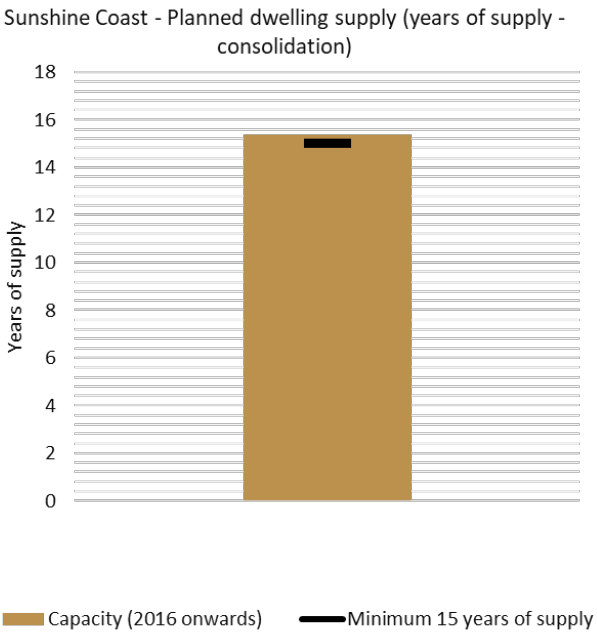
For more detail about the calculation of planned dwelling supply, including years of supply, and a list of planning and development scheme amendments either recently adopted or in process for the Sunshine Coast, see the Technical notes.



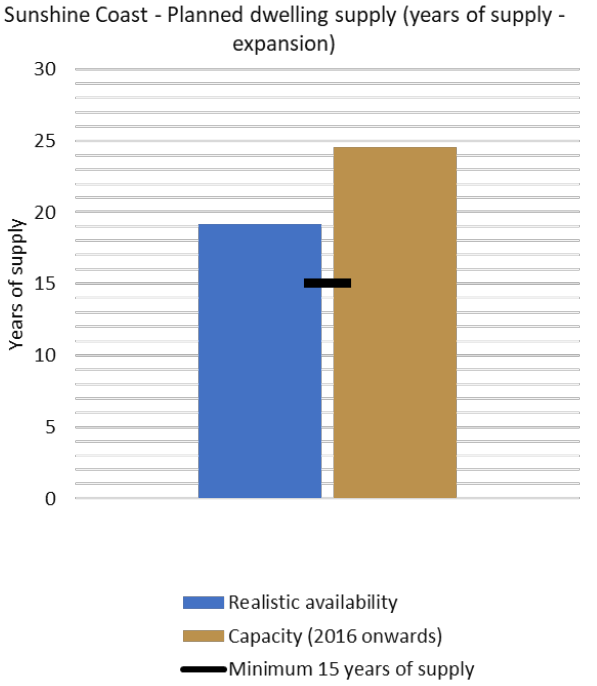
This graph shows the number of dwellings that have been or could be approved based on current planning intent compared against *ShapingSEQ 2017*'s dwelling supply benchmarks in consolidation areas.



This graph shows the number of dwellings that have been or could be approved based on current planning intent compared against *ShapingSEQ 2017*'s dwelling supply benchmarks in expansion areas. To view fact sheets on the concept of realistic availability, click here.



This graph shows the number of years of supply of dwellings that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s minimum 15 years of supply policy objective in consolidation areas.



This graph shows the number of years of supply of dwellings that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s minimum 15 years of supply policy objective in expansion areas.

Note: The planned dwelling supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local

governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report.

Approved supply – Sunshine Coast

Approved supply is measured by analysing uncompleted lot approvals and uncompleted multiple dwelling approvals across Sunshine Coast.

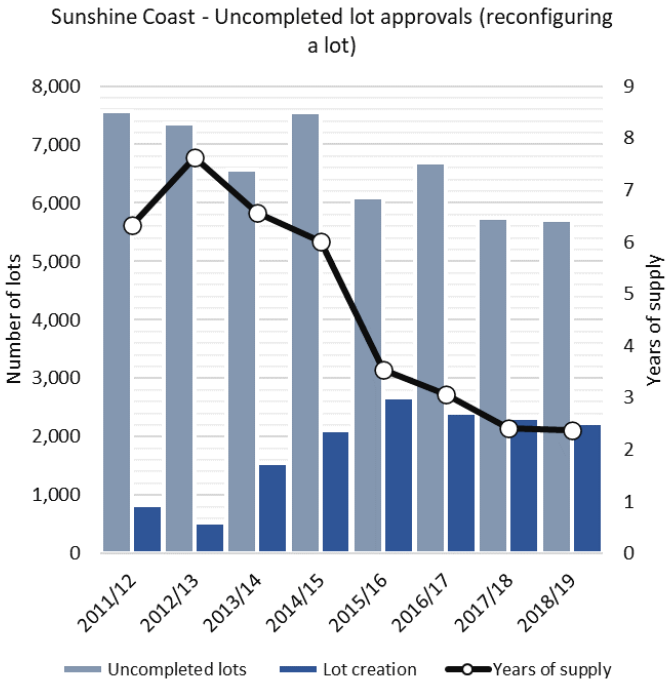
There are about 2.4 years of supply of uncompleted lot approvals in the Sunshine Coast consolidation and expansion areas overall, less than the minimum four years of supply sought by *ShapingSEQ 2017*. The high rate of lot creation in Sunshine Coast has contributed to the low years of supply figure. From 2011/12 to 2018/19, the total number of uncompleted lot approvals shows a general downward trend.

The total number of uncompleted lot approvals for the 2018/19 period is 5706. Of the uncompleted lots, approximately 71 per cent have operational works approvals for the 2018/19 period.

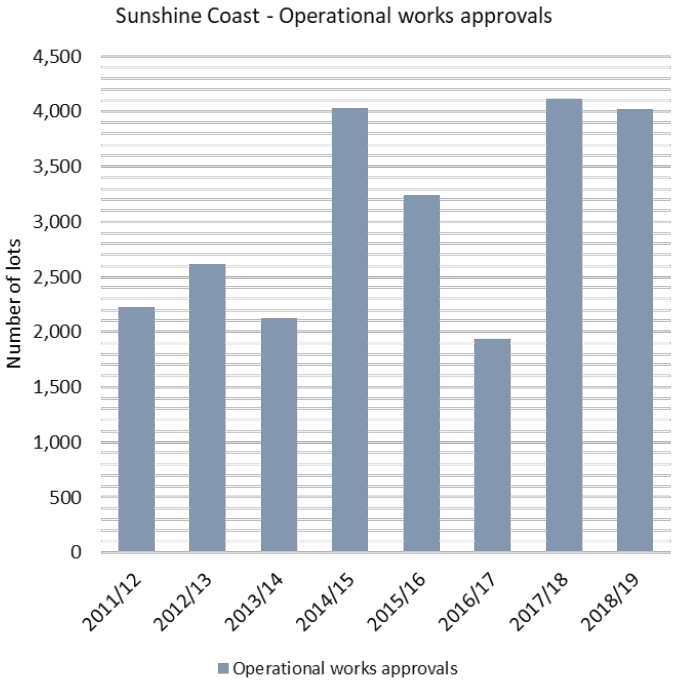
In contrast, the Sunshine Coast has about 6.1 years of supply of uncompleted multiple dwelling approvals in the consolidation area, which is above the minimum four years of supply sought by *ShapingSEQ 2017*. The June 2018 supply of multiple dwelling approvals on the Sunshine Coast is over two times the number reported as at June 2011.

The number of uncompleted multiple dwelling approvals increased from June 2018 to June 2019, but the years of supply has decreased because the rate of multiple dwelling construction increased from June 2018 to 2019, increasing the assumed level of demand in the years of supply calculation.

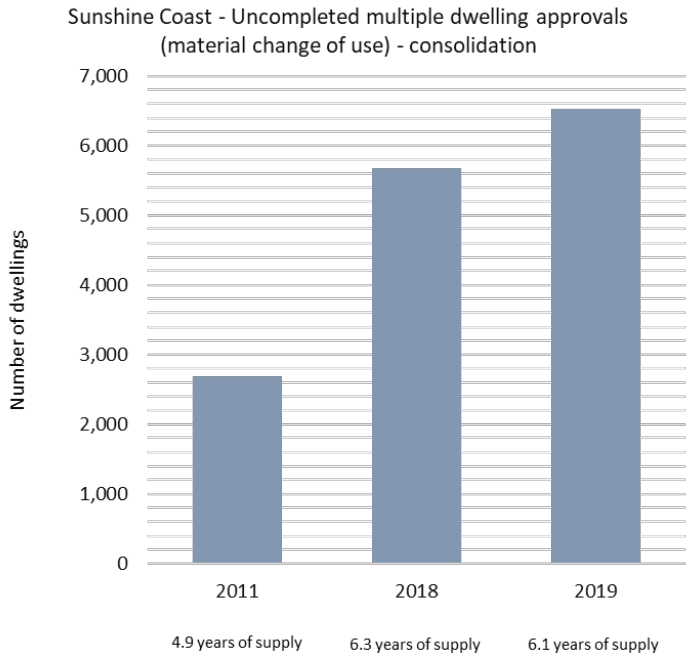
For details of the calculation and comparability over time of the approved supply figures, refer to the Technical notes.



This graph shows the number of lots that have a development permit, but have not yet been certified (uncompleted lots) as at 30 June each year as well as the number of lots that have been created in the 12 months up to 30 June each year.



This graph shows the number of uncompleted lot approvals which also have operational works approvals as at 30 June each year.



This graph shows the number of multiple dwellings that have a material change of use development permit but have not yet been constructed (uncompleted multiple dwellings) in the consolidation area as at 30 June 2011, 30 June 2018 and 30 June 2019.

Note: The years of supply for uncompleted multiple dwelling approvals is determined by dividing the total number of uncompleted multiple dwellings by the average annual attached dwelling building approvals of the previous four years. The years of supply for uncompleted lot approvals is determined by dividing the total number of uncompleted lots by the average annual lot certifications of the previous four years.

Dwelling growth – Sunshine Coast

In recent years, dwelling approvals (used to measure dwelling growth) on the Sunshine Coast have exceeded the average annual benchmark.

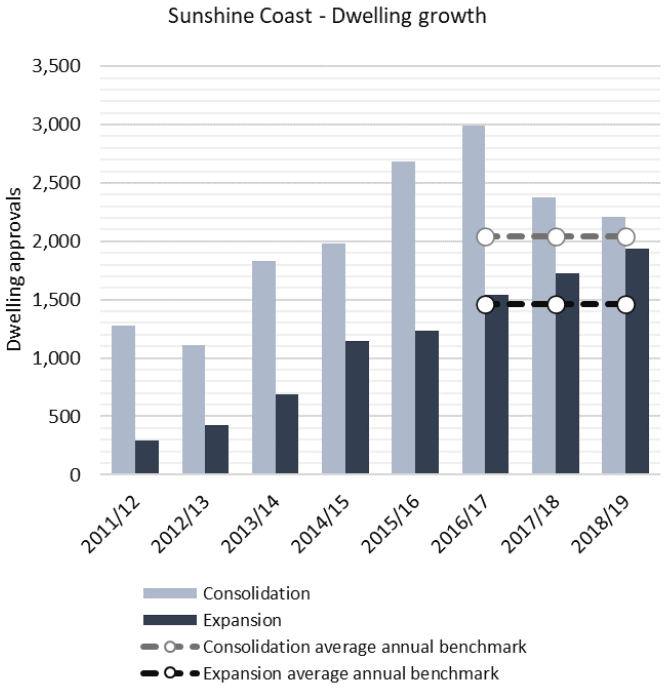
In 2018/19, there were 2209 dwelling approvals in the Sunshine Coast consolidation area, which was approximately 170 dwellings more than the consolidation average annual benchmark of 2041 additional dwellings. There were 1941 dwelling approvals in the Sunshine Coast expansion area in 2018/19, which was approximately 480 dwellings more than the expansion average annual benchmark of 1462 additional dwellings.

Approximately 59 per cent of dwelling approvals for 2016/17 to 2018/19 were in the Sunshine Coast's consolidation area, which is more than its expected share of dwelling growth to 2031 identified by *ShapingSEQ 2017* (58 per cent). Approximately 41 per cent of dwelling approvals were in the Sunshine Coast's expansion area over the same period, which is slightly less than its expected share of 42 per cent.

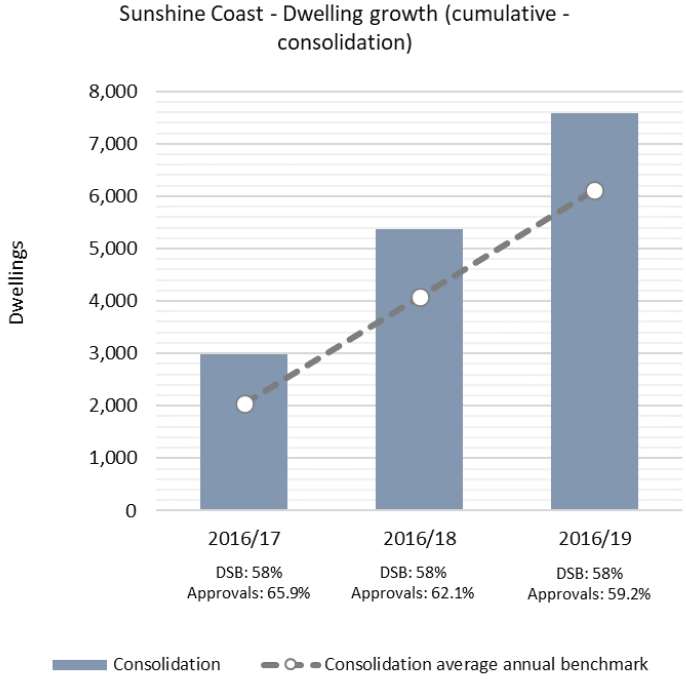
There has been sustained dwelling growth in the Sunshine Coast expansion area in recent years. This growth has been principally driven by the major growth fronts of the Caloundra South Priority Development Area and Palmview structure plan area. It is anticipated that this growth will be

maintained in coming years, which in turn may result in a higher proportion of expansion dwelling growth.

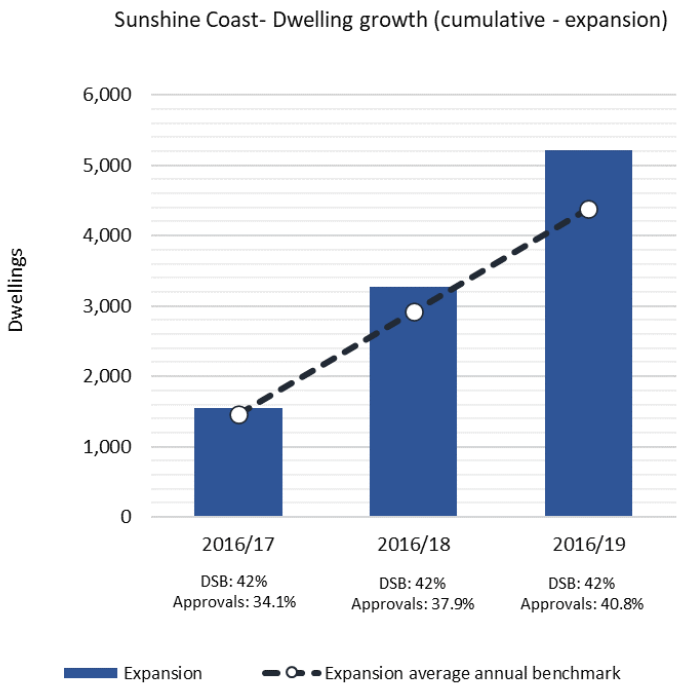
For more information about improvements to the measurement of net growth over time, see Moving forward. For more detail about dwelling approvals, see the Technical notes.



This graph shows annual dwelling approvals compared against *ShapingSEQ 2017*'s average annual benchmarks.



This graph shows the cumulative dwelling growth in the consolidation area against *ShapingSEQ 2017*'s consolidation average annual benchmark.



This graph shows the cumulative dwelling growth in the expansion area against *ShapingSEQ 2017*'s consolidation average annual benchmark.

Note: The average annual benchmark (2016 to 2031) has been adjusted since the 2018 Land Supply and Development Monitoring Report to reflect the growth rate of the most recent 2018 Queensland Government dwelling projections for SEQ. This adjustment has resulted in the average annual benchmark increasing marginally for the consolidation and expansion area in each local government. For more detail about the adjustment method and reasoning, see the Technical notes.

Changes in dwelling density – Sunshine Coast

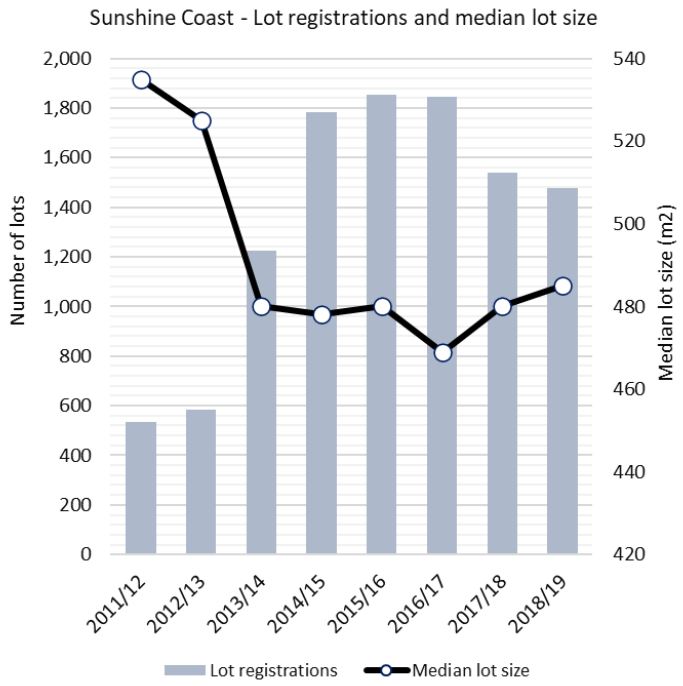
Dwelling density (measured through median size of new lots and mean population-weighted dwelling density) is increasing on the Sunshine Coast in accordance with the *ShapingSEQ 2017*Measures that Matter preferred future for higher dwelling densities and smaller lots.

Mean population-weighted dwelling density on the Sunshine Coast increased between 2011 and 2016, from 10.5 to 11.3 dwellings per hectare. This represents the average dwelling density at which the population of the Sunshine Coast lives and is comparable to the net residential density as used by *ShapingSEQ 2017*. In the consolidation area, mean population-weighted dwelling density increased from 13.4 to 14.2 dwellings per hectare.

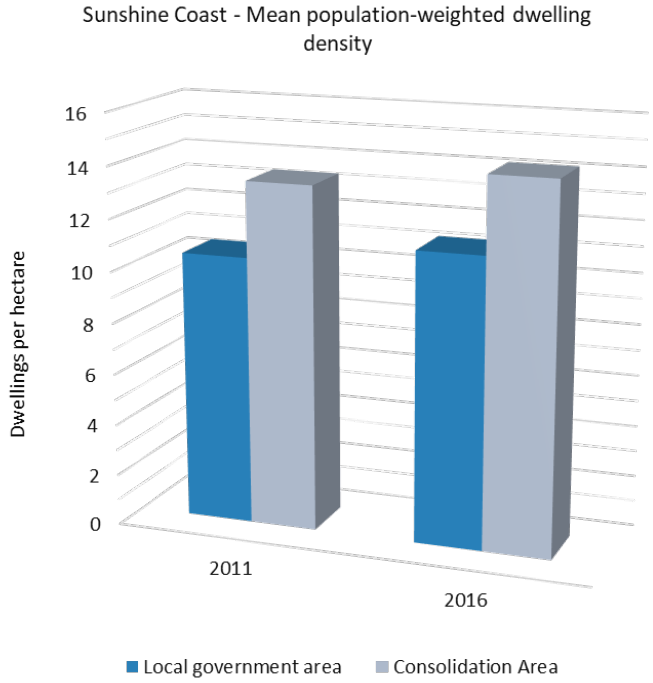
The median size of new lots on the Sunshine Coast decreased from 535m^2 to 485m^2 from 2011/12 to 2018/19. This was associated with a larger number of new lot registrations in recent years. This measure is indicative of increased dwelling densities in new urban subdivisions on the Sunshine Coast.

Sunshine Coast's planning scheme has supported higher planned densities and allowed smaller lots over time, as have planning instruments such as the Caloundra South and Maroochydore City Centre development schemes and the Palmview and Kawana Waters structure plans.

For more detail about the calculation of mean population-weighted dwelling density and median size of new lots, see the Technical notes.



This graph shows the number and median size of new lots registered annually.



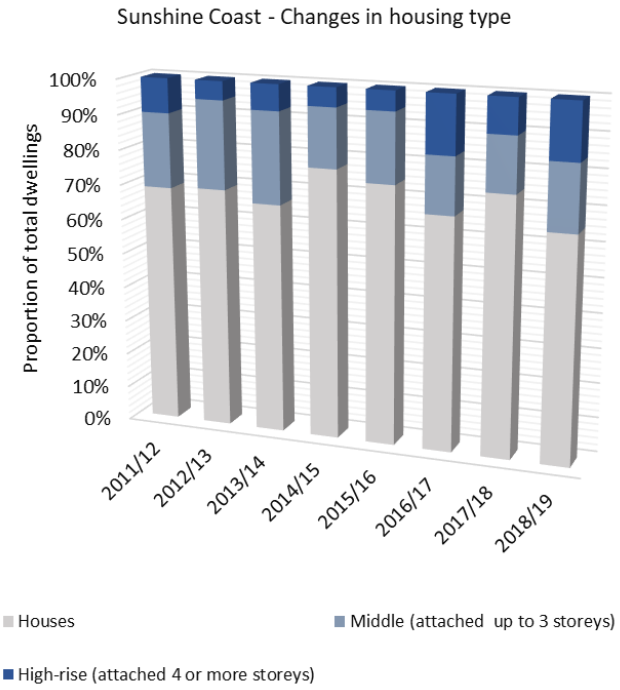
This graph shows the dwelling density (mean population-weighted dwelling density) at which people were living in 2011 and 2016.

Changes in housing type – Sunshine Coast

Recent dwelling approvals have indicated a slightly lower proportion of houses and a higher proportion of high-rise on the Sunshine Coast than at the 2016 Census. This is consistent with the *ShapingSEQ 2017*Measures that Matter preferred future.

Sixty-nine per cent (8784 dwellings) of all new dwelling approvals on the Sunshine Coast for 2016/17 to 2018/19 were for houses, which was slightly less than their proportion of the existing dwelling stock (72 per cent as at the 2016 Census). The proportion of dwelling approvals for high-rise (14 per cent or 1836 dwellings) exceeded existing dwelling stock as at the 2016 Census (seven per cent). However, dwelling approvals for middle (17 per cent or 2168) were proportionately less than the share of existing dwellings as at the 2016 Census (21 per cent).

For more detail about dwelling approvals, see the Technical notes.



This graph shows the proportion of dwelling approvals that are for houses, middle (attached dwellings up to three storeys) and high-rise (attached dwellings four storeys or more) annually.

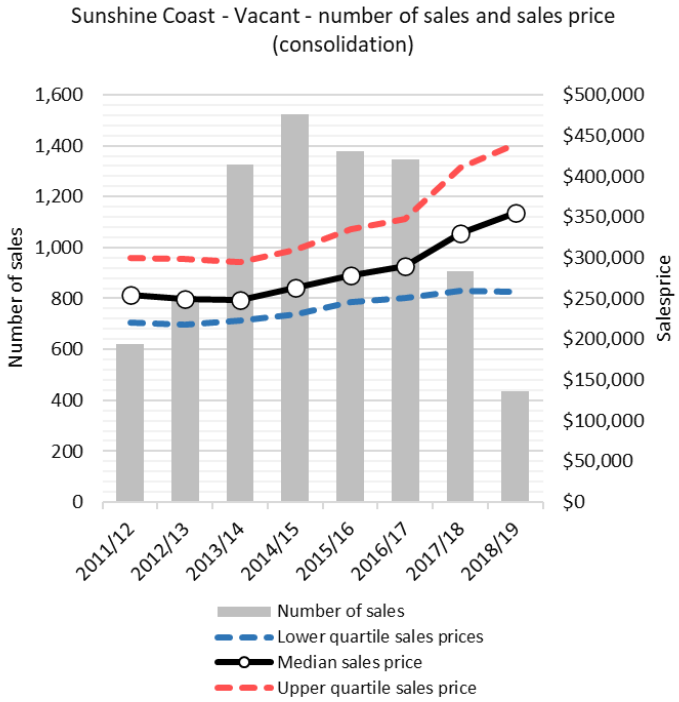
Sales and price – Sunshine Coast

The number of sales has decreased from 2017/18 to 2018/19 for all categories on the Sunshine Coast.

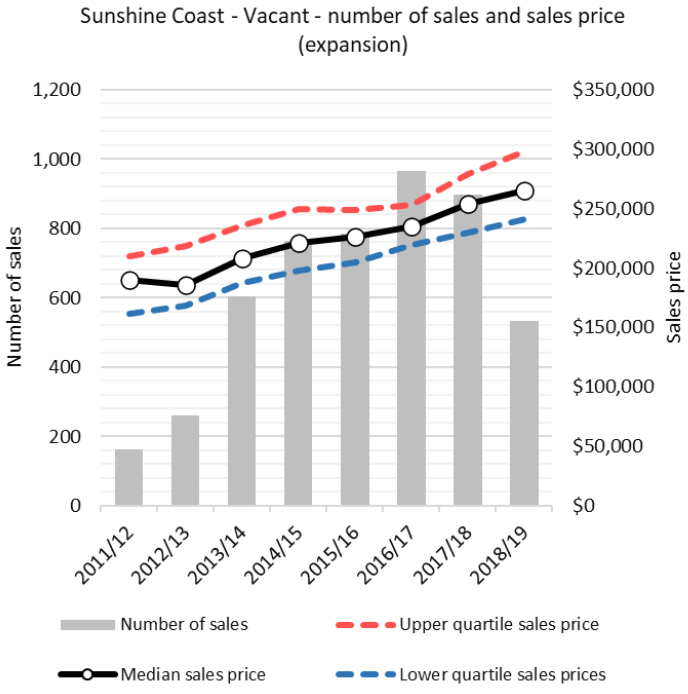
The median sales price for all categories is higher or similar in Sunshine Coast than South East Queensland (SEQ) as a whole. The rate of median price growth for all categories between 2011/12 and 2018/19 was also higher or similar in Sunshine Coast than SEQ.

Median price growth was higher or similar in the consolidation area than the expansion area for all categories except vacant lots per square metre. Vacant lots in the expansion area experienced the highest price growth, increasing by 40 per cent per lot and 130 per square metre between 2011/12 and 2018/19.

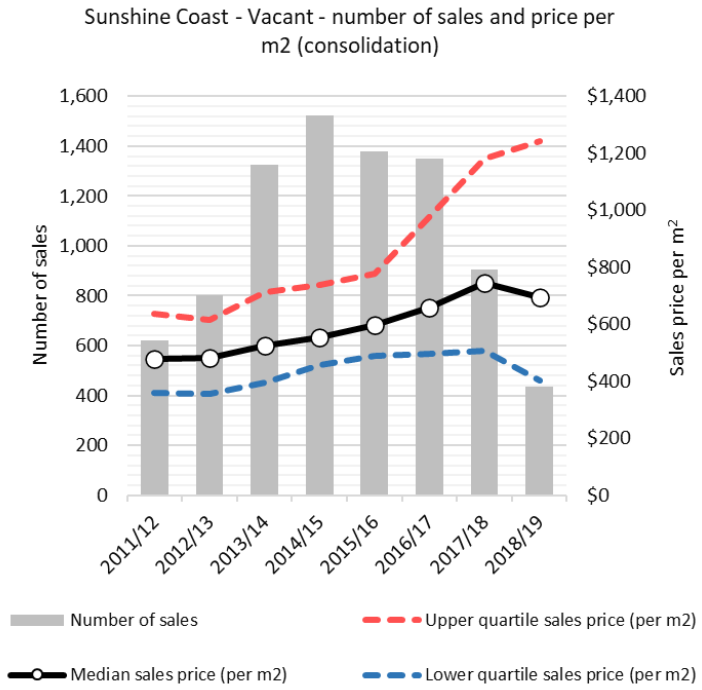
For more detail about the median sales price and number of sales, see the Technical notes.



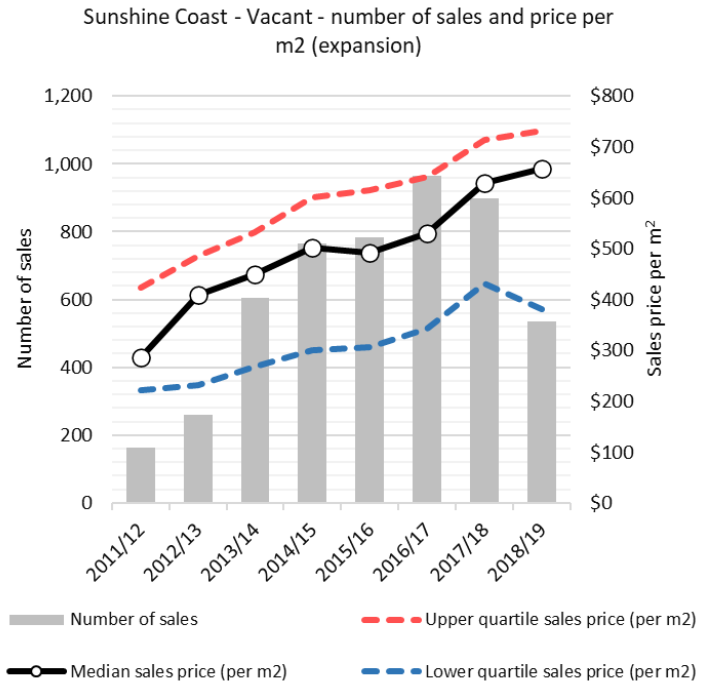
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the consolidation area.



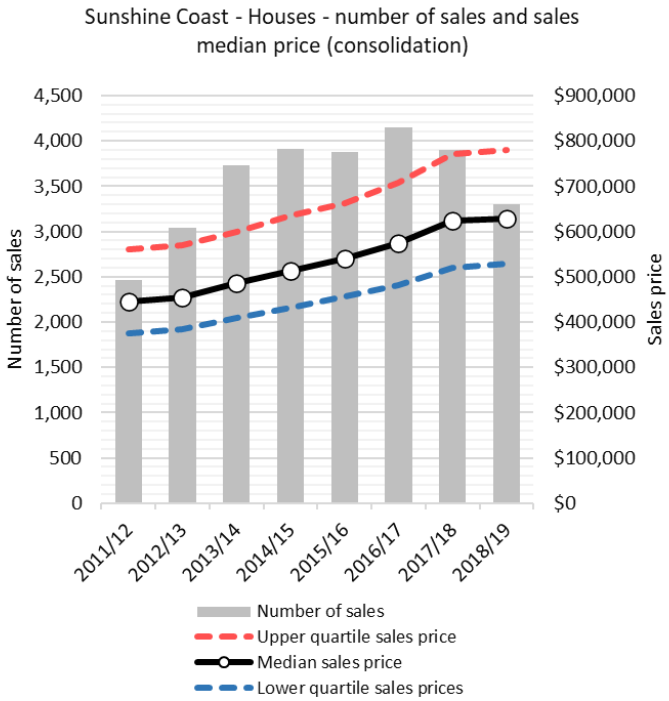
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the expansion area.



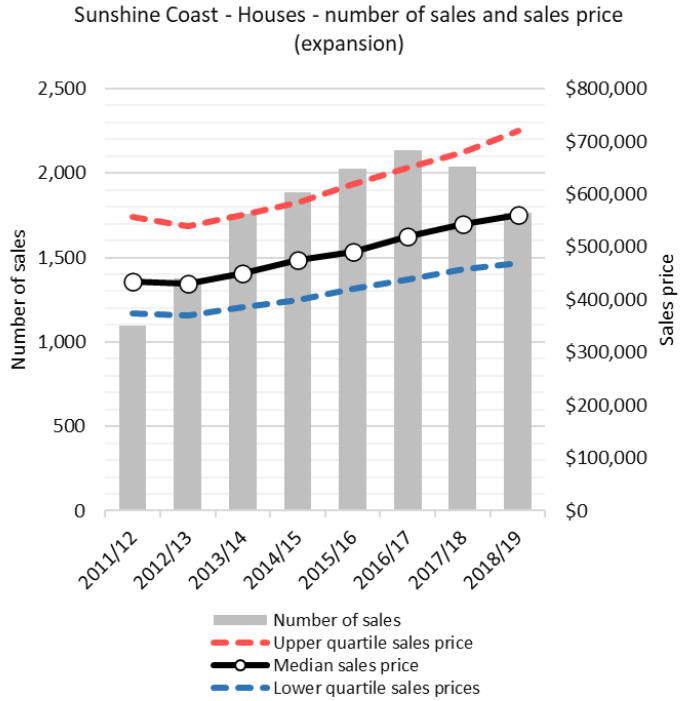
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the consolidation area.



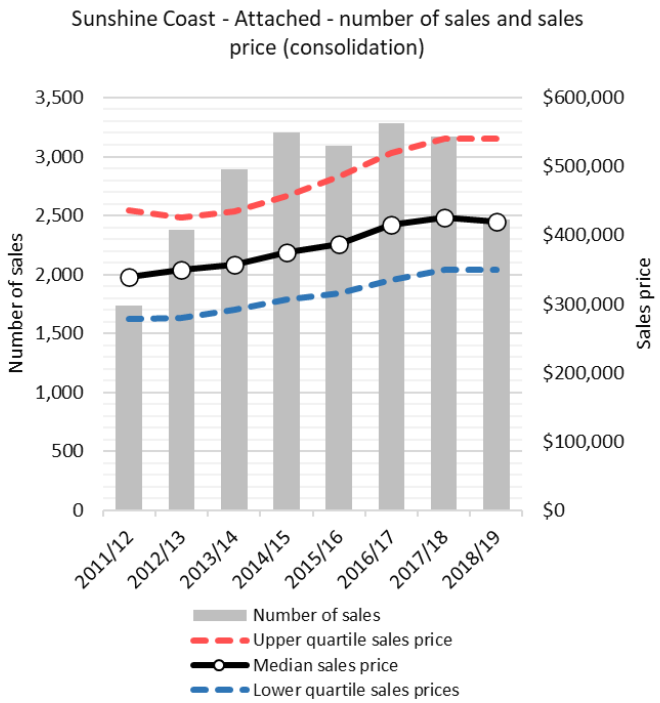
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the expansion area.



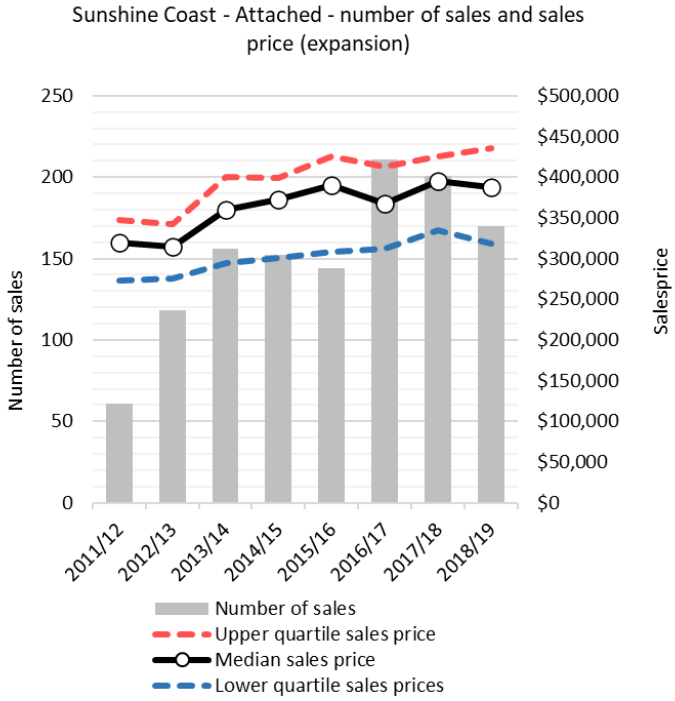
This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the consolidation area.



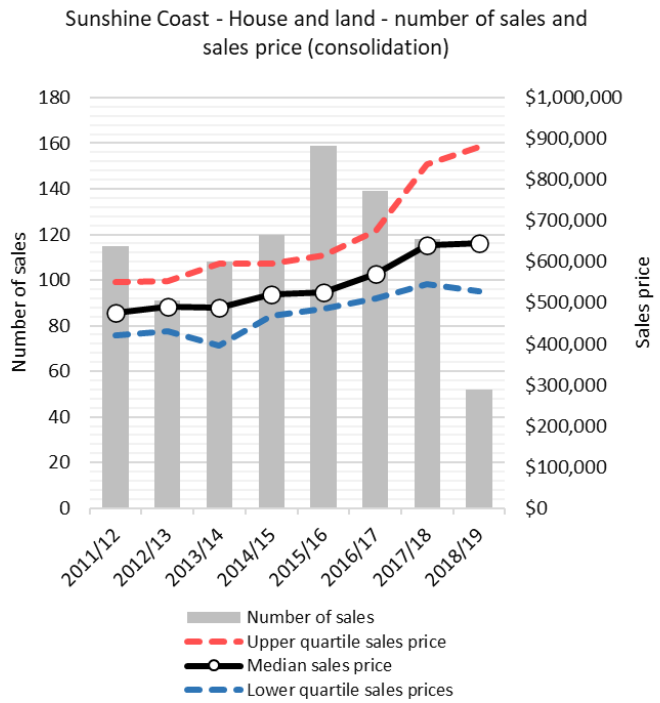
This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the expansion area.



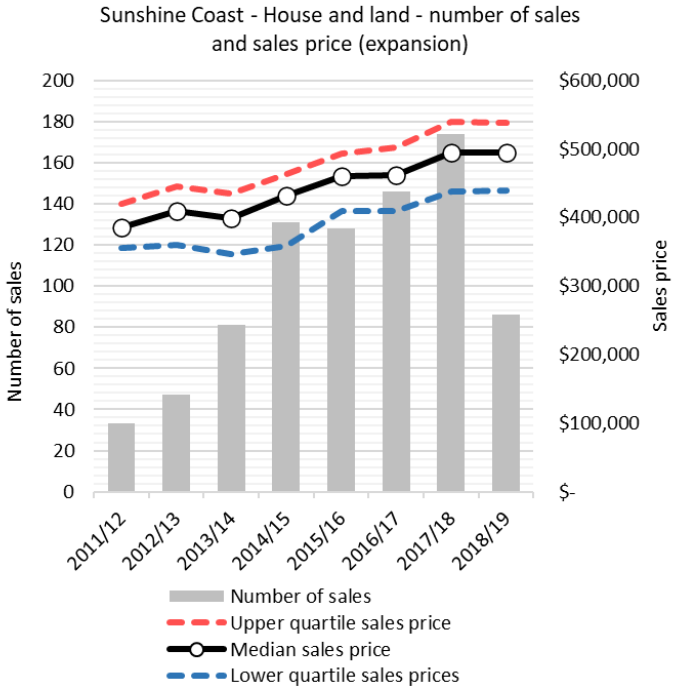
This graph shows the number of sales and the lower, median and upper quartile sales price for attached dwellings in the consolidation area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for attached dwellings in the expansion area.



This graph shows the number of sales and the lower, median and upper quartile sales price for house-land packages in the consolidation area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for house-land packages in the expansion area.

Industrial – Sunshine Coast

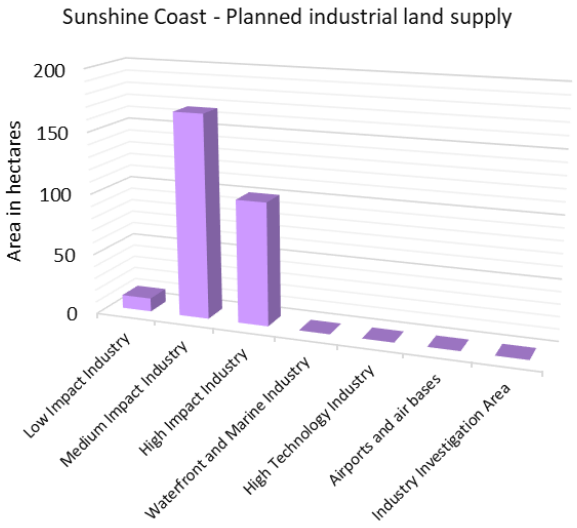
Planned industrial land supply/take-up – Sunshine Coast

The estimated take-up of developed industrial land between 2011 and 2018 on the Sunshine Coast was about 71 hectares. The take-up occurred on land intended for low, medium and high impact industry.

There were about 279 hectares of planned industrial land on the Sunshine Coast as at 2018. This planned industrial land comprised land intended for low, medium and high impact industry.

The 2019 planned industrial land estimate improves upon the estimate provided in the 2018 LSDM Report. It has been derived by trialling the application of the developability rules for determining the impact of constraints from the Developable Area best practice research in 2019.

For more detail about these improvements and planned industrial land and take-up, see the Best practice research and Technical notes.



This graph shows the number of hectares of planned industrial land as at 2018 by industrial land category.

Note: The planned industrial land measure identifies land that may be developable in the long term based on current zoning or intent and applicable constraints in a planning instrument. Much of this land will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry. Also, planned industrial land is a gross area which does not include any allowance for roads, infrastructure corridors, open space and the like.

The Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) notes ongoing improvements are required to continue to mature the industrial land monitoring. In partnership with stakeholders, DSDILGP will explore improved methods in 2020, building from the work undertaken in 2018 and 2019.

Planned industrial employment supply – Sunshine Coast

The capacity and realistic availability of planned industrial employment supply on the Sunshine Coast provide the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figure represents the number of employees that could be supported by industrial developments that have been or could be approved, based on current planning intent, while the realistic availability figure provides a supply scenario that considers whether some of the capacity is not realistically available by 2041.

The realistic availability scenario considers factors that may constrain the availability of land for industrial development and employment. Such factors include constraints affecting the feasibility of development and lower than assumed employment densities.

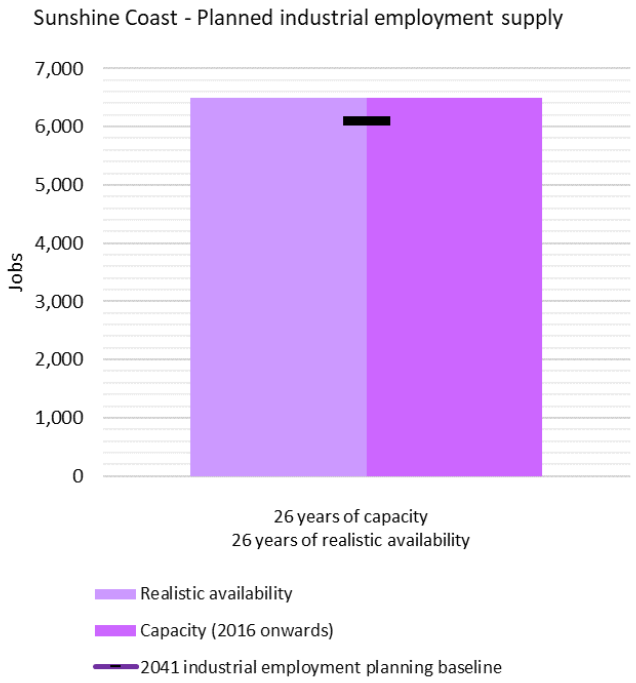
The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the outcomes from the Developable Area best practice research in 2019 and a refined set of economic and developability criteria to estimate realistic availability in selected Major Enterprise and Industrial Areas. For more information about these improvements, see the Best practice research and Technical notes.

The capacity of planned industrial employment supply on the Sunshine Coast is about 6500 employees. The realistic availability of this supply is also about 6500 employees. These figures represent about 26 years of supply and are above the 2041 industrial employment planning baseline of about 6100 employees.

The realisation of this planned industrial employment supply on the Sunshine Coast may be supported by the Beerburrum to Nambour Rail Upgrade Project, which is anticipated to relieve pressure on the strategic road network and improve freight efficiency.

Recently adopted planning scheme amendments in Sunshine Coast may affect planned industrial employment supply. Where data sources are updated, their effect on industrial employment supply will be included in future years of LSDM Reporting.

For more detail about the calculation of planned industrial employment supply, see the Technical notes.



This graph shows the number of employees that could be supported by industrial developments, that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s 2041 industrial employment planning baseline.

Note: The planned industrial employment supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report. Much of the planned industrial employment supply will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry.

Toowoomba (urban extent)

Summary

ShapingSEQ 2017 establishes Toowoomba's population growth will require an 20,300 additional dwellings between 2016 and 2041 through its dwelling supply benchmarks.

The capacity and realistic availability of planned dwelling supply provide more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

Dwelling approvals in the Toowoomba (urban extent) have exceeded the expansion and consolidation average annual benchmarks in recent years except for expansion growth in 2018/19. Housing in the Toowoomba (urban extent) is becoming more diverse and dwelling density is increasing in accordance with *ShapingSEQ 2017*'s preferred future.

There are about 6.7 years of supply of uncompleted lot approvals in the Toowoomba (urban extent) and about 4.2 years of supply of uncompleted multiple dwelling approvals in the Toowoomba (urban extent) consolidation area, which provide the minimum four years of supply sought by *ShapingSEQ 2017*.

The capacity and realistic availability of planned industrial employment supply in the Toowoomba (urban extent) provide more than the minimum 15 years of supply sought by *ShapingSEQ 2017* and exceed the 2041 industrial employment planning baseline.

Residential – Toowoomba (urban extent)

Planned dwelling supply – Toowoomba (urban extent)

The capacity and realistic availability of planned dwelling supply in the Toowoomba (urban extent) consolidation and expansion areas provides more than the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figures represent the number of dwellings that have been or could be approved, based on current planning intent, while the realistic availability figure provides a land supply scenario that considers whether some of the capacity is not realistically available by 2041.

The realistic availability scenario considers factors that may constrain the availability of land for development. Such factors may include infrastructure availability, land ownership fragmentation, landowner intent, practical staging of and capability for development, and the age of existing development.

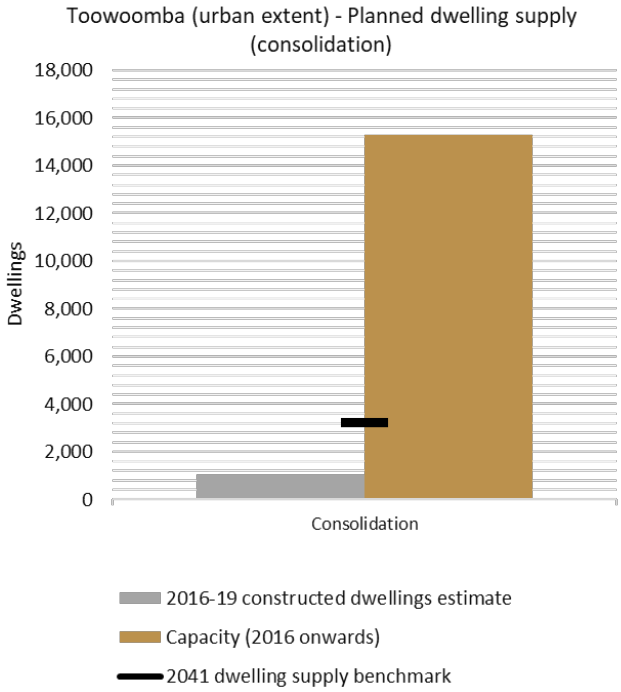
The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the Current Intent to Service layer from the Ability to Service best practice research in 2019, in combination with other updated data, to derive new estimates of the realistic availability of planned dwelling supply. This approach forms a foundation for improvement in future years of reporting. For more information about these improvements, see the Best practice research and Technical notes.

In the Toowoomba (urban extent) consolidation area, the capacity of planned dwelling supply is about 15,300, which is significantly above the consolidation 2041 dwelling supply benchmark of 3200 dwellings.

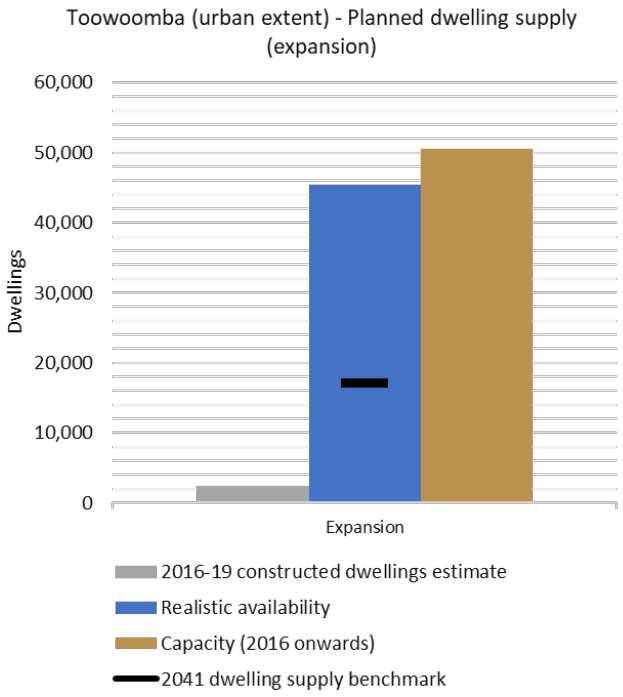
Similarly, in the Toowoomba (urban extent) expansion area, the capacity and realistic availability of planned dwelling supply are greatly above the expansion 2041 dwelling supply benchmark of 17,100 dwellings.

Planning scheme amendments are in process in Toowoomba that may affect planning dwelling supply. Where amendments proceed, and source data is updated, their effect on planned dwelling supply will be included in future years of LSDM Reporting.

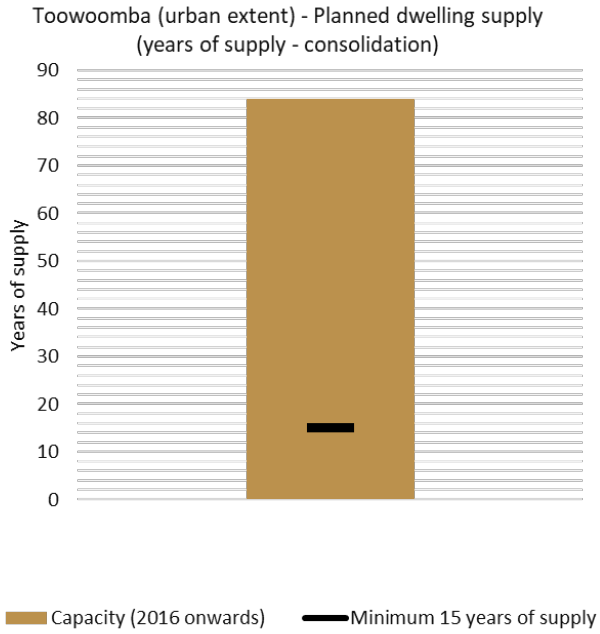
For more detail about the calculation of planned dwelling supply, including years of supply, and a list of planning scheme amendments either recently adopted or in process for Toowoomba, see the Technical notes.



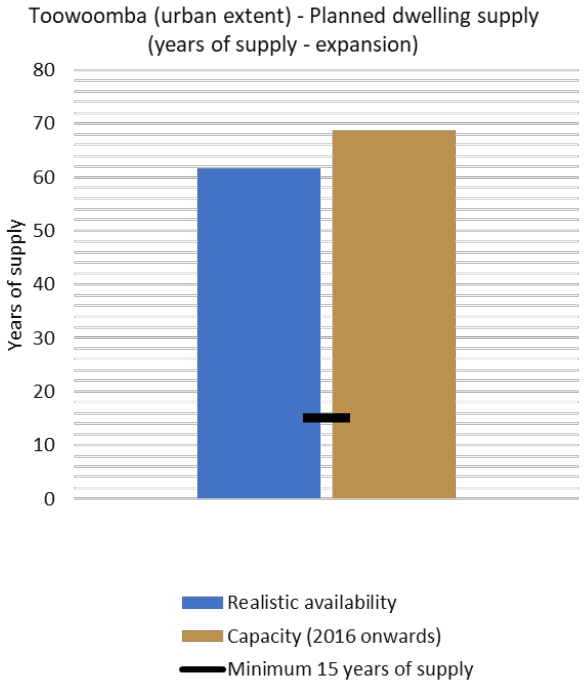
This graph shows the number of dwellings that have been or could be approved based on current planning intent compared against *ShapingSEQ 2017*'s dwelling supply benchmarks in consolidation areas.



This graph shows the number of dwellings that have been or could be approved based on current planning intent compared against *ShapingSEQ 2017*'s dwelling supply benchmarks in expansion areas. To view fact sheets on the concept of realistic availability, click here.



This graph shows the number of years of supply of dwellings that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s minimum 15 years of supply policy objective in consolidation areas.



This graph shows the number of years of supply of dwellings that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s minimum 15 years of supply policy objective in expansion areas.

Note: The planned dwelling supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report.

Approved supply – Toowoomba (urban extent)

Approved supply is measured by analysing uncompleted lot approvals and uncompleted multiple dwelling approvals across Toowoomba (urban extent).

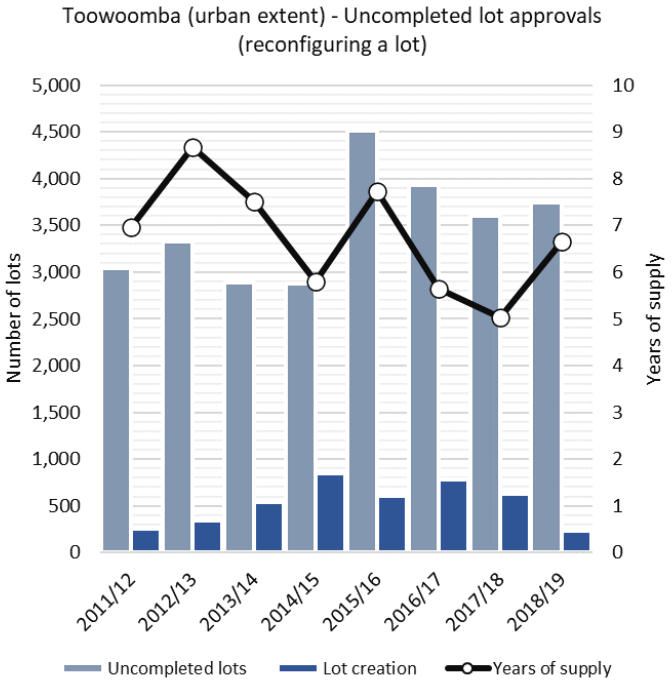
There are about 6.7 years of supply of uncompleted lot approvals in the Toowoomba consolidation and expansion areas overall, which is more than the minimum four years of supply sought by *ShapingSEQ 2017*. The number of uncompleted lot approvals and total years of supply have fluctuated in accordance with the rate of lot creation.

The total number of uncompleted lot approvals currently is 3748 which is about 765 lots below the long-term historical high for Toowoomba. Of the uncompleted lots, approximately 18 per cent have operational works approvals for the 2018/19 period.

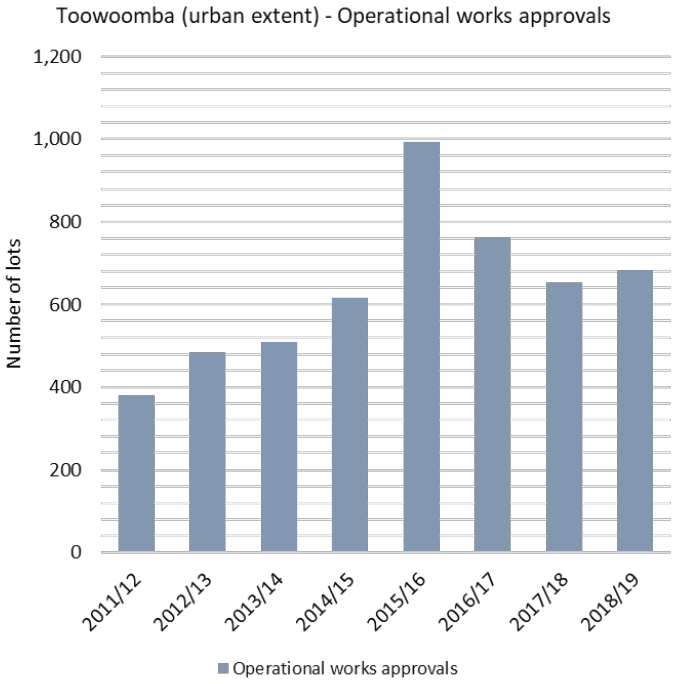
Toowoomba (urban extent) currently has about 4.2 years of supply of uncompleted multiple dwelling approvals in the consolidation area, which is slightly above the minimum four years of supply sought by *ShapingSEQ 2017*.

The number of uncompleted multiple dwelling approvals fell from June 2018 to June 2019, but the years of supply has increased slightly because the rate of multiple dwelling construction fell from June 2018 to 2019, decreasing the assumed level of demand in the years of supply calculation.

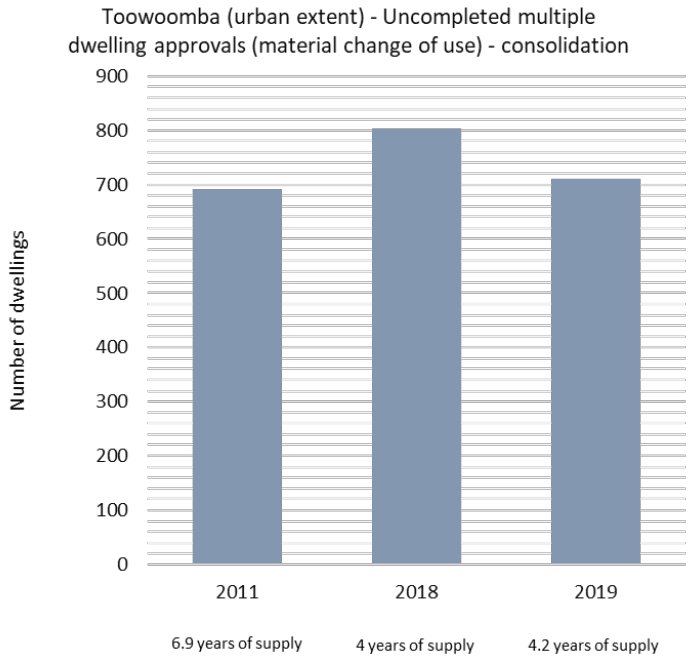
For details of the calculation and comparability over time of the approved supply figures, refer to the Technical notes.



This graph shows the number of lots that have a development permit, but have not yet been certified (uncompleted lots) as at 30 June each year as well as the number of lots that have been created in the 12 months up to 30 June each year.



This graph shows the number of uncompleted lot approvals which also have operational works approvals as at 30 June each year.



This graph shows the number of multiple dwellings that have a material change of use development permit but have not yet been constructed (uncompleted multiple dwellings) in the consolidation area as at 30 June 2011, 30 June 2018 and 30 June 2019.

Note: The years of supply for uncompleted multiple dwelling approvals is determined by dividing the total number of uncompleted multiple dwellings by the average annual attached dwelling building approvals of the previous four years. The years of supply for uncompleted lot approvals is determined by dividing the total number of uncompleted lots by the average annual lot certifications of the previous four years.

Dwelling growth – Toowoomba (urban extent)

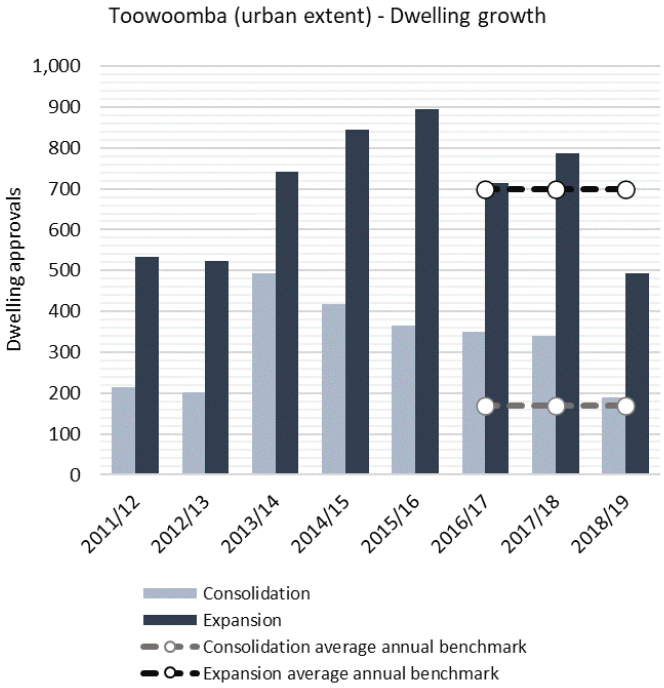
In recent years, dwelling approvals (used to measure dwelling growth) in Toowoomba (urban extent) consolidation area have exceeded the average annual benchmarks. In the Toowoomba (urban extent) expansion area, dwelling approvals have also exceeded the average annual benchmark in recent years, but declined below the benchmark in 2018/19.

In 2018/19, there were 188 dwelling approvals in Toowoomba's consolidation area, which was approximately 20 dwellings more than the consolidation average annual benchmark of 169 additional dwellings. There were 492 dwelling approvals in Toowoomba's expansion area in 2018/19, which was approximately 210 dwellings less than the expansion average annual benchmark of 699 additional dwellings.

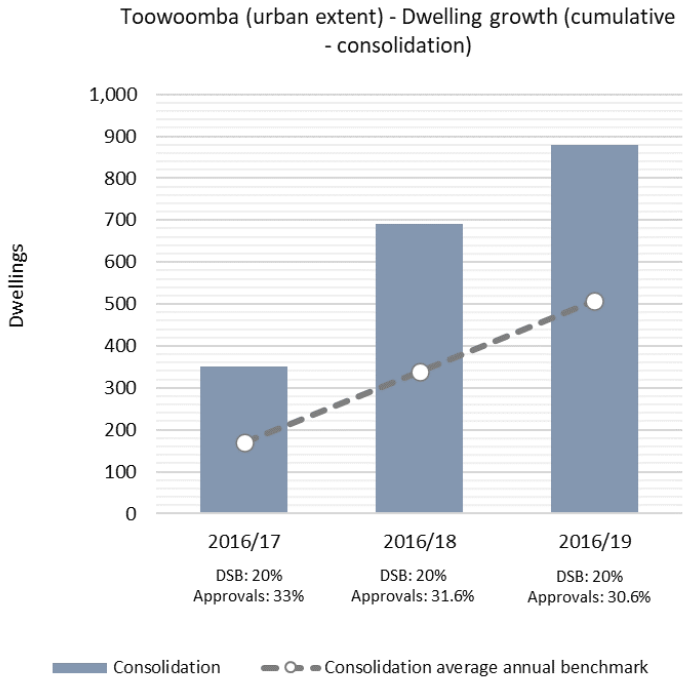
Approximately 31 per cent of dwelling approvals for 2016/17 to 2018/19 were in Toowoomba's consolidation area, which exceeds its expected share of dwelling growth to 2031 identified in *ShapingSEQ 2017* (20 per cent). Approximately 69 per cent of dwelling approvals were in

Toowoomba's expansion area over the same period, which is less than its expected share of 80 per cent.

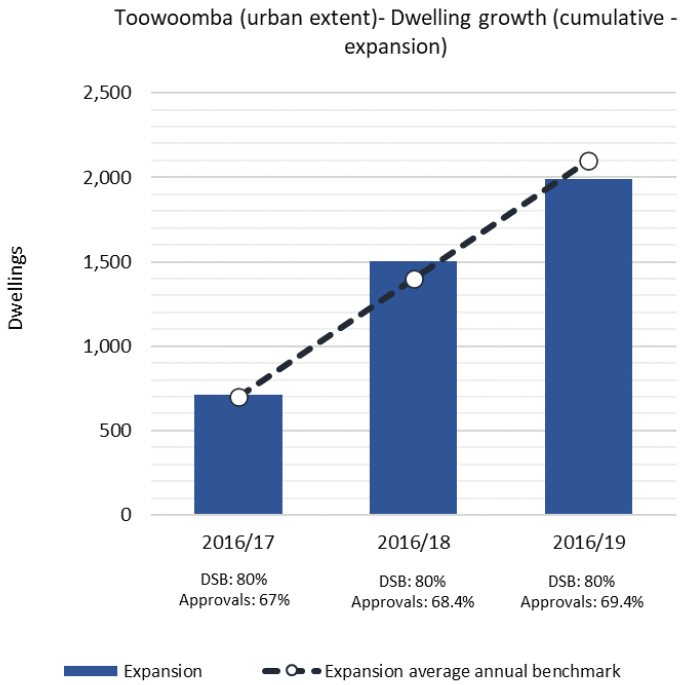
For more information about improvements to the measurement of net growth over time, see Moving forward. For more detail about dwelling approvals, see the Technical notes.



This graph shows annual dwelling approvals compared against *ShapingSEQ 2017*'s average annual benchmarks.



This graph shows the cumulative dwelling growth in the consolidation area against *ShapingSEQ 2017*'s consolidation average annual benchmark.



This graph shows the cumulative dwelling growth in the expansion area against *ShapingSEQ 2017*'s expansion average annual benchmark.

Note: The average annual benchmark (2016 to 2031) has been adjusted since the 2018 Land Supply and Development Monitoring Report to reflect the growth rate of the most recent 2018 Queensland Government dwelling projections for SEQ. This adjustment has resulted in the average annual benchmark increasing marginally for the consolidation and expansion area in each local government. For more detail about the adjustment method and reasoning, see the Technical notes.

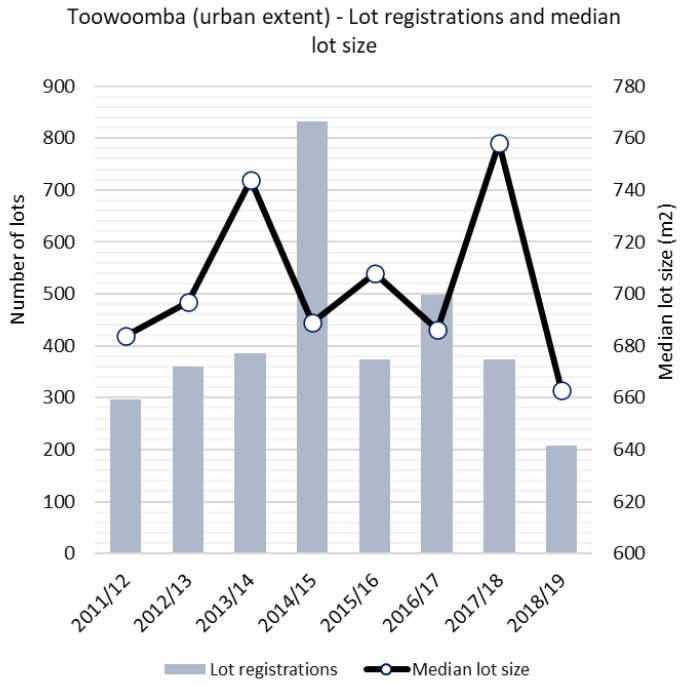
Changes in dwelling density – Toowoomba (urban extent)

Dwelling density (measured through mean population-weighted dwelling density) has increased in Toowoomba (urban extent) in recent years, consistent with the *ShapingSEQ 2017* Measures that Matter preferred future, even though the median size of new lots in urban subdivisions has fluctuated, contrary to the preferred future for smaller lot sizes.

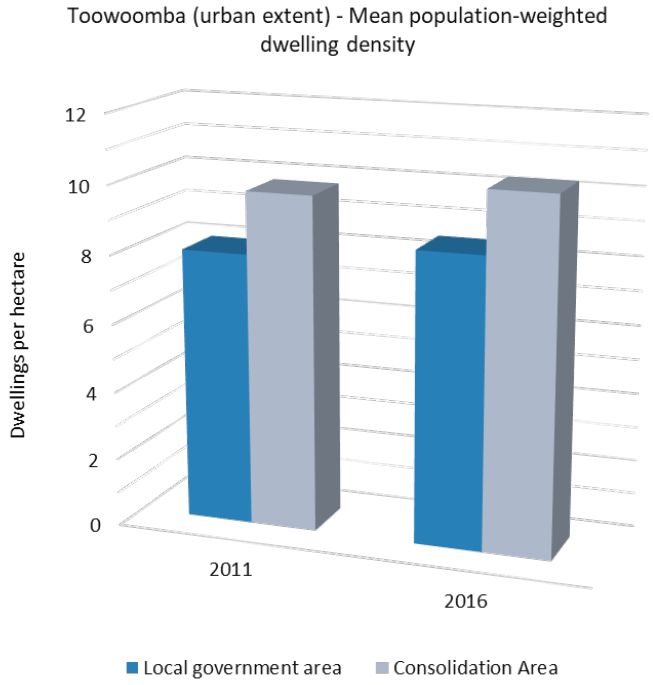
Mean population-weighted dwelling density in Toowoomba (urban extent) increased between 2011 and 2016, from eight to 8.5 dwellings per hectare. This represents the average dwelling density at which the population of the Toowoomba lives and is comparable to the net residential density as used by *ShapingSEQ 2017*. In the consolidation area, mean population-weighted dwelling density increased from 9.8 to 10.3 dwellings per hectare

The median size of new lots in Toowoomba (urban extent) slightly decreased from 684m^2 to 663m^2 from 2011/12 to 2018/19. Lot sizes peaked at 744m^2 and 758m^2 in 2013/14 and 2017/18. The number of lot registrations fluctuated over the same period, with a peak in 2014/15. Large lot sizes may have contributed to higher dwelling densities in Toowoomba (urban extent) if they are smaller than average existing lots.

For more detail about the calculation of mean population-weighted dwelling density and median size of new lots, see the Technical notes.



This graph shows the number and median size of new lots registered annually.



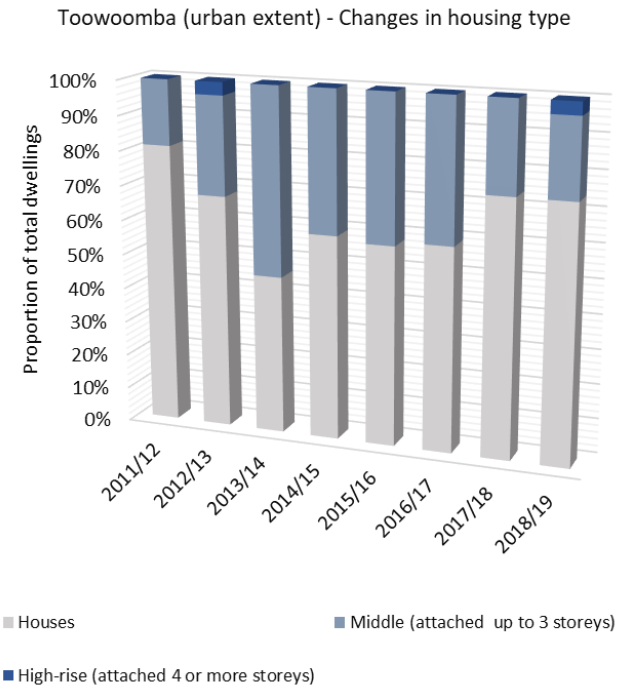
This graph shows the dwelling density (mean population-weighted dwelling density) at which people were living in 2011 and 2016.

Changes in housing type – Toowoomba (urban extent)

Recent dwelling approvals in Toowoomba (urban extent) indicate an increase in housing diversity, consistent with the *ShapingSEQ 2017* Measures that Matter preferred future.

Sixty-eight per cent (1964 dwellings) of all new dwelling approvals in Toowoomba (urban extent) for 2016/17 to 2018/19 were for houses, which was less than for existing dwelling stock (80 per cent as at the 2016 Census). Dwelling approvals for middle (31 per cent or 884 dwellings) over the same period were higher than their share of the dwelling stock (20 per cent). Approvals for high-rise dwellings for 2016/17 to 2018/19 were one per cent (25 dwellings), over the same period were higher than their share of dwelling stock as at the 2016 Census (zero per cent).

For more detail about dwelling approvals, see the Technical notes.



This graph shows the proportion of dwelling approvals that are for houses, middle (attached dwellings up to three storeys) and high-rise (attached dwellings four storeys or more) annually.

Sales and price – Toowoomba (urban extent)

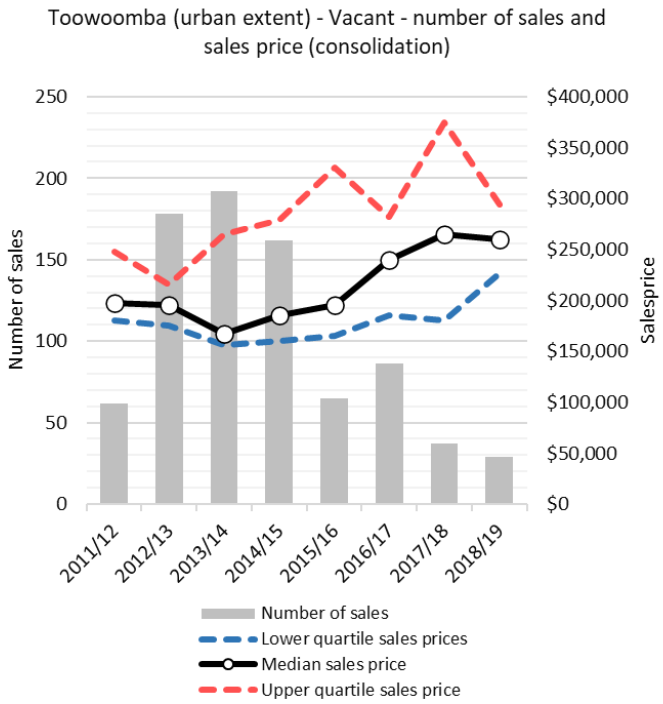
The number of sales has decreased from 2017/18 to 2018/19 for all categories except house-land packages in the consolidation area in Toowoomba (urban extent), which has slightly increased.

The median sales price for all categories is lower in Toowoomba (urban extent) than for South East Queensland (SEQ). However, the rate of median sales price growth in Toowoomba (urban extent) between 2011/12 and 2018/19 was greater than for SEQ for vacant lots per lot in the consolidation area and house-land packages and attached dwellings in the expansion and consolidation areas.

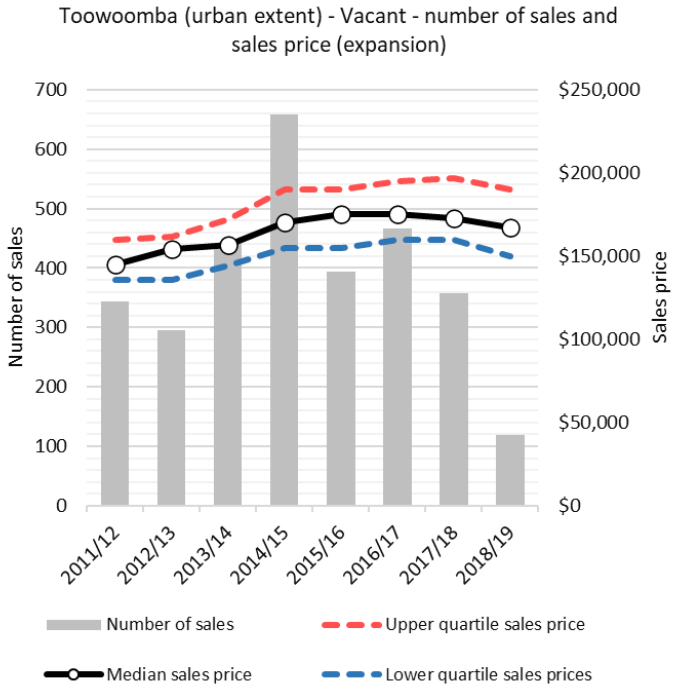
The greatest median price growth was for vacant lots (32 per cent per lot and 37 per cent square metre) in the consolidation area followed by house-land packages (33 per cent) in the consolidation area.

The median sales price and rate of median sales price growth are higher or similar in the consolidation area than in the expansion area within Toowoomba (urban extent). The exception is houses and house-land packages, which have experienced greater median sales price growth in the consolidation area but remain more expensive in the expansion area.

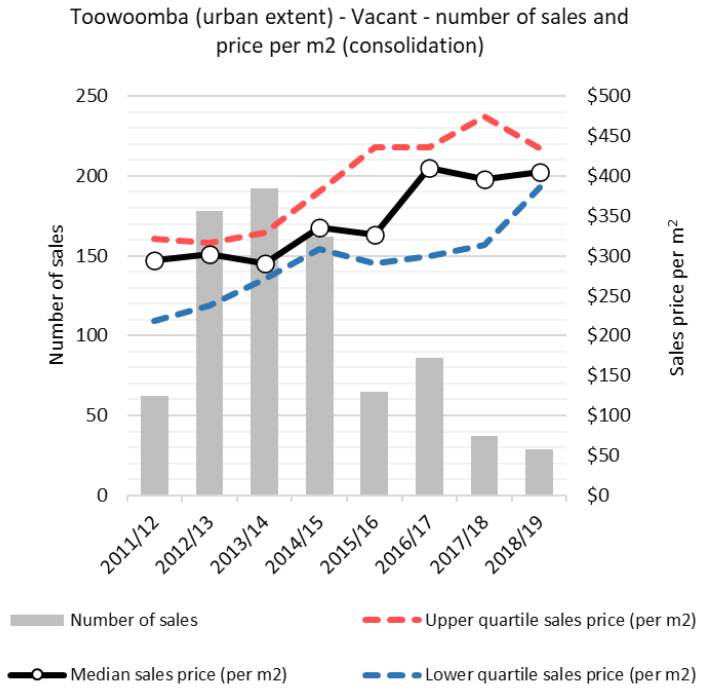
For more detail about the median sales price and number of sales, see the Technical notes.



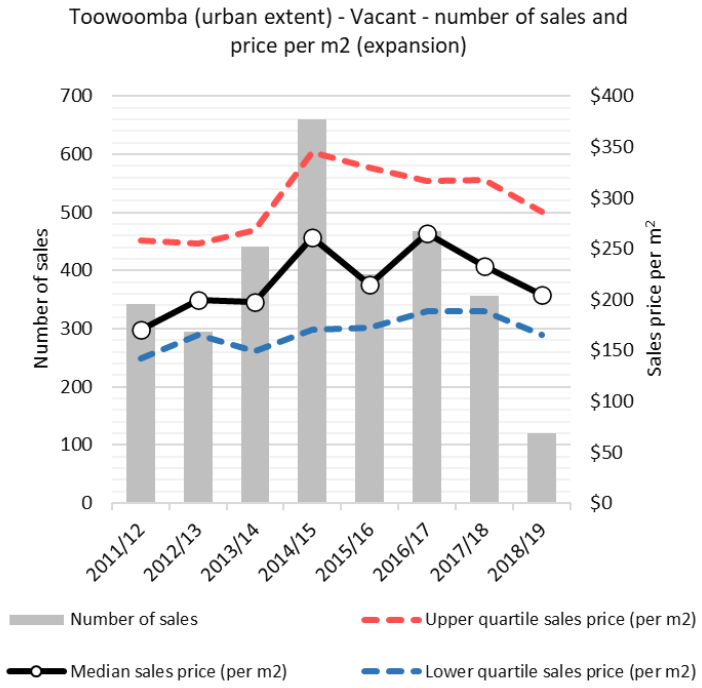
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the consolidation area.



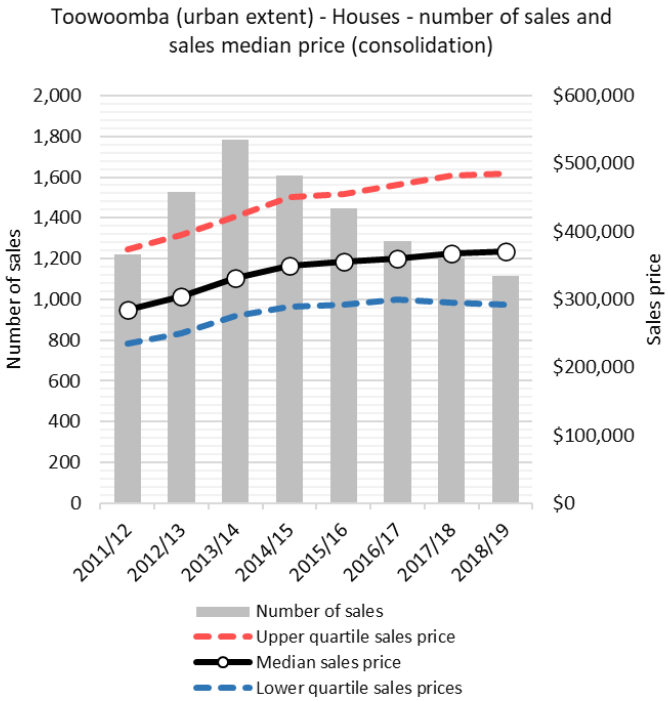
This graph shows the number of sales and the lower, median and upper quartile sales price for vacant lots in the expansion area.



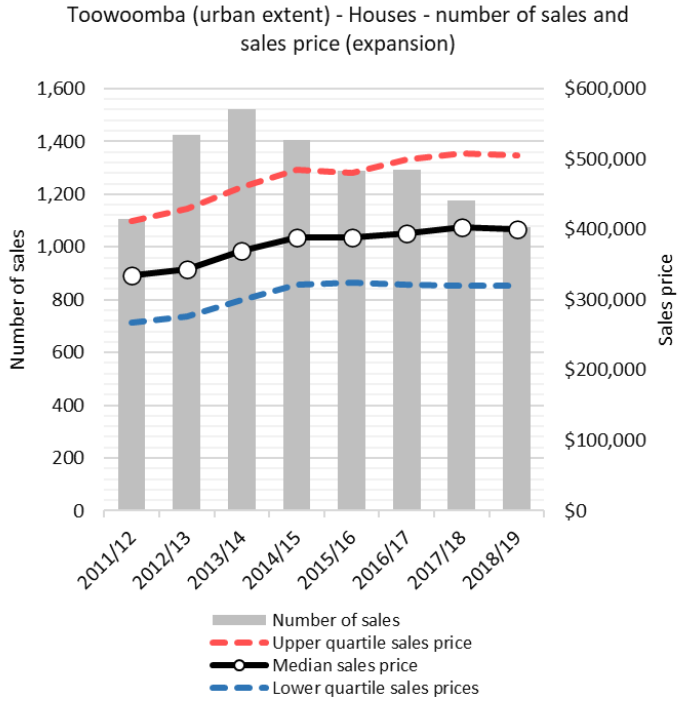
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the consolidation area.



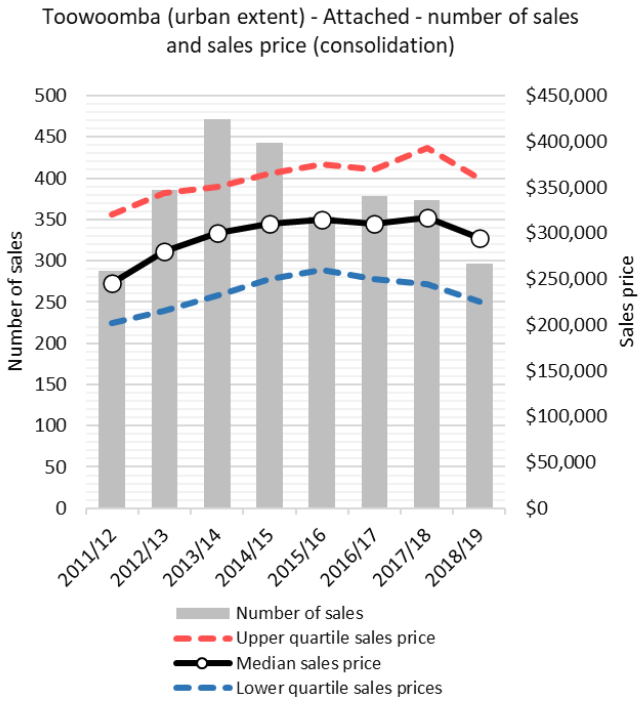
This graph shows the number of sales and the lower, median and upper quartile sales price per square metre for vacant lots in the expansion area.



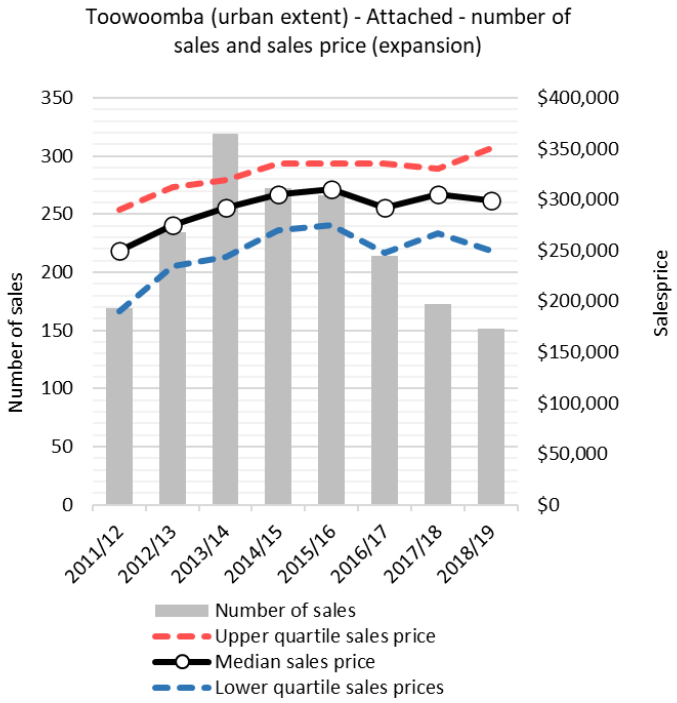
This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the consolidation area.



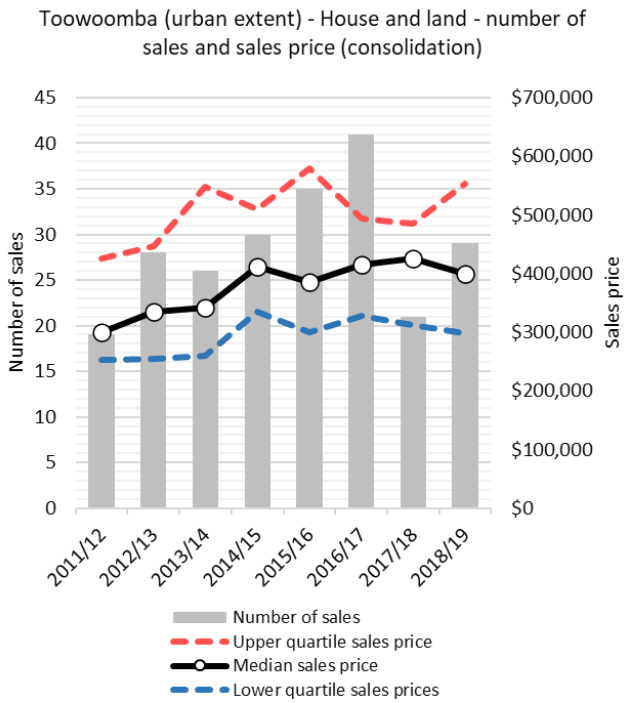
This graph shows the number of sales and the lower, median and upper quartile sales price for houses in the expansion area.



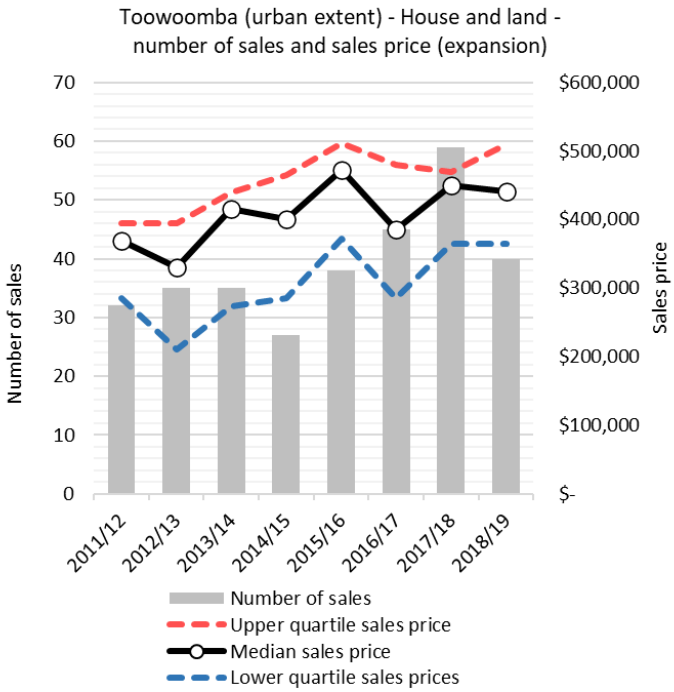
This graph shows the number of sales and the lower, median and upper quartile sales price for attached dwellings in the consolidation area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for attached dwellings in the expansion area.



This graph shows the number of sales and the lower, median and upper quartile sales price for house-land packages in the consolidation area.



This graph shows the number of sales and the lower, median and upper quartiles sales price for house-land packages in the expansion area.

Industrial – Toowoomba (urban extent)

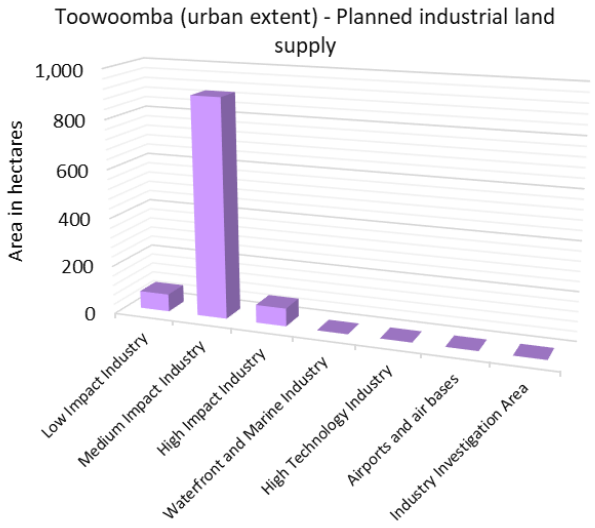
Planned industrial land supply/take-up – Toowoomba (urban extent)

The estimated take-up of developed industrial land in Toowoomba (urban extent) between 2011 and 2018 was about 507 hectares. The take-up occurred on land intended for low, medium and high impact industry.

There were about 1045 hectares of planned industrial land in Toowoomba (urban extent) as at 2018. This planned industrial land comprised land intended for low, medium and high impact industry.

The 2019 planned industrial land estimate improves upon the estimate provided in the 2018 LSDM Report. It has been derived by trialling the application of the developability rules for determining the impact of constraints from the Developable Area best practice research in 2019.

For more detail about these improvements and planned industrial land and take-up, see the Best practice research and Technical notes.



This graph shows the number of hectares of vacant planned industrial land as at 2018 by industrial land category.

Note: The planned industrial land measure identifies land that may be developable in the long term based on current zoning or intent and applicable constraints in a planning instrument. Much of this land will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry. Also, planned industrial land is a gross area which does not include any allowance for roads, infrastructure corridors, open space and the like.

The Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) notes ongoing improvements are required to continue to mature the industrial land monitoring. In partnership with stakeholders, DSDILGP will explore improved methods in 2020, building from the work undertaken in 2018 and 2019.

Planned industrial employment supply – Toowoomba (urban extent)

The capacity and realistic availability of planned industrial employment supply in Toowoomba (urban extent) provide the minimum 15 years of supply sought by *ShapingSEQ 2017*.

The capacity figure represents the number of employees that could be supported by industrial developments that have been or could be approved, based on current planning intent, while the realistic availability figure provides a supply scenario that considers whether some of the capacity is not realistically available by 2041.

The realistic availability scenario considers factors that may constrain the availability of land for industrial development and employment. Such factors include constraints affecting the feasibility of development and lower than assumed employment densities.

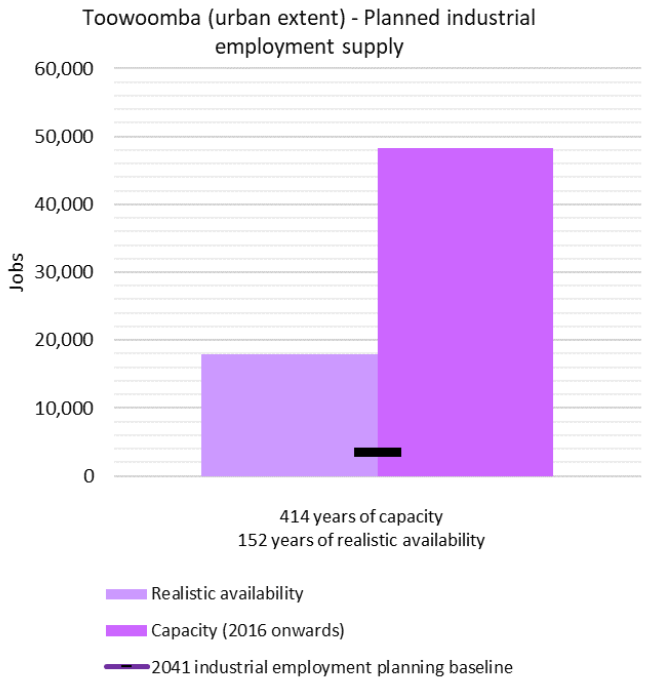
The realistic availability scenario improves upon the method applied in the 2018 LSDM Report. It uses the outcomes from the Developable Area best practice research in 2019 and a refined set of economic and developability criteria to estimate realistic availability in selected Major Enterprise and Industrial Areas. For more information about these improvements, see the Best practice research and Technical notes.

The capacity of planned industrial employment supply in Toowoomba (urban extent) is about 48,300 employees, while the realistic availability of this supply is about 18,000 employees. These figures are considerably greater than the 2041 industrial employment planning baseline of about 3400 employees. The majority of this supply is in Charlton-Wellcamp. Some excess of planned industrial employment supply may be appropriate to facilitate strategic economic development opportunities when they arise. This need was recognised by the Best practice research in the 2018 LSDM Report.

The realisation of this planned industrial employment supply is expected to be supported by the development of the Melbourne to Brisbane Inland Rail and the Toowoomba Second Range Crossing. It has been supported by recent investment in the Steger Road Infrastructure Enabling project and Toowoomba Enterprise Hub Stimulus project, providing key transport and water links for Toowoomba's Trade Gateway at Charlton-Wellcamp.

Planning scheme amendments are in process in Toowoomba that may affect planned industrial employment supply. Where amendments proceed, and data sources are updated, their effect on industrial employment supply will be included in future years of LSDM Reporting.

For more detail about the calculation of planned industrial employment supply, see the Technical notes.



This graph shows the number of employees that could be supported by industrial developments, that have been or could be approved based on current planning intent, compared against *ShapingSEQ 2017*'s 2041 industrial employment planning baseline.

Note: The planned industrial employment supply measures are as calculated by the Department of State Development, Infrastructure, Local Government and Planning using information provided by local governments and utility providers that was generally developed in accordance with guidelines that applied at the time. These measures, their method of calculation and the assumptions that underpin the source data are expected to improve and become more consistent over time, improving the comparability of supply estimates between local government areas. These improvements will be implemented progressively (see Moving forward) and be reflected in future publications of the Land Supply and Development Monitoring Report. Much of the planned industrial employment supply will not be developable in the short-medium term due to a lack of necessary infrastructure or other factors that may constrain or delay its availability for relevant types of industry.

Moving forward

Introduction

The Department of State Development, Infrastructure, Local Government and Planning (DSDILGP), through the Growth Monitoring Program (GMP), is seeking to accurately monitor development activity and land supply for South East Queensland (SEQ). In recognition of the scale and local complexities of this task, DSDILGP is committed to working with state departments, local governments, utility providers and the development industry to build upon the work these key stakeholders and the Queensland Government Statistician's Office (QGSO) are already doing in this field.

The GMP is a long-term program of government, that will capitalise on the research and work undertaken by key stakeholders each year to create a shared understanding of development activity and land supply across SEQ. In particular, this will involve using, improving and reporting from existing local government and utility land supply databases, rather than creating new and varied land supply estimates. Moving towards a shared understanding of land supply is seen as moving towards a 'single point of truth' for development activity and land supply in SEQ. This shared understanding of land supply will inform evidence-based decision making by the state and local governments, utility providers and the development industry and inform future reviews of the regional plan.

Governance framework / collaboration

The Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) manages a robust governance framework for collaboration with local governments, utility providers, the development industry and peak organisations to inform the Growth Monitoring Program (GMP). This governance framework consists of a Reference Group (RG), a Data and Modelling Working Group (DMWG), a State Agency Working Group (SAWG), the Housing Supply Expert Panel (HSEP), a Local Government Working Group (LGWG) and the South East Queensland Regional Planning Committee (RPC).

- The RG is made up of senior representatives from local governments, utility providers, the development industry and peak bodies, and provides oversight and input into the GMP.
- The DMWG is attended by technical officers from local governments and utility providers who maintain land supply databases that feed into the LSDM Report. This group provides key technical input and oversight regarding data compilation, analysis and interpretation.
- The SAWG includes officers from across DSDILGP and numerous state agencies including Queensland Treasury, Department of Education, Department of Transport and Main Roads, Department of Environment and Science, Department of Housing and Public Works. This group reinforces connections across the state government and optimises use of existing state resources, data and knowledge.
- The HSEP is made up of local and national experts from a range of fields, including planning, property, economics and demography. The HSEP was established to oversee the GMP and provide independent advice on how to appropriately manage land supply and development and associated housing affordability issues in SEQ.

- The LGWG is made up of senior officers from local governments in South East Queensland. The LGWG supports the RPC by exploring and then reporting issues, opportunities, and solutions for *ShapingSEQ 2017* implementation to the RPC for their consideration.

The RPC is chaired by the Minister for Planning, with membership including the Minister for Transport and Main Roads, the Minister for Housing and Public Works and the Minister for Environment and all SEQ Mayors (or equivalent) who advise the Queensland Government, through the Minister, on the development and implementation of *ShapingSEQ 2017*. The 2019 meeting schedule for the various groups was as follows:

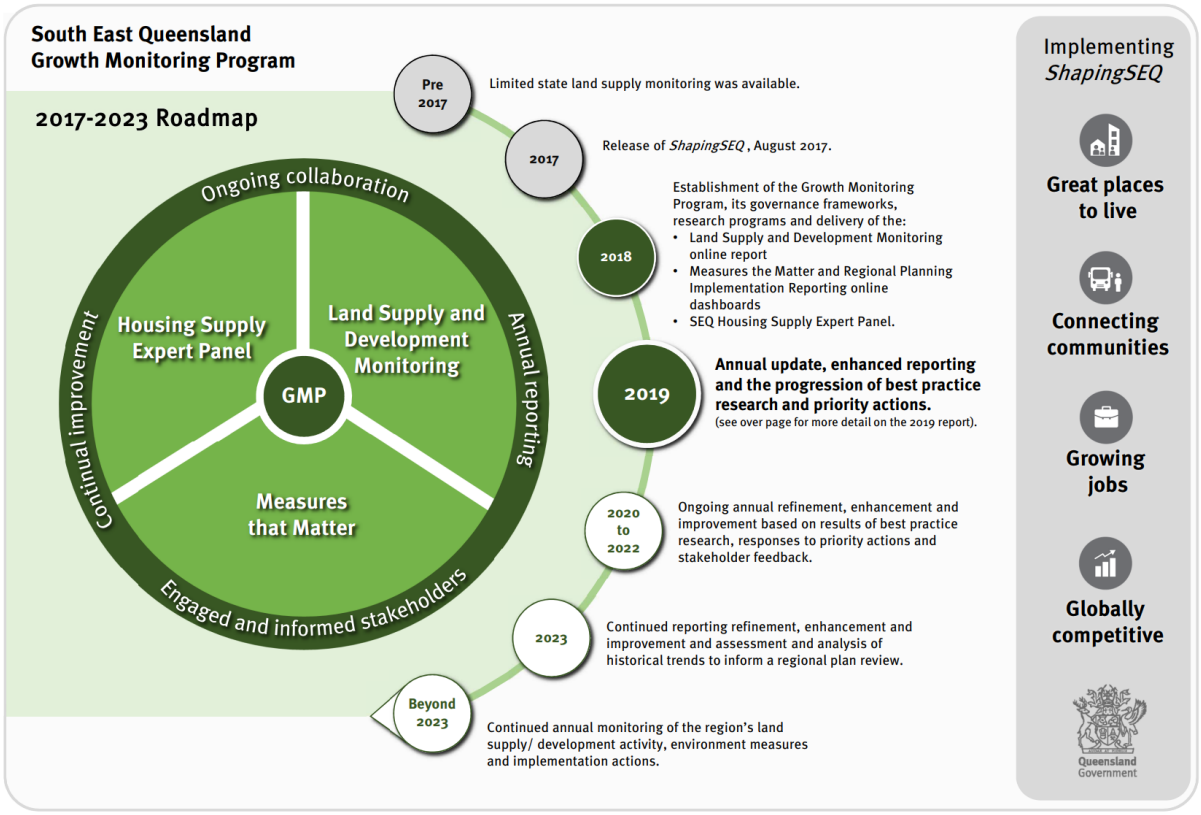
- Data Modelling Working Group – three meetings
- Reference Group – two meetings
- State Agency Working Group – two meetings
- Housing Supply Expert Panel – three working sessions and three meetings
- Local Government Working Group – four meetings
- Regional Planning Committee – two meetings

By continuing this collaboration, the DSDILGP intends to continually build on the GMP to move towards a shared understanding of land supply and development activity.

Growth Monitoring Program Roadmap

The Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) committed through the Moving Forward section of the 2018 LSDM Report to develop a roadmap for the Growth Monitoring Program (GMP) in consultation with the GMP's governance and stakeholder framework.

In 2019, DSDILGP worked with South East Queensland Housing Supply Expert Panel (HSEP), Reference Group and Data and Modelling Working Group to prepare a five- year roadmap, articulating the GMP's vision up to 2023. The GMP roadmap reinforces the GMP's commitment to long-term progressive improvement to build a shared understanding of land supply and development data as we progress towards the next regional plan review.



Pre 2017
Prior to the development and release of *ShapingSEQ* there was limited monitoring of land supply across the SEQ region.

2017
ShapingSEQ, released in August 2017, included clear direction and actions for:
- establishing a Growth Monitoring Program (GMP)
- monitoring the region's land supply and development activity
- monitoring aspects of the natural, economic and social environment in the SEQ region compared with an identified overall preferred regional future for 15 key measures, and
- ongoing reporting on the plan's key implementation actions.

2018
The GMP prepared and released its three core deliverables being the:
- Housing Supply Expert Panel (HSEP)
- Measures that Matter online dashboard, and
- Land Supply and Development Monitoring (LSDM) online report (focusing on residential and industrial activity and supply).

All projects were delivered in close consultation and collaboration with state and SEQ local governments, industry representatives (including UDIA and PCA) and utility providers.

2019
The GMP will build on and refine its 2018 reporting including annual data updates and the progression of best practice research and priority actions.

2020-2022
The GMP proposes to continue to build on and refine previous reporting and progress any identified priority actions in close collaboration with its stakeholders.

2023
In addition to building on previous reporting, the GMP proposes to prepare trend analysis and specialised reporting to inform a regional plan review.

Beyond 2023
The GMP expects to continue to report, review and refine ongoing annual monitoring of the region's key land supply and development activity, environment measures and any identified implementation actions.

The **2019 Land Supply and Development Monitoring online report** will reflect a number of ongoing program improvements designed to:
- update existing data
- enhance data accuracy
- action best practice research
- inform better decision-making
- continue to collaborate with stakeholders, and
- produce more refined reporting.

These improvements/updates include:

- Residential
  - Updating building approvals to 30 June 2019
  - Updating approved and planned supply figures for residential land, including land supply, material change of use, reconfiguration of a lot and operational works approvals to 30 June 2019
  - Developing Ability to Service mapping to identify residential land that can be serviced by necessary supporting infrastructure to 2041
  - Using Ability to Service mapping to refine estimates of realistic availability for expansion areas
  - Progressing a more accurate measurement of net dwelling growth
  - Providing finer grained reporting of housing density
  - Including sales and price information for house and land and median price per m² for vacant lots
  - Reporting on progress to determine Small Area Growth Assumptions
  - Providing information on market factors affecting the region's ongoing development.
- Industrial
  - Updating the take-up of planned industrial land figures to 30 June 2018
  - Developing and trialling the application of new constraint and developability rules to refine planned industrial land figures (and ultimately for planned residential land)
  - Refining and improving the estimate of the realistic availability of planned industrial employment supply figures.

Work program and key achievements for 2019

In the Growth Monitoring Program's (GMP) foundational year, 2018, the Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) commissioned independent

experts to identify 'best practice' methods for calculating land supply, after considering SEQ, Australian and international examples. The research findings were provided to all key stakeholders as part of the GMP's governance framework and included several recommendations, as documented in Best practice research section of the 2018 Land Supply and Development Monitoring (LSDM) Report.

DSDILGP used the best practice research recommendations from 2018 and feedback from GMP stakeholders in late 2018 and early 2019 to develop a GMP Work Program that consists of numerous subprograms. The intention of these subprograms is to improve land supply and development monitoring in successive LSDM reporting, consistent with the GMP's long-term objective to move towards a shared understanding of data and a single point of truth.

The Work Program resulted in several key achievements for DSDILGP and GMP stakeholders in 2019 as summarised in the table and detailed in the subprogram overviews and best practice research below.

GMP Work Program		
Subprogram	**Achievements in 2019**	**Further information**
Ability to Service	Prepared new Current Intent to Service layer that maps planned residential land in the expansion area that is currently planned to be provided by necessary supporting trunk infrastructure by 2041. Used the Current Intent to Service layer as an input to improve the realistic availability of planned dwelling supply scenario.	For further information, see the Subprogram overview, Best practice research and the Technical notes.
Data Sharing	Researched existing methods for data sharing between key local government, utility providers and state agencies in the Growth Monitoring Program. Built new and expanded datasets to support ongoing research into new approaches to land supply and development monitoring and facilitate data sharing.	For an overview of the subprogram, see the Subprogram overview.
Developable Area	Prepared new developability (constraint) rules, by land supply type, for calculating residential and industrial developable area for all of SEQ and each local government area. Created new planned industrial land figures based on new developability rules (mentioned above), available in the Planned Industrial Land sections of the 2019 LSDM Report.	For further information, see the Subprogram overview, Best practice research and the Technical notes.
Development Approval (DA) Data Compilation	Collected, prepared and processed preliminary approval data for various local governments to allow the preparation of the Current Intent to Service layer for the 2019 LSDM Report.	For further information, see the Subprogram overview, Best practice research and the Technical notes.

Market Factors	Prepared a new market factors section of the 2019 LSDM Report that provides independent commentary about factors that can affect demand for housing and development activity at a regional level.	For further information, see the SEQ Market factors section.
Measuring Development	Developed parameters for measurement which informed the following trial applications: • a review of existing property-based measurements of dwellings and net growth in Moreton Bay, Noosa and Sunshine Coast, and • new property-based measurements of dwellings and net growth in Redland (in process).	For further information, see the Subprogram overview, Best practice research and Technical notes.
Small Area Growth Assumptions	Undertook research of urban growth modelling to inform discussion about future design requirements and specifications for the Small Area Growth Assumptions subprogram in collaboration with local and state government and utility providers.	For further information, see the Subprogram overview and Best practice research.
Other achievements		
Realistic Availability	Prepared a new realistic availability of planned dwelling supply scenario for the expansion area for each local government using Current Intent to Service layer from the Ability to Service best practice research and other updated data. Prepared a new realistic availability of planned industrial employment supply scenario for each local government area using outcomes from the Developable Area best practice research and a refined set of economic and developability criteria. The figures are available in the Planned Dwelling Supply and Planned Industrial Employment Supply sections of the 2019 LSDM Report.	For further information, see the Best practice research and Technical notes.
Dwelling Density	Prepared new reporting of dwelling density for the consolidation area for each local government area. The figures are available in the Dwelling Density sections of the 2019 LSDM Report.	For further information, see the Technical notes.
Sales and Price	Added the vacant lots price per square metre category to the Sales and Price section of the 2019 LSDM Report. Added the lower and upper quartiles sales price for all categories to the Sales and Prices section of the 2019 LSDM Report.	For further information, see the Technical notes.

Limitations

The Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) acknowledges its unique position in accessing and using existing data prepared by local governments, utility providers, the Queensland Government Statisticians Office (QGSO) and the Australian Bureau of Statistics. Without this data, DSDILGP could not release the Land Supply and Development Monitoring (LSDM) report.

However, DSDILGP also recognises that in moving towards the long-term vision for a shared understanding of development activity and land supply, there are limitations and areas for improvement. DSDILGP notes the limitations of the available data and the methods, and in the interest of transparency, has detailed these in the Technical notes, Subprogram overviews and Best practice research.

These limitations represent an opportunity for ongoing improvement through continued research and collaboration.

Realistic availability and take up

DSDILGP recognises it is difficult to accurately estimate and compare the realistic availability of planned supply for the purposes of *ShapingSEQ 2017* and the Growth Monitoring Program (GMP), and that local governments and utility providers already consider realistic availability to varying extents in their land supply databases, particularly for consolidation areas. DSDILGP is also mindful that land supply databases are typically built and used to prepare Local Government Infrastructure Plans or Netserv Plans in accordance with relevant legislation.

DSDILGP applied scenarios to the capacity of supply sourced from local government and utility provider land supply databases to estimate the realistic availability of planned dwelling and industrial employment supply for the 2018 LSDM Report, as informed by the 2018 best practice research. DSDILGP detailed the realistic availability concept in the report's fact sheets and the method and limitations of the analysis in the report's technical notes.

DSDILGP refined the method for estimating realistic availability in the 2019 LSDM Report in keeping with the GMP's objective of improving land supply and development monitoring over time. For residential supply, this refinement has included DSDILGP applying the newly prepared Current Intent to Service layer and the updated SGS Economics and Planning report take-up figures for expansion growth areas. For industrial, this refinement has included using the new developability (constraint) rules to estimate planned industrial land, and then applying a revised market-based assessment of availability.

For detail about the calculation of the realistic availability scenarios for both residential and industrial supply, see the Technical notes and the Ability to Service Subprogram overview.

DSDILGP intends to continue to refine and improve the method of estimating the realistic availability scenarios for the purposes of the GMP and *ShapingSEQ 2017* in collaboration with stakeholders through the established stakeholder governance frameworks.

Measuring development activity

DSDILGP acknowledges that building approvals are an overestimate of net dwelling growth and an approximate measure of changing dwelling type. Actual dwelling constructions also lag behind building approvals. In recognition of these limitations and stakeholder feedback, and recommendations from the best practice research from 2018, DSDILGP prioritised researching improved methods for measuring dwellings and net growth in 2019 as part of the Measuring Development subprogram.

For more information about the Measuring Development subprogram, and its achievements see the Measuring Development Best practice research and the Measuring Development Subprogram overview.

Years of supply

DSDILGP recognises that estimating the number of years it will take for dwelling or employment supply to be consumed is inherently difficult, with results varying depending on what annual demand figure is used. DSDILGP also recognises the difference between projected demand, realised market demand and latent demand. In recognition of this limitation, DSDILGP has tailored its estimation of demand for each year of supply calculation to the growth expectations of *ShapingSEQ 2017* and available recent demand information.

For example, annual demand for planned dwelling supply is based on the dwelling growth expected by *ShapingSEQ 2017* to align with the dwelling supply benchmarks, with adjustment in 2019 to reflect the overall growth rate for SEQ of the Queensland Government's latest dwelling projections. In contrast, demand for approved supply is based on recent trends in building approvals or lot certifications given there is no corresponding projection of demand.

DSDILGP will continue to work with stakeholders to improve the years of supply measure as part of the GMP. For more detail about the demand figures used in each year of supply calculation, see the Technical notes.

Land suitability and developable area

A principal first step of most land supply methodologies is to estimate the developable proportion of land that is planned for residential or other purposes by removing areas that are affected by constraints like flooding or vegetation. DSDILGP acknowledges this process will not always be accurate, particularly at the lot level and there is scope for varied interpretation of the impact of constraints on developable area.

In recognition of this limitation, DSDILGP is seeking to improve the understanding and application of constraints, and the incorporation of more accurate information in determining developable area as part of the Developable Area subprogram, as detailed in the Subprogram overview.

For more detail about the subprogram's research and recommendations, see the Developable Area Subprogram Overview and Best practice research.

Industrial land and employment supply

DSDILGP recognises the difficulties of estimating planned industrial land, its realistic availability, take up over time, and the employees that it may support.

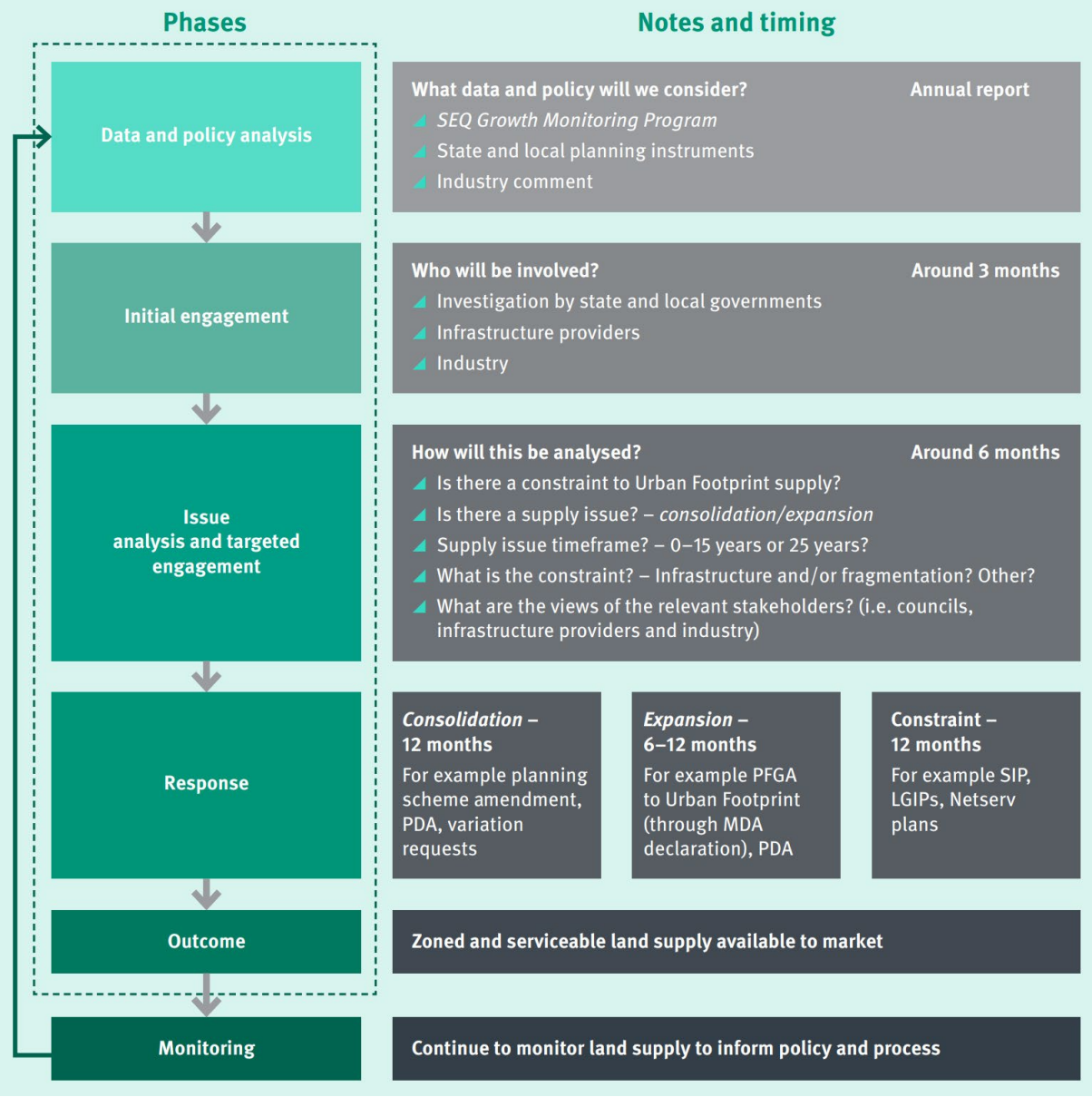
In recognition of this limitation, DSDILGP has sought to improve the LSDM Report's estimate of planned industrial land in 2019 by applying the developability (constraint) rules recommended by the Developable Area Best practice research. This analysis has reduced the planned industrial land figures across SEQ, and affected the estimate of the realistic availability of planned industrial employment supply.

DSDILGP note ongoing improvements are required to continue to mature the industrial land monitoring. In partnership with stakeholders, DSDILGP will explore improved methods in 2020, building from the work undertaken in 2018 and 2019.

For more information about the how planned industrial land and planned industrial employment supply figures have been calculated, see the Technical notes.

Policy responses

The benefits of the Growth Monitoring Program (GMP) will be felt long-term. The data and trends reported as part of the GMP will serve to inform evidence-based decision making in accordance with the land supply framework identified in *ShapingSEQ 2017* (see figure opposite). The Land Supply and Development Monitoring Report will not seek to pre-empt this process or responses and outcomes that it may lead to.



Source: The South East Queensland Regional Plan 2017, *ShapingSEQ 2017* (Figure 11 on p.47).

Impact of new constraints on land supply

In keeping with the objectives of the Growth Monitoring Program (GMP), the Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) will seek to estimate the impact of region-wide planning regulations or policies adopted since the release of *ShapingSEQ 2017* in the Land Supply and Development Monitoring (LSDM) Report each year.

DSDILGP's region-wide analysis contained with this section is separate from and does not affect the capacity of planned dwelling supply and industrial employment supply figures in the 2019 LSDM Report which are sourced directly from local government and utility provider land supply databases. However, it is expected that the impact of recently adopted regulations or policies feed into the capacity figures in the LSDM Report as land supply databases are updated over time.

Preliminary analysis of impacts

This preliminary analysis considers the impact of changes (as at July 2019) to the vegetation mapping under the *Vegetation Management Act 1999* and to matters of state environmental significance (MSES) mapping under the State Planning Policy since the adoption of *ShapingSEQ 2017*.

To provide a more consistent region-wide basis for comparison and analysis, the vegetation and MSES mapping layers were analysed against developable areas identified for:

- the 2013 broadhectare study updated to remove subdivision to June 2019
- new growth areas not captured by the 2013 broadhectare study
- developable industrial land as refined and developed for the 2019 LSDM utilising SEQ wide developability constraint rules (See the developability rules section and Technical notes).

Data limitations mean the findings of the 2019 analysis are likely to be an overstatement of the actual impact on developable areas and dwelling yields. In particular, although detailed information about lot (to March 2019) and multiple dwelling development permits (to June 2018) was available from the Queensland Government Statistician's Office, DSDILGP did not have access to comprehensive property-level information about non-residential development permits or any preliminary approvals. Further factors are the unknown extent to which the new state mapping layers overlap with recent changes to local constraints mapping or with areas already excluded from development by some structure plans. There may also be significant scope for provision of offsets to minimise loss of developable area.

The preliminary analysis (subject to update) identified:

- a potential impact of up to 6.7 per cent of the dwelling capacity in the expansion area of *ShapingSEQ 2017*
- a potential impact of up to 1.8 per cent of vacant planned industrial land.

In considering the potential impact on dwelling capacity, as well as the fact these percentages may overstate the impact on capacity, it is important to recognise that *ShapingSEQ 2017* assumed only about 70 per cent of the total expansion dwelling capacity would be taken up by 2041. To the extent growth areas may still achieve their expected rate of take-up in areas outside any additional constrained land, that is a factor ameliorating the impact on planned dwelling supply.

The supply reported for dwellings and industrial employment indicate there is sufficient time to undertake a more detail assessment of the impact of constraints before considering a need to increase supply.

In undertaking this analysis, DSDILGP has not considered other matters that may affect the developable area and land supply adequacy.

Future approach to assessing impact of new constraints

The SEQ-wide developability rules will be updated regularly in consultation with local governments and shared with local governments and infrastructure agencies for their planning purposes.

In the future this will support integrated, up-to-date consideration of all state and local constraints as a basis for assessing the impact of any proposed new constraints. Associated improvements over

time in the capture of property-level development approval information and structure plans and existing land use would also support more accurate assessments of impacts on developable areas.

Underutilised Urban Footprint

Throughout 2019, the Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) has been working closely with South East Queensland local governments, industry representatives and utility providers to identify and investigate constraints that have impeded the timely development of long standing, underutilised areas of the regional plan's urban footprint. *ShapingSEQ 2017* identified this work as a key implementation action and recognised the potential need to consider further actions, policies or programs to expedite development and ensure an adequate and realistic supply of urban land.

DSDILGP's issue analysis and resulting policy investigations have sought to address the issues of fragmentation and inefficient infrastructure delivery, while addressing the disconnect between long-term planning and the market drivers in the short to medium term.

DSDILGP will continue to work with key stakeholders in 2020 to finalise the establishment of necessary responses to unlock areas of underutilised urban footprint. While these investigations will ensure that adequate responses are available to unlock supply, the Growth Monitoring Program plays vital role in monitoring realistic supply across the region and assists in understanding where such actions may be best directed.

Best practice research

Introduction

In 2018, the foundational year of the Growth Monitoring Program, the Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) commissioned independent experts to research and recommend best practice methods for estimating land supply, focusing on inputs into South East Queensland (SEQ) local government and utility provider land supply databases. The research outcomes were discussed in the Best practice research section of 2018 Land Supply and Development Monitoring (LSDM) Report and focused on four key topic areas: realistic land availability and take-up; use and density; land suitability and ability to service.

In 2019, DSDILGP furthered the best practice research, building off the recommendations from 2018 and the priorities identified by the Growth Monitoring Program (GMP) Data and Modelling Working Group. The research outcomes for 2019 are detailed below and include:

- Ability to service
- Developable area and land supply types
- Measuring development, and
- Small area growth assumptions.

Ability to service

The primary objective of the Ability to Service best practice research is to provide an indication of whether the following *ShapingSEQ 2017* objective (p.46) is being met:

> At all times, *ShapingSEQ 2017* expects local government planning schemes to have at least 15 years' supply of land – land that has been appropriately zoned and is able to be serviced.

To provide a measure of land that is zoned and able to be serviced, a Current Intent to Service Layer has been prepared based on six indicators relating to:

- infrastructure already in place,
- decisions already made about infrastructure or development, and
- agreements, planning or funding in place for future infrastructure.

The Current Intent to Service layer also provides the information to apply different realistic availability calculations depending on whether: 1) land is within or outside the priority infrastructure area, future sewerage connection area or a growth area with relevant infrastructure arrangements in place; or 2) land has a development permit, preliminary approval or infrastructure agreement.

The realistic availability calculation, which incorporates the Current Intent to Service layer, is a scenario that is based on the information available at the time of writing this report. Factors indicating the decisions, agreements, planning etc. of land that is intended to be serviced are constantly changing. The Current Intent to Service layer will incorporate this information annually into Land Supply and Development Monitoring (LSDM) reporting. Each year's report represents a 'snapshot' in time to help gauge what land may contribute to the 15 year zoned and able to be serviced target and realistically available for development by 2041 target.

This year's work builds upon the Ability to Service best practice research delivered in 2018, whereby the Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) commissioned independent experts to identify 'best practice' methods for calculating land supply. The research identified a range of indicators that could be mapped to indicate a parcel's ability to be serviced by infrastructure by 2041. The identified indicators were boundary, approval, proximity, available land and capacity indicators covering transport, water, sewerage, community facilities, public parks, stormwater, power and telecommunications trunk infrastructure networks. The research recommended using a range of shortlisted indicators where up-to-date data is available.

In accordance with the recommendations of the 2018 best practice research, DSDILGP delivered a Current Intent to Service layer for all local government areas in 2019. The layer includes both consolidation and expansion areas. However, it has only been used for the 2019 LSDM report, in conjunction with other datasets, to calculate the realistic availability scenario for planned dwelling supply in the expansion areas as detailed in the Technical notes.

In the longer-term, DSDILGP intends to include further datasets to prepare an ability to service layer to utilise it for calculating realistic availability scenarios, as well as land zoned and able to be serviced, in consolidation areas. The Ability to Service subprogram will further explore opportunities to refine approaches for expansion areas as datasets relating to other indicators become available or are prepared by DSDILGP. To maintain a Current Intent to Service layer and expand it to include other indicators, DSDILGP will incorporate up-to-date information as part of its LSDM future reporting. Relevant data agencies will be consulted throughout this process.

Further detail on the Ability to Service approach, layer creation and limitations are provided in the following sections. Information relating to data collection, data preparation, data processing and data sources are provided in the ability to service section of the Technical notes for each local government area.

Layer creation

This section provides a description of each indicator used to create the Current Intent to Service layer for the 2019 LSDM Report and why they indicate an ability to service by 2041. First, an overview of the Current Intent to Service layer creation is detailed, including a summary of the data collection, data preparation and data processing undertaken by DSDILGP. Detailed information relating to each of these components is provided in the ability to service section of the Technical notes for each local government area.

A range of indicators were identified in the Ability to Service best practice research in 2018. The 2019 LSDM Report utilised boundary, zoning and statutory approval type indicators only. Other indicators relate to proximity and capacity that require information that was not readily available for incorporation into the 2019 LSDM Report.

The Current Intent to Service layer for the 2019 LSDM Report was therefore made up of the following six indicators:

- priority infrastructure area,
- existing and future sewerage connection area,
- priority development area,

- infrastructure agreements,
- preliminary approvals, and
- development permits.

The ability to service subprogram intends to progress data collection and preparation to explore the use of other indicators in future years.

Data collection and preparation

DSDILGP requested datasets, relating to the six ability to service indicators, from all twelve local governments, Unitywater and Queensland Urban Utilities. Some datasets were readily available and provided. For example, priority infrastructure areas and future sewer connection areas as they are parcel based boundary type indicators indicating areas inside and outside the boundary. Datasets relating to other indicators required further data preparation. For example, data relating to infrastructure agreements were, for most local governments and utilities, recorded in a spreadsheet register or individual infrastructure agreements stored as.pdfs and not in a spatial layer. DSDILGP transferred the spreadsheet data with historical lotplan references to a June 2019 digital cadastral database (DCDB). For those infrastructure agreements stored as.pdfs, DSDILGP perused each document to extract the relevant information (reference, date, entities, infrastructure types etc.) and map their extent to the June DCDB.

Preliminary approvals are not part of the quarterly or annually updated approvals database prepared by the Queensland Government Statistician's Office (QGSO). The QGSO dataset however include residential development permits for material change of use and reconfiguring a lot. DSDILGP prepared preliminary approval spatial layers for local government areas by perusing the decision notices and approved plans of development for lists of preliminary approvals supplied by local governments. Information captured from the approval documentation and entered into the spatial layer included; approval reference, date, lots forming the premises of the application, description, approved land uses and any approved attached, detached or square metres of gross floor area (GFA). Datasets provided by Unitywater and City of Gold Coast included preliminary approvals and were incorporated into the Current Intent to Service layer.

Development permits came from several sources. These included, open data sources, QGSO provided development permits layer and local government and Unitywater supplied approval spatial layers. Each type had a different schema in terms of fields (i.e. columns of data) captured in the attribute table and different spatial representation (e.g. point versus polygon). They also had different land use definition categories and different categories for recording dwellings (e.g. attached, detached etc.). For the Current Intent to Service layer, DSDILGP transferred historical point data to a June 2019 DCDB polygon extent and extracted residential approvals from non-residential approvals. DSDILGP also extracted approvals that represent a scale and intensity consistent with urban development that requires sewerage trunk infrastructure. This was done by examining approved lot or dwelling yield against the parcel size and distance from existing and planned areas intended to be serviced by trunk infrastructure.

Table 1 provides a summary of the information collected and processed by DSDILGP. The notes section of the Table illustrates the variance among datasets and future work to be undertaken to update and expand these indicator data inputs. Changes are constantly occurring to all datasets,

some more frequently than others. However, for this year's LSDM, DSDILGP was able to prepare and combine the data included in Table 1 to create the Current Intent to Service layer. Where possible, complete datasets have been built for this year's report and to be able to build upon these complete datasets for future LSDM reporting enhancements. For example, to explore the Current Intent to Service layers use for consolidation areas or to incorporate other indicators into the expansion area realistic availability calculations.

Table 1: Indicator Datasets used for Current Intent to Service layer creation for each local government area

Local government area	Priority Infrastructure Area	Development Permit	Preliminary Approval	Infrastructure Agreement	Existing and Future Sewerage	Priority Development Area
Brisbane	✓	✓	✓~	-	^	✓
Gold Coast	✓	✓	✓	✓	✓	✓
Ipswich	✓	✓	✓"	✓	^	✓
Lockyer Valley	✓	✓	✓	✓#	^	N/A
Logan	✓	✓	✓	-	✓	✓
Moreton Bay	✓	✓	✓	✓	✓	✓
Noosa	✓	✓	>	✓	✓	N/A
Redland	✓*	✓	-	✓	✓	✓
Scenic Rim	✓	✓	=	+	^	N/A
Somerset	✓	✓	-	✓	^	N/A
Sunshine Coast	✓!	✓	✓	✓	✓	✓
Toowoomba	✓	✓	✓	✓	N/A	✓

Notes: Refer to ability to service technical notes for a detailed description of each dataset's inclusion and exclusion rationale, data availability and processing undertaken.

~ Outside PIA only;

^ A review of the Netserv plan is currently being undertaken by QUU to separately define the water supply and sewerage boundaries;

* PIA in parts covers large areas not included with sewerage connection areas (existing and future)

Infrastructure agreements that relate to preliminary approvals;

+ No Infrastructure agreements not connected to DAs and none issued between July 2018 to June 2019;

- Only one non-residential preliminary approval issued in past 5 years;

” From 2014-2019;

= No Preliminary Approvals Issued between July 2018 to June 2019.

> no residential preliminary approvals extracted from the development approvals dataset supplied by Council and processed by Unitywater

! Based on additional infrastructure investigations for sites outside the PIA but within the planning scheme’s Urban Growth Management Boundary, an additional 1240 dwellings have been included within the Current Intent to Service Layer.

Data processing

A case study was undertaken to explore the indicator datasets and interaction with other boundaries such as the urban footprint and existing urban area. The case study covered the Logan Local Government Area. This area was selected as it was understood to have higher expansion growth and includes high population yielding priority development areas.

From the case study, an approach for filtering residential development approval data was explored. Also explored was an approach to identify development approvals for development at a scale and intensity indicative of urban development - needing all forms of trunk infrastructure. The treatment of priority development area take-up rates and their interaction with the Current Intent to Service layer were also explored. From this case study, the timing of development and its association with the six indicators was evident in a spatial context. It was visually apparent that the indicators had an association with the timing of development ‘on the ground’ when compared to the digital cadastral data base (DCDB) and aerial photography.

These results supported the land supply timing, indicator type and overlapping of indicator concepts raised in the 2018 best practice research. It also helped develop the Current Intent to Service layer processing, integration with the realistic availability calculations approach, and the overall validity of the ability to service research. Checking the indicators against the DCDB and aerial photography was incorporated into the layer checking procedure to help confirm the layer processing had a suitable level of accuracy.

All prepared indicator layers were then given a unique tag field (‘Infras_Agree’, ‘Dev_Permit’, ‘PDA’, ‘PIA’ etc.) before spatially combining datasets with an ArcGIS ‘union’ geoprocessing (Figure 1). Figure 1 illustrates the union processing on layers and also the indicative timing that was observed between the indicator datasets and the DCDB and aerial photography.

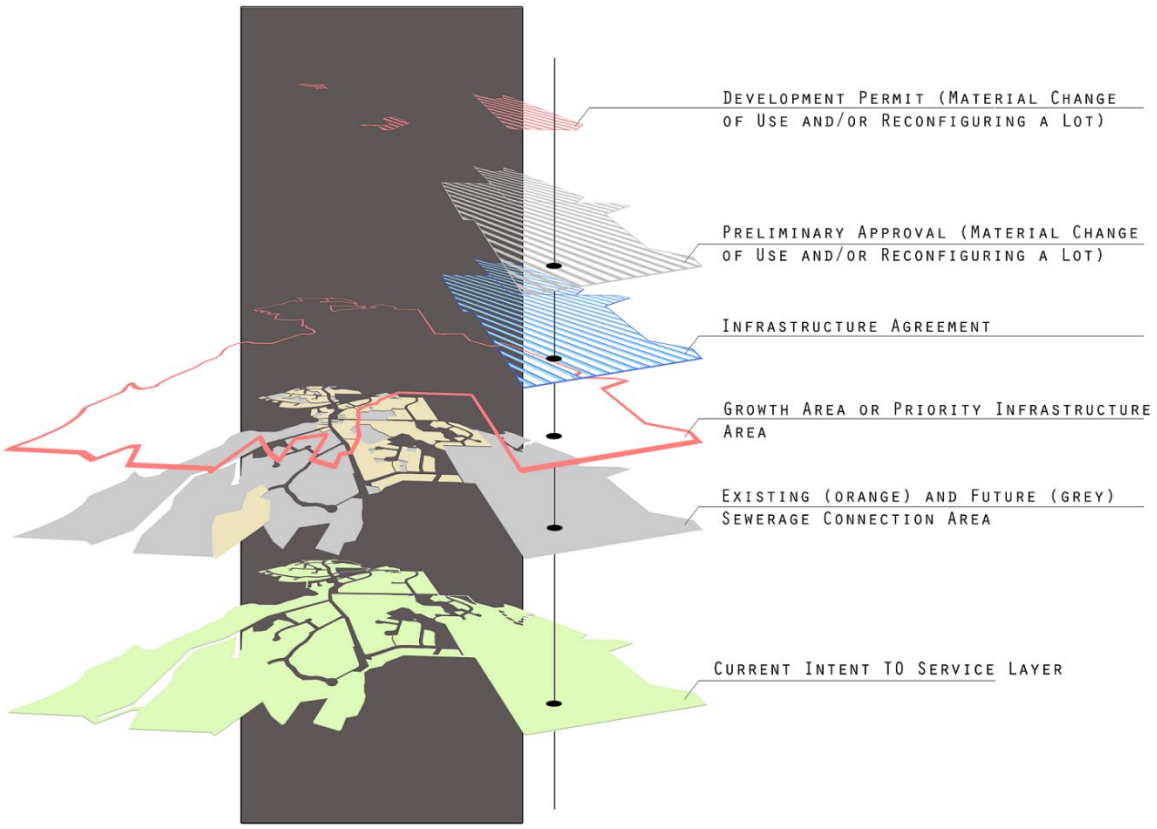
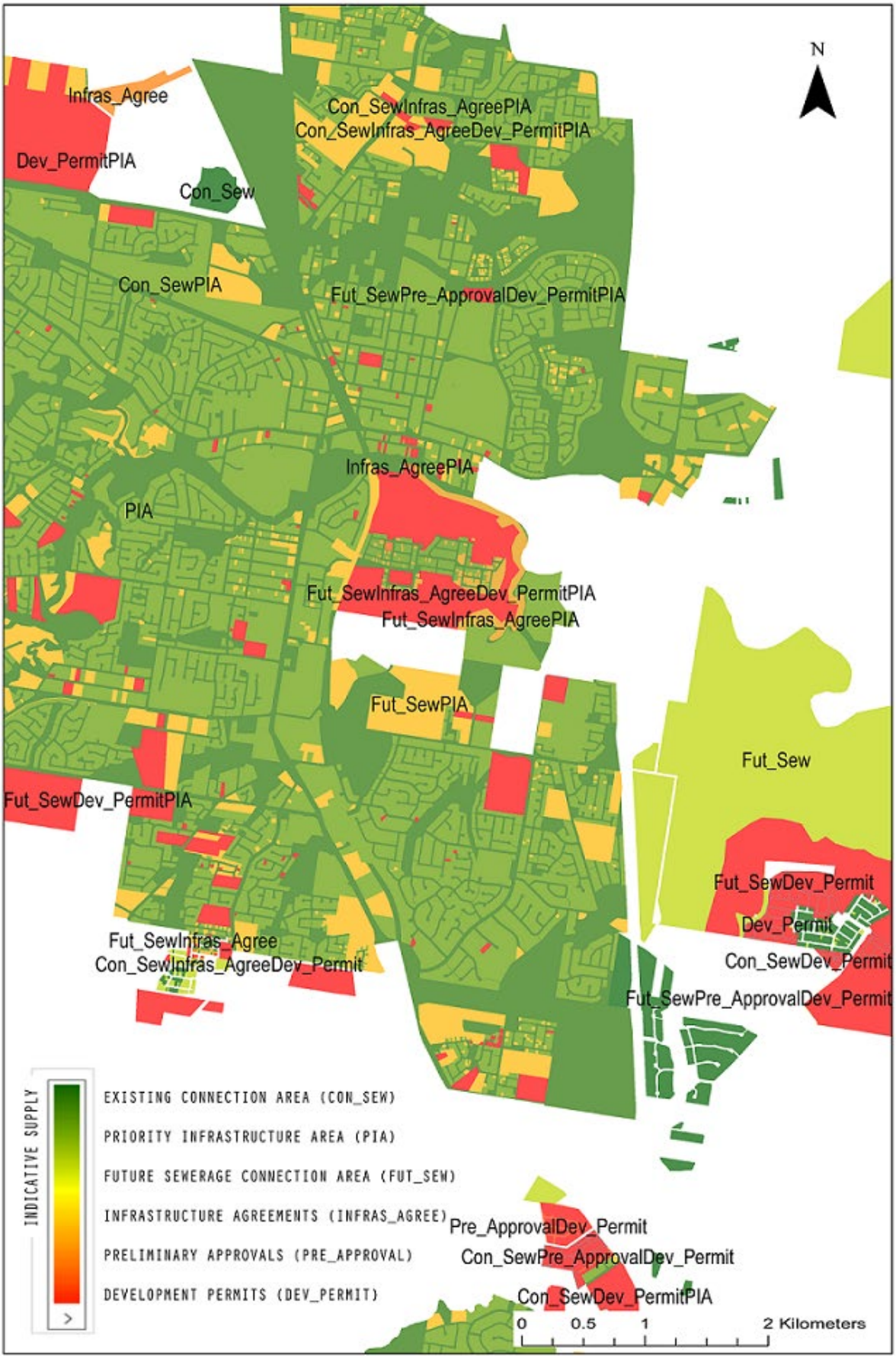


Figure 1: Ability to Service Data Processing for Layer Creation

The resulting Current Intent to Service layer is a single layer made up of the six indicators. Within this layer, the unique combination of layers from the 'union' processing was retained in a separate field. The processing of data in this way provided a view of how the indicators overlapped. This combination field was mapped and produced a view into the Current Intent to Service layer such as that detailed in Figure 2.

Exploratory in nature, the indicators were coloured as a 'heat map effect' to help understand land that may represent more present supply (i.e. about to be built upon (red spectrum)) versus land that has already been built upon and may be built upon in the more distant future (i.e. representing later future supply (green spectrum)). This 'heat map' was prepared to explore and help further develop research about the timeframes associated with the indicators. For example, development permits generally have a 4-year currency period (with exceptions), the priority infrastructure area generally has 10-15 years supply (with exceptions). Future sewerage connection areas in a Netserv Plan are up to 20 years supply (with exceptions). For example, the City of Gold Coast Water and Waste Future Connection Area has a 50-year planning horizon.


N
Infras_Agree
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Fut_SewDev_Permit
Dev_Permit
Con_SewDev_Permit
Fut_SewPre_ApprovalDev_Permit
Fut_SewInfras_Agree
Con_SewInfras_AgreeDev_Permit
INDICATIVE SUPPLY
EXISTING CONNECTION AREA (CON_SEW)
PRIORITY INFRASTRUCTURE AREA (PIA)
FUTURE SEWERAGE CONNECTION AREA (FUT_SEW)
INFRASTRUCTURE AGREEMENTS (INFRAS_AGREE)
PRELIMINARY APPROVALS (PRE_APPROVAL)
DEVELOPMENT PERMITS (DEV_PERMIT)
Pre_ApprovalDev_Permit
Con_SewPre_ApprovalDev_Permit
Con_SewDev_PermitPIA
0
0.5
1
2 Kilometers

Figure 2: Current Intent to Service layer indicators overlapping with indicative Supply 'heatmap' rendering.

Figure 2 provides a view of those parcels that have a combination of indicators and appears to provide a view of land supply timing. Albeit, at a single point in time based on the decisions, planning, agreements made at the time of this year's 2019 LSDM Report. For example, a single development project can be viewed with the indicators showing infrastructure agreements and preliminary approvals over the whole development extent, completed lots and also stages with a development permit - yet to be developed and plans sealed and incorporated into the DCDB.

Part of the testing process showed development that was ahead of the planned roll out of land. For example, parcels not included within the priority infrastructure area or future sewer connection area but had an infrastructure agreement, development permit or preliminary approval. These preliminary results reiterated the complexity of these expansion areas and confirmed the benefit of the Current Intent to Service layer in being able to refine realistic availability calculations.

Integration with realistic availability calculations

The Current Intent to Service layer was created from a combination of shortlisted indicators datasets. However, it is not the only source of information used to calculate realistic availability. Consistent with the definition of realistic availability, there are other factors that were identified that may constrain the availability of land for development to accommodate dwellings (e.g. land owner intent). Consistent with the 2018 LSDM Report, these factors are also utilised in the 2019 LSDM Report. Although, refinements to the methodology were incorporated to better account for infrastructure availability factors – via the Current Intent to Service layer.

In the 2018 LSDM Report, realistic availability was calculated using growth area take-up rates in combination with the broad hectare study fragmentation assumptions. This year, for continued improvement of realistic availability calculations, the Current Intent to Service layer was integrated with the fragmentation analysis and growth area take-up rates as detailed in the Technical notes. Figure 3 illustrates how the Current Intent to Service layer integrates with the fragmentation analysis and take-up rates for realistic availability scenario calculations. For the 2019 LSDM Report, the Current Intent to Service layer refines realistic availability calculations for expansion areas only.

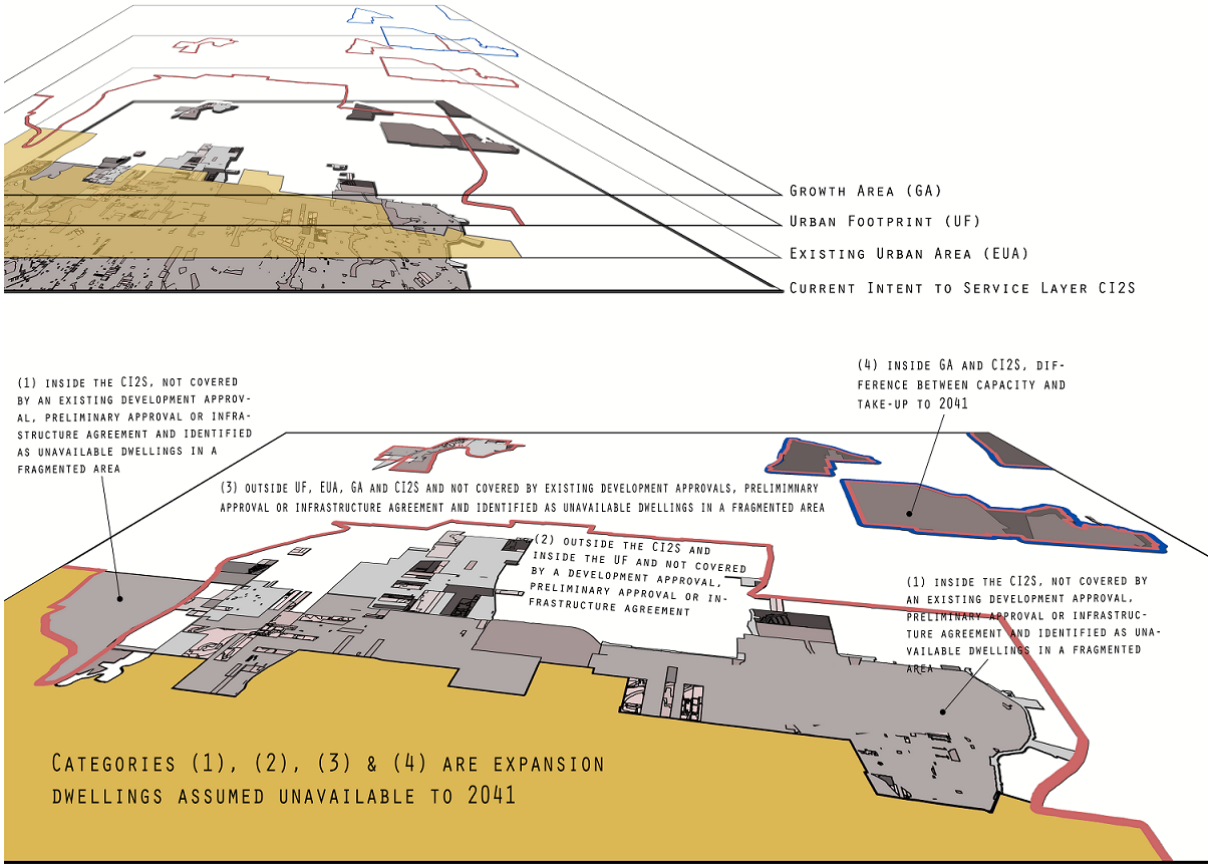


Figure 3 – Incorporation of Current Intent to Service layer with the broad hectare study fragmentation assumptions and growth area take-up rates. **Note:** this figure is for illustrative purposes only. The layers have been adjusted to represent the types of realistic availability calculations.

The ability to service best practice research explains how the indicators represent the planning, decisions and agreements relating to the provision of infrastructure. It further explains these indicators provide insights into the progress of a parcel's ability to be serviced with trunk infrastructure. The overall progress of a parcel's development is described as the 'land supply pipeline'. Figure 4 generally depicts where the identified indicators for the Current Intent to Service layer fall within the 'land supply pipeline'. For example, if a parcel is within the future sewerage connection area only, it is less progressed along the 'land supply pipeline' than another parcel that is within the future sewerage connection area and has an infrastructure agreement.

As supported by the previous section's case study, the overlapping of indicators within the Current Intent to Service layer shows this progression of land from being, for example, within a priority infrastructure area to having a development permit for a material change of use. The processing of 'overlapping' indicators was detailed in the Current Intent to Service layer creation section above. Building on the previous layer creation section, overlapping of indicators is important as it can indicatively show the land that is further progressed along the 'land supply pipeline'. It illustrates the land that has planning, decisions, agreements etc. in place, at a point in time, over other land – forming a more intricate picture of the land intended to be developed and serviced before other land.

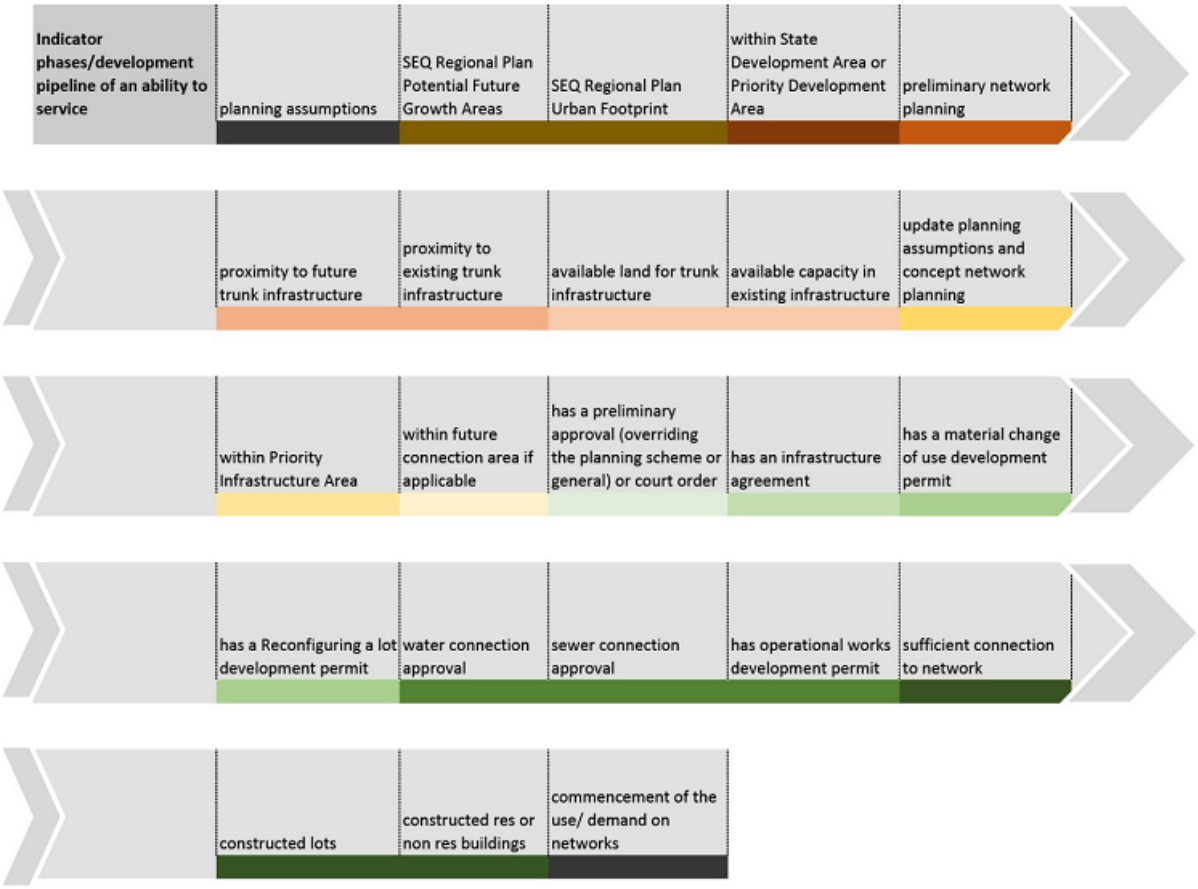


Figure 4: Infrastructure planning phases/land supply pipeline showing the increased certainty of ability to service. Source: Best practice ability to service research undertaken by GHD – dated 2018.

Following the ability to service best practice research, the approach to calculate realistic availability treats indicators further along the 'land supply pipeline' different to those that are not. For example, parcels with infrastructure agreements, development permits or preliminary approvals for reconfiguring a lot and material change of use are identified from the Current Intent to Service layer and are assumed to be wholly available by 2041 (Figure 3). Other areas within the Current Intent to Service layer with no approvals or infrastructure agreements are subject to the fragmentation analysis which will generally reduce the land assumed to be available by 2041. They are treated differently because they appear to not be as far progressed along the 'land supply pipeline' and may be encumbered by other factors (e.g. land owner intent) that constrain their development for dwellings by 2041 – even if they are able to be serviced with trunk infrastructure. The broad hectare study fragmentation assumptions therefore remained over these areas within the Current Intent to Service layer (Figure 1).

The Current Intent to Service layer covers all expansion areas, regardless of whether they are inside or outside the existing urban area. This year, however, areas outside the Current Intent to Service layer and within the urban footprint are treated as not available where not subject to a development approval, preliminary approval or infrastructure agreement. The Current Intent to Service layer seeks to provide a greater level of confidence of the expansion dwelling supply in the area between the existing urban area and urban footprint as this component of the expansion area is where a high proportion of expansion growth is expected to be contained. Due to its complexity, by being subject to many factors and a dynamically changing environment, the Current Intent to Service layer seeks

to provide a parcel specific view of the planning, decisions and agreements in place to service parcels within this area at the time of each LSDM annual report.

The decision to exclude areas outside the Current Intent to Service layer and inside the urban footprint is based on the available information at the time of processing and based on the case study findings and best practice research about indicator timing. The ability to service subprogram intends to continue research in this area to further validate and refine approaches.

This year's incorporation of the Current Intent to Service layer is considered a refinement of methodology to more accurately calculate realistic supply. This year, with the Current Intent to Service indicator information and prepared layer, numbers of realistic supply have been refined to more closely reflect the decisions made and intentions to service land with infrastructure. Last year's fragmentation analysis and take-up rates over expansion and growth areas were applied without the Current Intent to Service layer factoring in infrastructure availability.

All expansion area priority development areas and their entire extent are included in the Current Intent to Service layer along with other indicators over these areas, such as development permits and infrastructure agreements. The rationale for each indicator's inclusion is explained under the respective headings below. Consistent with the 2018 LSDM approach, take-up rates have been applied to priority development areas and other growth areas to reflect realistic availability by 2041 (Figure 3). For the 2019 LSDM Report, DSDILGP commissioned SGS Economics and Planning to update realistic take-up rates and the updated versions have been applied to priority development areas and other growth areas (refer to planned dwelling supply in the Technical notes).

The approach to this year's realistic availability calculations has been detailed by setting out what component of the realistic availability calculations the Current Intent to Service layer updated. For example, incorporating the Current Intent to Service layer with the fragmentation analysis; areas where fragmentation analysis has been excluded, i.e. supply is treated as not available, based on the Current Intent to Service layer; treatment of parcels from the Current Intent to Service layer that have indicators showing they are further along the 'land supply pipeline'; and the application of take-up rates over priority development areas and other growth areas within the Current Intent to Service layer. What is now discussed is how areas outside the urban footprint and outside the Current Intent to Service layer contribute toward the realistic availability.

There is planned dwelling supply that is not planned to be serviced by sewerage trunk infrastructure, and therefore is outside the Current Intent to Service layer, but which is included in the realistic availability figures. These are largely rural residential and rural living allotments. Even though not at a scale or intensity that constitutes urban development, the rural residential and rural living allotments contribute toward meeting the *ShapingSEQ 2017* benchmarks for 2041. Therefore, planned dwelling supply in these areas, indicated by an infrastructure agreement, development permit or preliminary approval, have been included in realistic availability scenario planned dwelling supply calculations (Figure 3) (refer to planned dwelling supply in the Technical notes).

Priority Infrastructure Areas

The 2018 best practice research discussed the role of the priority infrastructure area is to assist in coordinating, prioritising and sequencing the provision of infrastructure to service 10 to 15 years of growth. Regarding how it indicates an ability to service, it shows the land that is currently serviced

and also land that is intended to be serviced with infrastructure within the respective priority infrastructure area time extent.

Development permits

A development permit for reconfiguring a lot or material change of use indicates the proposed use and/or additional lots is consistent with the intended use, scale and intensity of development on the parcel and can be sufficiently serviced by local government services. The 2018 best practice research discussed the development application process and how local governments generally assess the site's ability to connect and capacity of surrounding infrastructure to accommodate the additional demand on the network. This is generally undertaken in consideration of supporting information provided with the development application. Development permits are accompanied by an infrastructure charges notice setting out the required fees for the development to commence, excluding water and sewerage in Queensland Urban Utilities and Unitywater jurisdictions as they may require separate connection approvals be granted.

Preliminary approvals

A preliminary approval approves development but does not authorise assessable development to occur. A development permit is required to carry out assessable development. There is no requirement to obtain a preliminary approval. However, applicants may choose to use preliminary approvals to stage development or to gain approval for a development concept before undertaking detailed planning.

The 2018 best practice research identified that a preliminary approval may represent an investment and intention from the applicant to develop the site included in the preliminary approval application. The research further identified that a preliminary approval may represent an intention from the assessment manager and related referral entities to support the development of the site in accordance with the conditions of approval, approved plans of development and currency period.

Infrastructure agreements

Infrastructure agreements can play an important role in securing further certainty or clarity regarding provision or payment of infrastructure charges. The 2018 best practice research discussed how an infrastructure agreement is generally based on network modelling to check if there is sufficient capacity or, more typically, detail the extent of works required to service a subject site. The agreement signifies more than an intention to service the site, it is a binding agreement for all parties involved to the delivery, payment and on-maintenance and off-maintenance of infrastructure.

Existing sewer connection and future connection areas

Under the South-East Queensland Water (Distribution and Retail Restructuring) Act 2009, it is required to have a Netserv Plan for the relevant jurisdictions. The Netserv Plans describe the infrastructure and services within local governments areas and how utility providers plan to meet customers' needs over the next 20 years. NetServ Plans identify sewerage future connection areas, describing the area where a utility provider intends to extend its infrastructure network to service future growth. Existing connection areas generally cover the existing network and connected properties but may also include consolidation growth.

The 2018 best practice research described a future sewerage connection area to generally indicate potential to service allowable and approved development under a participating planning scheme over the twenty-year horizon of the Netserv Plan. It further set out areas within the Future Connection Area are prioritised for infrastructure planning and provision over areas outside of the Future Connection Area and not inside a Connection Area. Therefore, future connection areas indicate an intent to service those areas and partly demonstrate an ability to service that area, although at a conceptual planning level and in accordance with the planned type, scale and timing of development.

For clarity, the above is a general description and general applicability of how this indicator may apply. Some of the key considerations that may affect land within the existing and future connection areas ability to be serviced include topography, actual network capacity in that immediate area and availability of bulk water at the time of development. The inclusion of land parcels within a connection area does not automatically mean the full extent of the land parcel is able to get adequate water supply pressure or be entirely controlled by gravity sewer. Netserv Plans applicable within local government areas also include a section on connection policy which notes connections still need to be technically feasible.

Priority development areas

Priority development areas (PDAs) are delivered by Economic Development Queensland (EDQ) under the Economic Development Act 2012 and are intended to provide an effective means for accelerating planning and development outcomes. A PDA is a site declared by the state government to facilitate the development of land in Queensland for economic development or community purposes. The 2018 best practice research set out that the state government works with local governments to streamline the planning, approval and development processes, including servicing with infrastructure to expedite development. Due to this declaration, PDA sites have a focus to be serviced with trunk infrastructure inside the PDA and sub-regional infrastructure.

Similar to including land within the priority infrastructure area, PDAs set out a strategy to service the land within via a development scheme infrastructure plan, Infrastructure Funding Framework (IFF), Infrastructure Charging Offset Plan (ICOP) etc. Due to a PDAs declaration and focus to be developed, for the Current Intent to Service layer, a positive assumption is made that land can be developed - until such time as any barriers to development are known. For the 2019 LSDM Report, all growth within PDAs is included as having the ability to be serviced as no barriers have been identified for the full extent of the expansion area PDAs to be serviced with trunk infrastructure. Sub-regional infrastructure agreements and infrastructure agreements are in place for some PDAs to deliver required infrastructure at the timing required. As other PDAs continue through their planning, design and development phases (‘land supply pipeline’), barriers to servicing their full extent may become apparent. At that time, the Current Intent to Service layer will be adjusted to reflect their ability to be serviced.

Developable area and land supply types

In 2018, the Growth Monitoring Program (GMP) Data and Modelling Working Group (DMWG) identified 'investigating creating a single mapped dataset of developable land for South East Queensland (SEQ)’ and ‘researching standardised land supply types for use when measuring land

supply and development' as two of the top five priorities for the GMP. These priorities were reflected in the 2018 Land Supply and Development Monitoring (LSDM) Report.

In 2019, the Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) combined these priorities into a single Developable Area subprogram of best practice research given some constraints apply differently to different land supply types. The steps for this combined best practice research were as follows:

- Prepared a 'South East Queensland land supply types and developability rules' paper in consultation with the GMP DMWG,
- Engaged RPS to:
- undertake, in consultation with DSDILGP and individual local governments, a review of the SEQ-wide developability rules of the above paper to identify any local variations of or general changes to those rules
- use the resulting rules to apply constraints to planned industrial areas to create an industrial developable area dataset (reported in the 2019 LSDM Report as planned industrial land).

The following sections identify the key findings of the research.

Land supply types

Informed by the 2018 GMP best practice research by RPS and Spatial Economics, with further input by RPS and DMWG members in 2019, the proposed residential and industrial land supply types in the following table reconcile differing advice and recommendations. Any additional subtypes identified through local circumstances will need to align to the overall SEQ land supply types.

Broad category	Land supply type	Identification	Local variation
Broadhectare[1]	Planned	Contiguous areas of land, including area intended for mixed and supporting uses[2]: • Identified as a master planned area that generally expects over 500 new dwellings or over 500ha in area (e.g. Priority Development Areas) • Intended, fully or partly, for residential/urban purposes, including future residential use[3] • Not previously used for an urban purpose	Expertise of local government planners would be required to determine appropriate areas.
	Fragmented	Contiguous areas of land, including area intended for mixed and supporting uses[2]: • Comprising existing lots generally less than around 2ha where urban development is expected to require a	Expertise of local government planners would be required to determine appropriate areas and can include Underutilised Urban Footprint.

		coordinated servicing strategy for the contiguous areas of such lots • Intended, fully or partly, for residential/urban purposes, including future residential use[3] • Not previously used for an urban purpose	
	Balance	• Not identified as Broadhectare (Planned) or Broadhectare (Fragmented) • Intended, fully or partly, for residential/urban purposes, including future residential use[3], and areas intended for mixed and supporting uses[2] • Not previously used for an urban purpose	Sub-types may provide for more refined density ranges to suit local circumstances.
Redevelopment	Major	Larger scale residential development (medium to high density[4]), including mixed and supporting uses[2]: • Exceeding three (3) storeys in height, OR • Up to three (3) storeys in height and greater than one (1) hectare land holding area[5] • Intended, fully or partly, for residential/urban purposes, including future residential use[3] • Previously used for an urban purpose	Sub-types may provide for more refined density ranges to suit local circumstances.
	Minor	Smaller scale residential development (low to medium density[4]), including mixed and supporting uses[2]: • Up to three (3) storeys in height, AND • Up to one (1) hectare land holding area[5] • Intended, fully or partly, for residential/urban purposes, including future residential use[3] • Previously used for an urban purpose	Sub-types may provide for more refined density ranges to suit local circumstances.

Rural residential		Large lot, unsewered development areas: • Proposed lots greater than 2500m[26] • Intended, fully or partly, for rural residential/low density[7] purposes	Allotment sizes may be adjusted based on the local circumstances and planning experience.
Industrial		Industrial development (excluding extractive industry) including mixed use office within identified industrial zones/precincts and supporting uses[2]	Industrial sub-types can be included based on local circumstances and planning experience[8].

Notes:

1. In line with the state government's Broadhectare study produced by Queensland Treasury these areas generally relate to existing lots greater than 2,500m^2.
2. Mixed and supporting uses may include: open space, recreation, community purpose, office, commercial, business, etc.
3. Residential/urban purposes include: all residential zones and township, emerging communities and mixed-use zones as identified in Schedule 2 of the *Planning Regulation 2017*
4. Low, medium and high density are consistent with the planning intent identified within a local planning instrument.
5. Based on known property holdings or development proposals at the time of land supply measurement.
6. Informed by the state government's Broadhectare study produced by Queensland Treasury, including development propensity rates
7. Rural residential, low density or equivalent are consistent with the planning intent identified within a local planning instrument
8. It is expected that reporting will be based on summary types including low impact, medium impact, high impact, investigation, etc., generally as informed by the *Planning Regulation 2017*.

Developability rules

The developability rules reported in the tables below, for hard and soft constraints respectively, have been progressively refined through the following steps:

- Recommendations in RPS' 2018 GMP land suitability best practice research
- Application of those recommendations in the context of the proposed land supply types
- Initial review and feedback by DMWG members in early 2019
- Subsequent consultation with each local government on potentially appropriate local variations of the SEQ-wide developability rules in the context of local circumstances (which also resulted in some refinement of the SEQ-wide rules).

Key defining parameters for the developability rules include:

- In determining developable areas, the following should be used where applicable, in order of preference, instead of applying the developability rules:
- Vacant recently subdivided lots
- As approved by current development permit
- As approved by current preliminary approval
- As master planned
- As structure planned
- As per a strategic assessment of environmental constraints
- The developability rules:
- Are meant to be applied in any future assessments of developable area in SEQ to inform a shared understanding and consistent measurement of land supply
- Vary with the land supply type, e.g. residential vs industrial, its location, density and value of development, and the accuracy of the associated mapping
- Are subject to regular update and refinement, through consultation between the GMP and stakeholders, based on better information and as new or amended constraints or new and more accurate mapping of constraints are introduced over time
- Hard constraints - are those respected at least 90% of the time. It is generally acknowledged that land affected by a hard constraint has limited development potential.
- Soft constraints - are those that have the potential to impact on developable land but will not necessarily prevent development from occurring. A soft constraint may be able to be managed or mitigated to some degree and therefore only a percentage of land encumbered by a soft constraint is deemed affected.
- To reflect a practical level of accuracy and judgement in representing the variability of outcomes within a rules-based constraints assessment, the percentage scale used for constraints is: No (significant) constraint – 0%; limited constraint – 25%; moderate constraint – 50%; High constraint – 75%; and Hard constraint – 100%.
- The names of the constraints included in the tables are 'common layer names' that have been adopted for the sake of simplicity in reporting. They represent a range of locally-described constraints as identified in the Common Layer Name Table in appendix of the Technical notes. Such a table will need to be maintained over time to enable interpretation and application of the developability rules at the local level.

Hard constraints	**Land supply type**					
	Broadhectare (planned)	**Broadhectare (fragmented or balance)**	**Redevelopment (major)**	**Redevelopment (minor)**	**Rural residential**	**Industrial**
Flood	100%	100%	50%	75%	75%	75%
Slope > 25% / landslide	75%	100%	25%	75%	75%	100%

Infrastructure	100%	100%	100%	100%	100%	100%
Extractive industries	100%	100%	100%	100%	100%	100%
Built Form - Heritage[1]	100%	100%	100%	100%	100%	100%
Environment (High value)[2]	100%	100%	100%	100%	100%	100%
Waterways / wetlands (excluding buffers)	100%	100%	100%	100%	100%	100%
Planning exclusions[3] (e.g. Rural conservation zones)	100%	100%	100%	100%	100%	100%
Location specific / enterprise amenity / safety buffers[4]	100%	100%	100%	100%	100%	25%

Notes:

1. Heritage – the percentage adopted regards the curtilage of the heritage matter, not necessarily the cadastral boundary of the land containing the heritage matter.
2. Environment (High value) – This refers to state layers of: Endangered Regional Ecosystems, Category A Regulated Vegetation, Marine Parks, Fish Habitat A+B, High Value Bushland PKADA and KADA habitat, Protected Areas and Threatened species (Nature Conservation Act 1992), high conversation value wetlands (EP Act 1994) and legally secured offset areas
3. Includes areas not intended for residential or industrial development, as applicable in the circumstances. Excluded zones from all land supply types listed include: Community Facilities, Environmental Management and Conservation, Limited Development, Open Space, Rural and Sport and Recreation (except where particular precincts in those zones support residential or industrial development).
4. Location Specific / Enterprise Amenity / Safety Buffers captures areas such as Willowbank Raceway, Amberley Air Base and Helidon Magazine Range. A full list of applicable constraints is contained in the appendix of the Technical notes.

Soft constraints	**Land supply type**					
	Broadhectare (planned)	**Broadhectare**	**Redevelopment (major)**	**Redevelopment (minor)**	**Rural residential**	**Industrial**

		(fragmented or balance)				
Overland	25%	25%	25%	25%	25%	25%
Slope 15-25%	25%	25%	25%	25%	50%	75%
Extractive resource separation / buffers	75%	100%	100%	100%	75%	0%
Infrastructure buffers	75%	75%	50%	75%	50%	0%
Environment (High value)[1]	50%	50%	25%	50%	50%	50%
Environment (Low-medium)[2]	50%	50%	25%	50%	50%	50%
Coastal hazard: Erosion Prone	75%	75%	0%	0%	75%	75%
Coastal hazard: High storm tide	100%	100%	75%	75%	75%	75%
Heritage - cadastral mapping	25%	25%	50%	75%	25%	0%
Location specific	Determined through local circumstances and experience	Determined through local circumstances and experience	Determined through local circumstances and experience	Determined through local circumstances and experience	Determined through local circumstances and experience	Determined through local circumstances and experience

Notes:

1. Environment (High Value) - represents the environmental layers not adopted as hard constraints but contain strong planning scheme provisions which would limit development.
2. Environment (Low-Medium Value) – represents remaining environmental layers.

Future improvements

Substantial progress has been made in 2019 towards a shared understanding among stakeholders of land supply types and the developability rules applying to those to assess developable areas as one

major input to land supply databases. Work to build on this progress in future years would appropriately include:

- Maximising the scope for local government input in arriving at a common understanding of the appropriate treatment of constraints at the local level, i.e. to identify what is likely to be approved for development, will:
    - minimise duplication of effort and support consistent measurement of land supply across SEQ
    - support further refinement of the treatment of constraints, including local variations of SEQ-wide developability rules if required, to reflect the specific circumstance of local conditions and mapping
    - enable incorporation of missing data expected to result in refinement of the developable area information.
- Capturing the effect of all preliminary approvals that override the planning scheme to either include or exclude relevant land supply types, compared to planning scheme zoning, is fundamental to a more accurate appreciation of current land supply. In 2019 substantial efforts were made towards capturing the effect of preliminary approvals to add to information on development permits, with the primary focus being on residential development and expansion areas. The 'Limitations' sections in the Technical notes indicate there are still some data gaps in this regard, particularly for approvals affecting non-residential land supply.
- From a technical data processing perspective, the following would minimise subjectivity of interpretation, inconsistency and errors in the treatment of constraints and identification of vacant or underutilised land:
    - there would desirably be guidelines to assist analysts in determining vacancy or use of the land
    - constraints data would preferably be available as a single spatial dataset/feature class per file
- Greater integration with the process to estimate future industrial employment for planning assumptions databases, e.g. through identification of land with primarily industrial employment potential, may assist with the measurement of planned industrial land.

Measuring development

'Researching how to more accurately measure growth and development activity' was identified as one of the top five priorities for the Growth Monitoring Program (GMP) by the Data and Modelling Working Group (DMWG) in 2018. This priority was reflected in the 2018 Land Supply and Development Monitoring (LSDM) Report and led to the formation of the Measuring Development subprogram. As part of this subprogram, in 2019 the Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) undertook the following research to inform improved measurement of dwellings and net growth:

- compared ABS dwelling building approvals with ABS dwelling completions data,

- assessed how best to measure dwellings and net growth to align with the dwellings captured by the *ShapingSEQ 2017* dwelling supply benchmarks. The resulting parameters for measurement informed:
    - a review by Unitywater of its property-level measurements of dwellings, for Moreton Bay, Noosa and Sunshine Coast local government areas,
    - new measurements of dwellings and net growth at the property level for the Redland local government area for the period 2016-2019, and
    - an audit across all local government areas of data available to support the annual measurement of dwellings and net growth at the property level from 2016 onwards.

DSDILGP's work is focused on measurement annually from 2016 onwards in recognition of the *ShapingSEQ 2017* base date and to provide a basis for comparison to the 2016 Census dwelling counts.

In addition to DSDILGP's work, the ABS has advised that it is working towards the publication, in 2022, of quarterly dwelling stock measurements from 2016 onwards, to be reported at the SA2 spatial level.

The following subsections provide an overview of the findings of this research and its implications for the approach to measuring net dwelling growth for the LSDM Report in future years.

Comparison of ABS approvals and completions

The ABS dwelling building approvals data used by both the 2018 and 2019 LSDM Reports measure Dwelling growth by consolidation and expansion areas by LGA includes all building approvals for new dwellings reported to the ABS. The ABS reports those buildings approvals at the SA2 spatial level to support this measurement.

The ABS also has a quarterly building activity survey to identify dwelling commencements and completions, but as it includes sample survey techniques, results are only available at Greater Capital City Statistical Area (GCSA) or state level. This does not support direct reporting of Dwelling growth by consolidation and expansion areas by local government area across SEQ, but it does provide a basis for comparison to building approvals over time for the Greater Brisbane Capital City Statistical Area (CCSA) within SEQ.

The graphs below compare quarterly dwelling completions to building approvals for the Greater Brisbane CCSA over the September Quarter 2006 to March Quarter 2019 period. The graphs report separately for houses, middle (attached dwellings up to three storeys) and high-rise (attached dwellings four storeys or more) in recognition of these dwelling types typically having different construction periods.

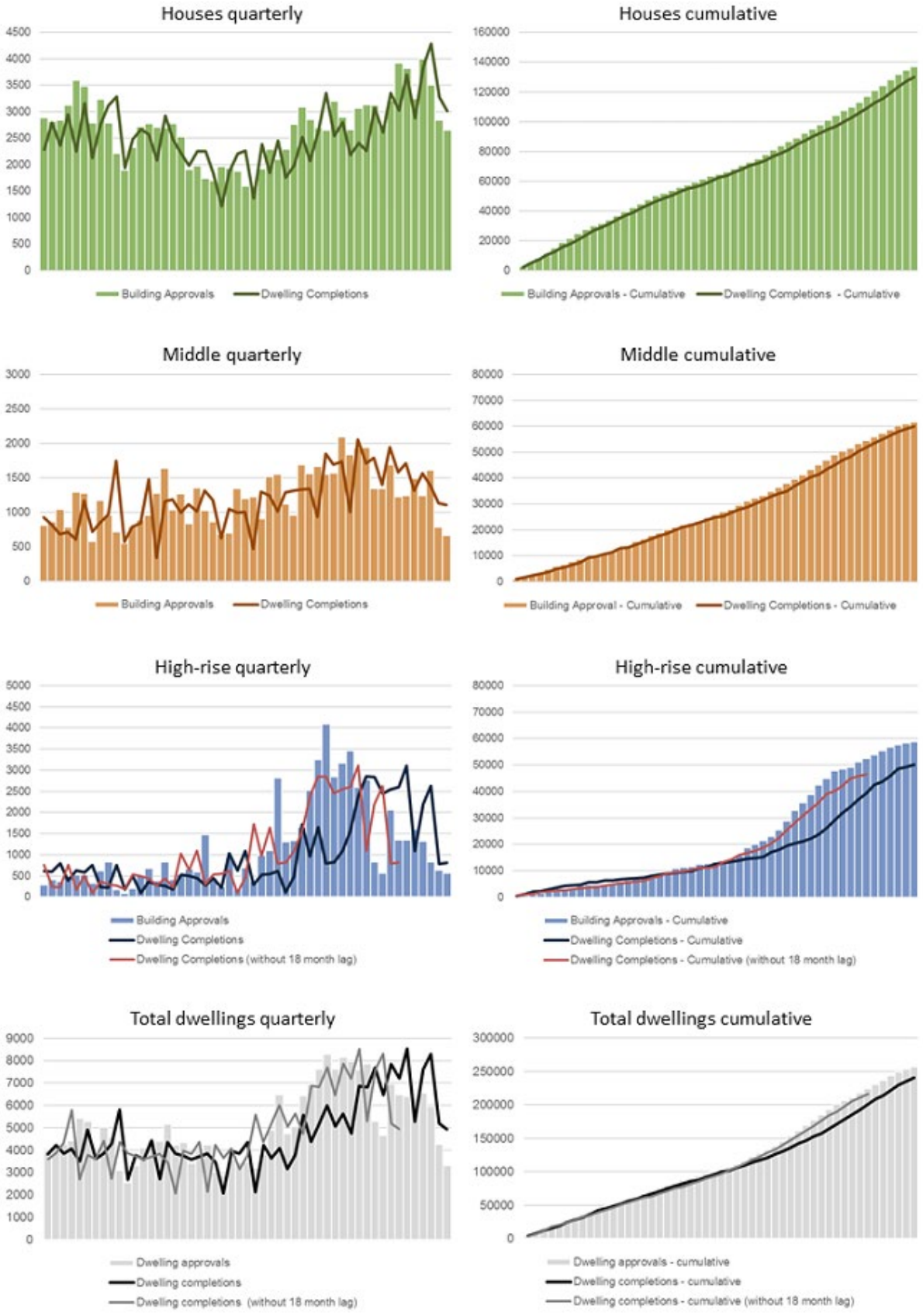
The graphs show limited differences between completions and approvals for houses and middle dwellings, with more significant differences for high-rise dwellings. However, if completions for high-rise dwellings are brought forward 18 months in time, i.e. the 'without 18-month lag' line identified in the graphs, completions more closely align with approvals, suggesting on average an 18-month lag between approval and completion for high-rises.

Over the 2006 to 2019 period, there were about 257,000 dwelling building approvals compared to about 240,200 completions (6.5% less than the approvals) in the Greater Brisbane CCSA, but this

does not account fully for construction time lags. Other research by the ABS indicates that over the 2006-2017 period, generally about two percent but up to three percent of dwelling building approvals across the whole of Queensland were abandoned (8752.0 Building Activity, Australia, June 2017).

The Dwelling growth and 2016-2019 Constructed dwellings estimate measures used in the 2019 LSDM Report will therefore slightly overestimate new dwellings over time, after allowing for construction time lags. However, as they do not account for the effect of demolitions or use conversions, in areas subject to more redevelopment they will be a greater overestimate of net dwelling growth.

Figures: Dwelling completions vs building approvals, Greater Brisbane CCSA, July 2006 to March 2019



Aligning dwelling measurement to the dwelling supply benchmarks

The *ShapingSEQ 2017* dwelling supply benchmarks are based on the Queensland Government 2015 medium series dwelling projections. The base for those projections is the permanent private dwellings figure from the most recent Census (2016). This figure includes the permanent private dwelling Census categories ('Separate house', 'Semi-detached, row or terrace house, townhouse' and 'Flat or apartment') but does not include temporary private dwellings Census categories ('Caravans, tents' etc) or non-private dwellings (e.g. hotels, boarding houses, etc).

The equivalent categories of dwellings would preferably be used for any property-based measurements used to assess progress towards accommodating the *ShapingSEQ 2017* benchmarks. In terms of the Planning Regulation 2017 those equivalent uses include: Dwelling house, Dual occupancy, Multiple dwelling, Party house, Relocatable home park and Retirement facility.

Due to different definitions and approaches for collection and measurement, property-based measurements of dwellings cannot be expected to align precisely to the Census measurements, but as the Census only occurs every five years, property-based measurements provide a potential basis for measuring net growth annually. Property-based measurements may also provide:

- base-year measurements of dwellings (and non-residential uses) for planning assumptions databases used for land use and infrastructure planning purposes,
- property-level density information, and
- if undertaken annually over an extended period, a better understanding of development, land use and density transitions over time to inform future supply assumptions.

The following performance measures were therefore proposed to help ensure a reasonable level of alignment between property-based measurements of dwellings and net growth and the Census-based measurement used to inform the *ShapingSEQ 2017* benchmarks. These performance measures are based on the 2016 or any future Census dwelling counts in comparison to the equivalent property-based counts:

- The property-based measurement is no more than 2% different (more or less) from the Census total permanent private dwelling count at the LGA level,
- The property-based measurement is no more than 5% different (more or less) from the Census total permanent private dwelling count at the SA2 level,
- For those SA1s that have more than 100 permanent private dwellings as counted by the Census:
    - less than 10% of those SA1s have a property-based measurement that is more than 20% different (more or less) from the Census total permanent private dwelling count; and
    - no SA1s have a property-based measurement more than 50% different (more or less) from the Census total permanent private dwelling count.

Where property-based measurements of dwellings do not achieve one or more of those performance measures, some change in the method of property-based measurement may be justified to achieve alignment. Such alignment will also support comparable measurements across SEQ.

Unitywater review of its measurements for Moreton Bay, Noosa and Sunshine Coast

Unitywater undertook a review of its existing dwelling measurements as at 2017, 2018 and 2019, in its Demand Modeller and Tracking Tool (DMaTT), including a comparison of its January 2017 measurements to those at the 2016 Census. Comparisons were made based on total permanent private dwellings at the LGA, SA2 and SA1 spatial levels, However, there are still differences in tourist areas such as Noosa Heads and Caloundra. Unitywater's non-private dwelling land use data utilises temporary accommodation information from Sunshine Coast Council's and Noosa Shire Councils property system.

Recognising the limitations of the time difference and Census count exclusions for the comparisons, key findings of the Unitywater review include:

- A significant proportion of short-term accommodation as identified by the DMaTT from property information was counted by the 2016 Census as private dwellings, resulting in significantly higher Census dwelling counts in a number of SA1s in tourist areas. Given that the Census counts used by Unitywater excluded dwellings occupied by visitor only households, this difference could still have been caused by short-term accommodation that was unoccupied on Census night but classified as private dwellings.
- A few instances were identified where the Census counted residential care facilities as private dwellings but DMaTT recorded them as non-residential floor space only.

Following provision by Sunshine Coast Council of property-level transitory accommodation rating data, Unitywater updated their base dwelling counts in DMaTT, and also revised dwelling counts for residential care facilities and other missed counts of dwellings. This significantly reduced the scale of mismatches in dwelling counts, between DMaTT and the Census, at SA1 level. However, there are still differences in tourist areas.

The following comparative measurements of average annual dwelling growth are based on the revised Unitywater DMaTT measurements:

LGA	Consolidation			Expansion		
	DMaTT net dwelling growth 2017-2019[1]	**Dwelling building approvals 2016-2019[2]**	**Average annual benchmark**	**DMaTT net dwelling growth 2017-2019[1]**	**Dwelling building approvals 2016-2019[2]**	**Average annual benchmark**
Moreton Bay[3]	2543	2334	2069	2184	2304	1808
Noosa	109	212	184	143	184	106
Sunshine Coast	2669	2525	2041	1745	1738	1462

Notes:

1. Based on growth 24 January 2017 to 25 May 2019 for Moreton Bay and Noosa and 24 January 2017 to 13 February 2019 for Sunshine Coast (number of years calculated as number of days from date to date divided by 365).
2. Based on Dwelling growth as reported in this 2019 LSDM Report.

3. To inform Unitywater's review, Moreton Bay Regional Council undertook an analysis of datasets including the net increase in unique lots registered, net increase in properties assigned a residential use in its rates database and net increase in domestic bins. In combination these provided an indication only of the upper bounds of net dwelling growth. The Moreton Bay Regional Council's analysis suggests that average annual net dwelling growth was likely to be close to 4,000 over the 2016-2019 period, compared to the average annual overall growth of 4,727 in the above table. The differing overall period of growth limits conclusions being drawn from the comparison.

Recommendations arising from the Unitywater review included:

- Net annual dwelling growth over time should be averaged for comparison to the average annual benchmarks of *ShapingSEQ 2017*
- Land use datasets should be updated as at 30 June each year to support consistent annual reporting of net growth
- The performance measures used for the review's comparisons with Census dwelling counts were supported as fit for purpose, including at SA1 level which is a scale that allows investigation and explanation of differences in measurement.

The measurement of annual dwelling growth is subject to ongoing investigation.

New measurements for Redland

The Redland project to measure dwellings as at 30 June each year and net growth annually over the 2016-2019 period is currently underway through Integran, with initial outputs expected in September 2019 and final outputs in December 2019.

Integran Infrastructure Management (Integran) undertook the measuring dwellings and net growth project for the Redland Local Government Area (LGA) to provide measurement of permanent private dwellings and net growth annually over the 2016 to 2019 period (reported at 30 June each year).

The Redland LGA did not have a spatial representation of existing development. Therefore, the project established a modelling methodology to map existing permanent private dwellings at a parcel based level using various data sources.

The results provided an appreciation of the opportunities and challenges of a parcel-based approach to measuring dwellings and net growth. The key findings from the initial outputs are discussed below and support the future approaches set out in the Future approach to measurement of dwellings and net growth across SEQ section below.

Proposed performance measures explored

Integran was able to produce a spatial dataset of existing development that was within the limits of the performance measure thresholds proposed by DSDILGP. This was done by comparing the created dataset permanent private dwelling count against the ABS 2016 Census data at LGA, SA2 and SA1 levels. The suitability of the performance measure thresholds proposed by DSDILGP are being explored through case study projects like this Redland LGA measuring development project and are providing valuable insights. For example, although the results met the identified performance measures, Integran identified a number of areas where the future refinement of data would provide

additional benefit to the process and increase confidence in the accuracy of future results. A number of recommendations were also made regarding data collection processes to improve the accuracy of data being collected.

Limited manual assessment and intervention

This Redland LGA measuring development project covers a smaller population when compared to other LGAs and has a high proportion of separate (detached) houses when compared to the number of other attached dwelling types. It has demonstrated a methodology, based on an approach with limited manual assessment and intervention, can produce results similar (within the proposed performance measure thresholds) to the census counts. Integran conclusions and results of the other Unitywater measuring development project suggest limited manual assessment and intervention could lead to inaccuracies. The extent that the prepared methodology is 'on-ground' accurate versus accuracy measured against the ABS census data is unknown at this stage. The potential for error is being investigated using land use conversion assumptions, sampling or other means. Using the developed methodology, the level of inaccuracy may vary between LGAs, particularly those with a higher attached dwelling stock and non-resident population.

Temporary and non-private dwellings versus permanent private dwellings

Census data captures temporary and non-private dwellings as permanent private dwellings. The extent of this is unknown and where this varies has also not been confirmed. Results from the Redland and Unitywater measuring development projects, suggest the error can be high and mostly in tourist areas. However, this is based on a sample of LGAs, not including potentially higher non-resident population areas such as Brisbane and Gold Coast LGA. Other datasets, such as council tourist flags for parcels are parcel based and are designed to be updated as ownership data changes. This supports the use of datasets, other than the census, to capture and measure development to best account for this error. Using the ABS Census place of enumeration versus place of residence can cause discrepancies and is expected to cause challenges in high tourist population areas. For Redland LGA this was less pronounced (121 dwellings across the entire LGA). Use of place of enumeration figures may therefore be more appropriate in low tourist population areas.

Property-based measurements

The Redland LGA measuring development project has demonstrated that a property-based measurement can be achieved using a combination of existing datasets. As methodologies for processing these datasets are developed, refined and further tested, their usefulness, over or in parallel with ABS Census data may become more apparent. The results are a step toward understanding if created datasets can have suitable reliability and validity and if property-based measurement can be useful for regional planning base year benchmarks, measurement of dwelling and net growth measurements.

Non-residential, temporary private dwellings and non-private dwellings

The Redland LGA measuring development project demonstrated it was limited in its ability to reconcile permanent private dwelling counts with non-residential data and also mixed-use data. This is due to the project considering permanent private dwelling counts and residential datasets only. For example, a multiple dwelling may have not been captured if it was on a lot with a non-residential use such as a shop. This was evident during the studies conception and also further apparent when

translating and sampling the equivalent land uses between data sets. The project demonstrated a complete view of all parcels and land uses is needed to best measure one or all types of existing development within an LGA.

Errors from translating land use definitions between datasets

Assumptions were needed for the Redland LGA measuring development project to translate land use definitions between multiple datasets. These translation assumptions may account for any errors that may have occurred in the dataset. The subprogram seeks to quantify translation errors. Quantifying any translation errors may provide insights into the need for manual intervention where assumptions were needed to convert land use definitions from a dataset into a standardised set of land uses. It is expected the level of error will vary within an LGA and also between LGAs as available datasets are likely to vary, particularly the Council rates dataset.

Multiple uses of the existing development dataset

Measuring development between existing dwelling counts and census is one use of the existing development dataset. The existing development dataset is also used to project growth in urban growth models. Measuring development using census-based definitions will have a disconnect with planning scheme definitions. Therefore, projected growth from the planning scheme definitions are likely to misalign with the existing land use definitions. Consistency across existing development definitions, measuring growth and projecting growth could help account for errors associated with land use translations between datasets during the initial build but also ongoing updates.

Data availability audit

The following matrix identifies the availability of relevant property-level data, by SEQ LGA, to support annual measurement of dwellings and net growth from 2016 onwards (this data is available online from the state or local government or utility provider):

LGA	Cadastre	Rates land use	Aerial imagery	G-NAF	Emergency Management Levy	Completed development approvals	Waste bin services data	Water connections	Queensland Valuation and Sales	Building approvals
Brisbane	A	A	A	A	A	U	U	C	A	A
Gold Coast	A	S	A	A	S	A	N	C	A	A
Ipswich	A	U	A	A	U	S	A	C	A	A
Lockyer Valley	A	C	A	A	C	N	C	C	A	A
Logan	A	A	A	A	S	A	A	A	A	A
Moreton Bay	A	A	A	A	A	S	A	C	A	A
Noosa	A	A	A	A	A	S	C	C	A	A

Redland	A	C	A	A	C	N	C	C	A	A
Scenic Rim	A	C	A	A	C	N	A	C	A	A
Somerset	A	U	A	A	U	N	U	C	A	A
Sunshine Coast	A	C	A	A	U	S	C	C	A	A
Toowoomba	A	A	A	A	A	n	A	A	A	A

A = All years; S = Some years or partial datasets for all years; C = Current database only; N = Not available; U = Unknown (to be confirmed)

Importantly, Brisbane City Council and Ipswich City Council have existing programs that use some of these datasets for at least annual property-based measurement of dwellings and net growth from 2016 onwards. As reviewed above, Unitywater has also undertaken a number of property-based measurements for the LGAs of Moreton Bay, Noosa and Sunshine Coast, although the timing of those does not support consistent annual measurement from 2016 onwards. Unitywater has recommended that datasets be updated to 30 June to facilitate the consistent measurement of dwellings. Other local governments, including Gold Coast, Logan and Moreton Bay, have undertaken a property-based measurement for 2016 as the base year for planning assumptions databases and have an objective for ongoing annual updates.

Proposed ABS dwelling stock measurements

The ABS is developing and intends to publish quarterly estimates of dwelling stock at the SA2 level across Australia in June 2022. Ongoing estimates beyond then are subject to future funding.

In general terms the estimates will involve taking the 2016 Census permanent private dwelling counts, adding estimated new dwelling completions and subtracting estimated dwelling demolitions. This will require:

- Expanding the collection of building approvals to include demolition permits to support new estimates of dwelling demolitions
- Modelling of dwelling completions at finer geographic levels than currently.

The dwelling types captured for approvals and completions will be houses, semi-detached/town houses and flats/units/apartments, not including buildings classified as short-term accommodation, e.g. holiday or serviced apartments.

Use of these estimates for future LSDM reporting would have the following limitations and benefits:

- not available until 2022 and there is no assurance of continuation
- very useful for tracking net dwelling growth for *ShapingSEQ 2017*'s current SA2-based consolidation and expansion areas, but not for more refined land use based boundaries that may be contemplated in the future
- not provide the property-level detail necessary to:
- understand dwelling densities and use transitions over time

- underpin local planning assumptions databases
- provide an ongoing check against property-based dwelling counts, while recognising the potential for ongoing misalignment between the treatment of short-term accommodation, for example:
- the Census counts a significant proportion of short-term accommodation as private dwellings and so they would appear in the dwelling stock estimates
- building approval/completions data for the ABS dwelling stock estimates would exclude new buildings classified as short-term accommodation
- property-based counts should seek to count short-term accommodation separately from other dwellings.

Future approach to measurement of dwellings and net growth across SEQ

The benefits of undertaking the annual property-based measurements of dwellings and net growth from 2016 onwards include:

- provision of base-year measurements of dwellings (and non-residential uses) for planning assumptions databases used for land use and infrastructure planning purposes,
- property-level density information, and
- if undertaken annually over an extended period, a better understanding of development, land use and density transitions over time to inform future supply assumptions.

Given the data availability (see data availability audit section), there would appear a reasonable technical basis for annual property-based measurement of dwellings, supported where appropriate by extracts, i.e. at or about 30 June each year, of some datasets.

The limitations of using building approvals to measure dwelling growth, particularly in areas experiencing significant redevelopment, have been noted.

The benefits versus costs of undertaking annual property-based measurement may be different for a large urban local government or infrastructure provider, or the state government, compared to a smaller primarily rural local government. Minimising duplication of effort across agencies can minimise the overall costs.

The following are therefore proposed for consideration for collaborative implementation, by state and local government and utility providers, in 2020 or future years (as appropriate given available resources):

- For those entities either already undertaking annual property-based measurements, or that have undertaken 2016 measurements to provide base year data for planning assumptions, i.e. Brisbane, Gold Coast, Ipswich, Logan and Moreton Bay, it would be desirable to undertake a check against the performance measures for 2016. This would inform their suitability for use for comparative measurement of net dwelling growth across SEQ and any adjustment of the existing approaches if required,
- For Unitywater's area, it would be desirable to build off the Moreton Bay Regional Council measurement of 2016 dwellings, subject to check against the performance measures as noted above, and generate an equivalent measurement for Sunshine Coast and Noosa,

- For the primarily urban local government areas, including all of those noted above plus Redland and Toowoomba, work is done progressively to move towards annual measurement of dwellings and net growth from 2016 onwards,
- For the three primarily rural local government areas, Lockyer Valley, Scenic Rim and Somerset, a review of existing or new property-based measurements could be undertaken to align with each Census year only, starting with 2016, which would also provide the base year data for planning assumptions databases (Lockyer Valley used 2016 as the base year for its existing demand model),
- The proposed future ABS quarterly measurement of dwelling stock at the SA2 level will provide a check against the property-based measurements and fill data gaps, e.g. pending full implementation of property-based measurement for urban local government and possibly always for the rural local government areas,
- Any future measurements should be undertaken as at 30 June in each year, and
- As far as practicable the measurement of dwellings should be integrated with property-based measurement for non-residential uses.

The following detailed methods will help to ensure appropriate comparable measurement of dwellings and net dwelling growth against the *ShapingSEQ 2017* benchmarks over time:

- Property-based measurements need to capture short-term accommodation separately from permanent private dwellings, but comparison to the *ShapingSEQ 2017* benchmarks needs to consider the effect of counting part of the short-term accommodation. This is because the Census counts a proportion of short-term accommodation as private dwellings, the effect of which is then included in the state's population and dwelling projections and the benchmarks via resident population occupancy rate assumptions. The effect of this may be significant in places with high visitor populations, including Gold Coast, Sunshine Coast and Noosa and possibly inner Brisbane,
- Use of available commercial tourist accommodation registers together with local government rating and levy data may enable identification of subsets of short-term accommodation which are and are not likely to be counted by the Census as private dwellings (versus non-private dwellings). For example, apartment hotels and serviced apartments complexes, expected to be captured by the Census as non-private dwellings, will be included on the registers whereas privately-rented apartments within buildings used partly by visitors and residents will not,
- There is a need to align dwelling types as closely as possible to provide equivalent comparisons, so property-based dwelling measurement needs to classify dwellings based on the Planning Regulation 2017 use categories, not just as detached and attached dwellings, and
- The Census counts used for comparison need to include all permanent private dwellings, occupied and unoccupied, including those occupied by visitors and other non-classifiable households on Census night.

Small area growth assumptions

Queensland Government population and dwelling projections set out the current and expected future trends on the amount and distribution of growth around SEQ. These are based upon a number of trends and assumptions around fertility, mortality, migration and development. Conversely, *ShapingSEQ 2017* sets out policy to shape the pattern of growth to a more desirable form that meet its objectives. The *ShapingSEQ 2017* dwelling supply benchmarks are therefore different to the underpinning dwelling projections for some parts of the region, while accommodating the same growth for SEQ overall.

The Small Area Growth Assumptions (SAGA) are an important implementation action of *ShapingSEQ 2017* and were conceived as a basis for reflecting the dwelling supply benchmarks and each new round of projections at the infrastructure catchment spatial level or a finer level of detail. The SAGA subprogram aims to better support infrastructure demand modelling and planning to help achieve *ShapingSEQ 2017* strategies. Similarly, SAGA also aims to better support the preparation and achievement of future regional planning strategies.

Regional planning and its implementation need to be undertaken with best practice approaches to best guide future growth of the region. Best practice modelling approaches are required to support the preparation of policy that deals with region-wide matters. There are matters that require a region-wide view, within and across local government boundaries, for effective regional planning to occur. For example, from region-wide public and private transport planning and provision to technology disruptions shifting people's movements, land use and built form.

In response to the increasing complexity of the region, an approach is needed to meet the requirements of today and also meet any enhancements or shift in approaches moving forward. The concept of the SAGA is not new, local governments currently prepare population and employment growth models at a small area level (e.g. parcel-based level). As part of the Growth Monitoring Program, the Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) has sought to better understand the intricacies of each local government's modelling approaches. This has helped DSDILGP understand that there are many different approaches currently undertaken.

A preliminary comparison of local government modelling approaches has shown many similarities and also many different data types and structures (i.e. schema). Although generally following similar approaches when viewed as a whole, each local government has fundamental differences in methods. Differences are also evident in approaches to preparing the planning assumption inputs and overall model outputs. All these differences present limitations when used for informing regional planning initiatives. However, it is the differences in data types and structure that first presents a key barrier for a region-wide view to adequately inform and address regional planning matters. Without consistency, comparison and integration of local government datasets is not sufficiently accurate.

With regard to the above context, broadly detailing the challenges, need and aims, DSDILGP explored a project scope to progress the SAGA subprogram. Table 1 summarises the subprogram project scope through a series of research questions. A research-based approach should be taken to explore all approaches, within the limits of the study, prior to progressing the subprogram.

Table 1: SAGA Subprogram Research Questions

1	What are the historical and current approaches to urban growth models?
2	What are the types of data inputs used?
3	What are the types of models used?
4	What is a suitable approach to model processing (e.g. manual versus automated)?
5	Should a bottom up and/or top down approach be adopted?
6	What is a suitable level of model detail (e.g. parcel based versus other approaches)?
7	What are the required data input types and schema?
8	Is standardisation of data in and out beneficial?
9	What approaches of integrating and processing data can produce SAGA growth scenarios for regional planning matters?
10	How can the approach meet reporting requirements (e.g. Measures that Matter and the Land Supply and Development Monitoring reporting) and future use requirements (regional plan reviews)?
11	How can requirements for region wide Infrastructure Demand Modelling be met (e.g. detail and data fields to convert land use information to infrastructure network modelling)?
12	How can user requirements be met?
13	How can the approach be validated (sampling, tracking, checking, etc.)?
14	What calibration functions and future enhancement capabilities can be anticipated?
15	What is the system capability, data accessibility and user requirements?

As the first phase of the project, DSDILGP has undertaken a literature review study, addressing a number of the research questions. The literature review study is summarised in the abstract below.

> *ShapingSEQ 2017 and future regional plans are not able to test, and ultimately plan for, preferred land use patterns and dwelling supply benchmarks at a small area level of detail. A region-wide urban growth model is therefore required that can plan and test the impact of the ShapingSEQ 2017 and future regional plan scenarios. This study undertook a review of literature and identified and explored the different types of urban growth modelling and processing approaches.*
>
> *The literature supported a dynamic, micro and bottom-up model processing approach, as opposed to a static, macro and top-down processing approach. It further highlighted the importance of a mixed approach, combining data-driven, process-driven, probability-based and rule-based processing approaches. Many modelling approaches were detailed in the literature. The modelling approaches that best support the above preferred model processing approaches are Cellular Automata-Based models, Agent-Based Models or Land Use Transport models. The*

literature also highlighted a mix of these are useful. Examples of eminent modelling packages used throughout the world were also identified in this study (e.g. UrbanSim, SLEUTH, CLUE).

Challenges were also identified in the literature. In response to these challenges, the literature supports: 1) the merging of discipline silos and their respective spatial silos; 2) a more structured and process driven approach; and 3) urban growth modelling approaches that can sufficiently articulate city complexity and its effects. The results of this study contributed to an integrated set of approaches and identified preferred approaches. This study will be used in future studies to: 1) better understand current urban modelling approaches used in South East Queensland and how they may be integrated for a region-wide model; and 2) inform the selection of a modelling package that will best combine local government models into a region-wide model.

Technical notes

Introduction

These technical notes provide information on data collected and compiled and calculations reported on for the 2019 release of the South East Queensland (SEQ) Regional Plan 2017 (*ShapingSEQ 2017*) Growth Monitoring Program's (GMP) Land Supply and Development Monitoring (LSDM) Report.

LSDM reporting is a core deliverable of the GMP in working to achieve the vision, goals and strategies of *ShapingSEQ 2017*. The GMP annually monitors land supply and development activity for both residential and non-residential land uses in SEQ and reports on associated measures, as appropriate.

Further detail on information used for the LSDM Report, including description, rationale, limitations, data sources, custodians, data geography, method, data updates and reporting units is provided, where relevant.

The LSDM Report has:

- been developed in good faith
- utilised appropriate data and consistent and repeatable methodologies, where possible
- made use of publicly available datasets (local, state and regional), where possible
- used information that may be refined over time and will be updated for annual reviews of the LSDM Report.

In some instances, the LSDM Report has relied on unpublished datasets provided by local governments. These are unique to each local government area and represent data captured at a point in time for the purposes of informing the 2019 LSDM Report.

For future LSDM reports, data improvements are expected to be made progressively over time through the application of new and more consistent methodologies and approaches (Moving forward).

For the purposes of LSDM reporting, the SEQ region comprises the following local government areas:

- Brisbane
- Gold Coast
- Ipswich
- Lockyer Valley
- Logan
- Moreton Bay
- Noosa
- Redland
- Scenic Rim
- Somerset
- Sunshine Coast

- Toowoomba (urban extent), i.e. those parts within the Toowoomba Statistical Area Level 4 (SA4) boundary.

Any data collected at a lower geographical area (e.g. parcel level or Statistical Area Level 2 (SA2)) are reported on for these local government areas unless otherwise stated.

The Department of State Development, Infrastructure, Local Government and Planning (DSDILGP), reviews and produces the LSDM Report annually to ensure the most appropriate and up-to-date information is reported.

It is acknowledged that other agencies (State and local) may have metric dashboards or other reports displaying similar information and these may provide more detail for their area.

While every care has been taken to ensure the currency and accuracy of the LSDM Report, the State of Queensland, SEQ local governments and utility providers make no representations or warranties about the report's accuracy, reliability, completeness or suitability for any particular purpose and disclaims all responsibility and all liability (including without limitation, liability in negligence) for all expenses, losses, damages (including indirect or consequential damage), decisions or actions taken as a result of any data, information, statement or advice, expressed or implied or contained within.

Further information on selected terms used through this document are listed in definitions section.

Dwelling growth

Description

Dwelling growth monitors new residential building approvals in South East Queensland (SEQ) within consolidation and expansion areas, as identified in *ShapingSEQ 2017*.

Rationale

Trends in annual new residential building approvals are compared against adjusted average annual benchmarks, i.e. average annual expected dwelling growth 2016-2031, with such growth aligning to the 2041 dwelling supply benchmarks as outlined on pages 42 and 43 of *ShapingSEQ 2017*. For the 2019 LSDM report, this rate of growth for SEQ has been adjusted to take account of the projected rate of growth from 2016-2031 identified in the Queensland Government's 2018 edition medium series projections.

This provides an indication of the progress of development towards realising the actual dwelling growth expected by the dwelling supply benchmarks of *ShapingSEQ 2017*.

Limitations

The Australian Bureau of Statistics (ABS) from time-to-time updates and adjusts building approvals information to account for errors and new information as it becomes available. Therefore, in future updates of this data, previous years' values may change.

The information used for this measure only reports on building approvals and does not measure net change in dwellings, for example it does not take into consideration approvals not constructed or dwelling demolitions, relocations or conversions to other uses and may include visitor dwellings. For more information on the further research being undertaken to improve the measurement of net change, see Measuring Development.

Data source/custodian

- ABS, Building Approvals, catalogue 8731.0, extracted October 2019 for approvals July 2011 to June 2019
- Department of State Development, Infrastructure, Local Government and Planning (DSDILGP), *ShapingSEQ 2017*, Existing Urban Area (EUA), August 2017
- Queensland Treasury, Projected dwellings to 2041, 2018 edition medium series, 2019
- DSDILGP, *ShapingSEQ 2017*, Dwelling Supply Benchmarks, August 2017
- DSDILGP, local government area boundaries, 2017
- DSDILGP, SEQ regional plan boundary, 2017

Source data geography

ABS, Statistical Area Level 2 (SA2)

Method

Using ABS.Stat (beta) ABS website extract total new dwelling building approvals for the SEQ region by SA2, filtered by new approvals, both private and public, for:

- houses
- semi-detached, row or terrace houses, townhouses – one storey
- semi-detached, row or terrace houses, townhouses – two or more storeys
- flats, units or apartments – in a one or two storey block
- flats, units or apartments – in a three storey block, and
- flats, units or apartments – in a four or more storey block.

Align SA2 information to the relevant local government area and EUA, with inside the EUA being consolidation and outside the EUA being expansion.

Data update

Annually.

Reporting units

Total new dwelling building approvals (financial year) are reported at SEQ region and local government area levels against adjusted average annual benchmarks, i.e. average annual expected dwelling growth 2016-2031, by consolidation and expansion areas.

Notes

For further information about consolidation and expansion areas, please see pages 174-175 of *ShapingSEQ 2017*.

For the 2019 LSDM Report the average annual dwelling supply benchmarks (2016-2031) have been adjusted to take account of the increased rate of dwelling demand estimated by the Queensland Government 2018 edition medium series dwelling projections. The adjustment of the average annual benchmarks assumes the growth expected by *ShapingSEQ 2017* will occur at a somewhat different (in this case marginally faster) rate, but with the same spatial distribution of growth as expected by *ShapingSEQ 2017*. See Appendix G for a detailed explanation on the calculation.

Changes in dwelling density

Description

Changes in dwelling density monitors changes in median lot size for new urban lots and mean population-weighted dwelling density to provide an indication of how efficiently land is being utilised in South East Queensland (SEQ).

Rationale

State reporting on median lot sizes, new urban lot registrations and overall dwelling density being delivered, are analysed to measure the changes to dwelling density both across the SEQ region, for each local government area and within the Existing Urban Area (consolidation area).

The individual aspects that contribute towards the overall analysis and measurement for the changes in dwelling density for SEQ include:

- median lot size of new lots
- new lot registrations
- mean population-weighted dwelling density.

Further information on each individual change in dwelling density component is provided below.

Median lot size

Rationale

State reporting on median lot size for new urban lots on a region-wide and local government area basis.

Limitations

N/A.

Data source/custodian

Queensland Treasury, Queensland Government Statistician's Office (QGSO), Residential Land Development Activity Spreadsheet, as provided in November 2019.

Source data geography

SEQ region and local government areas.

Method

Extract median lot sizes for the region and each local government area utilising QGSO Residential Land Development Activity Spreadsheet.

Data update

Annually.

Reporting units

Median lot size (m^2) by financial year.

Notes

Median lot size information relates to new standard urban lots of 60m^2 to < 2500m^2.

Lot registrations

Rationale

State reporting on urban lot registrations on a region-wide and local government area basis.

Limitations

N/A.

Data source/custodian

Queensland Treasury, QGSO, Residential Land Development Activity Spreadsheet, as provided in November 2019.

Source data geography

SEQ region and local government areas.

Method

Extract total urban lot registrations for the region and each local government area utilising QGSO Residential Land Development Activity Spreadsheet.

Data update

Annually.

Reporting units

Number of new urban lot registrations by financial year.

Notes

Lot registration information relates to standard urban lots of 60m^2 to < 2500m^2.

Mean population-weighted dwelling density

Rationale

The mean population-weighted dwelling density provides a measure of the average density at which the population of the region lives. Changes in dwelling density have been calculated using the mean population-weighted dwelling density for all Census mesh blocks in SEQ, each local government area and the consolidation area.

This measure is more meaningful than a gross density averaged across the whole of an area, as parts of the region comprise large areas without urban settlement which affects a gross density calculation.

The area of non-residential mesh blocks, e.g. commercial, industrial, parkland, transport or water mesh blocks with no dwellings or no population, has no weight in the calculation. This measure is therefore comparable to net residential density as used by *ShapingSEQ 2017*.

For the 2019 LSDM, mean population-weighted dwelling density has also been calculated for consolidation areas across the region. This addition provides a measure of the average density at which the population of the region lives within its more urbanised areas.

Limitations

This measure is based on the boundaries and areas of, and dwelling and population counts reported for SEQ mesh blocks at each Census. It is therefore an approximation of actual dwelling densities over time.

Data source/custodian

- Australian Bureau of Statistics (ABS), 2074.0 Mesh blocks, 2011, including land areas and dwelling and population counts
- ABS, 2074.0 Mesh blocks, 2016, including land areas and dwelling and population counts
- Department of State Development, Infrastructure and Planning (DSDILGP), local government area boundaries, 2017
- DSDILGP, *ShapingSEQ 2017*, Existing Urban Area, August 2017.
- DSDILGP, SEQ regional plan boundary, 2017

Source data geography

ABS, Mesh blocks (SEQ)

Method

- Extract relevant years' ABS mesh blocks for the region, each local government area and consolidation areas.
- Calculate mean population-weighted dwelling density for the region, each local government area and consolidation areas using the following formula:
- [The sum for all mesh blocks of [(mesh block dwelling count / area of mesh block) multiplied by mesh block population count]] divided by the sum of all mesh block population counts for an area.

Data update

Five yearly, to align with the release of ABS Census data.

Reporting units

Dwellings per hectare as at the Census of each reporting year.

Notes

Mesh blocks are the smallest geographical area defined by the ABS and form the building blocks for the larger regions of the Australia Statistical Geography Standard (ASGS). All other statistical areas or regions are built up from or approximated by them. They broadly identify land use such as

residential, commercial, primary production, parkland and can be combined to accurately approximate a large range of other statistical regions.

The 2011 Census mesh block data sourced from the ABS was modified to account for an error identified in the allocation of dwellings and population to two adjoining mesh blocks. In the ABS data, mesh block 30178550000 was incorrectly allocated all of the dwellings and population that should have been allocated to the adjoining mesh block 30179712000. The very small size of mesh block 30178550000 meant that this error significantly distorted the calculation of the mean population-weighted dwelling density in the Moreton Bay local government area and SEQ as a whole. The error was verified through review of aerial imagery from close to the 2011 Census date and corrected by reallocating the dwellings and population from mesh block 3017855000 to mesh block 30179712000.

The ABS was notified of and supported the approach to rectifying the error. The ABS acknowledged this was one case among a small number of mesh blocks that were misallocated dwellings and population due to automated coding and imputation processes used for the 2011 Census. A check was undertaken of the 2011 and 2016 mesh block data for each SEQ local government area to identify any other significant dwelling density outliers in the data (i.e. where the population-weighted dwelling density for any mesh block was more than 10 times that for any other mesh block in that local government area). No other significant outliers were found in the data.

For further information about consolidation and expansion areas, please see pages 174-175 of *ShapingSEQ 2017*.

Changes in housing type

Description

Changes in housing type monitors the different types of new residential buildings being approved across the region as a proportion of total building approvals.

Rationale

The proportionate trends in the diversity of residential buildings are analysed and reported on, by extracting dwelling growth data for three main housing types (as reported in *ShapingSEQ 2017*) for the region and each local government area.

Limitations

ABS periodically update and adjust building approvals information to account for errors and new information as it becomes available. Therefore, in future updates these data values may change.

Information used for this measure currently only reports on building approvals and does not provide an indication of net change in dwellings. For example, it does not take into consideration approvals not constructed, demolition of buildings or relocations and may include visitor dwellings.

Data source/custodian

- Australian Bureau of Statistics (ABS), Building approvals, catalogue 8731.0, extracted October 2019 for approvals July 2011 to June 2019
- ABS, Census 2016, Dwelling structure data (dwellings by type), 2016
- Department of State Development, Infrastructure, Local Government and Planning (DSDILGP), local government area boundaries, 2017
- DSDILGP, SEQ regional plan boundary, 2017

Source data geography

ABS, SA2.

Method

Using information extracted for the dwelling growth measure, group ABS reported dwelling types into three main categories:

- Houses: includes detached dwellings
- Middle (attached dwellings one to three storeys) includes:
    - semi-detached
    - row or terrace houses
    - townhouses (one, two or more storeys)
    - flats, units or apartments (in a one, two or three storey block)
- High-rise (attached dwellings four or more storeys) includes: flats, units or apartments (in a four or more storey block).

Percentages of dwelling building approvals by type may be compared to the percentages of total existing dwellings by type at the 2016 Census to indicate how approvals, over time, are changing the diversity of housing types overall.

Data update

Annually.

Reporting units

Percentage of total new dwelling building approvals by type for the region and each local government area to 30 June of each reporting year.

Notes

The housing types reported align to those used in *ShapingSEQ 2017* and available through ABS dwelling building approval reporting. As such they relate to houses as detached dwellings, middle as attached dwellings up to three storeys and high-rise as attached four or more storeys.

Treatment of housing types may differ across the region. Local governments may categorise medium and high-rise housing types differently, for example high-rise could be considered as buildings above eight storeys. Better categorisation of medium and high-rise dwellings is continuing to be investigated.

Sales and price

Description

Sales and price measures the number of sales and median sales price information for residential development including vacant lots, vacant lots price per m^2, house and land, houses and attached dwellings, within consolidation and expansion areas.

Rationale

To show trends in the number of sales, and lower, median and upper quartile sales price for developed lots and dwellings for the region and each local government area.

Limitations

Lower, median and upper sales price cannot represent the full range of sales prices in an area.

There is a potential lag in the reporting of sales information.

Data source/custodian

Queensland Treasury, Queensland Government Statisticians Office (QGSO), as provided November 2019.

Source data geography

SEQ region and local government area.

Method

Extract QGSO supplied number of sales and lower, median and upper quartile sales price information on vacant lots (per lot and per square metre), house and land, houses and attached dwellings for the period July 2011 to June 2019, within consolidation and expansion areas.

Data update

Annually.

Reporting units

Total number of sales, lower, median and upper sales price ($), lower, median and upper sales price per m^2 to the year ending 30 June of each reporting year.

Notes

N/A.

Planned dwelling supply

Description

Planned dwelling supply is a collective term for both the capacity of and the realistic availability of planned dwelling supply, which are separately defined.

Planned dwelling supply is based on estimates of the dwellings that have been or could be approved, based on current planning intent and the expected nature of demand and densities over time, to accommodate the region's expected dwelling growth, within consolidation and expansion areas.

Planned dwelling supply is expressed in terms of additional dwellings (from a 2016 base) in the region and by local government area for consolidation and expansion areas. This is compared to the 2041 dwelling supply benchmarks of *ShapingSEQ 2017*. It is also expressed in terms of years of supply (from a 2019 base).

For the purposes of the 2019 Land Supply and Development Monitoring (LSDM) Report, the capacity of the planned dwelling supply has been estimated using the identified growth in dwellings (generally from 2016 to ultimate development, unless otherwise noted) from the best available local government datasets. This includes detailed planning assumptions datasets or summary reporting prepared for Local Government Infrastructure Plans (LGIPs), and other studies and databases as identified for use by the relevant local government.

The reporting also incorporates a sensitivity analysis in the form of realistic availability scenarios, which are informed by the recommendations of the best practice research (see Moving forward sections of the 2018 and 2019 LSDM reports) and previous studies.

Rationale

Note: The method and data used to determine planned dwelling supply is the same as those used to inform the 2018 LSDM Report with the exception of new land supply data for Logan City Council and an updated assessment of realistic availability in expansion areas.

Current status of the amount of planned dwelling supply (preferred minimum 15 years of supply) is analysed and presented for the region and for each local government area, by consolidation and expansion areas.

Each measure of realistic availability is presented as an alternative measure of supply, i.e. compared to the corresponding capacity measure. It is included as a scenario or sensitivity analysis that seeks to represent the effect of factors that may constrain the availability of some of the identified capacity for development, up to the 2041 planning horizon.

Factors that either alone or in combination may constrain the realistic availability by 2041 of the capacity for urban development include:

- infrastructure availability
- the practical staging of and capability for development
- land ownership fragmentation
- landowner intent

- insufficient demand for the planned scale/density of uses in some areas up to 2041
- existing versus planned density (or land value in the existing versus the planned use)
- the age of existing development
- accessibility
- constraints affecting the economic feasibility of development.

Consideration of realistic availability as an alternative scenario provides a greater level of confidence about the adequacy of dwelling supply.

For the LSDM Report, realistic availability has been reported by local government area for expansion areas only. This recognises the varying extent to which the source datasets already consider some of the identified realistic availability factors, particularly for urban redevelopment in consolidation areas.

Limitations

Years of supply for planned dwelling supply is calculated based on the adjusted average annual benchmark, i.e. the average annual growth of dwellings expected 2016-2031 in order to align with the relevant 2041 dwelling supply benchmarks of *ShapingSEQ 2017*. For the 2019 LSDM report, this rate of growth for SEQ has been adjusted to take account of the projected rate of growth from 2016-2031 identified in the Queensland Government's 2018 edition medium series projections.

There is some source data inconsistency across local government areas, including timing, outputs and assumptions about densities and developable areas. Limitations of timing also effect the development of the Current Intent to Service layer used to inform realistic availability of expansion area supply.

The interpretation, determination and timing of ultimate development may affect the consistency and comparability of reporting across local government areas.

The intent of the planned dwelling supply measure is to report dwellings that have been or could be approved based on current planning intent. However, the timing of the preparation of available datasets means that the effect of some draft changes to planning schemes may be included in, and the effect of some recently adopted changes may be excluded from, the data.

The information extracted from individual local government datasets and included in the LSDM Report may be different to the estimates of dwelling supply used to inform *ShapingSEQ 2017*. For example, vacant lots at the base date are generally counted as supply in the source data and the LSDM Report, whereas *ShapingSEQ 2017* assumed an equivalent stock of vacant lots would exist in 2041 and did not therefore count them as dwelling supply. There may be other variations in assumptions about developable area, density and land availability up to 2041.

Some local governments have more sophisticated models which are able to provide greater detail including small scale modelling which may indicate potential supply greater than shown in the LSDM report. For the 2018 and 2019 LSDM Report, the GMP has aimed for a consistent approach to measuring land supply, capacity and realistic availability across the region. The LSDM Report continues to monitor the region’s land supply information and improve this information over time in consultation with all stakeholders, in particular, local governments.

DSDILGP is continually working towards applying a more consistent methodology across the region for calculating planned dwelling supply. This will be informed by the findings of and further work to progress and implement best practice research (Moving forward).

DSDILGP, through its Measuring Development best practice research, is working towards developing methodologies to understand the impact of visitor or tourist dwellings in calculating the planned dwelling supply from source data. As some visitor dwellings are effectively not counted as part of the *ShapingSEQ 2017* dwelling supply benchmarks, which are a response to the projected growth of resident population and dwellings, future reporting will seek an appropriate and consistent basis for excluding them from the planned dwelling supply.

The indicative realistic availability scenarios for consolidation in SEQ sum the 2016-19 constructed dwellings estimate and material change of use (MCU) approvals (as at June 2019) as a base for applying proportions to the balance of the consolidation capacity to calculate realistic availability. There may be some overlap between the 2016-19 constructed dwellings estimate and MCU approvals, including a proportion of high-rise multiple dwellings that are counted in both data elements due to the length of time required for construction of taller buildings.

For Lockyer Valley and Somerset Regional councils parcel-level equivalent demand units (EDUs) were used as projected dwelling figures. For this analysis, one EDU was assumed to be one dwelling unit. A comparison with the dwelling units reported in the corresponding LGIPs undertaken as part of the 2018 LSDM Report found only a slight difference in values.

The Current Intent to Service layer was derived from the most recent and accessible information from local governments and utility providers, including development and preliminary approvals, infrastructure agreements, priority development areas, priority infrastructure areas and existing and future sewerage connection areas. DSDILGP is continuing to work with these agencies to prepare and utilise the most accurate and relevant information is used in the identification of the Current Intent to Service layer.

Data source/custodian

- Department of State Development, Infrastructure, Local Government and Planning (DSDILGP), *ShapingSEQ 2017*, Existing Urban Area (EUA), August 2017
- DSDILGP, *ShapingSEQ 2017* growth areas, August 2017 (see Appendix A)
- DSDILGP, *ShapingSEQ 2017*, Dwelling Supply Benchmarks, August 2017
- DSDILGP, SEQ regional plan boundary, 2017
- Australian Bureau of Statistics (ABS), SA2, 2016
- SGS Economics and Planning, SEQ expansion areas realistic dwelling take-up - 2019 update for major precincts October 2019 (see extracts at Appendix C)
- DSDILGP, Priority Development Areas (PDA), 2018
- Queensland Treasury, 2018 edition medium series dwellings projections, 2019.
- Queensland Treasury, QGSO, MCU approvals for multiple dwellings (unconstructed), as at 30 June 2019, as provided November 2019. This data is based on development approval data provided by local governments and Economic Development Queensland (EDQ).
- Planning scheme zones (see Appendix B, Table B4)

  - Brisbane – Brisbane City Plan 2014 v10.00/2018
  - Gold Coast – N/A see individual local government method
  - Ipswich – Ipswich Planning Scheme, 2 July 2018
  - Lockyer Valley – Laidley and Gatton Planning schemes v2, 27 June 2018 and Grantham development scheme
  - Logan – Planning Scheme v5.1, 2018
  - Moreton Bay – Planning Scheme v3, 2018
  - Noosa – Noosa Plan, June 2018
  - Redland - N/A see individual local government method
  - Scenic Rim – Beaudesert, Boonah and Ipswich Planning Schemes, June 2018
  - Somerset – Planning Scheme, 2018
  - Sunshine Coast – Planning Scheme v15, 2018
  - Toowoomba - N/A see individual local government method.
- LGIPs and related datasets
  - Brisbane – Brisbane Urban Growth model 2016 data as supplied by council to reflect LGIP v1, February 2016 (parcel-level)
  - Gold Coast – LGIP Extrinsic Material Report Planning Assumptions, June 2017 (draft for state interest review) (SA2-level)
  - Ipswich – Ipswich LGIP Residential as supplied by council from the Ipswich Population Modeller in 2017 (parcel-level)
  - Lockyer Valley – External Demand Model, as supplied by council July 2018 which aligns to the LGIP as adopted June 2018 (parcel-level)
  - Logan – Logan Development Projection Model (LDPM 2016, October 2018 version) as supplied by council in June 2018 (parcel-level)
  - Moreton Bay – Dwelling Assumptions Complete LGIP2 Draft as supplied by council November 2017 (parcel-level)
  - Noosa – Unitywater DMaTT demand forecasts, March 2015 (parcel-level)
  - Redland – Redland Land Supply Review 2014, Urbis (summary data by parcel-size, zone and locality)
  - Scenic Rim – Land Supply Monitoring, as supplied by council June 2018 (parcel-level)
  - Somerset – Population and Demand Model supplied by council in May 2018 (parcel-level)
  - Sunshine Coast – Population and employment figures underpinning the LGIP as supplied by council in July 2018 (parcel-level)
  - Toowoomba – LGIP Planning Assumptions accessed in July 2018 (SA2-level).
- Current Intent to Service layer datasets
  - Priority Infrastructure Areas
    - Brisbane – supplied by Council June 2019
    - Gold Coast – supplied by Council July 2019

- Ipswich – supplied by Council March 2019
- Lockyer Valley – supplied by Council June 2019
- Logan – sourced from Council's open data portal (layer dated May 2019)
- Moreton Bay –sourced from Council's open data portal (layer dated July 2017)
- Noosa –supplied by Council March 2019
- Redland – supplied by Council July 2019
- Scenic Rim – supplied by Council June 2019
- Somerset –supplied by council, July 2019
- Sunshine Coast –supplied by Council June 2019
- Toowoomba – supplied by Council July 2019

- Development Approvals (**Note:** for QGSO information this includes uncompleted multiple dwelling approvals and uncompleted lot approvals as at 30 June 2018)
  - Brisbane – QGSO approvals data, current to 30 June 2018
  - Gold Coast – supplied by City of Gold Coast, current from January 2011 to December 2018
  - Ipswich – QGSO approvals data, current to 30 June 2018
  - Lockyer Valley – QGSO approvals data, current to 30 June 2018
  - Logan – sourced from Council's open data portal, current to 02 June 2019
  - Moreton Bay – supplied by Unitywater, current to 20 June 2019
  - Noosa – supplied by Unitywater, current to 31 March 2019
  - Redland - QGSO approvals data, current to 30 June 2018
  - Scenic Rim – QGSO approvals data, current to 30 June 2018
  - Somerset – QGSO approvals data, current to 30 June 2018
  - Sunshine Coast – supplied by Unitywater, current to 20 June 2019
  - Toowoomba - QGSO approvals data, current to 30 June 2018
- Preliminary Approvals
  - Brisbane – supplied by Council, current to 01 August 2019 (outside PIA only)
  - Gold Coast – supplied by City of Gold Coast, current from January 2011 to December 2018
  - Ipswich – supplied by Council, current from 1 January 2014 to 31 May 2019
  - Lockyer Valley – supplied by Council, current to 25 June 2019
  - Logan – sourced from Council's open data portal, current to 2 June 2019
  - Moreton Bay – supplied by Unitywater, current to 20 June 2019
  - Noosa – supplied by Unitywater, current to 31 March 2019
  - Redland - no information was available at the time of reporting, council are continuing to investigate the availability of this information.
  - Scenic Rim – Council advised no preliminary approvals issued between July 2018 – June 2019

        - Somerset – Council advised one issued between July 2014 and July 2019
        - Sunshine Coast – supplied by Unitywater, current to 20 June 2019
        - Toowoomba – supplied by Council, current from 1993 to 30 June 2019
    - Existing and Future Sewerage Connection Areas
        - Brisbane, Ipswich, Lockyer Valley, Scenic Rim and Somerset – a review of the Netserv plan is currently being undertaken by QUU to separately define the water supply and sewerage boundaries.
        - Gold Coast – supplied by Council July 2019
        - Logan – sourced from Council's open data portal, current to 02 June 2019
        - Moreton Bay – supplied by Unitywater June 2019
        - Noosa – supplied by Unitywater June 2019
        - Redland - supplied by Council July 2019
        - Sunshine Coast – supplied by Unitywater June 2019
        - Toowoomba – incorporated into the Priority Infrastructure Area boundary
    - Infrastructure Agreements
        - Brisbane – no information was available at the time of reporting, DSDILGP is continuing to investigate the availability of this information.
        - Gold Coast – supplied by Council, current to 19 July 2019
        - Ipswich – supplied by Council, current to 14 March 2019
        - Lockyer Valley – supplied by Council, related to preliminary approvals only to 25 June 2019
        - Logan – no information was available at the time of reporting, council are continuing to investigate the availability of this information.
        - Moreton Bay – supplied by Unitywater, 15 July 2019
        - Noosa – supplied by Unitywater, 15 July 2019
        - Redland – supplied by Council, July 2019
        - Scenic Rim – Council advised there were no infrastructure agreements issued between July 2018 and June 2019
        - Somerset – council supplied two infrastructure agreements July 2019
        - Sunshine Coast – supplied by Unitywater, 15 July 2019
        - Toowoomba – supplied by Council, July 2019
- Future amendments to local government planning schemes and development schemes (including EDQ) that may increase planned dwelling supply in the future have also been considered where appropriate.

Source data geography

Various – parcel-level, ABS SA2 and by parcel-size, zone and locality.

Method

SEQ

Capacity

Calculate the capacity of the planned dwelling supply for the region by adding each local government's consolidation and expansion area's capacity using the methods outlined in each local government section below.

Realistic availability

Consolidation

To provide indicative realistic availability scenarios for the region's consolidation areas, two percentages were used to consider the impact of assuming 25 or 50 per cent of the region's total identified consolidation dwelling capacity, that is not yet built or approved, will not be available for development by 2041.

These proportions were chosen, and only applied at the overall regional level, in recognition of the range of circumstances and assumptions used in the source local government area datasets. Those circumstances and consideration of the influence of the various realistic availability factors (see Rationale section above), means that it is not appropriate to consider a more precise scale of assumed realistic availability than zero, 25, 50, 75 or 100 per cent.

Realistic availability for the region is calculated as: [(Total dwelling capacity minus (2016-19 constructed dwellings estimate plus MCU approvals)] multiplied by (0.75 or 0.5) plus 2016-19 constructed dwellings estimate plus MCU approvals.

For the purposes of this report, the 2016-19 constructed dwellings estimate includes the three years of dwelling building approvals from July 2015 to June 2018 (assumed as constructed from July 2016 to June 2019) and MCU approvals which include the unconstructed MCU approvals (multiple dwellings) as at June 2019.

No estimate of realistic availability has been made for consolidation for each local government. DSDILGP is continuing to investigate a more considered refined realistic availability as informed by further work to progress and implement best practice research (Moving forward).

Expansion

Calculate the regional realistic availability of planned dwelling supply by adding each local government's expansion realistic availability of planned dwelling supply, as calculated using the methods outlined in the local governments section below.

In summary, the general approach to estimating expansion realistic availability by local government area involves reducing the expansion capacity by assumed unavailable 'growth area' dwellings, assumed unavailable dwellings inside and outside the identified Current Intent to Service layer (see Appendix F for further information on the makeup of this layer) and assumed unavailable 'fragmented area' dwellings. The assumed unavailable dwellings are estimated, respectively, as follows:

- Growth Areas - the dwellings assumed unavailable to 2041 in identified growth areas are based on the difference between the base capacity and supply to 2041 identified in the SGS

SEQ expansion areas realistic dwelling take up – 2019 update for major precincts, August 2019 (see extracts at Appendix C).

- Fragmented Areas - the dwellings assumed unavailable to 2041 in fragmented areas are based mainly on the rules used for the 2013 broadhectare study (BHS) to calculate expected yield from theoretical yield (see Appendix B). For Gold Coast, Redland and Toowoomba, where suitable parcel-level information was not available, the difference between 'Theoretical yield' and 'Expected yield' from the 2013 BHS (updated to June 2019) was used as an allowance for this measure (see individual local government areas below for further detail).
- Current Intent to Service layer - the dwellings assumed unavailable to 2041 (see Appendix F and the ability to service best practice research section for further detail):
    - inside the Current Intent to Service layer, not covered by an existing development approval, preliminary approval or infrastructure agreement and identified as unavailable dwellings in a Fragmented Area. For Gold Coast, Redland and Toowoomba local government areas BHS 'Theoretical yield' minus 'Expected yield' in these areas was used.
    - outside the Current Intent to Service layer and inside the Urban Footprint, not covered by an existing development approval, preliminary approval or infrastructure agreement. For Gold Coast, Redland and Toowoomba local government areas BHS 'Theoretical yield' minus 'Expected yield' in these areas was used.
    - outside the Current Intent to Service layer and outside the Urban Footprint, not covered by an existing development approval, preliminary approval or infrastructure agreement and identified as unavailable dwellings in a Fragmented Area. For Gold Coast, Redland and Toowoomba local government areas BHS 'Theoretical yield' minus 'Expected yield' in these areas was used.

Local governments

The following provides a summary of the methodology used to calculate each SEQ local government's planned dwelling supply. This method uses the following information for each SEQ local government area:

- Parcel-level information, generally as developed for LGIPs, as provided by Brisbane, Ipswich, Lockyer Valley, Logan (as provided May 2019), Moreton Bay, Noosa (from Unitywater), Scenic Rim, Somerset and Sunshine Coast councils.
- Where suitable parcel-level information was unavailable, current LGIP documentation was used for Gold Coast and Toowoomba (urban extent) and a land supply study provided by the council was used for Redland.

Brisbane

- Identify parcels within the consolidation and expansion areas
- Determine capacity

  Extract the total number of additional dwellings from 2016 to the identified ultimate dwellings by consolidation and expansion areas.

- Determine realistic availability

  Consolidation

  No estimate of the consolidation realistic availability has been made. Ongoing research is being undertaken to improve the estimate of realistic availability in consolidation areas.

  Expansion

  Realistic availability is calculated by removing any dwellings assumed unavailable for development to 2041 from the total local government expansion area's capacity. The calculations were different depending on whether an area is within an identified growth area or fragmented area and/or is inside or outside the Current Intent to Service layer as follows:

  - For growth areas:

    Brisbane does not contain any *ShapingSEQ 2017* identified growth areas.

  - For fragmented areas:

    2013 BHS rules for calculating expected yield from theoretical yield are used, including identified proportions for selected zones and parcel-size ranges (see Appendix B), as follows:

    - Identify parcels greater than 2500m^2 (BHS cut-off) and zoned for low density residential purposes (see Appendix B for the selected zones) within the expansion area.
    - Using these identified parcels, select parcels where:
      - there is dwelling growth from 2021 to ultimate (it is assumed that the identified dwelling growth to 2021 is all realistically available for development to 2041, as an allowance for existing development approvals), and
      - the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
    - Calculate the capacity of these selected areas by totalling the additional dwellings from 2021 to ultimate.
    - Calculate the realistic availability of the selected areas using the identified proportions (see Appendix B) multiplied by the capacity for those areas.
    - Calculate the assumed unavailable fragmented area dwellings as: capacity minus realistic availability.
  - For areas within the Current Intent to Service layer without a development approval, preliminary approval or infrastructure agreement:
    - Calculate the assumed unavailable fragmented area dwellings as above for fragmented areas generally.
  - For areas outside the Current Intent to Service layer, inside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement:

        - Identify all parcels where the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
        - Calculate the total capacity of these areas by totalling the additional dwellings from 2021 to ultimate and assume all such dwellings are unavailable.

          Note: it has been considered that areas outside the Current Intent to Service layer and inside the Urban Footprint are not currently realistically available. This is based on the approach that these areas are intended for urban development (requiring trunk infrastructure to service them) but no decisions, agreements or planning are currently in place to service them.

    - For areas outside the Current Intent to Service layer, outside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement:
        - Identify Fragmented Areas where the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
        - Calculate the total capacity of these areas by totalling the additional dwellings from 2021 to ultimate.
        - Calculate the realistic availability of these areas using the method outlined above for Fragmented Areas.
    - Calculation of unavailable dwellings
        - Using the identified parcels from above, calculate the total additional dwellings from 2021 to ultimate and subtract the realistic availability.
    - Calculate overall expansion realistic availability:
        - [Total expansion area capacity minus assumed unavailable dwellings in growth areas minus unavailable dwellings inside and outside the Current Intent to Service layer].

          Note: In addition to considering existing and available development approvals, dwelling growth up to 2021 to ultimate has also been assumed to be realistically available.

- Determine years of supply

  Determining years of supply provides the basis for assessing whether there is the minimum 15 years of supply sought by *ShapingSEQ 2017*. The calculations are as follows:

  Consolidation

  For capacity, subtract the 2016-19 constructed dwellings estimate from the identified capacity and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark, i.e. the average annual growth of consolidation dwellings expected 2016-2031 in order to align with the 2041 dwelling supply benchmark (Figure 7 within *ShapingSEQ 2017*).

  Expansion

For capacity, subtract the 2016-19 constructed dwellings estimate from the identified expansion capacity and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark, i.e. the average annual growth of expansion dwellings expected 2016-2031 in order to align with the 2041 dwelling supply benchmark (Figure 7 within *ShapingSEQ 2017*).

For realistic availability, subtract the 2016-19 constructed dwellings estimate from the identified expansion realistic availability and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark.

- Identify planning scheme amendments

  The following list identifies planning and development scheme amendments, recently adopted or in process, that may affect planned dwelling supply in Brisbane:

  - Bowen Hills PDA (adopted 21 June 2019)
  - Northshore Hamilton PDA (reviewing the development scheme)
  - Oxley PDA (adopted 9 August 2019)
  - Yeronga PDA (adopted 9 August 2019)
  - Albert Street Cross River Rail PDA (development scheme being prepared)
  - The Gap Neighbourhood Plan (adopted May 2019)
  - Coorparoo and Districts Neighbourhood Plan (adopted July 2019)
  - Banyo-Northgate Neighbourhood Plan (undergoing final state interest review)
  - Kangaroo Point Peninsula Neighbourhood Plan (undergoing final state interest review)
  - Eight Mile Plains Gateway Neighbourhood Plan (preparing draft strategy)
  - Sandgate District Neighbourhood Plan (background research)
  - Changes to Strategic Framework and Emerging community zone code (reviewing public submissions after public notification).

Gold Coast

At the time of reporting, the City of Gold Coast were developing new growth projections for their LGIP2. As these numbers were not available at the time of compiling this report the planned dwelling supply figures from LGIP1 have had to be used in the interim. It is acknowledged that these supply figures may overstate the available supply for the Gold Coast expansion area from 2016-2041.

- Identify SA2s within the consolidation and expansion areas.

  Parcel-level information was not used for this analysis as the available information at a parcel level could not be readily concorded to the published LGIP. The City of Gold Coast Council is currently developing a new parcel-level growth model and updated LGIP information.

- Determine capacity

Extract the total number of additional dwellings from 2016 to the identified LGIP ultimate dwellings, by consolidation and expansion areas.

- Determine realistic availability

  Consolidation

  No estimate of the consolidation realistic availability has been made. Ongoing research is being undertaken to improve the estimate of realistic availability in consolidation areas.

  Expansion

  As parcel-level information was not available for this analysis, realistic availability was calculated by using the findings of the SGS report and BHS information as follows:

  - For growth areas:

    For the Coomera Town Centre, dwellings were identified as assumed unavailable for development to 2041 using the information in the SGS report (Appendix C, Table C1), i.e. its 'Base capacity yield' minus its 'Supply to 2041'.

  - For areas inside and outside the Current Intent to Service layer

    Dwellings were assumed unavailable for development using the 2013 BHS (adjusted to account for development to June 2019) by:

    - For areas within the Current Intent to Service layer without a development approval, preliminary approval or infrastructure agreement calculating 'Theoretical yield' minus 'Expected yield'
    - For areas outside the Current Intent to Service layer, inside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement calculating 'Theoretical yield' minus 'Expected yield'

      Note: it has been considered that areas outside the Current Intent to Service layer and inside the Urban Footprint are not currently realistically available. This is based on the approach that these areas are intended for urban development (requiring trunk infrastructure to service them) but no decisions, agreements or planning are currently in place to service them.

  - For areas outside the Current Intent to Service layer, outside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement calculating 'Theoretical yield' minus 'Expected yield'.
  - Calculation of unavailable dwellings
    - Using the identified parcels from above, calculate the total additional dwellings and subtract the realistic availability.
  - Calculate overall expansion realistic availability:
    - [Total expansion area capacity minus assumed unavailable dwellings in growth areas minus unavailable dwellings inside and outside the Current Intent to Service layer].

- Determine years of supply

  Determining years of supply provides the basis for assessing whether there is the minimum 15 years of supply sought by *ShapingSEQ 2017*. The calculations are as follows:

  Consolidation

  For capacity, subtract the 2016-19 constructed dwellings estimate from the identified capacity and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark, i.e. the average annual growth of consolidation dwellings expected 2016-2031 in order to align to the 2041 dwelling supply benchmark (Figure 7 within *ShapingSEQ 2017*).

  Expansion

  For capacity, subtract the 2016-19 constructed dwellings estimate from the identified expansion capacity and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark, i.e. the average annual growth of expansion dwellings expected 2016-2031 in order to align with the 2041 dwelling supply benchmark (Figure 7 within *ShapingSEQ 2017*).

  For realistic availability, subtract the 2016-19 constructed dwellings estimate from the identified expansion realistic availability and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark.

- Identify planning scheme amendments

  The following list identifies planning scheme amendments, recently adopted or in process, that may affect planned dwelling supply on the Gold Coast:

  - Major Update – New communities (Eggersdorf Road, Ormeau) (reviewing submissions after public consultation concluded March 2019)
  - Major Update 2 and 3 (undergoing state interest review).

Ipswich

- Identify parcels within the consolidation and expansion areas
- Determine capacity

  Extract the total number of additional dwellings from 2016 to the identified ultimate dwellings by consolidation and expansion areas.

- Determine realistic availability

  Consolidation

  No estimate of the consolidation realistic availability has been made. Ongoing research is being undertaken to improve the estimate of realistic availability in consolidation areas.

  Expansion

  Realistic availability is calculated by removing any dwellings assumed unavailable for development to 2041 from the total local government expansion area's capacity.

The calculations were different depending on whether an area is within an identified growth area or fragmented area and/or is inside or outside the Current Intent to Service layer as follows:

- For growth areas:

  For the Ripley Valley PDA, dwellings were identified as assumed unavailable for development to 2041 using the information identified in the SGS report (Appendix C, Table C1), i.e. its 'Base capacity' minus its 'Supply to 2041'.

- For fragmented areas:

  2013 BHS rules for calculating expected yield from theoretical yield are used, including identified proportions for selected zones and parcel-size ranges (see Appendix B), as follows:

  - Identify parcels greater than 2500m^2 (BHS cut-off) and zoned for low density residential purposes (see Appendix B for the selected zones) within the expansion area and not within the Ripley Valley PDA or Springfield growth areas.
  - Using these identified parcels, select parcels where:
    - there is dwelling growth from 2021 to ultimate (it is assumed that the identified dwelling growth to 2021 is all realistically available for development to 2041, as an allowance for existing development approvals), and
    - the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
  - Calculate the capacity of these selected areas by totalling the additional dwellings from 2021 to ultimate.
  - Calculate the realistic availability of the selected areas using the identified proportions (see Appendix B) multiplied by the capacity for those areas.
  - Calculate the assumed unavailable fragmented dwellings as: capacity minus realistic availability.

- For areas within the Current Intent to Service layer without a development approval, preliminary approval or infrastructure agreement:
  - Calculate the assumed unavailable fragmented area dwellings as above for fragmented areas generally.

- For areas outside the Current Intent to Service layer, inside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement:
  - Identify all parcels where the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
  - Calculate the total capacity of these areas by totalling the additional dwellings from 2021 to ultimate and assume all such dwellings are unavailable.

Note: it has been considered that areas outside the Current Intent to Service layer and inside the Urban Footprint are not currently realistically available. This is based on the approach that these areas are intended for urban development (requiring trunk infrastructure to service them) but no decisions, agreements or planning are currently in place to service them.

- For areas outside the Current Intent to Service layer, outside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement:
  - Identify Fragmented Areas where the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
  - Calculate the total capacity of these areas by totalling the additional dwellings from 2021 to ultimate.
  - Calculate the realistic availability of these areas using the realistic availability.
- Calculation of unavailable dwellings
  - Using the identified parcels from above, calculate the total additional dwellings from 2021 to ultimate and subtract the assumed unavailable fragmented area dwellings.
- Calculate overall expansion realistic availability:
  - [Total expansion area capacity minus assumed unavailable dwellings in growth areas minus assumed unavailable dwellings inside and outside the Current Intent to Service layer].

    Note: In addition to considering existing and available development approvals, dwelling growth up to 2021 to ultimate has also been assumed to be realistically available.

- Determine years of supply

  Determining years of supply provides the basis for assessing whether there is the minimum 15 years of supply sought by *ShapingSEQ 2017*. The calculations are as follows:

  Consolidation

  For capacity, subtract the 2016-19 constructed dwellings estimate from the identified capacity and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark, i.e. the average annual growth of consolidation dwellings expected 2016-2031 in order to align with the 2041 dwelling supply benchmark (Figure 7 within *ShapingSEQ 2017*).

  Expansion

  For capacity, subtract the 2016-19 constructed dwellings estimate from the identified expansion area capacity and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark, i.e. the average annual growth of expansion dwellings expected 2016-2031 in order to align with the 2041 dwelling supply benchmark (Figure 7 within *ShapingSEQ 2017*).

For realistic availability, subtract the 2016-19 constructed dwellings estimate from the identified expansion realistic availability and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark.

- Identify planning scheme amendments

  The following list identifies planning scheme amendments recently adopted or in process that may affect planned dwelling supply in Ipswich:

  - New planning scheme in preparation (public consultation on statement of proposals including draft strategic framework concluded June 2019).

Lockyer Valley

- As Lockyer Valley does not contain any consolidation areas all parcels are within the expansion area.

  Note: Lockyer Valley calculations are based on the number of residential equivalent demand units (EDUs), which based on the corresponding LGIP are only slightly different to the number of dwellings and are therefore counted as dwellings.

- Determine capacity

  Extract the total number of additional dwellings from 2016 to the identified ultimate dwellings.

- Determine realistic availability

  Expansion

  Realistic availability is calculated by removing any dwellings assumed unavailable for development to 2041 from the total local government expansion area's capacity. The calculations were different depending on whether an area is within an identified growth area or fragmented area and/or is inside or outside the Current Intent to Service layer as follows:

  - For growth areas:

    Lockyer Valley does not contain any *ShapingSEQ 2017* identified growth areas that have dwelling yields in the data provided by Council.

  - For fragmented areas:

    2013 BHS rules for calculating expected yield from theoretical yield are used, including identified proportions for selected zones and parcel-size ranges (see Appendix B), as follows:

    - Identify parcels greater than 2500m^2 (BHS cut-off) and zoned for low density residential purposes (see Appendix B for selected zones), within the expansion area.
    - Using these identified parcels, select parcels where:
      - there is dwelling growth from 2021 to ultimate (it is assumed that the identified dwelling growth to 2021 is all realistically available for

development to 2041, as an allowance for existing development approvals) and

- the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).

- Calculate the capacity of these selected areas by totalling the additional dwellings from 2021 to ultimate.
- Calculate the realistic availability of these areas using the identified proportions (see Appendix B) multiplied by the capacity for those areas.
- Calculate the assumed unavailable fragmented dwellings as: capacity minus realistic availability.

- For areas within the Current Intent to Service layer without a development approval, preliminary approval or infrastructure agreement:
  - Calculate the assumed unavailable fragmented area dwellings as above for fragmented areas generally.
- For areas outside the Current Intent to Service layer, inside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement:
  - Identify all parcels where the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
  - Calculate the total capacity of these areas by totalling the additional dwellings from 2021 to ultimate and assume all such dwellings are unavailable.

    Note: it has been considered that areas outside the Current Intent to Service layer and inside the Urban Footprint are not currently realistically available. This is based on the approach that these areas are intended for urban development (requiring trunk infrastructure to service them) but no decisions, agreements or planning are currently in place to service them.
- For areas outside the Current Intent to Service layer, outside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement:
  - Identify Fragmented Areas where the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
  - Calculate the total capacity of these areas by totalling the additional dwellings from 2021 to ultimate.
  - Calculate the fragmented yield of these areas using the method outlined above for realistic availability.
- Calculation of unavailable dwellings
  - Using the identified parcels from above, calculate the total additional dwellings from 2021 to ultimate and subtract the realistic availability.
- Calculate overall expansion realistic availability

- [Total expansion area capacity minus assumed unavailable dwellings in growth areas minus assumed unavailable dwellings inside and outside the Current Intent to Service layer].

  Note: In addition to considering existing and available development approvals, dwelling growth up to 2021 to ultimate has also been assumed to be realistically available.

- Determine years of supply

  Determining years of supply provides the basis for assessing whether there is the minimum 15 years of supply sought by *ShapingSEQ 2017*. The calculations are as follows:

  Expansion

  For capacity, subtract the 2016-19constructed dwellings estimate from the identified expansion area capacity and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark, i.e. the average annual growth of expansion dwellings expected 2016-2031 in order to align with the 2041 dwelling supply benchmark (Figure 7 within *ShapingSEQ 2017*).

  For realistic availability, subtract the 2016-19 constructed dwellings estimate from the identified expansion realistic availability and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark.

- Identify planning scheme amendments

  The following list provides planning scheme amendments either recently adopted or in process that may affect planned dwelling supply in Lockyer Valley:

  - Council is currently preparing a new planning scheme.

Logan

- Identify parcels within the consolidation and expansion areas.
- Determine capacity

  Extract the total number of additional dwellings from 2016 to the identified ultimate dwellings by consolidation and expansion areas.

- Determine realistic availability

  Consolidation

  No estimate of the consolidation realistic availability has been made. Ongoing research is being undertaken to improve the estimate of realistic availability in consolidation areas.

  Expansion

  Realistic availability is calculated by removing any dwellings assumed unavailable for development to 2041 from the total local government expansion area's capacity. The calculations were different depending on whether an area is within an identified growth

area or fragmented area and/or is inside or outside the Current Intent to Service layer as follows:

- For growth areas:

  For Greater Flagstone and Yarrabilba PDAs and Flinders, dwellings were identified as assumed unavailable for development to 2041 using information in the SGS report (Appendix C, Table C1), i.e. its 'Base capacity' minus its 'Supply to 2041'.

- For fragmented areas:

  2013 BHS rules for calculating expected yield from theoretical yield are used, including identified proportions for selected zones and parcel-size ranges (see Appendix B), as follows:

  - Identify parcels greater than 2500m^2 (BHS cut-off) and zoned for low density residential purposes (see Appendix B for the selected zones), within the expansion area and not within Greater Flagstone and Yarrabilba PDAs and Flinders growth areas.
  - Using these identified parcels, select parcels where:
    - there is dwelling growth from 2021 to ultimate (it is assumed that the identified dwelling growth to 2021 is all realistically available for development to 2041, as an allowance for existing development approvals), and
    - the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
  - Calculate the capacity of these selected areas by totalling the additional dwellings from 2021 to ultimate.
  - Calculate the realistic availability of the selected areas using the identified proportions (see Appendix B) multiplied by the capacity for those areas.
  - Calculate the assumed unavailable fragmented dwellings as: capacity minus realistic availability.

- For areas within the Current Intent to Service layer without a development approval, preliminary approval or infrastructure agreement:
  - Calculate the assumed unavailable fragmented area dwellings as above for fragmented areas generally.

- For areas outside the Current Intent to Service layer, inside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement:
  - Identify all parcels where the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
  - Calculate the total capacity of these areas by totalling the additional dwellings from 2021 to ultimate and assume all such dwellings are unavailable.

Note: it has been considered that areas outside the Current Intent to Service layer and inside the Urban Footprint are not currently realistically available. This is based on the approach that these areas are intended for urban development (requiring trunk infrastructure to service them) but no decisions, agreements or planning are currently in place to service them.

- For areas outside the Current Intent to Service layer, outside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement:
  - Identify Fragmented Areas where the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
  - Calculate the total capacity of these areas by totalling the additional dwellings from 2021 to ultimate.
  - Calculate the fragmented yield of these areas using the method outlined above for realistic availability.
- Calculation of unavailable dwellings
  - Using the identified parcels from above, calculate the total additional dwellings from 2021 to ultimate and subtract the realistic availability.
- Calculate overall expansion realistic availability
  - [Total expansion area capacity minus assumed unavailable dwellings in growth areas minus assumed unavailable dwellings inside and outside the Current Intent to Service layer].

    Note: In addition to considering existing and available development approvals, dwelling growth from 2021 to ultimate has also been assumed to be realistically available.

- Determine years of supply

  Determining years of supply provides the basis for assessing whether there is the minimum 15 years of supply sought by *ShapingSEQ 2017*.

  Consolidation

  For capacity, subtract the 2016-19 constructed dwelling estimate from the identified capacity and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark, i.e. the average annual growth of consolidation dwellings expected 2016-2031 to align with the 2041 dwelling supply benchmark (Figure 7 within *ShapingSEQ 2017*).

  Expansion

  For capacity, subtract the 2016-19 constructed dwellings estimate from the identified expansion area capacity and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark, i.e. the average annual growth of expansion dwellings expected 2016-2031 in order to align to the 2041 dwelling supply benchmark (Figure 7 within *ShapingSEQ 2017*).

For realistic availability, subtract the 2016-19 constructed dwellings estimate from the identified expansion realistic availability and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark.

- Identify planning scheme amendments

  The following list identifies planning scheme amendments either recently adopted or in process that may affect planned dwelling supply in Logan:

  - Logan Reserve Land Use Area Amendment (Logan Reserve Plan) Meadowbrook Local Plan Amendment (expected to be adopted early 2021)
  - Park Ridge South and Chambers Flat amendments (expected to be adopted in mid-2020).

Moreton Bay

- Identify parcels within the consolidation and expansion areas
- Determine capacity

  Extract the total number of additional dwellings from 2016 to the identified ultimate dwellings by consolidation and expansion areas.

- Determine realistic availability

  Consolidation

  No estimate of the consolidation realistic availability has been made. Ongoing research is being undertaken to improve the estimate of realistic availability in consolidation areas.

  Expansion

  Realistic availability is calculated by removing any dwellings assumed unavailable for development to 2041 from the total local government expansion area's capacity. The calculations were different depending on whether an area is within an identified growth area or fragmented area and/or is inside or outside the Current Intent to Service layer as follows:

  - For growth areas:

    For Caboolture West and North East Business Park, capacity was first determined by selecting all parcels within the growth area, within the Urban Footprint. This capacity is the total dwelling growth from 2016 to ultimate dwellings for the growth areas.

    Calculate dwellings assumed unavailable for development to 2041 by:

    - For Caboolture West and North East Business Park, dwellings were identified as assumed unavailable for development to 2041 using the information in the SGS report (Appendix C, Table C1), i.e. its 'Base capacity' minus its 'Supply to 2041'.
    - Caboolture West is not within the identified Current Intent to Service layer, therefore for this report its total dwelling supply has not been considered

realistically available for development (see 'Base capacity' in Table C1 in Appendix C).

- For fragmented areas:

  2013 BHS rules for calculating expected yield from theoretical yield are used, including identified proportions for selected zones and parcel-size ranges (see Appendix B), as follows:

  - Identify parcels greater than 2500m^2 (BHS cut-off) and zoned for low density residential purposes (see Appendix B for the selected zones), within the expansion area and not within Caboolture West and North East Business Park growth areas.
  - Using these identified parcels, select parcels where:
    - there is dwelling growth from 2021 to ultimate (it is assumed that the identified dwelling growth to 2021 is all realistically available for development to 2041, as an allowance for existing development approvals), and
    - ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
  - Calculate the capacity of these selected areas by totalling the additional dwellings from 2021 to ultimate.
  - Calculate the realistic availability of the selected areas using the identified proportions (see Appendix B) multiplied by capacity for those areas.
  - Calculate the unavailable fragmented dwellings as: capacity minus realistic availability.

- For areas within the Current Intent to Service layer without a development approval, preliminary approval or infrastructure agreement:
  - Calculate the assumed unavailable fragmented area dwellings as above for fragmented areas generally.

- For areas outside the Current Intent to Service layer, inside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement:
  - Identify all parcels where the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
  - Calculate the total capacity of these areas by totalling the additional dwellings from 2021 to ultimate and assume all such dwellings are unavailable.

    Note: it has been considered that areas outside the Current Intent to Service layer and inside the Urban Footprint are not currently realistically available. This is based on the approach that these areas are intended for urban development (requiring trunk infrastructure to service them) but no decisions, agreements or planning are currently in place to service them.

- For areas outside the Current Intent to Service layer, outside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement:
  - Identify Fragmented Areas where the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
  - Calculate the total capacity of these areas by totalling the additional dwellings from 2021 to ultimate.
  - Calculate the fragmented yield of these areas using the method outlined above for realistic availability.
- Calculation of unavailable dwellings
  - Using the identified parcels from above, calculate the total additional dwellings from 2021 to ultimate and subtract the realistic availability.
- Calculate overall expansion realistic availability
  - [Total expansion area capacity minus assumed unavailable dwellings in growths minus assumed unavailable dwellings inside and outside the Current Intent to Service layer].

    Note: In addition to considering existing and available development approvals, dwelling growth up to 2021 to ultimate has also been assumed to be realistically available.

- Determine years of supply

  Determining years of supply provides the basis for assessing whether there is the minimum 15 years of supply sought by *ShapingSEQ 2017*. The calculations are as follows:

  Consolidation

  For capacity, subtract the 2016-19 constructed dwellings estimate from the identified capacity and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark, i.e. the average annual growth of consolidation dwellings as expected 2016-2031 in order to align with the 2041 dwelling supply benchmark (Figure 7 within *ShapingSEQ 2017*).

  Expansion

  For capacity, subtract the 2016-19 constructed dwellings estimate from the identified expansion area capacity and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark, i.e. the average annual growth of expansion dwellings as expected 2016-2031 in order to align to the 2041 dwelling supply benchmark (Figure 7 within *ShapingSEQ 2017*).

  For realistic availability, subtract the 2016-18 constructed dwellings estimate from the identified expansion realistic availability and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark.

- Identify planning scheme amendments

Planning scheme amendment in preparation (additional consultation period July-August 2019).

Noosa

- Identify parcels within the consolidation and expansion areas.
- Determine capacity

  Extract the total number of additional dwellings from 2016 to the identified ultimate dwellings by consolidation and expansion areas.

- Determine realistic availability

  Consolidation

  No estimate of the consolidation realistic availability has been made. Ongoing research is being undertaken to improve the estimate of realistic availability in consolidation areas.

  Expansion

  Realistic availability is calculated by removing any dwellings assumed unavailable for development to 2041 from the total local government expansion area's capacity. The calculations were different depending on whether an area is within an identified growth area or fragmented area and/or is inside or outside the Current Intent to Service layer as follows:

  - For growth areas:

    Noosa does not contain any *ShapingSEQ 2017* identified growth areas.

  - For fragmented areas:

    2013 BHS rules for calculating expected yield from theoretical yield are used, including identified proportions for selected zones and parcel-size ranges (see Appendix B), as follows:

    - Identify parcels greater than 2500m^2 (BHS cut-off) and zoned for low density residential purposes (see Appendix B for selected zones), within the expansion area.
    - Using these identified parcels, select parcels where:
      - there is dwelling growth from 2021 to ultimate (it is assumed that the identified dwelling growth to 2021 is all realistically available for development to 2041, as an allowance for existing development approvals), and
      - the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
    - Calculate the capacity of these selected areas by totalling the additional dwellings from 2021 to ultimate.
    - Calculate the realistic availability of the selected areas using the identified proportions (see Appendix B) multiplied by the capacity for those areas.

        - Calculate the assumed unavailable fragmented dwellings as: capacity minus realistic availability.
    - For areas within the Current Intent to Service layer without a development approval, preliminary approval or infrastructure agreement:
        - Calculate the assumed unavailable fragmented area dwellings as above for fragmented areas generally.
    - For areas outside the Current Intent to Service layer, inside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement:
        - Identify all parcels where the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
        - Calculate the total capacity of these areas by totalling the additional dwellings from 2021 to ultimate and assume all such dwellings are unavailable.

          Note: it has been considered that areas outside the Current Intent to Service layer and inside the Urban Footprint are not currently realistically available. This is based on the approach that these areas are intended for urban development (requiring trunk infrastructure to service them) but no decisions, agreements or planning are currently in place to service them.
    - For areas outside the Current Intent to Service layer, outside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement:
        - Identify Fragmented Areas where the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
        - Calculate the total capacity of these areas by totalling the additional dwellings from 2021 to ultimate.
        - Calculate the fragmented yield of these areas using the method outlined above for realistic availability.
    - Calculation of unavailable dwellings
        - Using the identified parcels from above, calculate the total additional dwellings from 2021 to ultimate and subtract the realistic availability.
    - Calculate overall expansion realistic availability
        - [Total expansion area capacity minus assumed unavailable dwellings inside and outside the Current Intent to Service layer].

          Note: In addition to considering existing and available development approvals, dwelling growth up to 2021 to ultimate has also been assumed to be realistically available.

- Determine years of supply

  Determining years of supply provides the basis for assessing whether there is the minimum 15 years of supply sought by *ShapingSEQ 2017*. The calculations are as follows:

Consolidation

For capacity, subtract the 2016-19 constructed dwellings estimate from the identified capacity and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark, i.e. the average annual growth of consolidation dwellings expected 2016-2031 in order to align with the 2041 dwelling supply benchmark (Figure 7 within *ShapingSEQ 2017*).

Expansion

For capacity, subtract the 2016-19 constructed dwellings estimate from the identified expansion area capacity and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark, i.e. the average annual growth of expansion dwellings expected 2016-2031 in order to align to the 2041 dwelling supply benchmark (Figure 7 within *ShapingSEQ 2017*).

For realistic availability, subtract the 2016-19 constructed dwellings estimate from the identified expansion realistic availability and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark.

- Identify planning scheme amendments

  The following list identifies planning scheme amendments either recently adopted or in process that may affect planned dwelling supply:

  - Council is currently preparing a new planning scheme (reviewing public submissions after consultation closed on 20 May 2019) and estimates that this may increase their total planned dwelling supply capacity in consolidation areas by about 5000 dwellings and by about 1300 dwellings in expansion areas, compared to those values reported in the 2019 LSDM Report.

Redland

- Parcel-level information was not readily available for Redland. Therefore, an estimate of the capacity of the Redland's consolidation and expansion areas was based on the Redland Land Supply Review 2014, Urbis (2014 study). This was used to estimate Redland's ultimate development growth from 2016 based on:
  - Aligning the relevant locations provided in the report with either the City's consolidation and expansion areas as best as possible by location, zoning and lot size information.
  - Where reported dwelling yields were distributed across the city, breakdowns for consolidation and expansion areas were proportionally calculated based on the relevant zoned land in each area
  - As the report identified circumstances as at January 2014, an estimate of dwelling construction to June 2016 was made using building approvals from January 2013 to June 2015 to estimate remaining capacity as at June 2016.
- Determine capacity
  - Using the above approach extract the total number of additional dwellings by consolidation and expansion areas.

- Subtract the estimate of dwelling construction from January 2014 to June 2016
- As the 2014 study did not include an estimate for Southern Redland Bay (Shoreline), the estimated dwelling yield of this area was added to the calculated expansion area capacity (see Table C1 in Appendix C).

- Determine realistic availability

  Consolidation

  No estimate of the consolidation realistic availability has been made. Ongoing research is being undertaken to improve the estimate of realistic availability in consolidation areas.

  Expansion

  As parcel-level information was not available for this analysis, realistic availability was calculated by using the findings of the SGS report and BHS information as follows:

  - For growth areas:

    For Southern Redland Bay (Shoreline), dwellings were identified as assumed unavailable for development to 2041 using the information identified in the SGS report (Appendix C, Table C1), i.e. its 'Base capacity' minus its 'Supply to 2041'.

  - For areas inside and outside the Current Intent to Service layer

    Dwellings were assumed unavailable for development using the 2013 BHS (adjusted to account for development to June 2019) by:

    - For areas within the Current Intent to Service layer without a development approval, preliminary approval or infrastructure agreement calculating 'Theoretical yield' minus 'Expected yield'
    - For areas outside the Current Intent to Service layer, inside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement calculating 'Theoretical yield' minus 'Expected yield'

      Note: it has been considered that areas outside the Current Intent to Service layer and inside the Urban Footprint are not currently realistically available. This is based on the approach that these areas are intended for urban development (requiring trunk infrastructure to service them) but no decisions, agreements or planning are currently in place to service them.

    - For areas outside the Current Intent to Service layer, outside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement calculating 'Theoretical yield' minus 'Expected yield'.

  - Calculation of unavailable dwellings
    - Using the identified parcels from above, calculate the total additional dwellings and subtract the realistic availability.
  - Calculate overall expansion realistic availability:

- [Total expansion area capacity minus assumed unavailable dwellings in growth areas minus unavailable dwellings inside and outside the Current Intent to Service layer].

- Determine years of supply

  Determining years of supply provides the basis for assessing whether there is the minimum 15 years of supply sought by *ShapingSEQ 2017*. The calculations are as follows:

  Consolidation

  For capacity, subtract the 2016-19 constructed dwellings estimate from the identified capacity and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark, i.e. the average annual growth of consolidation dwellings expected 2016-2031 in order to align to the 2041 dwelling supply benchmark (Figure 7 within *ShapingSEQ 2017*).

  Expansion

  For capacity, subtract the 2016-19 constructed dwellings estimate from the identified expansion area capacity and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark, i.e. the average annual growth of expansion dwellings expected 2016-2031 in order to align to the 2041 dwelling supply benchmark (Figure 7 within *ShapingSEQ 2017*).

  For realistic availability, subtract the 2016-19 constructed dwellings estimate from the identified expansion realistic availability and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark.

- Identify planning scheme amendments

  The following identifies a list of planning and development scheme amendments recently adopted or in process that may affect planned dwelling supply in Redland:

  - Any additional dwelling yields from the Toondah Harbour and Weinham Creek PDAs are subject to ongoing planning and approval processes, so no changes were made to the yields estimated by the 2014 study for those areas for the purposes of the 2018 LSDM Report.

Scenic Rim

- As Scenic Rim does not contain any consolidation areas, all parcels are within the expansion area.
- Determine capacity

  Extract the total number of additional dwellings from 2016 to the identified ultimate dwellings.

- Determine realistic availability

  Expansion

  Realistic availability is calculated by removing any dwellings assumed unavailable for development to 2041 from the local government expansion area's capacity. The calculations were different depending on whether an area is within an identified growth

area or fragmented area and/or is inside or outside the Current Intent to Service layer as follows:

- For growth areas:

  Scenic Rim does not contain any *ShapingSEQ 2017* identified growth areas that have relevant dwelling yields in the data provided by Council.

- For fragmented areas:

  2013 BHS rules for calculating expected yield from theoretical yield are used, including identified proportions for selected zones and parcel-size ranges (see Appendix B), as follows:

  - Identify parcels greater than 2500m^2 (BHS cut-off) and zoned for low density residential purposes (see Appendix B for the selected zones), within the expansion area.
  - Using these identified parcels, select parcels where:
    - there is dwelling growth from 2021 to ultimate (it is assumed that the identified dwelling growth to 2021 is all realistically available for development to 2041, as an allowance for existing development approvals) and
    - the ultimate dwellings are greater than one (effectively counting all single dwellings on vacant lots as realistically available).
  - Calculate the capacity of these selected areas by totalling the additional dwellings from 2021 to ultimate.
  - Calculate the realistic availability of the selected areas using the identified proportions (see Appendix B) multiplied by the capacity for those areas.
  - Calculate the assumed unavailable fragmented dwellings as: capacity minus realistic availability.

- For areas within the Current Intent to Service layer without a development approval, preliminary approval or infrastructure agreement:
  - Calculate the assumed unavailable fragmented area dwellings as above for fragmented areas generally.

- For areas outside the Current Intent to Service layer, inside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement:
  - Identify all parcels where the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
  - Calculate the total capacity of these areas by totalling the additional dwellings from 2021 to ultimate and assume all such dwellings are unavailable.

    Note: it has been considered that areas outside the Current Intent to Service layer and inside the Urban Footprint are not currently realistically available. This is based on the approach that these areas are intended for urban

development (requiring trunk infrastructure to service them) but no decisions, agreements or planning are currently in place to service them.

- For areas outside the Current Intent to Service layer, outside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement:
  - Identify Fragmented Areas where the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
  - Calculate the total capacity of these areas by totalling the additional dwellings from 2021 to ultimate.
  - Calculate the fragmented yield of these areas using the method outlined above for realistic availability.
- Calculation of unavailable dwellings
  - Using the identified parcels from above, calculate the total additional dwellings from 2021 to ultimate and subtract the realistic availability.
- Calculate overall expansion realistic availability
  - [Total expansion area capacity minus assumed unavailable dwellings inside and outside the Current Intent to Service layer].

    Note: In addition to considering existing and available development approvals, dwelling growth up to 2021 to ultimate has also been assumed to be realistically available.

- Determine years of supply

  Determining years of supply provides the basis for assessing whether there is the minimum 15 years of supply sought by *ShapingSEQ 2017*. The calculations are as follows

  Expansion

  For capacity, subtract the 2016-19 constructed dwellings estimate from the identified expansion area capacity and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark, i.e. the average annual growth of expansion dwellings expected 2016-2031 to align with the 2041 dwelling supply benchmark (Figure 7 within *ShapingSEQ 2017*).

  For realistic availability, subtract the 2016-19 constructed dwellings estimate from the identified expansion realistic availability and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark.

- Identify planning scheme amendments in process

  The following list identifies planning scheme amendments either recently adopted or in process that may affect planned dwelling supply in Scenic Rim:

  - Council is currently preparing a new planning scheme (reviewing submissions after public consultation).

Somerset

- As Somerset does not contain any consolidation areas all parcels are within the expansion area.

  Note: Somerset calculations are based on the number of residential equivalent demand units (EDUs), which based on the corresponding LGIP are only slightly different to the number of dwellings and are therefore counted as dwellings.

- Determine capacity

  Extract the total number of additional dwellings from 2016 to the identified ultimate dwellings.

- Determine realistic availability

  Expansion

  Realistic availability is calculated by removing any dwellings assumed unavailable for development to 2041 from the total local government expansion area's capacity. The calculations were different depending on whether an area is within an identified growth area or fragmented area and/or is inside or outside the Current Intent to Service layer as follows:

  - For growth areas:

    Somerset does not contain any *ShapingSEQ 2017* identified growth areas.

  - For fragmented areas:

    2013 BHS rules for calculating expected yield from theoretical yield are used, including identified proportions for selected zones and parcel-size ranges (see Appendix B), as follows:

    - Identify parcels greater than 2500m^2 (BHS cut-off) and zoned for low density residential purposes (see Appendix B for selected zones), within the expansion area.
    - Using these identified parcels, select parcels where:
      - there is dwelling growth from 2021 to ultimate (it is assumed that the identified dwelling growth to 2021 is all realistically available for development to 2041, as an allowance for existing development approvals), and
      - the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
    - Calculate the capacity of these selected areas by totalling the additional dwellings from 2021 to ultimate.
    - Calculate the realistic availability of the selected areas using the identified proportions (see Appendix B) multiplied by the capacity for those areas.
    - Calculate the assumed unavailable fragmented dwellings as: capacity minus realistic availability.

  - For areas within the Current Intent to Service layer without a development approval, preliminary approval or infrastructure agreement:

        - Calculate the assumed unavailable fragmented area dwellings as above for fragmented areas generally.
    - For areas outside the Current Intent to Service layer, inside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement:
        - Identify all parcels where the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
        - Calculate the total capacity of these areas by totalling the additional dwellings from 2021 to ultimate and assume all such dwellings are unavailable.

          Note: it has been considered that areas outside the Current Intent to Service layer and inside the Urban Footprint are not currently realistically available. This is based on the approach that these areas are intended for urban development (requiring trunk infrastructure to service them) but no decisions, agreements or planning are currently in place to service them.
    - For areas outside the Current Intent to Service layer, outside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement:
        - Identify Fragmented Areas where the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
        - Calculate the total capacity of these areas by totalling the additional dwellings from 2021 to ultimate.
        - Calculate the fragmented yield of these areas using the method outlined above for realistic availability.
    - Calculation of unavailable dwellings
        - Using the identified parcels from above, calculate the total additional dwellings from 2021 to ultimate and subtract the realistic availability.
    - Calculate overall expansion realistic availability
        - [Total expansion area capacity minus assumed unavailable dwellings inside and outside the Current Intent to Service layer].

          Note: In addition to considering existing and available development approvals, dwelling growth up to 2021 to ultimate has also been assumed to be realistically available.

- Determine years of supply

  Determining years of supply provides the basis for assessing whether there is the minimum 15 years of supply sought by *ShapingSEQ 2017*. The calculations are as follows:

  Expansion

  For capacity, subtract the 2016-19 constructed dwellings estimate from the identified expansion area capacity and divide this by *ShapingSEQ 2017*'s adjusted average annual

benchmark, i.e. the average annual growth of expansion dwellings expected 2016-2031 to align with the 2041 dwelling supply benchmark (Figure 7 within *ShapingSEQ 2017*).

For realistic availability, subtract the 2016-19 constructed dwellings estimate from the identified expansion realistic availability and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark.

- Identified planning scheme amendments

  The following list identifies planning scheme amendments either recently adopted or in process that may affect planned dwelling supply in Somerset:

  Major amendment – Somerset Regional Planning Scheme version 4 (available for comment until 2 September 2019)

Sunshine Coast

- Identify parcels within the consolidation and expansion areas.

  Note: Sunshine Coast Council supplied information included assumptions about future dwellings that may result from the Beerwah East Major Development Area (BEMDA) and future dwelling density increases associated with the proposed light rail corridor.

  The 2019 LSDM Report reports a reduced total capacity (decrease of 5000 dwellings) in the expansion area than those reported on in the 2018 LSDM. This is due to these dwellings, associated with the BEMDA, being included in 2018 LSDM in error. These have been removed as they are not considered part of Sunshine Coast's planned dwelling supply or estimates of expansion area realistic availability.

  The LSDM Report seeks to describe planned dwelling supply, i.e. dwellings that could be approved under the current zoning and code provisions of planning schemes. As the expected future dwelling density increases associated with the proposed light rail corridor have not been incorporated within the current Sunshine Coast planning scheme, the LSDM Report calculations have sought to exclude any future density increases attributed to the light rail corridor.

  Effectively, for this analysis any additional dwellings assumed for the BEMDA and proposed light rail corridor beyond 2031 are not reported.

  In addition, the information supplied did not include data for ultimate development, therefore the 2041 data has been used as ultimate for this analysis.

- Determine capacity

  Extract the total number of additional dwellings from 2016 to the identified ultimate (in this case 2041) dwellings by consolidation and expansion areas.

- Determine realistic availability

  Consolidation

  No estimate of the consolidation realistic availability has been made. Ongoing research is being undertaken to improve the estimate of realistic availability in consolidation areas.

Expansion

Realistic availability is calculated by removing any dwellings assumed unavailable for development to 2041 from the total local government expansion area's capacity. The calculations were different depending on whether an area is within an identified growth area or fragmented area and/or is inside or outside the Current Intent to Service layer as follows:

- For growth areas:

  For Caloundra South PDA and Palmview, dwellings were identified as assumed unavailable for development to 2041 using the information in the SGS report (Appendix C, Table C1), i.e. its 'Base capacity' minus its 'Supply to 2041'.

- For fragmented areas:

  2013 BHS rules for calculating expected yield from theoretical yield are used, including identified proportions for selected zones and parcel-size ranges (see Appendix B), as follows:

  - Identify parcels greater than 2500m^2 (BHS cut-off) and zoned for low density residential purposes (see Appendix B for selected zones), within the expansion area and not within the Caloundra South PDA or Palmview growth area.
  - Using these identified parcels, select parcels where:
    - there is dwelling growth from 2021 to ultimate (it is assumed that the identified dwelling growth to 2021 is all realistically available for development to 2041, as an allowance for existing development approvals), and
    - the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
  - Calculate the capacity of these selected areas by totalling the additional dwellings from 2021 to ultimate.
  - Calculate the realistic availability of the selected areas using the identified proportions (see Appendix B) multiplied by the capacity for those areas.
  - Calculate the assumed unavailable fragmented dwellings as: capacity minus realistic availability.

- For areas within the Current Intent to Service layer without a development approval, preliminary approval or infrastructure agreement:
  - Calculate the assumed unavailable fragmented area dwellings as above for fragmented areas generally.

- For areas outside the Current Intent to Service layer, inside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement:
  - Identify all parcels where the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).

        - Calculate the total capacity of these areas by totalling the additional dwellings from 2021 to ultimate. and assume all such dwellings are unavailable.

          Note: it has been considered that areas outside the Current Intent to Service layer and inside the Urban Footprint are not currently realistically available. This is based on the approach that these areas are intended for urban development (requiring trunk infrastructure to service them) but no decisions, agreements or planning are currently in place to service them.

    - For areas outside the Current Intent to Service layer, outside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement:
        - Identify Fragmented Areas where the ultimate dwellings are greater than one (effectively counting all single dwellings developed on vacant lots as realistically available).
        - Calculate the total capacity of these areas by totalling the additional dwellings from 2021 to ultimate.
        - Calculate the fragmented yield of these areas using the method outlined above for realistic availability.
    - Calculation of unavailable dwellings
        - Using the identified parcels from above, calculate the total additional dwellings from 2021 to ultimate and subtract the realistic availability.
    - Calculate overall expansion realistic availability
        - [Total expansion area capacity minus assumed unavailable growth area dwellings minus assumed unavailable dwellings inside and outside the Current Intent to Service layer].

          Note: In addition to considering existing and available development approvals, dwelling growth up to 2021 to ultimate has also been assumed to be realistically available.

- Determine years of supply

  Determining years of supply provides the basis for assessing whether there is the minimum 15 years of supply sought by *ShapingSEQ 2017*. The calculations are as follows:

  Consolidation

  For capacity, subtract the 2016-19constructed dwellings estimate from the identified capacity and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark, i.e. the average annual growth of consolidation dwellings expected 2016-2031 in order to align to the 2041 dwelling supply benchmark (Figure 7 within *ShapingSEQ 2017*).

  Expansion

  For capacity, subtract the 2016-19 constructed dwellings estimate from the identified expansion area capacity and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark, i.e. the average annual growth of expansion dwellings expected 2016-2031

in order to align to the 2041 dwelling supply benchmark (Figure 7 within *ShapingSEQ 2017*).

For realistic availability, subtract the 2016-19 constructed dwellings estimate from the identified expansion realistic availability and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark.

- Identify planning scheme amendments

  The following list identifies planning and development scheme amendments either recently adopted or in process that may affect the planned dwelling supply in Sunshine Coast:

  - Maroochydore City Centre PDA development scheme amendment expected to increase dwelling yields from 2,000 to 4,000 (adopted 9 August 2019)
  - Amendments to incorporate the Caloundra Centre Masterplan (final state interest review expected mid-2019)
  - Site Specific and Operational Matters (final state interest review expected mid-2019)
  - Site Specific (including sites added to Urban Footprint for *ShapingSEQ 2017*) and Operational Matters (commenced 1 April 2019).

In addition, Sunshine Coast Council use expert analysis to estimate the dwelling take up to 2041 on at an individual lot level. Consequently, the Sunshine Coast Council supplied the information did not include data for ultimate development, therefore the 2041 data has been used as ultimate for this analysis.

An additional 1,240 dwellings from six sites have been included within the Current Intent to Service Layer and the realistic availability scenario for the Sunshine Coast expansion area. This is based on the inclusion of these sites within Sunshine Coast Planning Scheme 2014's Urban Growth Management Boundary and supporting infrastructure investigations provided by Council.

Toowoomba

- Identify SA2s within the consolidation and expansion areas.

  Parcel-level information was not used for this analysis as only SA2 information was available to inform the LSDM Report.

- Determine capacity

  Extract the total number of additional dwellings from 2016 to the identified ultimate dwellings by consolidation and expansion areas.

  It was assumed that dwelling yields for the Westbrook and Meringandan West-Kleinton growth areas added to the Urban Footprint for *ShapingSEQ 2017* were included in the LGIP numbers used for this analysis.

- Determine realistic availability

  Consolidation

No estimate of the consolidation realistic availability has been made. Ongoing research is being undertaken to improve the estimate of realistic availability in consolidation areas.

Expansion

As parcel-level information was not available for this analysis, realistic availability was calculated by using the findings of the SGS report and BHS information as follows:

- For growth areas:

  For Meringandan West-Kleinton, dwellings were identified as assumed unavailable for development to 2041 using the information in the SGS report, (Appendix C, Table C1), i.e. it's 'Base capacity' minus their 'Supply to 2041'.

  Note: as Meringandan West-Kleinton is not within the identified Current Intent to Service layer, for this report its dwelling supply has not been considered realistically available for development (see 'Base yield' in Table C1 in Appendix C).

- For areas inside and outside the Current Intent to Service layer

  Dwellings were assumed unavailable for development using the 2013 BHS (adjusted to account for development to June 2019) by:

  - For areas within the Current Intent to Service layer without a development approval, preliminary approval or infrastructure agreement calculating 'Theoretical yield' minus 'Expected yield'
  - For areas outside the Current Intent to Service layer, inside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement calculating 'Theoretical yield' minus 'Expected yield'

    Note: it has been considered that areas outside the Current Intent to Service layer and inside the Urban Footprint are not currently realistically available. This is based on the approach that these areas are intended for urban development (requiring trunk infrastructure to service them) but no decisions, agreements or planning are currently in place to service them.

- For areas outside the Current Intent to Service layer, outside the Urban Footprint and without a development approval, preliminary approval or infrastructure agreement calculating 'Theoretical yield' minus 'Expected yield'.
- Calculation of unavailable dwellings
  - Using the identified parcels from above, calculate the total additional dwellings and subtract the realistic availability.
- Calculate overall expansion realistic availability:
  - [Total expansion area capacity minus assumed unavailable dwellings in growth areas minus unavailable dwellings inside and outside the Current Intent to Service layer].

- Determine years of supply

Determining years of supply provides the basis for assessing whether there is the minimum 15 years of supply sought by *ShapingSEQ 2017*. The calculations are as follows:

Consolidation

For capacity, subtract the 2016-19 constructed dwellings estimate from the identified capacity and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark, i.e. the average annual growth of consolidation dwellings expected 2016-2031 to align to the 2041 dwelling supply benchmark (Figure 7 within *ShapingSEQ 2017*).

Expansion

For capacity, subtract the 2016-19 constructed dwellings estimate from the identified expansion area capacity and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark, i.e. the average annual growth of expansion dwellings expected 2016-2031 to align to the 2041 dwelling supply benchmark (Figure 7 within *ShapingSEQ 2017*).

For realistic availability, subtract the 2016-19 constructed dwellings estimate from the identified expansion realistic availability and divide this by *ShapingSEQ 2017*'s adjusted average annual benchmark.

- Identify planning scheme amendments

  The following list identifies planning and development scheme amendments either recently adopted or in process that may affect Toowoomba's planned dwelling supply:

  - Proposed amendment No. 16 – Medium Density Residential Review (final state interest review)
  - Proposed amendment no.17 – Flood Risk Assessment, Planning Evaluation and Scheme Amendment (considering round 3 consultation feedback prior to final state interest review)
  - Drayton local plan/land use investigation (investigation commenced late 2017).

Data update

Annually.

Reporting units

Capacity, being total growth in dwellings 2016 to ultimate, where available.

An estimate of realistic availability of dwellings to 2041 for the region (consolidation and expansion) and each local government area (expansion)

Years of supply in the region and by local government area for consolidation and expansion areas.

Comparison to the 2041 dwelling supply benchmarks of *ShapingSEQ 2017*.

Note

For further information on:

- consolidation and expansion areas, please see pages 174-175 of *ShapingSEQ 2017*.
- The 15 years of supply minimum is identified within *ShapingSEQ 2017* (see Chapter 3 page 46).

At the time of reporting there were preliminary updates to the MCU approvals. Revised MCU information, to June 2019, will be included in the final LSDM report and may impact on numbers reported in the SEQ consolidation realistic availability scenarios.

For growth areas, DSDILGP engaged SGS to provide an update on selected growth areas' land supply take up. These areas are identified in Appendix C, Table C1.

For this report the growth areas of Springfield and Palmview have been added to the estimates of realistic availability to provide a more complete coverage of significant master planned areas, and Westbrook removed as it is not considered part of the planned supply for Toowoomba as at 30 June 2019.

For the 2019 LSDM Report the average annual dwelling supply benchmarks (2016-2031) have been adjusted to take account of the increased rate of dwelling demand estimated by the Queensland Government 2018 edition medium series dwelling projections. The adjustment of the average annual benchmarks assumes the growth expected by *ShapingSEQ 2017* will occur at a somewhat different (in this case slightly faster) rate, but with the same spatial distribution of growth as expected by *ShapingSEQ 2017* (see Appendix G).

Approved supply

Description

Approved supply measures either the number of lots that have a development permit for reconfiguring a lot but have not yet been certified (referred to as 'uncompleted lots'), or the number of multiple dwellings that have a material change of use development permit, in the consolidation area, but have not yet been constructed (referred to as 'uncompleted multiple dwellings'), as at the relevant date.

This approved supply section also provides an indication of the number of uncompleted lots that have also obtained an operational works approval.

This measure also reports years of supply for both uncompleted lots and uncomplete multiple dwelling approvals compared to the minimum four years of supply sought by *ShapingSEQ 2017*.

Rationale

Provides a current status and identifiable trends of the amount of approved supply for the region and each local government area.

It provides an indication of supply that is available to accommodate the region's short-term residential growth.

Limitations

Accurate recording of the number of approved dwellings/lots and operational works is dependent on the complete reporting of associated parent lots in the relevant development permit decision notice.

The uncompleted multiple dwellings approvals data for June 2011 only includes material change of use approvals within the existing urban area boundary as created for the South East Queensland (SEQ) Regional Plan 2009-2031, based on an aggregation of 2006 Census Collection Districts. The current Existing Urban Area (EUA) boundary used to define the consolidation area for *ShapingSEQ 2017* is a close approximation of that boundary based on 2016 SA2 boundaries. This needs to be recognised when comparing the 2011, 2018 and 2019 uncompleted multiple dwelling data.

The 2011 uncompleted multiple dwelling data includes social housing approvals, but the 2018 and 2019 data only includes approvals for social housing if included in local government or Economic Development Queensland (EDQ) development approvals data. As social housing is generally a small proportion of dwellings, years of supply in 2018 and 2019 have still been calculated using average annual total building approvals for consolidation attached dwellings for the preceding four years.

The Australian Bureau of Statistics (ABS) from time-to-time updates and adjusts building approvals information to account for errors and new information as it becomes available. Therefore, in future updates of this data, previous years' values may change.

Data source/custodian

- ABS, Building Approvals (excluding houses), catalogue 8731.0, extracted August 2019 for approvals July 2008 to June 2019.

- Queensland Treasury, Queensland Government Statisticians Office (QGSO), unsealed (uncompleted) reconfiguring a lot approvals (RaL), as extracted in November 2019 for year ending 30 June 2019.
- Queensland Treasury, QGSO, lot certifications, as extracted in November 2019 to year ending 30 June 2019.
- Queensland Treasury, QGSO, operational works approvals (uncompleted), as extracted July 2019 for 2011/12 to 2018/19. Queensland Treasury, Material change of use (MCU) approvals for multiple dwellings (unconstructed), June 2011. This data is based on development approvals data provided by local governments, the then Urban Land Development Authority and Southbank Corporation, and on social housing approvals from the Department of Communities.
- Queensland Treasury, QGSO, MCU approvals for multiple dwellings (unconstructed), June 2018, as provided 30 October 2018. This data is based on development approval data provided by local governments and EDQ.
- Queensland Treasury, QGSO, MCU approvals for multiple dwellings (unconstructed), June 2019, as provided November 2019. This data is based on development approval data provided by local governments and EDQ.

Source data geography

SEQ region and local government area.

Method

Uncomplete lot approvals (reconfiguring a lot)

- Extract total uncompleted residential lots as at 30 June for each year (2011/12 to 2018/19) for the region and each local government area.
- Determine years of supply by dividing the total number of uncompleted lots (at 30 June of each reporting period) by the average annual lot certifications of the previous four years as at each reporting period. For example, for 2017/18 years of supply was calculated as the total number of uncompleted lots as at 30 June 2018 divided by the average annual number of lot certifications from 2014/15 to 2017/18 inclusive. Note as 2018/19 only contained 9 months of data, the 2018/19 years of supply was calculated as the total number of uncompleted lots as at 30 June 2019 divided by 4 years of lot certifications from 2015/16 to 2018/19 inclusive.

Uncompleted multiple dwelling approvals (material change of use)

- Extract total number of uncompleted multiple dwellings as at June 2011, June 2018, and June 2019 for each local government area and the region within consolidation areas.
- Determine years of supply by dividing the total number of uncompleted multiple dwellings by the average annual consolidation attached dwelling building approvals of the previous four years as at each reporting period. Attached dwelling building approvals are used as they best correlate with multiple dwelling approvals.

Operational works approvals

- Extract total uncompleted operational works approvals for the year ending 30 June for each year (2011/12 to 2018/19) for the region and each local government area.

Data update

Annually.

Reporting units

Number of lots, operational works or multiple dwellings approved and years of supply for SEQ and local government areas.

Notes

For further information about consolidation and expansion areas, please see pages 174-175 of *ShapingSEQ 2017*.

For further information on reconfiguring a lot, operational works and MCU approvals see Queensland Treasury, QGSO, Residential Land Development Activity Profiles and Spreadsheet.

The four years of supply minimum for approved supply is identified within *ShapingSEQ 2017* (see Measures that Matter, page 167).

As there are no benchmarks for years of supply for operational works approvals (uncompleted), this value has not been determined.

For the 2019 LSDM Report the average annual dwelling supply benchmarks (2016-2031) have been adjusted to take account of the increased rate of dwelling demand estimated by the Queensland Government 2018 edition medium series dwelling projections. The adjustment of the average annual benchmarks assumes the growth expected by *ShapingSEQ 2017* will occur at a somewhat different (in this case slightly faster) rate, but with the same spatial distribution of growth as expected by *ShapingSEQ 2017*. See Appendix G for a detailed explanation on the calculation.

Industrial land take-up

Description

Industrial land take-up within the region estimates the take-up of developed industrial land from 2011-2017, recognising that a suite of other land uses could occur on industrial zoned land that are not industrial in nature, e.g. commercial, recreational and community uses.

Rationale

The take-up of developed industrial land is measured for the region and each local government area. It was undertaken in conjunction with the Planned industrial land supply analysis.

Limitations

Identification and categorisation of industrial land was based on information available at the time of analysis, which did not include all development approvals that may affect industrial development.

The date of aerial photography used to determine whether an area has been developed varies across the region.

Interpretation of relevant zones and planning intent from local government planning schemes, structure, master and precinct plans and Priority Development Area development schemes and context plans may vary across the region.

Developed industrial land areas are based on the total areas of developed land parcels, excluding roads, which for many locations will differ from the land area if identified constraints were excluded, as has been done in determining planned industrial land. This needs to be recognised when comparing developed industrial land take-up to planned industrial land supply.

Data source/custodian

- RPS, Industrial Land Supply Developable Area Initial Report and associated GIS take-up datasets (RPS report—see extracts at Appendix D), September 2019, which utilised:
    - State government aerial imagery, 2011 (dates vary) and 2018 (dates vary from 10 May to 15 July 2018)
    - local government planning schemes zoning, precinct and sub-area data and local and neighbourhood plans, generally as at March-June 2019
    - State Government constraints datasets, generally as at March-June 2019
    - local government planning scheme overlays, generally as at March-June 2019
    - zones, precincts, structure plan and context plan areas, generally as at March-June 2019, for:
        - 2014 Airport Master Plan (Brisbane)
        - Gold Coast Airport 2017 Master Plan
        - Archerfield Airport Master Plan 2017
        - Port of Brisbane Land Use Plan 2015 (2017 Update)
        - All SEQ Priority Development Areas

        - Bromelton State Development Area.
    - limited preliminary approvals overriding planning schemes for Brisbane (from RPS) and Sunshine Coast Council.

Source data geography

SEQ region and local government area.

Method

RPS were engaged to review and update industrial land take-up data as reported by the CDM Smith Industrial Land Supply Report (CDM Smith Report), reported in October 2018 for the 2011 to 2017 period, to 2018.

RPS identified additional take-up to 2018 on Planned industrial land as identified by the CDM Smith Report, and reported in the 2018 LSDM Report, but also identified take-up 2011 to 2018 on additional land with planned industrial intent, i.e. not identified by the 2018 LSDM Report.

RPS were informed by the planned industrial land identified by the CDM Smith report, and reported in the 2018 LSDM Report. RPS revised this planned industrial intent layer for the 2019 Report through a review of currently available and relevant planning schemes, development schemes, structure, master, precinct and context plans.

Planned industrial intent was identified based on the particular zone and/or precinct having a predominant industrial land use focus or overall industrial purpose.

RPS identified vacant land in 2018 and take-up 2011 to 2018 on areas with planned industrial intent based on interpretation of state government aerial imagery.

Values for developed industrial land take-up 2011-2018 were extracted from the RPS report, with DSDILGP applying industrial land types to the RPS GIS data informed by included zoning and precinct information and the categorisation applied to Planned industrial land for the 2018 LSDM Report.

Data update

Annually, subject to further work to progress and implement best practice research (Moving forward).

Reporting units

Area (hectares) of developed industrial land take-up (2011-2018), by type of industrial land, for the region and each SEQ local government area.

Notes

For the purposes of this report the following industrial land categories, intended to align to relevant zone types in the Planning Regulation 2017, were used:

- Low Impact Industry
- Medium Impact Industry
- High Impact Industry

- Waterfront and Marine Industry
- High Technology Industry
- Airports and air bases
- Industry Investigation Area.

For a concordance of local government zonings to each of the above categories see Table D1 in Appendix D.

Planned industrial land supply

Description

Planned industrial land supply estimates the planned industrial land, by industrial land type, as at mid-2018, for South East Queensland (SEQ) and each local government area.

Rationale

Provides an indication of the amount of planned industrial land there is within the region and each local government area to accommodate future industrial employment growth.

Limitations

Identification and categorisation of industrial land was based on information available at the time of analysis, which did not include all development approvals or planning scheme changes in process that may affect future industrial development.

Identification and interpretation of vacant and developed industrial land may be subject to varying interpretation of aerial imagery across the region and over time.

The date of aerial photography used to determine whether an area has been developed varies across the region.

Interpretation of relevant zones and planning intent from local government planning schemes, structure, master and precinct plans and Priority Development Area development schemes and context plans may vary across the region.

Changes in land parcel geometry over time have resulted in small 'slivers' of land created by mismatching lot boundaries. Despite cleaning of the data for the RPS report some slivers remain.

Data source/custodian

- RPS, Industrial Land Supply Developable Area Initial Report and associated GIS developable area datasets (RPS report—see extracts at Appendix D), September 2019, which utilised:
    - State government aerial imagery, 2011 (dates vary) and 2018 (dates vary from 10 May to 15 July 2018)
    - local government planning schemes zoning, precinct and sub-area data and local and neighbourhood plans, generally as at March-June 2019
    - State Government constraints datasets, generally as at March-June 2019
    - local government planning scheme overlays, generally as at March-June 2019
    - zones, precincts, structure plan and context plan areas, generally as at March-June 2019, for:
        - 2014 Airport Master Plan (Brisbane)
        - Gold Coast Airport 2017 Master Plan
        - Archerfield Airport Master Plan 2017
        - Port of Brisbane Land Use Plan 2015 (2017 Update)
        - All SEQ Priority Development Areas

        - Bromelton State Development Area.
    - limited preliminary approvals overriding planning schemes for Brisbane (from RPS) and Sunshine Coast Council.

Source data geography

SEQ region and local government area.

Method

RPS were engaged to investigate and report on the SEQ region's industrial land, including the amount of planned industrial land.

Extract planned industrial land areas from the CDM Smith report, by industrial land type, for SEQ and each local government area.

RPS were informed by the planned industrial land as identified by the CDM Smith report, and reported in the 2018 LSDM Report, but revised the area with planned industrial intent based on a review of relevant planning schemes, development schemes, structure, master, precinct and context plans.

Planned industrial intent was identified based on the particular zone, precinct or the like having a predominant industrial land use focus or overall industrial purpose.

RPS identified vacant land in 2018 on areas with planned industrial intent based on interpretation of state government aerial imagery.

SEQ-wide developability (constraint) rules and local variations of those were generated as follows:

- As reported in the 2018 LSDM Report, in 2018 RPS undertook land suitability best practice research in consultation with the GMP Data and Modelling Working Group (DMWG) to recommend standard developability rules across SEQ
- In 2019 the standard developability rules were applied to standard residential and industrial land supply types in consultation with RPS and the DMWG
- RPS were then engaged to review the SEQ-wide developability rules in consultation with DSDILGP and local governments to identify any local variations or general changes to those rules.

RPS used the resulting developability rules (see Developable area and land supply types best practice research for the developability rules) to apply constraints to vacant planned industrial areas to create an industrial developable area dataset (planned Industrial land). See Table D2 in Appendix D for the actual constraints layers corresponding to the 'common layer names' used by the developability rules.

Where there were overlapping soft constraints as identified by the developability rules, the developable area was calculated as explained in Appendix H.

Values for planned industrial land areas were extracted from the RPS report, for SEQ and each local government area, with DSDILGP applying industrial land types to the RPS GIS data informed by

included zoning and precinct information and the categorisation applied to Planned industrial land for the 2018 LSDM Report.

Data update

Annually, subject to further work to progress and implement best practice research (Moving forward).

Reporting units

Area (in hectares) of planned industrial land, by industrial land type, for SEQ and each local government area.

Notes

For the purposes of this report the following industrial land categories, intended to align to relevant zone types in the Planning Regulation 2017, were used:

- Low Impact Industry
- Medium Impact Industry
- High Impact Industry
- Waterfront and Marine Industry
- High Technology Industry
- Airports and air bases
- Industry Investigation Area.

For a concordance of local government zonings to each of the above categories see Table D1 in Appendix D.

Planned industrial employment supply

Description

Planned industrial employment supply estimates the total industrial jobs growth capacity (2016 to ultimate) within the region and for each local government area.

A realistic availability scenario is also estimated to reflect the effect of factors which may constrain the availability of the industrial jobs growth capacity, within some Major Enterprise and Industry Areas (MEIAs), to accommodate industrial employment up to 2041.

The capacity and realistic availability of planned industrial employment supply are compared to the corresponding 2041 industrial employment planning baseline of *ShapingSEQ 2017*.

Rationale

The capacity of planned industrial employment supply provides the basis for assessing the ability, based on current planning intent, to accommodate the 2041 industrial employment planning baselines of *ShapingSEQ 2017*.

The realistic availability scenarios for planned industrial employment supply have been generated to represent the effect of various factors that may constrain the availability to 2041 of the identified industrial employment capacity. Such factors may include:

- infrastructure availability
- the practical staging of and capability for development
- land ownership fragmentation
- landowner intent
- lower employment densities than expected
- accessibility
- constraints affecting the economic feasibility of development.

Consideration of realistic availability as an alternative scenario provides a greater level of confidence about the adequacy of industrial employment supply.

The capacity of planned industrial employment supply is based on information supplied by SEQ local governments and the realistic availability of planned industrial employment supply is informed by a market-based economic assessment by Urban Economics (see Data source/custodian below).

Limitations

There is some inconsistency of the source data across local government areas including timing, outputs and assumptions about densities and developable area. The extent to which the planned industrial employment supply captures all industrial employment potential, e.g. including that not located on land zoned for industry, depends on the approaches of the source data.

Use of different parameters across local government areas in determining industrial employment supply, and the interpretation of what ultimate development is for each area, may impact on the consistency and comparability of reporting across local government areas.

Over time, it is intended to progressively apply a more consistent methodology across the region for calculating planned industrial employment supply. This will be informed by the findings of and further work to progress and implement best practice research (Moving forward).

The 2041 industrial employment baselines of *ShapingSEQ 2017* provide an approximation only of industrial employment demand based on the ANZSIC 1-digit industry categories from the Queensland Treasury 2015 edition employment projections. As advised by the CDM Smith report, reflecting different objectives to the 2015 edition projections, a more refined assessment of industrial and other land use employment demand could be based on ANZSIC 2-digit industry categories.

The intent of the planned industrial employment supply measure is to report industrial employment growth that could be accommodated by development that could be approved based on current planning intent. However, the timing of the preparation of available datasets means that the effect of some draft changes to planning schemes may be included in, and the effect of some recently adopted changes may be excluded from, the data. Likewise, the effect of all preliminary approvals overriding the planning scheme may not be reflected in the data.

Industrial employment growth potential identified for MEIAs by Urban Economics does not consider growth from more intensive use of existing developed but underutilised sites, e.g. sites that have potential for increased GFA. For those local governments where the assessment of realistic availability is not informed by property-level data (see Method below), this may contribute to underestimation of the realistic availability of planned industrial employment supply. However, this may be offset by the assumption that the growth areas of the MEIAs are developed solely for industrial use, when parts of the land are likely to be developed for other uses, e.g. commercial, community and recreational uses.

Data source/custodian

- RPS, Industrial Land Supply Developable Area Initial Report and associated GIS developable area datasets (RPS report—see extracts at Appendix D), September 2019, which utilised:
    - State government aerial imagery, 2011 (dates vary) and 2018 (dates vary from 10 May to 15 July 2018)
    - local government planning scheme overlays, generally as at March-June 2019
    - State Government constraints datasets, generally as at March-June 2019
    - local government planning scheme overlays, generally as at March-June 2019
    - zones, precincts, structure plan and context plan areas, generally as at March-June 2019, for:
        - 2014 Airport Master Plan (Brisbane)
        - Gold Coast Airport 2017 Master Plan
        - Archerfield Airport Master Plan 2017
        - Port of Brisbane Land Use Plan 2015 (2017 Update)
        - All SEQ Priority Development Areas
        - Bromelton State Development Area.

- DSDILGP, *ShapingSEQ 2017*, employment planning baselines (2015/16 to 2040/41), August 2017
- DSDILGP, SEQ regional plan boundary, 2017

- LGIPs and related datasets:
  - Brisbane – NonRes CP2014 dataset as supplied by council to reflect LGIP v1, February 2016 (industrial job field provided in dataset)
  - Gold Coast - LGIP extrinsic material report Planning assumptions, June 2017 (draft for state interest review)
  - Ipswich – LGIP NonRes Industrial Interims as supplied by council in 2017 (industrial only dataset)
  - Lockyer Valley – LGIP, June 2018
  - Logan – Logan Development Projection Model (LDPM 2016), October 2018 run as supplied by council in May 2019 (industrial fields provided in the dataset)
  - Moreton Bay – Employment assumptions LGIP2 Draft April 2016 as supplied by council November 2017 (industrial fields provided in the dataset)
  - Noosa – DMaTT demand forecasts, March 2015 as supplied by Unitywater on behalf of Council (where land use field is limited to industry)
  - Redland – Adopted LGIP sourced August 2018
  - Scenic Rim – LGIP, Attachment 1a, November 2017 (first state interest check)
  - Somerset – Extrinsic Material to the LGIP, May 2016
  - Sunshine Coast – Population and employment figures underpinning the LGIP as supplied by Council in July 2018 (where existing and ultimate land use fields are limited to industry)
  - Toowoomba – LGIP planning assumptions tables sourced July 2018.

- Urban Economics Realistic Availability of Planned Industrial Employment Supply: Major Enterprise and Industry Areas report (Urban Economics report – see extracts at Appendix E), October 2019, which utilised the RPS report
- MEIA boundaries as generated by Urban Economics and used for the Urban Economics report, modifying some of those used for the CDM Smith report in 2018.

Source data geography

SEQ region and local government area.

Method

SEQ

Determine the planned industrial employment supply for the region by:

- For capacity— adding each local government's industrial employment capacity as calculated using the methods outlined in the local government section below.

- For the realistic availability scenario—adding each local government's industrial employment realistic availability as calculated using the methods outlined in the local government section below.

Local governments

The following provides a summary of the methodology used to calculate each SEQ local government's planned industrial employment supply. This method utilises the following information for each SEQ local government area:

- Parcel-level or small area information for industrial employment for Brisbane, Ipswich, Logan, Moreton Bay, Noosa and Sunshine Coast.
- Where parcel-level information was unavailable summary LGIP documentation for industrial employment was used for the Gold Coast, Lockyer Valley, Redland, Scenic Rim, Somerset and Toowoomba.
- Determine capacity
    - Extract the total number of additional industrial employment from 2016 to the identified ultimate for the whole local government area.
- Determine realistic availability
    - To determine the realistic availability scenario, Brisbane, Gold Coast, Ipswich, Lockyer Valley, Logan, Moreton Bay, Scenic Rim, Sunshine Coast and Toowoomba have significant growth MEIAs. For those selected MEIAs, the Urban Economics report identifies employment growth potential by likely availability timeframes, including the period 2018-2041 (Table E1 in Appendix E). That employment growth potential is based on industrial land estimates considered to be available for development to accommodate industrial employment in those MEIAs within the same timeframes.
    - In turn those industrial land estimates are informed by the application of a market-based assessment of overarching constraints to development of the planned industrial land identified by the RPS report for those MEIAs. That assessment (see Table E2 in Appendix E) results in the conclusion that some of the subject land will not be available for development that could accommodate industrial employment up to 2041 (see Table E3 in Appendix E).
    - The realistic availability scenarios for Brisbane, Ipswich, Logan and Sunshine Coast, which have property-level LGIP related datasets, were determined as follows:
        - For each MEIA, use available LGIP datasets to calculate the industrial employment growth from 2018 to ultimate on those parcels that contain developable area as identified by the RPS report, interpolating on a proportional basis between available figures to estimate employment growth from 2016 to 2018.
        - Where the 2018 to ultimate employment growth potential identified by the Urban Economics report for a selected MEIA is greater than 1000 and the 2018-2041 employment growth identified by the Urban Economics report for that MEIA is less than the 2018 to ultimate figure calculated above, sum

those differences for all such MEIAs in the local government area and subtract that sum from the total capacity figure for the local government area to get the realistic availability scenario for that area.

- For the remaining local government areas which have relevant growth MEIAs, including Gold Coast, Lockyer Valley, Moreton Bay, Scenic Rim and Toowoomba, the realistically availability scenarios were determined as follows:
  - For each MEIA, use available LGIP datasets to calculate the industrial employment growth from 2018 to ultimate for the closest geographic area identified in the LGIP datasets, interpolating on a proportional basis between available figures to estimate employment growth from 2016 to 2018.
  - Where:
    - the 2018 to ultimate employment growth potential identified by the Urban Economics report for a selected MEIA is greater than 1000 and more than 75% of the 2018 to ultimate figure calculated above from the LGIP datasets, and
    - the 2018-2041 employment growth identified by the Urban Economics report for that MEIA is less than the 2018 to ultimate figure calculated from the LGIP datasets sum those differences for all such MEIAs in the local government area and subtract that sum from the total capacity figure for the local government area to get the realistic availability scenario for that area.

- Determine years of supply
  - Determining years of supply provides the basis for assessing whether there is the minimum 15 years of supply as sought by *ShapingSEQ 2017*.
  - Calculate estimates of the years of supply by dividing each of the identified industrial employment capacity and realistic availability by *ShapingSEQ 2017*'s average annual baseline, i.e. the average annual growth of industrial employment expected 2016-2031 in order to align with the 2041 industrial employment planning baseline (Appendix A of *ShapingSEQ 2017*) and subtract three years to align the information to 2019.

Data update

Annually.

Reporting units

Growth of industrial jobs and years of supply for the region and each local government area.

Notes

For Gold Coast, Lockyer Valley, Scenic Rim and Toowoomba, there were only SA2-level datasets available to calculate the industrial employment capacity for the Yatala-Stapylton, Gatton North, Bromelton and Charlton/Wellcamp MEIAs, respectively. The available figures for the Ormeau-Yatala,

Gatton, Beaudesert and Toowoomba-West SA2s, respectively, were therefore used as approximations for those MEIAs.

For Scenic Rim and Sunshine Coast, none of the selected MEIAS had 2018-2041 employment growth potential estimated by the Urban Economics report which was less than the estimated employment growth from 2018 to ultimate from the LGIP datasets. For those areas the realistic availability scenario is therefore the same as the capacity.

For Noosa, Redland and Somerset, there are no MEIAs so the realistic availability scenario for those LGAs is the same as the capacity.

Planning and development scheme amendments recently adopted or in process which may affect planned industrial employment supply include:

- Brisbane
    - Industry provisions in Brisbane City Plan 2014 Major amendment package E (reviewing submissions after public notification concluded April 2019)
    - Banyo-Northgate Neighbourhood Plan (undergoing final state interest review)
    - Bowen Hills PDA (adopted 21 June 2019)
    - Northshore Hamilton PDA (reviewing the development scheme)
- Gold Coast
    - Major Update 2 and 3 (undergoing state interest review)
- Ipswich
    - New planning scheme in preparation (public consultation on statement of proposals including draft strategic framework concluded June 2019)
- Lockyer Valley
    - New planning scheme in preparation
- Logan
    - Meadowbrook Local Plan Amendment (expected to be adopted early 2021).
- Noosa
    - New planning scheme in preparation (reviewing public submissions after consultation closed on 20 May 2019
- Scenic Rim
    - New planning scheme in preparation (reviewing submissions after public consultation)
- Sunshine Coast
    - Site Specific (including sites added to Urban Footprint for *ShapingSEQ 2017*) and Operational Matters (adopted 1 April 2019)
- Toowoomba
    - Proposed amendment no.17 – Flood Risk Assessment, Planning Evaluation and Scheme Amendment (considering round 3 consultation feedback prior to progressing to final state interest review)

- Drayton local plan/land use investigation (investigation commenced late 2017).

Impact of new constraints

Description

An analysis was conducted to provide an indicative estimate of the impact of new constraints on the region's residential (within expansion areas) and industrial land supply.

For the purposes of this analysis new constraints are considered as those that have been newly developed or updated and adopted by the state government since the release of *ShapingSEQ 2017* in August 2017.

Rationale

This information will be used to inform responses on how the addition of these new constraints may affect the ability of the region to accommodate its expected growth to 2041.

As new constraints emerge, and data is made available, their potential impact on developable areas and land supply within the region can be measured.

Limitations

The accuracy of the analysis is limited by:

- the overall accuracy of the constraints mapping used
- the identification of all areas not affected by the constraints, e.g. the accurate identification and location of all relevant and active development approvals
- the timing and use of available region-wide datasets to represent developable areas and land supply, e.g. the 2013 BHS data (updated to June 2019).

At the time of reporting the location and area of preliminary approvals and non-residential development permits were not available for consideration in this analysis.

Within the scope of the analysis, for the reasons identified above the estimated impact of the new constraints on the region's land supply is likely to be overstated.

For residential, the analysis relates only to the impact on supply within expansion areas.

Data source/custodian

- RPS, Growth Monitoring Program (GMP) Best Practice Research, Land Suitability, 2019
- Queensland Treasury, 2013 BHS, updated to take account of development (parcels < 2500m^2) up to June 2016
- Queensland Treasury, 2013 BHS, updated to take account of development (parcels < 2500m^2) up to June 2019
- Queensland Treasury, Material Change of Use approvals (multiple dwelling), June 2019
- Queensland Treasury, Reconfiguring a lot approvals, June 2019
- RPS, Industrial Land Supply Developable Area report (see extracts at Appendix D), October 2019, planned industrial land (as at 2018)

- Department of Natural Resources Mines and Energy (DNRME), Digital Cadastral Database (DCDB), June 2016.
- DNRME, DCDB, July 2019
- Department of Environment and Science (DES), Vegetation Management Act 1999, Endangered Regional Ecosystems, 2019
- DES, All Matters of State Environmental Significant (MSES), as at July 2019
- DES, MSES, Threatened Species, as at July 2018
- DES, MSES, Fish Habitat Areas A and B, as at July 2018
- DES, Protected Area Estates, as at July 2019
- DES, Legally secured offsets, as at July 2018
- DES, Essential Habitat, as at July 2019
- DES, Vegetation Management Act, Regulated vegetation, Category A, as at July 2018
- DES, High conservation value wetlands (e.g. high environmental value and high environmental significance), as at July 2019.

Source data geography

SEQ region

Method

Constraints used

The following new constraints layers were identified for this analysis:

- Matters of State Environmental Significance (MSES)
- Vegetation Management Act.

In accordance with the land suitability GMP best practice research and SEQ-wide developability rules, new constraints are categorised as either a hard constraint (100 per cent of an area is not considered available for development) or soft constraint (50 per cent of an area is not considered available for development).

For the purposes of the 2019 LSDM Report the following constraints were analysed to determine an estimate of their potential impact on the region's residential and industrial developable areas:

- Hard constraints:
    - MSES areas including:
        - Fish habitat areas A and B
        - Threatened species (Nature Conservation Act 1992)
    - High conservation value wetlands (Environment Protection Act 1994), including high environmental value and high environmental significance
    - Legally secured offsets
    - Protected Areas
    - Regulated vegetation, Category A

    - Endangered Regional Ecosystems.
- Soft constraints:
    - All MSES areas not identified as a hard constraint (see above)
    - Essential Habitat.

Note: Other constraints identified in the land suitability GMP best practice research did not form part of this analysis as they were not the subject of state-level updates since the development of *ShapingSEQ 2017*.

Developable areas

For the purposes of the analysis the region's developable areas included:

- Residential (expansion areas only)
    - BHS land (as at June 2019)
    - where not captured by the BHS, growth areas within the Urban Footprint as used to assess *ShapingSEQ 2017*'s overall land supply to 2041.
- Industrial
    - planned industrial land (as at 2018) as reported by RPS, Industrial Land Supply Developable Area report, October 2019.

Excluded areas

The following areas were excluded from the analysis as they were identified as exempt from the impact of the new constraints in relevant legislation:

- SEQ Priority Development Areas, August 2018
- Springfield Structure Plan, August 2013
- Mango Hill Infrastructure Development Control Plan, December 2011
- Kawana Development Control Plan 1, December 2013
- State Planning Policy identified Strategic Airports (including Archerfield, Brisbane, Wellcamp, Gold Coast, Amberley, Sunshine Coast and Toowoomba), August 2018.

Approved/assumed developed areas

The following areas were considered as approved for development and not affected by the new constraints.

- MCU (multiple dwellings) development permits as at June 2019
- Reconfiguring a lot development permits, as at June 2019
- Property parcels <=2500m^2 or identified road casements as at June 2019 (In line with the BHS methodology).

Assessment and analysis

Residential

- Determine the total capacity of the expansion area using BHS theoretical dwelling yields (as at 30 June 2016) and total growth area dwellings.
- Union identified constraints (hard and soft), approved/assumed developed areas and excluded areas to each of the BHS and growth area developable areas.
- Calculate the area, in hectares, of land affected by new constraints by:
    - Determine the potential number of dwellings affected by:
        - BHS
            - For hard constraints
                - Selecting areas potentially impacted by hard constraints (not including excluded and approved/assumed developed areas).
                - Multiply the area affected by the identified BHS dwelling density and multiply by 100 per cent (as all of these dwellings are not considered available for development).
            - For soft constraints
                - Selecting areas potentially impacted by soft constraints but not affected by hard constraints (not including excluded areas and approved/assumed developed areas).
                - Multiply the area affected by the identified BHS dwelling density and multiply by 50 per cent (as half of these dwellings are not considered available for development).
        - Growth areas
            - For hard constraints
                - Selecting areas potentially impacted by hard constraints (not including excluded areas and approved/assumed developed areas).
                - Multiply the area potentially affected by the area's dwelling density and multiply by 100 per cent (as all of these dwellings are not considered available for development).
            - For soft constraints
                - Selecting areas potentially affected by soft constraints but not affected by hard constraints (not including excluded areas and approved/assumed developed areas).
                - Multiply the area potentially affected by the area's dwelling density and multiply by 50 per cent (as half of these dwellings are not considered available for development).
    - Determine total dwellings potentially affected
        - Add together the number of dwellings potentially affected by hard and soft constraints for both the BHS and growth areas.

        - Calculate the regional proportion of expansion dwellings potentially affected by new constraints by dividing the total number of dwellings potentially affected by new constraints by the total expansion dwelling capacity.

Industrial

- Determine the total area of planned industrial land.
    - Union identified constraints (hard and soft), excluded areas and approved/assumed developed areas to the 2018 planned industrial land.
    - Calculate the area, in hectares, of land affected by the new constraints.
    - Determine the potential area affected by:
        - For hard constraints
            - Selecting areas potentially affected by hard constraints (not including excluded areas and approved/assumed developed areas).
            - Multiply the area potentially affected by 100 per cent (as all of these areas are not considered available for development).
        - For soft constraints
            - Selecting areas potentially affected by soft constraints but not affected by hard constraints (not including excluded areas and approved/assumed developed areas).
            - Multiply the area impacted by 50 per cent (as half of these areas are not considered available for development).
    - Determine total area potentially affected
    - Add together the areas affected by hard and soft constraints.
    - Calculate the region's proportion of planned industrial land affected by the new constraints by dividing the area potentially affected by new constraints by the total planned industrial land.

Data update

Annually or as new constraints layers are identified.

Reporting units

Residential – proportion of the region's expansion area dwelling capacity potentially affected by the new constraints.

Industrial – proportion of the region's total vacant planned industrial land potentially affected by the new constraints.

Notes

The 2019 analysis only reports at the SEQ level due to the limitations of the data used. Improvements in information supporting this analysis are expected to enable reporting at a local government level in the future.

For the planned industrial land reporting, RPS in developing this layer, have utilised a number of currently available constraints. This has reduced the proportional impact reported in the 2019 LSDM in comparison to the 2018 LSDM.

Appendices

Appendix A: Growth areas (*ShapingSEQ 2017*)

Table A1: List of *ShapingSEQ 2017* growth areas used for analysis in the 2019 Land Supply and Development Monitoring (LSDM) Report.

Local government area (LGA)	Growth Area
Brisbane	N/A
Gold Coast	• Coomera Town Centre
Ipswich	• Ripley Valley Priority Development Area • Springfield
Lockyer Valley	N/A
Logan	• Greater Flagstone Priority Development Area PDA • Yarrabilba PDA • Flinders
Moreton Bay	• Caboolture West • North East Business Park
Noosa	N/A
Redland	• Southern Redland Bay
Scenic Rim	N/A
Somerset	N/A
Sunshine Coast	• Caloundra South PDA • Palmview
Toowoomba	• Meringandan West - Klienton

Note: For the estimated supply to 2041 assumed for these growth areas by the SGS study see Appendix C.

Appendix B: Treatment of fragmented areas

Local government areas with parcel level land supply information (Brisbane, Ipswich, Lockyer Valley, Logan, Moreton Bay, Noosa, Scenic Rim, Somerset and Sunshine Coast).

Assessment of the realistic availability of fragmented areas was based on an approximation of the 2013 Broadhectare Studies (BHS) rules for calculating expected yield from theoretical yield:

- identified proportions by parcel-size ranges – tables B1, B2 and B3. These proportions are drawn directly from the BHS rules.
- selected residential zones used for the fragmented area analysis– Table B4. The zones in Table B4 were identified from the relevant planning schemes as being intended for low density residential use, predominantly houses. If the relevant land supply databases used for

the fragmented area analysis did not include any additional dwelling yields on parcels greater than 2500m^2 in those zones, then the fragmented area analysis would not affect those areas.

- the BHS rules do not apply to master/structure plan areas or local development areas identified by the South East Queensland Regional Plan 2009-2031—this report's fragmented area analysis does not apply to the growth areas identified in Appendix A
- the BHS rules do not apply to land with development approvals—this report's fragmented area analysis does not affect assumed dwelling growth up to 2021, as an allowance for the implementation of development approvals in the short term.

Note: Allowance for fragmented areas for Gold Coast, Redland and Toowoomba, where parcel-level information was not used, was based solely on BHS theoretical and expected yields as stated in table B5 below.

Table B1: Brisbane, Ipswich, Lockyer Valley, Logan, Scenic Rim and Somerset

LGA	**Small lot existing house** Lots less than 1.2 ha with an existing house	**Small lot vacant** Lots less than 1.2 ha that are vacant	**Medium lot** Lots greater than 1.2 ha and less than 2.1 ha	**Large lot (2.1-10)** Lots greater than 2.1 ha up to 10 ha	**Large lot (10+)** Lots greater than 10ha
Brisbane	50%	95%	95%	95%	95%
Ipswich	10%	30%	30%	50%	80%
Lockyer Valley	10%	30%	30%	40%	90%
Logan	10%	30%	30%	50%	80%
Scenic Rim	10%	30%	30%	40%	90%
Somerset	10%	30%	40%	90%	90%

Table B2: Sunshine Coast

LGA	**Small lot existing house** Lots less than 1.2 ha with an existing house	**Small lot vacant** Lots less than 1.2 ha that are vacant	**Medium lot** Lots greater than 1.2 ha and less than 2.1 ha	**Large lot** Lots greater than 2.1 ha
Noosa	25%	75%	75%	100%
Caloundra	25%	50%	50%	95%
Maroochydore	25%	60%	60%	95%

Table B3: Moreton Bay

LGA	**Small lot existing house** Lots less than 1.2 ha with an existing house	**Small lot vacant** Lots less than 1.2 ha that are vacant	**Medium lot** Lots greater than 1.2 ha and less than 5 ha	**Large lot (5-10)** Lots greater than 5 ha up to 10 ha	**Large lot (10+)** Lots greater than 10ha
Caboolture	40%	60%	60%	70%	80%
Pine Rivers	20%	40%	40%	50%	80%
Redcliffe	90%	100%	100%	100%	100%

Table B4: Selected residential zones used for fragmented area analysis

LGA	Residential zones
Brisbane	• Emerging communities • Low density residential • Character residential • Rural residential
Ipswich	• Large lot residential • Residential low density • Future urban • Bundamba race stables area • Urban investigation • Township residential
Lockyer Valley	Gatton and Laidley Planning Schemes: • Existing rural residential • Homestead residential • Urban residential • Park residential • Residential expansion • Rural residential • Urban residential
Logan	• Emerging community • Low density residential • Rural residential

Moreton Bay	• Emerging community • General residential (suburban neighbourhood and coastal communities precincts) • Rural residential • Township residential precinct
Noosa	• Detached housing • Semi attached housing • Rural settlement
Scenic Rim	Beaudesert Planning Scheme: • Residential precinct • Park living precinct • Rural residential precinct • Emerging community precinct • Village residential precinct • Rural residential zone • Residential zone Boonah Planning Scheme: • Rural residential zone • Residential precinct • Village zone Ipswich Planning Scheme: • Large lot residential • Residential low density • Future urban • Bundamba race stables area • Urban investigation • Township residential • Township character housing
Somerset	• Emerging community • General residential • Rural residential
Sunshine Coast	• Low density residential • Rural residential • Limited development (landscape residential) • Emerging community

Local government areas without parcel level land supply information Include Gold Coast, Redland and Toowoomba.

Assessment of the realistic availability of fragmented areas of these local government areas was based on the difference between 2013 BHS (updated to account for development to June 2019) theoretical and expected dwelling yields.

Table B5: BHS values used to determine realistic availability of expansions areas in the Gold Coast, Redland and Toowoomba.

LGA	BHS theoretic yield	BHS expected yield
Gold Coast	6906	6042
Redland	1593	1500
Toowoomba	14,540	10,810

Appendix C: SGS study (greenfield areas)

The figures in table C1 are drawn from the SGS Economics and Planning, SEQ expansion areas realistic dwelling take up – 2019 update for major precincts, October 2019.

This information is used to assist in determining realistic availability for selected SEQ major growth areas.

Table C1: Assumed supply to 2041 (selected areas)

The following information was used to assist in determining realistic availability for growth areas.

LGA	Area	Base capacity	Estimated supply to 2041
Gold Coast	Coomera Town Centre	9620	8800
Ipswich	Ripley Valley Priority Development Area (PDA)	49,463	30,670
	Springfield	40,088	33,700
Logan	Greater Flagstone PDA	52,881	22,897
	Yarrabilba PDA	20,416	15,700
	Flinders	5804	2900
Moreton Bay	Caboolture West	29,572	10,200
	North East Business Park	1169	995
Redland	Southern Redland Bay	4045	2318
	Caloundra South PDA	19,932	16,119

Sunshine Coast	Palmview	7282	6500
Toowoomba	Meringandan West-Klienton	1300	530

Appendix D: RPS Industrial Land Supply Developable Area report

The following are extracted from the RPS Industrial Land Supply Developable Area, October 2019, that informed the LSDM reporting on industrial land supply and take-up and realistic availability scenarios.

The following categorisation was applied by DSDILGP to the GIS developable area data from the RPS Industrial Land Supply Developable Area report, October 2019. It outlines the concordance of local government planning scheme and other precincts and zonings to industrial land categories used in the 2019 LSDM. It should be noted that due to limitations of the data, there are some identified precincts and zones that may not correctly align to a nominated industrial reporting category. These are considered to affect only a minor proportion of land and are shown here for completeness.

Table D1: Industrial land zonings by category

LGA	Industrial reporting category	Local government precincts and zones
Brisbane	Low impact industry	• Elliot Road North C Sub-precinct (NPP-002c) - Banyo-Nudgee Neighbourhood • IN1 – General Industry A • LII – Low Impact Industry • SP4 - Special purpose • PDA1 - Planning scheme
	Medium impact industry	• IN2 – General Industry B • (Port of Brisbane – Port Industry) • (Port of Brisbane – Special Industry)
	High impact industry	• IN3 – Industry • IN3 – General Industry C • SI – Special Industry
	Waterfront and Marine industry	• Port of Brisbane – Port Industry • Port of Brisbane – Wharves / Loading / Unloading facilities
	High Technology Industry	• N/A
	Airports and air bases	• Archerfield Airport Master Plan – General Industry • Brisbane Airport Master Plan – Industry

	Industry Investigation Area	• II – Industry investigation • PDA2 - Planning scheme • PDA2 - Industry
Gold Coast	Low impact industry	• No precinct - Low impact industry • Future low impact industry precinct - Low impact industry
	Medium impact industry	• No Precinct - Medium impact industry • Future medium impact industry precinct - Medium impact industry
	High impact industry	• No Precinct - High impact industry • Future high impact industry precinct - High impact industry
	Waterfront and Marine industry	• No Precinct - Waterfront and marine industry
	High Technology Industry	• N/A
	Airports and air bases	• N/A
	Industry Investigation Area	• N/A
Ipswich	Low impact industry	• BP - Business Park • RBB01 – Business ParkLB03 - Local Business and Industry • LB06 - Local Business and Industry • LB09 - Local Business and Industry • LB10 – Local Business and Industry • LB11 - Local Business and Industry • LB12 - Local Business and Industry • LB13 - Local Business and Industry • LB14 – Local Business and Industry • LB15 - Local Business and Industry • LB16 - Local Business and Industry • LBB – Local Business and Industry • RB05M – Local Business and Industry • RBB01 – Local Business and Industry • REC – Local Business and Industry • LBB - Local Business and Industry Buffer • LB01 – Local Business and Industry Buffer • LB02 – Local Business and Industry Buffer

		• LB06 – Local Business and Industry Buffer • LB07 – Local Business and Industry Buffer • LB09 – Local Business and Industry Buffer • LBIA02 – Local Business and Industry Buffer • LDC – Local Business and Industry Investigation • LDC – Limited Development (Constrained) • RB01L - Regional Business and Industry - Low Impact • RB02L - Regional Business and Industry - Low Impact • RB02M – Regional Business and Industry – Low Impact • RB03L - Regional Business and Industry - Low Impact • RB03M – Regional Business and Industry – Low Impact • RB04L - Regional Business and Industry - Low Impact • RBB – Regional Business and Industry – Low Impact • RBB01 – Regional Business and Industry – Low Impact • RBB01 – Regional Business and Industry (Low Impact Sub-area) • No precinct – Regional Business and Industry Buffer • RB01M – Regional Business and Industry Buffer • RB02L – Regional Business and Industry Buffer • RB02M – Regional Business and Industry Buffer • RB03L – Regional Business and Industry Buffer • RB03M – Regional Business and Industry Buffer • RB04L – Regional Business and Industry Buffer • RB04M – Regional Business and Industry Buffer • RB05M – Regional Business and Industry Buffer • RBIA01 – Regional Business and Industry Buffer • RBIA02 – Regional Business and Industry Buffer • RBB - Regional Business and Industry Buffer • RBB01 - Regional Business and Industry Buffer • RBB01 – Regional Business and Industry Investigation • SFTC - SF Town Centre • SU54 - Special Uses • SU72 - Special Uses • SU72 - Township Character Mixed Use • Town Centre Designation – Service Trade Precinct – Springfield Structure Plan

	Medium impact industry	• RB01M - Regional Business and Industry - Medium Impact • RB02L – Regional Business and Industry – Medium Impact • RB02M - Regional Business and Industry - Medium Impact • RB03L – Regional Business and Industry – Medium Impact • RB03M - Regional Business and Industry - Medium Impact • RB04M - Regional Business and Industry - Medium Impact • RB05M – Special Uses • RBB – Regional Business and Industry - Medium Impact • RBB – Regional Business and industry Buffer • RB05L - Regional Business and Industry (Low Impact Sub Area) • RB05M - Regional Business and Industry - Medium Impact • RBB01 – Regional Business and Industry – Medium Impact • RBIA02 – Regional Business and Industry – Medium Impact • RB05M - Regional Business and Industry (Med Impact Sub Area) • RBB01 - Regional Business and Industry (Med Impact Sub Area) • RBIA02 - Regional Business and Industry (Med Impact Sub Area)
	High impact industry	• N/A
	Waterfront and Marine industry	• N/A
	High Technology Industry	• N/A
	Airports and air bases	• N/A
	Industry Investigation Area	• LBB – Local Business and Industry Investigation • LBIA01 - Local Business and Industry Investigation • LBIA02 - Local Business and Industry Investigation • LBIA03 - Local Business and Industry Investigation • REC – Local Business and Industry Investigation • RB01M – Regional Business and Industry Investigation • RB05M – Regional Business and Industry Investigation • RBB – Regional Business and Industry Investigation • RBB01 – Regional Business and Industry Investigation • RBIA01 – Regional Business and Industry Buffer

		• RBIA01 - Regional Business and Industry Investigation • RBIA02 - Regional Business and Industry Investigation • RBIA03 - Regional Business and Industry Investigation • SU02 – Regional Business and Industry Investigation
Lockyer Valley	Low impact industry	• No Precinct - Industrial • Crescent Street Industrial (G3) - Industrial • Eastern Gateway Industrial (G4) - Industrial • Lawlers Road (H2) - Industrial • Development Scheme for the Grantham Reconstruction Area – Low Impact Industry
	Medium impact industry	• South-West Industrial (G1) – Industrial
	High impact industry	• Helidon Explosives Magazine (I) – Industrial • Railway Street (Precinct H1) - Industrial
	Waterfront and Marine industry	• N/A
	High Technology Industry	• N/A
	Airports and air bases	• N/A.
	Industry Investigation Area	• N/A
Logan	Low impact industry	• No precinct (dues to local plan) – Centre • No Precinct - Low Impact Industry • No Precinct - Mixed Use • 122W31722 – Mixed Use • 124SP174628 – Mixed Use • 127SP174628 – Mixed Use • 2RP46665 – Mixed Use
	Medium impact industry	• No Precinct - Medium Impact Industry • Greater Flagstone PDA – Industry and Business • Yarrabilba PDA – Business and Industry
	High impact industry	• N/A
	Waterfront and Marine industry	• N/A

	High Technology Industry	• N/A
	Airports and air bases	• N/A
	Industry Investigation Area	• No Precinct - Priority Development Area
Moreton Bay	Low impact industry	• Light industry - Industry • Mixed industry and business – Industry • Township Industry - Township
	Medium impact industry	• General industry – Industry • Caboolture West – Enterprise and employment – Emerging community
	High impact industry	• Restricted industry - Industry
	Waterfront and Marine industry	• Marine industry - Industry
	High Technology Industry	• N/A
	Airports and air bases	• N/A
	Industry Investigation Area	• N/A
Noosa	Low impact industry	• No precinct - Industry • No Precinct - Low Impact Industry • No precinct – Shire Business Centre • 3 - Venture Drive Enterprise Precinct - Low Impact Industry • 4 - Hofmann Drive Business & Industry Precinct - Low Impact Industry
	Medium impact industry	• No Precinct - Industry • No Precinct – Medium Impact Industry • 2 - Lionel Donovan Drive Auto Precinct - Industry
	High impact industry	• N/A
	Waterfront and Marine industry	• N/A
	High Technology Industry	• N/A
	Airports and air bases	• N/A

	Industry Investigation Area	• N/A
Redland	Low impact industry	• No Precinct - Low Impact Industry • No Precinct - Mixed use
	Medium impact industry	• No precinct – Medium Impact Industry
	High impact industry	• N/A
	Waterfront and Marine industry	• No precinct – Waterfront and Marine Industry
	High Technology Industry	• N/A
	Airports and air bases	• N/A
	Industry Investigation Area	• N/A
Scenic Rim	Low impact industry	• Industry Precinct - Industry • INDTY - Industry • No precinct - Industry • Precinct 3 Aratula Sub Valleys - Industry • Precinct 4 Kalbar Uplands - Industry
	Medium impact industry	• Industry Precinct – Industry • No precinct – Rural Industry • Precinct 3 Upper Teviot Irrig Arable - GENERAL INDUSTRY & R
	High impact industry	• No Precinct - Major Industry • MJIND - Major Industry • RDIND - Major Industry • Bromelton SDA – Medium-High Impact Industry Precinct • Bromelton SDA – Rail Dependent Industry Precinct • Bromelton SDA – Special Industry Precinct
	Waterfront and Marine industry	• N/A
	High Technology Industry	• N/A
	Airports and air bases	• N/A.

	Industry Investigation Area	• N/A
Somerset	Low impact industry	• No precinct - Industry.
	Medium impact industry	• N/A
	High impact industry	• N/A
	Waterfront and Marine industry	• N/A
	High Technology Industry	• N/A
	Airports and air bases	• N/A
	Industry Investigation Area	• N/A
Sunshine Coast	Low impact industry	• No Precinct - Low Impact Industry
	Medium impact industry	• No Precinct - Medium Impact Industry • Caloundra South PDA – Industry and Business
	High impact industry	• No Precinct - High Impact Industry • No Precinct – Medium Impact Industry - Coolum Local Plan Area
	Waterfront and Marine industry	• Waterfront and Marine Industry
	High Technology Industry	• N/A
	Airports and air bases	• N/A
	Industry Investigation Area	• N/A
Toowoomba	Low impact industry	• No Precinct – Low Impact Industry • 47 Wellcamp Low Impact Industry - Low Impact Industry
	Medium impact industry	• 0 No Precinct - Medium Impact Industry • 36 Intermodal Facility - Medium Impact Industry • 37 Transport and Warehousing - Medium Impact Industry • 38 General Industry - Medium Impact Industry.
	High impact industry	• 39 Heavy Industry - High Impact Industry

		• 44 Quarry - High Impact Industry
	Waterfront and Marine industry	• N/A
	High Technology Industry	• N/A
	Airports and air bases	• N/A
	Industry Investigation Area	• N/A

Table D2: Common Layer Names Table (the common layer names are the main sub-headings of the table)

The following explain the actual constraints which the 'common layer names' used by the developability rules represent. It also identifies (see 'Comments' column) some constraints for which GIS data was not available for the RPS Report.

Hard constraints

LGA	Scheme	Layer	Comment
Hard constraints - Flood (Q100)[1]			

Brisbane	*Brisbane City Plan 2014*	• Flood Hazard Overlay
		  ○ Brisbane River flood planning area [1]
		  ○ Creek/Waterway flood planning area [1]	

Gold Coast	*Gold Coast City Plan 2016*	• Flood Depth - Extremely High • Flood Depth – High	Subject to further review
Ipswich	*Ipswich Planning Scheme 2006*	• Adopted Flood Regulation Line • 1 in 20 Development Line	
Lockyer Valley	*Gatton Shire Planning Scheme 2007* *Laidley Shire Planning Scheme 2003* *TLPI 01/2019*	• Flood Overlay - High	
Logan	*Logan Planning Scheme 2015*	• Flood Hazard Overlay ○ Flooding and inundation area	

Moreton Bay	*Moreton Bay Planning Scheme 2016*	• Flood Hazard Overlay ○ High risk flood hazard area ○ 100 yr (1% AEP) flood event extent (2012)	Data not provided for the 100 yr (1% AEP) flood event extent (2012) layer
Noosa	*Noosa Plan*	• Flood Overlay ○ Flood Hazard Area (1% AEP to year 2100)	
Redland	*Redland City Plan 2018*	• Flood Prone Area Overlay ○ 2016 Storm Tide Inundation Area	Scheme notes confirm this relates to Q100
Scenic Rim	*Scenic Rim TLPI 01/2017*	• Flood Hazard (Development constraints Overlay, TLPI) • Flood 1% AEP event	No data provided
Somerset	*Somerset Region Planning Scheme 2016*	• Flood Overlay ○ Extreme Flood Hazard ○ High Flood Hazard ○ Significant Flood Hazard	
Sunshine Coast	*Sunshine Coast Planning Scheme 2014*	• Flood Hazard Overlay	No data provided
Toowoomba	*Toowoomba Regional Planning Scheme*	• Flood Hazard ○ High Flood Hazard	
Hard constraint - Slope > 25% / Landslide[2]			
Brisbane	*Brisbane City Plan 2014*	• Landslide Overlay ○ landslide susceptibility area	
Gold Coast	*Gold Coast City Plan 2016*	• Landslide hazard overlay ○ very high	
Ipswich	*Ipswich Planning Scheme 2006*	• Difficult Topography Overlay ○ Slope > 25%	
Lockyer Valley	*Gatton Shire Planning Scheme 2007* *Laidley Shire Planning Scheme 2003*	• Unknown Source: 30-32%, 31.3%-38%, 32%-36%, 36-40%, 38-44%, 44-50%, 50-56.3%, 25-30%, 30-35%, 35-40% and >40%	No data provided for the Steep and Unstable Land Overlay. More accurate data provided from an unknown source has been utilised

Logan	*Logan Planning Scheme 2015*	• Landslide Hazard and Steep Slope Area Overlay
		  ○ IPA Landslide Haz High
		  ○ IPA Landslide Haz Medium
		  ○ IPA Slope >25%
			Landslide Hazard and Steep Slope Area Overlay - No data provided for the following:
			- Historical landslide area
			- 12 percent slope investigation area
			- Equal to or greater than 12 percent slope hazard area
			- Equal to or greater than 15 percent slope hazard area
			More accurate data provided from an unknown source has been utilised.

Moreton Bay	*Moreton Bay Planning Scheme 2016*	• Landslide hazard area (>15% Slope)	
Noosa	*Noosa Plan*	• Landslide Hazard Area	
Redland	*Redland City Plan 2018*	• Landslide Hazard Overlay ○ Very High Landslide Hazard	

Scenic Rim	*Beaudesert Shire Planning Scheme 2007*	• Development Constraints Flood Landslide Hazard
		  ○ Landslide Hazard High
		  ○ Medium Landslide Hazard
		• IPA Slope >25%	

Somerset	*Somerset Region Planning Scheme 2016*	• Landslide Hazard	Has been included as a soft constraint as no % differentiation provided.
Sunshine Coast	*Sunshine Coast Planning Scheme 2014*	• Landslide hazard and steep land overlay ○ Steep Land - Slope >25%	Landslide hazard and steep land overlay. No data provided for landslide attributes
Toowoomba	*Toowoomba Regional Planning Scheme*	• Landslide Hazard	Has been included as a soft constraint as no % differentiation provided.
Hard constraint - Infrastructure (excl. buffers)			

Brisbane	*Brisbane City Plan 2014*	• Transport Air Quality
		  ○ Tunnel Ventilation Stack
		  ○ Bicycle Network Overlay	

		○ RiverWalk - Floating walkway ○ RiverWalk - Typology 1 (City reaches north & south) ○ RiverWalk - Typology 2 (Urban reaches) • Regional Infrastructure Overlay ○ Major electricity infrastructure high voltage powerline ○ Major electricity infrastructure high voltage powerline easement ○ Oil Pipeline 15m ○ Gas Pipeline 20m	
Gold Coast	*Gold Coast City Plan 2016*	• Industry, Community infrastructure and Agriculture Land Interface Area Overlay ○ Water treatment plans ○ Community Infrastructure (landfill and sewerage treatment plant) • Regional Infrastructure Overlay ○ Major electricity infrastructure (Energex) ○ Major electricity infrastructure (Powerlink) ○ Water supply pipeline 20m buffer ○ Water reservoir ○ Water storage ○ Water supply pipeline	
Ipswich	*Ipswich Planning Scheme 2006*	• High Voltage Electricity Transmission Lines • High Pressure Pipelines	
Lockyer Valley	*Gatton Shire Planning Scheme 2007* *Laidley Shire Planning Scheme 2003*	• Major Infrastructure and Linkages • Major Infrastructure Overlay • Gas and Oil Pipeline Overlay	No GIS data provided

	TLPI 01/2019		
Logan	*Logan Planning Scheme 2015*	• Regional infrastructure corridors and substations overlay ○ Powerline corridor ○ Petroleum pipeline corridor ○ Water pipeline corridor ○ Trigger map points ○ Greenbank training area	Data not provided for: - Wastewater facility - SEQWater facility - SEQWater facility area - Substation
Moreton Bay	*Moreton Bay Planning Scheme 2016*	• Infrastructure Buffers ○ Pipeline ○ Pump station facility ○ Reservoir facility ○ Water quality facility ○ Electricity supply substation buffer - 10m ○ Landfill site ○ Wastewater treatment site ○ Property containing bulk water facility	
Noosa	*Noosa Plan*	• Natural Hazards and Natural Resources Overlays ○ Areas in Proximity to Gas Pipelines	
Redland	*Redland City Plan 2018*	• Regional infrastructure corridors and substations overlay ○ Energex Substation ○ Energex 110kV powerline ○ Electricity Infrastructure Easement ○ Reservoir Facility ○ Water Pump Station ○ Wastewater	
Scenic Rim	*Beaudesert Shire Planning Scheme 2007*	• Infrastructure Overlay ○ Existing Energex 33 kV Sub ○ Transmission Line ○ Power Easement <132kv ○ Existing Energex Substation	

		○ Aviation Facility ○ Substation Site ○ Waste Water Treatment Plant ○ Water Reservoir ○ Water Treatment Plant ○ Railway • Other Constraints Overlay ○ IPA2 Airfield ○ IPA2 Military Base	
Somerset	*Somerset Region Planning Scheme 2016*	• Infrastructure Overlay ○ 500kV Electricity Transmission Line ○ 275kV Electricity Transmission Line ○ 110kV Electricity Transmission Line ○ 33kV Electricity Transmission Line ○ Gas Pipeline ○ Power station ○ Substation ○ Sewerage Treatment Plant ○ Waste Stations ○ Western Corridor Recycled Water	
Sunshine Coast	*Sunshine Coast Planning Scheme 2014*	• Priority Infrastructure Area • Plant	Regional infrastructure mapping does not distinguish the infrastructure and its buffer so is not included as a hard constraint.
Toowoomba	*Toowoomba Regional Planning Scheme*	• Regional Infrastructure Corridors and Substations Overlay Code ○ Petroleum pipeline • Strategic Framework Mapping ○ Petroleum Pipelines ○ Electricity Corridors ○ Electricity Sub-stations	

		○ Wastewater treatment plant	
Hard constraint - Built Form (Heritage)[3]			
State Data	*State Mapping*	• State Heritage Place	
Brisbane	*Brisbane City Plan 2014*	• Heritage Overlay	Not a hard constraint as the layers represent lot and plan boundaries and not the actual feature
Gold Coast	*Gold Coast City Plan 2016*	• Heritage Overlay ○ Heritage place ○ State heritage place	
Ipswich	*Ipswich Planning Scheme 2006*	• Character Places Overlay	Not a hard constraint as the layers represent lot and plan boundaries and not the actual feature
Lockyer Valley	*Gatton Shire Planning Scheme 2007* *Laidley Shire Planning Scheme 2003*	• Cultural Heritage Places and Precincts Overlay • Places / Areas of Cultural Heritage Significance	Not a hard constraint as the layers represent lot and plan boundaries and not the actual feature
Logan	*Logan Planning Scheme 2015*	• Heritage Overlay ○ Heritage character grave site	Not a hard constraint as the layers represent lot and plan boundaries and not the actual feature (with the exception of grave site mapping).
Moreton Bay	*Moreton Bay Planning Scheme 2016*	• Heritage Landscape Character	Not a hard constraint as the layers represent lot and plan boundaries and not the actual feature
Noosa	*Noosa Plan*	• Heritage Overlay	Not a hard constraint as the layers represent lot and plan boundaries and not the actual feature
Redland	*Redland City Plan 2018*	• Heritage Overlay	Not a hard constraint as the layers represent lot and plan boundaries and not the actual feature

Scenic Rim	*Scenic Rim TLPI 01/2017*	• Local Heritage Overlay	Not a hard constraint as the layers represent lot and plan boundaries and not the actual feature
Somerset	*Somerset Region Planning Scheme 2016*	• Local Heritage Register Overlay	Not a hard constraint as the layers represent lot and plan boundaries and not the actual feature
Sunshine Coast	*Sunshine Coast Planning Scheme 2014*	• Heritage and character areas overlay ○ State Heritage Place ○ Local Heritage Place	Not a hard constraint as the layers represent lot and plan boundaries and not the actual feature
Toowoomba	*Toowoomba Regional Planning Scheme*	• Heritage Overlay	Not a hard constraint as the layers represent lot and plan boundaries and not the actual feature
Hard constraint - State Environment			
State Data	State Data	• Endangered Regional • Ecosystems Category A Regulated Vegetation • Marine Parks • Fish Habitat A & B • Protected Areas and Threatened species (Nature Conservation Act 1992) • High conversation value wetlands (EP Act 1994) • Legally secured offset areas • State Heritage Place • High Value Bushland KADA habitat • High Value Bushland PKADA habitat	
Hard constraint - waterways / wetlands (excl. buffers)			
Brisbane	*Brisbane City Plan 2014*	• Waterway Corridor Overlay • Wetlands Overlay	
Gold Coast	*Gold Coast City Plan 2016*	• Environment Significance Overlay Wetlands and Waterways	State significant wetlands data not provided.

		○ Local significant wetlands ○ Waterways	
Ipswich	*Ipswich Planning Scheme 2006*	• N/A	No data provided
Lockyer Valley	*Gatton Shire Planning Scheme 2007* *Laidley Shire Planning Scheme 2003*	• Biodiversity Overlay • Areas of Natural and Environmental Significance Overlay	No data provided
Logan	*Logan Planning Scheme 2015*	• Waterway Corridors and Wetlands Overlay ○ Waterway corridor trigger ○ Waterway stream order 1 to 5	
Moreton Bay	*Moreton Bay Planning Scheme 2016*	• Riparian Wetland Setbacks ○ W1 Waterway ○ W2 Waterway ○ W3 Waterway ○ 20m, 30m and 50m waterway buffer area • Environmental Areas – Waterways ○ MLES - Wetlands	Note the buffer areas have been included in order to achieve an area calculation.
Noosa	*Noosa Plan*	• Biodiversity Overlay ○ Waterways	Wetland data not provided
Redland	*Redland City Plan 2018*	• Waterway corridors and wetlands overlay ○ Waterway Corridor - MLES and MNES	
Scenic Rim	*Beaudesert Shire Planning Scheme 2007*	• Catchment Management Waterways & Wetlands Overlay ○ Stream Order 1 to 7	No wetlands data. No data provided for the Boonah Shire Planning Scheme
Somerset	*Somerset Region Planning Scheme 2016*	• Biodiversity Overlay ○ High Ecological Significance Wetlands ○ High Ecological Value Waters (wetlands)	

Sunshine Coast	*Sunshine Coast Planning Scheme 2014*	• Biodiversity, waterways and wetlands overlay ○ Stream Order 1 – 2 ○ Stream Order 3 – 4 ○ Stream Order 5 and above ○ Wetlands ○ Riparian Protection Area ○ RAMSAR Wetlands ○ Waterbodies	
Toowoomba	*Toowoomba Regional Planning Scheme*	• Environmental Significance Overlay ○ Waterways and Wetlands	Mapping provided relates to specific waterway categories.
Hard constraint - Location specific / Enterprise Amenity / Safety Buffers			
Brisbane	*Brisbane City Plan 2014*	• Airport Environs Overlay ○ Airport Boundary ○ Public Safety Area ○ Airport Runway • Airport Runway Centreline	
Gold Coast	*Gold Coast City Plan 2016*	• N/A	Airport environs data not provided Hope Island Southern Linkage Spine data not provided Easements, licenses and leases data not provided
Ipswich	*Ipswich Planning Scheme 2006*	• Explosive Storage Safeguard, Public Safety Areas and Purga Rifle Range ○ Explosive Storage Safeguard Buffer ○ Public Safety Area ○ Purga Rifle Range	Willowbank Raceway, Amberley Air Base and Helidon Magazine Range data not provided
Lockyer Valley	*Gatton Shire Planning Scheme 2007*	• Good Quality Agricultural Land Overlay	Open Space and Recreation Data not provided Toowoomba Operational Airspace data not provided

	Laidley Shire Planning Scheme 2003		
Logan	*Logan Planning Scheme 2015*	• Greenbank military training buffer area	
Moreton Bay	*Moreton Bay Planning Scheme 2016*	• Scenic Amenity	
Noosa	*Noosa Plan*	• Natural Resources Overlay ○ Agricultural Land Conservation Areas	
Redland	*Redland City Plan 2018*	• Airport environs overlay ○ Birkdale Area A ○ Mt Hardgrave Zone A	
Scenic Rim	*Beaudesert Shire Planning Scheme 2007* *Boonah Shire Planning Scheme*	• Development constraints Overlay Agriculture Protection Area ○ View Protection Area ○ Airfield ○ Military Base	Unexploded Ordnance data not received Explosive Storage Safeguard, Public Safety Areas and Purga Rifle Range data not received
Somerset	*Somerset Region Planning Scheme 2016*	• Agricultural land overlay • Air transport overlay ○ Zone A 0-100 metres ○ Zone A 0-60 metres ○ Zone A/B 60-300 metres • Scenic amenity overlay	Odour buffers data not received
Sunshine Coast	*Sunshine Coast Planning Scheme 2014*	• Airport environs overlay ○ Safety Zones – Sunshine Coast Airport ○ Safety Zones – Caloundra Aerodrome • Scenic amenity overlay	
Toowoomba	*Toowoomba Regional Planning Scheme*	• Agricultural Land Overlay • Airport Environs ○ Light Restriction Zone A ○ Height Restriction Zone (All Structures)	

		○ Public Safety ○ Runway • Scenic Amenity Overlay	

Soft constraints

LGA	Scheme	Layer	Comment
Soft constraints - Overland flow			
Brisbane	*Brisbane City Plan 2014*	• Flood Overlay ○ Overland flow flood planning area	
Gold Coast	*Gold Coast City Plan 2016*	• Flood Overlay	No data provided
Ipswich	*Ipswich Planning Scheme 2006*	• Development Constraints Overlay ○ Urban Catchment Flow Paths	
Lockyer Valley	*Gatton Shire Planning Scheme 2007* *Laidley Shire Planning Scheme 2003* *TLPI 01/2019*	• Flood Overlay	No overland flow layer applicable.
Logan	*Logan Planning Scheme 2015*	• Flood Hazard Overlay	No overland flow layer applicable.
Moreton Bay	*Moreton Bay Planning Scheme 2016*	• Flood Overlay ○ Overland Flow Path	
Noosa	*Noosa Plan*	• Flood Overlay	No overland flow layer applicable.
Redland	*Redland City Plan 2018*	• Flood Prone Area Overlay	No overland flow layer applicable.
Scenic Rim	*Scenic Rim TLPI 01/2017*	• Flood Hazard (Development constraints Overlay, TLPI)	No overland flow layer applicable.
Somerset	*Somerset Region Planning Scheme 2016*	• Flood Overlay	No overland flow layer applicable.

Sunshine Coast	*Sunshine Coast Planning Scheme 2014*	• Flood Hazard Overlay	No overland flow layer applicable.
Toowoomba	*Toowoomba Regional Planning Scheme*	• Flood Hazard	No overland flow layer applicable.
Soft constraints - Slope 15-25%[4]			
Brisbane	*Brisbane City Plan 2014*	• N/A	Landslide Hazard Overlay is a hard constraint
Gold Coast	*Gold Coast City Plan 2016*	• Landslide hazard overlay – high and moderate	
Ipswich	*Ipswich Planning Scheme 2006*	• Difficult Topography Overlay	
Lockyer Valley	*Gatton Shire Planning Scheme 2007* *Laidley Shire Planning Scheme 2003* *TLPI 01/2019*	• Unknown source ○ 15-20%, 15-20% and 20-25%	No data provided for the Steep and Unstable Land Overlay. More accurate data provided from an unknown source has been utilised.
Logan	*Logan Planning Scheme 2015*	• Landslide Hazard and Steep Slope Area Overlay ○ Steep slope area - Landslide slope 15% plus ○ Landslide Hazard - IPA Slope 15 - 25%	Landslide Hazard and Steep Slope Area Overlay - No data provided for the following: Historical landslide area 12 percent slope investigation area Equal to or greater than 12 percent slope hazard area Equal to or greater than 15 percent slope hazard area More accurate data provided from an unknown source has been utilised.
Moreton Bay	*Moreton Bay Planning Scheme 2016*	• N/A	Layer already included as a hard constraint
Noosa	*Noosa Plan*	• N/A	Layer already included as a hard constraint

Redland	*Redland City Plan 2018*	• Landslide Hazard Overlay
		  ○ High Landslide Hazard
		  ○ Medium Landslide Hazard	

Scenic Rim	*Scenic Rim TLPI 01/2017*	• Development Constraints Flood Landslide Hazard
		  ○ IPA Slope 15 - 25%
		  ○ Slope 15% to 20%
		  ○ Slope 20% to 25%	

Somerset	*Somerset Region Planning Scheme 2016*	• Landslide Hazard Overlay ○ Slope is equal to or greater than 15%	

Sunshine Coast	*Sunshine Coast Planning Scheme 2014*	• Landslide hazard and steep land overlay
		  ○ Steep Land - Slope 15-20%
		  ○ Steep Land - Slope 20-25%
			Landslide hazard and steep land overlay. No data provided for landslide attributes.

Toowoomba	*Toowoomba Regional Planning Scheme*	• Landslide Hazard	General mapping layer with on differentiation provided.
Soft constraints - Environment (high value)[5]			
Brisbane	*Brisbane City Plan 2014*	• Biodiversity Areas Overlay ○ High ecological significance	

Gold Coast	*Gold Coast City Plan 2016*	• Environment Significance Overlay
		  ○ Local Significant Species
		  ○ Regulated vegetation
		  ○ Ridges and Significant Hills
		  ○ State Significant Species
		  ○ High priority vegetation	

Ipswich	*Ipswich Planning Scheme 2006*	• N/A	Overlay map data not provided.

Lockyer Valley	*Gatton Shire Planning Scheme 2007*
	Laidley Shire Planning Scheme 2003
	TLPI 01/2019
		• Biodiversity Overlay
		  ○ Significant Habitat Areas
		• Areas of Natural and Environmental Significance Overlay
		  ○ High Ecological Significance
		  ○ Very High Ecological Significance	

Logan	*Logan Planning Scheme 2015*	• Biodiversity Areas Overlay
		• Koala corridor
		  ○ Environmental management and conservation area
		  ○ Locally significant vegetation	

Moreton Bay	*Moreton Bay Planning Scheme 2016*	• Environmental Areas	

Noosa	*Noosa Plan*	• Biodiversity Overlay
		  ○ Environmental Protection
		  ○ Environmental Enhancement	

Redland	*Redland City Plan 2018*	• Environmental Significance Overlay ○ MSES	

Scenic Rim	*Scenic Rim TLPI 01/2017*	• Nature Conservation Overlay
		  ○ World Heritage Area
		  ○ Conservation Estate Area
		  ○ Regional Nature Conservation Area
		  ○ Local Nature Conservation Area
		  ○ Vegetation Management Area
			Ecological corridor mapping not provided.
			Does not appear that we have any Boonah Shire Planning Scheme mapping.

Somerset	*Somerset Region Planning Scheme 2016*	• Biodiversity Overlay
		  ○ Protected Area
		  ○ Wildlife Habitat
		  ○ Regulated Vegetation
		  ○ Legally Secured Offset Areas	

Sunshine Coast	*Sunshine Coast Planning Scheme 2014*	• Biodiversity, waterways and wetlands overlay ○ High value bushland habitat (Koala habitat value)	
Toowoomba	*Toowoomba Regional Planning Scheme*	• Environmental Significance Overlay	Sub layers have been allocated to the Low-Medium Category.
Soft constraints - Environment (low-medium value)			
Brisbane	*Brisbane City Plan 2014*	• Biodiversity Areas Overlay ○ Priority koala habitat area	

		○ Koala habitat area ○ General ecological significance	
Gold Coast	*Gold Coast City Plan 2016*	• Environment Significance Overlay ○ MLES – Hinterland to coast critical corridors category B and C vegetation ○ MLES – General priority vegetation ○ MLES – Medium priority vegetation	
Ipswich	*Ipswich Planning Scheme 2006*	• N/A	Overlay map data not provided.
Lockyer Valley	*Gatton Shire Planning Scheme 2007* *Laidley Shire Planning Scheme 2003* *TLPI 01/2019*	• Areas of Natural and Environmental Significance Overlay ○ Moderate Ecological Significance	
Logan	*Logan Planning Scheme 2015*	• Biodiversity Areas Overlay ○ Biodiversity areas trigger ○ Vegetation management areas ○ Biodiversity corridor	
Moreton Bay	*Moreton Bay Planning Scheme 2016*	• Environmental Areas ○ Offset receiving areas ○ MLES - Matters of Local Environmental Significance	
Noosa	*Noosa Plan*	• Biodiversity Overlay ○ Koala Conservation Area ○ Koala Habitat Koala Habitat Regrowth ○ Riparian Buffer Areas	
Redland	*Redland City Plan 2018*	• Environmental Significance Overlay ○ MLES	
Scenic Rim	*Scenic Rim TLPI 01/2017*	• Nature Conservation Overlay ○ Irbyana Sensitive Areas ○ Vegetation Management Area	Ecological corridor mapping not provided.

		○ Buffer mapping	Does not appear that we have any Boonah Shire Planning Scheme mapping.
Somerset	*Somerset Region Planning Scheme 2016*	• Biodiversity Overlay ○ Bushland Koala Habitat – Primary Habitat Areas ○ Bushland Koala Habitat – Secondary Habitat Areas	
Sunshine Coast	*Sunshine Coast Planning Scheme 2014*	• Biodiversity, waterways and wetlands overlay	
Toowoomba	*Toowoomba Regional Planning Scheme*	• Environmental Significance Overlay ○ Biodiversity Corridors ○ Areas of Ecological Significance	
Soft constraints - Coastal Hazard: Erosion Prone Area			
Brisbane	*Brisbane City Plan 2014*	• Coastal Hazard Overlay ○ Erosion prone area – coastal erosion ○ Erosion prone area – permanent inundation due to sea level rise at 2100	
Gold Coast	*Gold Coast City Plan 2016*	• Coastal Hazard Overlay	Local variation proposed[6]
Ipswich	*Ipswich Planning Scheme 2006*	• N/A	
Lockyer Valley	*Gatton Shire Planning Scheme 2007* *Laidley Shire Planning Scheme 2003* *TLPI 01/2019*	• N/A	
Logan	*Logan Planning Scheme 2015*	• Waterway corridors and wetlands trigger ○ Erosion Prone Area Trigger	No mapping provided. Will likely be covered by State mapping.

Moreton Bay	*Moreton Bay Planning Scheme 2016*	• Coastal Hazard Overlay (Erosion Prone Area)	
Noosa	*Noosa Plan*	• Natural Hazards and Natural Resources Overlay ○ Coastal Protection Area	No mapping provided for the LGIP/DMaTT.
Redland	*Redland City Plan 2018*	• Coastal Protection (Erosion prone areas) Overlay	
Scenic Rim	*Scenic Rim TLPI 01/2017*	• Catchment Management, Waterways and Wetlands Overlay ○ Tidal Influence Area	No mapping provided
Somerset	*Somerset Region Planning Scheme 2016*	• N/A	
Sunshine Coast	*Sunshine Coast Planning Scheme 2014*	• Coastal Protection Area Overlay	
Toowoomba	*Toowoomba Regional Planning Scheme*	• N/A	
Soft constraints - Coastal Hazard: high storm tide			
Brisbane	*Brisbane City Plan 2014*	• Coastal Hazard Overlay ○ High Storm Tide Inundation Area	
Gold Coast	*Gold Coast City Plan 2016*	• Coastal Hazard Overlay	Local variation proposed.
Ipswich	*Ipswich Planning Scheme 2006*	• N/A	
Lockyer Valley	*Gatton Shire Planning Scheme 2007* *Laidley Shire Planning Scheme 2003* *TLPI 01/2019*	• N/A	
Logan	*Logan Planning Scheme 2015*	• N/A	

Moreton Bay	*Moreton Bay Planning Scheme 2016*	• Coastal Hazard Overlay (Storm Tide) ○ High Risk Storm Tide Inundation Area	
Noosa	*Noosa Plan*	• N/A	The Coastal Protection Layer is considered more applicable to the erosion prone area constraint. No mapping provided for the LGIP/DMaTT.
Redland	*Redland City Plan 2018*	• Flood and storm tide hazard overlay ○ 2016 Storm Tide Inundation Area ○ 2100 Storm Tide Inundation Area	Data not provided. State data able to be used for the high hazard.
Scenic Rim	*Scenic Rim TLPI 01/2017*	• Catchment Management, Waterways and Wetlands Overlay ○ Tidal Influence Area	No mapping provided.
Somerset	*Somerset Region Planning Scheme 2016*	• N/A	
Sunshine Coast	*Sunshine Coast Planning Scheme 2014*	• N/A	Mapping is covered off by the erosion prone area constraint. State data able to be used for the high hazard.
Toowoomba	*Toowoomba Regional Planning Scheme*	• N/A	

Notes (the following notes are drawn from the RPS report to provide more detailed explanation of the use of constraints)

1. Q100 has been selected as a benchmark flood layer owing to its prominence and accepted use amongst the industry. However:

- Where a single flood layer exists in a planning scheme and there is no confirmation as to its relationship to Q100, it is not used as a hard constraint (it will be covered as a soft constraint); and
- Where multiple flood layers exist in a planning scheme and there is no confirmation as to their relationship to Q100, only those labelled high or above are used as a hard constraint

This methodology has been adopted on the basis that Q100 is the most widely used and recognised flood constraint. Whilst both higher (e.g. post climate change) and lower (more frequent) flood immunities are often mapped or otherwise recognised, Q100 represents a reasonable balance: e.g. whilst post climate change flood levels may be required for new development, there are also a variety of circumstances where land subject to more frequent flooding may be developed via appropriate mitigation methods.

Where required, a review of Council's flood overlay code or administrative sections was undertaken to confirm whether a flood category applied to Q100 or the like.

2. To be considered a hard constraint slope must exceed a grade of 25%. Where a slope layer overlaps each of these % categories - for example a layer including land with a slope of greater than 15% or between 20 – 30%, the layer has been treated as a soft constraint. If a slope category is described as high, medium or low (i.e. no % allocated), only the high category is included as a hard constraint. Where a Council has a Landslide overlay but not a slope overlay (e.g. Gold Coast) this is considered a hard constraint, due to the greater risk associated with landslide than slope. Moreton Bay's landslide layer was not however treated as hard, as it actually just maps slope >15%.

3. The Heritage hard constraint includes:

a. The Queensland Heritage Register mapping
b. Council mapping which relates to the curtilage of the heritage matter, not the cadastral boundary of the land containing the heritage matter.

Where higher order approvals or more feature specific mapping is not available, RPS proposed adoption of heritage as a soft constraint. For industry, this constraint was assessed as 0% owing to the typically small extent of the heritage feature/s compared to the large land holdings used for industrial land supply.

4. The slope 15-25% layers include:

a. Slope layers of between a 15-25% grade
b. If the layer is nominated as low, medium and high, then only the low and medium layers have been included
c. If no % differentiation is provided and the council has no other information available, then the layer has been included as a soft constraint.

5. A High Value soft constraint is required to have strong planning scheme provisions which do not readily permit flexible arrangements for clearing. To be included in this category the relevant code provisions generally include a Performance Outcome not permitting clearing.

6. Gold Coast Local Variation - for new development in the beachfront precinct where protected by a seawall. In this area the only constraint excluded will be the 8m setback zone.

Appendix E: Industrial land categories (local government precinct and zoning concordance)

The following are extracts from the Urban Economics report.

Table E1: Employment potential by likely availability timeframe, selected MEIAs

LGA	MEIA	Employment potential		
		0-5 years (2018-23)	5-22 years (2024-41)	22+ years (2041+)
Brisbane	Lytton (M4)	862	2585	0
	Murarrie/Colmslie (M5)	449	674	0
	Pinkenba/Bulwer Island (M7)	1063	3188	1063
	Archerfield (M9)	224	448	448
	Richlands (M17)	376	1127	0
	Wacol (M21)	683	2049	0
Gold Coast	Yatala-Stapylton (M24)	698	4186	9070
Ipswich	Bundamba / Riverview (M11)	122	486	5468
	New Chum (M15)	0	222	4222
	Redbank (M16)	556	2226	0
	Swanbank (M20)	500	3252	21264
	Wulkaraka/Karrabin (M28)	0	244	2200
	Ebenezer (M29)	0	0	76840
Lockyer Valley	Gatton North (M34)	0	128	2432
Logan	Crestmead/Berrinba (M33)	411	274	0
	Park Ridge (M40)	0	40	762
Moreton Bay	Brendale (M23)	445	2225	1780
	Narangba (M25)	462	1849	0
	Morayfield (M31)	0	2111	8444
	Elimbah East (M35)	0	1432	5726
Scenic Rim	Bromelton SDA (M38)	2800	8400	16799
Sunshine Coast	Caloundra (M32)	1197	4189	598
	Coolum (M36)	186	558	1116
Toowoomba	Toowoomba Enterprise Hub (Charlton / Wellcamp) (M26)	654	2615	2941

Table E2: Development constraint assessment

LGA	MEIA	Key Enabling Infrastructure	Competitive Advantage	Shovel Readiness	Sum Score
Brisbane	Lytton (M4)	1	1	1	3
	Murarrie/Colmslie (M5)	1	1	1	3
	Pinkenba/Bulwer Island (M7)	1	1	2	4
	Archerfield (M9)	1	1	1	3
	Richlands (M17)	1	1	1	3
	Wacol (M21)	1	1	1	3
Gold Coast	Yatala-Stapylton (M24)	1	1	2	4
Ipswich	Bundamba / Riverview (M11)	2	2	2	6
	New Chum (M15)	2	3	3	8
	Redbank (M16)	1	1	1	3
	Swanbank (M20)	2	2	2	6
	Wulkaraka/Karrabin (M28)	3	3	1	7
	Ebenezer (M29)	3	3	2	8
Lockyer Valley	Gatton North (M34)	2	2	2	6
Logan	Crestmead/Berrinba (M33)	2	1	1	4
	Park Ridge (M40)	3	2	2	7
Moreton Bay	Brendale (M23)	1	1	1	3
	Narangba (M25)	2	2	1	5
	Morayfield (M31)	2	2	2	6
	Elimbah East (M35)	2	2	2	6
Scenic Rim	Bromelton SDA (M38)	2	1	2	5
Sunshine Coast	Caloundra (M32)	1	1	1	3
	Coolum (M36)	2	1	1	4
Toowoomba	Toowoomba Enterprise Hub (Charlton / Wellcamp) (M26)	1	1	1	3

Table E3: Developable land by period

LGA	MEIA	0-5 years (%)	5-22 years (%)	22+ years (%)
Brisbane	Lytton (M4)	25	75	0
	Murarrie/Colmslie (M5)	40	60	0
	Pinkenba/Bulwer Island (M7)	20	60	20
	Archerfield (M9)	20	40	40
	Richlands (M17)	25	75	0
	Wacol (M21)	25	75	0
Gold Coast	Yatala-Stapylton (M24)	5	30	65
Ipswich	Bundamba / Riverview (M11)	2	8	90
	New Chum (M15)	0	5	95
	Redbank (M16)	20	80	0
	Swanbank (M20)	0	10	90
	Wulkaraka/Karrabin (M28)	0	10	90
	Ebenezer (M29)	0	0	100
Lockyer Valley	Gatton North (M34)	0	5	95
Logan	Crestmead/Berrinba (M33)	60	40	0
	Park Ridge (M40)	0	5	95
Moreton Bay	Brendale (M23)	10	50	40
	Narangba (M25)	20	80	0
	Morayfield (M31)	0	20	80
	Elimbah East (M35)	0	20	80
Scenic Rim	Bromelton SDA (M38)	10	30	60
Sunshine Coast	Caloundra (M32)	20	70	10
	Coolum (M36)	10	30	60
Toowoomba	Toowoomba Enterprise Hub (Charlton / Wellcamp) (M26)	2	8	90

Appendix F: Current Intent to Service layer creation and integration with realistic availability calculations

The Current Intent to Service layer creation is summarised below with further detail provided in the 'best practice' ability to service research. The Current Intent to Service layer is used to refine realistic availability calculations as detailed in the integration with realistic availability calculations section of the 'best practice' ability to service research and in the planned dwelling supply technical notes.

A range of indicators were identified in the Ability to Service best practice research in 2018. The 2019 LSDM Report utilised boundary, zoning and statutory approval type indicators only. Other indicators relate to proximity and capacity that require information that was not readily available for incorporation into the 2019 LSDM Report.

The Current Intent to Service layer for the 2019 LSDM Report was therefore made up of the following six indicators:

- priority infrastructure area,
- existing and future sewerage connection area,
- priority development area,
- infrastructure agreements,
- preliminary approvals, and
- development permits.

The ability to service subprogram intends to progress data collection and preparation to explore the use of other indicators in future years.

Data Collection and preparation

Table F1 below provides a summary of the information collected and processed by DSDILGP. The notes section of the Table illustrates the variance among datasets and future work to be undertaken to update and expand these indicator data inputs. Changes are constantly occurring to all datasets, some more frequently than others. However, for this year's LSDM, DSDILGP was able to prepare and combine the data included in Table F1 to create the Current Intent to Service layer. Where possible, complete datasets have been built for this year's report and to be able to build upon these complete datasets for future LSDM reporting enhancements. For example, to explore the Current Intent to Service layers use for consolidation areas or to incorporate other indicators into the expansion area realistic availability calculations.

Table 1: Indicator Datasets used for Current Intent to Service layer creation for each local government area

Local government area	Priority Infrastructure Area	Development Permit	Preliminary Approval	Infrastructure Agreement	Existing and Future Sewerage	Priority Development Area
Brisbane	✓	✓	✓~	-	^	✓

Gold Coast	✓	✓	✓	✓	✓	✓
Ipswich	✓	✓	✓"	✓	^	✓
Lockyer Valley	✓	✓	✓	✓#	^	N/A
Logan	✓	✓	✓	-	✓	✓
Moreton Bay	✓	✓	✓	✓	✓	✓
Noosa	✓	✓	>	✓	✓	N/A
Redland	✓*	✓	-	✓	✓	✓
Scenic Rim	✓	✓	=	+	^	N/A
Somerset	✓	✓	-	✓	^	N/A
Sunshine Coast	✓!	✓	✓	✓	✓	✓
Toowoomba	✓	✓	✓	✓	N/A	✓

Notes: Refer to ability to service technical notes for a detailed description of each dataset's inclusion and exclusion rationale, data availability and processing undertaken.

~ Outside PIA only;

^ A review of the Netserv plan is currently being undertaken by QUU to separately define the water supply and sewerage boundaries;

* PIA in parts covers large areas not included with sewerage connection areas (existing and future)

Infrastructure agreements that relate to preliminary approvals;

+ No Infrastructure agreements not connected to DAs and none issued between July 2018 to June 2019;

- Only one non-residential preliminary approval issued in past 5 years;

" From 2014-2019;

= No Preliminary Approvals Issued between July 2018 to June 2019.

> no residential preliminary approvals extracted from the development approvals dataset supplied by Council and processed by Unitywater

! Based on additional infrastructure investigations for sites outside the PIA but within the planning scheme's Urban Growth Management Boundary, an additional 1240 dwellings have been included within the Current Intent to Service Layer.

Further detailed explanation on creation of the Current Intent to Service layer including, data collection, preparation and processing is provided in the Best Practice section of the 2019 LSDM.

Appendix G: Adjustment to average annual dwelling supply benchmarks

The average annual benchmarks are used to measure years of Planned dwelling supply, and to provide a corresponding comparison for the Dwelling growth measure. In accordance with *ShapingSEQ 2017* (see page 173), years of supply are intended to be measured by the average annual expected demand over the next 15 years, based on the small area growth assumptions (SAGA). The SAGA are meant to align with each new round of state government projections, commencing with the 2018 edition (see page 163 of *ShapingSEQ 2017*). In the absence of the SAGA, for the 2019 LSDM Report the 2016-2031 growth figures of *ShapingSEQ 2017* have been adjusted to align with the overall SEQ rate of dwelling growth 2016-2031 of the new 2018 edition projections (released in early 2019).

The actual revised calculation of the average annual benchmarks is: (A divided 15 years) multiplied by (B divided by C), where:

A = Expected annual dwelling growth 2016-2031 – from Figure 7 in *ShapingSEQ 2017* (for the relevant consolidation/expansion area by LGA)

B = The 2018 projected total dwelling growth 2016-2031 for SEQ = 479,683

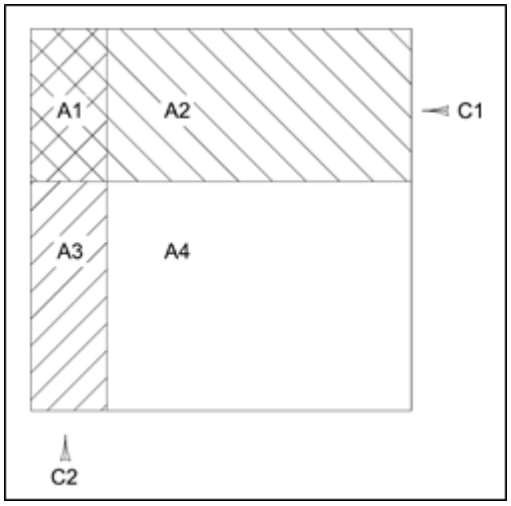
C = The expected total dwelling growth 2016-2031 for SEQ (from Figure 7 in *ShapingSEQ 2017*) = 452,900

Appendix H: Calculation of developable area where soft constraints overlap (drawn from RPS report)

There are many situations where multiple soft constraints impact the same portions of land. For example, vegetated areas on steep slopes or coastal hazard areas. Typically, the presence of multiple constraints will reduce the likelihood of development. The following explains the methodology adopted for the RPS report to determine developable land where this occurs.

In the below example, we have a portion of land, with an area of 10,000m^2. It is impacted by two constraints, C1, allowing 50% of land to be developed; and C2, allowing 25% of land to be developed (i.e. 75% constrained). The portion of land has four distinct areas, as shown on the diagram below:

- A1 – constrained by both C1 and C2
- A2 – constrained by only C1
- A3 – constrained by only C2
- A4 – no constraints



The calculation of the developable area in this case is as follows:

Land portion	Area	Constraints	Multiple	Calculated Developable Land
A1	800m^2	C1 + C2	50% x 25%	100m^2
A2	3200m^2	C1	50%	1600m^2
A3	1200m^2	C2	25%	300m^2
A4	4800m^2	Nil		4800m^2
			Total Developable Land	6800m^2

Where the multiplier effect results in an area less than 12.5% remaining available for development then this area was considered fully constrained and 100% removed as a hard constraint. Where the result is 12.5% or greater this was still treated as developable and included in the land supply calculations.

Fact sheets

Realistic availability concept

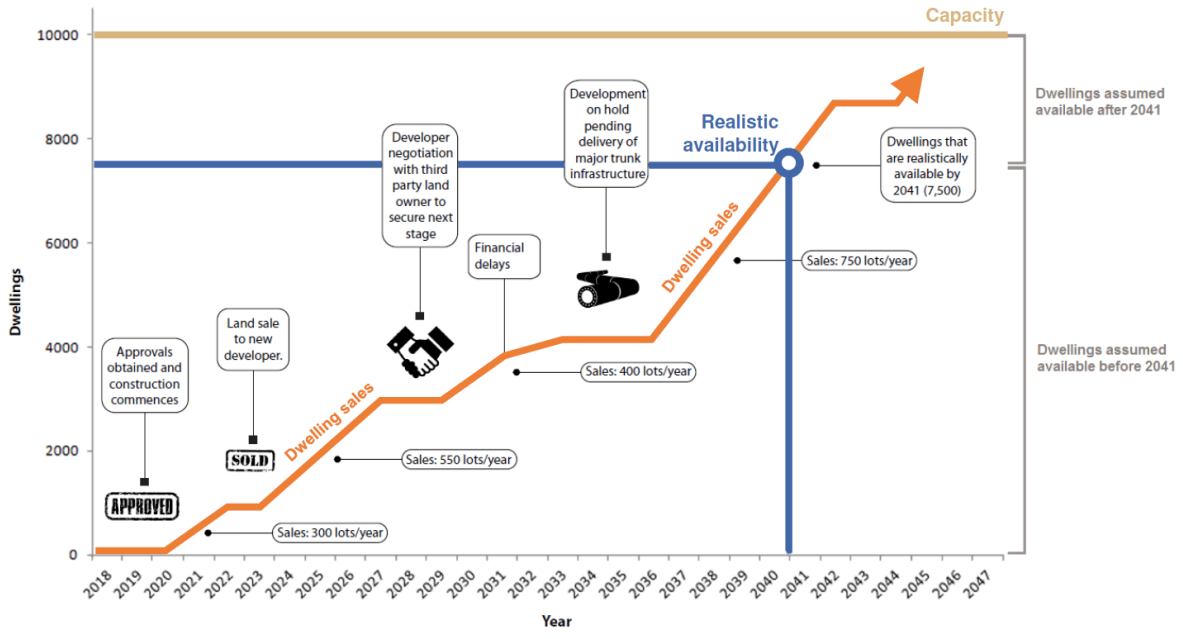
ShapingSEQ 2017 proposes that the Growth Monitoring Program monitor land supply in terms of its realistic availability, rather than its capacity. The 2019 Land Supply and Development Monitoring (LSDM) Report has applied scenarios which assume not all of the planned capacity will be realistically available by 2041.

The capacity of planned dwelling supply (illustrated in gold) is an estimate of the number of dwellings that current planning instruments make available for development, to an unlimited time horizon, after considering what portion of land is developable, and the likely density of development on that land.

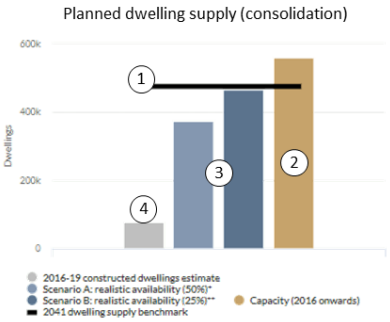
The realistic availability of planned dwelling supply (illustrated in blue) is an estimate of the portion of the capacity of planned dwelling supply (in terms of dwellings) that is expected to be available by 2041, after considering how the following may constrain/delay development:

- infrastructure availability
- the practical staging of development
- fragmented land ownership and varying landowner intent
- insufficient demand for the planned density in some areas up to 2041
- existing versus planned density (or low value of planned development vs existing development)
- the age of existing development
- accessibility
- constraints affecting the economic feasibility of development

Major expansion area example



Realistic availability scenarios



1. The **2041 dwelling supply benchmark** (black line) shows how many dwellings are required to accommodate expected growth in the South East Queensland (SEQ) consolidation area to 2041.

2. The **capacity** (gold bar) indicates how much growth has been planned for (e.g. by local governments) in the SEQ consolidation area.

3. The **realistic availability scenarios** (blue bars) are indicative of how much capacity may be available for development up to 2041. These scenarios illustrate the potential effect of factors (e.g. infrastructure availability, fragmented land ownership, etc.) that may delay/constrain the amount of dwellings that are available for development by 2041.

   The Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP) has identified two realistic availability scenarios for the consolidation area, for SEQ only. As some of the local land supply information used to inform the Land Supply and Development Monitoring (LSDM) Report already has varying assumptions about realistic availability, no scenarios are identified for local government consolidation areas. Improvements are envisaged in future years, but for this first LSDM Report the two indicative scenarios for the SEQ consolidation area are:

   - **Scenario A -** assumes that 50 per cent of the **capacity**, that is not yet built or approved, is not available for development by 2041
   - **Scenario B** - assumes that 25 per cent of the **capacity**, that is not yet built or approved, is not available for development by 2041.

4. The **2016/19 constructed dwellings estimate** (grey bar) is an estimate of how many dwellings have been built between 2016 and 2019.

Note: For expansion areas, the LSDM Report identifies one realistic availability scenario for each local government area and SEQ, based on the consistent approach and findings of previous regional studies about the effects of fragmented land ownership, infrastructure availability and the practical staging of development through the use of the current intent to service layer.

Ability to service

ShapingSEQ 2017 establishes a policy objective that there will always be at least 15 years' supply of land that is appropriately zoned and able to be serviced (p.46). This 15-year policy objective is a rolling assessment of supply each year which takes into account recent growth, remaining supply, and the expected rate at which supply will be consumed.

The primary objective of the Growth Monitoring Program (GMP) Ability to Service subprogram is to provide an indication of whether this policy objective is being met. To inform this assessment, the Department of State Development, Infrastructure, Local Government and Planning (DSDILGP) undertook Best practice research in 2018 in consultation with the GMP Data and Modelling Working Group to identify methods for mapping areas that have the ability to be serviced with infrastructure, focusing on indicators that related to:

- infrastructure already in place,
- decisions already made about infrastructure or development, and
- agreements, planning or funding in place for future infrastructure.

The best practice research explored numerous indicators/datasets that could indicate an area as having the ability to be serviced. The research acknowledged that the ability to service concept is seeking to assess the feasibility of urban development being provided with necessary supporting infrastructure within the subject planning horizon, not just the potential for an area to be serviced through an 'engineering solution', however costly, financially, socially or environmentally. The research shortlisted several boundary type indicators which showed a current intent to service, noting that this intent to service also indicates an 'ability to service' in accordance with the subprogram's objectives.

In 2019, DSDILGP used six shortlisted indicators to prepare a Current Intent to Service layer, consisting of:

- residential development approvals,
- residential preliminary approvals,
- priority infrastructure areas,
- existing and future sewer connection areas,
- infrastructure agreements, and
- priority development areas.

DSDILGP has used the Current Intent to Service layer in the 2019 LSDM Report to inform the 'realistic availability of planned dwelling supply' scenario in the expansion area and compared this assessment of supply to *ShapingSEQ 2017*'s rolling 15-years of supply policy objective. DSDILGP has not compared this realistic availability scenario to *ShapingSEQ 2017*'s 2041 dwelling supply benchmark in acknowledgement of the fact that the indicators used in the Current Intent to Service layer have a planning horizon earlier than 2041.

DSDILGP will continue to develop the Ability to Service subprogram in partnership with GMP stakeholders, for example, exploring other boundary, capacity and proximity indicators of an areas ability to be serviced as recommended by the 2018 best practice research. These improvements will support the GMP's role as a long-term program of government, that will capitalise on research and work undertaken by key stakeholders each year to create a shared understanding of development land supply across SEQ.

Definitions

Term	Definition
15 years of supply	The minimum 15 years of supply policy objective of *ShapingSEQ 2017* (p.46).
2016/17–18/19 constructed dwellings estimate	An estimate of the dwellings constructed in an area from 1 July 2017 to 30 June 2019 based on building approvals for new dwellings in that area from 1 July 2016 to 30 June 2018 (assuming a 12-month lag from approval to completion of construction).
2041 dwelling supply benchmark	The dwelling supply that needs to be planned for to accommodate the dwelling growth to 2041 expected in an area by the South East Queensland Regional Plan 2017, *ShapingSEQ 2017* (see Figure 7).
2041 industrial employment planning baseline	The industrial employment supply that needs to be planned for to accommodate the industrial employment growth to 2041 expected in an area by the South East Queensland Regional Plan 2017, *ShapingSEQ 2017*.
All categories	For sales and price are vacant lots (per lot and per square metre), attached dwellings, houses and house-land package.
Approved supply	Is either the number of uncompleted lot approvals or uncompleted multiple dwelling approvals (which are separately defined) in an area.
Attached dwellings	For: • housing type—are other residential buildings including semi-detached, row or terrace houses or townhouses, and flats, units or apartments. • sales and price—are attached dwellings (units and townhouses), as identified by the Department of Natural Resources, Mines and Energy's Queensland Valuation and Sales database as being sold.
Average annual baseline	The average annual growth of employment expected for an area and industry sector from 2016 to 2031 in order to align with the employment planning baselines as identified in Appendix A of *ShapingSEQ 2017*.
Average annual benchmark	The average annual dwelling growth from 2016 to 2031 expected in an area by *ShapingSEQ 2017*, proportionally adjusted to align with the rate of growth projected for SEQ as a whole by the most recent Queensland Government dwelling projections (2018 edition medium series), compared to the rate of growth assumed by *ShapingSEQ 2017*.

Capacity of planned dwelling supply	An estimate of the number of dwellings that could be developed in an area when fully developed in compliance with the planning instruments that currently apply in that area, given the expected nature of dwelling demand and densities over time.
Capacity of planned industrial employment supply	An estimate of the number of industrial employees that could be accommodated by industrial development in an area when fully developed in compliance with the planning instruments that currently apply in that area, given the expected nature of industrial employment demand and densities over time.
Consolidation	Development on land inside the existing urban area boundary (as defined by *ShapingSEQ 2017* based on selected Australian Bureau of Statistics 2016 Statistical Area Level 2 boundaries).
Developed industrial land	The total area of land parcels with a zoning or intent for industrial purposes in a planning instrument (e.g. planning scheme, development scheme, port land use plan, etc.) where those parcels are developed for use.
Dwelling approvals	The number of dwellings that have obtained building approval in a given area for a given period. This figure is used as an approximate measure of dwelling growth.
Expansion	Development on land outside the existing urban area boundary (as defined by *ShapingSEQ 2017* based on selected Australian Bureau of Statistics 2016 Statistical Area Level 2 boundaries).
Expected share	The proportion of total dwelling growth in a given area that is consolidation or expansion from 2016 to 2031, as expected by *ShapingSEQ 2017*.
Four years of supply	*ShapingSEQ 2017*'s minimum four years of approved supply preferred future (p.167).
High-rise	For housing type are attached dwellings of four or more storeys.
Houses	For: • housing type— are a detached building primarily used for long-term residential purposes consisting of one dwelling unit. Includes detached houses associated with a non-residential building, and kit and transportable homes. • sales and price—are a detached dwelling, as identified by the Department of Natural Resources, Mines and Energy's Queensland Valuation and Sales database as being sold.

Lot creation	Lot certification, previously and commonly referred to as plan sealing, which is the final stage of local government approval of lots prior to lot registration by the state government.
Lot registrations	The number of lots registered in a given area for a given period.
Lower quartile sales price	The lower quartile sales price ($) for reported sales of vacant lots (per lot and per square metre), attached dwellings, houses and house-land packages in a given area for a given period.
Mean population-weighted dwelling density	The mean population-weighted dwelling density of all Census mesh blocks in a region. It is calculated as follows: The sum for all Census mesh blocks of ((mesh block dwelling count divided by area of mesh block) multiplied by mesh block population count) divided by the sum of all mesh block population count
Median lot size	The median size of new urban lots 60 to < 2,500 m^2 registered in a given area for a given period.
Median sales price	The median sales price ($) for reported sales of vacant land (per lot and per square metre), attached dwellings, houses and house-land packages in a given area for a given period.
Mesh blocks	The smallest geographical area defined by the Australian Bureau of Statistics and form the building blocks for the larger regions of the Australia Statistical Geography Standard (ASGS). All other statistical areas or regions are built up from or approximated by them. They broadly identify land use such as residential, commercial, primary production and parkland and can be combined to accurately approximate a large range of other statistical regions.
Middle	Attached dwellings (as defined for housing type) of one to three storeys.
Number of sales	The number of reported sales, at the date of data extraction, for vacant lots, houses, house-land packages, or attached dwellings, in a given area for a given period.
Operational works approvals	The number of uncompleted lots that also have operational works approval (e.g. to construct roads or drainage) as at the relevant date.
Planned dwelling supply	A collective term for the capacity of planned dwelling supply and the realistic availability of planned dwelling supply, which are separately defined.
Planned industrial land	Land that is vacant, has a zoning or intent for industrial purposes in a planning instrument (e.g. planning scheme,

	development scheme, port land use plan, etc.) and is not affected by identified constraints. This is effectively the gross developable area, i.e. it does not exclude any allowance for roads, infrastructure corridors, open space and the like. It also does not exclude any allowance for some constraints which affect the economic feasibility of industrial development, e.g. geotechnical conditions, mining impacts, availability of infrastructure and the like.
Realistic availability of planned dwelling supply	A scenario which assumes some of the capacity of planned dwelling supply is not available for development by 2041 due to factors that may constrain the availability of land for development to accommodate dwellings. Such factors may include: • infrastructure availability • the practical staging of and capability for development • land ownership fragmentation • landowner intent • insufficient demand for the planned scale/density of uses in some areas up to 2041 • existing versus planned density (or land value in the existing versus the planned use) • the age of existing development • accessibility • constraints affecting the economic feasibility of development.
Realistic availability of planned industrial employment supply	A scenario which assumes some of the capacity of planned industrial employment supply is not available for development by 2041 due to factors that may constrain the availability of land for development to accommodate industrial employment. Such factors may include: • infrastructure availability • the practical staging of and capability for development • land ownership fragmentation • landowner intent • lower employment densities than expected • accessibility • constraints affecting the economic feasibility of development.
ShapingSEQ 2017	The South East Queensland Regional Plan, August 2017

Single point of truth	Reliable data generated efficiently using a regionally-consistent best practice approach applied to practically available local information.
Take-up	For developed industrial land — an estimate of the amount of land that was developed for use from being vacant, in a given time-period, e.g. 2011 to 2018.
Ultimate development	The Minister's Guidelines and Rules defines ultimate development for a Local Government Infrastructure Plan, for an area or premises, as the likely extent of development that is anticipated in the area, or on the premises, if the area or premises are fully developed.
Uncompleted lot approvals	The number of lots that have a reconfiguring a lot development permit but have not yet been certified (also known as plan sealing) as at the relevant date.
Uncompleted multiple dwelling approvals	The number of multiple dwellings that have a material change of use development permit but have not yet been constructed as at the relevant date. For the purpose of this report, multiple dwellings includes developments where more than one self-contained dwelling is planned for a parcel, or where there is one dwelling per lot and they are subject to a Community Titles Scheme. Determination of whether dwellings have been constructed is based primarily on consideration of lot registrations information and recent aerial imagery.
Urban extent	For Toowoomba — that part of the Toowoomba Regional Council's local government area that is contained within the Toowoomba Statistical Area Level 4 as defined for the purposes of the Australian Statistical Geography Standard. This is the part of Toowoomba included in *ShapingSEQ 2017*.
Years of supply	The number of years it will take for a given supply of dwellings or industrial employment to be consumed based on the assumed level of annual demand. For industrial employment supply - the assumed level of annual demand is the average annual baseline. For planned dwelling supply – the assumed level of annual demand is the average annual benchmark.

Housing Supply Expert Panel

Introduction

The Housing Supply Expert Panel (HSEP) has supported the release of the 2019 LSDM Report and identified it as nation-leading work integral to South East Queensland's (SEQ) regional planning framework.

Throughout 2019 the HSEP has provided oversight of the Growth Monitoring Program (GMP), and been instrumental in leading and directing the following 2019 initiatives:

- a five-year roadmap for the GMP
- a market factors report for SEQ, and
- reporting on social housing stock.

The GMP Roadmap articulates the program's long-term vision for a shared understanding of land supply and development data that forms an evidence-base for effective regional planning. The roadmap emphasises continual improvement and reporting, has been developed in collaboration with the GMP's stakeholders and is endorsed by the HSEP. To access the roadmap, see the Moving forward section of the 2019 LSDM Report.

The SEQ Market Factors report provides independent commentary on the factors that may affect short and medium-term demand for housing. The report draws upon publicly available and regularly updated information to highlight trends in residential demand for housing at the SEQ scale. It provides detail about broader regional and national factors affecting the development activity observed in the LSDM Report, with some commentary about the outlook for SEQ. To access the report, see the Market factors section of the 2019 LSDM Report.

The HSEP has resolved to report on social housing stock over time, as an important element of overall housing stock that serves vulnerable people and households. This reporting is provided in more detail in the Social housing section below.

Background and membership

In 2018, the Queensland Government established the Housing Supply Expert Panel (HSEP) to oversee the Growth Monitoring Program (GMP) and provide independent expert advice about how to appropriately manage land supply and associated issues in South East Queensland. The panel consists of nine experts from the planning, property, economics, and research fields across Australia.

Julie Saunders, QLD, panel chair: Ms Saunders has extensive experience in the town planning and property field across state and local government, as well as private industry. She is currently the Associate Director for Commercial Sales at Knight Frank.

Dr Elin Charles-Edwards, QLD: Dr Charles-Edwards is a qualified demographer and population geographer. She is currently a Senior Lecturer in Human Geography at the University of Queensland and the lead Chief Investigator on an Australian Research Council Linkage grant on the estimation of temporary populations in Australia. She brings a wealth of knowledge in relation to migration, mobility and the ways in which populations vary over space and time to the panel.

Nerida Conisbee, NSW: Ms Conisbee is one of Australia's leading property market experts and has 20 years' experience in the property research industry. She is currently the Chief Economist for the REA Group and has extensive experience in property and urban economics and data analysis.

Dr Michael Fotheringham, VIC: Dr Fotheringham has experience in housing research and social issues relating to housing and is currently the Executive Director at Australian Housing and Urban Research Institute. Dr Fotheringham has worked with not-for-profit, government and academic organisations.

Laurel Johnson, QLD: Ms Johnson is an urban, regional and social planner with extensive experience in the public, private and academic sectors. Currently an academic at the University of Queensland's School of Earth and Environmental Sciences in the urban and regional planning program, Ms Johnson provides valuable social planning knowledge and expertise to the panel.

Sonya Keep, QLD: Ms Keep has more than 18 years' experience in the areas of social planning and community housing. She is the Chief Executive Officer of Common Ground Queensland and is dedicated to seeing an increase in the supply of affordable and supportive housing for those who are vulnerable or at risk of experiencing homelessness.

Warren Rowe, QLD: Mr Rowe has more than 35 years' experience across a range of areas including strategic and statutory planning, regional planning, policy development, development control, infrastructure planning and delivery, urban design and housing policy. He is currently the Planner in Residence at the University of Queensland and an Adjunct Professor in the Cities Program at Griffith University.

Ben Slack, QLD: Mr Slack is a leading urban planner with more than 25 years' experience in both the public and private sectors. He is currently a Regional Director with Urbis and provides valuable knowledge and experience to the panel in the areas of land use and infrastructure planning, as well as property economics and data analysis.

Dr Marcus Spiller, VIC: Dr Spiller is an urban economist and planner with extensive experience in public policy analysis. He is currently a Principal, Partner and Director at SGS Economics and Planning Pty Ltd. Prior to this, Dr Spiller worked as a strategic planner in both state and local government.

Housing affordability

A key purpose of the Growth Monitoring Program (GMP) is to monitor and assess if there is adequate planned dwelling supply relative to dwelling demand in South East Queensland (SEQ). The GMP's findings may be used in combination with available data from across federal, state and local government to inform decision making regarding public policies to address housing affordability.

ShapingSEQ 2017 established a policy for at least 15 years of planned dwelling supply, at any point in time, that is appropriately zoned and able to be serviced. The 2019 Land Supply and Development Monitoring (LSDM) Report confirms SEQ has more than 15 years of planned dwelling supply that is appropriately zoned.

The 15 years of supply policy provides an indicator for when the state and local governments should initiate a range of solutions in response to potential shortages in planned dwelling supply, including identifying new land for urban purposes or investigating additional infrastructure opportunities. In

doing this, both the state and local governments should ensure they are increasing supply in a way that is affordable to governments and the community, especially in terms of the quality, timing and cost of any required infrastructure.

It is important to recognise that ensuring adequate planned dwelling supply is only one contributing element to addressing housing affordability. Housing demand and affordability are subject to many influences beyond population and household growth and the basic need for shelter. Taxation arrangements, financial incentives or disincentives, broader economic influences such as interest rates, income growth, employment and foreign exchange rates, all have major influences on housing demand, price and affordability over time. Additionally, new dwellings take time to plan, approve and construct, so in the short-term, growth in actual housing supply may be slow to respond to increases in demand.

Social housing

The Housing Supply Expert Panel has resolved to report on social housing stock over time, as an important element of overall housing stock that serves vulnerable people and households.

Market factors

The 2019 LSDM Report focuses on medium and long-term supply metrics as they relate to the policy objectives and benchmarks and baselines of *ShapingSEQ 2017*, but it also tracks recent development activity through dwelling growth, sales volume and price and changes in housing type and density. Recent development activity can be influenced by numerous macro and micro-economic factors which are not considered by this monitoring.

In response to this, and feedback from stakeholders on the first annual LSDM in 2018, DSDILGP with the support of the SEQ Housing Supply Expert Panel, commissioned Innovociti Pty Ltd to prepare a 2019 Market Factors report to accompany the 2019 LSDM Report.

This Market Factors report:

- discusses factors that may affect short-medium term demand for housing,
- is evidence based and draws upon metrics in the public realm,
- uses regulated updated metrics,
- highlights trends in development activity and residential demand, and
- provides independent expert commentary at a whole of SEQ scale.

Selected land supply and development mapping

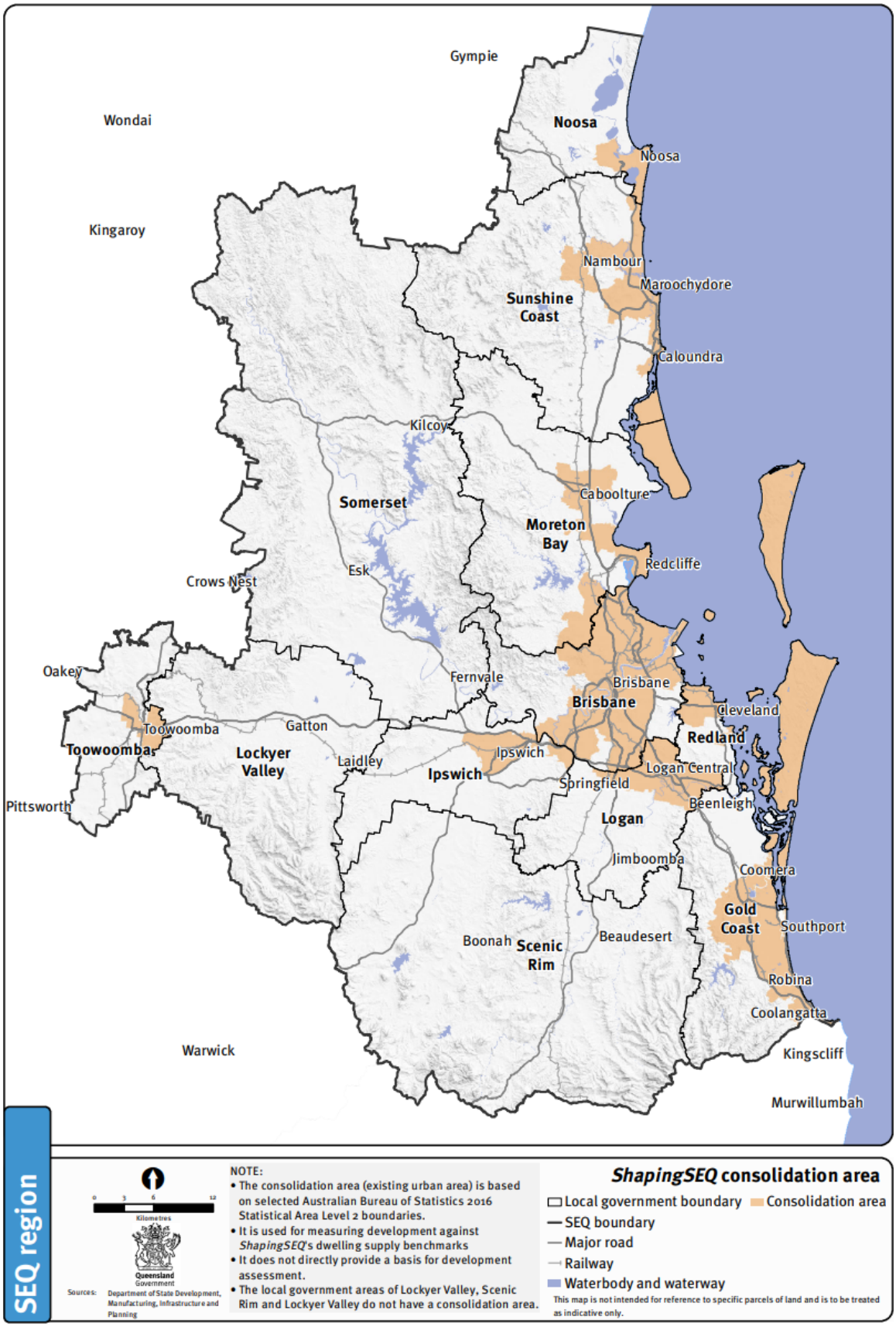
Introduction

This section provides access to all the mapping products produced in support of the report. These maps have been developed to display and help visually explain a number of reporting outputs and concepts including; dwelling growth, planned dwelling supply, planned industrial land supply, housing type, the existing urban area, broadhectare land and the Urban Footprint.

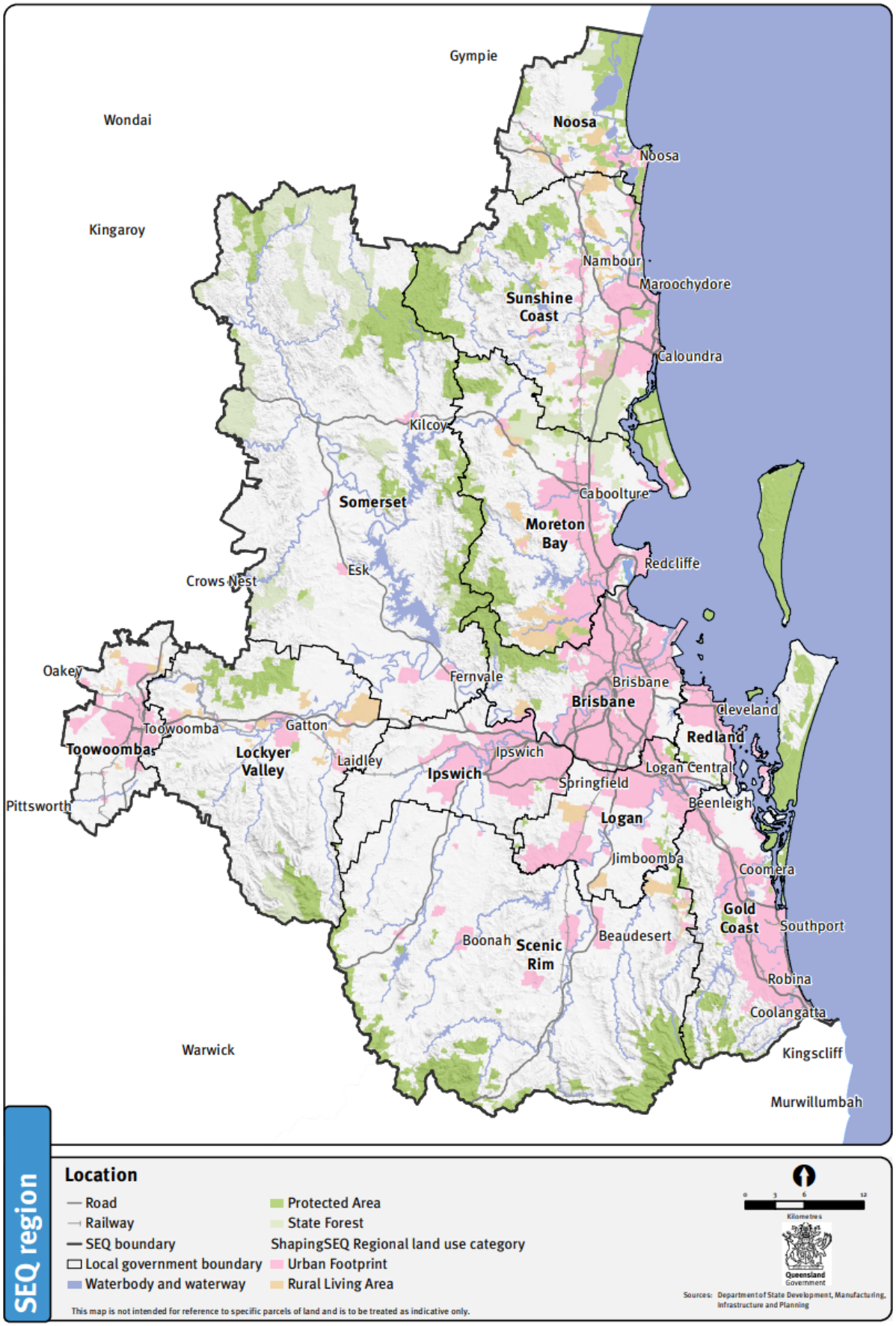
These maps, listed below, are also available by clicking on the more information button in relevant sections of the report.

General

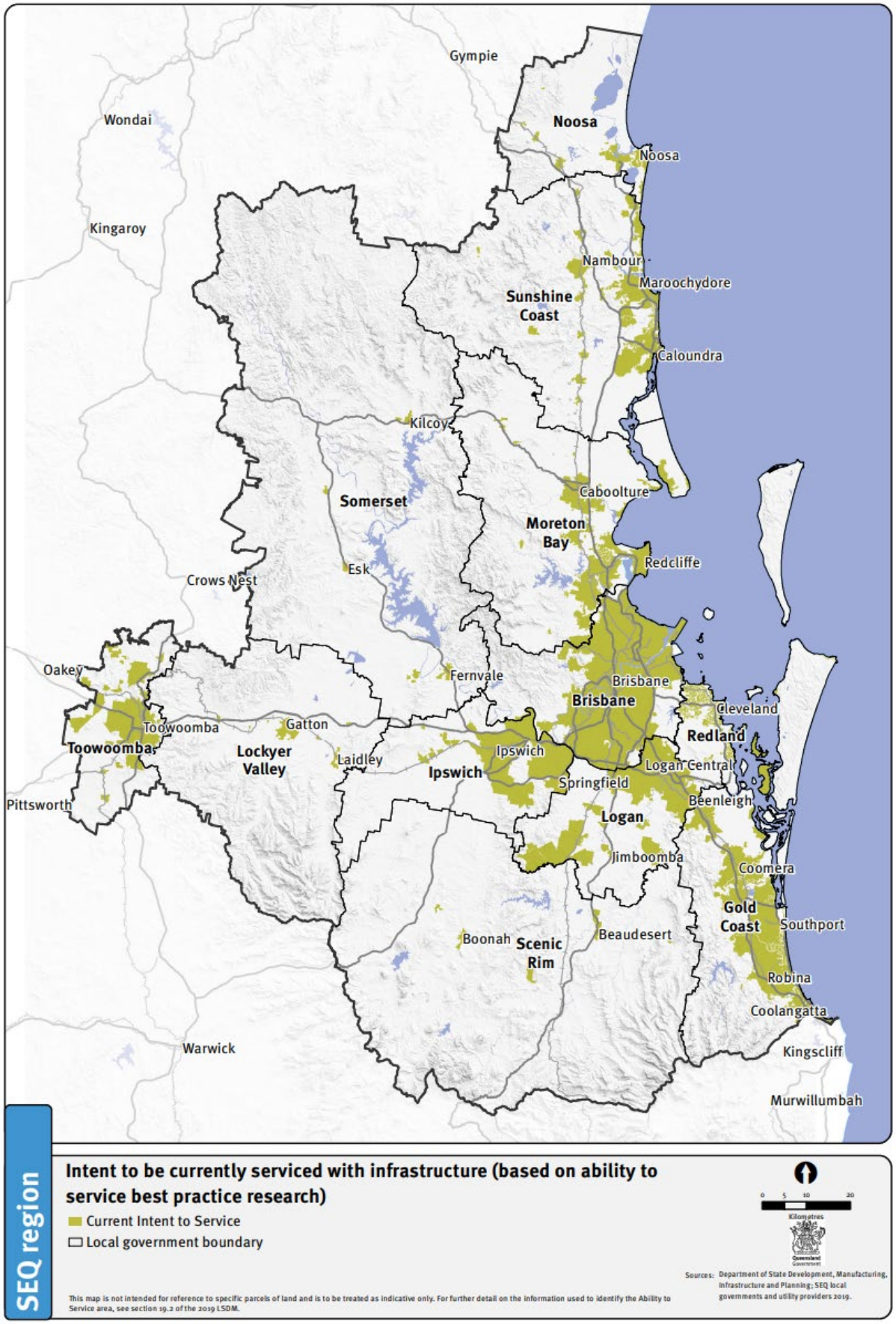
Consolidation Area (SEQ)



SEQ regional land use categories

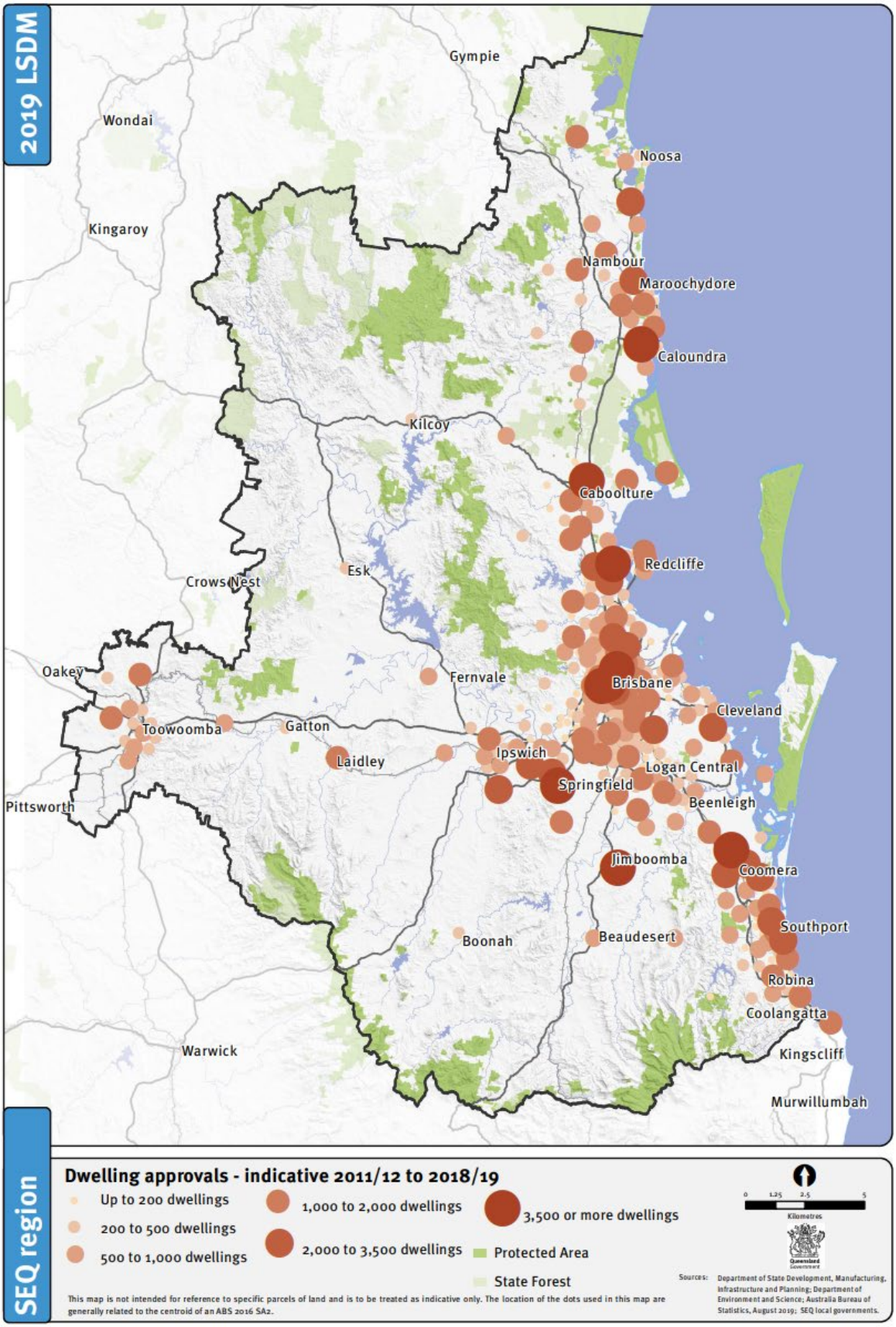


Current intent to be serviced (SEQ)

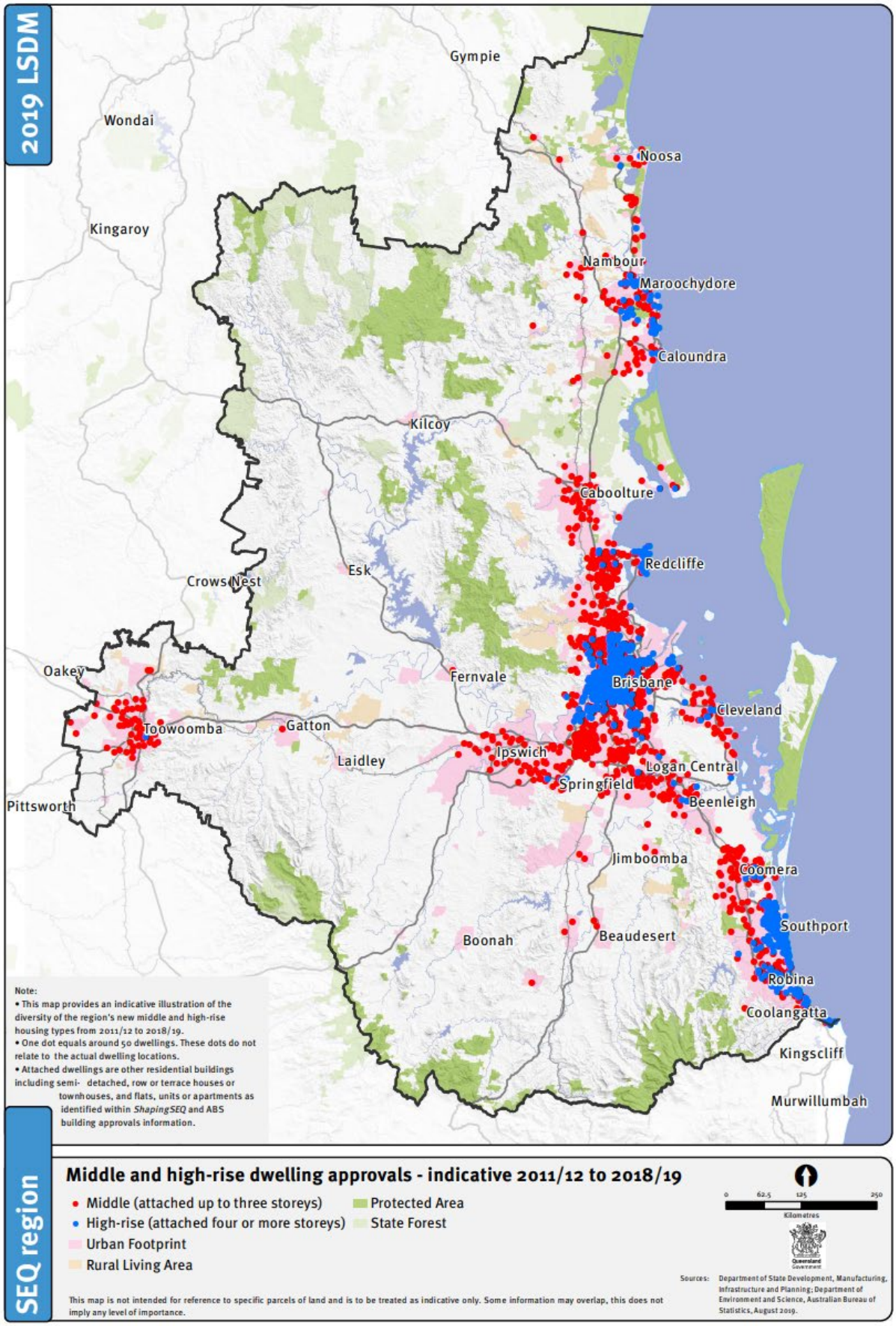


SEQ

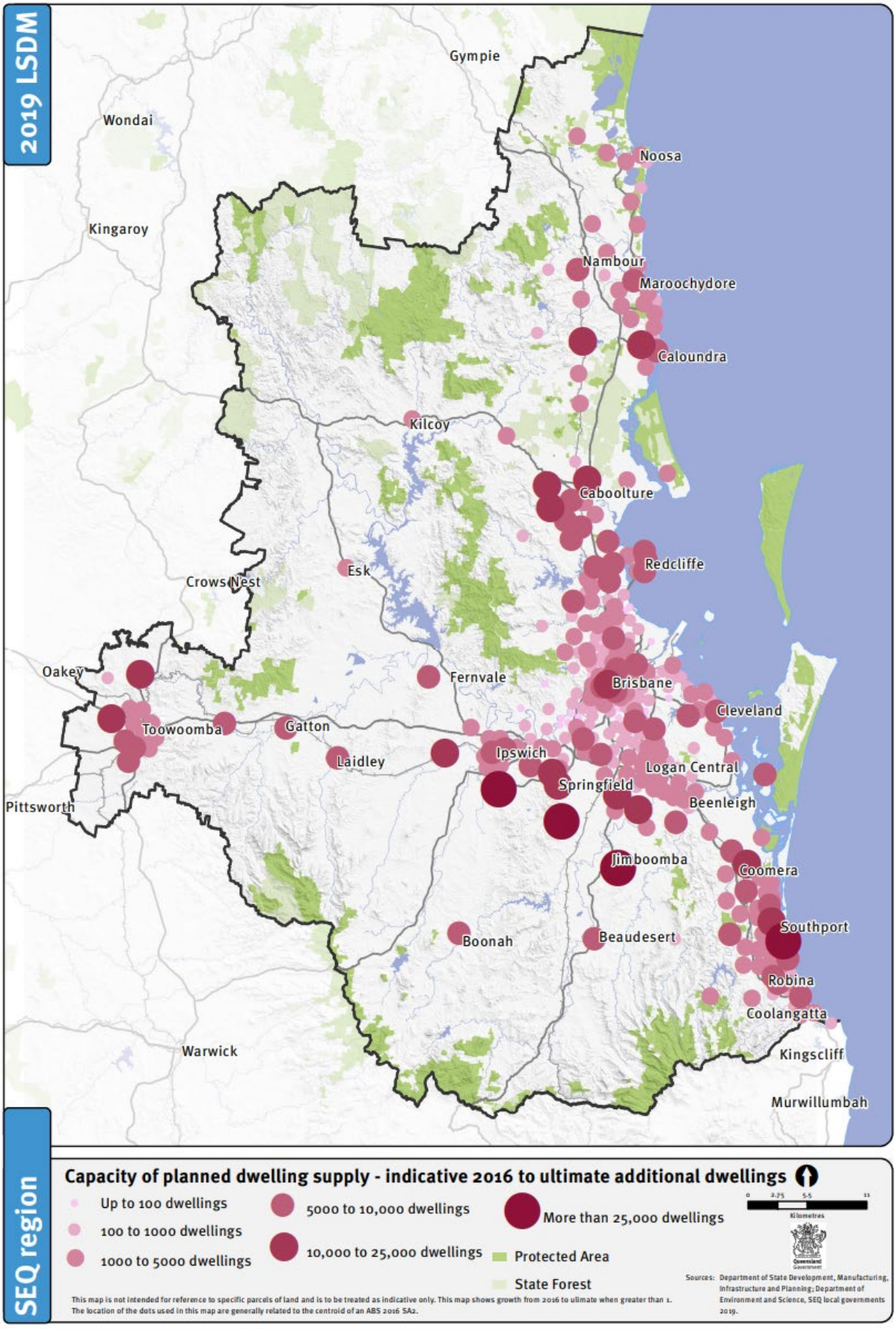
SEQ - Dwelling approvals



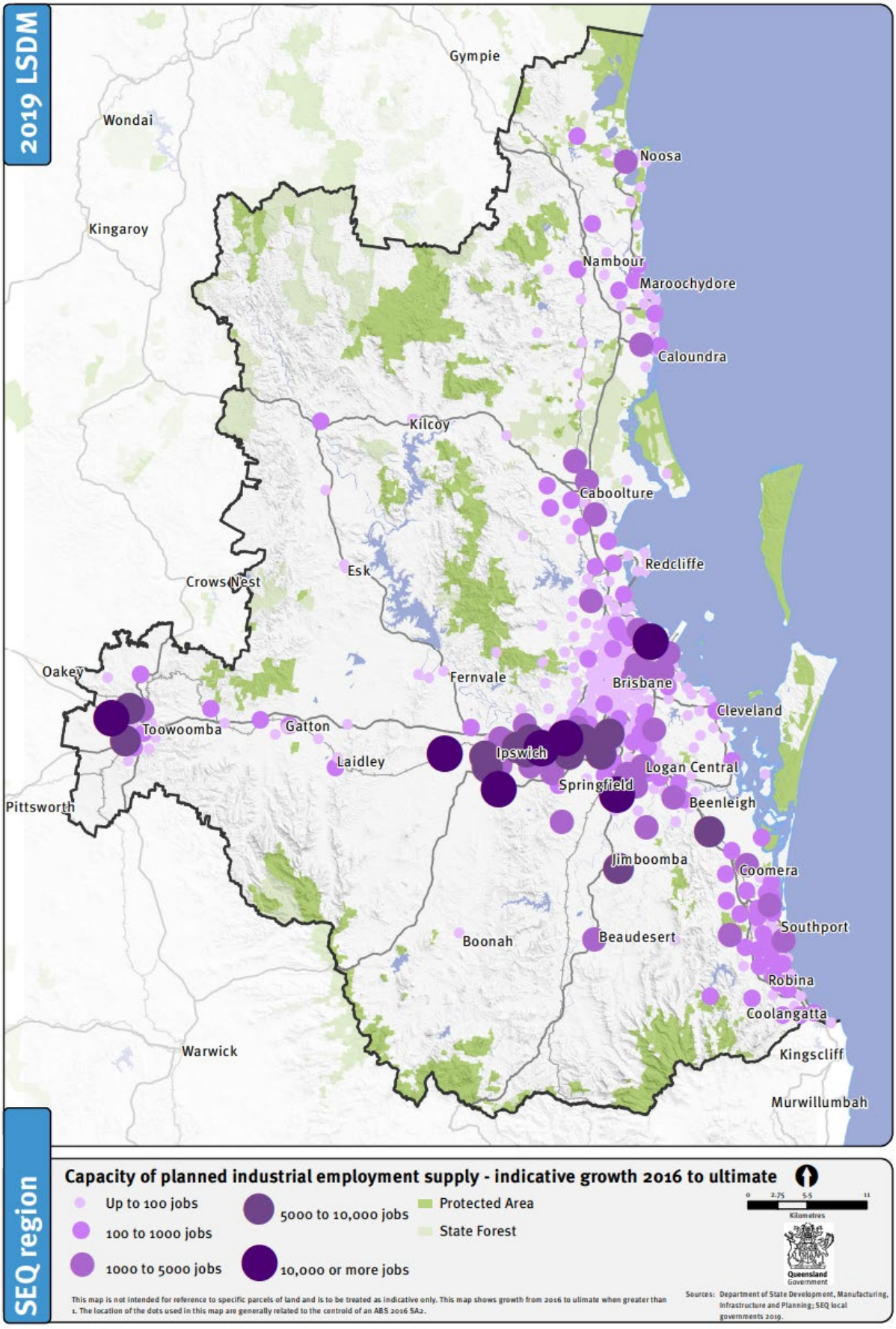
SEQ - Housing type



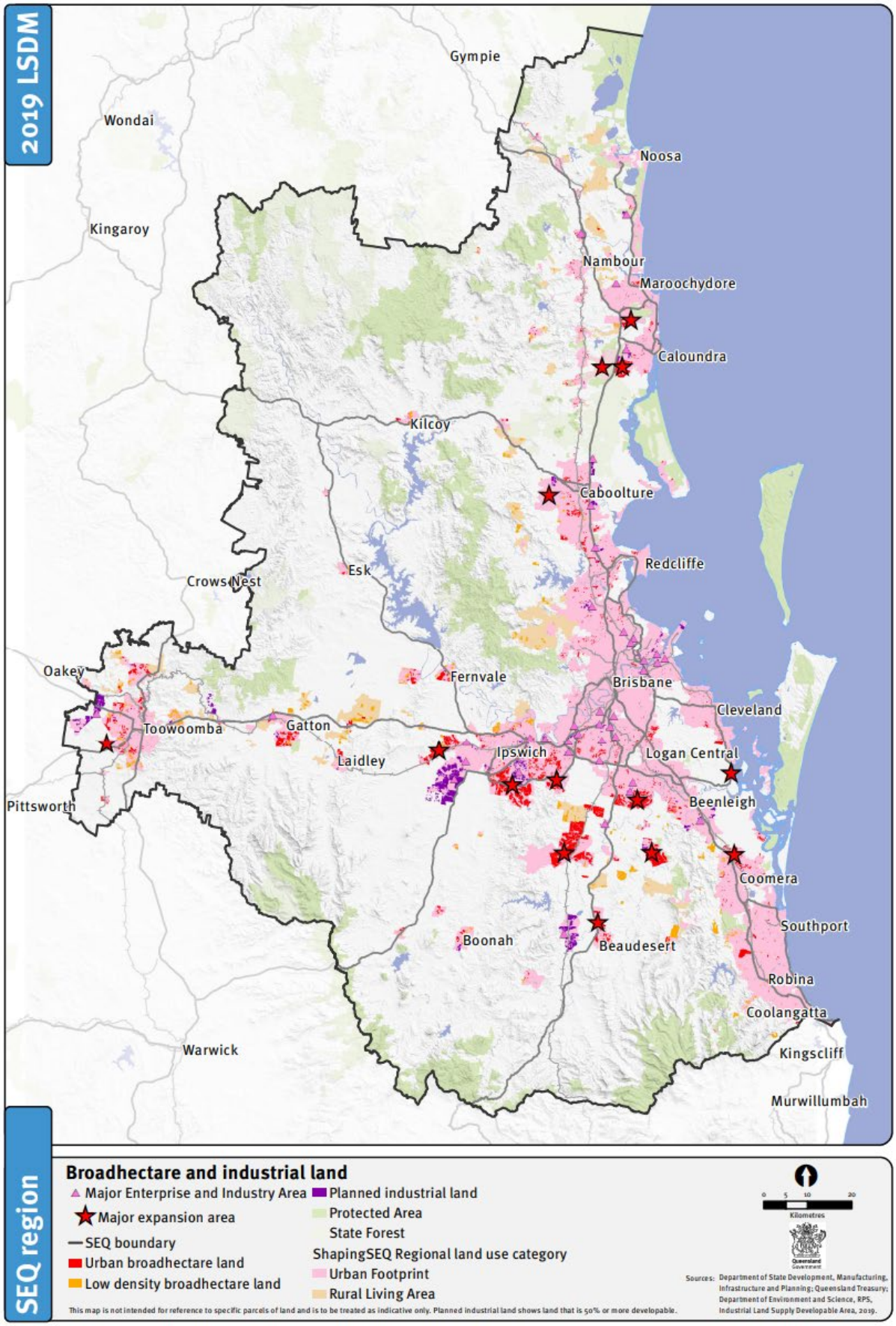
SEQ - Planned dwelling supply



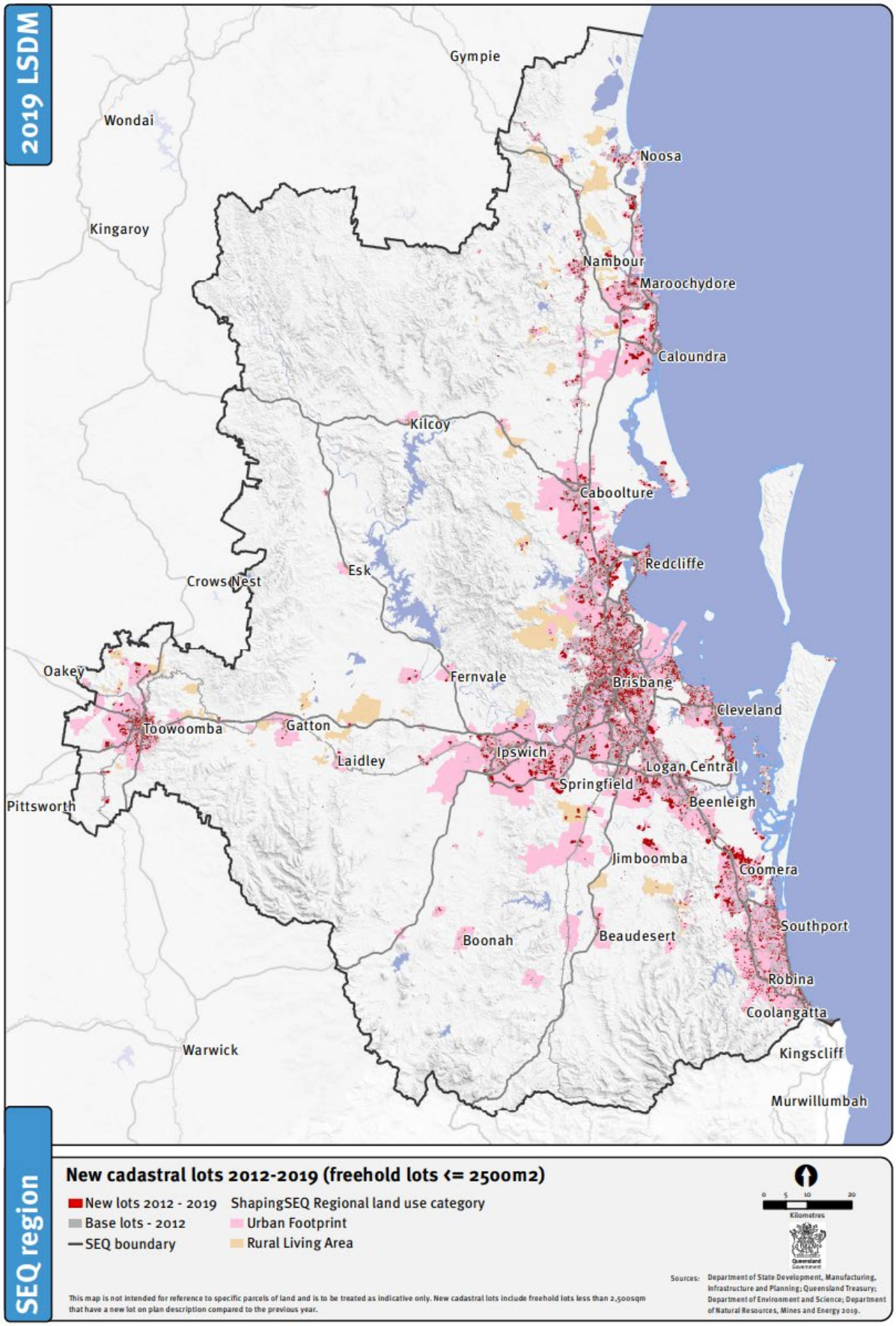
SEQ - Planned industrial employment supply



SEQ - Broadhectare and industrial lands



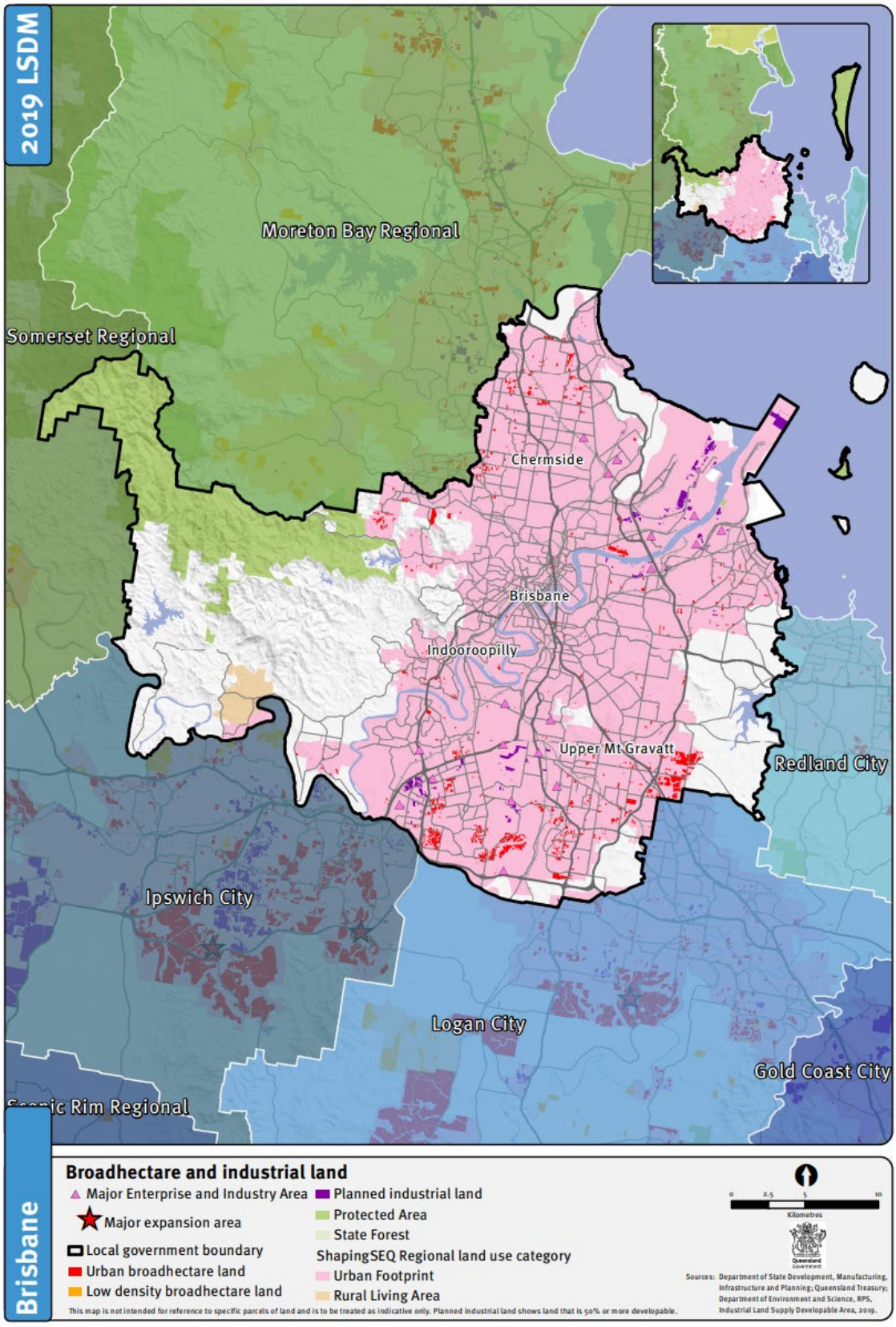
SEQ - New cadastral lots (freehold >= 2500m^2)



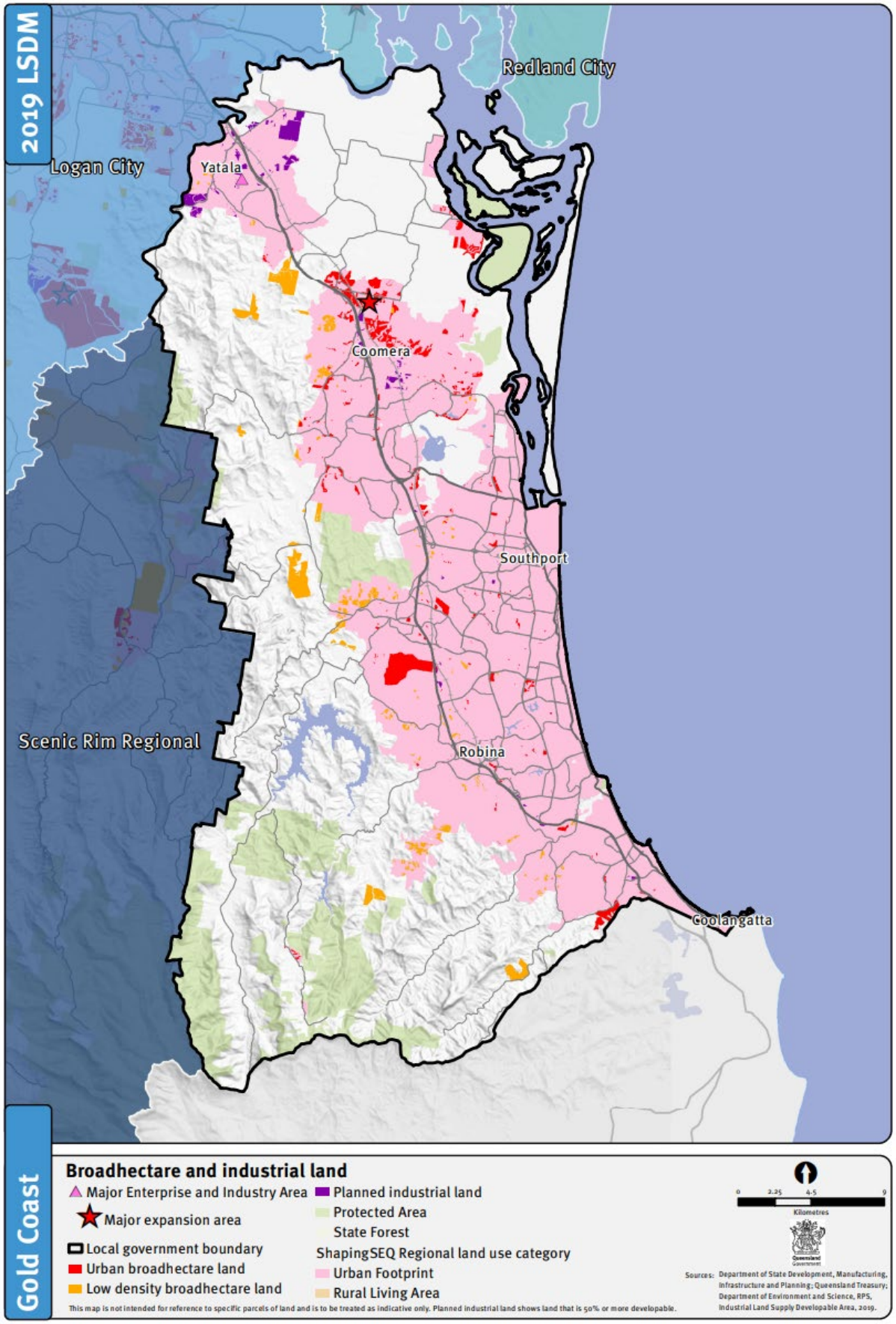
Local government

Broadhectare and industrial lands

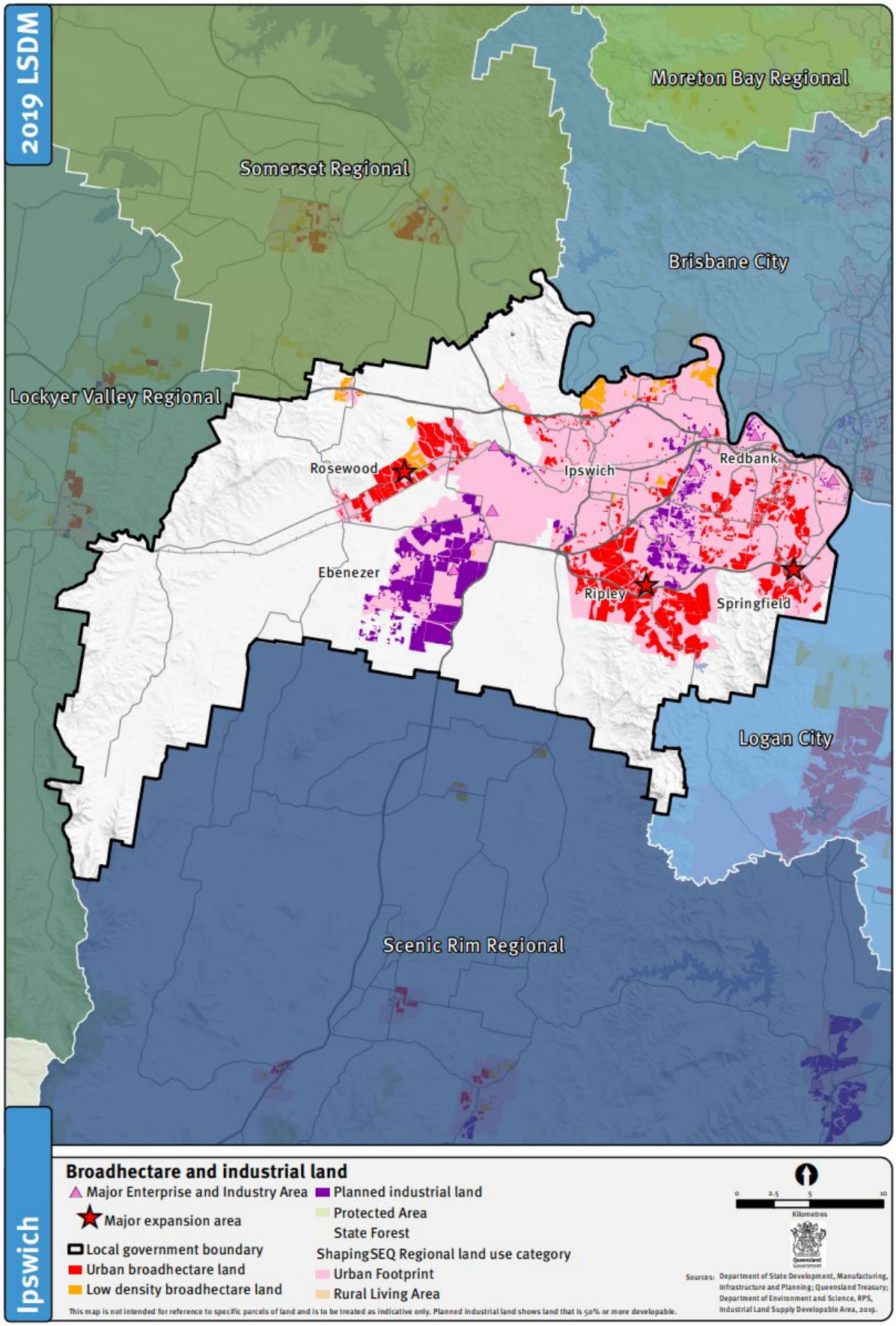
Brisbane - Broadhectare and industrial lands



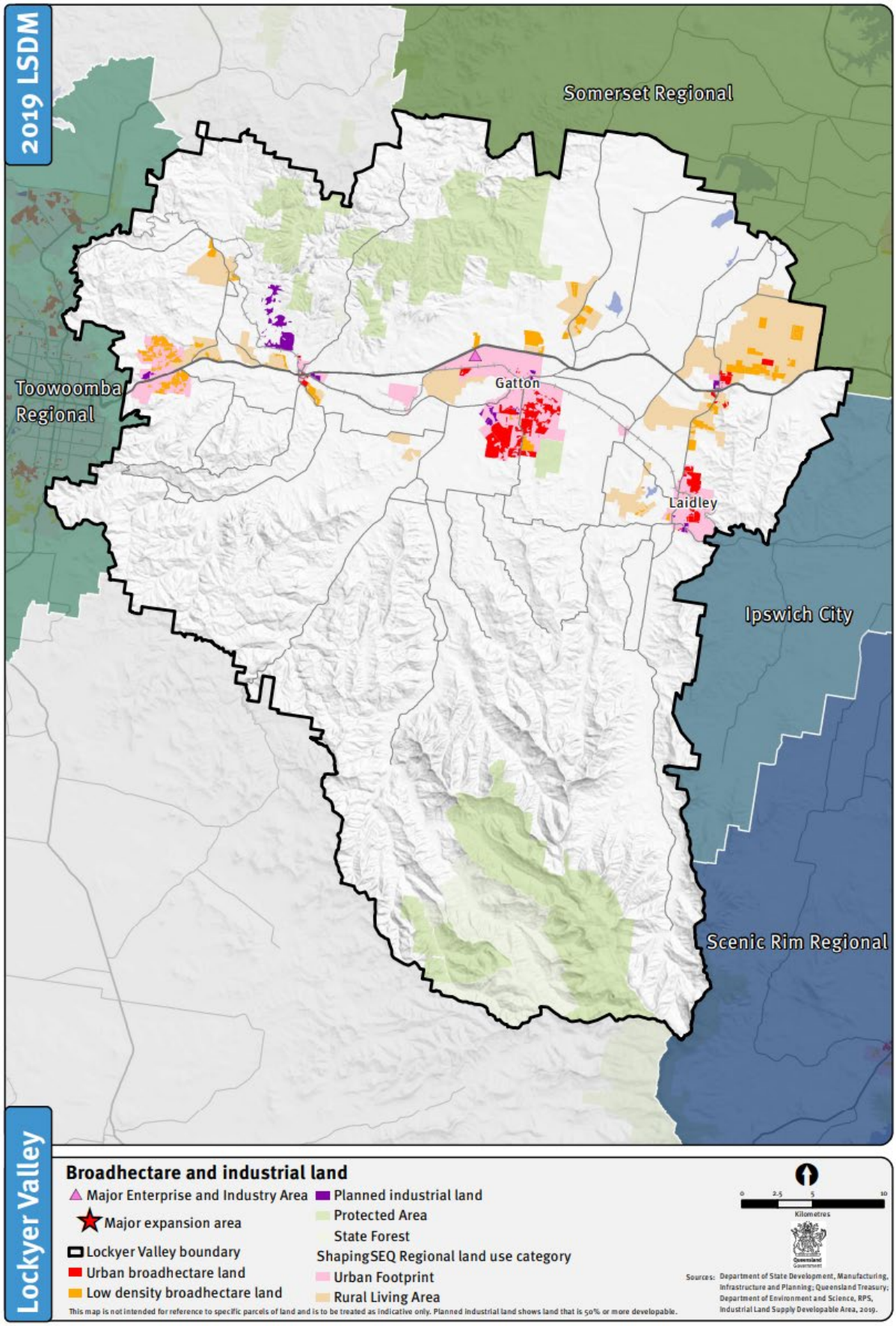
Gold Coast - Broadhectare and industrial lands



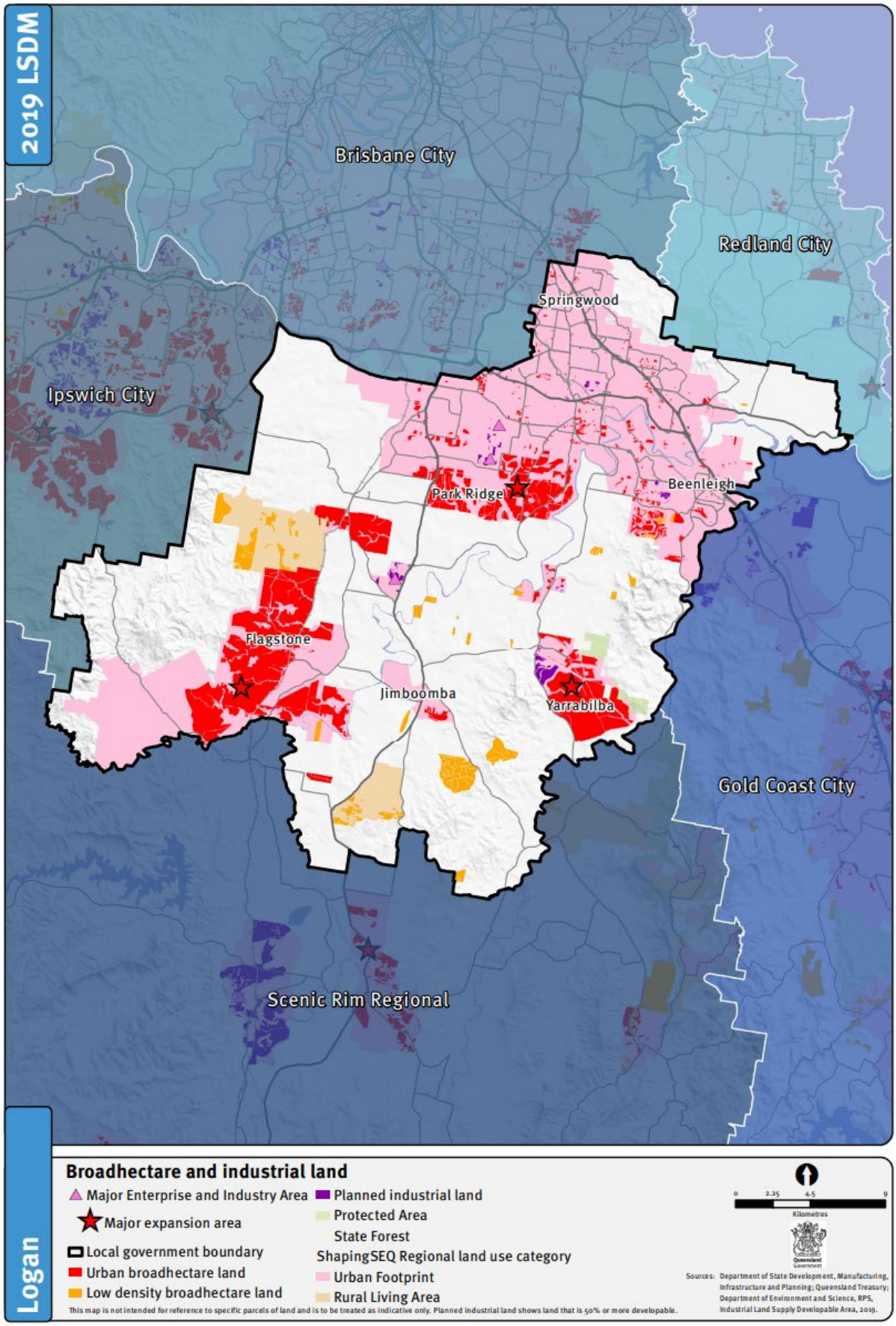
Ipswich - Broadhectare and industrial lands



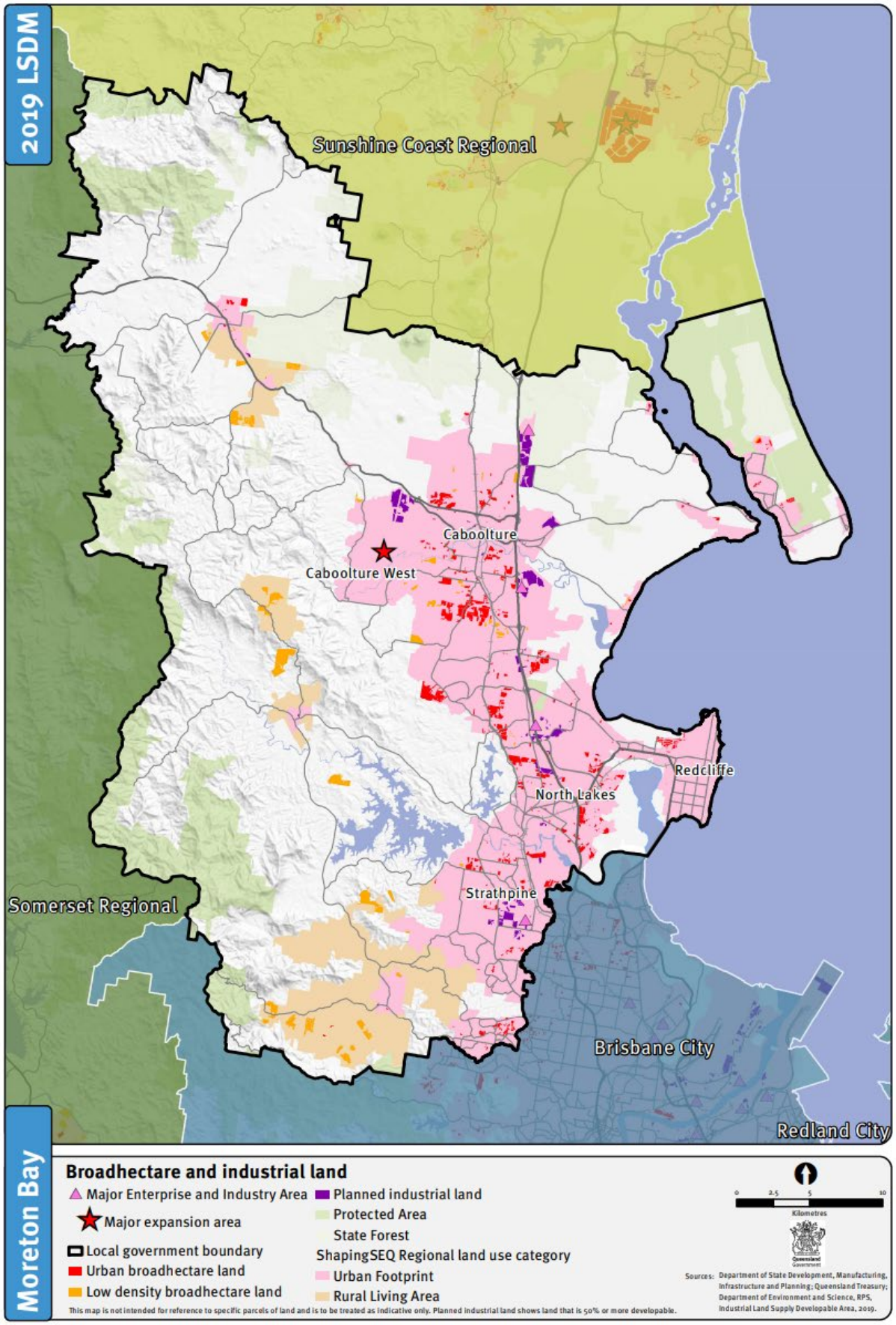
Lockyer Valley - Broadhectare and industrial lands



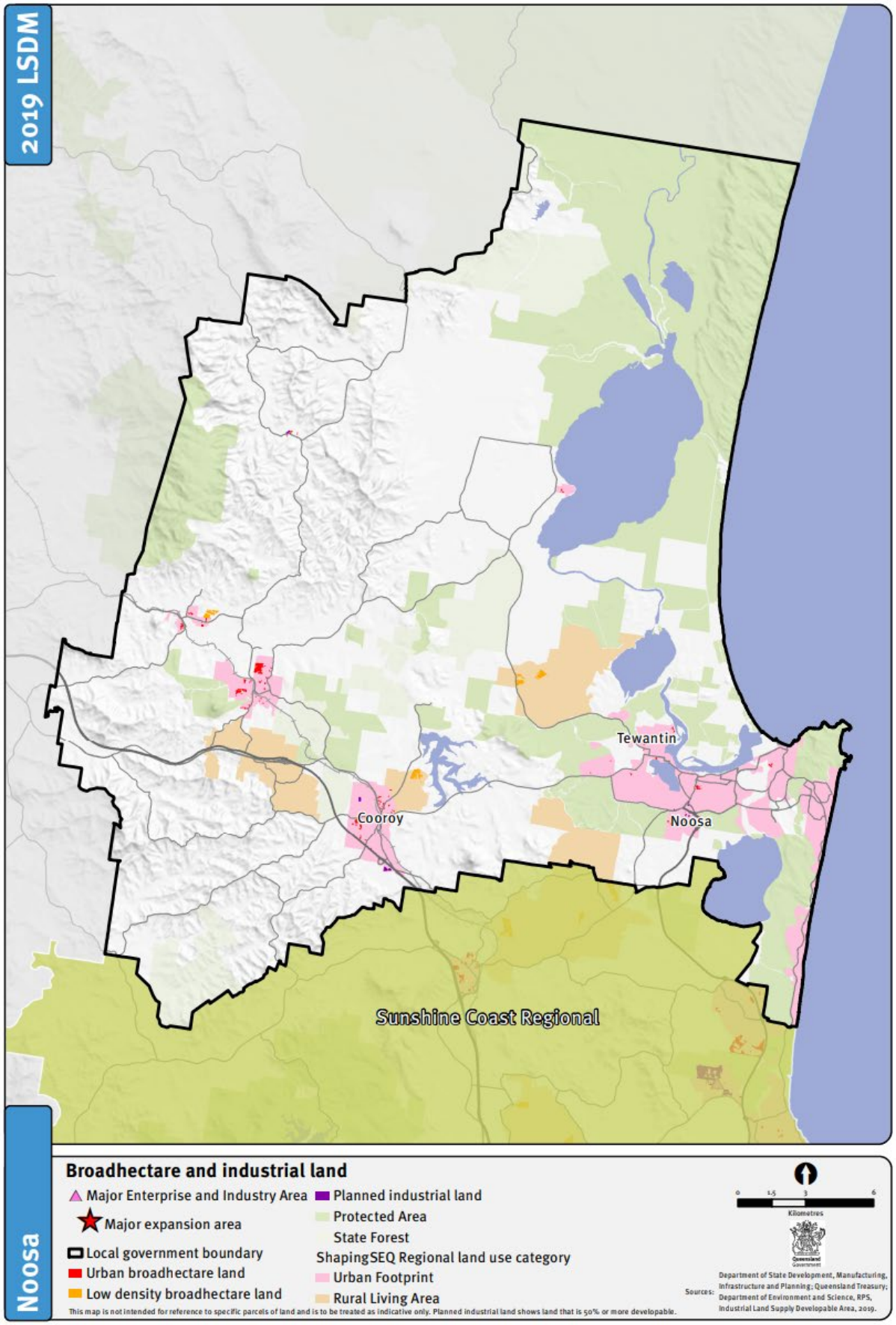
Logan - Broadhectare and industrial lands



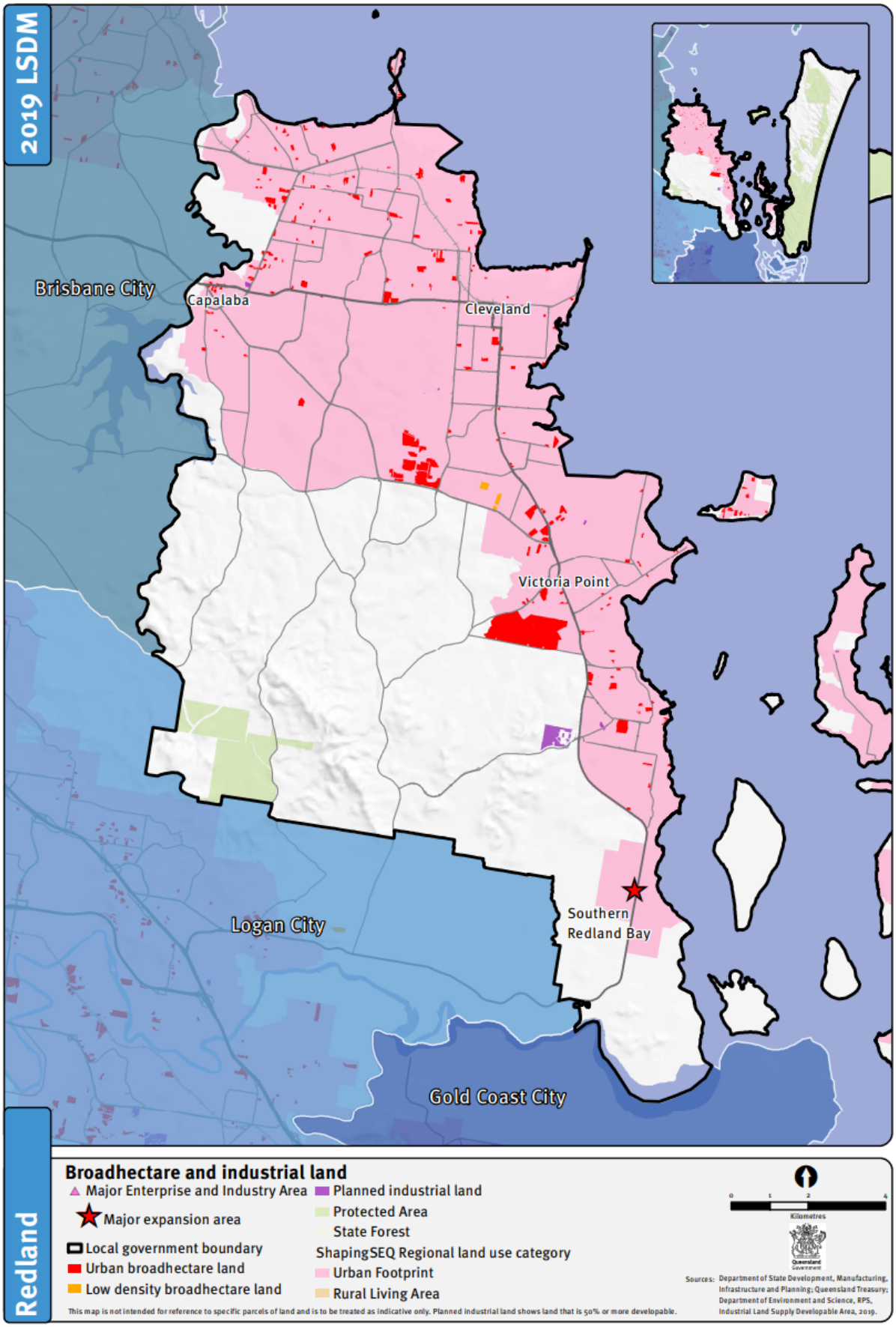
Moreton Bay - Broadhectare and industrial lands



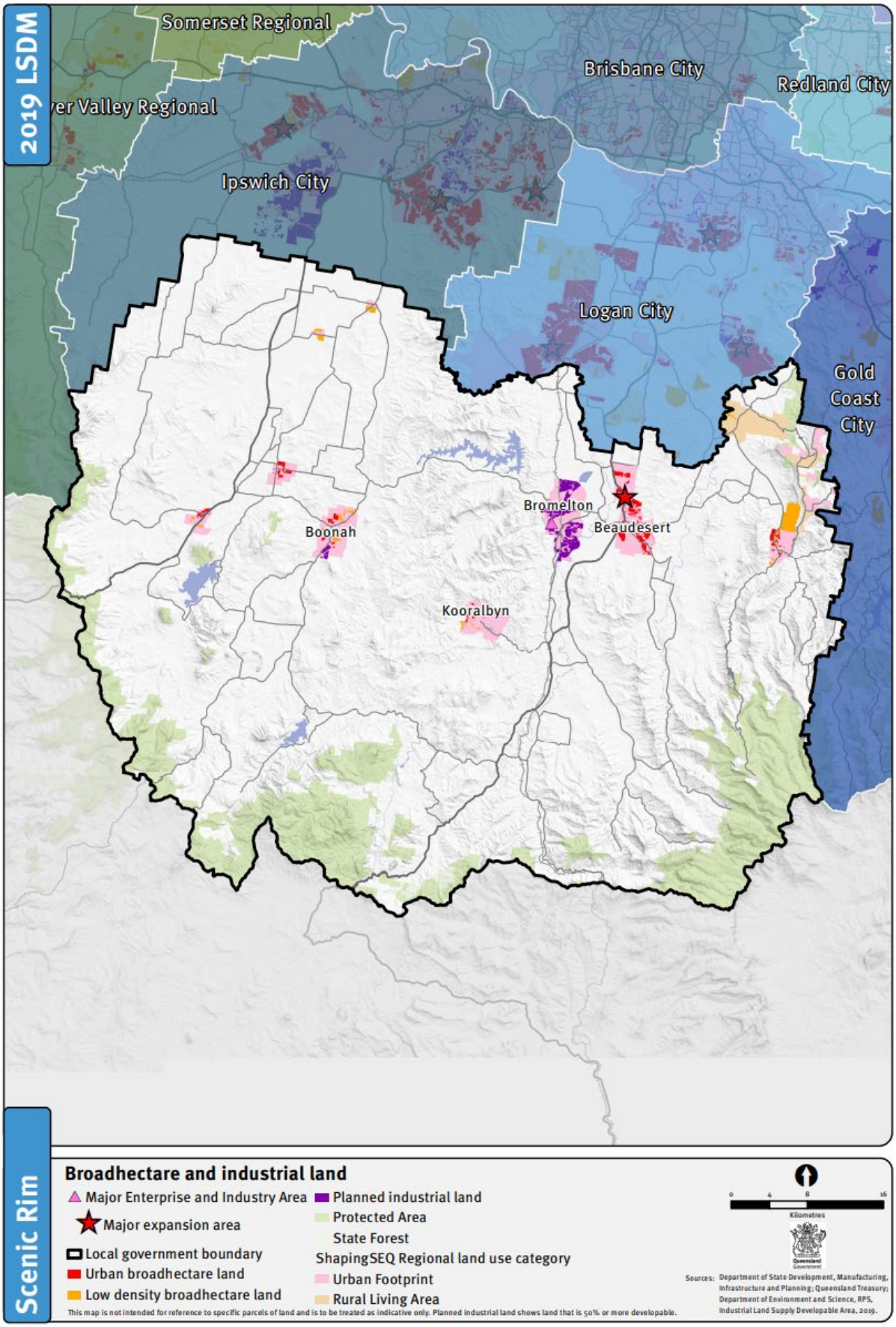
Noosa - Broadhectare and industrial lands



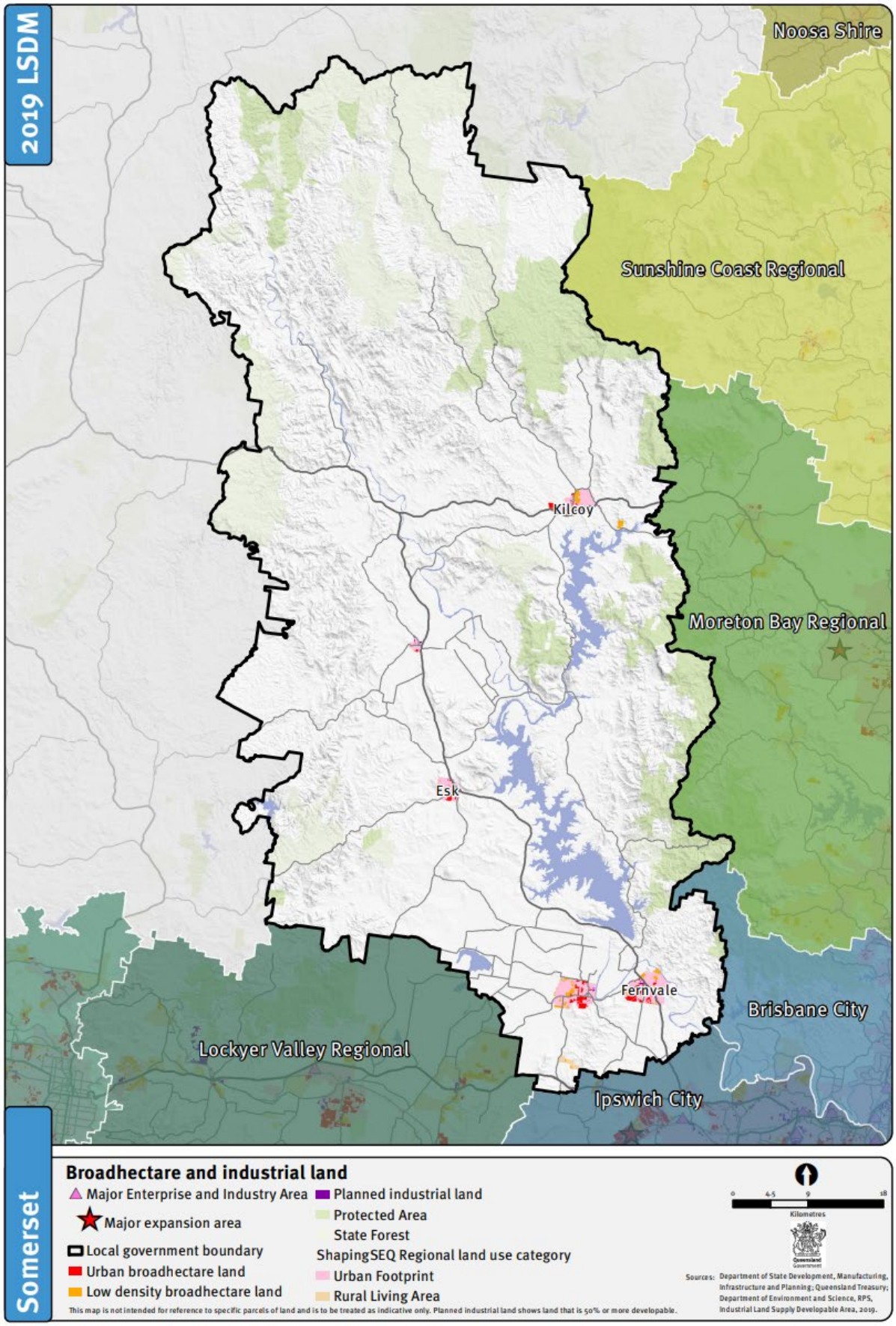
Redland - Broadhectare and industrial lands



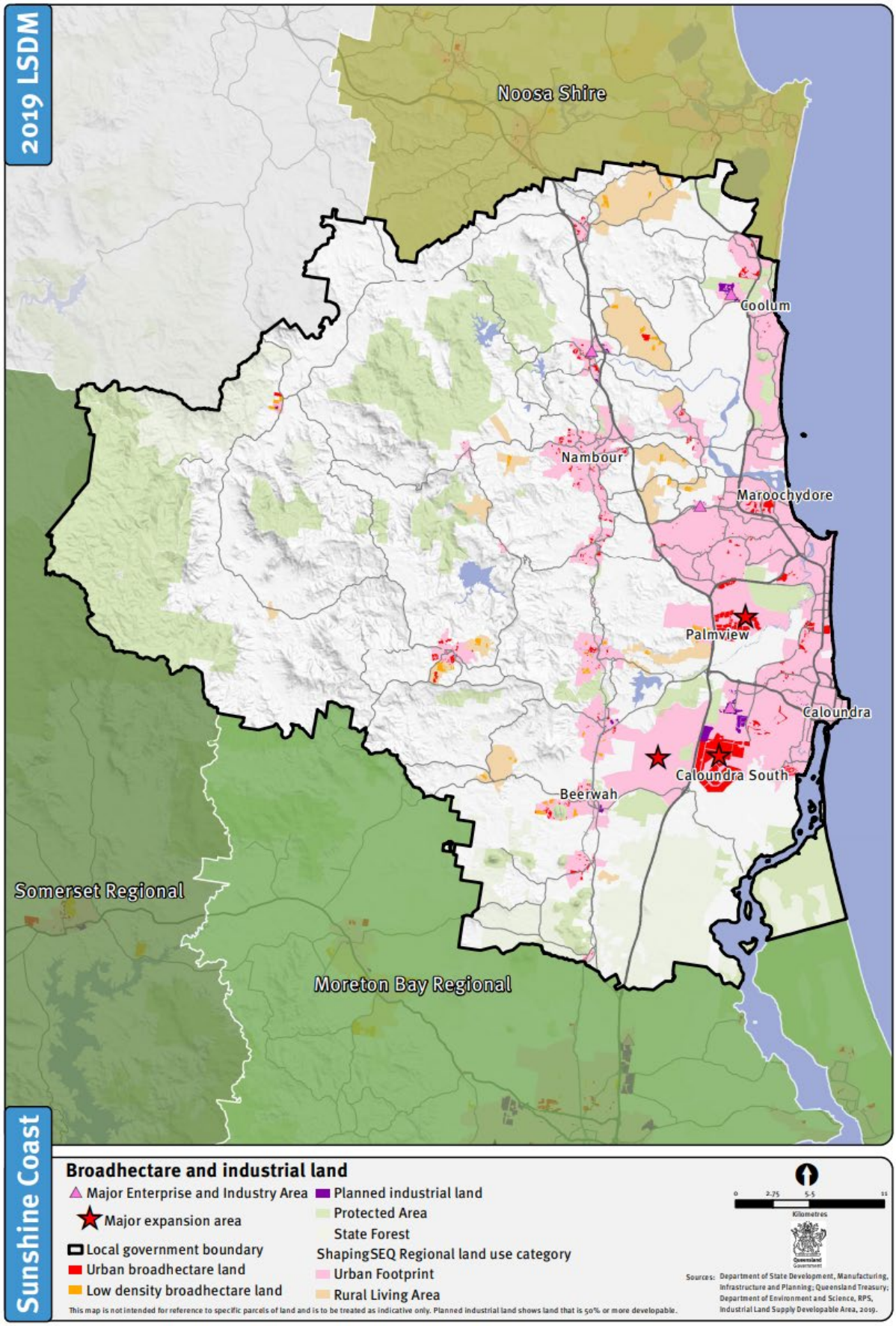
Scenic Rim - Broadhectare and industrial lands



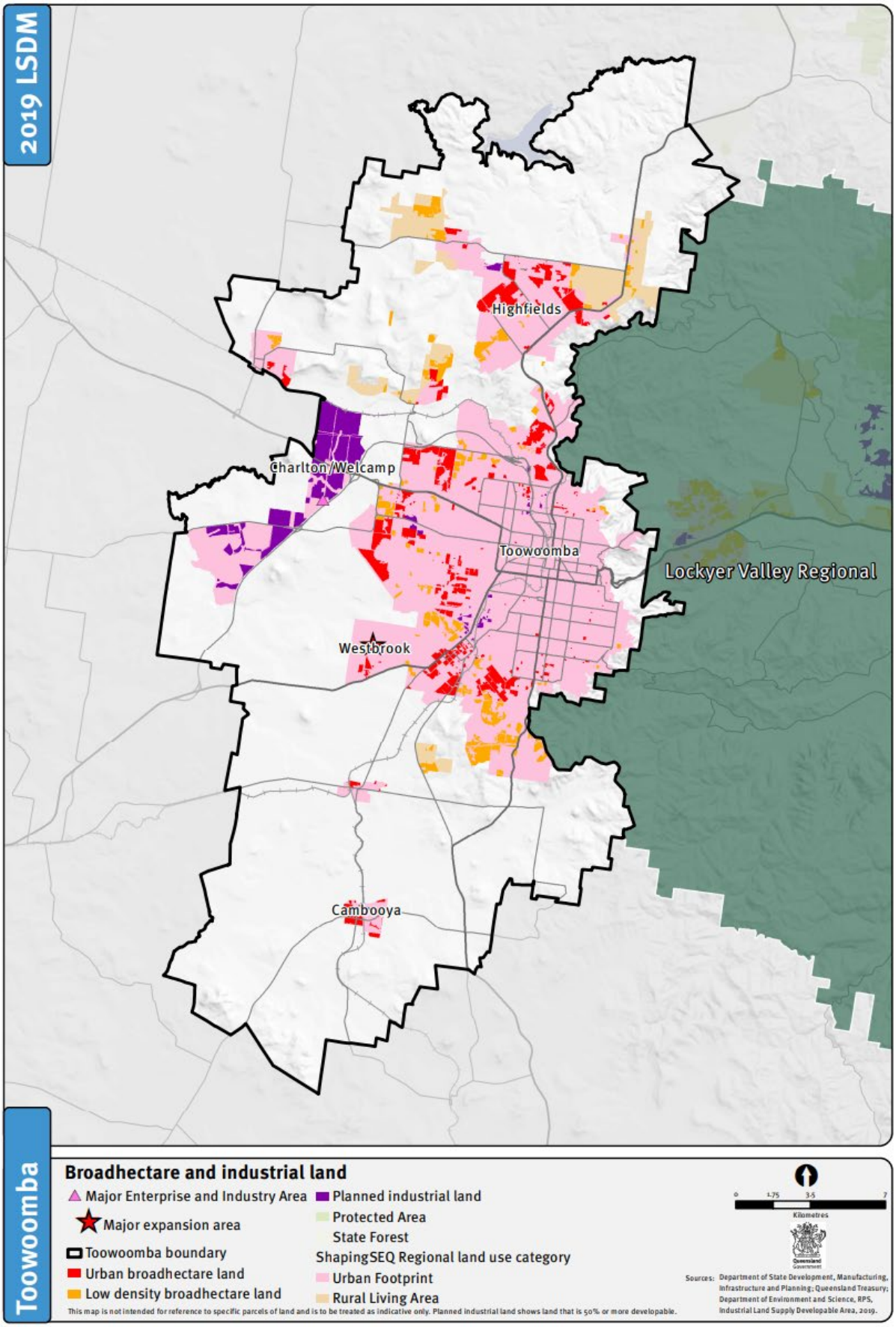
Somerset - Broadhectare and industrial lands



Sunhsine Coast - Broadhectare and industrial lands

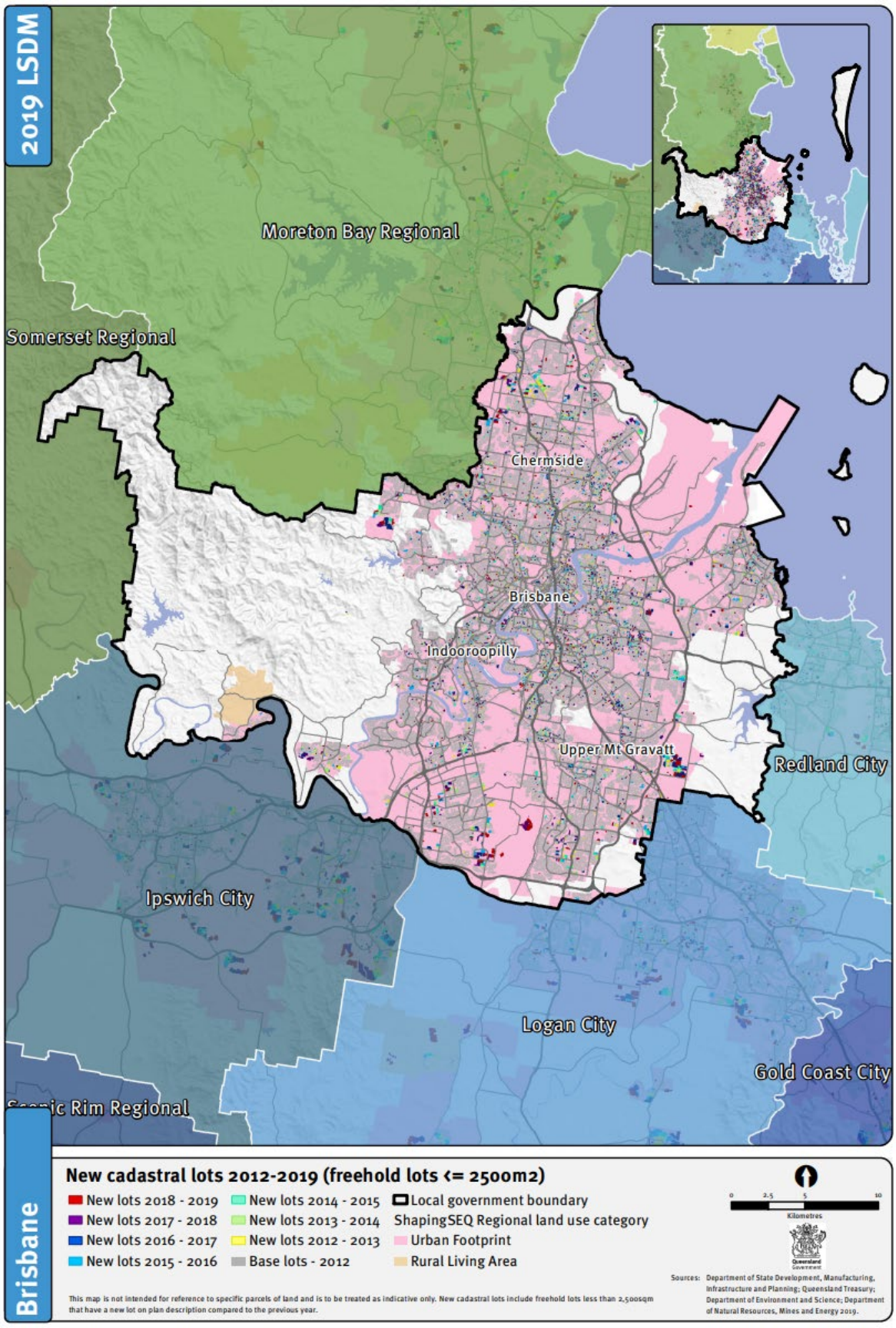


Toowoomba - Broadhectare and industrial lands

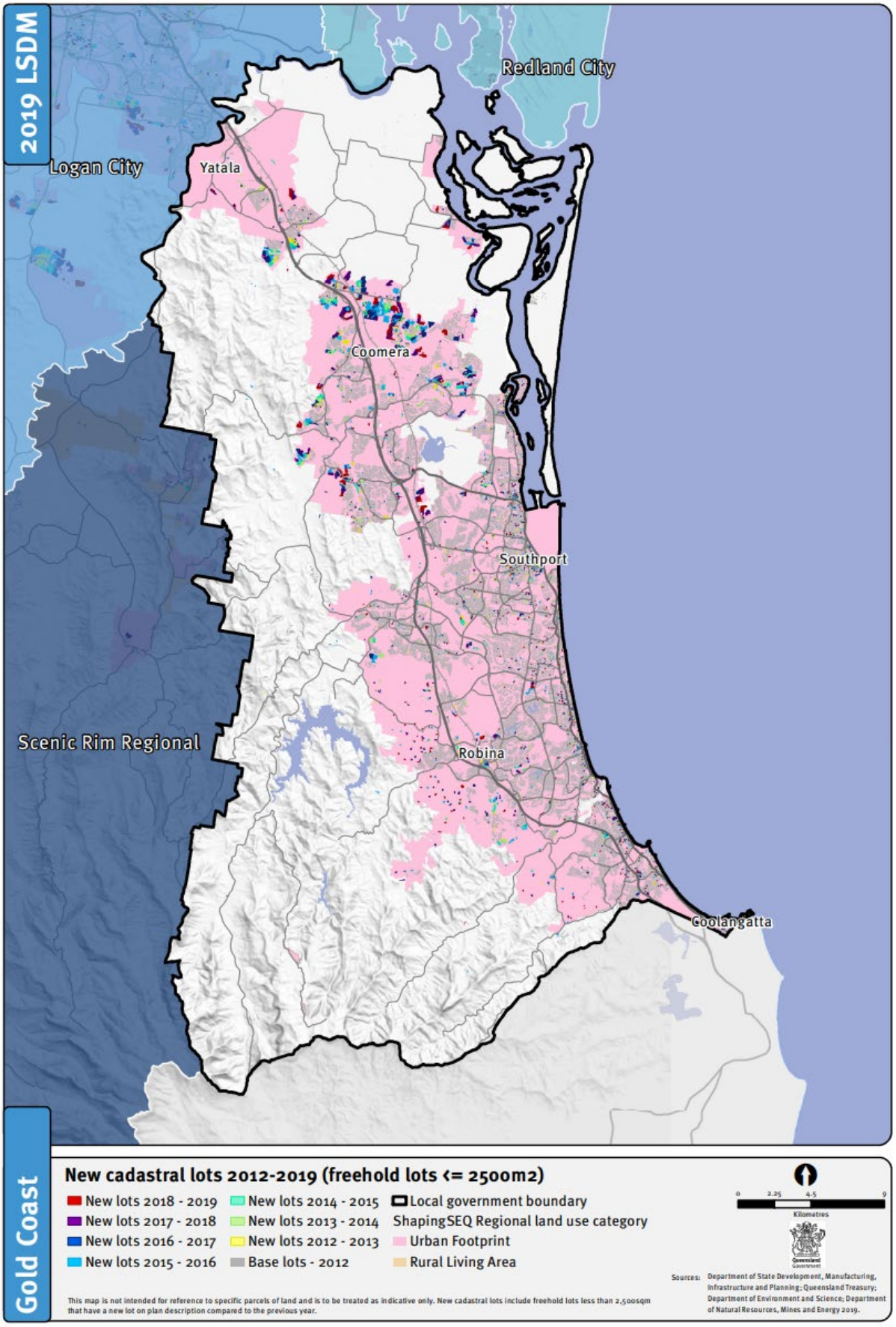


New freehold cadastral parcels (greater than 2500m^2) from 2011/12 to 2018/19

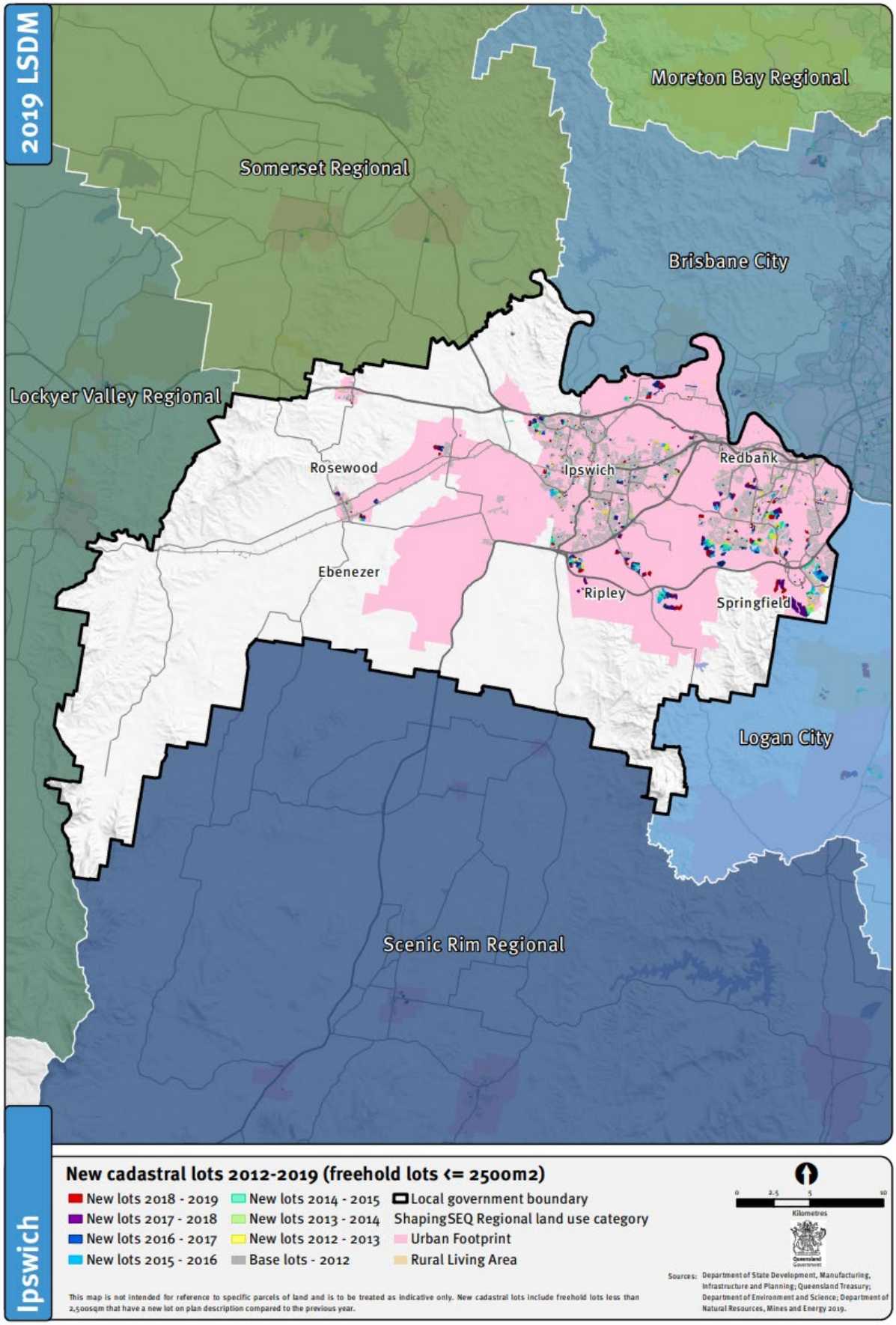
Brisbane - New cadastral lots (freehold >= 2500m^2)



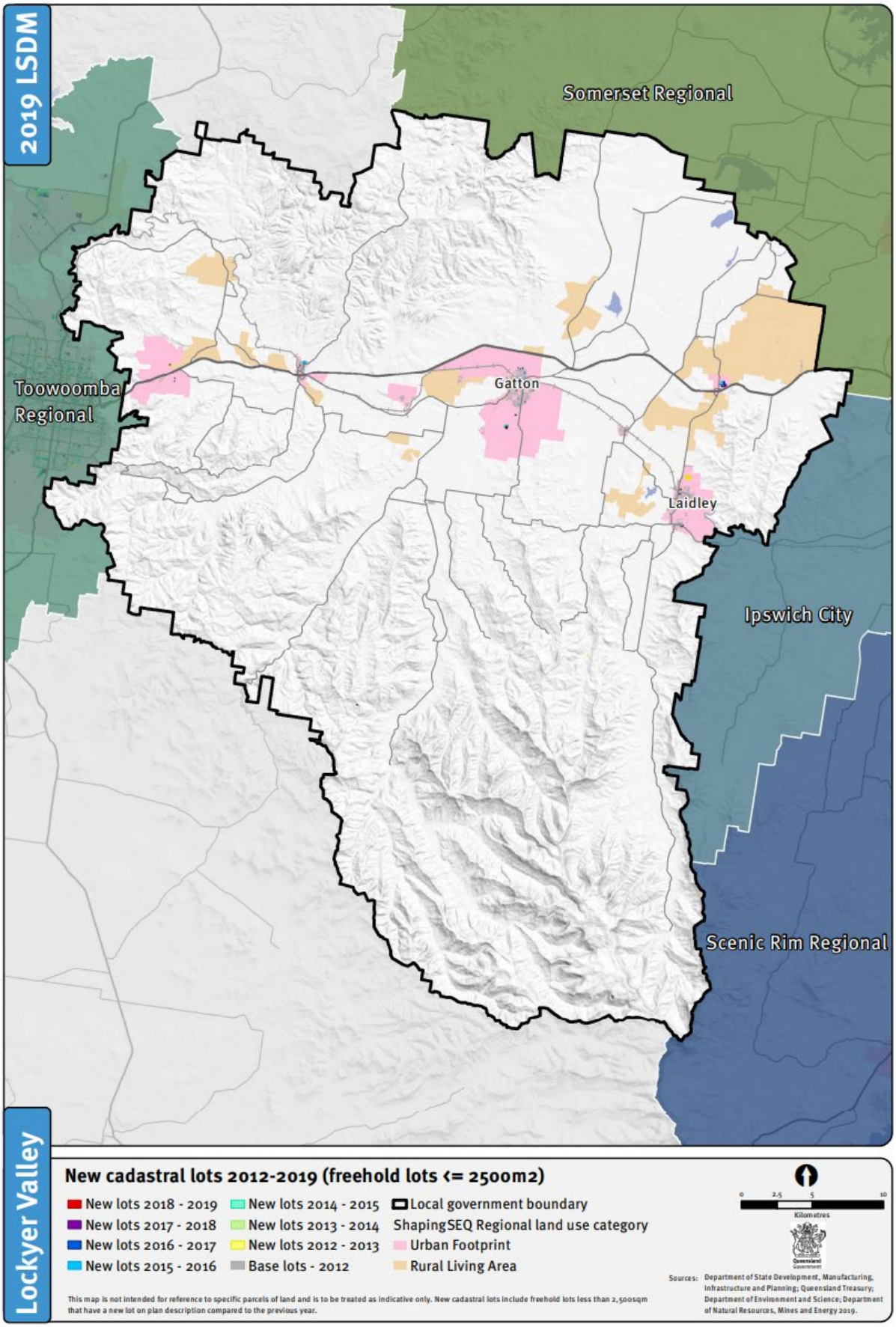
Gold Coast - New cadastral lots (freehold >= 2500m^2)



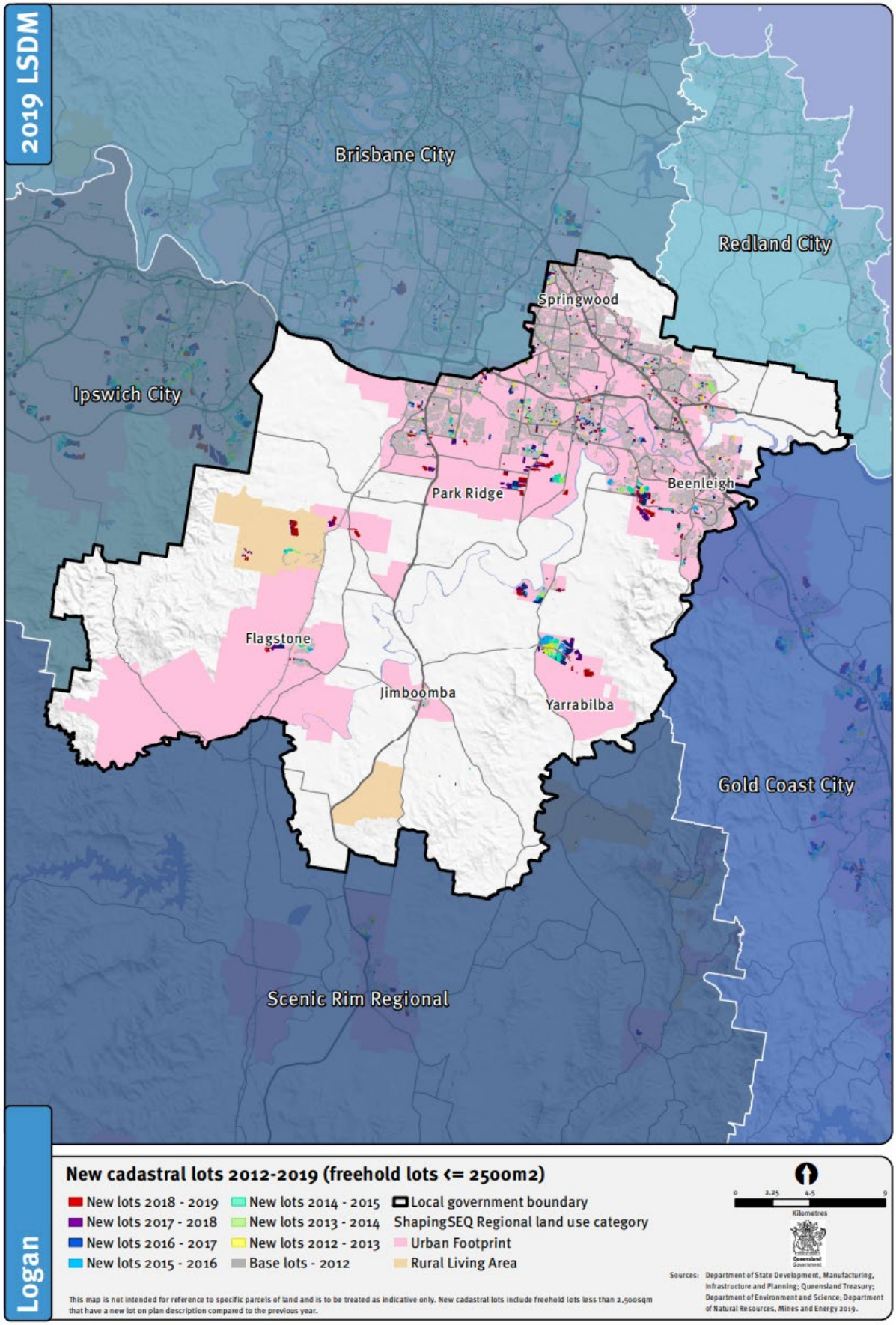
Ipswich - New cadastral lots (freehold >= 2500m^2)



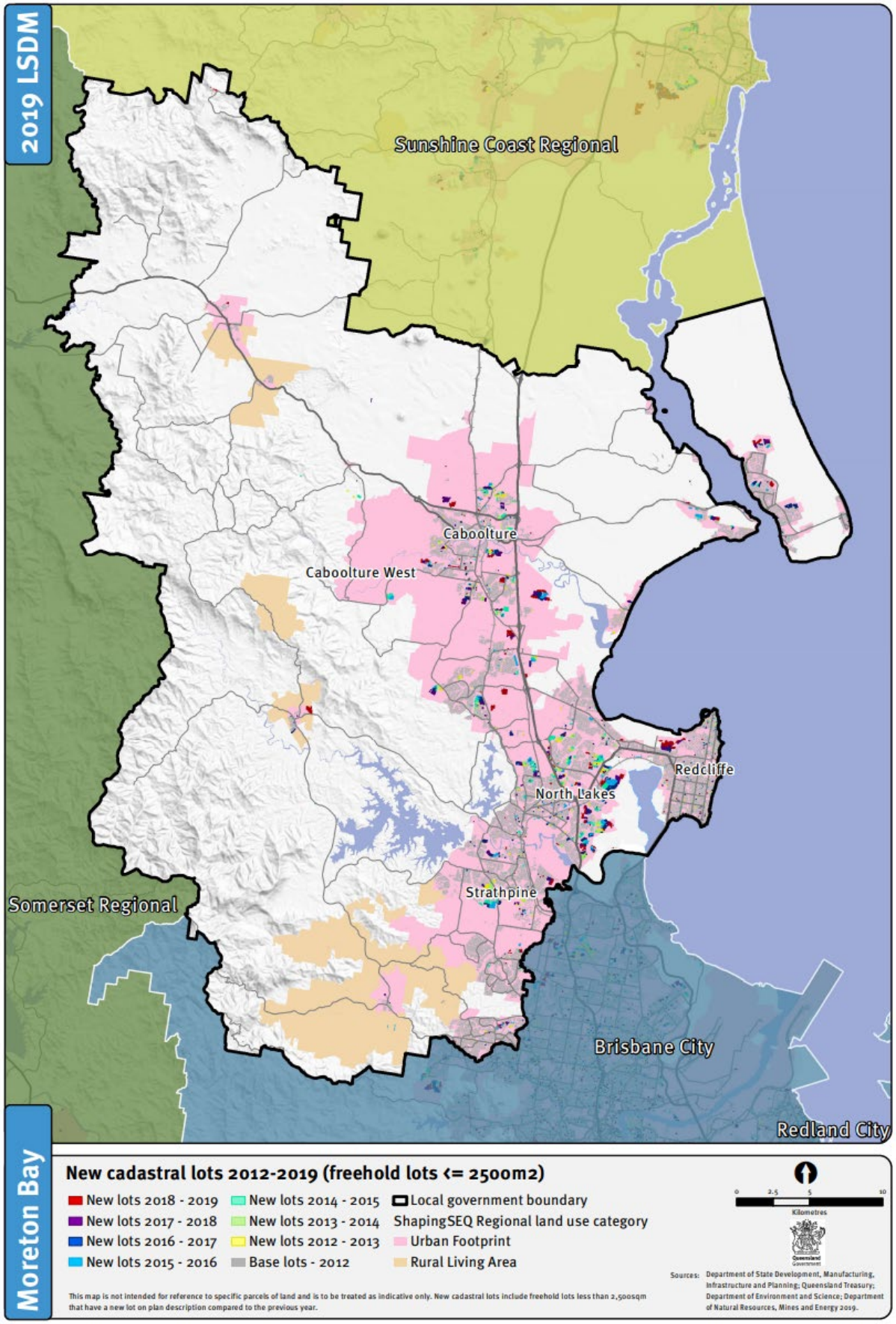
Lockyer Valley - New cadastral lots (freehold >= 2500m^2)



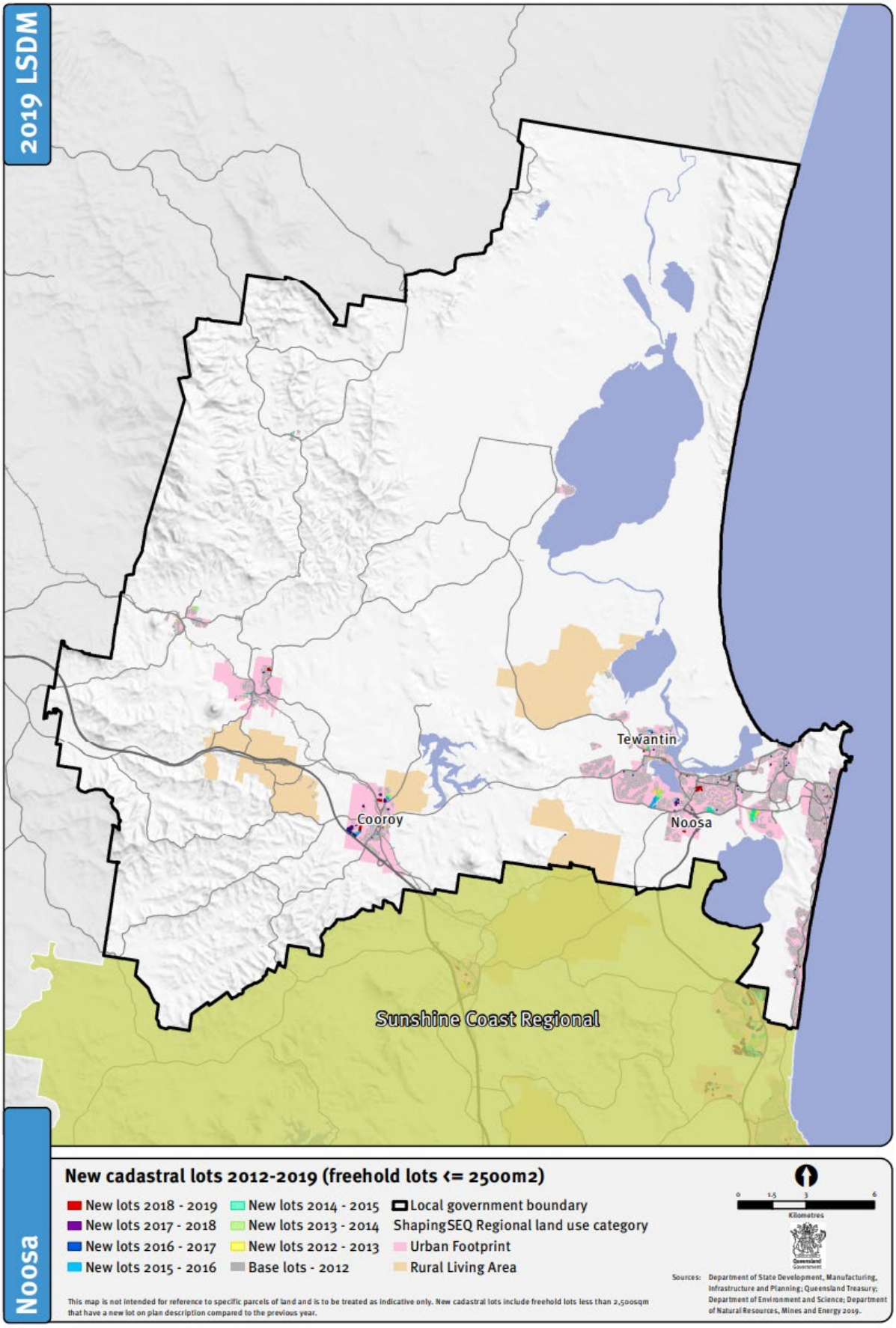
Logan - New cadastral lots (freehold >= 2500m^2)



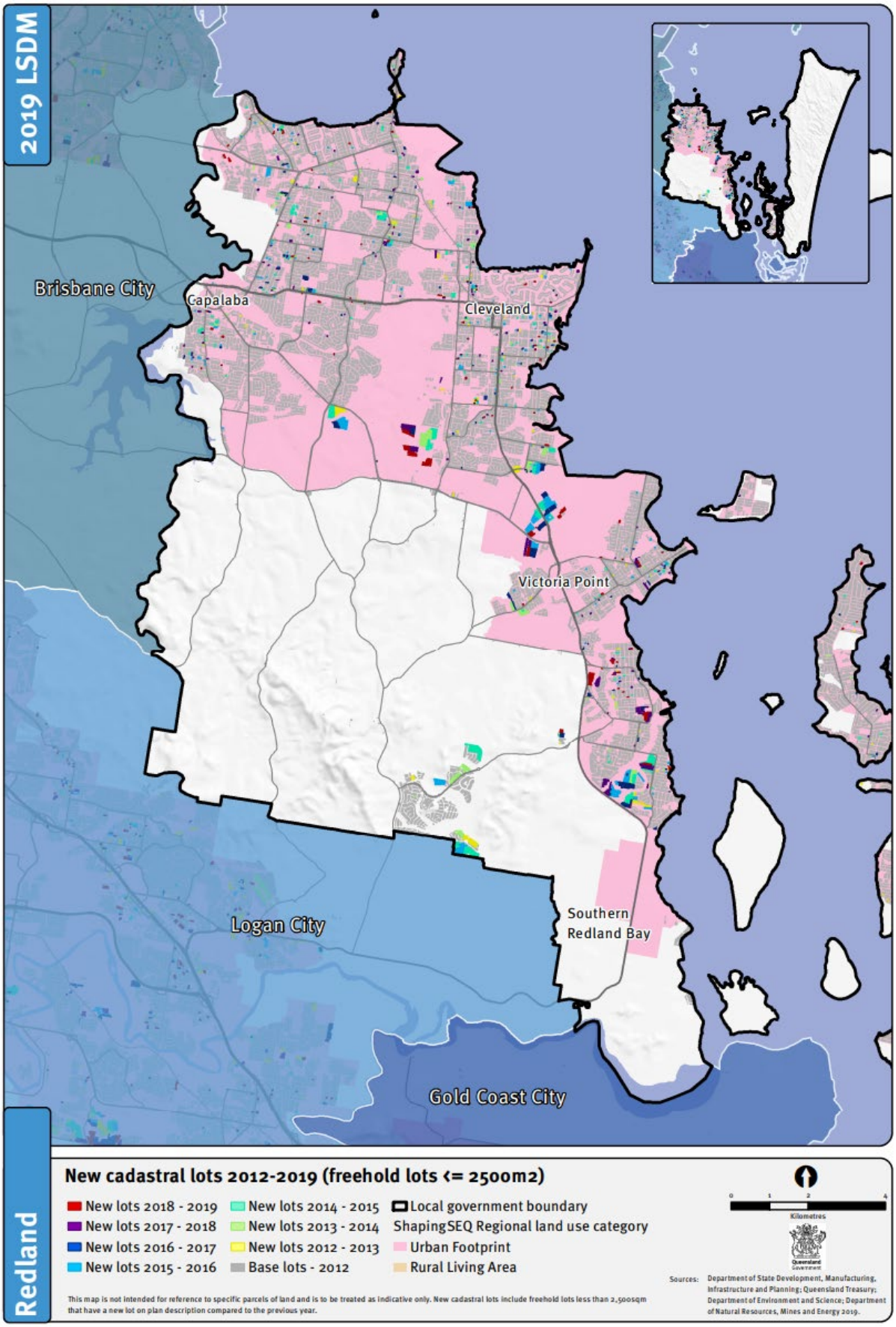
Moreton Bay - New cadastral lots (freehold >= 2500m^2)



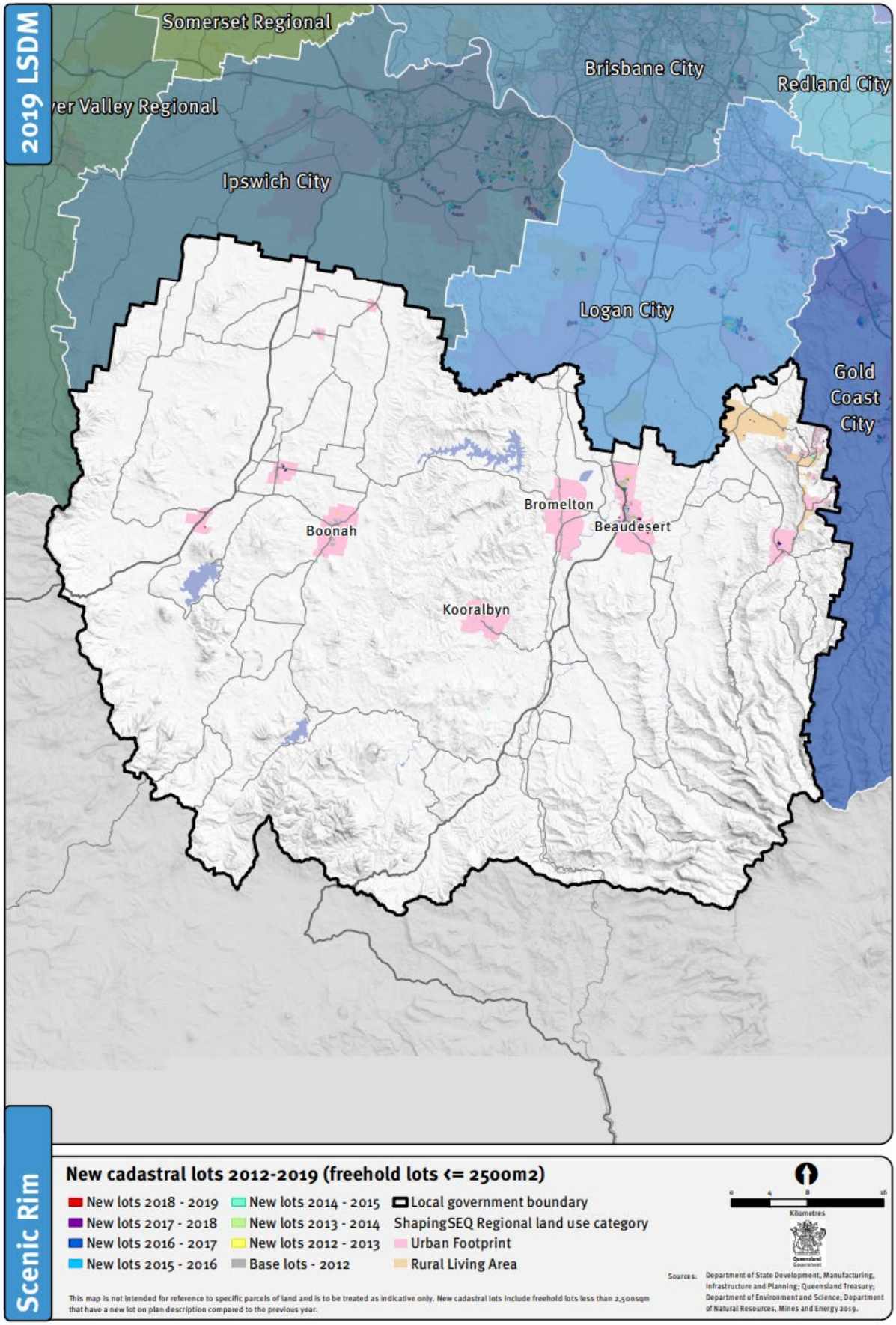
Noosa - New cadastral lots (freehold >= 2500m^2)



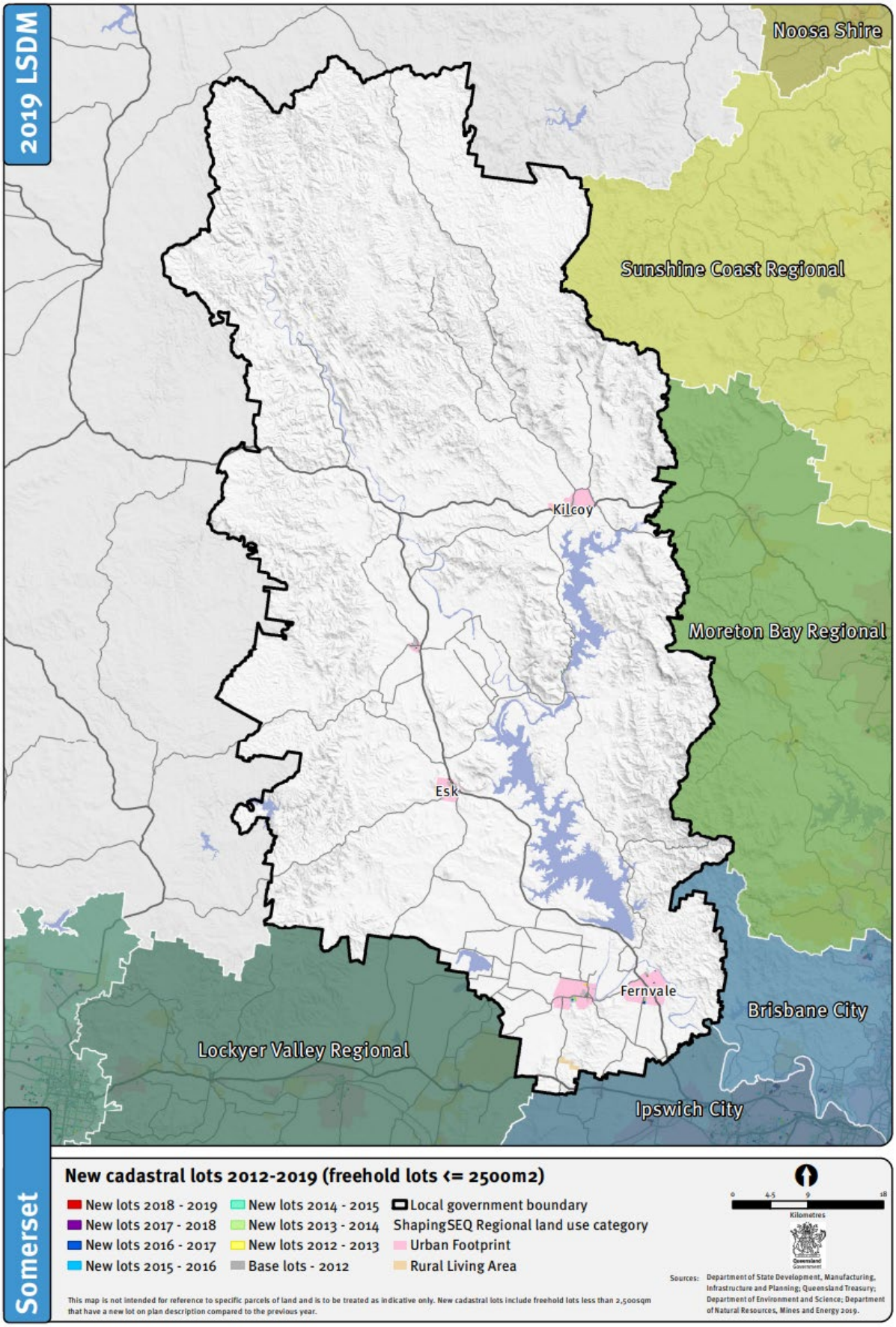
Redland - New cadastral lots (freehold >= 2500m^2)



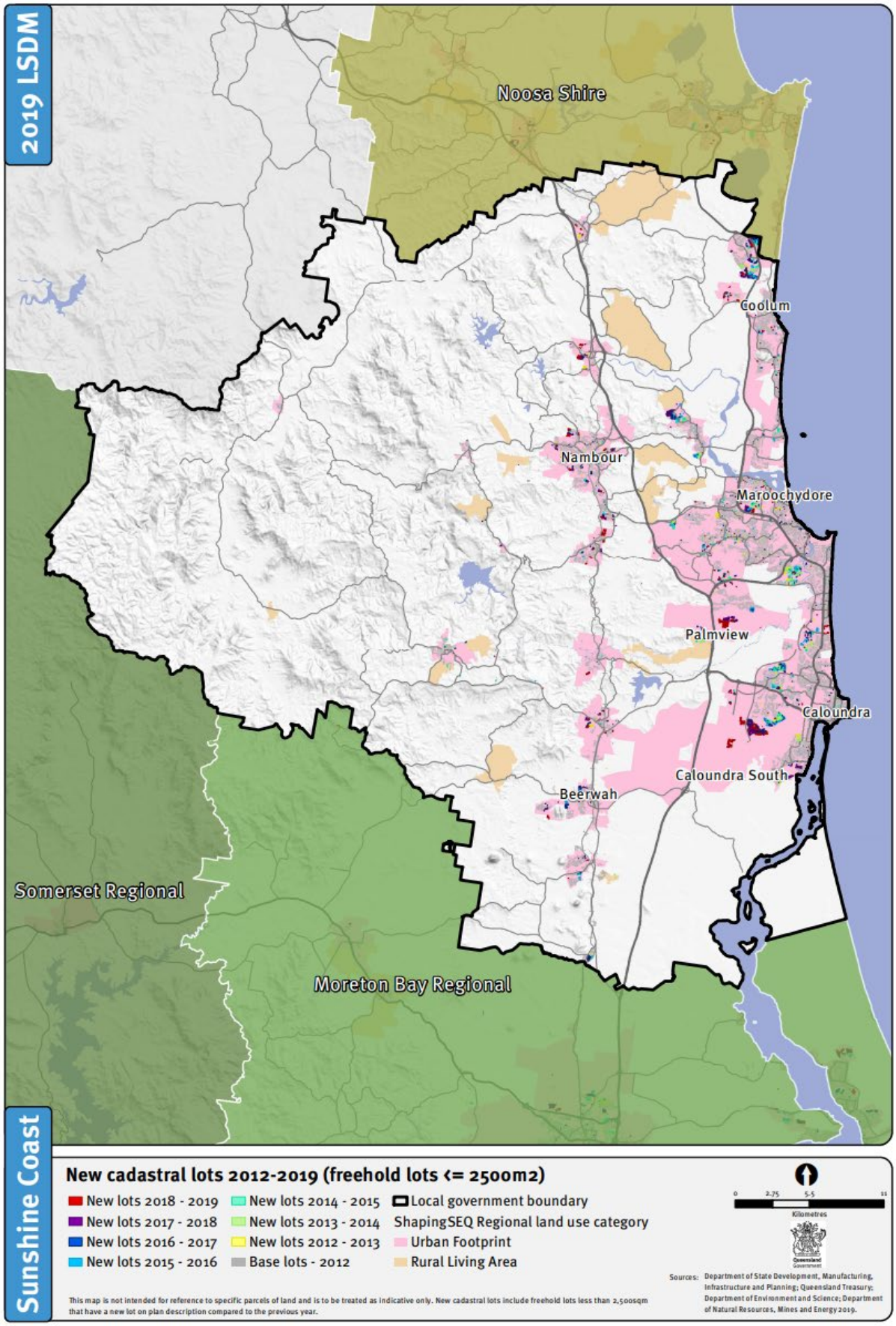
Scenic Rim - New cadastral lots (freehold >= 2500m^2)



Somerset - New cadastral lots (freehold >= 2500m^2)



Sunhsine Coast - New cadastral lots (freehold >= 2500m^2)



Toowoomba - New cadastral lots (freehold >= 2500m^2)