

# **Tapping the potential or cramming them in: Developing new tools to assess the suitability and capacity of densification for South East Queensland**

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## **ABSTRACT**

A form of policy consensus has emerged in Australian planning in recent years which demonstrates all the characteristics of a planning doctrine. The broad thrust of this doctrine is urban densification and is identified as a solution to a wide range of urban ills. This doctrine finds expression in metropolitan and local planning strategies in policies for urban consolidation, activity centres and transit oriented development. Yet, the fine grained implications of such policies remain under researched with the effectiveness of densification remaining open to debate.

The Regional Plan for SEQ makes significant reference to the delivery of higher densities as a means to accommodate growth in a sustainable manner. A number of policy tools are presented which demand new planning and development responses. Principal among these tools are the focus on transit oriented development and activity centres. An additional requirement that some 40%-50% of future residential development across the region will occur on infill sites within the newly identified urban footprint, poses a significant challenge to planning and development action. At present, however, there is a lack of research in the SEQ context to support and endorse the use and application of density tools. This poses a significant problem for both the metro-regional planning exercise and for local authorities establishing newly prescribed local growth management strategies (LGMS).

Amongst the greatest challenges are the process of finding suitable localities with sufficient capacity for new, higher housing densities and convincing communities of the need for these higher densities. One principal theme stands out as warranting further research and commentary if a focus on density is to be more than a rhetorical exercise and this is the development of an urban housing capacity template to assess the actual physical capacity, economic viability and urban form implications of increased housing densities in targeted localities.

This paper charts the work in progress of a research project which pilots the use of an urban housing capacity template in SEQ. The template adopts a set of both quantitative and qualitative procedures that allow an assessment of the potential and suitability of urban housing densification in targeted localities.

## **INTRODUCTION**

The recently released Regional Plan for SEQ makes significant reference to the delivery of higher densities as a means to accommodate the substantial growth the region will experience over the next 20 years. A number of policy tools are presented which demand new planning and development responses. Principal among these tools are the focus on transit oriented development and activity centres. An additional requirement that some 40%-50% of future residential development across the region will occur on infill sites poses a significant challenge to planning and development action. At present, however, there is a lack of research in the SEQ context to support and endorse the use of density tools. This poses a significant problem for both the regional planning exercise and for local authorities establishing local growth management strategies (LGMS).

Amongst the greatest challenges are the processes of finding sites which are suitable and offer potential for new, higher housing densities and convincing communities of the need for these higher densities. One principal theme stands out as warranting further research and commentary if a focus on density is to be more than a rhetorical exercise and this is the development of a housing capacity template to assess the physical capacity, economic viability and urban form implications of increased housing densities in targeted localities. The vexed issue of social acceptability can also be partly addressed by using the findings to elicit community responses.

The initial intention of this paper was to chart the work in progress of a research project piloting the use of an urban housing capacity template in SEQ. Unfortunately the commencement of that project was delayed and thus the findings at this stage are rather rudimentary. Nevertheless, there is merit in outlining the scope of the urban housing capacity template as both a product and a process.

The template adopts a set of both quantitative and qualitative procedures that follow 4 basic steps in the assessment of urban housing densification in targeted localities:

- identifying the survey approach
- quantifying potential capacity using a range of scenarios of planning/development standards and qualitatively assessing potential capacity via conceptual design illustrations
- qualifying capacity through a negotiated process of capacity surveys with infrastructure providers and planning and development stakeholders, and
- the presentation of an assessment of feasible urban housing capacity

## **BACKGROUND**

Over the last decade and a half, policy makers and researchers have been re-examining the dominant mode of urban development, using the sustainable development discourse to question the appropriateness and desirability of decentralised, low density, car dependent development. However, rather than concentrate on new settlements, the discourse is firmly fixed on remedying existing urban settlements. Notions of compaction and decentralised concentration have been proffered as the principal means to address the unsustainable consequences of extant urban form. Most of the benefits claimed occur at the strategic level, whilst most of the impacts are at the local level (Williams et al., 2000). At both levels policies and strategies of consolidation and transit based development have been promoted as the means to assist the delivery of compact urban forms.

Commentators at the start of the 1990s argued however that much of the policy had been developed on a presumptive basis, ahead of any empirical evidence to support the claims of increased densification (Breheny, 1990; McLoughlin, 1991 and Troy, 1992). A decade on and whilst a plethora of studies and planning reform movements advocate densification, research remains equivocal on the total benefits of increasing densities in our cities. Despite the lack of agreement amongst the research community, the policy support for such continues unhindered. It should be stressed however that the discord and ambivalence created by the densification debate provides the impetus for further research and analysis.

One of the more erudite commentators on the subject of densification, Michael Breheny, suggested in a publication in 1997 that policies of densification need to be subjected to three tests, including:

- Veracity - can the environmental benefits be delivered
- Feasibility - can prevailing market forces be reversed, and
- Acceptability - will the public accept this form of development

Frankly, debate still continues on each of these tests, but it seems that the policy consensus which has emerged on densification fails also to acknowledge a further test, capacity. That is the physical capacity of a locality to accommodate new development. This critical supply component of the densification debate remains one of the least researched. Notwithstanding the fact that capacity, or at least some forms of infrastructure capacity can be enhanced and upgraded to accommodate new development, the lack of engagement with this test is worrying. One exception is the recent research of Searle (2004) who considers five potential limits for Australian densification strategies, including infrastructure capacity, land capacity, maximum density, loss of economic activity and market demand.

This research project stems from engagement with these themes and more particularly the recognition that land and infrastructure capacity are not to be presumed away and demand careful consideration and the development of new, inclusive tools if we are to do justice to the communities we serve.

## **ROLE AND PURPOSE**

The significance of the urban housing capacity template is that it has the potential to form part of the planning tool box of a local authority's LGMS, enabling the authority to more accurately assess its capacity to accommodate future urban housing development through a joint stakeholder process. Additionally, by documenting the variety of assumptions and outcomes necessary in order to realise increased urban housing densities, the template offers insights to the limits to growth in SEQ.

The practicalities of such an approach are unable to be analysed until the empirical piloting takes place, whereupon recommendations on the development, use, robustness and implications (process and outcomes) of the urban housing capacity template can be made. It is envisaged that this will occur towards the end of 2005. However, some initial observations can be made based upon experience overseas and similar processes of joint stakeholder engagement.

The purpose of the research project is to:

- Develop a housing capacity template which will allow a local consent authority to follow a generally consistent process that enables an assessment of the physical and economic potential and suitability of increased urban housing densities in selected localities
- Allow the local consent authority a developed comprehension of the use of density and the demand for land and services
- Provide the basis for an inclusive, negotiated and informed process to assess the capacity of localities for urban housing development
- Provide a variety of digital design images which enable an enhanced appreciation of the relationship between density and built form which could also be used as community tool
- Document the variety of assumptions and outcomes necessary in order to realise increased urban housing densities, including the range of planning scheme amendments required to meet identified housing capacity and recommendations of action to protect future/potential dwelling sites

The benefits of undertaking this research would be experienced at the local and regional level, providing clarity and coordination in the preferred urban management approach described in the SEQ Regional Plan. Density policies at the local level are necessary to achieve the range of regional opportunities identified in the Regional Plan. This research will enable the development and use of a new tool as part of the newly established LGMS's prepared by a range of SEQ local authorities. This research project will explore only the urban housing component, but it is envisaged that the procedural aspects of the research can be applied also to greenfield locations.

## **KEY STAGES AND EXPECTED OUTPUTS**

Before the actual commencement of the procedural aspects it seems logical that a specific task force or advisory team/working group is appointed to oversee the use of the template and reporting of its findings and recommendations. The constitution of this group should include the full range of stakeholders, with government agencies, development and community representatives.

For the purpose of this research project no such working group has been established, however a research group has been appointed to oversee the investigative stages and to make recommendations on the findings.

The research project itself will encompass several interrelated stages (see Figure 1) which mirror the procedural aspects of the template, and include:

### **Stage 1 - Identify Survey Approach**

Prior to the identification, quantification and qualification of underused urban land/buildings, it is necessary to identify a suitable survey approach. For the purposes of this research the approach follows the logic of the UK government's good practice guide '*Tapping the Potential: Assessing urban housing capacity: towards better practice*' (DETR, 2000). Here, three approaches are identified:

*Priority Area Survey* - the priority area status will include those locations deemed to offer the greatest scope for increased densification and includes areas on and near to public transit nodes. Such locations in SEQ have already been identified for activity centre status and transit oriented development potential in the Regional Plan.

*Typical Urban Area Survey* – dividing the urban area up into homogeneous character case study areas allows consideration of a range of localities. The TUA will be determined on the basis of land use, character, housing, density and age and may provide a significant level of classification types.

*Comprehensive Area Survey* – mapping and recording of all potential sources of capacity across a local consent authority, including both the priority and typical urban areas.

It is likely that the survey approach could be directed by State government and local authority priorities, demanding some form of negotiation between these agencies. The human and fiscal resource implications will impact the approach, but it is possible that external consultants could be appointed to undertake the study, directed by the working group.

### **Stage 2- Quantify Unconstrained Potential**

This research project will adopt the priority area survey method, analysing some 6 locations across the metropolitan area, selected specifically to reflect points of difference in terms of location and potential for development over a range of timeframes. Within these locations the range of sources for urban housing will be identified within a 400 metre radii of the transit node and include flats over shops; development of car parks; derelict land; intensification; site amalgamation, conversion and vacant - never previously developed land. Clearly, this quantitative scoping exercise demands a degree of assumptive judgment. Specific constraints will need to be identified early in the process and include land ownership, demolition and heritage controls, lot size limit to developability, amenity and community status, commercial value of existing use etc.

Having identified the locations and range of sites which offer potential, the adoption of a range of density multipliers (dw/h) will reveal the theoretical capacity of the sites. It is likely that multipliers will include 80dw/h; 140dw/h and 200dw/h. However, it is hard to visualise what different density multipliers will look like without the adoption of design illustrations. A comprehensive range of digital images will be collated from field visits and provide the basis for conceptual design overlays, which will illustrate how increased densities will actually look and fit into the character of the local area. The potential of these design illustrations could extend to both informing and seeking community responses as to the appropriateness of the different densities.

The broad scope of this stage demands the involvement of a range of discipline experts and careful coordination by the working group. The quantification exercise would be a complicated and comprehensive process demanding a great deal of data collation to establish the basis for the application of dwelling multipliers. This could be undertaken in-house by the local consent authority or via the use of external, independent consultants. Recourse to the latter may reduce some of the possible reluctance to see significant amendments to existing planning schemes. However, the use of a range of scenarios goes some way to addressing such concerns.

The development of design illustrations allows a variety of two dimensional digital design images to demonstrate the quality of new, higher density urban housing development. Use of these images during community forums and meetings will at least allow a more informed understanding of density forms.

### **Stage 3 – Qualifying Unconstrained Potential**

An assessment of capacity needs to avoid a mere recording of the unconstrained availability and thus develop a robust discounting evaluation to accord a measure of reality. This is envisaged to be one of the more challenging stages of both the research and the reality. This stage demands informed qualitative judgments on infrastructure capability, planning instrument flexibility, market viability and timing. Consultation between local authority planners and developer representatives will occur, to assess both the flexibility of existing planning measures and market viability. For this research project interview surveys of infrastructure providers to assess existing and future capacity of the selected sites for transport, water, drainage and electricity provision will also take place. The final form this will take depends upon the stakeholders but it is not impractical to suggest a joint approach with all stakeholders presenting their case, following some *a priori* consideration.

This stage of the research will allow some consideration of what real potential exists across a range of timescales? What constraints arrest this real potential? How the potential might be brought forward in a staged manner? and what scale and scope of funding/contributions may be necessary to enable future development?

In short, this stage will allow an assessment of the realisable capacity of the selected case study localities and will enable the documentation of the variety of assumptions and outcomes necessary in order to realise this figure.

As already stated this is the most complex stage, translating theoretical capacity into a more informed figure. The reality is that it will likely reveal a set of figures based on staged development in periods of 5 years. It is essential that as many of the key stakeholders in the form-production process as possible and practical are engaged. In order to begin to seek answers to physical capacity, economic viability and social acceptability, it is clear that government agencies, infrastructure providers, development and community representatives are offered scope for informed opinions. The exact form will depend upon the time necessary to both digest the previous stage results of theoretical capacity and negotiation that will need to occur to agree figures. Personal experience during the early 1990s of the joint land study process between the Housebuilders Federation and local authorities in the UK would suggest several weeks to digest and analyse the theoretical figures and at least two meetings, lasting up to 4 hours for negotiation of the figures. Clearly, these are exhausting requirements and demand a high level of commitment from all parties.

### **Stage 4 - Presentation of Feasible Urban Housing Potential**

The final stage of the process is the presentation of a report detailing the assessment of feasible urban housing capacity. Included within this report will be a description of planning scheme amendments required to meet identified/agreed housing capacity and recommendations of action to protect future/potential housing sites. This stage will also provide an analysis of the implications of the template for the regional and local planning exercise.

The final report may include:

- Statement of feasible potential in each locality
- Timeframe plan of housing potential
- Set of design illustrations for specific parcels within each locality
- Statement of required planning scheme amendments
- Identification of constraints & recommendations for policy actions and initiatives to overcome such

- Recommendation of actions to protect future/potential dwelling sites
- Recommendations on the development, use, robustness and implications of the housing capacity template for local & regional growth management.

Responsibility for the production of the report would rest with the working group. The report would be used to inform the LGMS and local and regional plan review process. An annual or bi-annual monitoring process would develop an understanding of take-up of identified sites and where necessary allow recommendations for corrective action or catalysts to assist delivery of higher density development.

## **CONCLUSIONS**

One of the key challenges facing SEQ is how to accommodate future population and development growth. The establishment of LGMS's is a positive step in this process, but as yet a comprehensive understanding of the capacity and potential of the existing urban footprint to accommodate future housing development is absent.

This research provides an initial foray into this field. The focus is the development of an appraisal template which enables an assessment of urban housing capacity across a typology of spatial areas. Potential users and participants of the appraisal template include the OUM, local authority planning departments and developers, who together can assess potential within defined spatial areas. Other users may include State government agencies, infrastructure providers and the real estate industry, to assess the direction of future infrastructure commitments and emerging market activity.

Developing such a template could offer both a best practice guide for local authorities and also allow State government to set targets for brownfield development on a sub regional basis. Significantly, the template offers the scope for the effective delivery of regional planning guidance on housing densities and could form an integral part of regional and local urban management advice.

## REFERENCES

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Searle, G (2004) The limits to urban consolidation, *Australian Planner*, 41 (1): 42-48.

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**METHODOLOGY**

Identify survey approach – *priority area survey*, linked to Activity Centres/TODs and select 3-8 localities within region. Locality/parcel size must be accurately quantified. Also identify timescale and increments of study (5, 10, 15, 20yrs+)

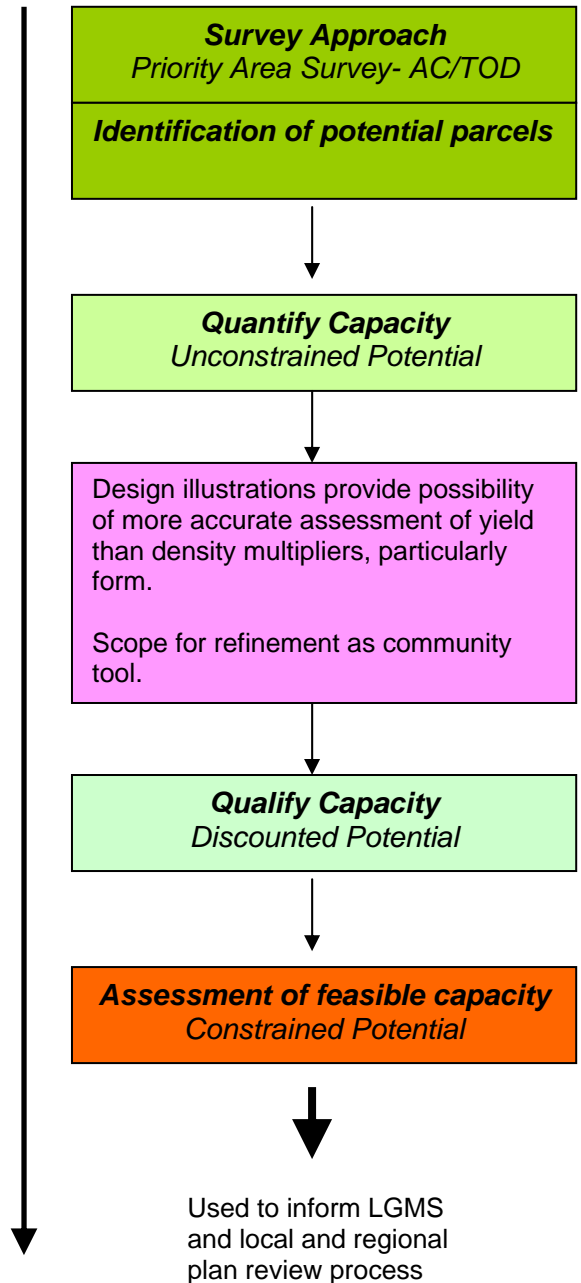
Identification of range of sources for urban housing, FOS; development of car parks; vacant/derelict land; intensification; conversion and vacant - never previously developed land

Assess unconstrained capacity via scenarios of DM's\*:  
 Scenario 1- Baseline, current land uses and planning regulations  
 Scenario 2 - Relaxed regulations, rezoning, parking, FSR, coverage  
 Scenario 3 - Further relaxed regulations at greater range  
 Possible Scenario 4  
 Development of draft design illustrations to illustrate Scenario's 2 and 3 on selected parcels

Qualify parcels that will come forward over the course of the selected timescale (5, 10, 15, 20yrs+). Liaison with utility providers, local planners and development industry essential.  
 Identify constraints on parcels: ESD, planning regs, local character, infra capacity [developability], economic viability!  
 Possible revision of design illustrations

Provide an assessment of realisable urban housing capacity. Rank according to feasibility and within timescale: *probable, problematic and not possible.*

\*DM - Density Multiplier – based upon recent planning approvals and potential relaxations and measured against locality/parcel sizes



**Figure 1 Stages of the development of the Urban Housing Capacity Template**