DESIGN WA
STAGE ONE
SUBMISSIONS AND
CHANGES REPORT
DESIGN WA SUBMISSIONS SNAPSHOT

Overall, Stage 1 of Design WA received a total of 186 submissions from a range of industry and community. These submissions were assessed in terms of their level of support for: Design WA as a whole, SPP7 Design of the Built Environment, Apartment Design, Design Review, and the Design Skills Discussion Paper. It is important to note that while this is a subjective evaluation, it demonstrates wide support for Design WA as a mechanism for improving the quality of design in the built environment.

<table>
<thead>
<tr>
<th>Industry</th>
<th>No. of Submissions</th>
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<tr>
<td>Building Designer</td>
<td>39</td>
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<tr>
<td>Architect/ Landscape Architect</td>
<td>18</td>
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<td>Planning/ Urban Design</td>
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<td>Developer/Home Builder</td>
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<td>Professional Association</td>
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<tr>
<td>State Govt/ Utilities/ Authority</td>
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<tr>
<td>Building Services</td>
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<tr>
<td>Community/Community Org</td>
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<td>LG</td>
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<tr>
<td>Academic</td>
<td>4</td>
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<tr>
<td><strong>TOTAL SUBMISSIONS</strong></td>
<td><strong>186</strong></td>
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86% indicated SUPPORT for the intent of Design WA, among other comments

12% were NEUTRAL comments not indicating support or objection

2% indicated OBJECTION to Design WA

SPP7 DESIGN OF THE BUILT ENVIRONMENT

- **Scope** and **application** of SPP7
- Application of SPP7 across different **project types** (i.e. commercial, retail, private works other than residential and public works)
- Relationship with **P&D Act** and **the Regulations**
- General support for the **10 design principles**
- **Measures** - Design Review

86% indicated SUPPORT for the intent of SPP7

13% were NEUTRAL comments not indicating support nor objection to SPP7, some providing modifications only

1% indicated OBJECTION to SPP7

106 SUBMISSIONS
APARTMENT DESIGN

65% of comments generally supported the intent for a substantial review of the R-Codes for apartments, and considered the advertised draft to be more appropriate for multiple-dwelling and mixed-use developments than the current R-Codes.

Many submissions expressed concerns about how the advertised policy, being more performance-based and hence requiring use of discretion by approval authorities, would be applied in practice:

- rigid enforcement of the Design Criteria by LG
- may not provide enough certainty to developers;
- removal of the deemed-to-comply pathway;
- LG planners skills;
- substantial culture-change in the planning, design and development industry;
- local government capacity to vary the policy;
- overly complex; and
- apply disproportionate requirements to apartments, with no equivalent requirements for single and grouped dwellings.

DESIGN REVIEW

- General acceptance of the role of Design Review, but some mixed views surrounding terms and implementation.
- Concerns relating to additional cost and time burden from LGs and Applicants
- Desire to share DRPs across multiple smaller LGs and arrangements for Regional LGs
- DRP membership and member selection
- Lack of clarity in understanding relating to the optional or mandatory requirement of DRPs
- DRP advice in decision making
- JDAP thresholds

65% indicated SUPPORT for the introduction of Apartment Design
34% were NEUTRAL comments not indicating support nor objection to Apartment Design, some providing modifications only
1% indicated OBJECTION to Apartment Design

78 SUBMISSIONS

DESIGN SKILLS

OPTION 1 - THRESHOLD BASED REGULATION
- Majority of support from architects (35%) and LG (29%)
- No building designers were in support of Option 1

OPTION 2 - COMPETENCY STANDARDS
- Majority of support from building designers (78%)
- No architects were in support of Option 2

OPTION 3 - NO REGULATION
- Preferred option with the highest level of support (37%)
- Majority of support from building designers (42%)

31% of submissions support OPTION 2
36% of submissions support OPTION 3
31% of submissions support OPTION 1

118 SUBMISSIONS

104 SUBMISSIONS
About this Document

This document informs the Western Australian Planning Commission on submissions for **Design WA Stage One**. Submissions are subject to a process shown below and summary information in this document is structured according to:

- **Submission summary** – black text
- **Recommended changes** – blue italicised text

Submissions Process Flowchart
This document is based on submissions received for the draft Apartment Design Policy advertised for public comment in 2016. The costings and economic commentary included in this report are sourced from independent economic analysis undertaken on behalf of the Western Australian Planning Commission and Department of Planning, Lands and Heritage (DPLH) in 2018. It is noted that some of the content included as Design WA Work Modules within Section 10 of this document may be more appropriately progressed as part of broader planning reform, in consideration of the Independent Planning Review Green Paper ‘Modernising Western Australia’s Planning System’ (May 2018). This document does not represent an official position of the Western Australian State Government, Western Australian Planning Commission or the Department of Planning, Lands and Heritage.

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Contact

For enquiries please contact the Design WA team at DPLH:
(08) 6551 8002
designwa@dplh.wa.gov.au
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Executive Summary

Outcomes - SPP7 for Design of the Built Environment

Submissions focused on the intended scope and application of SPP7:
- General support for the introduction of a Design SPP into the planning framework.
- Intent of SPP7 should be matched by subsequent updates to related policies and Regulations.
- Applicability to different non-residential project types such as commercial, retail and Public Works
- General support for proposed 10 Design Principles, with commentary on wording.

Main recommended changes and actions relating to SPP7 include:
- Refinement of provisions, a position to align policy with Regulations
- Clarify link between SPP7 and different project types.
- Minor refinements of Design Principles text and future issue of explanatory notes for users.
- Draft deemed provisions to ensure consistency and efficiency of Design Review processes.

Outcomes – SPP7.3 Residential Design Codes Volume 2 – Apartments (ADP)

Most comments supported the intent for a substantial review of the R-Codes for apartments, and considered the advertised draft to be more appropriate for multiple-dwelling and mixed-use developments than the current R-Codes. Numerous technical issues were raised, prompting further investigations and some changes to the document.

Submissions also expressed need for support through design review, training and education to ensure:
- The policy is applied by Local Governments and Decision Makers in a manner that delivers its intended flexibility, by accommodating proposals that depart from Design Criteria and offer an acceptable alternative route to compliance.
- Certainty for development applications through Design Criteria and Design Guidance.
- Reduction in the number of LPPs and better alignment of local planning instruments with the policy settings.

Similar amenity and landscape standards apply to other dwelling types in the long term

Concerns about economic impacts of the advertised ADP on development feasibility and housing affordability have been raised in submissions, stakeholder workshops and briefings. This has been examined through design and economic testing, including cost-benefit analysis and development feasibility.

Main recommended changes and actions relating to ADP include:
- General - Guidance for application of the policy, including guidance on the application of the performance based approach in decision making.
- Part 1 – Simplified structure. Revised terms of local policy modifications and greater clarity on the relationship to local planning instruments. Clarified procedural diagrams.
- Part 2 – Simplified structure. Alignment of plot ratio and height settings, including R40 and R50 settings to match R-Codes. Reduced constraint of building depth. Stronger guidance for provision of height bonuses via local planning instruments. Introduction of a performance pathway when applying the Primary Controls. Removal of Streetscape Character Types from the Primary Controls Table.


### Outcomes - Design Review Guide

Submissions demonstrated general support for the role of Design Review, including local government and developer responses. There were some mixed views surrounding terms and implementation, and a call for consistency across the State:

- Strong industry support for Design Review for apartments, if consistent and well-managed.
- Concerns relating to implementation, including additional cost and time implications if not set up efficiently and questions of who should bear the cost.
- Support for Design Review to be required as a prerequisite to DA.
- Agreement that member selection is critical – multidisciplinary, well-qualified and impartial. Mixed views on involvement of planning staff and Local Government executives without adequate role articulation and independence from elected members.

Although there were some reservations expressed about implementation and costs from local government in the initial comments received, it should be noted that there has been a considerable increase in Design Review implementation since advertising of Design WA Stage One in October 2016. The value of Design Review is already well-recognised by local governments and associated peak bodies. More than half of the local governments in the metropolitan area have Design Review processes in operation, with six others investigating options for their introduction at the time of writing this paper.

**Main recommended changes and actions relating to the Design Review Guide include:**

- Expand guidance on scalable modes of Design Review, including project thresholds, procedures and protocols.
- Include model DRP Terms of Reference and Scheme Provision, to assist LG implementation.
- Establish mechanism for mandating Design Review, ideally enabling pre-lodgement review for optimum benefit. Options to be considered by WAPC.
- Establish critical parameters for Design Review, reinforced in SPP7 or regulations, to ensure consistency of expertise, operations, protocols and induction processes.
- Promote State Design Review Panel as an interim panel or approved consultants list.

### Outcomes - Design Skills Discussion Paper

The advertised Design Skills Discussion Paper drew a significant response, including many single-issue responses from registered Architects, unregistered Building Designers and their respective organisations, for whom the proposed options could affect their capacity to trade in design services. Some responses from developers or industry associations expressed concern about cost implications if their choice of designers was curtailed. Many local government planners expressed the view that negotiating better apartment outcomes proposals is easier when developers use skilled designers.
Recommended actions relating to Design Skills Discussion Paper include:
- Not to introduce new measures to regulate design services at this time.
- Implement the Apartment Design policy, encouraging developers to use more competent designers for complex projects.
- Collect data from built outcomes of the new policy to determine whether there is a relationship between designer accreditation, approvals processes and quality of design outcomes.

**Design and Economic Testing**

To test the policy in-practice and investigate issues arising in submissions, six design teams were commissioned to produce hypothetical designs, using the draft ADP, for a range of metropolitan development sites. Ten architects and building designers were invited to participate, with six selected via a competitive process. Each site had a lodged Development Application that was used as a Reference Design for market / economic feasibility and a benchmark outcome under the current planning framework.

The exercise provided detailed feedback on the ADP from the designer’s perspective, and demonstrated that comparable yields were able to be achieved under the draft policy, with an improved design outcome. The designs were presented in a Design Review Panel format, to allow discussion of alternative solutions where Design Criteria were not met. This process demonstrated the capacity of the ADP to provide flexibility for complex applications.

In response to stakeholder feedback, high level cost estimates were prepared for both the Reference Design and Test Design. The testing indicated that the proposals could largely be delivered with little or no increase to construction cost. A cost increase of up to 4% was indicated for some sites, which could be attributed to the improved standard and amenity of dwellings.

High level feasibility analysis indicated a positive effect on residual land value in 3 out of the 4 analysed cases, and a negative impact of 7% - 9% in an outer metro infill site, where the development feasibility was marginal. This outcome aligned with the concerns of some submitters that the ADP could have the effect of sterilising infill development of affordable housing. Some changes have been made to provisions for R40 and R50 requirements to address this, however the performance and amenity requirements remain unchanged.

The Test Designs were further evaluated against the proposed amendments to the ADP to ensure these did not have the effect of facilitating approval of poor quality outcomes (using the Reference Designs as a benchmark) or impairing yield and design outcomes (using the Test Designs as a benchmark). The evaluation indicated that the proposed amendments were unlikely to have these effects above and beyond the advertised version.

It is recommended that review of costs and feasibility be undertaken following implementation of the policy to monitor the impacts and benefits of the Policy.

**Development Application Testing**

A series of Development Application (DA) assessments were undertaken by local government and DPLH statutory planners to evaluate how decisions makers interpreted and applied the ADP, and obtain feedback to inform finalisation and implementation of the policy. The process involved mock assessments of typical apartment DAs across a range of scales.

Most of the policy objectives were assessed adequately, but there were some objectives that planners had difficulty applying. This included new measures (not included in previous
versions of the R-Codes) and those measures that did not include Design Criteria. It is intended that over time Design Review advice will be more widely available to assist with assessment.

The broad ranging Design Guidance in the ADP was seen as a positive way to support flexibility for complex applications. The testing outcomes informed modifications to the ADP and supporting material. These findings reinforced some of the key implementation strategies for the policy, including the need for training, the importance of integrated Design Review and the requirement for ongoing monitoring and review of the policy post-implementation.

Specialist Reviewers

Specialist Reviewers were commissioned to investigate key themes emerging from the submissions and make recommendations for changes to the draft policy.

- Peer review: Learning from policy drafting, implementation and project experience of NSW SEPP 65 to add commentary to main themes in submissions and provide recommendations.
- Cost Benefit analysis: Cost-Benefit Analysis of the direct and wider policy implications.
- Parking review: To advise on submission outcomes and undertake empirical survey of apartment parking usage. The findings supported retention of the recommended parking provisions.
- Landscape review: Design and arboricultural advice to refine measures for existing tree retention, deep soil areas and planting on-structure, making the provisions more robust and flexible.
- Sustainability review: Analysis of submissions, draft policy and options in relation to energy and water efficiency. The review recommended removal of criteria that required provisions in excess of NCC. The review also recommended consideration be given to a sustainability assessment system for residential development in WA, in conjunction with the Building Commission and Australian Building Codes Board.

Planning Reform Alignment

Following release of the Green Paper for Planning Reform in May 2018, the ADP was reviewed for alignment with the key reform areas, and the planning system generally. The following recommendations of the Planning Reform Team have been incorporated.

- The ADP should not over-ride existing local planning instruments as these have generally been carefully calibrated to ensure building height, setback and scale is appropriate to the local community. (Reform Values: Fairness & Transparency)
- Height/development bonuses may only be provided where they are defined in a local planning instruments and the allowed bonus is calibrated to a clear and quantifiable community benefit. (Reform Values: Fairness, Transparency & Integrity).
- Re-align the provisions for height, plot ratio and setback to R40 and R50 coded areas with the R-Code Part 6 requirements, as this development largely occurs in detached residential areas and shall be calibrated to suit existing character. (Reform Values: Fairness & Integrity)
- Parts 3 and 4 should include Acceptable Outcomes for all Elements to provide a clearer approval pathway whilst retaining a performance pathway. (Values: Efficiency)
- For greater clarity, Design Guidance and photography to be separated from the statutory components of each element.
Work Modules

The submissions highlighted some important issues requiring particular focus to implement Stage One and move ahead with the next project stages. These have been referred to as “Work Modules” that will become a focus of ongoing project work and linked to ongoing planning reform. These Work Modules typically relate to several or all of the Design WA policies, and this thematic approach will help to develop well-integrated solutions. They are:

- Applying Design WA: Implementing culture-change in planning, design and development.
- Local Policy Variations: Rationalising planning framework across jurisdictions.
- Medium Density Housing: Better design for affordable and diverse dwellings.
- Monitoring and Feedback: Data collection for evidence-based decision making, review of particular elements issues identified though review.
- Missing Elements: Develop content for missing elements identified in the review process and during ongoing Monitoring. Current elements proposed for a future amendment include: Design of Tall Buildings; Design of Podium and Roof Terraces; Planning of Large Sites.
1. Introduction

Advertising of Design WA Stage One from October to December 2016 resulted in 186 submissions from public and private sector designers, planners and developers, as well as the wider community.

In general, the submissions demonstrate substantial support for the Design WA initiative to reform design standards, but with divergent views on priorities and matters of detail. Some comments prompt review of the draft policies, but many comments indicate the need for more communication, education and training to ensure the policies are implemented and applied correctly.

This document is a summary of main issues in the submissions and recommended changes to the policies in response. Several main themes emerged from analysis of the submissions. These have been referred to as “Work Modules” that will become a focus of ongoing project work and linked to ongoing planning reform. These are defined in Part 9 of this document, with the issues relating to them highlighted in commentary in Parts 2 to 5. Other comments have informed Design Testing, Development Application Testing, Specialist Review and Planning Reform Alignment work outlined in Parts 6, 7, 8 and 9 of this document.

This summary is issues-based and does not attempt to make inferences from the quantity or percentage of comments on a particular opinion. The nature of this consultation and the submissions received does not support statistical analysis, as the sample set is too narrow, and the feedback provided is too diverse. Instead this analysis extracts the key themes from submissions, supported by reference to extensive practitioner workshops and industry briefings as part of the overall consultation process.
2. Outcomes - SPP7 Design of the Built Environment

Submissions sought clarification on the scope and application of SPP7, which represents a new addition to the current state planning framework. It was observed that the processes outlined in SPP7 (e.g. highlighting the role of Design Review or Design Skills) are not yet matched by provisions in the Planning and Development Act 2005 or Planning and Development (Local Planning Scheme) Regulations 2015 that would help ensure intended effect. Comments also called for clearer and stronger links to related WAPC policies, manuals and guidelines.

SPP7 sits within a wider planning framework, so the provisions listed within can be aligned with other planning instruments as required. SPP7 addresses current gaps in the State planning framework with regards to design quality, design review and design skills that local governments and proponents have filled.

SPP7 text has been reviewed and refined to ensure ‘the policy provisions reflect its status as an SPP. It is noted that options for alignment of Design Review processes are under consideration by the WAPC with modifications to Planning and Development Act 2005 or Planning and Development (Local Planning Scheme) Regulations 2015 expected to ensure long-term consistency.

The ability of SPP7 to be applied to different project types was raised in several submissions, calling for clarification of applicability to commercial, retail and private works other than residential. The application of SPP7 Design Principles to Public Works that do not require planning approval was also questioned.

SPP7 has been drafted as a high-level State Planning Policy. Decision makers and proponents must pay due regard to the provisions contained within (as outlined in the Planning and Development Act 2005).

It establishes the importance of design quality in the planning system, includes measures relating to Design Principles, Design Review and Design Skills. It is necessarily high level and the Measures are readily applied to a broad range of development, building design and urban design activities and building typologies. The Design Principles can be used to guide early concept and design development stages of a project through Design Review and assessment. The WAPC can also use SPP7 when considering Public Works that it has a role in reviewing and/or determining.

More detailed design policies are intended to nest under this policy, for example the ADP. Over time other detailed design policies may be formulated in response to design priorities.

Most submissions on SPP7 supported the proposed Design Principles, but with some commentary on specific wording. Some comments noted that they are open to interpretation, which could lead to inconsistent usage. Several submissions considered the Design Principles to be somewhat biased to buildings and might need some adaptation for forthcoming Design WA policies, including Neighbourhood Design and Precinct Design.

The detailed commentary on wording of Design Principles has been considered, with a focus to ensure the principles can apply broadly to design of places and buildings (balancing the suggested bias towards buildings). Design Principles can be interpreted to adapt to the proposal they are being applied to.
As the Design Principles are intended to apply universally, it is not appropriate to introduce specific measurable provisions as some submissions suggested – that is the role of detailed design related policies that are nested under SPP7.

In the short term, additional guidance is being provided to improve the link between the Design Principles and provisions in the ADP. Design WA Stage Two intends to align Precinct, Neighbourhood and House Design policies in a similar way. This line of sight is consistent with the recommendations of the Green Paper.

An element of SPP7 that attracted particular commentary was the draft Measures for Design Review, including: “State, local government and/or precinct authorities are required to establish and operate design review processes to review applications of certain thresholds set out in the WAPC Design Review Guide”. Many submissions strongly supported this statement, but also stressed the importance of implementing Design Review consistently and as a requirement for certain development types (this is reinforced by commentary on Design Review below). Some submissions were less supportive of Design Review and expressed concern about the inclusion of such a provision.

Design Review processes are operational in more than half of metropolitan local governments and have demonstrated their value in improving built form outcomes particularly over the last ten years of operation. Design Review can support decision makers by assisting them to understand and evaluate design proposals, particularly those that present innovative approach to achieving design objectives and high-quality outcomes. Design Review Panels can also inform decision makers to assist them to refuse poorly designed proposals. Functional and integrated Design Review processes can make the approvals process more efficient, subject to the quality of applications submitted.

In the advertised draft, Measures related to Design Review were of an interim nature, as they relate to some factors beyond the project itself. As a result of submissions processing and finalisation:

- Measures for Design Review have been reviewed and refined to ensure they are appropriately worded to suit the status of a State Planning Policy.
  “Planning authorities, including state and local government, should arrange access to Design Review processes to review complex planning proposals, those proposals identified as benefiting from design review, or as set out in the Planning and Development (Local Planning Schemes) Regulations 2015 or recommended in the WAPC Design Review Guide. Design review shall be scaled according to the complexity or significance of a proposal and shall generally follow the methodology outlined in the WAPC Design Review Guide to achieve consistency across jurisdictions.”

- Options for alignment of Design Review processes are under consideration by the WAPC with modifications to Planning and Development Act 2005 or Planning and Development (Local Planning Scheme) Regulations 2015 expected to ensure long-term consistency sought by most submitters.

(Commentary on this matter is also related to Design Review Guide)
The Measures for Design Skills also attracted comments, in particular: “A statement should be prepared by the proponent of certain development types outlined in the Planning and Development (Local Planning Schemes) Regulations 2015”. Several submissions questioned the efficacy of this provision, as well as the considerable task to implement.

The proponent has always been expected to provide justification for how their proposal meets design standards set out relevant State Planning Policies (e.g. R-Codes). A Design Statement is a summary of a proposal against the Design Principles to assist with review and assessment.

In the advertised draft Measures related to Design Skills were of an interim nature, as they related to some factors beyond the State Planning Policy itself. As a result of submissions processing and finalisation:

- Measures for Design Skills have been reviewed and refined to ensure they are appropriately worded to suit the status of a State Planning Policy.
  “Certain application types may require the preparation of a Design Statement as set out in the Planning and Development (Local Planning Schemes) Regulations 2015 and State Planning Policies relating to that planning proposal or any relevant local planning scheme or policy.”

- For apartment development (in areas coded R40 and above; within mixed-use development and activity centres) a requirement for the preparation of a Design Statement is now included in SPP 7.3 R-Codes Volume 2 (Apartment Design) under Development Application Guidance Appendix.

- Options for further alignment are under consideration by the WAPC with modifications to the Planning and Development (Local Planning Scheme) Regulations 2015 to ensure long-term consistency.

(Commentary on this matter also relates to Design Skills Discussion Paper)
3. Outcomes – SPP7.3 R-Codes Vol. 2 Apartments

General comments

Many comments generally supported the intent for a substantial review of the R-Codes for apartments, and considered the advertised draft to be more appropriate for multiple-dwelling and mixed-use developments than the current R-Codes (part 6).

Key issue: Applying the policy

Many submissions expressed concerns about how the advertised policy, being more performance-based than current practice, would be applied in practice as summarised below.

- Design Criteria may be rigidly enforced by local government planners.
- The policy may not provide enough certainty to developers.
- The removal of a fully deemed-to-comply pathway in current R-Codes may complicate the process for smaller apartment developments, potentially impacting on feasibility.
- Local government planners may need to up skill to apply the policy effectively.
- Some consider the policy to be overly complex, requiring more work for designers and assessors. Issues highlighted by those submitters were in relation to new elements not currently covered by R-Codes and some technical measures.
- The draft policy represents a culture-change in the planning, design and development industry. There should be a longer-term process of training and implementation.

These concerns have informed responses to a number of elements, but should also be acknowledged as an overall reaction to the extent of change proposed by the ADP as a reform of the R-Codes for WA. The feedback highlights the need for the ADP to be clear, robust and user-friendly and demonstrates the need for effective communication, education and training during implementing of the new policy, as well as monitoring the policy in operation.

Recommended ongoing actions are outlined in Work Module: Applying Design WA (See Section 9 below)

Key issue: Objectives without Design Criteria

The advertised Draft ADP was largely a performance-based policy framework with Design Criteria for approximately one third of Objectives, where clear, measurable and broadly applicable standards were provided. It was intended the remaining Objectives could be addressed with reference to Design Guidance, which provide greater flexibility for policy measures to be interpreted according to site and project circumstances. This requires skilled judgement on the part of applicants justifying proposals and assessors evaluating whether the Objective has been met. Design Review can assist in this context through access to independent multi-disciplinary advice for matters that assessors may not have expertise in.

The advertised ADP was premised on strong consensus in extensive consultation workshops that the excessive reliance on Deemed-to-Comply was a core failing of planning practice under the current R-Codes, with evidence that the DTC criteria were not necessarily achieving good design outcomes. It was also noted that designers are rarely able to meet all Deemed-to-Comply criteria given the complexity of this development type, but the structure of the R-Codes does not clearly provide appropriate guidance to manage flexibility.

Numerous submissions, including many Local Governments, suggested that Design Criteria should be provided for all Objectives. Submitters expressed a concern that it was unclear whether one, some or all of the design guidance would apply. The development industry raised
concerns that it would be difficult to obtain approval and local governments were of the view it would be difficult to refuse development. Neither scenario is the intended outcome of the ADP.

The concerns behind the comments are valid and need to be addressed, although adding Design Criteria will not provide the required level of flexibility to respond to complex sites and achieve good design outcomes. The function of the draft policy was that if the proposal satisfies a Design Criteria, it is deemed that the Objective has been met. Therefore, unless the Design Criteria encapsulates the whole range of issues addressed by the related Design Guidance, each new Design Criteria can potentially circumvent a range of important Design Guidance.

To some extent the proposed Design Review will assist statutory planning to assess design proposals against the Objectives. However, it is noted this process is not applied to, or available to, all applications at this time

Development Application Testing (see 8. below) provided further insights into the user-perspective of the ADP for statutory planners and some of the assessment challenges presented by the existing structure.

The Planning Reform Team considered this matter and determined the current structure did not meet the requirements for Efficiency and Transparency at this time; In particular the structure of the Policy needs to be better aligned with the needs of statutory planners and decision makers as one of the primary audiences and users of the document. Clearer approval pathways can also improve efficiency for simpler development proposals.

*The revised structure includes Acceptable Outcomes as an indicative approval pathway, whilst encouraging alternative design solutions that meet the Element Objectives. The Acceptable Outcomes are largely derived from the Design Criteria and some Design Guidance in the advertised version.*

**Key issue: Local Planning Framework modifications**

Submissions and other consultation included considerable feedback relating to the local government capacity to modify R-Codes provisions. Local governments expressed concern that their local policies will be overruled by the ADP whereas the design and development industries urged the WAPC to constrain the extent to which local governments can vary controls.

*As a State-level performance-based apartment policy, the ADP addresses many of the design matters covered by local governments in their local planning framework. The introduction of the ADP offers benefits related to improved standards and consistency (for local governments and developers). The proposed policy is intended to operate in a similar way to the existing R-Codes in which the Code is called up in schemes. However, it is recognised that local governments have existing policies regarding a number of the primary controls that have been set to ensure local character (in building envelopes) is retained. The ADP has been edited such that it will not prevail over a number of local character matters at implementation and includes clearer guidance as to which matters may be set locally and the appropriate instruments to do that. However, it is intended that the requirements for dwelling amenity will prevail over local planning instruments.*

*The topic is addressed in Work Module: Local policy variations below and the Design WA Stage One Implementation Paper.*
Key issue: Smaller and taller apartment developments

Some concerns were expressed that the policy is overly complex and onerous for smaller apartment developments and not always well-aligned to the specialised design considerations of taller buildings. The advertised ADP was formulated to apply to all multiple-dwelling developments at R40 and above; within mixed-use development and activity centres, equivalent to Part 6 of the current R-Codes.

Small housing developments such as two-storey walk-up apartments represent a considerable portion of the affordable housing sector, and are often contentious in their effect on existing neighbourhoods. There were many comments strongly supporting better design and amenity standards for medium density apartment developments, to address negative trends in infill densification of existing neighbourhoods. There were also submission raising significant concerns that the ADP could have the impact of sterilising sites and restricting supply of affordable housing.

There are some smaller apartment developers that have formed their development models upon on the current Deemed-to-Comply pathway of the R-Codes to minimise development risk and timeframes. The ADP emphasis on performance-based measures will entail greater consideration from the designer and engagement with Design Review processes. Design Testing considered the impact of ADP for smaller developments. For example, on narrow sites, discretion would be required to maintain the yield. Some of the current smaller development typologies may be challenged, but comparable solutions are possible.

Taller buildings (10 storeys and above) are more specialised in design, and generic Design Criteria and Design Guidance become less applicable in a state-based code. As with existing R-Codes, there is an expectation that taller buildings are governed by local settings, such as the existing R-AC codes, and intended to be subject of Precinct Design in future stages of Design WA. The ADP has some Design Criteria and Design Guidance that differentiate settings for tall buildings, such as those regarding natural ventilation, and private open space and balconies. Otherwise it is envisaged that Parts 3 and 4 generally apply, but tall building designers and assessors are already familiar with working outside Design Criteria and negotiating alternative solutions to Objectives using the most applicable Design Guidance.

It is recommended that the ADP is maintained as the statutory R-Codes for all multiple dwelling (apartment) development. Targeted edits have been made to re-align the primary controls for R40 and R50 with the R-Codes in response to the concerns about project viability, noting that the future intent to include R40 and R50 within a specific medium density development code. Full information is included in the Stage One Submissions and Changes Table.

Key issue: Other housing types

Some expressed a concern that the ADP would apply disproportionate requirements to apartments, with no equivalent requirements for single and grouped dwellings. This may unintentionally penalise, or even discourage, apartment development.

Where appropriate, criteria that exceeded the requirements of the NCC have been removed, which better aligns standards for apartments with other dwelling typologies. It is noted however that some differences will remain in the transitional phase between adoption of the ADP until the completion of House Design and Medium Density, as the remaining parts of the complete R-Codes review. This adds impetus to advance the next stages of Design WA, but does not warrant alteration of the draft policy. In the interim, Part 5 of the current R-Codes will continue to apply.
Key issue: Interrelated elements

Some comments suggested that, where different policy elements are overlapping, those elements should be consolidated and the overlap removed. For example; setbacks, building separation and visual privacy are interrelated elements that each have distinct role in the design sequence:

- Setbacks provide simple boundary offsets as a primary control, standardised between sites in a locality;
- Building Separation allows for basic setbacks from other buildings to be adapted according to building height and the relationship between different functional elements; and
- Visual Privacy enables detailed considerations between windows and balconies within a site and between sites.

These settings have been carefully aligned with each other and are applied at different stages of the planning-design process. They are complementary, such that early consideration of setbacks and separation will simplify achieving visual privacy standards later in in detailed design resolution. Other examples noted in submissions include interrelated elements relating to landscape (existing tree retention/deep soil area/communal open space/landscape design/planting on structures) and development configuration (building depth/orientation/solar access/natural ventilation).

It is proposed to largely maintain the advertised structure of Part 3 and Part 4, with a small number of amalgamated sections where content was repetitive, namely:

- Setbacks, building separation and visual privacy have been better aligned and cross-referenced where necessary;
- Tree Retention and Deep Soil combined into Tree Canopy and Deep Soil Areas;
- Ceiling height has been incorporated in Size and Layout of Dwellings;
- Acoustic Privacy and Noise and Pollution have been merged into Managing the Impacts of Noise;
- Ground Floor Apartments has been incorporated in Public Domain Interface;
- Planting on Structure has been incorporated into Tree Canopy and Deep Soil Areas and Landscape Design;
- Awnings and Signage has been incorporated into Public Domain Interface and Façade Design.

Otherwise there have been minor refinements to ensure the settings are complementary, consistent, and cross-referenced. Rollout (training and education) and supplementary material (such as case studies and assessor checklists) will be developed to assist where there is concern about the linkages between different elements of the policy.

Key issue: Relationship to BCA

Some submitters raised concerns that the ADP seeks to exceed requirements set in the NCC / BCA, which serve to establish a base minimum habitable standard. The advertised ADP included a small number of Objectives that promoted slightly higher standards than the current BCA. Submissions and consultation have indicated a high degree of support for Design Criteria provisions such as daylight and solar access, natural ventilation and ceiling heights, which respond to identified deficiencies in WA apartment developments. The document has been crafted such that it does not contradict BCA Deemed to Satisfy requirements.

Elements that related to NCC/BCA requirements have been modified to clarify the relationship of planning considerations to minimum regulated outcomes.
Part 1 Introduction (Elements 1.1 Preliminary, 1.2 Approvals, 1.3 Design Principles)

The draft Part 1 provides an overview of the statutory purpose of the ADP, and includes Design Principles as outlined in SPP7. It includes policy objectives and details on the relationship between the Local Planning Framework and the ADP (as Volume Two of the Residential Design Codes). It is modelled on the Parts 1 and 7 of the current R-Codes, but simplified to improve readability.

Feedback on the submissions included below:
- Length and complexity of the policy
- Relationship between multiple dwellings and grouped dwellings
- Transitional arrangements before formal gazette
- Role of design statements
- Information required for pre-lodgement and lodgement
- Statutory timeframes and fee structures

Note in relation to Part 1 – Some submitters commented on matters dealt with in other parts of this submissions report in such as: application of the policy, small apartments, Local Planning Framework modifications, applying the policy, Objectives without Design Criteria, Design Principles and role and applicability of Design Review.

Minor modifications have been made to the structure of Part 1 with detailed explanation of submissions 'noted' in the associated ‘Submissions and Responses Table’.

Recommended changes to Part 1 in the final ADP include:
- Introduction of additional information and an explanatory table to link SPP7 Design Principles to Elements in the ADP.
- Update text in ‘Variations to Volume Two of the Residential Design Codes’
  - Modified heading ‘Local Planning Framework’
  - Modified text to maintain local settings for acceptable outcomes in relation to all of Part 2 and specified elements of Parts 3 and 4 relating to streetscape without WAPC
  - any other modification of settings in Parts 3 and 4 must meet certain criteria and be to the satisfaction of the WAPC
  - (Part 2 to be updated to remove inconsistencies with Part 1 about local policy variations)
- Modify 1.2 to clarify the Local Planning Framework. Add explanatory figures.
- Clarify diagrams for statutory processes and timeframe
- Include information on transition through a timed Gazettel of 90 days in Implementation Paper

NOTE: It is proposed to modify terminology in the final document as a result of creating an approvals pathway for each element alongside the performance based approach. (Refer Key Issue: Elements without Design Criteria). The terms are summarised below to assist in understanding proposed changes to Parts 2, 3 and 4.
The introduction of Acceptable Outcomes is not separately highlighted in each of the following sections.

Part 2 Primary controls – General comments

The draft Part 2 has two functions; to provide default state-wide primary controls, and to guide local governments on how to make local modifications where appropriate. There was some confusion about how Part 2 works, particularly related to its structure. It includes default primary controls (where local governments have not yet established primary controls) and detailed guidance on how to modify those controls.

Part 2 has been re-structured to provide clear Intent statements and Objectives for each element of the Primary Controls for the purpose of performance based assessments of proposals. These are necessary to enable consideration of variations to the Primary Controls Table. Guidance to Local Governments on setting/varying Primary Controls has been separately identified to improve clarity.

To avoid confusion, indicative height bonuses have been removed from the Primary Controls Table and greater clarity provided as to how and when these may be applied.

Ancillary content in Part 2 that did not directly inform the assessment or setting of primary controls has been removed from Part 2 and appended where appropriate.

Element 2.1 Primary controls tables

The primary controls tables contain the default settings of the range of planning controls covered in Part 2, for areas where local governments have not yet established primary controls.

The primary controls in the advertised draft Apartment Design generally maintained similar metrics to the current R-Codes, with adjustments of specific elements to align with new policy objectives. The commentary on the tables focussed on the main changes from the current R-Codes format, especially the introduction of Streetscape Character Types and the proposed range of standard and bonus limits for plot ratio and building height. Some comments suggested that some settings adopted from current R-Codes are in need of a more substantial review.
The effect of draft primary controls for a range of development sites was examined in Design Testing. Key findings are noted under respective controls below.

**Recommended changes to Primary Control Table in the final ADP include:**

- Remove references to detached and attached settings in favour of ‘urban’ and ‘suburban’.
- Clarify that Attached types apply by default to R-AC1 / R-AC2 / R-AC3 / R-AC0.
- New RAC-4 introduced for neighbourhood centres.
- R40 height amended from 3 stories to 2 stories to better align with existing local government controls and community expectation.
- Amend side setbacks to R40 and R50 to better align with R-Codes and ensure small sites are not sterilised.
- Remove rows for Plot Ratio and Building Height limits “where bonuses applicable” from Table 1 and incorporate in 2.8 ‘Incentive based development standards’.
- Clarify that for multiple dwellings in R-Codes less than R40, Part 5 of current R-Codes will apply.
- Amend errors in notes and cross-referencing in Table 1.
- Incorporate building separation values applicable “within site boundary” and “at lot boundary” into Table 2. See 2.7.
- Omit Table 3 and include as Acceptable Outcome in 2.6 Building depth.

**Element 2.2 Modifying primary controls**

This element provides an overview of mechanisms for modifying primary controls through the state and local government policy framework. Commentary focussed on the extent to which Local Planning Policies would be affected by the proposed substantial R-Codes review. This element relates to the text in 1.1 Preliminary, which sets out the statutory terms for these changes, including the WAPC role in approving local variations, and a clause that ADP is to prevail over pre-existing local policy to the extent of inconsistency.

Local governments expressed concerns about the time and resources impact of widespread LPP review, the WAPC ability to provide timely approvals, and the disruption to community consensus represented in existing policies. There was a call for more clarity on the statutory mechanisms existing or changes implied by ADP. The benefit of Design Review Panel input on planning policy was noted in several submissions. Main themes in submissions included:

- Clarify which planning instrument will be used to vary primary controls
- Currently inconsistencies with the WAPC Structure Plan Framework and the Planning and Development (Local Planning Schemes) Regulations 2015
- Clarification as to what happens to existing local variation provisions
- Incorporate a transition period to allow local governments to prepare and align local provisions
- Concern regarding the requirement for LPPs to be approved by the WAPC – clarify process and timeframes. Statutory recognition of LPPs by SAT

**Recommended changes to Modifying Primary Controls in the final ADP include:**

- Rencode to 2.1.2 and rename as ‘Setting the Local Planning Framework’ to clarify the relationship to 2.1 and differentiate from following sections that deal with elements of the Primary Control Table.
- Introduce guidance (in 1.1 and 2.2) to differentiate the ADP controls that may be Replaced or Amended.
- Remove inconsistencies with the WAPC Structure Plan Framework and the Planning and Development (Local Planning Schemes) Regulations 2015.
Recommended ongoing actions relating to Modifying primary controls include:

- **Work Module: Local Policy Variations** – Prepare strategy to rationalise pre-existing and future local policy variations to R-Codes. Consult LGs, identify case study policies and establish principles for LPP reviews post-implementation. Establish degree of WAPC regulation of local changes to R-Codes. Discuss procedures and resourcing with WAPC Secretariat / DPLH Schemes and Amendments team.

- **Work Module: Applying Design WA - Rollout programme will promote correct application of the policy by a range of stakeholders.**

**Element 2.3 Streetscape character types**

Streetscape character types had widespread in-principle support, but with a lot of commentary on how they should be used and the over-simplification of detached and attached typologies. Some advocates of Form-Based Codes suggested that more types and more detail should be added. Others thought that state-wide R-Codes are not the appropriate place for streetscape types, and that these should be defined locally.

**Recommended changes to Streetscape Character Types in the final ADP include:**

- **Move to Appendices**
- **Remove references to detached and streetscape and provide more detail about character and context for various typologies.**
- **Edit streetscape diagrams for consistency with text and Table 1.**

**Element 2.4 Building envelope**

There was mixed commentary on controls for building envelopes, which are derived from the combination of building-height and setback controls. Several respondents queried the Planning Guidance: *Building envelopes should be at least 25% greater than the allowable plot ratio area.* The purpose of the difference is to achieve flexibility of built form configurations within the building envelope, with some comments indicating a high degree of expectancy from developers and designers in terms of development yield.

*For state-wide R-Codes, building envelopes derived from height and setbacks will necessarily remain simple and generic, and therefore need to be used together with building massing controls (plot ratio, building depth, and building separation) to define building form. Local precinct-based planning can provide context-specific building envelopes that more directly define building form in those precincts.*

*In consolidation of Part 2, the subject of building envelopes does not need to be a distinct element. Text relating to building envelopes will be incorporated into Element 2.1 ‘Primary Control Tables’, to articulate how the primary controls function in combination.*

*Remove reference to building envelope in Figure 3.1e, as inconsistent usage of the term.*
Element 2.5 Plot ratio

There was substantial feedback that plot ratio control should be reviewed, with some submissions questioning its application and value as a primary planning control, and some recommending that plot ratio should be removed from Apartment Design. The main issues cited include:

- Plot ratio is less directly linked to good design outcomes than other primary controls (setbacks / building separation / communal open space etc)
- Plot ratio settings are often poorly calibrated to building envelope expectations
- Plot ratio controls have been poorly applied for many years – either rigidly applied or disregarded
- Plot ratio controls are considered relatively complicated to use by applicants and assessors

Peer Review recommended the retention of the plot ratio control, with reference to NSW experience. Instances where NSW Local Governments have removed plot ratio controls (Floor Space Ratio in NSW) have resulted in strong developer expectation to build-out the entire Building Envelope. This puts greater pressure on other controls, such as building separation, deep soil and communal open space, with detrimental effects on development approval processes and built outcomes.

Design Testing considered relationships between plot ratio and building envelopes for a range of testing sites. In review discussion there was general acceptance of plot ratio as a control for development bulk and scale, but that performance-based assessment of design factors should prevail over rigid adherence to plot ratio.

Plot ratio is an important benchmark for development yield in the early stages of siting the development. As the site-specific design response takes shape, preferably with the input of pre-lodgement design review, it is appropriate for discretion to be applied to the plot ratio measure.

Recommended changes to Plot Ratio in the final ADP include:

- Edit Intent and Objectives text and include Acceptable Outcomes to provide guidance to proponents and decision makers for assessing plot ratio outcomes.
- Improve guidance for local governments for applying plot ratio controls, including Design Guidance for application of discretion.
- Review settings for plot ratio in Primary Controls Table 1 in conjunction with building height limits, to improve alignment between controls and consistency with policy objectives.
- Clarify that plot ratio limits apply to the whole development on a site (including residential and other components), unless otherwise apportioned in Local Government plot ratio controls.

Recommended ongoing actions relating to Plot Ratio include:

- Incorporate guidance for plot ratio in Precinct Design and Neighbourhood Design policies.
- Work Module: Applying Design WA - Provide explanatory guidelines for assessors and decision-makers about where plot ratio should be upheld or varied.
- Work Module: Monitoring and Feedback - Collect data following the implementation of ADP to provide an evidence-base for future refinements of plot ratio settings.
Element 2.6 Building height

The commentary was evenly divided on the issue of expressing height in storeys (as proposed in draft Apartment Design) or in metres (as in current R-Codes and many local policies). Using storeys offers more simplicity and flexibility but may need additional definitions and metrics for reference and interpretation. Several local governments indicated a preference for more detailed controls (or equivalent local policies) to provide more certainty in decision-making.

Building height controls are often subject to modifications by local policy and schemes, which is acknowledged in the draft Apartment Design. Several submissions called for clarification of intent to uphold or override existing local variations of R-Codes. There was some commentary about changes to current R-Codes height limits, particularly from 2 to 3 storeys in R40 zones (where multiple unit developments are permissible in schemes). Several submissions noted concern about detrimental effects to the character of suburban neighbourhoods. Other submissions supported the intent of additional height matched with reduced building footprint, to allow for more opportunities to provide deep soil and communal areas.

Recommended changes to Building Height in the final ADP include:
- Review settings for building height limits in Primary Controls Table 1 in conjunction with plot ratio, to improve alignment between controls whilst considering impact on community expectations.
- Provide definitions for Storey / Mezzanine / Loft / Mansard roof / Basement to reinforce storey-based height controls. Provide metrics for storey heights for reference when applying storey-based controls. Amend diagrams accordingly.
- Remove reference to allowing additional height in flood prone areas.

Recommended ongoing actions relating to Building Heights include:
- Work Module: Local Policy Variations – Establish WAPC regulation of local changes to R-Codes heights.
- Work Module: Applying Design WA - Rollout programme will promote correct application of the policy by a range of stakeholders.

Element 2.7 Building depth

Submissions addressing building depth indicate that more work is needed on this element to adequately guide local government settings and to administer the default in Table 3. Main themes in submissions included:
- Purpose of Building Depth control: possible duplication of other controls for solar and ventilation factors
- Building Depth settings: some considered Table 3 building depth limit too constraining, with implications for prevalent development types and apartment layouts. Calls for justification.
- Applying Building Depth: queries about table, guidance and diagrams. Concern that the control may not be properly applied

Peer Review supported the role of Building Depth control as a useful master planning and precinct planning tool, and a simple measure to support good daylight and natural ventilation performance.

Design Testing projects met the depth controls for their respective sites, but noted the importance for consideration of alternative solutions against the performance objective. The testing consultants also provided user perspective commentary on text, tables and diagrams of the controls.
Building Depth Analysis of recently constructed apartments across Perth highlights many designers are working within standards proposed in the ADP, though some are not. Of 46 sites that were measures (informed by the Urbis Essentials Apartment List Quarter 3, 2017), 28 had an estimated building depth of 20 metres or less. See 9. Building Depth Analysis.

The proposed controls for building depth do not preclude market-preferred building types, but establish an appropriate benchmark, which is already reflective of most current practice. Where Design Criteria are not met, proponents need to demonstrate that amenity does not suffer.

Recommended changes to Building Depth in the final ADP include:
- Revise advertised 18m building depth limit to 20m. Add cross reference between Table 3 and guidance for Building Depth. Revise Table 3 to relate to more building configurations.
- Clarify diagrams regarding whether the circulation areas shown are internal or external – and how this impacts on building depth measurement. Remove contradictory references in diagrams. Indicate design options for mitigating building depth and demonstrate method of assessment.
- Provide guidance for discretion where applicant demonstrates that deeper buildings can facilitate adequate natural light and ventilation.

Element 2.8 Building separation

Guidance on building separation and the proposed settings in Table 2 of 2.1 Primary control tables were considered by many respondents as having considerable effect on site configuration and yield. Main themes in submissions included:
- Impact on development yield: Concern about table 2 requirements on top of setbacks especially for smaller / narrow sites.
- Influence on development configuration: Several responses considered the separation requirements for taller sites to be excessive, warning of possible unintended effects, such as tall buildings with blank boundary aspects in order to comply with building separation controls at side boundaries.
- Relationship to building height, visual privacy and side/rear setbacks: Some consider the controls to be duplication and called for consolidation.

Design Testing consultants regarded building separation as an important control, but noted that it should be applied in a robust Design Review process so that the best overall outcome can be negotiated. Discussion in the group supported the consideration of building separation, setbacks, visual privacy and communal open space as related but individually important factors for consideration.

The role of building separation is important to the function of the policy as described in 2.1 as the interrelated controls for Building Envelope and Building Massing (including Building Separation).

Recommended changes to Building Separation in the final ADP include:
- Align and cross-reference with setbacks and visual privacy requirements.
- Provide guidance for best practice approach to building separation, to support design review evaluation.
- Clarification of application of building separation at boundary (in relation to side setbacks), and within a development site. Revise diagrams accordingly.
- Omit separation requirements to boundary up to 4 stories in favour of site setback and privacy controls.
• Review Building Separation / Visual Privacy settings relating to open outlook or secondary windows. Differentiate major and minor openings in respective controls.

Recommended ongoing actions relating to Building Separation include:
• Work Module: Applying Design WA - Rollout programme will promote correct application of the policy by a range of stakeholders. Promote robust Design Review process as the basis for discretionary decisions.

Element 2.9 Street setbacks

For street setbacks, the relationship between proposed Apartment Design settings and equivalent local policies for streetscape was the most significant issue for local government respondents. Main themes in submissions included:
• Relationship to Local Policy: street setbacks are often defined by local planning, and there were queries about how pre-existing local policy would be affected by the proposed ADP.
• Secondary Streets: ADP refers to street setbacks instead of current R-Codes primary and secondary street setbacks
• Setbacks increased from current R-Codes: ADP refers to 'street setbacks' instead of current R-Codes terminology which uses 'primary' and 'secondary' street setbacks

Recommended changes to Street Setbacks in the final ADP include:
• Clarification in Intent and 1.2 Local Planning Framework that Local Governments have the ability to vary street setback.
• Add provision or footnote to Table 1 for secondary street setbacks for R40, and review definition for secondary street
• Revise Table 1 street setbacks for RAC coded areas to be 2m, or Nil for commercial use at ground floor.

Recommended ongoing actions relating to Street Setbacks include:
• Work Module: Local Policy Variations – Promote a consistent approach to amendments of street setbacks across Local Governments.

Element 2.10 Side and rear setbacks

Side and rear boundary setbacks are a major issue between development and neighbours, and impact on development yields, so this element attracted stronger commentary. Main themes in submissions included:
• 3m side setback: Increased from current R-Codes, was considered by some to be excessive. Concern about impacts on development yield, especially for narrow sites.
• 6m rear setback: comments included concern about impact on development yield. Some questioned why rear setback is treated differently to side setback, and considered the 6m arbitrary and not always appropriate. Others supported this measure as a commitment to locating existing tree retention and deep soil areas.
• Relationship to height: Increased setbacks are paired with additional height in D1 at R40 (see 2.6 above). Some submissions supported this approach and others were concerned about potential for detrimental outcomes.

Peer Review recommended edits to clarify the relationship between side and rear setbacks and building separation controls (see 2.8 above) and explain which one has precedence and how design should respond where setbacks are less than separation distances.
Design Testing indicated that the ability to seek discretion for portions of nil-setback within detached types would be important to develop narrow lot sites, as is envisaged by the note for boundary wall height limit in Table 1. Testing also indicated that achieving deep soil areas is often achievable when side setbacks Design Criteria are met.

As for street setbacks, local governments will have the capacity to adjust side and rear setbacks to suit local conditions. The advertised setbacks set a default standard that will complement other policy objectives such as existing tree retention, deep soil areas and visual privacy. There should be focus on ensuring correct application of the controls and monitoring of the effectiveness of the settings after implementation.

Recommended changes to Side and Rear Setbacks in the final ADP include:

- Amend side setbacks for R40 to better align with R-Codes and ensure small sites are not sterilised.
- Provide guidance to facilitate better application of discretion regarding side setbacks.
- Amend rear setbacks for R40 to R80 to better align with R-Codes and ensure small sites are not sterilised. This approach allows for more flexibility in locating deep soil and communal open space.
- Clarify relationship with Building Separation, including added footnote to Table 1.

Recommended ongoing actions relating to Side and Rear Setbacks include:

- Work Module: Applying Design WA - Design review as the rigorous basis for discretionary decisions.

**Element 2.11 Incentive based development standards**

Although there are some equivalent local policies and scheme provisions in place, the R-Codes have not previously directly engaged with incentive mechanisms, so there was substantial commentary on this element. Main themes in submissions included:

- Applying Incentives: mixed views expressed regarding the lack of consistency of how incentive mechanisms are usually applied across local governments, overall reinforcing the importance for well-considered policy (including the ADP element Incentive-based development standards, which is one part of this) and rigorous application.
- Precinct: Support for precinct-specific bonus policies, developed with community engagement
- Local Governments implementing incentives: concern that LGs may refuse to adopt bonuses. Risk that applicants assume bonuses are available without having been adopted or are automatically applied
- Extent of bonuses: commentary on the range of bonuses included in Table 1. Questions about how these are weighted against the bonus criteria
- Meeting bonus criteria: comments about how criteria can be evaluated and applied.
- List of incentives factors: commentary on the list of factors included for LG consideration. Some queried as not being appropriate basis for award. Suggestions of additional factors and alternative wording.

Peer Review recommended that the list of incentive based development standards is reviewed and Appendix A2 amended to include specific requirements or targets for each and to eliminate outcomes with uncertain public benefit.

Design Testing maintained conservative assumptions for discretion generally, and did not test incentive-based guidance or the bonus provisions of Table 1. Group discussion did support the benefits of incentives to facilitate design outcomes that exceed the standard requirements.
Recommended changes to Incentive-Based Development Standards in the final ADP include:

- Rename as 2.8 ‘Development Incentives for Community Benefit’.
- Remove development incentives from Table 1 and measurable criteria from this section. The intent of this section is to provide guidance for local government on relevant considerations for establishing development incentives provided in exchange for community benefit.

Recommended ongoing actions relating to incentive-based development standards include:

- It is proposed to develop a policy for Precinct Design as a companion volume to the ADP, which will include guidance for establishing and operating precinct-based bonus policies.
- It is proposed to develop a Community Engagement Guide which will advise on good-practice community engagement, including involving communities in establishing appropriate bonus policies.

**Element 2.12 Coordinating local policies**

Most submissions on this element were related to the interface between R-Codes and local planning policy, which is addressed by 1.1 Preliminary and 2.2 Modifying primary controls. There was some confusion about the role of this element, as it only relates to associated local policies (such as public art, parking etc.) rather than Local Planning Policies dealing with apartment design.

Although comments generally supported the intent of this element, it simply reinforces general good-practice and in statutory terms is superfluous. It can be removed as part of other proposed changes to consolidate Part 2 Primary Controls.

*It is recommended to that element 2.12 Coordinating Local Policies is deleted from the final ADP.*

**Element 3.1 Site analysis and design response**

There was general acceptance of the role of site analysis, but commentary on the degree of process involved to address this element. Main themes in submissions included:

- Concern regarding LG skills and capacity to assess this section.
- Level of information/detail and format required needs to be clear. Some called for requirements for documentation and reporting to adapt to development scale thresholds.
- Important that site analysis includes existing trees to be retained or removed.
- Consideration of mandatory pre-lodgement meetings.
- Streetscape character: Impact of the development on the existing neighbourhood and implications for areas in transition. This is reliant on LG having identified the future character.
- Clarity of A3 and A4 Checklists for Site Analysis and design response.

Peer Review supported the inclusion of Design Criteria for site analysis, which is only guidance in NSW ADG, leading to varying quality of information submitted to design review and for DAs. It was noted that good site analysis is important for early design review.

*Submissions and other consultation feedback indicates that thorough site analysis assists design review and statutory processes, and strongly correlates with better design outcomes that are well-considered and contextually responsive.*
Recommended changes to Site Analysis and Design Response in the final ADP include:

- While the content of section 3.1 is important, it is not considered a separate assessable element and there is duplication of the requirements of clause 63 of the LPS Regulations ‘deemed provisions’. The content will be retained under Part 3 but not structured as a separate element.
- Renumbrered to 3.0.
- The Intent and Design Guidance have been revised and will remain whilst the Objectives and Design Criteria/Acceptable Outcomes have been removed.
- Review site analysis submission requirements, including adapting level of detail provided to be appropriate for the level of complexity of the development. This is to be presented as a guide only and moved to the appendices.
- Clarify refinements for documentation of existing trees to be retained and removed.
- Combine Appendix A3 and A4 for site analysis and design response and refine at each project stage. The appendix to be re-named ‘A3 Site analysis and design response guide’.

Recommended ongoing actions relating to incentive-based development standards include:

- **Work Module: Applying Design WA** – Facilitate education and training for assessors and decision-makers to review and respond to site analysis provided.
- It is proposed to formulate a policy for Precinct Design, which will include guidance for contextual response to streetscape.

**Element 3.2 Orientation**

Orientation is an element that considers the overall arrangement of development on a site, and therefore intersects with a number of other elements in the policy. Main themes in submissions included:

- **Design Criteria**: Call for specific requirements for apartment orientation / streetscape interface / overshadowing.
- **Overshadowing**: Clarify assessment of overshadowing requirements. No Design Criteria equivalent to current R-Codes deemed-to-comply. Comments on protection of solar access to neighbouring solar collectors.
- **Commentary on design options in guidance and diagrams, with queries about how they could be applied with common site constraints.**

Peer Review provided insights into related NSW experience and recommended consideration of Design Criteria for overshadowing and guidance for assessment of overshadowing.

Orientation relates to Design Criteria in other elements, but should not duplicate or conflict with those more detailed requirements. It should instead function as an opportunity for integrated consideration of those elements at a formative stage of the design process.

Recommended changes to Orientation in the final ADP include:

- Renumbrered to 3.1
- **Acceptable Outcomes**:
  - street orientation; northern solar access; overshadowing (see below); solar collectors (see below).
- **Overshadowing**: Maintain existing R-Codes Design Criteria for maximum overshadowing of neighbouring site: 25% in R25 and lower; 35% in R30 to R40; and 50% in R50 to R60). Overshadowing in higher density codings would continue to be assessed according to Element Objectives and Design Guidance.
- Assessment of overshadowing on neighbours is to be demonstrated for 21 June, between 12pm and 3pm. Include requirement to note location of adjacent solar collectors in checklists.
- Solar collectors: Solar access requirements for existing solar collectors on adjoining site R40 and below.
- Refinements of figures and annotations

**Element 3.3 Existing tree retention**

Local Government responses supported the introduction of this element, citing the loss of tree canopy as a significant challenge for their areas. Many LG responses called for clarification of the means to make the provision mandatory and enforceable. Several LGs are currently working on local controls of a similar nature, which reinforces the opportunity for a shared approach. It was noted that enforcement, particularly of the proposed “5 year rule”, would be challenging.

Developers and industry associations often acknowledged the need to address loss of urban tree canopy, but expressed concern that existing tree retention could make some sites undevelopable if too rigidly enforced. It was also noted this requirement does not apply to any other development types and is therefore an onerous requirement for apartment development.

Robustness and workability of the proposed controls was the main focus, referring to issues such as:

- Identifying trees for retention: Commentary on criteria - size, species, health etc
- Proposed “5-year rule” to prevent pre-emptive tree removal: Concern that provision would be difficult to enforce consistently and reliably.
- Tree offset: Option to offset tree removal with new trees by LG – dependant on local policy. Calls for more detailed explanation of intended effect.
- Tree replacement: Option to replace trees (through Deep Soil provision) – call for more detail about replanting requirements – size, spacing, species etc.
- Impact on cost, yield and design outcomes. Concern that podium style development and underground parking configurations will be constrained.

Specialist landscape review was engaged to review submissions and draft changes to the final ADP. This included detailed arboricultural advice to refine Design Criteria and guidance of this section.

**Recommended changes to Existing Tree Retention in the final ADP include:**

- Incorporate this section with Deep Soil Areas to reinforce the intent across these two elements to preserve and increase urban tree canopy. The section to be re-named 3.2 ‘Tree Canopy and Deep Soil Areas’.
- Changes to Intent text for clarity.
- Objectives: as per existing elements.
- Acceptable Outcomes: criteria for retention of existing trees; arboriculture assessment of existing trees; protection of adjoining trees; location of deep soil areas; shade trees; permeable paving; provision of planting on structure.
- Modify criteria for identification of trees to retain, with a higher threshold applying to fewer trees (but of more significance). Clarify expectations for tree survey and evaluation of trees for retention.
- Reorient the existing tree provision to be incentive-based – allowing reduction of deep soil requirement from 10% to 7% of site.
- Remove the proposed ‘5 Year Tree Rule’ and Offset provisions.
- Clarify that trees removed are replaced through the deep soil requirement. Remainder of deep soil area beyond existing tree is to be planted as per 3.4.
- Consider replacing photos and figures with more appropriate examples.

**Recommended ongoing actions relating to Existing Tree Retention include:**
• Work Module: Monitoring and Feedback - Collect data to inform post-implementation review of the effectiveness of ADP existing tree retention requirements.
• Investigate equivalent measures for other housing types in future stages of R-Codes reforms.

**Element 3.4 Deep soil areas**

Deep soil area (DSA) provisions have attracted diverse commentary from stakeholders, with significant support for the measures but also some concern expressed. Main themes in submissions included:

- Widespread support for deep soil areas to maintain trees as part of apartment developments.
- Impact on cost, yield and development types: concern that podium style development and underground parking configurations will be constrained.
- Settings: Some queried the advertised Design Criteria of 12% of site area DSA – higher target than SEPP65 in NSW
- Some recommended DSA shouldn’t apply to small sites, eg. threshold 650m² - 1200m²
- Design Guidance notes that some urban sites won’t accommodate DSA, but submissions questioned how that threshold will be decided.
- Planting on structure: Design Guidance for 25% of site area as planting on structure in lieu of DSA considered unreasonably high.
- Metrics: Commentary on deep soil area constraints and minimum depth

Design Testing demonstrated that it is possible to accommodate Deep Soil Areas even in challenging development sites, but often entailing some changes of development assumptions, such as carparking provision or basement configuration, which can be significant factors.

Specialist landscape review was engaged to review submissions and draft changes to the final ADP. This included detailed arboricultural advice to refine Design Criteria and guidance of this section.

**Recommended changes to Deep Soil Areas in the final ADP include:**

- Incorporate this section with Existing Tree Retention and re-name 3.2 ‘Tree Canopy and Deep Soil Areas’.
- Objectives and Acceptable Outcomes as listed above.
- Settings: to lessen impact on development yield, reduce Design Criteria for to 10% site area DSA (advertised 12%) or 7% DSA if an existing tree is retained (advertised 8%).
- Planting requirements: include additional table to link DSA dimensions to the provision of a tree and specifying minimum DSA dimensions and tree sizes.
- Flexibility: Add guidance for the use of permeable paving.
- Offset to Planting on structure: Introduce Design Criteria for planting on structure as an alternative to DSA, equivalent to 1.5 times the shortfall if less DSA provided. Include definition for planting on structure in Definitions section.
- Publish design testing scenarios to demonstrate appropriate responses to typical development conditions such as constrained sites and with underground parking.
- Update diagrams and review for clarity and consistency.

**Recommended ongoing actions relating to Deep Soil Areas include:**

- Work Module: Monitoring and Feedback - Collect data to inform post-implementation review of the effectiveness of ADP deep soil area requirements.
- Investigate equivalent measures for other housing types in future stages of R-Codes reforms.
Element 3.5 Communal and Public Open Space

The majority of responses related primarily to the need to provide communal open space (COS). Some typical issues raised include:

- Impact on cost, yield and feasibility.
- Design Criteria: clarify basis for the settings.
- Commentary on minimum dimension and inclusion as Design Criteria instead of guidance.
- Communal open space as requirement or incentivised through plot ratio/height bonuses.
- Maintenance and associated costs of communal areas.
- Offsetting or reductions due to proximity to local parks.
- Development size thresholds
- COS access to sunlight: calls to reduce or increase requirements, and how to assess
- Public open space: when it applies and relationship to development contributions.
- Consideration of animal friendly apartment design.

Design Testing projects improved upon the communal open space outcomes of reference projects (which in some cases did not include any COS), with usable areas well-integrated into the building configuration. These areas generally had multiple benefits, also improving building separation, visual privacy, solar access, ventilation, and deep soil areas.

Recommended changes to Communal and Public Open Space in the final ADP include:

- Amend heading to ‘Communal Open Space’ and re-number to 3.3.
- Four Objectives in draft rephrased to three. Broadly they are: appropriate to nature of development; accessible, amenable and safe; minimise impact on private space.
- Acceptable Outcomes: size (see below); accessibility (see below); sunlight access; co-location with DSA, planting on structure and indoor communal spaces; screening from services; CPTED; manage impact on private spaces.
- Size: Adjust the methodology for calculating open space to be derived from dwelling numbers not site area, as the advertised method penalised low rise development on large sites. Include a minimum dimension for communal open space as an Acceptable Outcome, and a minimum requirement for hard landscaping so functional space is provided in addition to DSA.
- Accessibility: Included reference to disability access and performance measures for safety and managing impacts in Acceptable Outcomes.
- Refine guidance references to children’s play areas and pets.
- Refinements of terminology and definitions.

Element 3.6 Visual Privacy

Many responses sought clarification relating to the interpretation and application of the objectives and Design Criteria. Main themes in submissions included:

- Expectations of visual privacy are often relative to urban density
- Impact of Design Criteria on site yield, especially smaller, narrow lots (such as lots <20m).
- Question the function of visual privacy controls in addition to similar offsets in building separation and side setbacks. Also related to solar orientation, views and outlook. Some called for removal of Visual Privacy.
- Boundary to lower density codes and interface with different land uses
- Use of screening: Mixed views on visual privacy techniques such as screening, adjustable louvers and highlight windows.
- Clarity and workability of diagrams and metrics.
Design Testing demonstrated effect of Visual Privacy provisions on a range of sites. Although the Design Criteria were sometimes not met, solutions were presented to the satisfaction of the review panel. The group recommended that guidance for design reviewers is provided, in order to facilitate consistent assessment when alternative solutions are presented. This might be part of a handbook for Design Review Panel members and assist in providing some consistency to site by site comparisons over time.

Recommended changes to Visual Privacy in the final ADP include:

- Re-number the section to 3.4.
- Acceptable Outcomes: privacy setbacks to adjoining sites; unscreened balconies; external outlook; location of windows and balconies.
- Adopt consistent cone of vision terminology and geometry as per current R-Codes
- Table has been modified to relate more closely to R-Code provisions.
- Minor edits to clarify Design Criteria, guidance and definitions.

Recommended ongoing actions relating to Visual Privacy include:

- Work Module: Applying Design WA - Consider guidance for design review panel members in order to facilitate consistent assessment of alternative solutions. This guidance would be separate to the ADP so it can be more frequently updated and refined by post-implementation monitoring.

**Element 3.7 Public domain interface**

This element takes a more urban-oriented and performance-based approach than the equivalent provisions in the R-Codes and many local policies, so drew commentary on matters of detail and the degree of enforcement. Main themes in submissions included:

- Design Criteria: some respondents called for specific metrics to be included as Design Criteria, such as fence and wall heights, materials, permeability, level changes and extents of frontage of specific uses.
- Questions about over the clarity and intent of Design Guidance provisions.

The ADP acknowledges the diversity of urban conditions of apartment frontages, and that designers need some flexibility to respond to the site, adjacent properties and local context generally regarding how development interfaces with the public domain, in order to provide good quality, consistent streetscapes. Qualitative Acceptable Outcomes have been introduced to indicate ways in which the Element Objective can be achieved.

Recommended changes to Public Domain Interface in the final ADP include:

- Re-number the section to 3.5.
- Acceptable Outcomes: direct entry to the street; parking in setback; overlooking the public domain; balustrading; ground floor change in level (see below); front fencing; opportunities for concealment; bins; services and utilities.
- Changes in level and front fence/wall height: average 1m and max 1.5m is replaced with R-Codes 1.2m max and elevated from Design Guidance to an Acceptable Outcome.
- Review guidance text for clarity and to support Design Review evaluating proposals with discretion.
- Amend guidance relating to passive surveillance and visual privacy, fire fighting and service access considerations.
- Update diagrams and annotations accordingly.
Element 3.8 Pedestrian access and entries

A relatively uncontroversial element, comments on this echoed matters addressed in other elements:

- Design Criteria: some respondents called for specific metrics to be included as Design Criteria, such as entry characteristics, separation of entries, vehicle/pedestrian accessways.
- Universal Design: several submissions called for stronger accessibility considerations.

Recommended changes to Pedestrian Access and Entries in the final ADP include:

- Re-number the section to 3.6.
- Acceptable Outcomes: continuous path of travel; weather protection; safety and amenity; shared zones; services and utilities; bins.

Element 3.9 Vehicle access

A relatively uncontroversial element, comments on this echoed matters addressed in other elements:

- Design Criteria: some respondents called for specific metrics to be included as Design Criteria, such as number of driveways, crossover widths.
- Clarify and provide more specific guidance for driveway design of small developments.

This element should be address planning considerations without overlapping with functional standards for vehicles provided by Austroads and Australian Standards.

Recommended changes to Vehicle Access in the final ADP include:

- Re-number the section to 3.7.
- Acceptable Outcomes: number of openings (see below); façade integration; separation from intersections; light nuisance; driveway width; driveway design for two-way access (see below).
- Number of openings: Acceptable Outcome to limit vehicle access to 1 opening per 20m street frontage as per Part 6 of the R-Codes.
- Driveway design for two-way access: Acceptable Outcome to ensure driveways are designed for two way access and allowing vehicles to enter the street in forward gear, as per Part 6 of the R-Codes.
- Minor text edits to clarify Design Guidance.
- Add guidance on location of visitor parking bays and intercom.
- Add guidance on driveway width reduction for smaller developments.

Element 3.10 Car and bicycle parking

A significant factor in apartment developments, many responses were received from stakeholders on the topic of parking. Submissions addressed the proposed ratios in Table 3.10.1. Other key issues raised were the adequacy of bicycle parking and storage, visitor parking ratios, and provision for electric vehicle parking within new developments. These included:

- Consideration of lower minimum parking ratios (below 0.75 bays per dwelling) or zero bays for certain locations such as the CBD.
- Support for market-driven approach to parking requirements.
- Visitor parking controls - impact on local streets, visitor parking in front setback, gated access.
- Traffic management plan requirements.
Design Testing demonstrated the implications of ADP on parking configurations on a range of sites.

Specialist Review included a survey of levels of usage of residential parking in existing apartment buildings, which demonstrated that whilst there was underutilisation of available bays the usage did support the provisions in the advertised ADP.

Recommended changes to Car and Bicycle Parking in the final ADP include:

- Re-number the section to 3.8.
- Acceptable Outcomes: bicycle parking; car and motorcycle parking; maximum parking provision; design standards; parking in the front setback (see below); screening and visual impacts; visitor parking; parking shade structures; at-grade parking planting requirements; basement parking above ground.
- Include guidance on parking management and unbundling.
- Changes to motorcycle parking criteria (3.10.2 DC2).
- Electric vehicle charging moved from Design Criteria (3.10.2 DC3) to Design Guidance.
- Combine Objectives and consolidate guidance and acceptable outcomes.
- Parking in the front setback: Acceptable Outcome that discourages above-ground parking within primary street setback.
- Other minor text edits for clarity.
Element 4.1 Solar and Daylight Access

Comments received regarding Solar and Daylight Access often echoed those for Natural Ventilation, as new passive design additions to R-Codes. Main themes in submissions included:

- Concern that Design Criteria may be too onerous and restrict dwelling yields.
- Commentary on settings call for evidence-based justification of proposed requirements.
- Technical assessment of direct daylight requires added skills and adds to process for applicant’s designers, and many different technical solutions may be argued.
- Overlap with BCA requirements. Some BCA factors may work against natural ventilation – e.g. restricted window-opening for safety reasons, however the BCA provides guidance on how ventilation may be calculated for these windows.
- Design Criteria are most easily satisfied by dual-aspect apartments within relatively narrow buildings (implying open-deck access or multiple core configurations), while deeper-footprint buildings (double-loaded corridor configurations) may find it harder to meet Design Criteria. This may challenge some current development preferences. The NSW experience is that it has changed standard building forms.

Design Testing demonstrated effects of provisions for Solar and Daylight on a range of sites, which has informed review of guidance for the final ADP.

Assessment Testing indicated that planners may have some difficulty in assessing some of the technical Design Criteria, such as natural light and overshadowing. Indicates that further guidance and training in assessment methods would be beneficial, as well as greater level of detail required on application plans and reinforcing the role of Design Review in those instances where Design Criteria are not met.

Design Testing and extensive consultation indicates that industry can adapt to the proposed settings, which will encourage innovative responses to the policy Objectives.

Recommended changes relating to Solar and Daylight Access in the final ADP include:

- Acceptable Outcomes: direct sunlight requirements; snorkel bedrooms and glazing; exclusion of lightwells as a primary source of daylight; external shading devices.
- Refine diagrams to assist with assessment methodology.
- Improve guidance for applying sunlight controls, including Design Guidance for application of discretion. Provide guidance and examples for assessment methodology.
- Review Appendix A5 for DA submission requirements.
- Include ‘borrowed light’ in definitions.

Recommended ongoing actions relating to Solar Daylight and Natural Ventilation include:

- Work Module: Monitoring and Feedback - Collect data to inform post-implementation review of the effectiveness of ADP solar and daylight access and natural ventilation requirements. In particular review whether the provisions result in a tendency towards east and west facing apartments and determine the impact and performance of these.
- Work Module: Applying Design WA - Consider explanatory notes for assessors and decision-makers about where sunlight controls should be upheld or varied.
Element 4.2 Natural Ventilation

Comments received regarding Natural Ventilation often echo those for Solar and Daylight Access, as new passive design additions to R-Codes. Main themes in submissions included:

- Concern that Design Criteria may be too onerous and restrict dwelling yields
- Commentary on settings – cross-ventilation targets, different requirements for low and high-rise developments. Several submissions call for evidence-base for proposed requirements.
- Technical assessment of ventilation configurations require added skills and add to process for applicant’s designers and many different technical solutions may be argued.
- Overlap with BCA requirements. Some BCA factors may work against natural ventilation – eg restricted window-opening for safety reasons, however the BCA provides guidance on how ventilation may be calculated for these windows.
- Design Criteria are most easily satisfied by dual-aspect apartments within relatively narrow buildings (implying open-deck access or multiple core configurations), while deeper-footprint buildings (double-loaded corridor configurations) may find it harder to meet Design Criteria. This may challenge some current development preferences.

Recommended changes relating to Natural Ventilation in the final ADP include:

- Acceptable Outcomes: habitable room openings; minimum natural ventilation requirements; cross-over and cross-through apartments; exclusion of lightwells as a primary source of ventilation.
- Replace Objective 4.2.1 with: ‘Individual dwellings are designed to optimise natural ventilation of habitable rooms’.
- Clarify cross ventilation provisions (4.2.2 DC1) for apartments 10 storeys and above.
- Add cross ventilation guidance to address technical queries for the preparation or assessment of proposals.
- Clarify wording to refer to cross ventilation or equivalent natural ventilation.
- Add guidance that layout should optimise proximity to natural ventilation for wet areas where possible.

Recommended ongoing actions relating to Natural Ventilation are as noted in 4.1 above.

Element 4.3 Ceiling Heights

Many submissions supported higher ceiling heights as an important resident amenity factor, but there were some objections from developers and industry associations. Main themes in submissions included:

- Development implications: increased costs and design constraints.
- Decrease in yield: Some expressed concern about yield impacts; however, this provision is matched with controls for building height to be expressed in storeys instead of metres, so yield should not be affected.
- Overlap with BCA: Some object to planning controls being introduced where there are also BCA controls. See above - Key issue: Relationship to BCA.
- Concern that apartments are unduly penalised if same requirements don’t apply to houses.
- Reduced ceiling height in kitchens should be acceptable, to allow for bulkheads and services.
- Consider better alignment with construction norms – eg. brick coursing
- Additional ground floor height for future conversion to mixed-use might not be appropriate in all locations, and may not be cost-effective.
Submissions and consultation support Ceiling Height settings and indicate 2.7m ceiling heights are already common in affordable apartments. Lower heights may be justified with lower room depth, subject to BCA controls for minimum habitable standard. Also, those instances where there is an argument for slight variation from the 2.7 height to suit brick coursing can be easily accommodated in Design Review.

Recommended changes to Ceiling Height in the final ADP include:

- Rename element to 4.3 ‘Size and Layout of Dwellings’ and incorporate content from section 4.4 ‘Apartment Size and Layout’
- Acceptable Outcomes: minimum apartment size; minimum room size; minimum ceiling heights; apartment depth.
- For clarity require 2.7m for habitable rooms and 2.4 for non-habitable rooms; otherwise refer to BCA.
- Clarify Design Guidance for additional heights for future ground floor adaptability.

Recommended ongoing actions relating to Ceiling Height include:
- Work Module: Monitoring and Feedback - Collect data to inform post-implementation review of the effectiveness of ceiling height requirements.

Element 4.4 Apartment Size and Layout

Although there was support for minimum apartment sizes, particularly from Local Governments, development industry submissions advocated a market-driven approach to determine sizes. Main themes in submissions included:

- Minimum apartment sizes: Impact on cost and yield. Not responsive to change and could stifle innovation.
- Provision of typical plans supported, although there was commentary on some plan types.
- Room depths: typical layouts and furnishing may require more than indicated.
- Room sizes: Suggestion that key rooms are given minimum dimensions, instead of overall apartment size (as adopted in Victoria). On the other hand, it is noted that room size is not routinely checked as part of the assessment of a Building Permit application so may change following planning approval.
- Settings: some queried sizes in Design Criteria, and evidence base for current market failure with respect to apartment size.
- Measurement: call for clear standards for measurement, aligned to other industry practice.

Design Testing scenarios have demonstrated that when working to apartment minimum sizes, some internal room dimensions can be challenging. It is important that the standards are not rigidly applied and that alternative solutions are considered in Design Review.

Apartment size is an important benchmark for establishing apartment market patterns. The existence of controls in the R-Codes has avoided some negative trends seen in other states.

Recommended changes to Apartment Size and Layout in the final ADP include:

- Incorporate content of this section with Ceiling Heights and re-name 4.3 ‘Size and Layout of Dwellings’.
- Acceptable Outcomes: As noted above.
- Specify an additional dimension that may be allowed for a kitchen in an open-plan living/dining/kitchen, in addition to the 3x ceiling height formula.
- Correct distortion of plans in advertised draft, and ensure all are at consistent scale.
• Align to BCA standard for Floor Area measurement and adapt to minimum extent necessary for ADP and future R-Codes reforms. Add definition referencing BCA. Consider diagram in ADP or in design testing case studies.

Recommended ongoing actions relating to Apartment Size and Layout include:
• Work Module: Applying Design WA – Facilitate education and training for assessors and decision-makers for correct application of discretion in relation to Design Criteria.
• Work Module: Monitoring and Feedback - Collect data to inform post-implementation review of ADP apartment size standards

Element 4.5 Private open space and balconies

Commentary for this element was contained to matters of detail, including:
• Design Criteria: increase / reduce minimum areas and balcony depths. Clarify how the settings were derived.
• Ground Floor: Concern that dimensions for ground floor terraces are greater than balcony minimums.
• Call for more specific guidance on administering private open space variations.
• Call for Design Criteria for balcony location and integration, detail and architectural form.
• More guidance required on animal friendly private open space.
• Stronger controls to prevent air conditioning units on balconies.

Recommended changes to Private Open Space and Balconies in the final ADP include:
• Renumber to 4.4.
• Acceptable Outcomes: private open space requirements; restrictions on privacy screening; design of private open space; integration of services and fixtures (see below).
• Integration of services and fixtures: Include in Acceptable Outcomes that air conditioning units on balconies should not encroach on the minimum balcony size and be screened from the street.
• Include guidance note supporting deep balconies to maximise shading of living spaces in climate zones 1 and 3.
• Include guidance note to consider the safety and amenity of pets in the design of private open space.
• Refine diagram for using balcony design to mitigate overlooking.

Element 4.6 Circulation and common spaces

Circulation configuration is a significant factor in planning a development, and commentary focused on the implications of these new controls for different development types. Main themes in submissions included:
• Concern that circulation core criteria will have a negative impact on larger developments, resulting only in multiple core developments.
• Concern that circulation core criteria is inconsistent with building separations, cross ventilation, acoustic privacy and other provisions.
• Impact of lift servicing Design Criteria on cost and affordability.
• Commentary on lift specifications and other methods of measuring this criteria, such as lifts per people/occupants.
Recommended changes to Circulation and Common Spaces in the final ADP include:

- Renumber to 4.5.
- Acceptable Outcomes: circulation corridor width; CPTED; lighting; separation from habitable rooms and privacy.
- Remove 4.6.1 DC1 and DC2 for apartments per core and lift provision per number of apartments. Incorporate as a Design Guidance consideration.
- Minor edits to terminology, definitions, figures and diagrams.

It was confirmed that the circulation criteria were not inconsistent with other provisions.

**Element 4.7 Storage**

Main themes in submissions included:

- Units of measurement: square meters (simpler to assess) vs. cubic metres (more flexibility)
- Include minimum internal dimensions of storage areas.
- Debate over the splitting of storage (50% may be separate from the apartment)
- Clarify how storage is to be determined. What types of storage is included/not included.

It is proposed to retain measurement of storage space in square metres, as simpler to assess and more readily related to apartment size measures generally. Design Guidance supports alternative proposals in cubic metres.

Recommended changes to Storage in the final ADP include:

- Renumber to 4.6
- Acceptable Outcomes: bulky goods storage requirements; access and safety; location and integration of storage.
- Introduction of a minimum dimension and height for storage requirements.
- Design Guidance to reinforce CPTED considerations, especially where storage is remote from the apartment.
- Revise definitions and clarify application of requirements.

**Element 4.8 Acoustic privacy**

Comments indicated a common expectation that this element would be a technical standard; however, it is actually focused on achieving layouts that contribute to acoustic privacy. Main themes in submissions included:

- Difficulty in assessing the objectives. Insufficient assessment tools/Design Criteria to achieve the objectives. Consider introducing Design Criteria.
- Need for the relationship with the BCA to be clarified.

This element has been merged with Noise and Pollution to form a new section 4.7 ‘Managing the Impacts of Noise’.

The intention is to prompt acoustic considerations at the planning stage. An acoustic report will not be required for small development but may be required for larger development and/or developments near a noise source. This would be normal practice to demonstrate BCA compliance anyway. Design review panels will assist identifying acoustic privacy issues evident in proposed layouts.

Recommended changes to Acoustic Privacy in the final ADP include:
• Merge this section with 'Noise and Pollution' to form a new section 4.7 ‘Managing the Impacts of Noise’.
• Refine Intent text to clarify the function and purpose of this element.
• Refine objectives to address internal and external noise sources and speak to siting and layout, as well as use of acoustic treatments to manage noise.
• Acceptable Outcomes: AAAC acoustic rating that exceeds the minimum requirements of the BCA; sound intrusion from building services; orientation/shielding of major openings.

Element 4.9 Noise and pollution

Comments indicated a common expectation that this element would be a technical standard, however it is actually focused on strategies for noisy sites through siting and orientation, as well as early consideration of detail issues where they might influence planning of a development. Main themes in submissions included:

• Difficulty in assessing the objectives. Insufficient assessment tools/Design Criteria to achieve the objectives. Consider introducing Design Criteria.
• Only applicable to certain development or overlapped with other government rules and regulations.

Recommended changes to Noise and Pollution in the final ADP include:

• Merge this section with ‘Acoustic Privacy’ to form a new section 4.7 ‘Managing the Impacts of Noise’.
• Acceptable Outcomes: as noted above.

Element 4.10 Apartment mix

The responses were divided between those calling for more specific criteria (generally local governments) and those stressing the importance of not setting a policy constraint that might not be feasible (developers). Main themes in submissions included:

• Inclusion of Design Criteria: Minimum dwelling mix, as included in current R-Codes. (see Key Issue summary above)
• Importance of a context-specific response
• Apartment mix should be market driven rather than regulated.
• Comments on guidance for locations of apartment types within a development – concern that it might be restrictive.

Apartment mix is closely connected to development feasibility, and needs to adapt to diverse contexts. However, it is also desirable the individual dwellings do include a mix of apartment sizes/types to attract diversity amongst residents. An Acceptable Outcome has therefore been included requiring diversity in apartments but not prescribing particular types to achieve a mix. Developers may therefore respond according to the market.

Recommended changes to Apartment Mix in the final ADP include:

• Retitling this section ‘Dwelling Mix’ and renumber to 4.8.
• Acceptable Outcomes: Local Housing Strategy or 20% of apartments are of different size; different types are spread through development to meet different needs.
• Minor text edits to use consistent style for Design Guidance.
Element 4.11 Ground floor apartments

Main themes in submissions included:
- Call for inclusion of Design Criteria (see Key Issue summary above)
- Providing for future conversion of ground floor apartments to commercial or retail – ramped access requirements and ceiling heights. Concern if adaptability measures are at the expense of affordability.
- Better alignment with 3.7 Public Domain Interface, 4.16 Universal Design and accessibility objectives.

On review the content of this section duplicated content in Public Domain Interface, Apartment Mix, Universal Design and Mixed Use. It has omitted from the final document and the content incorporated in these sections.

Recommended changes to Ground Floor Apartments in the final ADP include:

Element 4.12 Facades

Main themes in submissions included:
- Call for inclusion of Design Criteria (see Key Issue summary above). Some suggestions that more detail is needed – street surveillance, façade performance,
- Concern about potential cost increases – how will this be assessed and what will be required.
  Include reference to CPTED, precinct planning and 3.1 Site Analysis and Design Response.

Recommended changes to Facades in the final ADP include:
- Renumber section to 4.10.
- Include content from 4.19 ‘Awnings and Signage’.
- Objectives expanded to include materiality and proportions.
- Acceptable Outcomes: scaling, articulation, rhythm, visual interest; design of taller buildings; key datum lines of adjacent buildings; screening of building services from the street; awnings and signage; integration of signage and streetscape character.
- Introduce Design Guidance supporting “bird-friendly” building design, as recommended by RSPCA.
- Minor edits to guidance wording for clarity.

Element 4.13 Roof design

Main themes in submissions included:
- Inclusion of Design Criteria or Guidance referencing concealment of visually less desirable features
- The need to recognise neighbourhood character and scale, in order to create legible streetscapes
- Photovoltaic panel requirements.

Recommended changes to Roof Design in the final ADP include:
- Renumber section to 4.11.
- Objective 4.13.2 and 4.13.3 merged.
- Acceptable Outcomes: streetscape character; services hidden from view; and useable roof space.
- Edits to Design Guidance to respond to feedback noting specific elements.
- Minor edits for consistent style of Design Guidance.

Element 4.14 Landscape design

Main themes in submissions included:
- Inclusion of Design Criteria – Landscape and maintenance plan/ minimum provisions.
- Landscaping should be scaled according to the type and size of the development.
- Commentary on the requirements and expectations of landscape maintenance plans.
- Consideration of WA species and climate.
- Clarify the requirements and expectations of this section – potentially difficult to assess.

The ADP does consider landscape in relation to WA species and climate.

Recommended changes to Landscape Design in the final ADP include:
- Renumber section to 4.12.
- Include content from 4.15 ‘Planting on Structure’.
- Incorporate Water efficiency in Objectives.
- Acceptable Outcomes: submission of a landscape plan; siting for beneficial shade and amenity; planting on structures requirements.
- Minor changes to Design Guidance relating to rootable soil zones.
- Minor changes to Design Guidance relating to permeable pavement surfaces.

Element 4.15 Planting on structures

Main themes in submissions included:
- Inclusion of Design Criteria – planting on structure requirements / minimum soil standards.
- Consideration of WA species and climate – commentary on green roofs vs green walls and the implications of climate.
- Cost impacts of planting on structure.
- Clarify the requirements and expectations of this section – may be difficult to assess.
- 25% of site area as planting on structure in lieu of Deep Soil Areas was considered a high target.
- Commentary on the minimum soil standard table (Table 4.15) – Clarify the source of these numbers / Are these mandatory requirements?

Recommended changes to Planting on Structure in the final ADP include:
- Delete this element and include content in 4.12 ‘Landscaping’ and 3.3 ‘Tree Canopy and Deep Soil Areas’.
- Minimum soil standards for plants and sizes included as Acceptable Outcome.
- Provide statement to clarify that planting on structure is not mandatory.
- Review photos and provide more appropriate examples of planting on structure.
Element 4.16 Universal design

Most submissions supported the introduction of standards for universal design. Of the objections, most advise that such standards should be implemented through another channel, such as alignment to a national standard.

Main themes in submissions included:
- Universal design targets under consideration by COAG – should align with outcome decision.
- Some advised making the standards stronger or mandatory.
- Accessible car bays take up significantly more space, challenging for an apartment complex.
- Consider ways of identifying accessible units to future consumers.

This element has been moved up to follow Dwelling Mix in the document, as it is related and it provides more prominence for the issues in the document.

The Department of Communities has advised that Liveable Housing Australia should be used instead of WA Liveable Homes.

Recent advice also demonstrated that the document should give more attention to the need to provide universal access in communal areas which are increasingly interpreted as publicly accessible.

Recommended changes to Universal Design in the final ADP include:
- Renumber this section to 4.9.
- New Objective addressing accessibility throughout the site.
- Acceptable Outcome based on Design Criteria of 20% adaptable dwellings and alternative outcome of 5% fully accessible (platinum) dwellings.

Element 4.17 Adaptive re-use

Main themes in submissions included:
- Inclusion of further statements to highlight that heritage buildings may be protected under the Local Planning Scheme, as well as state and national legislation.
- Reference tree protection as heritage protection can apply to trees.

Recommended changes to Adaptive Re-use in the final ADP include:
- Renumber section to 4.13.
- Edit Objectives to separate built form design and heritage outcomes from design for dwelling amenity.
- Acceptable Outcomes: additions are identifiable from original; and referencing of original features.

Element 4.18 Mixed use

The interface between residential and mixed-use components can be complex, and comments raised a range of issues on the subject. Determining the right level of detail to include in this R-Codes volume is the key issue.

Main themes in submissions included:
• Mixed use is a substantial topic and requires stronger guidance. Some suggest that it is relocated to a Development Control Policy or additional SPP.
• More guidance is needed regarding the location of mixed use developments, setback requirements and dimensions.
• Comments and submissions identified the challenges, complexities and cost implications associated when residential and non-residential uses are in close proximity.
• Issues associated with acoustic privacy, odour from non-residential uses, traffic and parking, fire separation, disabled access, separation of public vs. private parts of the building, and the sharing of communal facilities.
• Assortment of issues raised that did not provide specific changes and were extremely dependant on the site context and design response of each proposal.
• Costs for future-proofing to allow for adaptation of residential to non-residential purposes.

The intention of 4.18 is not to provide comprehensive guidance on the subject of mixed use development, but to ensure that basic considerations are made early in the design process. More detailed regulations for different development types (other than residential) are in BCA and Local Government policies, and the R-Codes should not create conflict with those.

The proposed future policy for Precinct Design will provide more guidance for locational characteristics for mixed use centres.

Recommended changes to Mixed Use in the final ADP include:
• Renumber the section to 4.14.
• New Objective regarding activation of street.
• Acceptable Outcomes: appropriate location; provision for future adaption to mixed use; street activation; continuous path of travel; provision of parking, waste management, and amenities; mitigation of impacts on residents.
• Amend Design Guidance regarding future adaptability of ground floor from residential to mixed-use.

Element 4.19 Awnings and signage

Main themes in submissions included:
• Maintenance burden of glass awnings
• Consideration of flying wildlife
• Possibility of conflict between R-Codes and Local Planning Policies
• Signage details often not known at DA stage.

Recommended changes to Awnings and Signage in the final ADP include:
• Delete this section and incorporate content into 3.6 ‘Public Domain Interface’ and 4.10 ‘Façade Design’, with reference to existing local planning instruments.

Element 4.20 Energy efficiency and Element 4.21 Water management & conservation

The draft provisions for energy and water sought to test industry response to relatively simple mechanisms encapsulated within Apartment Design. In many submissions the draft provisions were compared with a range of pre-existing models for sustainability standards, with various recommendations. Some of the main issues include:
• Some considered the sustainability report requirement to be too onerous, particularly for smaller developments.
Some thought the standards were unclear (about which parts need to be met). The draft provisions used simple overall targets for reduction of Greenhouse Gas Emission and Scheme Water Usage, leaving individual developments to respond in different ways. The need for stronger guidance will be considered.

Concern over cost impacts for developers (and hence consumers) from need for sustainability report and sustainability measures needed. Call for evidence base for new requirements.

The development scale threshold for applicability of sustainability targets was questioned – smaller developments still have environmental impacts.

The 40% reduction in water use was queried as being too low a standard for apartments.

There was considerable commentary on guidance that “greywater systems should be considered”, with some submissions questioning the viability of such systems for apartments. Design Guidance is not intended as a requirement. Even if some measures are not common practice currently, Design WA should promote innovation where possible. Review of the final version will consider greywater industry advice in more detail.

A specialist Environmentally Sustainable Design (ESD) consultancy has been appointed to review submissions and provide options for finalising the sustainability measures of Apartment Design. Refer to Part 7 Specialist Reviewers. The specialist review included:

- Review of submissions relating to sustainability.
- Review the requirements for a sustainability report, addressing a sustainability checklist.
- Investigate the inclusion of measurable targets.
- Investigate the use of partially aligning sustainability measures with an existing sustainability rating system.

These elements have undergone substantial review for the final policy, and commentary provided will assist response to industry concerns. Many submissions called for clearer requirements for ESD measures. Provisions in Apartment Design need to integrate with a broader framework that will continue at Building Permit stage and through to completion. Specialist review demonstrated that incorporating standards in the ADP would not offer the rigour of a stand-alone policy such as BASIX (used in NSW). It is proposed that the Design Criteria are removed from 4.20 and 4.21, to instead become Objectives and Design Guidance.

**Recommended changes to Energy Efficiency in the final ADP include:**

- Renumber section to 4.15.
- Changes to the Intent.
- New single objective to reduce energy consumption and greenhouse gas emissions.
- New Acceptable Outcomes for development to include one initiative that exceeds minimum practice and/or exceed NATHERS benchmark.
- Major changes to guidance based on feedback and specialist review recommendations.

**Recommended changes to Water Management and Conservation in the final ADP include:**

- Renumber section to 4.16.
- Changes to the Intent.
- Acceptable Outcomes: individual metering; stormwater runoff managed on-site; overland flow path from major rain events.
- Delete Objective 4.21.1 and Design Criteria based on feedback and specialist review recommendations.
- Changes to Objective 4.21.2 wording and modifications to guidance.
- Changes to Objective 4.21.3 wording and modifications to guidance.
Changes to Objective 4.21.4 wording and modifications to guidance.

Recommended ongoing actions relating to Energy Efficiency and Water Management and Conservation include:
- That WA state government investigates a stand-alone policy for ESD in the planning stage, equivalent to BASIX in NSW or BESS in Victoria. This will involve coordination with other state agencies and the National Construction Council.
- Collect data to inform post-implementation review of ADP sustainability objectives. Refer to Work Module: Monitoring and Feedback below.

Element 4.22 Waste Management

Main themes in submissions included:
- Calls for more detailed Design Criteria, but also that State Government might not be best source of detail
- Suggestions for guidance – configuration of waste areas
- Comments on functional elements

Recommended changes to Waste Management in the final ADP include:
- Renumber section to 4.17.
- Acceptable Outcomes: Better Practice considerations of the WALGA Guidelines; waste management plan; screening of communal waste storage.
- This element has been modified to incorporate the WALGA Multiple Dwelling Waste Management Plan Guidelines.
- Minor edits to Design Guidance for clarity.

Element 4.23 Building Maintenance

Main themes in submissions included:
- Concern about costs and delay if approval of maintenance systems needed
- Calls for more detailed Design Criteria

Recommended changes to Building Maintenance in the final ADP include:
- The content of this section is largely not DA related and will not be resolved at DA stage. It is proposed that this element is deleted.

There is general and increasing support of the role of Design Review, but mixed views surrounding terms and implementation. Many submissions from local governments and WALGA were focused on the challenge of implementing, operating and funding a Design Review Panel (DRP). Along with questions about the charging of fees for design review, there was a call for review of the WAPC cap for DA fees. Development industry associations PCA and UDIA strongly supported the need for well-managed, consistent Design Review as part of administering the Apartment Design policy. Other developer submissions expressed some cautions about the risks, citing previous negative experiences.

Other comments captured include:
- Concerns relating to additional cost and time burden from LGs and Applicants
- Desire to share DRPs across multiple smaller LGs and arrangements for Regional LGs
- Range of perspectives relating to representation of Councillors in DRPs, from CEO as Chairperson to participation as DRP Members. There were also suggestions that DRP meetings be open to the public.
- Lack of clarity in understanding relating to the optional or mandatory requirement of DRPs.
- Requests to make Design Review a prerequisite prior to lodgement
- Member selection - Outcomes will only be as good as the skill of DRP Members. Need for rigorous conflict of interest disclosure to prevent perceived bias.
- Clarification that Design Review advice is ‘advice only’ and does not replace or compromise statutory decision-making.
- Need for a process for ‘poor’ applications that may have been through DRP process repeatedly with no improvement.
- Use of Spatial Character Plans to assist assessment of character.
- DRP thresholds being aligned to JDAP thresholds and clarification of when a proposal is of ‘State Significance’.

Some LG submissions noted that it will be an additional task to implement consistent Design Review across all local jurisdictions. However, it should be noted that there has been a considerable increase in Design Review implementation since advertising of Design WA Stage One in October 2016. The value of Design Review is becoming well-recognised by local governments and associated peak bodies. More than half of local governments in the metropolitan area have Design Review processes in operation, with six others investigating options for their introduction at the time of writing this paper (refer to Design WA Stage One Implementation Paper). Design Review Panels established since the advertising of Design WA have generally utilised the draft Design Review Guide, and consulted with DPLH and Office of the Government Architect on refining the details. Some existing panels have reviewed their practices to be more aligned with the draft Guide. This is significant progress towards widespread availability of Design Review for application of the ADP.

The positive integration of Design Review with general statutory planning processes is attested to by Local Government stakeholders:

“To date, no application that has been through these design review processes has been deferred by the DAP, required an extension to processing time by the City or proponent, or been the subject of an appeal in SAT. The City attributes this to a number of factors, including the design review process.” - Manager Statutory Planning (pre-existing DRP)
“The City is encouraged by positive feedback provided by proponents who have participated in a DRP process and who have applied many of the Panel comments into their final design resulting in positive design quality and built form improvements . . . City officers participating in the DRP meeting process have enhanced their knowledge and awareness of key design principles which can then be applied to the assessment of proposals that do not fall within the criteria for a DRP assessment. . . The overwhelming feedback from proponents, City Officers and consultants has been very encouraging and positive.” – Panel Coordinator (new DRP)

Design Testing (see 6. below) demonstrated the importance of the Design Review process for effective application of the Apartment Design policy. The proposals did not always meet all Design Criteria, but were able to meet the Objectives to the satisfaction of the panel. A well-managed process with skilled design reviewers enables holistic consideration of design outcomes, without over-reliance on Design Criteria. Consultants recommended a stronger interface between DRPs and JDAPs.

Development Application Testing (see 7. below) highlighted the value of design review to ADP in statutory application, as the planners were sometimes uncertain how to evaluate some Objectives beyond criteria and how to weigh-up competing design factors. Design reviewers have the capacity to advise whether a design proposal is a good response to the policy objectives, and in a pre-lodgement context can suggest alternative design considerations.

Main recommended changes and actions relating to the Design Review Guide include:

- Check scalable modes of Design Review, including project thresholds table.
- Include model DRP Terms of Reference to assist LG implementation.
- Provide options for WAPC consideration to require Design Review process for application of R-Codes Volume 2. Pre-lodgement review strongly encouraged for optimum benefit.
- Establish critical parameters for Design Review, reinforced in SPP7 or regulations, to ensure consistency of expertise, operations, protocols and induction processes.
- Promote State Design Review Panel as an interim panel or approved consultants list.

Alignment of the Planning and Development (Local Planning Scheme) Regulations 2015 will provide an additional level of consistency for the operation of Design Review Processes, with a position recommended in the Design WA Stage One Implementation Paper. It will also remove the need for individual Local Planning Scheme amendments when setting up panels.
5. Outcomes - Design Skills Discussion Paper

The advertised Design Skills Discussion Paper drew a significant response, with many submissions addressing only that element of Design WA. The bulk of these single-issue responses came from either registered Architects or Building Designers (and their respective organisations), for whom the proposed options could affect their future capacity to trade in design services. The feedback reinforces views received in earlier consultations, and must be regarded with awareness of the pecuniary interests.

Some responses from developers or industry associations expressed concern about cost implications if their choice of designers was curtailed.

Many local government planners expressed the view that negotiating better apartment outcomes proposals can be easier when developers use skilled designers. More than half of Local Government submissions that addressed the Design Skills Discussion Paper supported Option 1 – Threshold regulation or Option 2 – Competency Standards.

It is recommended to not introduce additional regulation of design services in the short term. The introduction of the design-oriented Apartment Design policy will result in developers tending towards more competent designers for complex projects, even without further regulation of design skills.

It is recommended to collect data following the implementation of Apartment Design that will provide an evidence-base for the relationship between designer accreditation, approvals processes and design outcomes. Refer to Work Module: Monitoring and feedback below.
6. Draft Apartment Design Policy Testing

Alongside the analysis of public submissions, a design testing exercise applying the draft Apartment Design policy commenced in mid-2017, providing detailed feedback from the user-perspective, and an indication of effects of the policy on design outcomes. Six designers with a range of experience and expertise were selected by competitive process from ten invited architects and building designers. They undertook designs for seven sites to represent a range of metropolitan contexts.

Outcomes are found in the *Draft Apartment Design Policy Testing Report*. 
7. Development Application Testing

A series of local government development assessment tests were undertaken by statutory planners to gauge the applicability of the Apartment Design policy, and inform finalisation and implementation of the policy. The process involved mock development assessments of typical apartment development applications across a range of scales that would be subject to the draft Apartment Design policy. Statutory planners from the Cities of Fremantle, Subiaco and Stirling participated, as well as several DPLH staff with some previous LG statutory planning experience. Assessments were made according to the Appendix A7 Objectives checklist, with commentary on the DA proposals and on the user experience of the policy. It should be noted that the Cities of Fremantle and Subiaco have well established design review processes in place and the City of Stirling has recently established a panel.

Main feedback from DA Testing participants included:

- Generally able to evaluate measurable Design Criteria, but hesitation from some assessors about how to evaluate deviation from those criteria, including when to use the support of Design Review in these circumstances.
- Some sought additional guidance on evaluating the proposal “on balance” when some standards have been met and others not.
- Comments about specific provisions and diagrams

There were some important factors contributing to these outcomes that are also informative to the Implementation strategy for SPP 7.3:

- Participants were using the policy for the first time, with no training or assistance on use of the policy, and no previous examples to refer to.
- DA material being reviewed had not been produced to respond to SPP 7.3 requirements, and assessed plans and supporting documentation did not necessarily include adequate information and detail.
- Assessment was made without any design review process, which is intended to be an integral part of assessment under SPP 7.3.
- Testing used the advertised draft Apartment Design policy.

The recommended project response to these findings includes:

- Modifications — in finalising Apartment Design Policy, clarify text, diagrams and operational checklists in response to submissions and assessment testing.
- Case studies – Design Testing scenarios can be used to demonstrate the properly applied policy and assessment methodology.
- Training — facilitate a targeted training and education program for assessors, applicants, decision makers etc.
- Design Review — ensuring design review processes are available and integrated with planning approval processes.
- Monitoring and Feedback — collect data on application of the policy, to inform ongoing policy review. Modifications not supported at this time.

Considerations from DA Testing and project response

<table>
<thead>
<tr>
<th>Element</th>
<th>Consideration</th>
<th>Project response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part 2</td>
<td>There was some confusion about the structure of Part 2. Some questioned how the guidance in Parts 2.2 – 2.8 applies to an individual application.</td>
<td>Modifications, Training</td>
</tr>
<tr>
<td>3.1.1</td>
<td>Need to update last dot point in Objective 3.1.1 - Refers to ‘2.11’ instead of ‘2.12 Coordinating land policy’</td>
<td>Modifications</td>
</tr>
<tr>
<td>3.4.1</td>
<td>Give more examples of how deep soil areas can apply on different sites and configurations</td>
<td>Training, Case studies, Design Review</td>
</tr>
<tr>
<td>Section</td>
<td>Comment</td>
<td>Task</td>
</tr>
<tr>
<td>---------</td>
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</tr>
<tr>
<td>3.6.1</td>
<td>Diagrams are good. Might need to show windows on the habitable rooms to ensure there is no confusion that it is from the wall of the HR</td>
<td>Modifications (diagram)</td>
</tr>
<tr>
<td>3.8.3</td>
<td>A pedestrian movement diagram or layer could be used to demonstrate connectivity through the site. May be worthwhile to require this as part of plans.</td>
<td>Monitor, Design Review</td>
</tr>
<tr>
<td>4.1.1</td>
<td>The Solar Access Design Criteria is a new measure to calculate show the assessor how to use solar diagram. Train the proponent on how to provide the right details for efficient assessment of solar DC</td>
<td>Training, Case studies, Design Review</td>
</tr>
<tr>
<td>4.2.1</td>
<td>Might be beneficial to state that an opening onto an internal area (courtyard, lightwell, atrium) does not achieve natural cross ventilation.</td>
<td>Modifications, Design Review</td>
</tr>
<tr>
<td>4.6.1</td>
<td>The diagrams do not clearly illustrate if the walkway is external or internal and therefore can be interpreted to encouraging habitable rooms with windows to atriums or internal walkways rather than an external wall.</td>
<td>Modifications (diagram)</td>
</tr>
<tr>
<td>4.4.1</td>
<td>The second studio example on page 96 – this example encourages bedrooms that can very easily be internalised.</td>
<td>Modifications (diagram)</td>
</tr>
<tr>
<td>4.8.1</td>
<td>Suggest an acoustic report is provided as part of the submission requirements for developments exceeding 12 dwellings/mixed use proposals, or where required under SPP 5.4.</td>
<td>Monitor</td>
</tr>
<tr>
<td>4.9.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.10.1</td>
<td>Consider Design Criteria or closer link to strategic planning (LG Housing Strategy).</td>
<td>Monitor</td>
</tr>
<tr>
<td>4.19.2</td>
<td>A signage management plan should be encouraged. Restrict the use of window signage on commercial tenancies. May require signage plans / strategy for mixed use developments.</td>
<td>Monitor, Design Review</td>
</tr>
<tr>
<td>4.22.1</td>
<td>There should be a requirement to demonstrate how service vehicles (rubbish, deliveries) can ingress and egress the site. This is often an afterthought, in particular, for mixed use developments. For larger proposals a waste management report should be prepared in conjunction with the local government’s waste management business unit. Otherwise, where permitted, the waste management plan should include private contractor details. Ability for waste to be serviced (through bins on verge, large commercial bins etc.) needs to be included as part of the report. How do vehicle access bins etc.</td>
<td>Monitor</td>
</tr>
<tr>
<td>4.23.1</td>
<td>Maintenance specifications to accompany Schedule of materials and finishes.</td>
<td>Monitor</td>
</tr>
<tr>
<td>A6 DA Checklist</td>
<td>Add additional detail to ‘Ceiling heights’ dot point to ensure ceiling height measurements are floor to ceiling as per Figure 4.3c.</td>
<td>Modifications</td>
</tr>
<tr>
<td>3.3, 3.4, 3.5, 4.14, 4.15</td>
<td>Explain the relationship between deep soil areas, tree retention, communal open space, landscape design and planting on structure. Describe how all elements work together on real examples.</td>
<td>Training, Case studies</td>
</tr>
</tbody>
</table>
8. Specialist Reviewers

To complement and extend the analysis of feedback received from local submissions, briefings and workshops, several reviews have been commissioned to provide specialist input on particular elements. Specialist Reviewers packages include:

- Peer Review
- Economic Review
- Parking Review
- Landscape Review
- Sustainability Review

Peer Review

Throughout the Design WA project, the national context of design-led reforms of planning policy has been significant, particularly influenced by the review of NSW SEPP65 in 2015 and the introduction of new standards for apartment development in Victoria in 2016-17. The peer review connected with professionals who have undertaken similar policy development in other states, to provide an independent perspective on Design WA in the national context.

The Peer Review includes:
- Detailed commentary on the document’s clarity, effectiveness and settings;
- Identification of any gaps and risks;
- Recommendations for response to submissions received, especially where divergent views have been received;
- Alternatives and options to be considered to finalise ADP;
- Reference to interstate experience where relevant to review recommendations; and
- Relate Peer Review recommendations to Work Modules (see Part 8 below).

Selected by competitive process from invited NSW and Victorian consultants, the review was undertaken by Architectus in Sydney, drawing upon architecture, urban design and policy experience including state government and private-sector. Their team experience included contributing to policy development of the SEPP65 Residential Flat Design Code in 2004 and the subsequent review becoming the Apartment Design Guide in 2015. They also bring experience operating within the SEPP65 framework as private-sector urban design consultants, and as design review panel members in several NSW jurisdictions. The Peer Review outcomes have provided valuable insights into response to submissions received, including those noted alongside commentary on ADP submissions.

Economic Review

A comprehensive economic review process was run to ensure the draft ADP can balance higher design standards, construction costs/savings, and wider costs/benefits to society and government. This process indicates that the draft policy is economically responsible and would deliver a net improvement to Western Australians, with a cost benefit ratio of 2.7. Impacts on construction cost are modest, with construction costs differences from 0% – 4% and substantial benefits to streetscape and improved living standards for residents. Feasibility analysis demonstrated positive effect on residual land value in 3 out of 4 cases, but indicated a negative impact of 7% - 9% in an outer metro infill site, where the development feasibility is typically marginal. Increase in construction costs benchmarked against knowledge of NSW and Victorian reforms suggested substantially lower increases in construction costs, due to the ‘low baseline’ or absence of state codes for apartments in those states before introduction of similar reforms.
The methodology included:

- **Review of submissions relating to economics** —
  Prioritising matters where stakeholders identified potential impact on construction cost, affordability and feasibility of settings in the draft ADP.
- **Design testing of seven sites of varying scale, lot size and market** —
  Importing design testing results into the economic review by working with designers to calibrate apartment and car parking yields to align with base cases within reasonable tolerance levels.
- **Analysis of expected build costs by a Quantity Surveyor** —
  Costing scenarios formulated using a functional area methodology, sufficient for a comparison between a base case and draft ADP. Some measures, like ESD provisions, were estimated based on average cost impacts in other States where local costs could not be easily obtained.
- **Feasibility testing of a selection of design testing sites using an independent Property Valuation firm** —
  Analysis of four sites across ‘low’, ‘medium’ and ‘high’ scales to compare feasible market land values for base case and draft ADP scenarios. Consultants used a Static Hypothetical Development Approach, sufficient for a high-level policy comparison.
- **Cost-benefit analysis of the reform against wider social and economic benefits** —
  Comprehensive analysis of design and economic outputs to test the overall economic efficiency of the draft ADP. Wider social and economic benefits of design improvements expected in local neighbourhoods are compared against any estimated costs (including changes to process and/or construction costs). Commentary on expected market behaviour with the introduction of similar reforms in NSW and Victoria is also included.
- **Feedback from the Design WA Advisory Group (local government and developer inputs)** —
  Opportunities to test the methodology and results with representatives of impacted industries to inform refinement of settings.

**Parking Review**

An independent parking review was undertaken to create a stronger evidence base for ratios set in the draft ADP, and refine settings where appropriate. Findings indicate a typical occupancy of between 70 – 75% of the bays in a representative apartment development, suggesting a likely oversupply as a result of current policy settings and/or market preferences. Options for more flexible parking requirements have been considered in finalisation of the draft.

Car and bicycle parking is an issue that impacts on individual developments and their surrounding neighbourhoods. It links sustainable urban development, transportation planning and housing affordability. Submissions received on the draft ADP reflect a variety of views for higher and lower ratios. Many submissions suggest there is a growing interest across community, government and industry to refine provisions for new apartment developments to better respond to public transport, and promote alternative modes of transport, such as cycling and car share.

The methodology of this review included:

- **Review of submissions relating to parking** —
  Prioritising matters where stakeholders identified potential impact of parking ratios. This included commentary on feasibility, impact on streets, visitor bays, bike and scooter parking, on construction cost, affordability and feasibility of settings in the draft policy.
- **Car parking surveys for a sample of apartment buildings across Perth** —
  Physical surveys of car parking facilities were undertaken in apartment buildings...
across inner, middle and outer suburbs. 33 sites were selected and counted on weekday evenings when highest occupancy is expected. These results were tested against other details such as: apartment mix and achieved parking ratios, real estate occupancy data and distance to transit.

- Feedback from the Design WA Advisory Group (including local government and developer inputs), and transport stakeholder workshop — *Opportunities to test the methodology and results with representatives of impacted industries to inform refinement of settings.*

**Landscape Review**

The draft policy introduces new provisions for existing tree retention and deep soil areas (refer to 3.3 ‘Tree Canopy and Deep Soil Areas’) to incorporate significant landscaping as part of apartment development. Feedback has raised a range of issues about implementing these provisions in practice and questions about the criteria. The Landscape Review includes:

- Review of submissions relating to landscape
- Consider user-perspective of ADP text and diagrams
- Arboricultural review of submissions and proposed changes.
- Analysis of findings and recommendations for finalisation of ADP.

Draft provisions for existing tree retention had drawn extensive commentary on enforcement methods (5-year rule and offset mechanisms) which were contentious and unclear. This review refocused on an incentive-based approach that was more consistent with the ADP overall. Review of controls and diagrams for deep soil areas and flexible configurations to suit developments was also a focus.

**Sustainability Review**

The draft ADP introduces measures for Energy Efficiency and Water Management and Conservation that are not currently covered in the R-Codes. The ADP used NSW SEPP65 as a policy template, which is supported by BASIX, a dedicated sustainability assessment tool. The draft ADP incorporated measures analogous to BASIX, but with limited detail and processes that could be encapsulated within the ADP format. Submissions indicated concerns about the effectiveness and operability these provisions, and many support adopting a dedicated assessment tool.

A specialist Environmentally Sustainable Design (ESD) consultancy was commissioned to review submissions and provide recommendations for finalising the sustainability measures of *Apartment Design*. A strong theme in the submissions was the need for clearer standards and more robust means of assessment. The ESD consultants investigated several approaches and recommended adoption of a pre-existing method of measurement. Submissions had suggested a range of different assessment methods, and each of these were investigated, but were not well aligned to the R-Codes application.

*It is recommended to remove measurable targets (Design Criteria) and revert to Objectives, Acceptable Outcomes and Design Guidance to promote good-practice in planning, noting that detailed requirements are regulated by the BCA.*

*It is recommended that the former design criteria for energy efficiency and water management and conservation are removed and rather the demonstration of “exceptional design and reductions in energy and water consumption are referenced in guidance for Incentive-based development standards, as a prerequisite for achieving plot ratio or building height bonuses.*
It is recommended that a dedicated sustainability assessment system equivalent to BASIX in NSW or BESS in Victoria is established in WA. This approach would enable an effective system of targets and assessment that would offer procedural certainty to the industry. This would entail a multi-agency commitment, exceeding the current Design WA project scope.
## 9. Building Depth Analysis

<table>
<thead>
<tr>
<th>Address</th>
<th>Est. Building Depth (Maximum)</th>
</tr>
</thead>
<tbody>
<tr>
<td>87 Bulwer St Perth</td>
<td>23</td>
</tr>
<tr>
<td>1324 Hay St West Perth</td>
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<tr>
<td>996 Hay St Perth</td>
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<td>369 Hay St Perth</td>
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<td>375 Hay St Perth</td>
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<td>251 Hay St Perth</td>
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<td>148 Fitzgerald St Perth</td>
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<tr>
<td>134 Aberdeen St Northbridge</td>
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<tr>
<td>601 Wellington St Perth</td>
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<td>696 Albany Hwy East Victoria Park</td>
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<td>12 McMaster St Victoria Park</td>
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<tr>
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<td>5 Wallsend Rd Midland</td>
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<tr>
<td>23 Junction Blvd Cockburn Central</td>
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<td>12 Tanunda Dr Rivervale</td>
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<td>17 Malata Cres Success</td>
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<tr>
<td>36 Bronte St East Perth</td>
<td>23</td>
</tr>
</tbody>
</table>

*Measurements of building depth are an estimate based on aerial photography*
10. Work Modules

As well as informing modifications to advertised Stage One Design WA policies, the public submissions highlight some important issues requiring particular focus to implement Stage One and progress with the next project stages of Design WA. These have been packaged as a series of Work Modules that will become a focus of the next stages of the Practitioner Working Group, and ongoing project work.

These Work Modules typically relate to several or all of the Design WA policies, and this thematic approach will help to develop well-integrated solutions. Many submissions responded to references to future stages of Design WA, including:

- House Design for single and grouped dwellings, to complete the review of R-Codes.
- Neighbourhood Design, to align with Precinct Design.
- Precinct Design, to assist and guide local governments to plan for growth areas.

Submissions from local government and private sector planners stressed the need for alignment between the Design WA policies, some noting the difficulty of operating a partial suite in the interim. Some respondents called for clarification of the relationship between Design WA elements and recent advertised or adopted policies, especially Liveable Neighbourhoods and recent R-Codes amendments. These comments highlighted the need for clear communication with the implementation of Design WA.

Work Module: Applying Design WA

Beyond the refinement and finalisation of Design WA policies, public consultation has highlighted that this design-led planning reform represents some significant changes in practices in the planning, design and development professions. This work module will consider a range of integrated measures to assist different practitioners to understand Design WA policies and utilise them effectively. Module objectives include:

- Positively manage culture-change in planning, design and development practices resulting from Design WA.
- Consider methods to facilitate well-informed, robust and consistent application of Design WA policies.
- Establish a programme for Education and Training to deliver appropriate types of training to the range of practitioners using Design WA policies in some capacity.
- Provide appropriate State commitment to training, and utilise external sources where necessary.

Work Module: Local policy variations

Achieving consistency of planning across local government jurisdictions has been strongly reinforced in the feedback to advertised Design WA policies. However, in relation to achieving better design outcomes, the Design WA project has also identified the need for planning to better respond to specific local conditions. This work module will consider a range of measures to promote a more-consistent planning framework, while enabling appropriate local variations. Work Module objectives include:

- Establish clear, workable and robust parameters for how local policy settings under the R-Codes should occur.
- Set a strategy and methodology to assist local government in the review and rationalisation of pre-existing local policies.
- Consider guidance and templates for typical local planning policies – such as primary controls, streetscape, incentive-based development standards.
• Consider systems for monitoring and regulating (where appropriate) local policy variations, including monitoring of built outcomes.

• Integrate response with Planning Reform objectives.

This module responds to strong support in submissions for a policy for Precinct Design, to complement the Apartment Design Guidance for establishing primary controls. These comments came particularly from development industry practitioners and associations, who are seeking better local planning of growth areas, as well as local government planners who would welcome state government guidance of this nature.

Work Module: Medium Density Housing

Responses to the advertised Apartment Design policy have indicated that more emphasis is needed to assist better outcomes in smaller apartment projects. Early scoping of House Design, the R-Codes for single and grouped dwellings, has also indicated that the cusp between grouped dwellings and multiple dwellings is also a pressure-point. The question of the “Missing Middle” is a contemporary challenge for planning and architecture that is shared across Australia and overseas. Design WA reforms to the R-Codes are a significant opportunity to innovate with planning for medium density. Work Module objectives include:

• Promote positive models for medium-density residential development in new and existing neighbourhoods.

• Refine planning and design policy to support better built outcomes

• Consider development typologies that can deliver efficiencies while meeting good design objectives.

The forthcoming policy for House Design, as the replacement of the most-used part of the R-Codes, was referred to by several submissions from the house-building sector. Considering the performance-based nature of Apartment Design, respondents urged that any review should take care to maintain a Deemed-to-comply pathway for approvals for single and grouped dwellings. The opportunity to provide for more urban house types was welcomed by several submissions.

Work Module: Monitoring and feedback

Whether introducing new policy, reviewing policies or operating policies in-place, an evidence-base from past-performance helps to inform and justify planning decisions. With record-keeping and development applications becoming increasingly digital there is a significant opportunity to capture data that can better inform planning and design policy. In submissions to advertised Design WA, some proposed policy settings were questioned in terms of evidence to support the change. While the evidence sought may not currently exist, new measures could be adopted subject to collection of relevant data and a subsequent review. Work Module objectives include:

• Refine existing, or establish new, methods for data collection on new developments from state and local government approval processes.

• Consider methods for capturing collective experience from Design Review Panels and DAP / LG decision-makers to promote common best-practice, develop shared responses to recurring issues, and monitor the efficacy of processes.

• Establish policy review cycles relating to evidence-based data collection.

• Consider opportunities for partnership with researchers on studies relevant to Design WA policy.