# PROPOSAL TO INITIATE AN AMENDMENT TO THE PLANNING AND DESIGN CODE

## City Building Heights Code Amendment

By the Chief Executive, Department for Housing and Urban Development (the Designated Entity)

_____ (Signature)

CHIEF EXECUTIVE, DEPARTMENT FOR HOUSING AND URBAN DEVELOPMENT

Date:
26 / 09 / 2025

This Proposal to Initiate document together with conditions specified by the Minister forms the basis for the preparation of a proposed amendment to the Planning and Design Code for the purpose of section 73(2)(b) of the *Planning, Development and Infrastructure Act 2016*.

_____ (Signature)

MINISTER FOR PLANNING

Date: 24/10/25

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Government of South Australia
Department for Housing and Urban Development

# Contents

# 1. Introduction

The Chief Executive of the Department for Housing and Urban Development (the Chief Executive) seeks to amend the Planning and Design Code (the Code) pursuant to section 73(2)(b) of the *Planning, Development and Infrastructure Act 2016* (the Act) as it relates to land within the City of Adelaide, on Kaurna Country (the Affected Area).

The City Building Heights Code Amendment (the Code Amendment) proposes to increase maximum building heights within portions of the City of Adelaide to increase opportunities for growth without compromising the safety or operation of the Adelaide Airport. The Code Amendment will also consider the application of minimum building height criteria for appropriate locations within the Affected Area.

The purpose of this Proposal to Initiate is to seek approval of the Minister for Planning (the Minister) to initiate the Code Amendment under section 73(2)(b) of the Act.

This 'Proposal to Initiate' details the scope, relevant strategic and policy considerations, nature of investigations to be carried out and information to be collected for the Code Amendment.

The Chief Executive is the 'designated entity' responsible for conducting this Code Amendment process and is required to undertake consultation in accordance with the Community Engagement Charter and make final recommendations to the Minister prior to consideration whether to adopt, alter or refuse the Code Amendment.

It is acknowledged that the Minister may specify conditions on approving this Proposal to Initiate, under section 73(5) of the Act. In the event of inconsistency between this Proposal to Initiate and any conditions specified by the Minister, the conditions will apply.

## 1.1 Planning Merit Statement

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| **Strategic alignment** | The Code Amendment aligns with State Planning Policies as it aims to:<br>• provide a policy framework that makes the best use of urban areas and infrastructure investment and provide additional opportunity for people to live and work close to essential services, amenities and social and physical infrastructure<br>• remove unnecessary development assessment process steps.<br>The Code Amendment also aligns with the Greater Adelaide Regional Plan (GARP) as it will deliver *Action – Increase Building Heights in the CBD*. |
| **Contextual Analysis** | As the heart of our state's civic, cultural and commercial life, the aim is to have more people living, working, visiting and investing in the City of Adelaide.<br>The City is home to over 25,000 people and plays an important role for providing housing supply and housing types such as student |

| | |
|---|---|
| | accommodation that is not as prevalent in other parts of metropolitan Adelaide. |
| **Planning Merits** | The Code Amendment will have scope to review the policy settings applying to a State Significant Infill Area to ensure they are suitable to optimise development opportunities. |
| **Matters of Significance** | Matters for consideration through the Code Amendment process include identification of appropriate locations for increased building heights, the potential for application of minimum building heights and management of interfaces between high-rise and medium – low-rise built forms and areas. |

## 1.2 Designated Entity for Undertaking the Code Amendment

In accordance with section 73(2)(b) of the Act, the Chief Executive will be the Designated Entity responsible for undertaking the Code Amendment process. As a result:

1.1.1 The Chief Executive acknowledges responsibility for undertaking the Code Amendment in accordance with the requirements Act.

1.1.2 The Chief Executive intends to undertake the Code Amendment by:

(a) engaging with relevant State Government agencies and local governments, and

(b) utilising professional expertise of employees of the Department including:

i. professional planning staff

ii. communications staff

iii. mapping and spatial data expert staff

iv. ePlanning staff responsible for the management and operation of the Planning and Design Code.

## 1.3 Rationale for the Code Amendment

*The need for change*

The City of Adelaide houses over 25,000 people and plays an important housing role in the State. Between 2014 and 2024, the City has grown by over 4,500 people, and strategic investments in the Riverbank precinct, education and health institutions and Lot Fourteen, along with policy initiatives such as the Capital City Policy Review, design review process, targeted rezonings and catalyst sites have facilitated well-planned growth within the City centre.

Both the *Greater Adelaide Region Plan* (GARP) and the City of Adelaide's *City Plan – Adelaide 2036* set bold targets to increase the residential population of the City to 50,000

people by 2036. Review of maximum building heights to enable greater uplift potential will assist with efforts to achieve this outcome.

There are several mechanisms used to control building heights in the City of Adelaide, however, the three of relevance to this Code Amendment are:

- Technical and Numeric Variation (TNV) policy, specifically:
    - Maximum Building Height (Levels)
    - Maximum Building Height (Metres)
    - Minimum Building Height (Levels)
- the Obstacle Limitation Surface (OLS), which defines the airspace around airports (in this case, Adelaide Airport) to be kept clear of buildings and other obstacles such as cranes to enable aircraft to operate safely.

Within the Code, the OLS is reflected in the Airport Building Heights (Regulated) Overlay (the Overlay) as it applies to the City of Adelaide. The Overlay contains referral triggers to the Adelaide Airport if proposed development intrudes into the OLS (i.e. is over the maximum height specified). It's noted that airport building heights depicted by the Overlay as it applies to other Local Government Areas do not reference OLS data but rather more generalised airport height limits as reflected by former Development Plans.

Currently, the maximum building height TNV values within the City of Adelaide do not align with the OLS as depicted by the Overlay, with these values often being significantly lower than what is feasible under the OLS.

*Opportunities to unlock development*

Historically, planning policies for the Adelaide CBD promoted a 'pyramidal' city form, where taller buildings were envisaged towards the centre of the City scaling down to the terraces. The former State Bank Building (now RAA) represented the centre of the 'pyramid' from its construction in the 1980s. The introduction of the Capital City Zone in 2012, and other subsequent policy refinements, has seen the removal of more restrictive height triggers and enabled the construction of taller buildings across the CBD.

A large number of developments have since been approved / constructed which not only sit above the maximum building height stipulated in the Code (i.e. the building height TNV) but also penetrate the OLS. These developments include The Adelaidean and Crowne Plaza on Frome Street, Realm Apartments on Austin Street, The Switch on North Terrace and Market Square on Grote Street, amongst others. A 30-day referral to Adelaide Airport was required to gain this approval, underpinned by a detailed (and costly) Aeronautical Assessment.

The significant changes in the urban landscape of metropolitan Adelaide over the years along with advancements in aircraft and radar technology have seen it become possible for over-height developments such as those listed above to be supported by Adelaide Airport. When coupled with the increasing number of building approvals that penetrate the OLS, it can be intimated that there is room to increase maximum building heights within the City of Adelaide.

Investigations undertaken to date (**Appendix C**) indicate that increasing building heights beyond those stipulated by the OLS in suitable locations would not compromise the safe operation of aircraft on approach to or take off from Adelaide Airport.

These investigations explored a theoretical alteration to the OLS within the Capital City Zone to increase airport building heights, and indicated the following benefits:

- the value of additional future construction could increase to a significant $11 billion if the additional development capacity were developed purely for residential purposes
- the additional potential residential population could increase by 30,350 residents
- if the additional development capacity were developed for a mix of residential and commercial purposes, the additional City population could increase by 21,245 residents and 21,105 workers
- certainty in heights will remove the need for a 30-day Adelaide Airport referral during assessment, and cost saving associated with an Aeronautical Assessment.

Further investigations have determined that an alteration to the OLS would not be possible under current Commonwealth legislative frameworks. As an alternative, the Department of Housing and Urban Development in conjunction with Adelaide Airport Limited and the Commonwealth are progressing a new process to streamline the referral process for airport building height assessments. In essence, this streamlined referral process will rest on certainty regarding acceptable building height thresholds above the OLS. This will reduce building application costs and enable faster approval times for taller buildings in the City of Adelaide.

Complementary to this, the intention of this Code Amendment is to remove or otherwise increase the Maximum Building Height TNV values in suitable parts of the City of Adelaide informed, in some cases, by the outcomes of the certainty referred to above. In some locations this will mean that only one height limit will be specified for a development site – i.e. the OLS as shown in the Airport Building Heights (Regulated) Overlay. This in turn is expected to unlock and expedite significant opportunities for new residential development within the City of Adelaide, contributing to strategic housing targets, housing diversity and affordability. Further investigations will be undertaken to determine whether the application of minimum building heights within certain locations would assist in ensuring that opportunities to unlock development are not undermined.

*Interface Management*

The Capital City Zone includes policy aimed at ensuring medium to high-rise built form along its interface with the City Living Zone is appropriately designed to minimise negative visual and amenity impacts to residential living areas and outdoor open space through consideration of building proportions, massing and overshadowing impacts. The City Main Street Zone does not contain such policy.

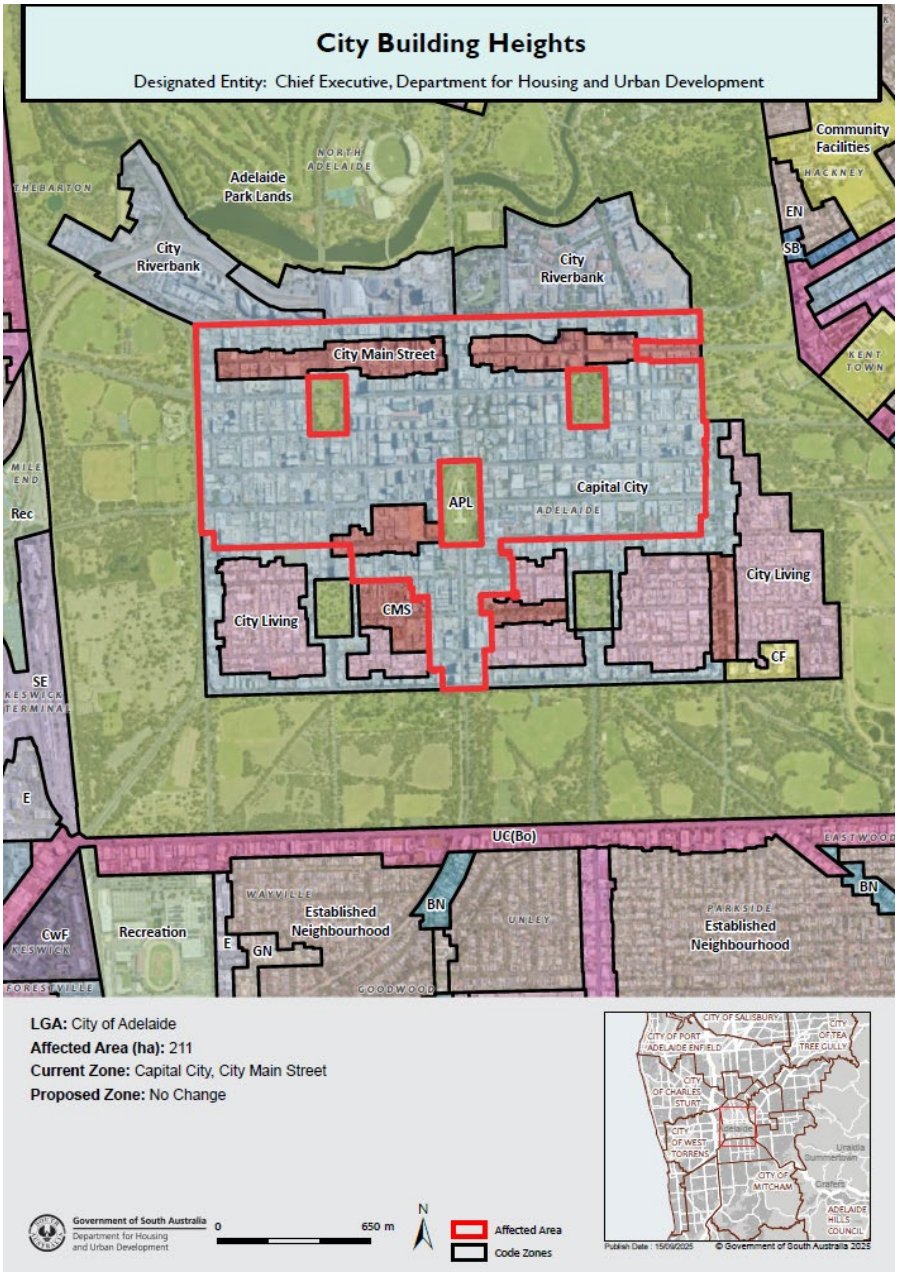
Recognising the Code Amendment's primary objective to enable higher scale development than what is currently envisaged, there is reason to review the Capital City Zone's existing interface management policy and whether the City Main Street Zone should have included within it equivalent or similar policy.

# 2. Scope of the Code Amendment

## 2.1 Affected Area

The Affected Area is located within the City of Adelaide and is principally focussed on those parts of the Capital City Zone and City Main Street Zone within which a 43m or higher maximum building height TNV applies within the area shown below. Additional areas within the Capital City and City Main Street Zones within the Adelaide CBD may be considered subject to investigation where this would enable appropriate consideration of building heights and interfaces with adjacent lower-scale areas. The Affected Area is located on Kaurna Country.

The Amendment does not intend to increase building height limits within areas where the Historic Area Overlay applies, nor areas where the established low-scale built form is envisaged.



## 2.2 Scope of Proposed Code Amendment

| | |
|---|---|
| **Current Policy** | Key policy applying within the Affected Area is contained within the:<br>• Capital City Zone<br>• City Main Street Zone<br>• Airport Building Heights (Regulated) Overlay |
| **Amendment Outline** | The Code Amendment seeks to increase maximum building heights within portions of the City of Adelaide to increase opportunities for growth without compromising the safety or operation of the Adelaide Airport.<br>Subject to investigations, the Code Amendment may also consider the application of minimum building height requirements within appropriate locations, including but not limited to portions of West Terrace, to avoid underutilisation of redevelopment sites. |
| **Intended Policy** | Within portions of the Capital City Zone and City Main Street Zone:<br>• remove or otherwise increase the following TNVs:<br>o Maximum Building Height (Levels)<br>o Maximum Building Height (Metres)<br>• consider application of the following TNV:<br>o Minimum Building Height (Levels). |

# 3. Strategic Planning Outcomes

Code Amendments occur within a state, regional and local strategic setting, which includes:

- State Planning Policies (SPPs)
- Regional Plans
- Other relevant strategic documents.

## 3.1 Alignment with State Planning Policies

The State Planning Policies (SPPs) set out the State's overarching goals and requirements for the planning system. Under section 66(3)(f) of the Act, the Code must comply with any principle prescribed by a SPP.

The Code Amendment should be initiated because the strategic planning outcomes sought to be achieved through the Code Amendment align with or seeks to implement the following SPPs:

| State Planning Policy (SPP) | Code Amendment Alignment with SPPs |
|---|---|
| ***SPP 6: Housing Supply and Diversity***<br>6.1 A well-designed, diverse and affordable housing supply that responds to population growth and projections and the evolving demographic, social, cultural and lifestyle needs of our current and future communities.<br>6.2 The timely supply of land for housing that is integrated with, and connected to, the range of services, facilities, public transport and infrastructure needed to support liveable and walkable neighbourhoods.<br>6.5 Locate higher density residential and mixed-use development in strategic centres and transport corridor catchments to achieve the densities required to support the economic viability of these locations and the public transport services. | The Code Amendment will have scope to increase maximum building heights within portions of the City of Adelaide to increase opportunities for growth without compromising the safety or operation of the Adelaide Airport. In doing so, the Code Amendment seeks to increase opportunities for additional housing supply within appropriate locations in the City of Adelaide. |

## 3.2 Alignment with Regional Plans

As with the SPPs, the directions set out in Regional Plans provide the long-term vision as well as setting the spatial patterns for future development in a region. This includes consideration of land use integration, transport infrastructure and the public realm.

The Greater Adelaide Regional Plan (GARP) is relevant for this Code Amendment.

| Regional Plan Identified Strategic Objectives / Actions | Code Amendment Alignment with Regional Plan |
|---|---|
| *GARP Action – Increase Building Heights in the CBD*.<br><br>Undertake a Code amendment to increase maximum building heights in appropriate areas of the City of Adelaide, in collaboration with Adelaide Airport Ltd and the Commonwealth. | The Code Amendment is specifically seeking to address a GARP Action under People, housing and liveability *Outcome 1: More housing in the right places.* |

## 3.3 Alignment with Other Relevant Documents

Additional documents may relate to the broader land use intent within the scope of this proposed Code Amendment (or directly to the Affected Area) and therefore are identified for consideration in the preparation of the Code Amendment.

The following table identifies other documents relevant to the proposed Code Amendment:

| Other Relevant Document | Code Amendment Alignment with Other Relevant Document |
|---|---|
| City of Adelaide's *City Plan – Adelaide 2036* | The Code Amendment seeks to create additional opportunities to increase housing supply within the City of Adelaide, directly contributing to the City Plan's population target of 50,000 residents by 2036. |

# 4. Investigations

## 4.1 Investigations Completed and Proposed

The table below identifies what investigations have already been undertaken in support of the proposed Code Amendment, as well as those which are ongoing and those that are proposed to be undertaken should the Minister agree to Initiate the Code Amendment.

| **Completed investigations** | | |
|---|---|---|
| **Investigation** | **Summary of scope of investigations** | **Summary of outcomes of recommendations** |
| Business Case – Obstacle Limitation Surface: City of Adelaide – prepared by Future Urban for the (former) Department for Trade and Investment, 15 September 2023 | Review of the Obstacle Limitation Surface (OLS) framework with a view to lifting heights within the Capital City Zone, recognising numerous buildings have been constructed that penetrate the OLS. Identifies opportunities, risks and benefits for lifting the OLS. | The report provides a case for review of maximum building height controls applying in the area of the City of Adelaide |

| **Additional Investigations** | | |
|---|---|---|
| **Scope of investigations** | **High-level details** | **Status and summary** |
| Building height comparison and mapping | A comparison of OLS maximum heights against TNV maximum building heights and identification of opportunities for alignment | Commit to undertake |
| Building height assessment and mapping | Identification of appropriate maximum and minimum building heights where significant height could be achieved within the OLS, taking into account sensitive interfaces. | Commit to undertake |
| Interface Management | Review of existing zone policy providing guidance on management of amenity and other impacts of high-rise built forms on adjacent established and envisaged medium – low-rise built forms. | |

# 5. Engagement

## 5.1 Engagement Already Undertaken

The following engagement has occurred on the proposed Code Amendment:

- discussion with Adelaide Airport Limited
- discussion with Civil Aviation Safety Authority
- discussion with Commonwealth Government.

A summary of outcomes or matters raised through engagement already undertaken is as follows:

- all parties are supportive of improving and streamlining the referrals process.
- any amendments must meet Commonwealth legislative requirements and must not compromise the safety or the operation of the airport.

## 5.2 Further Engagement Proposed

In addition to the engagement already undertaken and identified above, the table below outlines additional engagement proposed to be undertaken to support the Code Amendment.

| Further Engagement Proposed | Explanation of how the further engagement propose to address an identified issue or question |
|---|---|
| Community engagement | Broader community engagement to provide an opportunity for any interested community members to comment on the proposed outcomes of the Code Amendment. |
| Consultation with any person or body specified by the Commission under section 73(6)(e) of the Act. | The Engagement Plan will outline the specific method and nature of consultation. |

# 6. Code Amendment Process

## 6.1 Engagement Plan

The Code Amendment process will occur in accordance with the Community Engagement Charter and *Practice Direction 2 – Consultation on the Preparation or Amendment of a Designated Instrument* (Practice Direction 2).

The Designated Entity will prepare an Engagement Plan prior to the commencement of engagement on the proposed Code Amendment. The Engagement Plan will include the following mandatory consultation requirements (which may be in addition to the engagement outlined in this Proposal to Initiate):

- Given the proposal is specifically relevant to a particular Council (where Council did not initiate the proposal), the City of Adelaide must be consulted
- Consultation must also occur with any person or body specified by the State Planning Commission under section 73(6)(e) of the Act.

## 6.2 Engagement Report

Once engagement on the Code Amendment is complete, the Designated Entity will prepare an Engagement Report under section 73(7) of the Act.

The Designated Entity must ensure that the Minister is furnished with a copy of the Engagement Report and published on the SA Planning Portal. This will occur in accordance with Practice Direction 2.

The Engagement Plan and the Engagement Report may also be considered by the State Planning Commission during the final stages of the Code Amendment process if the Minister is of the opinion that the matter is significant. The Commission will provide a report to the Environment, Resources and Development Committee of Parliament under section 74(3) of the Act. The Commission's report will provide information about the reason for the Code Amendment, the consultation undertaken on the Code Amendment and any other information considered relevant by the Commission.

# Attachment A – Completed investigation reports

FUTURE URBAN

# BUSINESS CASE
## OBSTACLE LIMITATION SURFACE

CITY OF ADELAIDE

Prepared for:
**Department for Trade and Investment**

Date:
**15.09.2023**

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**Contents**

# 1. EXECUTIVE SUMMARY

The existing Obstacle Limitation Surface ("OLS") framework has, over time, posed challenges and limitations that impact efficient growth, development, and job creation within the Capital City Zone of the Adelaide City Council area. As demand for residential, commercial, tourism, health and education development increases in the Capital City Zone, re-evaluation of the OLS is required to align with both current needs and forthcoming changes in aviation regulations.

The current OLS framework was developed to implement height restrictions on structures in proximity to flight paths. However, as the Capital City Zone continues to develop, the current framework is hindering approvals and causing misalignment with strategic objectives of the State. Such hindrances are causing delays, increased project costs, and loss of development capacity. The restrictions have also led to missed opportunities to:

- support an increased resident and working population in the City;
- improving housing affordability and diversity; and
- enhancing vibrancy and liveability.

This business case has been prepared to support an increase to the height of the OLS. Based on a conservative development scenario in the Capital City Zone, should the OLS be lifted:

- the value of additional future construction could increase to a significant **$11B**;
- If the additional development capacity were developed purely for residential purposes, the additional potential residential population could increase by **30,350 residents**;
- If the additional development capacity were developed for a mix of residential and commercial purposes, the additional City population could increase by **21,245 residents and 21,105 workers**.

Increasing the OLS will remove the need for a 30 day Adelaide Airport referral, and cost saving associated with an Aeronautical Assessment.

## 2. INTRODUCTION

This business case has been prepared on behalf of the Department for Trade and Investment (DTI) to support an increase to the height of the OLS within the Capital City Zone of the Adelaide City Council area.

The need to lift the OLS has come about for a number of reasons, including, but not limited to:

- Significant changes to planning policy particularly with the introduction of the Capital City Zone in 2012 and criteria for over-height development;
- The need for individual development applications that may penetrate the OLS to be accompanied by specialist aeronautical assessments that are costly and require lengthy referrals to Adelaide Airport Limited ("AAL") and the Civil Aviation Safety Authority ("CASA");
- Better supporting development assessment processes that are efficient, cost effective and more certain; and
- Facilitating development that delivers more effectively on the strategic objectives of the State.

Facilitating an increase to the OLS will:

- Better respond to current planning policy and approved/constructed development;
- Avoid the piecemeal case by case approach in development assessment;
- Improve development assessment timeframes and reduce applicant costs;
- Increase housing supply and commercial floor space to:
    - support an increased resident and working population in the ACC area;
    - improve housing affordability and diversity;
    - enhance City vibrancy and liveability;
    - Provide greater certainty to investors; and
    - Assist in the delivery of critical state infrastructure.

While lifting the OLS will play an important role in achieving the above, it is critical that other mechanisms to attract investment and growth are continued, such as stamp duty concessions for off-the-plan residential sales and commercial property. Such concessions have and will continue to be a key driver for some of the largest residential and commercial developments within the City and are key catalysts to deliver affordable housing and future alternative residential models such as Build To Rent.

## 3. STRATEGIC PLANNING CONTEXT

The 30 Year Plan for Greater Adelaide was first prepared in 2010 and described a plan for how Greater Adelaide should grow to become more liveable, competitive and sustainable. The policies and strategies included in the 2010 plan have resulted in a number of actions – both 'on the ground' and within planning reform. The 30 Year Plan was updated in 2017 to ensure that the development of Greater Adelaide continues to respond to emerging challenges and opportunities.

Since the inception of the 30 Year Plan, the City has undergone positive transformation. Reforms to planning, liquor-licensing and other laws, plus significant State Government spending on infrastructure, has revitalised the City centre, boosted economic activity and created new jobs.

Policy has continued to respond to and anticipate prevailing trends affecting the City. The 30 Year Plan is underpinned by 14 principles that will help shape the City. A key principle that speaks directly to the City is *"Transit corridors, growth areas and activity centres"* and in particular Policy 4 that provides:

> ***P4.*** *ensures that the bulk of new residential development in Greater Adelaide is low to medium-rise development with high-rise limited to the CBD, parts of the Park Lands frame, significant urban boulevards and other strategic locations where the interface with lower rise areas can be managed.*

With specific reference to Adelaide City Centre, there is a desire to reinforce and enhance Adelaide's reputation as a liveable and vibrant place. A number of policies are set out to drive this, including

> ***P13.*** *Maintain the primacy of the Adelaide City centre as the cultural, entertainment and economic focus of Greater Adelaide, enhancing its role as the centre for peak legal, financial and banking services, specialty health and medical, educational, the arts and high quality specialty retail.*
>
> ***P14.*** *Strengthen the overall built form of the city characterised by a grid pattern of streets and squares, contrasting with the organic form of the Adelaide Park Lands.*
>
> ***P15.*** *Deliver an overall city form that expresses taller buildings within the centre, lowering towards the southern residential precincts with some additional height along the terraces and around the four city squares.*
>
> ***P16.*** *Reinforce key city boulevards, such as King William, Grote and Wakefield Streets through taller contemporary buildings that create a sense of entry and frame these important streets.*
>
> ***P17.*** *Reinforce the special character of the main streets of Gouger Street, Hindley Street, Rundle Street and Hutt Street through contextual design responses that increase activity and vibrancy while also preserving the elements that make these places special.*
>
> ***P18.*** *Create vibrant and distinctive laneways, each with their own individual character, with small bars, restaurants, shops and cafes that contribute to city vibrancy.*
>
> ***P19.*** *Reinforce the inner and outer frame of the Park Land Terraces by encouraging quality medium to high-rise mixed-use developments that increase the diversity of housing while also contributing to, and activating the public realm.*
>
> ***P20.*** *Continue to develop the Riverbank Precinct as a world-renowned health, educational and biomedical precinct with strong connections to the city centre, while also reinforcing North Terrace as a premier cultural boulevard with a new vibrant public plaza that will be the heart of entertainment and cultural events.*
>
> ***P21.*** *Increase the amount and diversity of residential accommodation in the city to support a variety of household types for a wide range of age and income groups including students, professionals and the aged.*

***P22.*** *Sustain the heritage, character and scale of the valued residential precincts of North Adelaide and the south-east and south-west corners with contextually appropriate development that contributes to a growing population and provides services to the community.*

***P23.*** *Reinforce the role of the Park Lands as a major recreational, sporting, tourism, natural and open-space asset destination for the city and metropolitan Adelaide that connects the city to the suburbs.*

***P24.*** *Enhance the city's street network to support the intensity and complexity of people movement, business and community activity, as to provide great 'people places' befitting Adelaide's heart.*

Adelaide City is the heart of the state's civic, cultural and commercial life. There is a clear aim to have more people living, working, visiting and investing in the City. Creating liveable, vibrant, sustainable and accessible places is a key competitive advantage for attracting and retaining talented people and investment.

The policies set out in the 30 Year Plan update are complemented by the new planning system that was established through the *Planning, Development and Infrastructure Act, 2016*. The new planning system delivers faster and more consistent planning assessment processes with a greater emphasis on the importance of good design, economic development, unlocking investment and the creation of job opportunities.

The 30 Year Plan released in 2010 set an additional population target of 27,300 resident by 2040. The target was removed in the 2017 Update however the Greater Adelaide Regional Plan ("GARP") Discussion Paper, which is currently on consultation, forecasts that the City of Adelaide will double its residential population, to almost 50,000 people over the next 20 years. This is discussed in more detail in Section 8.

## 4. BUILDING HEIGHT POLICY CONTEXT

In 2012, a new policy framework was introduced for the City. It was designed to stimulate investment and new housing, support infrastructure investment, generate jobs and attract more people to live, work, spend time and invest in Adelaide. The Adelaide City Development Plan was comprehensively updated through the Capital City Development Plan Amendment (DPA), which amended a suite of policies aimed at, amongst other things, removing restrictive barriers, improving design, and further supporting mixed use outcomes (ie residential plus commercial activities such as shops, cafes, restaurants, offices etc) for new development.

A new key policy created within the Capital City Zone was the introduction of over-height criteria that enabled developments to exceed stipulated height limits subject to satisfying site area, location and/or design criteria. The flexibility created in this policy saw a resurgence in development activity in the core area of the City.

Between 2012 and 2017 the height policy was amended to improve design quality. Given the importance of the city centre to the State from an economic, cultural and social perspective, it was considered prudent to review the operation of the policy in light of development assessment experience, design review processes, and in particular proposals that exceeded stipulated height limits.

In response to the Capital City Zone and changes to height policy, there has been a high number of approved and constructed tall buildings. In addition, there has, and continues to be, significant institutional investment in adjacent zones including the new Royal Adelaide Hospital, university, science and research buildings; and the Adelaide Oval. All of these buildings have altered the form of the City. Tram infrastructure and investment in the public realm has also occurred linking these areas to key locations within the Capital Zone.

During this time, the small venue liquor licence was successfully introduced and stamp duty concessions for off-the-plan residential sales and commercial property have also contributed to significant growth in residential and commercial development in the Capital City Zone. Stamp duty concessions have been a key driver for the largest residential and commercial developments within the City.

The Capital City Zone was translated into the Planning and Design Code in July 2020 (“The Code”), which replaced all 72 Development Plans. As the cornerstone of South Australia’s new planning system, it is the state’s single source of all planning zones and rules for assessing development applications. The Code aims to make the development application process quicker, simpler and more equitable, giving people greater access to planning information that is consistent and clear, and available online 24/7. The Code has transitioned the policy for over height development proposed in the Adelaide City Council, into a new structure and format while maintaining its underlying intent.

The Planning and Design Code continues to support improved development outcomes for over height development in the Capital City Zone by:

- Ensuring proposals for over-height development have regard to the surrounding context including character, city form, urban design and public realm;
- Refining design and sustainability policies to improve their expression to ensure their consistent interpretation and application to development applications;
- Refining policies in relation to transitioning taller building heights at the interface of the capital city zone and other zones seeking lower building scales;
- Elevating the provision of affordable housing in new residential and mixed use development; and
- Retaining incentives related to conservation and re-use of heritage buildings and important character elements.

Current Planning and Design Code policy and the strategic directions set out by the 30 Year Plan for Adelaide will continue to see development approved and constructed within the Capital City Zone.

# 5. AERONAUTICAL ASSESSMENT

International standards have been adopted that define two sets of invisible surfaces above the ground around an airport. The airspace above these surfaces forms the airport's protected airspace. These two surfaces are the:

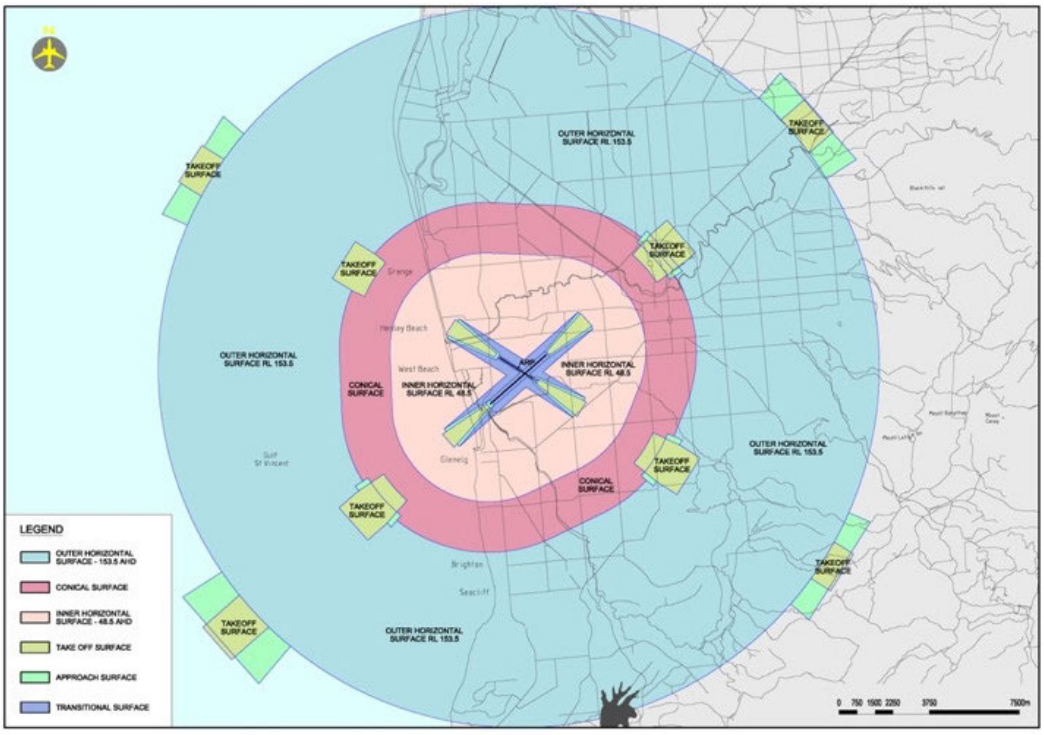
- Obstacle Limitation Surface (OLS); and
- Procedures for Air Navigational Services—Aircraft Operations (PANS-OPS) surface.

The OLS is generally the lowest surface and is designed to provide protection for aircraft flying into or out of the airport when the pilot is flying by sight. The PANS-OPS surface is generally above the OLS and is designed to safeguard an aircraft from collision with obstacles when the aircraft's flight may be guided solely by instruments, in conditions of poor visibility.

Part 12 of the Airports Act 1996 and the Airports (Protection of Airspace) Regulations 1996 establish a framework for the protection of airspace at, and around airports. The Airports Act 1996 defines any activity resulting in an intrusion into an airport's protected airspace to be a “controlled activity” and requires that controlled activities cannot be carried out without approval. The Regulations provide for the Department of Infrastructure, Transport, Regional Development and Communications (the Department) or the airport operator to approve applications to carry out controlled activities, and to impose conditions on an approval.

The OLS defines the airspace to be protected for aircraft operating during the initial and final stages of flight, or when manoeuvring in the vicinity of the airport.

**Figure 5.1** *Obstacle Limitation Surfaces*




The OLS comprises of a series of surfaces in the airspace surrounding an airport where each surface serves a specific purpose. These surfaces are described as follows:

- Take-off Climb Surface (TCS): This surface begins at the end of the runway and slopes upward at a specified angle. Its purpose is to ensure that aircraft can safely climb and clear obstacles during take-off;

- Approach Surface (AS): The approach surface starts at the threshold of the runway and slopes upward at a specified angle. It ensures that aircraft have sufficient clearance over obstacles during their approach for landing;
- Transitional Surface (TS): The transitional surface connects the Take-off Climb Surface and the Approach Surface. It allows for a smooth transition between take-off and landing procedures, ensuring that there are no unexpected obstacles in the flight path;
- Inner Horizontal Surface (IHS): This surface is at a specified height above the runway level and covers a larger area around the airport. It provides clearance for aircraft during low-level flight and approach paths; and
- Conical Surface: The conical surface extends upward and outward from the runway's centreline. Its purpose is to provide obstacle clearance during the initial climb phase.

These surfaces are established in accordance with the International Civil Aviation Organisation (ICAO) specifications which have been adopted by Australia's Civil Aviation Safety Authority (CASA).

New developments may penetrate the OLS but only in particular locations and if strict requirements are met. Should a development application involve a proposal that penetrates the OLS, a referral to Adelaide Airport is required. The purpose of the referral is for Adelaide Airport to provide expert assessment and direction to the relevant authority on potential impacts on the safety and operation of aviation activities.

Annex 14 of the ICAO Standards states that new objects or extensions of existing objects shall not be permitted above an approach, transitional or take-off climb surface of an OLS. However, new objects within the inner horizontal surface and the conical surface of the OLS may be permitted if an Aeronautical Assessment proves that the safety, efficiency or regularity of existing or future air transport operations into or out of the airport will not be unduly affected.

Short-term controlled activities that penetrate the OLS can also be approved/refused by Adelaide Airport after consultation with CASA and Airservices Australia (Airservices) or referred by Adelaide Airport to the Department for a decision. At Commonwealth-leased airports, such as Adelaide, long-term controlled activities penetrating the OLS are referred by the airport to the Department for a decision after consultation with CASA, Airservices and the relevant authority.

Short term penetrations of PANS-OPS surfaces may be permitted if the activity can be completed in less than three months and the changes required to procedures will not affect safety, efficiency or regularity of operations at the airport.

Long-term penetrations of the PANS-OPS surfaces are not permitted. Therefore, the only options in a case where the current PANS-OPS surface must be permanently penetrated is to seek to re-define a safe, alternative PANS-OPS surface that is acceptable to users. In this case, a proposal can be advanced to amend the instrument procedures and raise the limiting surfaces or amend the maximum height of the controlled activity.

Some technologically advanced procedures are designed using non-PANS OPS criteria. Referred to as Required Navigation Performance-Authorisation Required (RNP-AR) approach procedures and these instrument approaches are designed using criteria described in ICAO Doc 9905 (RNP-AR Procedure Design Manual). The surfaces associated with these procedures are not protected by the extant legislation.

One other surface exists that is not related to OLS, PANS-OPS or Doc 9905 surfaces and that is the Minimum Vector Altitude (MVA) that is displayed on an Airservices designed Radar Terrain Clearance Chart (RTCC). The MVA is the lowest altitude that a controller may assign to a pilot in accordance with the RTCC and is not usually included in an airport's protected airspace.

An Aeronautical Assessment may not be required in all OLS penetration circumstances.

For example, if an approved and/or constructed taller building that penetrates the OLS is located closer to Adelaide Airport and that building shields a proposed building from an approach, transitional or take-off perspective, then an aeronautical study may not be required. If located outside the 'shield' or located within the inner horizontal surface and the conical surface of the OLS then an Aeronautical Study will be required to prove that the safety, efficiency or regularity of existing or future air transport operations into or out of the airport will not be unduly affected.

Depending on the nature and extent of the OLS penetration, the level of engagement will also vary. Below are three examples.

**Example 1:** If the penetration involves amendments to the runway approaches that are within normal design tolerances such is unlikely to raise any concerns with aircraft operators, and consequently, Adelaide Airport.

**Example 2:** Should there be a need to apply for a controlled activity to Adelaide Airport, Airservices should be engaged prior to making an application to ensure, as ultimate decision maker, they concur with the application of the procedure design rules.

**Example 3:** Where the height of a building penetrates the OLS and the associated crane may temporarily penetrate the PANS-OPS, Adelaide Airport should be alerted to the intention to lodge a controlled activity application and briefed on the proposed amendments to the procedures. As there will be a requirement to amend PANS-OPS surfaces they will have to refuse the application in the first instance and refer it the Department. Part of the Airport's management of controlled activity applications is to consult airlines, Airservices and CASA and provide the "advice" they give to the Department as the decision maker.

It is important to note that the cost of an Aeronautical Assessment will vary depending on the nature and/or extent of the penetration and the associated level of stakeholder engagement. In all circumstances, the height of the crane to be erected during construction must also be considered.

Costs to the proponent could vary anywhere between $5,000 to $20,000+.

# 6. APPROVED DEVELOPMENT APPLICATIONS IN THE CAPITAL CITY ZONE

## 6.1 Catalogue of Approvals

A number of developments have been approved and ultimately constructed within the Capital City Zone. Figure 6.1 identifies those developments either approved and/or constructed that have penetrated the OLS since the creation of the Capital City Zone.

**Figure 6.1** *Location of approved and constructed developments penetrating the OLS*

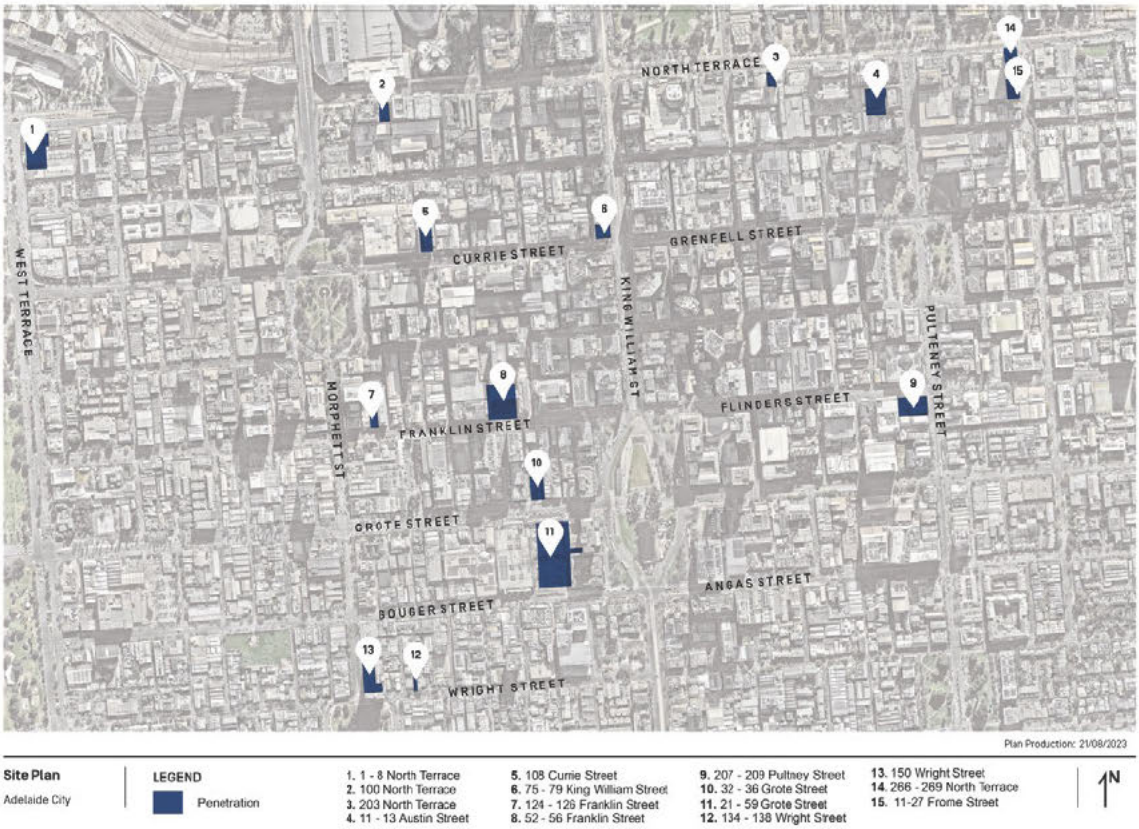



Table 6.1 summarises the particular features of these approved and/or constructed developments.

**Table 6.1** *Location of approved and constructed developments*

| Site Address | Site Area ($m^2$) | Development Type | Height (m) | OLS (m) | Penetration (m) |
|---|---|---|---|---|---|
| 124-126 Franklin Street | 590 | Hotel | 87 | 80 | 7 |
| 52-56 Franklin Street | 1,592 | Office | 90.1 | 0.1 | 0.1 |
| 1-8 North Terrace | 2,920 | Mixed use | 107 | 60 | 47 |
| 207-209 Pulteney Street | 1,910 | Mixed use | 180 | 130 | 50 |
| 32-36 Grote Street | 1,214 | Mixed use | 112 | 90 | 22 |
| 75-79 King William Street | 651 | Hotel | 123.5 | 110 | 13.5 |
| 21-59 Grote Street | 8,616 | Mixed use | 124.2 | 90 | 34.2 |

| Site Address | Site Area ($m^2$) | Development Type | Height (m) | OLS (m) | Penetration (m) |
|---|---|---|---|---|---|
| 150 Wright Street | 1,947 | Mixed use | 74 | 70 | 4 |
| 11-13 Austin Street | 1,622 | Mixed use | 132 | 130 | 2 |
| 108 Currie Street | 1,049 | Mixed use | 112 | 90 | 22 |
| 100 North Terrace | 675 | Hotel | 110.7 | 90 | 20.7 |
| 134-138 Wright Street | 490 | Mixed use | 100.2 | 82 | 18.2 |
| 203 North Terrace | 471 | Residential | 109.2 | 82 | 28 |
| 266-269 North Terrace | 698 | Mixed use | 113 | 105 | 8 |
| 11-27 Frome Street | 1,692 | Mixed use | 135 | 105 | 30 |

## 6.2 Summary of Approved OLS Penetration

Combined, the approved developments have resulted in a total OLS penetration of 268.7m or approximately 75 building levels (or an average of 5 building levels per site). This penetration alone would equate to an additional 5 new buildings within the prescribed 53m height area of the Capital City Zone.

## 6.3 Potential Theoretical Development Area

If the average site area associated with the approved and/or constructed developments is 1,742$m^2$, the potential theoretical developable area would be approximately 468,075$m^2$. However, this developable area does not allow for setbacks or other constraints that may exist. A discount of 20% would be reasonable, and indeed conservative, to allow for such providing a potential developable area of around 374,446$m^2$.

## 6.4 Assumed Construction Value

According to the Rider Levett Bucknall Riders Digest 2023, the following construction rates would apply for particular types of high-rise development:

- Residential $3,800$m^2$;
- Office $4,200$m^2$;
- Hotel $4,000 to $6,000$m^2$ (depending on star rating);
- Hospital $6,900 to $7,300$m^2$;

If an average construction rate of around $5,000$m^2$ is assumed, then the current construction value of this developable area above the OLS would equate to approximately $1.872B.

## 7. OBSTACLE LIMITATION SURFACE INFLUENCE ON BUILDING HEIGHT

Overall, the interaction between the OLS and building height policy is a complex and multifaceted aspect of urban planning within the Adelaide City Council area.

The introduction of the Capital City Zone in 2012 stimulated new investment by removing restrictive policy barriers particularly in regard to building height. Initially, developments that exceeded height guidelines were located within the central areas of the City as the over-height criteria was primarily associated with achieving a minimum site area or the site located along a particular road, tram infrastructure or open space (i.e. the Park Lands or Squares). Overtime, the policy was improved to provide further flexibility and to respond to market demands/trends. The minimum site area was removed from the policy, the over-height criteria applied to the substantial majority of the Capital Zone; and, in the core of the Zone, no height limit was prescribed. In this particular area, height was influenced by Adelaide Airport and/or aircraft safety.

The flexibility created in this policy saw a resurgence in development activity in the core area of the City. RAA Place (formerly Westpac House, Santos House, Bank SA Building, and State Bank Building) is an office building located at 91 King William Street, Adelaide. It is a 31-storey office tower, reaching 132 metres at its roof. Being at the centre of the City, it influenced a “pyramidal” city form for around 30 years. From 1988 until 2019, it was the tallest building in Adelaide and was traditionally used by all aviation authorities as the key reference when assessing new development that penetrated the OLS.

However, in response to the Capital City Zone and changes to height policy, there have been a high number of approved and constructed buildings. Those identified in Section 6 have penetrated the OLS and some have exceeded the height of RAA Place. The location of these taller buildings is also varied where buildings of comparable and taller height are located along North Terrace. Other taller buildings have either been approved or constructed towards East Terrace and South Terrace. The “pyramidal” form has resulted in a gradual “flattening” form albeit there is a height bias towards the east due to the shielding character of RAA House and the increased height contours of the OLS and PANS-OPS towards the eastern end of the City.

In more recent times, stamp duty concessions for off-the-plan residential sales and commercial property have also contributed to significant growth in residential and commercial development in the Capital City Zone. Stamp duty concessions have been a key driver for some of the largest residential and commercial developments within the City.

A number of other developments are currently proceeding through the PLP and DRP processes which are likely to penetrate the OLS and will continue to change the form of the City.

# 8. THE NEED FOR A REVIEW OF THE OBSTACLE LIMITATION SURFACE

The need to review the OLS in Adelaide arises due to several factors. These include but are not limited to:

- Planning policy and urban development;
- Development assessment efficiencies and reduced costs;
- Changing aviation standards and/or airport expansion or upgrades; and
- New technologies or aircraft types.

## 8.1 Planning Policy and Urban Development

The surrounding urban landscape of the Adelaide Airport has changed considerably over the last 15 to 20 years. The 30 Year Plan for Greater Adelaide in particular has seen new urban infill development, higher densities and increased building heights in closer proximity to the Adelaide Airport. However, the most significant physical and visible change has occurred within the Capital City Zone of the Adelaide City Council area.

Planning policy prior to, and at the time of the construction of the State Bank building in 1988, promoted a "pyramidal" city form where taller buildings were envisaged towards the centre of the City and a scaling down of building height towards the terraces. Planning policy managed this desired form through a number of different zones and/or non-complying triggers. As the tallest building in Adelaide, the State Bank building, together with a relatively conservative planning policy framework, constrained development from exceeding 132m in height. Planning policy, particularly the general construct of zones and non-complying triggers saw very little opportunity to penetrate the OLS.

The introduction of the Capital City Zone in 2012 and subsequent policy improvements since that time has provided considerable flexibility in regard to building height that has not only seen the removal of restrictive building height policy barriers, however stimulated new investment to a level where buildings taller than the current OLS have been approved and constructed across different parts of the Capital City Zone. Some of these buildings have exceeded the height of RAA Place where the "pyramidal" form has resulted in a gradual "flattening" of the City.

At the time of writing this business case, a number of other developments are currently proceeding through the PLP and DRP processes which will penetrate the OLS and will continue to change the form of the City.

The Greater Adelaide Regional Plan ("GARP") Discussion Paper recognises the Adelaide city centre as an important contributor to infill growth. Over 25,000 people live in the City of which approximately 4,500 people resided in the City since the inception of the Capital City Zone. According to the GARP Discussion Paper, this has resulted in an additional 103 developments, contributing to 3,500 student accommodation rooms, 1,636 hotel rooms and over 7,500 apartments.

Population forecasts suggest that the City of Adelaide will double its residential population, to almost 50,000 people over the next 20 years. To support this, the State Government and City of Adelaide have committed to developing a contemporary plan for the City that guides future growth.

While recent land supply studies for the City identify more than adequate privately held land to meet future development demand, further changes to planning policies and building codes will need to be investigated to incentivise and enforce supply of diverse, affordable, and environmentally sustainable developments.

The GARP identifies airport building height limitations as a key challenge that needs to be addressed.

## 8.2 Development Assessment Efficiencies and Reduced Costs

Put simply, efficiencies in the development assessment process can be achieved by increasing the height of the OLS to align with approved and constructed developments.

Approved and constructed developments that already penetrate the OLS create a shielding effect that automatically creates uplift for other property within the Capital City Zone. In such circumstances, there should be no need for a statutory referral (30 days) and/or Aeronautical Assessment ($5,000 to $20,000+ cost to a development application).

Improved technology embedded in the South Australian Planning and Property Atlas ("SAPPA") could also contribute to efficiencies where digital mapping tools (including Geographic Information Systems) could accurately identify approved and/or constructed developments (i.e. obstacles) to facilitate quicker identification of obstacles and help planners make informed decisions. This may involve the establishment of data-sharing agreements between the Department for Trade and Investment, aviation authorities, and other relevant stakeholders however integrating data sources can lead to more efficient assessments by reducing duplication of efforts. By developing standardized procedures for OLS assessments, assessment timeframes will be improved, assessment approaches will become consistent and overall costs will be reduced.

Legislative mechanisms available under Section 71 of the PDI Act allow for the spatial application of an overlay identified in the Planning and Design Code's Rules of Interpretation to be amended by Ministerial determination, following a prescribed process involving publishing new mapping in the SA Planning Portal and including it in Part 13 of the Code. The use of Section 71 to allow updates of the Airport Building Heights (Regulated) Overlay via Ministerial determination instead of a standard section 73 Code Amendment process (which would otherwise be required) would enable any changes required to align the spatial application of the Overlay with a revised OLS to be done efficiently, thereby avoiding any unnecessary procedural misalignment.

Whilst efforts to improve planning assessment efficiencies and reduce costs related to the OLS is a significant benefit to proponents, such should be balanced with maintaining the highest level of aviation safety. Ongoing collaboration between aviation authorities, urban planners, developers, and technology providers is the key to achieving this benefit however regular periodic reviews and updates related to the OLS is necessary to ensure that SAPPA, referrals and information requirements are up to date and remain effective and aligned.

## 8.3 Changing Aviation Standards and/or Airport Expansion or Upgrades

Aviation safety standards and regulations are subject to periodic updates at the national and international levels. Any changes in these standards may necessitate a review of the OLS to ensure compliance and alignment with the latest requirements.

Changing aviation standards can have implications for the OLS. When aviation standards evolve, they may impact the design, assessment, and implementation of the OLS. For example, changing aviation standards often prioritize safety improvements. New standards might require larger obstacle clearances or different criteria for obstacle assessment, potentially leading to adjustments in the OLS to ensure enhanced safety. As mentioned previously, new technologies can enable more precise flight paths and obstacle avoidance, potentially influencing OLS design to align with these capabilities. In addition, changes to planning policy (which has been the case over the last 10 years) has resulted in a significant change in the built form of the City.

If there are plans for expanding or upgrading the airport infrastructure in Adelaide, such as lengthening runways, a review of the OLS may be required to accommodate these changes while maintaining safety standards.

It is important to note that this business case does not seek to limit or constrain the operation of Adelaide Airport, rather revise the OLS to better align with changes to planning policy and the changing form of the Council area as a result of constructed and approved developments.

## 8.4 New Technologies or Aircraft Types

Advancements in aviation technology or the introduction of new aircraft types are likely to alter the performance characteristics and flight paths of aircraft. A review of the OLS could ensure that the new technologies and aircraft are accounted for in safety assessments. As aircraft technology continues to advance, there are several ways in which improved technology can interact with and influence the OLS.

Modern navigation systems, such as GPS-based navigation and precision approach systems like GBAS (Ground-Based Augmentation System) and CAT III ILS (Instrument Landing System), can provide more accurate and reliable guidance to pilots during critical flight phases. These systems enable pilots to follow precise flight paths and glide slopes, potentially allowing for optimized obstacle clearance even within narrower OLS dimensions.

Advanced sensors and radar systems can also detect obstacles in real-time, providing pilots with timely alerts and information about potential hazards. These systems can help pilots make informed decisions to avoid obstacles, even in situations where the OLS might be compromised.

Terrain Awareness and Warning Systems technology provides pilots with terrain and obstacle awareness information, including alerts for unsafe terrain proximity. This technology can help pilots maintain safe obstacle clearance by providing early warnings and suggesting corrective actions.

Modern aircraft design and aerodynamics have improved climb rates and manoeuvrability therefore aircraft will be able to achieve steeper climb gradients, enabling them to quickly gain altitude and clear obstacles even within existing OLS dimensions.

More efficient and powerful engines will allow aircraft to achieve better climb performance, enabling them to clear obstacles more effectively during take-off. Further, automation in aircraft systems, such as auto-throttle and auto-pilot, can assist pilots in maintaining safe obstacle clearance profiles during critical flight phases. And finally, performance-based navigation allows for flexible and precise flight path design, which can help optimize obstacle clearance while adhering to the OLS requirements.

While improved aircraft technology can enhance safety and operational efficiency, any changes to the OLS or its dimensions would need to be considered alongside advancements in technology. It's important to ensure that safety standards are maintained or improved and that any new technology complements existing regulations and procedures.

It is crucial to periodically assess and update the OLS to maintain the highest level of safety for aviation operations while accommodating the changing needs of the airport and surrounding urban development.

## 9. PENETRATION OF THE OBSTACLE LIMITATION SURFACE

Implementing a permanent change to the OLS requires a thorough and coordinated process involving multiple stakeholders, aviation authorities, and planning authorities. The exact process may vary depending on the location, jurisdiction, and specific circumstances, however it generally, involves the following steps:

1. Safety Assessment: Before considering any changes to the OLS, a safety assessment is conducted to evaluate the potential impact of the proposed changes on aviation safety. This assessment involves analysing flight paths, obstacle clearances, and potential hazards.

2. Feasibility Study: A feasibility study is carried out to determine the technical, financial, and operational viability of the proposed changes. It considers factors such as airport infrastructure, air traffic volume, and environmental impact.

3. Stakeholder Engagement: Stakeholder engagement is critical in the process. This includes consultation with aviation authorities, airport operators, local government, and other relevant parties to gather input, address concerns, and consider different perspectives of stakeholder groups.

4. Regulatory Approvals: Depending on the jurisdiction, regulatory approvals may be required from civil aviation authorities and other relevant agencies. This ensures compliance with national and international aviation standards.

5. Urban Planning and Zoning Changes: If the proposed changes affect building heights or land use around the airport, amendments to zones may be necessary. Local planning authorities will be involved in this stage.

6. Implementation and Construction: Once all necessary approvals and plans are in place, the changes to the OLS are implemented through construction and modification of relevant structures or airspace.

7. Monitoring and Compliance: After implementation, continuous monitoring and compliance checks are essential to ensure that the modified OLS continues to meet safety standards and performs as intended.

8. Documentation and Record-Keeping: Throughout the process, detailed documentation and record-keeping are maintained to track decisions, approvals, and any modifications made to the OLS.

It is important to note that the process to implement a permanent change to the OLS is complex and may take considerable time and resources. In addition, aviation safety remains the top priority, and any modifications must be carefully assessed to ensure they do not compromise the safety of aircraft operations.

It is important to note that this business case does not seek to limit or constrain the operation of Adelaide Airport, rather see to revise the OLS to better align with changes to planning policy and the changing form of the Council area as a result of constructed and approved developments should there be a benefit in doing so.

# 10. PENETRATION OF OTHER AERONAUTICAL CONSTRAINTS

As identified in Section 5, international standards have been adopted that define two sets of invisible surfaces above the ground around an airport. The airspace above these surfaces forms the airport's protected airspace. These two surfaces are the:

- Obstacle Limitation Surface (OLS); and
- Procedures for Air Navigational Services—Aircraft Operations (PANS-OPS) surface.

The OLS has already been described in detail.

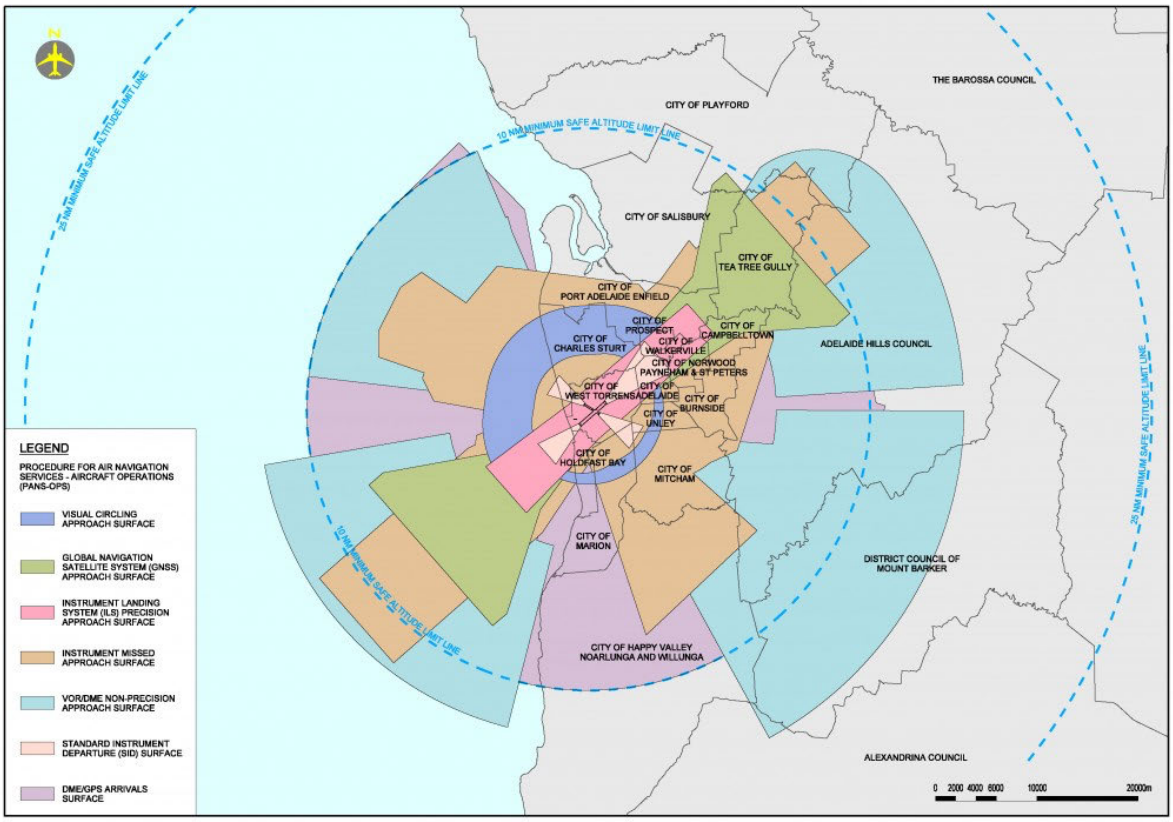
## 10.1 PANS-OPS

The PANS-OPS surface is generally above the OLS and is designed to safeguard an aircraft from collision with obstacles when the aircraft's flight may be guided solely by instruments, in conditions of poor visibility.

PANS-OPS stands for "Procedures for Air Navigation Services - Aircraft Operations." It is a set of international standards and recommended practices developed by the ICAO to govern the design and implementation of instrument flight procedures for aircraft operations.

PANS-OPS provides guidelines and specifications for the design and use of instrument approach and departure procedures, including instrument landing systems (ILS), visual and non-precision approaches, missed approach procedures, and standard instrument departures (SIDs). These procedures are essential for safe and efficient aircraft operations, particularly in adverse weather conditions or low visibility.

**Figure 10.1** *PANS-OPS*



The key objectives of PANS-OPS are to ensure that instrument flight procedures are:

- Safe: Procedures are designed to provide adequate obstacle clearance and ensure safe separation between aircraft during approach, departure, and missed approach phases;
- Repeatable: Procedures are standardized and repeatable, allowing pilots to execute them accurately under various conditions;
- Efficient: Procedures are designed to optimize aircraft operations by providing a smooth and predictable flight path;
- Environmentally Friendly: PANS-OPS considers environmental aspects, such as noise abatement and fuel efficiency; and
- Compliant with Air Traffic Control: Procedures are coordinated with air traffic control to ensure smooth coordination between pilots and controllers during flight operations.

PANS-OPS is continuously updated and improved to incorporate advancements in technology, best practices, and safety enhancements. It is used as a reference by civil aviation authorities, airlines, and aviation professionals worldwide when designing, evaluating, and implementing instrument flight procedures at airports. Adherence to PANS-OPS standards helps ensure a consistent and high level of safety in global aviation operations.

The ICAO standard for PANS-OPS surfaces requires surfaces with the applicable obstacle clearance be defined for each published procedure. The PANS-OPS surfaces cannot be infringed by permanent obstacles under any circumstances.

The PANS-OPS surfaces for Adelaide Airport are relatively complex because of the number of published instrument procedures in place.

## 10.2 Radar Terrain Clearance Charts

In addition to the OLS and PANS-OPS, there are Radar Terrain Clearance Charts (RTCC) which are specialized navigational charts used in aviation to depict the terrain and potential obstructions around airports and specific flight paths. These charts are designed to aid pilots during take-off and landing, especially in low-visibility conditions or at airports located in challenging terrain.

The primary purpose of RTCC is to provide essential information about the minimum safe altitudes and obstacle clearance areas for specific departure and approach procedures. They are particularly crucial in mountainous or hilly regions where terrain elevation can significantly impact aircraft safety.

Key features of Radar Terrain Clearance Charts include:

- Terrain Elevation: where contours of the terrain are displayed, indicating the elevation above sea level to help pilots visualize the topography surrounding the airport;
- Obstacle Locations that identify potential obstacles such as hills, mountains, buildings, or communication towers that could pose a hazard to aircraft during take-off or landing;
- Minimum Safe Altitudes: where minimum safe altitudes for different segments of departure and approach procedures are specified and designed to ensure adequate obstacle clearance;
- Departure and Arrival Procedures: involving charts that show the specific departure and approach paths that pilots must follow to maintain safe terrain clearance;
- Navigation Aids: that may include the location of navigational aids such as VOR (VHF omnidirectional range) or NDB (non-directional beacon) stations to assist pilots in establishing their positions; and
- Airspace Boundaries: involving charts that may depict airspace boundaries, which are essential for complying with air traffic control instructions and ensuring proper separation between aircraft.

The RTCC is not specifically referenced in the Airports (Protection of Airspace) Regulations 1996, however has been applied as the most limiting control surface when assessing the impact of certain property developments in several capital cities in Australia.

There have been around 4 changes to the Adelaide RTCC over the last 5 years.

There has also been a previous case of an adjustment of the RTCC surface at Brisbane Airport to accommodate building development in the Brisbane CBD. The proposal involved an increase in height of the RTCC from 1700ft to 1900ft. The change was approved following ATC, airline and airport review and agreement that aircraft could safely continue to follow an agreed path that transited the area of amended height. Limitations were also agreed during evening hours.

Brisbane's RTCC surface has also experienced a minor amendment to provide consistency with building heights in parts of the CBD that contemplate high rise development.

# 11. OPPORTUNITY, RISKS AND BENEFIT ANALYSIS

## 11.1 Opportunity

The RTCC is not specifically referenced in the Airports (Protection of Airspace) Regulations 1996 and is the most limiting control surface when assessing the impact of certain property developments in several capital cities in Australia. The primary purpose of the RTCC is to provide essential information about the minimum safe altitudes and obstacle clearance areas for specific departure and approach procedures. Therefore, due to the location of Adelaide Airport relative to the Adelaide Hills, an opportunity exists to potentially align an updated OLS with the RTCC as part of a detailed investigation.

As the OLS defines the minimum clearance required between obstacles and aircraft flight paths during take-off, landing, and approach, a review of the OLS in the Capital City Zone presents the most appropriate opportunity from an urban development and safety perspective.

## 11.2 Risk

The PANS-OPS surfaces cannot be infringed by permanent obstacles under any circumstances therefore the process to implement permanent change is extensive requiring significant investigation, engagement and cost with no guarantee that the change can be supported.

With respect to safety, increasing the height of the OLS provides more clearance between obstacles and aircraft, reducing the risk of collisions or accidents during critical flight phases. It allows pilots to manoeuvre safely even if they encounter unexpected obstacles. A higher OLS gives pilots greater flexibility in flight paths, especially during take-off and landing. It provides more options to avoid obstacles, making it easier to adjust to changing weather conditions or unforeseen events.

## 11.3 Potential Benefits

From an urban development perspective, increasing the height of the OLS will allow the Capital City Zone to develop within a framework that continues to improve planning processes and timeframes, reduces application costs and improve development capacity.

### 11.3.1 Development Capacity

With respect to development capacity, it is important to note that the Capital City Zone encompasses a considerably larger area than the footprint of those approved and/or constructed developments that have penetrated the OLS as identified in Section 6. The current construction value of the approved and/or constructed developable area that has penetrated the OLS equates to approximately $1.872B. These development sites represent a total combined site area of 26,137m$^2$. However, the Capital City Zone comprises an area of approximately 2,290,000m$^2$. Allowing for roads and other undevelopable areas, a discount of around 20% should be applied providing a potential developable area of around 1,832,000m$^2$. This means that those sites identified in Section 6 represent only 1.43% of the Capital City Zone.

If only 1.43% of properties contained within the Capital City Zone can generate $1.872B in construction value (relating to only the approved and/or constructed developable area of a building above the OLS), then the potential uplift and associated economic benefit that could be felt across the entire Capital City Zone could be very significant if the OLS were lifted.

For example, if it is conservatively assumed that only 30% of the Capital City Zone (approximately 549,600m$^2$ in area) could take advantage of building above the current OLS then for each building level constructed over that area (approximately 439,680m$^2$ after applying a 20% discount), the value of that construction could equate to approximately $2.2B based on current construction rates. Under a scenario where such proposals penetrate the OLS by an average of 5 building levels (as has been experienced since the inception of the Capital City Zone – refer Section 6), the value of construction could increase to a significant $11B.

What is equally profound, is the impact on the potential residential and city worker population.

### 11.3.2 Residential Population

The Planning and Design Code envisages apartments of between 50m$^2$ (one bedroom) to 80m$^2$ (three bedroom).

If it is assumed that the 439,680m$^2$ were to be developed purely for residential purposes, allowing for some inefficiencies in floor plans of say 20%, then an additional 4,396 to 7,035 apartments could be accommodated for within each building level of the above scenario.

According to the 2021 Census, the average household size in the Adelaide City Council area was 1.77 which would equate to an additional resident population of between 7,781 to 12,452 per building level. At a modest three building levels this potential population could increase to between 23,343 to 37,356 residents.

The GARP Discussion Paper confirms that over 7,500 apartments have been constructed since the inception of the Capital City Zone (i.e. 13 years ago) meaning the potential additional population that could be accommodated under the modest three building level scenario (average of 30,350 residents) would be achieved in a similar period of time.

This means that the 50,000 population target could be achieved well within the next 20 years.

### 11.3.3 City Worker Population

It is recognised that the Capital City Zone may not necessarily develop in accordance with the above, and that it is not the only zone within the Adelaide City Council that will accommodate additional residents.

For example, it is very likely that the Capital City Zone will experience commercial development therefore it is necessary to consider the economic benefit with respect to the potential additional city worker population. Under a scenario where 70% of the 439,680m$^2$ were to be developed for residential purposes and 30% for commercial purposes (allowing for the same inefficiencies in floor plans) then the following residential benefits could result:

- An additional 3,077 to 4,925 apartments could be accommodated for within each building level which would equate to an additional resident population of between 5,447 to 8,716 per building level;
- At three building levels this potential population could increase to between 16,340 to 26,150 residents, or an average of 21,245 additional residents.

With respect to commercial floor space, an assumption of 1 employee for every 15m$^2$ to 25m$^2$ is likely representing the typical higher and lower density working environments, respectively. If 30% of the 439,680m$^2$ were to be developed for commercial purposes (131,904m$^2$), then the following benefits could result:

- An additional 5,276 employees per building level under a low density commercial environment which would equate to 15,828 employees at three building levels;
- An additional 8,794 employees per building level under a high density commercial environment which would equate to 26,382 employees at three building levels.

Even if these benefits were averaged to determine a medium density scenario, a potential increase of 21,105 city workers is significant. City workers contribute to retail spend, city vibrancy and liveability and additional investment in state infrastructure.

### 11.3.4 Scenario Summary

Under each scenario, the analysis and historic evidence suggests that if the OLS is lifted under a conservative scenario where only 30% of the Capital City Zone took advantage of building above the current OLS, such a change could contribute significantly to both the resident and city worker population.

Under a scenario where future proposals penetrate the OLS by an average of up to 5 building levels (consistent with the average OLS penetration experienced to date since the inception of the Capital City Zone), the value of such construction could increase to a significant $11B.

The analysis has been undertaken through a conservative lens adopting a scenario where future proposals penetrate the OLS by an average of 3 building levels.

If this development capacity were developed purely for residential purposes, the additional potential residential population could increase by 30,350 residents.

If this development capacity were developed for a mix for residential and commercial purposes (70:30 split), the additional City population could increase by 21,245 residents and 21,105 workers.

### 11.3.5 Other Considerations

It is important to note that other mechanisms to attract investment and growth are continued such as stamp duty concessions for off-the-plan residential sales and commercial property. Such concessions have, and will continue to be, key drivers for some of the larger scale residential and commercial developments within the City. Such catalysts are key to deliver affordable housing and alternative residential models such as Build To Rent.

The removal of a 30 day referral in addition to the cost saving associated with an Aeronautical Assessment (anywhere from $5,000 to $20,000+ per development application) provides an incentive to design and ultimately construct buildings to the higher OLS.

There may also be an opportunity to align height limits in the Capital City Zone to the revised OLS through a Code Amendment. However legislative mechanisms available under Section 71 of the PDI Act allow for the spatial application of an overlay identified in the Planning and Design Code's Rules of Interpretation to be amended by Ministerial determination, following a prescribed process involving publishing new mapping in the SA Planning Portal and including it in Part 13 of the Code. The use of Section 71 to allow updates of the Airport Building Heights (Regulated) Overlay via Ministerial determination instead of a standard section 73 Code Amendment process (which would otherwise be required) would enable any changes required to align the spatial application of the Overlay with a revised OLS to be done efficiently, thereby avoiding any unnecessary procedural misalignment.

Such provides consistency between the Technical Numeric Variations and Airport Building Height Overlay providing even greater certainty and efficiency to proponents and authorities through the design and assessment process.

# 12. PROCESS AND COST

It is essential to note that changing the OLS is a complex process that requires a thorough safety assessment, coordination with aviation authorities, and consideration of various factors, including local topography, land use, and urban planning. Any adjustments to the OLS must be made with utmost care to ensure that safety standards are maintained or improved while considering the needs of the community and airspace management.

## 12.1 Approach to change the OLS

This section describes the proposed approach for changing the OLS through a series of distinct work packages. Work Packages could run concurrently.

***Work Package 1 – Project Inception***

This package effectively involves a project initiation, information exchange and confirmation of scope and deliverables. This will require the involvement of Technical Aviation Consultants.

This is also an opportunity for stakeholders to provide any additional information such as knowledge of existing inaccuracies/impacts of the OLS, confirmation of adherence to National Airports Safeguarding Framework (NASF) Guideline F: Managing the Risk of Intrusions into the Protected Airspace of Airports and any plans to undertake development that may change the OLS (such as runway extensions).

***Work Package 2 – Existing OLS Review***

In collaboration with Civil Aviation Safety Regulation (CASR) Part 173 certified procedure design experts, a review of the existing OLS for its impacts on Capital City Zone developments and any inaccuracies will need to be undertaken, including:

- An assessment of Annex 14 OLS against the current ICAO Standards;
- Determination of inaccuracies of the OLS data;
- Determination of the impacts of the Capital City Zone developments; and
- Determination of the impacts of current obstacle data (when available).

***Work Package 3 – OLS Draft Redesign (MOS Part 139 standards)***

In association with CASR Part 173 certified procedure design experts, a draft redesign of the OLS will need to be undertaken based on updated current datum and applicable standards as per Part 139 Manual of Standards (MOS) Criteria, detailing the improvements and associated benefits achieved.

***Work Package 4 – Review ICAO State Letter 2023/33***

A review of the ICAO State Letter 2023/33 involving a proposal to amend Annex 14, Volume I and PANS-Aerodromes (Doc 9981) relating to aerodrome design and operations to identify the impact/changes of the new criteria. These proposed changes are currently subject to industry consultation and the Australian Regulator, CASA, has yet to publish their updated standards and timeframes. As such, this work will need to refer to the ICAO State Letter 2023/33 investigating potential perceived impacts and benefits.

***Work Package 5 – Preparation of Report***

The work undertaken in Work Packages 1 to 4 will need to be summarised into a report a basis to inform stakeholder engagement.

***Work Package 5 – Local Stakeholder Engagement***

Stakeholder engagement presenting the review findings and draft concept to affected local stakeholders including, but not limited to Adelaide Airport, Adelaide City Council, DTI etc to consider any concerns raised. This will require the involvement of technical aviation experts.

***Work Package 6 – Canberra Regulator Engagement***

This engagement will need to include the presentation of the review and draft concept to regulatory stakeholders in Canberra. Should any concerns be raised, through negotiation, these can be reviewed, and potentially further mitigated.

*Note: Work Packages 5 and 6 will ensure that all key stakeholders have the opportunity to review the information provided and to indicate whether any proposed changes are likely to receive favourable consideration. Should support be obtained, then implementation of the design changes could be pursued.*

***Work Package 7 – Implementation***

This work package will involve implementation of the design changes post engagement. Implementation of the design changes may be influenced by the extent of work particular stakeholders such as Adelaide Airport may require for the design.

## 12.2 Timeframe and Estimated Cost