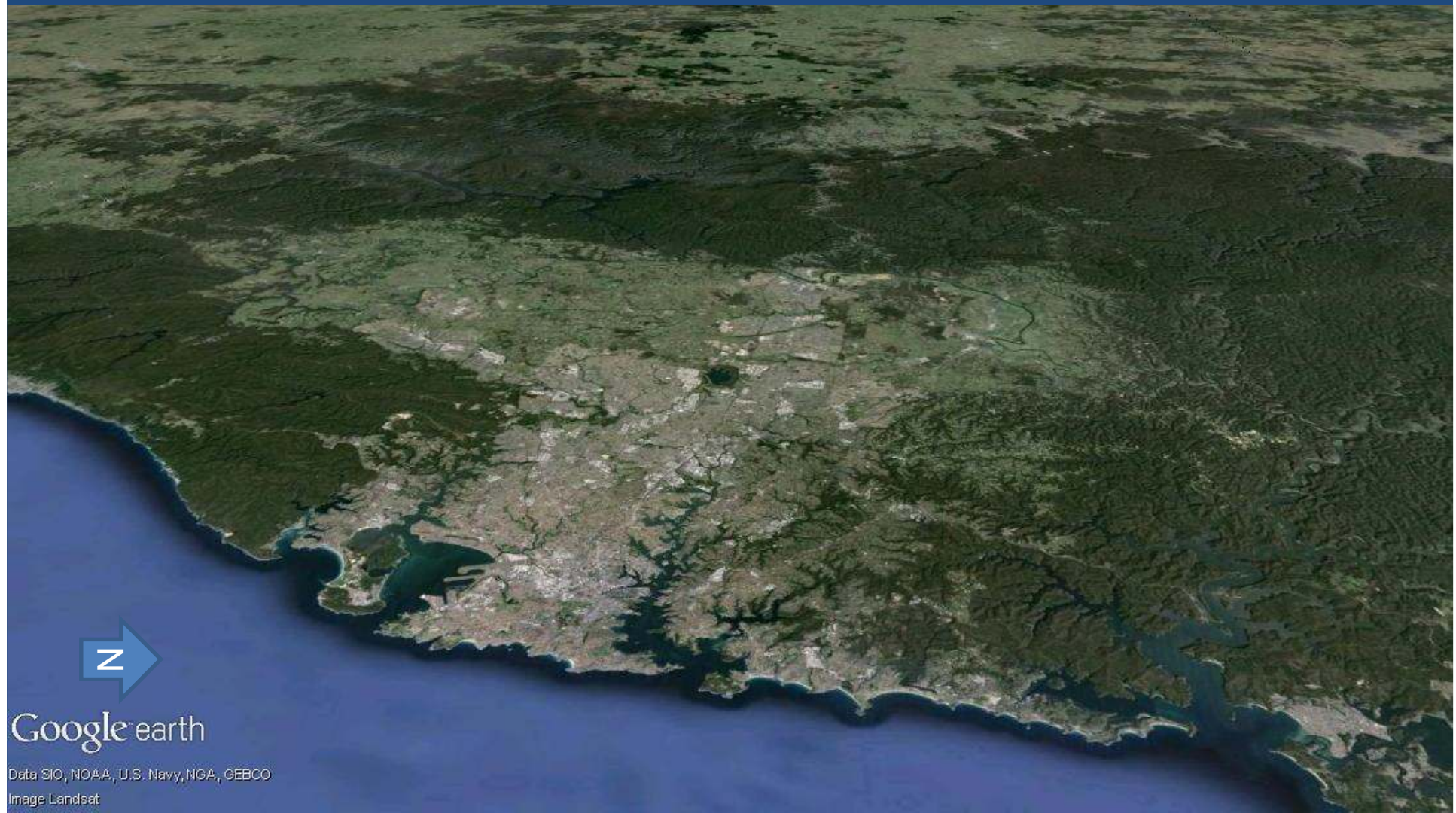


Airport Site Selection for Sydney



Airport Site Selection for Sydney



Source: Daily Telegraph, Sydney



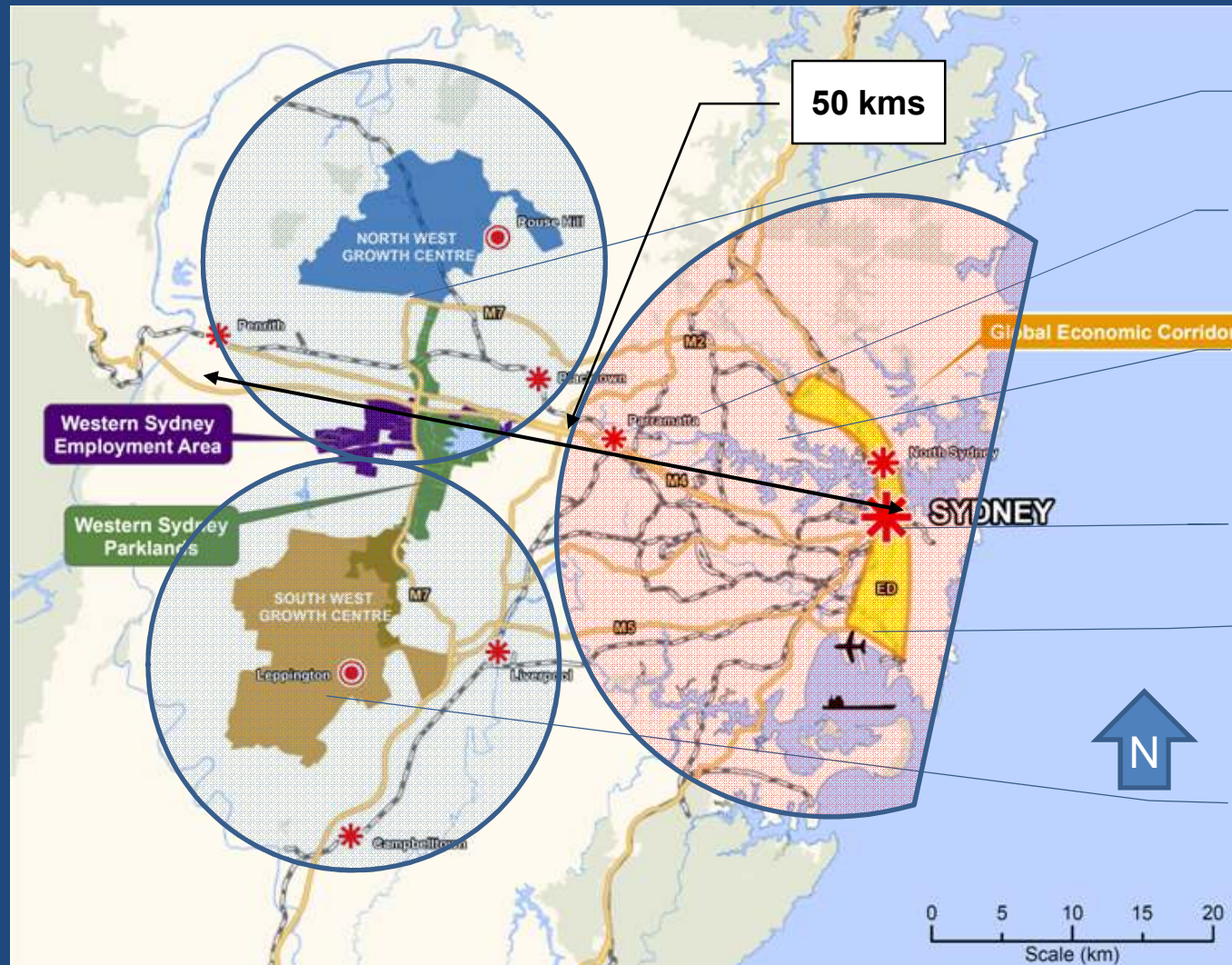
Airport Site Selection for Sydney

Disclaimer and Acknowledgments

- This paper describes work undertaken for the Joint Study of the Commonwealth Government of Australia and the State of NSW on Aviation Capacity in the Sydney Region.
- The Joint Study has been placed in the public domain and may be found at:
http://www.infrastructure.gov.au/aviation/sydney_av_cap/index.aspx
- The views expressed in this paper, while largely based on those studies, however, are those of the Authors, who were senior members of the **WorleyParsons/AMPC team** which undertook the planning, engineering and environmental assessments which form a major component of those studies.
- The contributions of Gary Milner of Airport Master Planning Consultants and my WorleyParsons colleague, Sofie Mason-Jones are gratefully acknowledged as are those of my team, especially GIS analysts, Campbell Grant and Daniel Liu;
- The leadership and encouragement of the Department of Infrastructure and Transport and its staff especially James Collett, Jessica Hall and Brendan McRandle during the execution of the work is acknowledged.

Airport Site Selection for Sydney

Sydney – Structure and Growth



Source: NSW Metropolitan Plan

“New Sydney”
North West
Urban Growth Area

“Ermington”
Centroid of current
Population

“Old Sydney”
Urban Consolidation

Sydney CBD

Sydney Airport
“Kingsford Smith Airport”
(KSA)

“New Sydney”
South West
Urban Growth Area

Airport Site Selection for Sydney

Sydney Airport – 8kms to CBD



Photo Source: <http://australianaviation.com.au/2013/01/sydney-airport-calls-for-more-flexibility/>

Airport Site Selection for Sydney

Footprint of Sydney Airport



Source: Sydney airport Preliminary Draft Master Plan 2033 Summary and Google Earth

Airport Site Selection for Sydney

Sydney Airport – Constrained Site



<http://www.sydneyairport.com.au/corporate/media-centre/multimedia-gallery.aspx>

Airport Site Selection for Sydney

Back to the Future on Sydney's Airport

1946	Study for the development of an international airport -sites studied include Towra Point, Bankstown and Mascot
1964	NSW Government recommends second airport at Towra Pt in Botany Bay by 1980 when Sydney at maximum capacity.
1969 -1971	Major Airport Needs Study (MANS) considers 11 sites - MANS narrows down the possible location to 4 sites.
1972	MP advocates an airport at sea - a seadrome.
1973	Minister for Transport announces the decision to site the second Sydney airport at Galston, north-west of Sydney.
1974	Minister for Transport rules out the possibility of the second airport being located at Galston.
1976	NSW Government considers that use of KSA would not increase as much as forecast, and could cope with air traffic until 2000.
1978	MANS recommend a third runway over the construction of a second airport- NSW Government refuses to accept the recommendation.
1981	Federal Government (Liberal) refuses to name a site – concerned State Government (Labour) will oppose decision for political reasons.
1983 - 1984	Federal Government (Labor) - Second Sydney Airport Site Selection Programme - Sites Wilton and Badgerys Creek.
1986	Federal Government (Labor) announces that Badgerys Creek is the site for the second airport. About 1700ha land acquired. KSA is to remain the principal Sydney airport.
1989	Federal Government (Labor) - Prime Minister announces the Government's decision to develop a third runway at KSA
1992	First sod turned on construction at Badgerys Creek to symbolise the commencement of Stage 1 construction.
1994 - 1996	Third runway at KSA opens six months ahead of schedule and \$32m below budget - Badgerys Creek land acquisition costs \$132 million.
1998	Federal and State Labor MPs from western Sydney opposed to Badgerys Creek.
2000	Federal Government (Liberal) decides not to build the second airport .
2003	Labor Opposition announces that a future Labor Government, if elected, would not build an airport at Badgerys Creek
2009	Federal (Labor) and NSW (Liberal) Governments establish a Joint Study to identify locations for Sydney Region Aviation Capacity needs.
2012	Joint Study finds <i>"Badgerys Creek is the best site for an additional major RPT airport"</i> and <i>"Wilton is the next best site."</i>
2012	Federal Govt rejects Badgerys Creek prefers Wilton ; NSW Gov.t prefers Canberra with HSR Link; and business prefers Badgerys Creek.
2013	A Study of Wilton and RAAF Base Richmond for civil aviation operations undertaken.

http://www.aph.gov.au/About/Parliament/Parliamentary_Departments/Parliamentary_Library/Publications_Archive/Background_Papers/bp97/98/98BP20

Airport Site Selection for Sydney



Source: Second Sydney Airport Site
Selection Programme: Draft
Environmental Impact Statement Kinhill
Stearns for Department of Aviation 1985

Badgerys Creek Airport Site



Badgerys Creek Airport Site

Sydney Airport

Airport Site Selection for Sydney

The Badgerys Creek Airport Site

Here's what MIT Professor de Neufville had to say in 1991:

“To appreciate what Australia has accomplished in adopting strategic planning for airports, the recent achievements around Sydney need to be contrasted with the less impressive record elsewhere in the world. This record is all the more remarkable because it was established on the heels of previous attempts to deal with the issues of airport capacity that were ineffective at best”

<http://www.dailytelegraph.com.au/news/western-sydney-airport-alliance-digs-in-on-demand-for-second-sydney-airport/story-fni0cx4q-1226692392396>

Airport Site Selection for Sydney

Identification of Additional Capacity - The Approach

- Evidence based analysis with oversight from a Steering Committee appointed by the Commonwealth and State Governments
- Initially did not consider the Badgerys Creek site as a possible site – Why not? ‘Not Government policy to develop it’
- Existing “brownfields” airports assessed for ability to be expanded
- For greenfield sites - “clean slate” – nothing assumed
- Adopted a very large tract of land around Sydney to analyse ~285 by 120 kms = ~34,000 sq. kilometres
- Identified any tract of land that was:
 - ✓ Readily convertible to aviation uses i.e. not already urban or industrial;
 - ✓ Not limited by current air navigation constraints;
 - ✓ Largely below a maximum gradient required for runways;
 - ✓ Close to sources of demand for airport;
 - ✓ Able to accommodate up to a 4000m single runway airport
- National parks and other environmental protection zones not initially excluded
- Travel distance up to 2hrs initially considered.



Google Earth

Data SIO, NOAA, U.S. Navy, NGA, GEBCO
Image Landsat

60 km

New South Wales “Brownfields” (Existing Airports) Study

“Greenfield” Airport Location Study

“Representative
Greenfield” Airport Sites

Suitable Locations for
an Airport Site

Suitable Airport
Sites within
suitable locations

More
Suitable
Sites

Airport Site Selection for Sydney

Existing “Brownfields” Airports – Assessing Capacity



Factual Data Matrix

12 Existing Airports

5 Data categories – Airport Primary Use - Location and Access – Airport Characteristics and Aviation operations - Regional Context and Infrastructure - Environmental Factors

46 Data Points per airport = 552 Separate Data Points

Main Uses / Operator/lease expiry / Owner / Area of site / Location/(approximate straight-line distance / Proximity to Freeway system / Distance / Time from nearest major City – by road / Distance / time of nearest rail station / Distance & time from–Sydney CBD - by road / Distance & time from Sydney Central - by rail / Other transport available / RPT Airlines services / RPT Connection to Sydney / Current Max Aircraft type / Max. current direct RPT destination capability / Main Runway Dimensions / Secondary Runway (s) / Aircraft parking/gates / AeroBridges / Terminal floor space / Airside Master plan Proposals / Landside Master plan Proposals / Ability to receive International Flights / Curfew / Current number of Movements / Future Max Number of Movements Per Annum / Current Commercial Freight / Future Commercial Freight / Airports Act 1996 (Cmth) and Airports Regulations 1997 (Cmth) / State planning legislation and statutes / Gazetted Local Environmental Plans (LEP) / Draft Local Environmental Plans (LEPs)/Non-statutory State policy documents / Non-statutory local government policy documents / Surrounding land use zones at airport boundary / Significant land uses within 5 kms radius (based on aerial photo &/or zoning maps) / Immediate Road Network / Immediate Passenger rail network / Noise Impacts >25 ANEF / Flooding / Bushfire and other hazards / Rare and Endangered Species / SEPP 14 Wetlands / Other Environmental Issues / Bird Strike per 10,000 mvts per annum

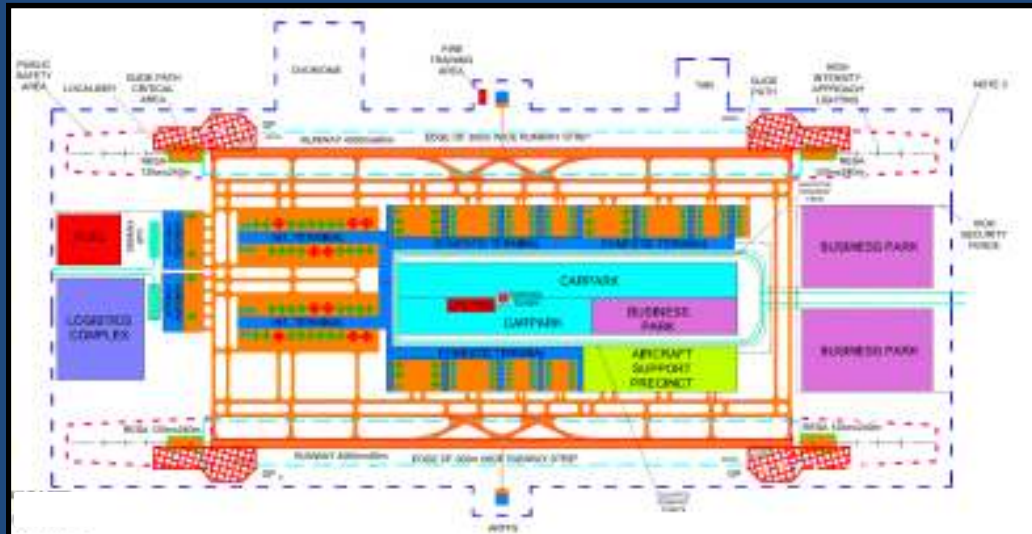
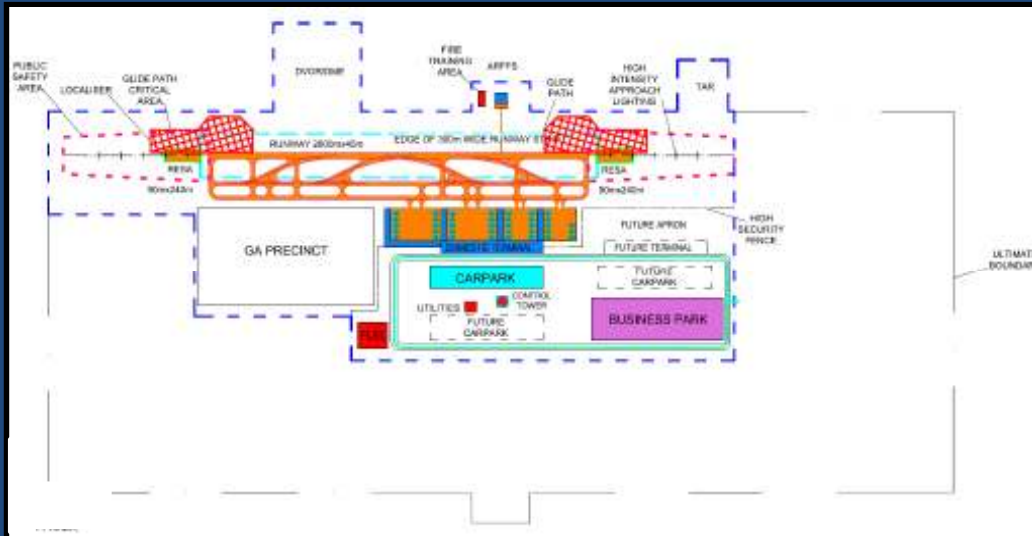
Airport Site Selection for Sydney

Existing “Brownfields” Airports – Assessing Capacity

RPT Capability by Service type.					
Aerodrome	Long Haul International	Short Haul International	Australia wide Domestic	East Coast Domestic	NSW Regional Domestic
Sydney (Kingsford Smith) Airport	✓	✓	✓	✓	✓
Canberra Airport	✓ (Note 1)	✓	✓	✓	✓
Newcastle Airport (RAAF Base Williamtown)	✗	✓	✓	✓	✓
RAAF Base Richmond	✗	✓	✓	✓	✓
HMAS Albatross Naval Air Station	✗	✓	✓	✓	✓
Bankstown Airport	✗	✗	✗	✓ (Note 2)	✓
Illawarra Regional Airport	✗	✗	✗	✓ (Note 3)	✓
Cessnock Airport	✗	✗	✗	✗	✓
Maitland Airport	✗	✗	✗	✗	✓
Holsworthy Army Air Base	✗	✗	✗	✗	✗
Camden Airport	✗	✗	✗	✗	✗
Goulburn Airport	✗	✗	✗	✗	✗

Note 1: subject to runway length capability Note 2: limited to Code 3C aircraft Note 3: subject to being able to achieve Code 3/4C operational capability

Airport Site Selection for Sydney



Airport Development Templates

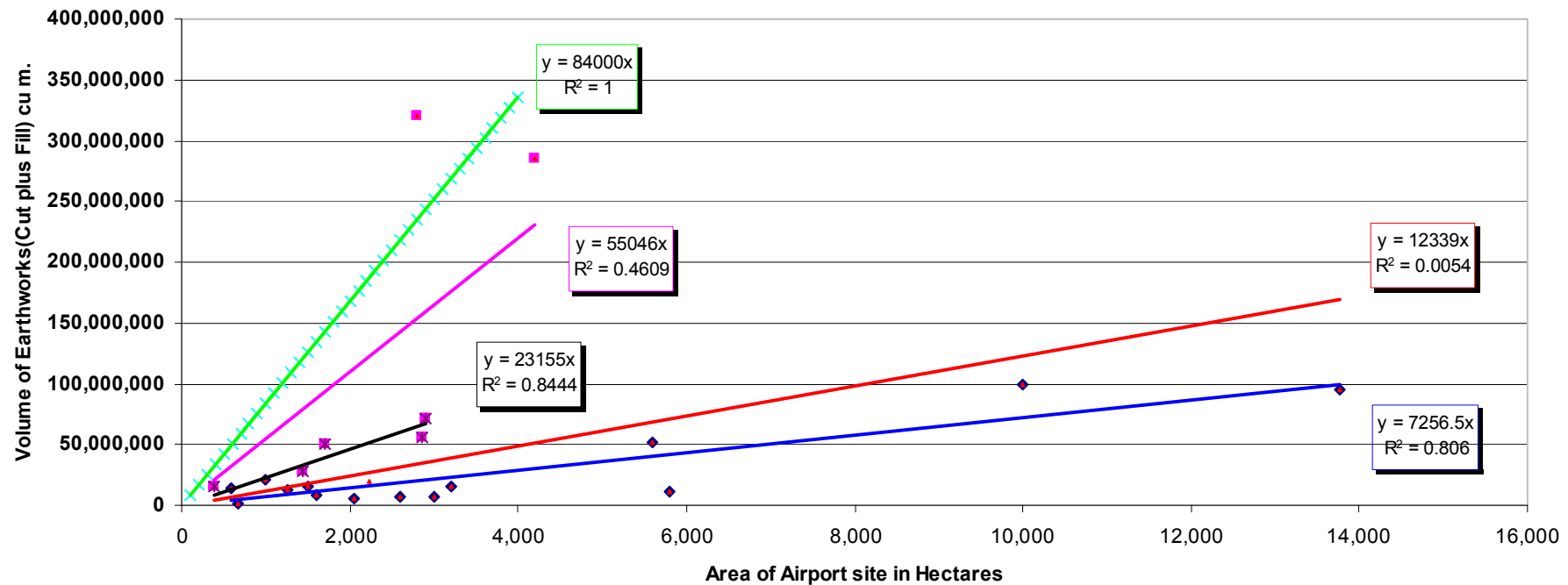
Type 3 Airport

- limited service single runway airport aimed at providing for low cost carriers offering limited services on both domestic and international routes
- 2600m runway
- Minimum site area 723 ha
- 20 million pax p.a.

Type Maximum Airport

- full service international airport with at least two wide spaced parallel runways able to accommodate the largest of aircraft and serving all domestic and international routes
- 2500m to 4000m runways
- Minimum site area 1,676 ha
- 70 million pax p.a.

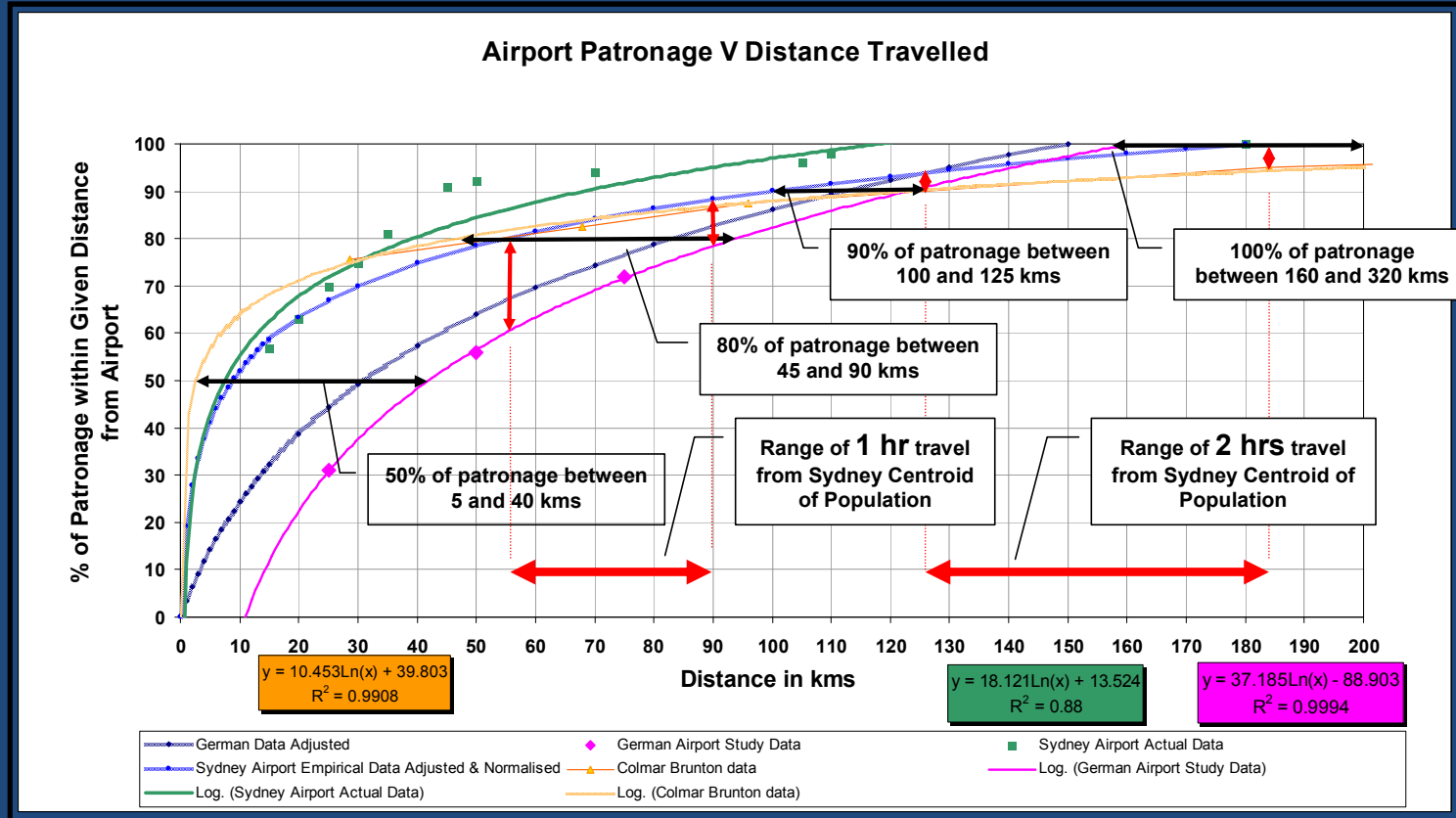
Recent Greenfield Airport Earthworks



- ◆ International Data
- All data
- ✕ SSA plus Brisbane excluding Holsworthy
- Linear (Second Sydney Airport Options, Holsworthy and Brisbane Parallel Runway)
- Linear (Adopted 150% Sensitivity Test Curve for Location Identification)
- Linear (International Data)
- Linear (All data)
- Linear (SSA plus Brisbane excluding Holsworthy)
- Second Sydney Airport Options, Holsworthy and Brisbane Parallel Runway
- ✕ Adopted 150% Sensitivity Test Curve for Location Identification

Airport Site Selection for Sydney

Relative Attractiveness and Travel Time

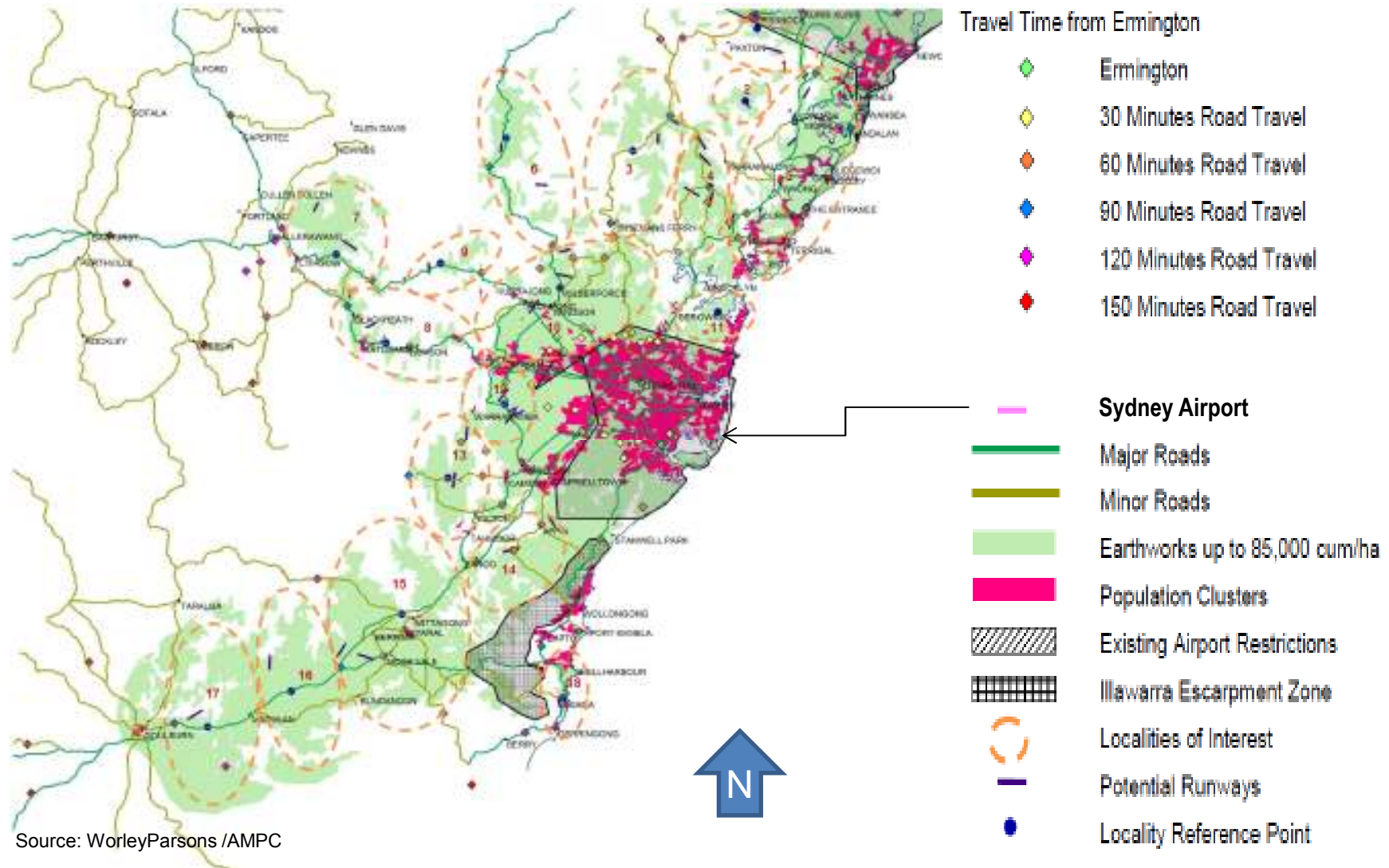


- Based on measurement of isochrones from the centroid of Sydney's population, the distance able to be travelled in any direction varies due to the variability of road standards. Within 1 hours travel, 60 to 80% of all air travellers would be captured; within 2 hours, 90 to 95% of all travellers would be captured.
- So, 2 hour isochrones in any direction from Sydney's centroid of population reasonable as a limit for an RPT airport

Source :Airport Choice in Germany – New Empirical Evidence of the German Air Traveller Survey 2003 Wilken, Berster and Gelhausen 2005

Airport Site Selection for Sydney

18 Initial Greenfield Locations



Factual Data Matrix

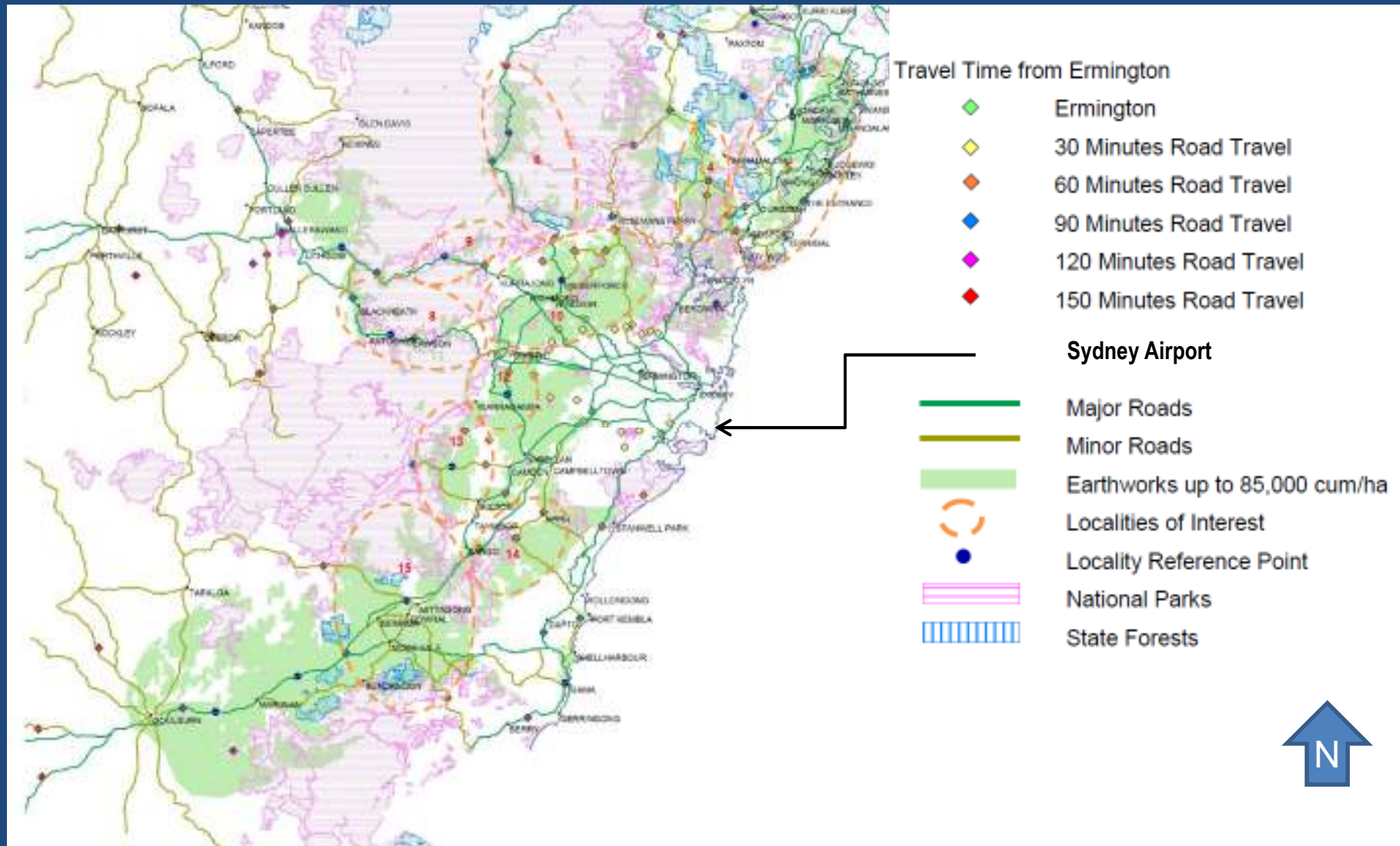
18 Localities, **32** Data Criteria, **10** Primary Criteria, **5** airport types, **4 5 3 6** Data Points

General Locality Attributes / Preferred Representative Airport Site in locality / 1 Capacity Created / 2 Applicability to potential demand segments of new capacity / 3 Ease of connectivity between Sydney Airport and the airport site / 4 Development costs / 5 Accessibility of the Sydney land transport network / 6 Proximity of aviation capacity to NSW commercial growth centres / 7 Commercial opportunities near or on-site / 8 Proximity of Users to capacity a) centroid of population b) CBD / 9 Airspace interactions / 10 Obstacle limitation Surfaces / 11 Frequency of meteorological conditions affecting new and unlocked capacity (i.e. fog, wind, hail) / 12 Potential impact on existing residents and other land users as a result of land acquisition / 13 Noise Impact on Residents (Type 1, 2, 3 and 4 Airports) / 14 Noise impacts on 'sensitive uses' / 15 Risk and consequence of aviation accidents at or around airports / 16 Greenhouse gas emissions / ozone (Surface Transport –related only) / 17 Local air quality (pollution, particulate, odours) / 18 Potential impact on quality of receiving waters / 19 Waterway and water supply catchment impact / 20 National and State Parks / 21A Flora/Fauna Species in the locality / 21B Flora/Fauna Species within the representative Site / 22 Indigenous cultural heritage and heritage items / 23 Non-aboriginal heritage items / 24 State Significant Sites / 25 Flood risk at site / 26 Bushfire risk at site / 27 Earthquake / other disaster / 28 Land remediation and contamination (i.e. leakages) / 29 Presence of or potential for Underground mining activity / 30 Unexploded Ordnance Risks

18 Initial Greenfield Locations – Relative



Airport Site Selection for Sydney Culled to 15 Possible Greenfield Locations



And then culled to 7 Localities

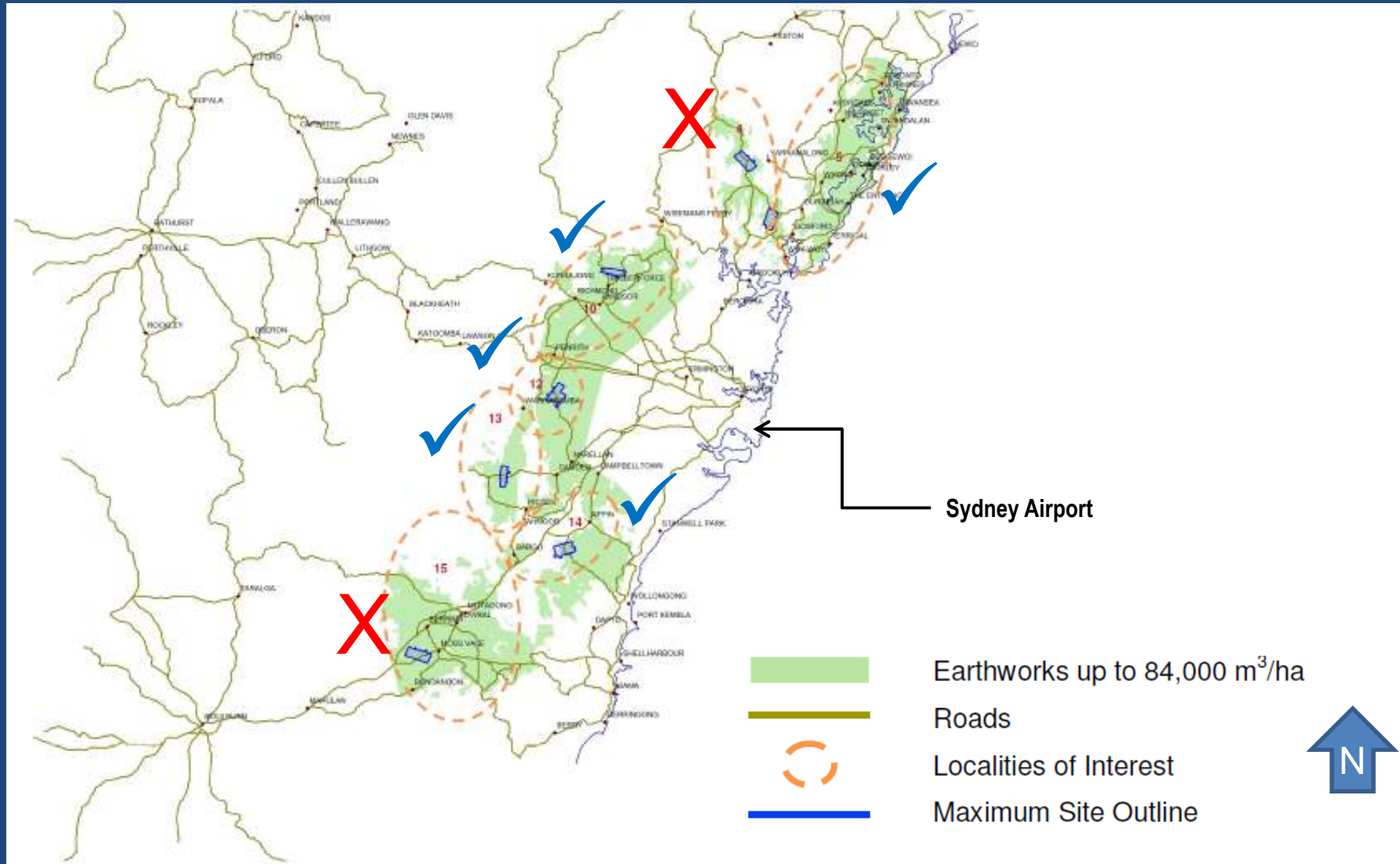


Maximum Site Outline



Airport Site Selection for Sydney

And finally to 5 Preferred Localities



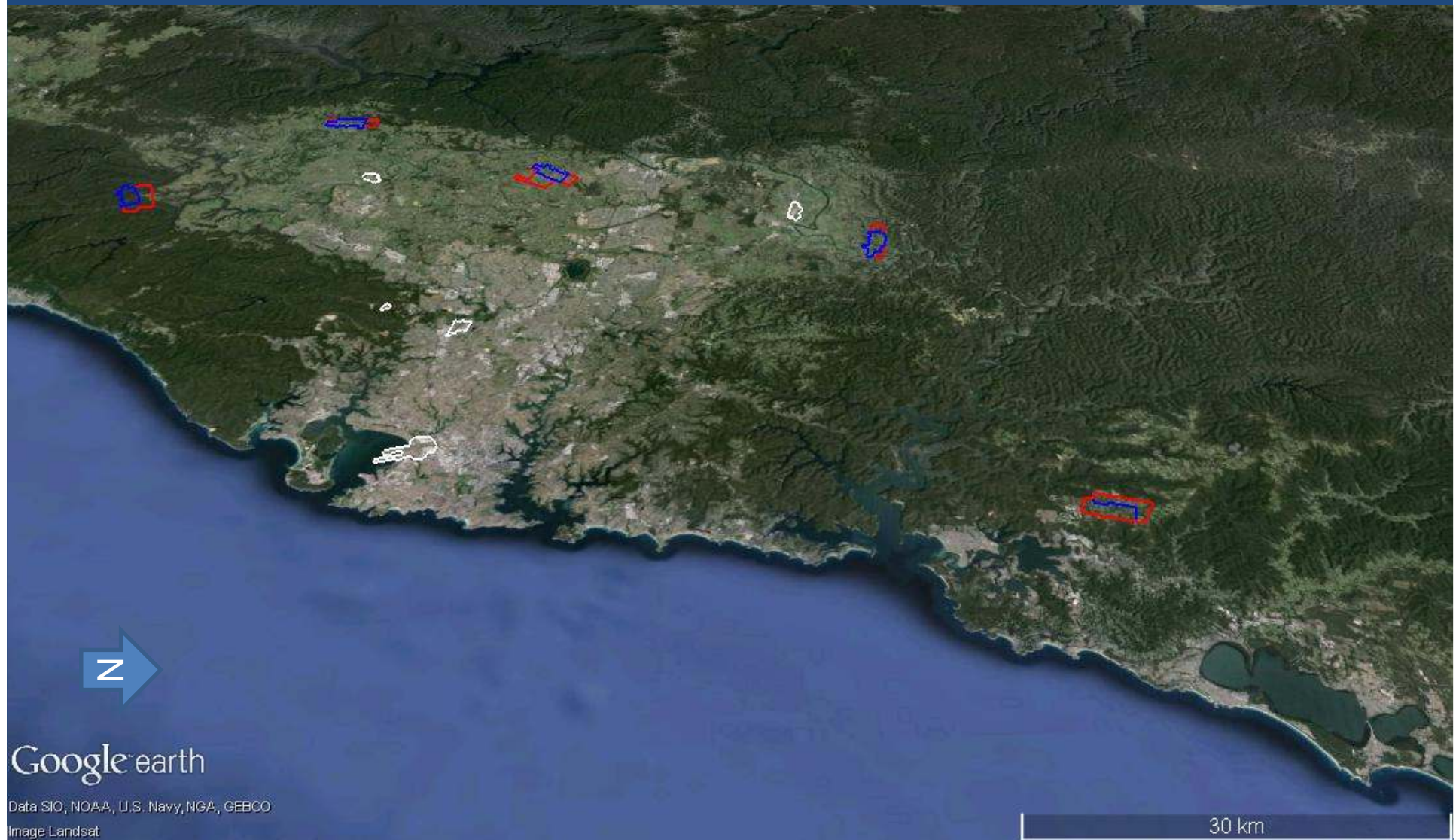
Airport Site Selection for Sydney

Data Matrix for 5 Preferred Localities

Locality number Geographic locality description		Northern Localities	Sydney Basin Localities		South-Western Localities	
		5 Central Coast	10 Hawkesbury	12 Nepean	13 Burrigorang	14 Cordeaux-Catact
Criterion 13 Noise impact on residents (Type 1, 2, 3 and 4 Airports) PRIMARY CRITERION	Ability to avoid or mitigate noise (by site selection or runway orientation)	Fully large population nearby – potentially significant operational constraints with Sydney (Kingfield-Smith) Airport to the south may limit ability to avoid or mitigate noise	Runway alignment optimised to avoid noise impact on Ridgeford, Kurangong, Windsor and Richmond. Limited ability to mitigate noise impact	Runway alignment optimised to mitigate the impact on Parrish and Ludlowham. Limited ability to mitigate noise impact	Population centres to the south and east and high terrain to the west constraints runway alignment options	Runway alignment optimised to mitigate noise impact on Bargo. Further ability to mitigate noise impact may be limited by interaction with Sydney (Kingfield-Smith) Airport
	Type 1 Airports – Total population within 20 ANEC contour (rounded to nearest 10)	10,380	5,204	11,580	3,304	1,680
	Type 1 Airports – Total population within 25 ANEC contour (rounded to nearest 10)	5,750	1,890	590	1,340	250
	Type 1 Airports – Comments (ANEC contours are based on a noise exposure concept (ANEC))	Mt Penang and Hiding are adjacent to the approach and take-off from the eastern runway	Close to: Millersbrook, Windsor and Richmond areas (in the south and Kurangong) and Glenside in the west, all of which are in the ANEC contour	Residents in South Parrish, Murrumbidgee and Camden areas north-east of the airport will be within the 20-25 ANEC contours. Close to: Mugga, Wallara and Ludlowham	South of the airport, residents of the Oaks will be within the 20 ANEC contour	Residents at Bargo will be within the 20 ANEC contour west of the airport
	Type 1 Airports – Ability to share noise	Interaction with Sydney (Kingfield-Smith) Airport to the south may limit ability to share noise	Limited ability to share noise	Limited ability to share noise	Limited ability to share noise due to proximity to the south and high terrain to the west	Being more distant to major population centres – some interaction with Sydney (Kingfield-Smith) Airport to the south. Limited ability to share noise
<p>Note 1: For the purposes of the first filter of localities, the Australian Noise Exposure Concept (ANEC) adopted for Airport Type 1 has been based on the currently approved 2003 Australian Noise Exposure Forecast (ANEF) for Sydney (Kingfield-Smith) Airport. For the comparative assessment where an airport site is capable of supporting two parallel runways, the ANEC has been applied to any new runway to achieve a more direct comparison with airport sites that are capable of supporting only one runway. There may also be significant populations immediately outside the 25 ANEC contour.</p> <p>Note 2: To overcome the effects of the second runway on the ANEC at Sydney (Kingfield-Smith) Airport, the south-western quadrant of the 2003 ANEF has been used. This effectively sets contours around noise impacts due to departure runway 10R and arrivals 34L. The quadrant of the ANEF has been applied to all four quadrants of the adopted ANEC for the new airports. The resulting ANEC contours cover a greater area than the north-east or south-west quadrants of the Sydney ANEF for 2003 that is, a more conservative representation of possible noise impacts for the single runway.</p>						
Type 2 Airports – Total population within 20 ANEC contour (rounded to nearest 100)		440	770	290	800	90
Type 2 Airports – Total population within 25 ANEC contour (rounded to nearest 100)		140	260	140	300	30
Type 2 Airports – Comments (ANEC contours are based on a noise exposure concept (ANEC))		As per Type 1	As per Type 1	As per Type 1	As per Type 1	As per Type 1
Type 2 Airports – Ability to share noise		As per Type 1	As per Type 1	As per Type 1	As per Type 1	As per Type 1
Type 3 Airports – Total population within 20 ANEC contour (rounded to nearest 10)		1,020	880	380	1,340	140
Type 3 Airports – Total population within 25 ANEC contour (rounded to nearest 10)		170	300	180	430	40
Type 3 Airports – Comments (ANEC contours are based on a noise exposure concept (ANEC))		As per Type 1	As per Type 1	As per Type 1	As per Type 1	As per Type 1
Type 3 Airports – Ability to share noise		As per Type 1	As per Type 1	As per Type 1	As per Type 1	As per Type 1
<p>Note: For the purposes of the first filter of localities, the ANEC adopted for Airport Type 3 and 4 has been based on the ANEC produced as part of this project for a new north-south runway at Richmond Airport. The contours are therefore assumed to be the same as adopted for Richmond.</p>						
Type 4 Airports – Total population within 20 (25) ANEC contours (rounded to nearest 10)		340	360	280	800	90
Type 4 Airports – Total population within 25 ANEC contour (rounded to nearest 10)		110	160	190	340	20
Type 4 Airports – Comments (ANEC contours are based on a noise exposure concept (ANEC))		Cross-runway provided for usability not capacity reasons. Use would be infrequent – up to 8 per cent of movements	Cross-runway provided for usability not capacity reasons. Use would be infrequent – up to 6 per cent of movements	Cross-runway provided for usability not capacity reasons. Use would be infrequent – up to 8 per cent of movements	Cross-runway provided for usability not capacity reasons. Use would be infrequent – up to 8 per cent of movements	Cross-runway provided for usability not capacity reasons. Use would be infrequent – up to 6 per cent of movements
Type 4 Airports – Ability to share noise		Limited ability to share noise as GA flight paths are concentrated on flying training circuits with low noise events but with concentrated and repetitive operations	Limited ability to share noise as GA flight paths are concentrated on flying training circuits with low noise events but with concentrated and repetitive operations	Limited ability to share noise as GA flight paths are concentrated on flying training circuits with low noise events but with concentrated and repetitive operations	Limited ability to share noise as GA flight paths are concentrated on flying training circuits with low noise events but with concentrated and repetitive operations	Limited ability to share noise as GA flight paths are concentrated on flying training circuits with low noise events but with concentrated and repetitive operations
<p>Note: For the purposes of the first filter of localities the ANEC adopted for Airport Type 4 was based on the ANEC for Scone Airport prepared for the Preliminary Draft Master Plan. The runway use is therefore assumed to be the same as adopted for Scone Airport.</p>						

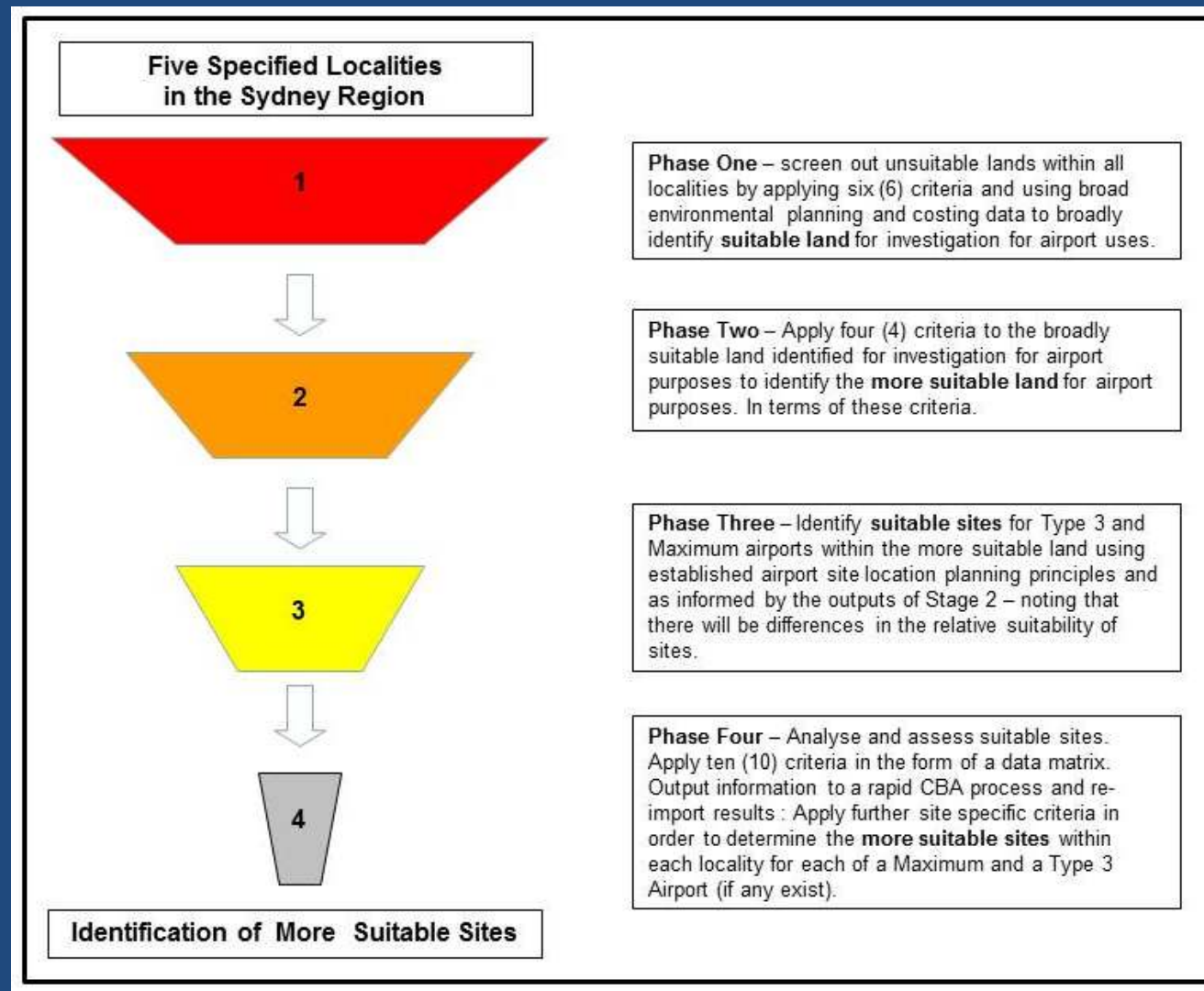
Airport Site Selection for Sydney

5 Preferred Localities with Representative Airport Sites



Airport Site Selection for Sydney

Suitable sites within Specified Localities - Methodology



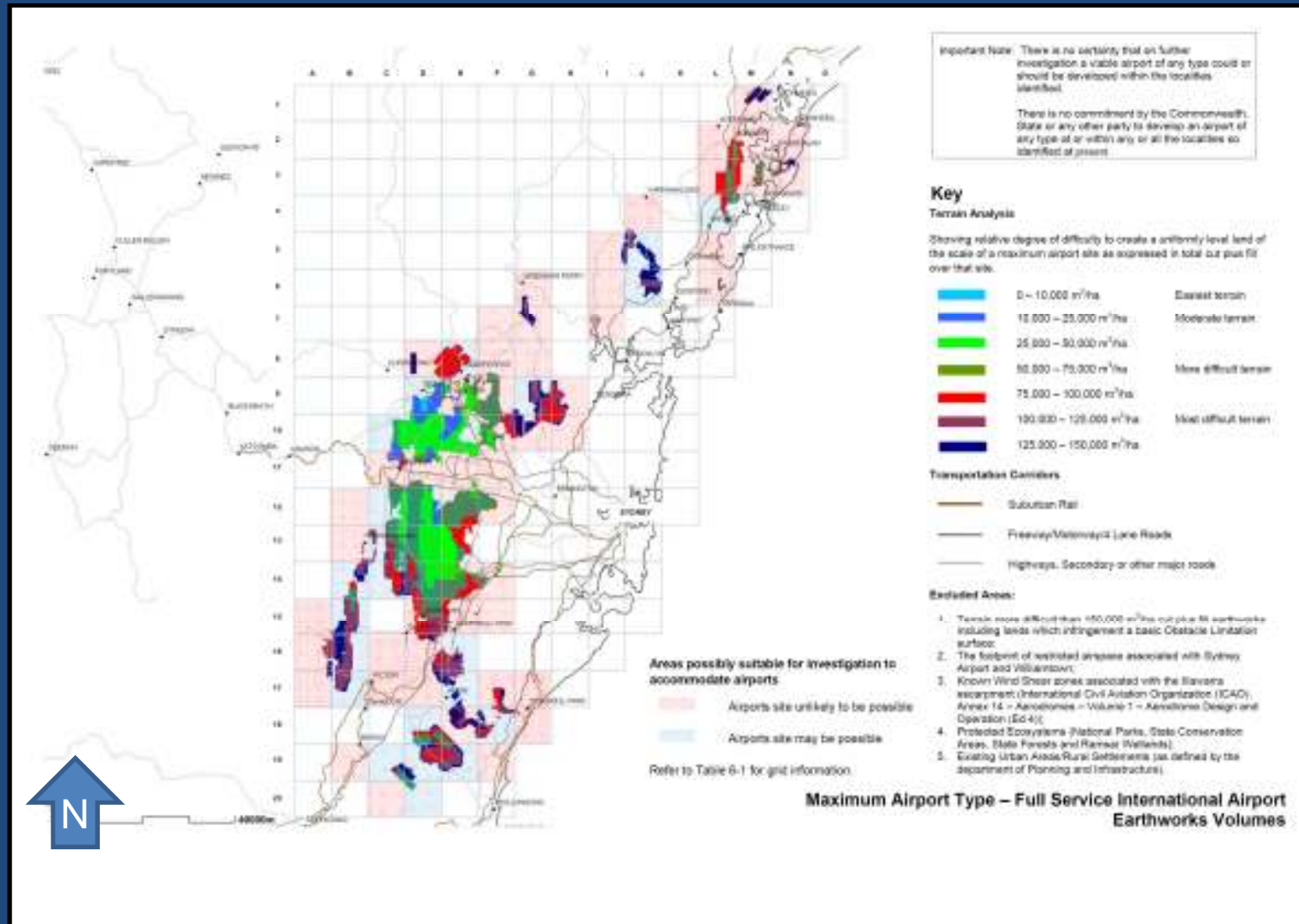
Airport Site Selection for Sydney

Suitable sites - Criteria

1. Exclusion of Unsuitable Lands	2. Identification of more Suitable lands	3. Identification of Suitable Airport sites	4. Detailed Evaluation matrix
<ul style="list-style-type: none"> • site terrain; • air navigation; • windshear; • protected ecosystems; • urban settlements 	<ul style="list-style-type: none"> • extent of earthworks to create a level runway; • population density within a notional 20 ANEC contour; • designated mine subsidence districts; • proximity to the Sydney land transport network 	<ul style="list-style-type: none"> • flattest available land; • minimise time to major road systems; • lowest levels of noise exposure; • avoid mine subsidence areas; • orient runways parallel to Sydney Airport • site and runway specific OLS issues • avoid adverse effects on major infrastructure; • avoid flight paths over urban areas • runway ends distant from and not pointing at urban populations; • conflicts or dependencies with known airspace management issues; • local topography; • ability to incorporate a cross runway 	<ul style="list-style-type: none"> • Accessibility of the Sydney land transport network (rail and state roads); • Proximity to growth centres and commercial opportunities; • Comparative Earthworks Estimate; • Noise Impact on Residents; • Mine Subsidence; • Number of Lots Requiring Acquisition; • Airspace Interaction; • Capacity for Future Expansion; • Flood Risk at Site; • infrastructure dislocations relocations and other items likely to involve costs <p>64 lines of data ten localities to assess = 640 data points to be measured and or evaluated</p>

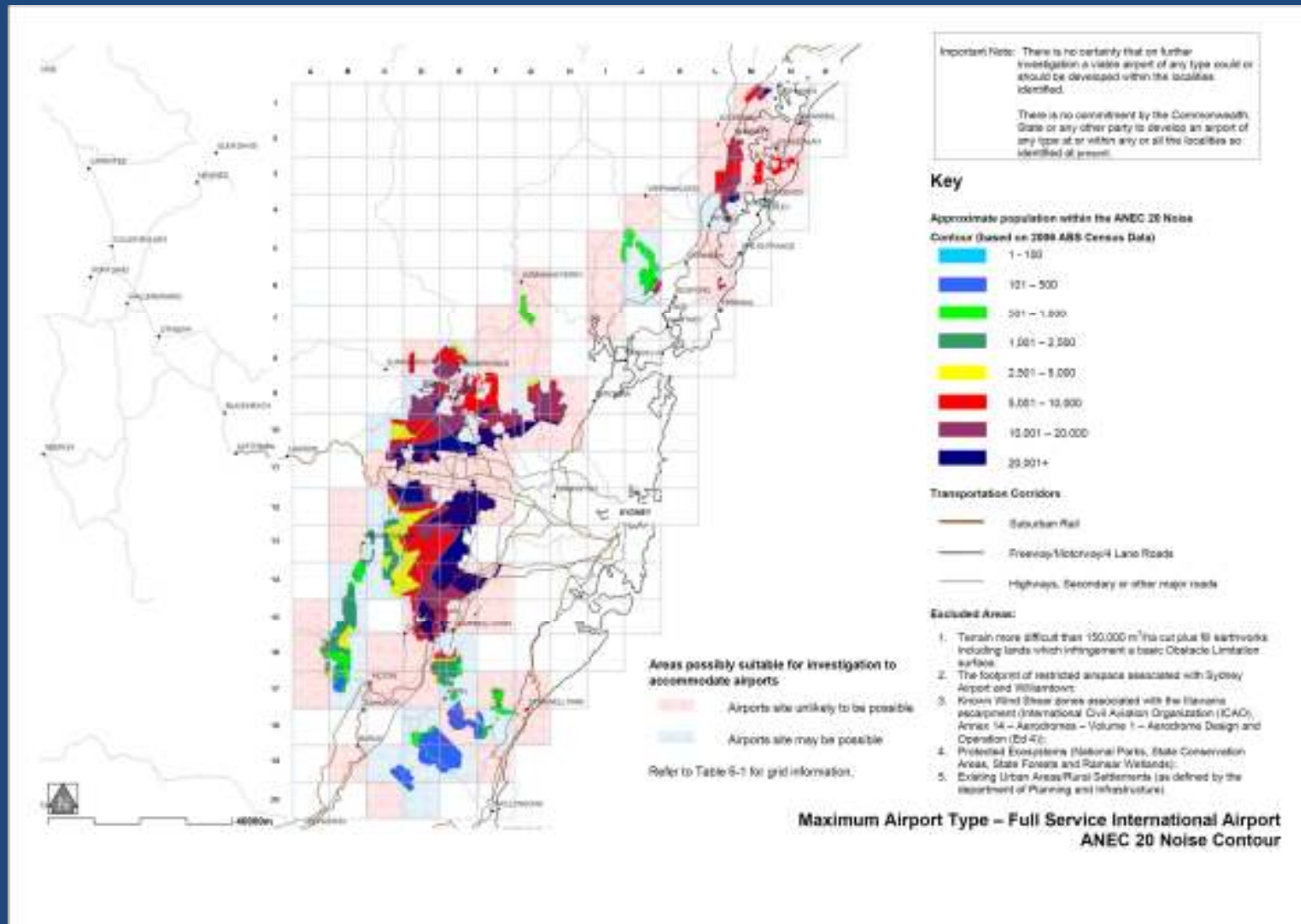
Airport Site Selection for Sydney

Suitable sites - Earthworks



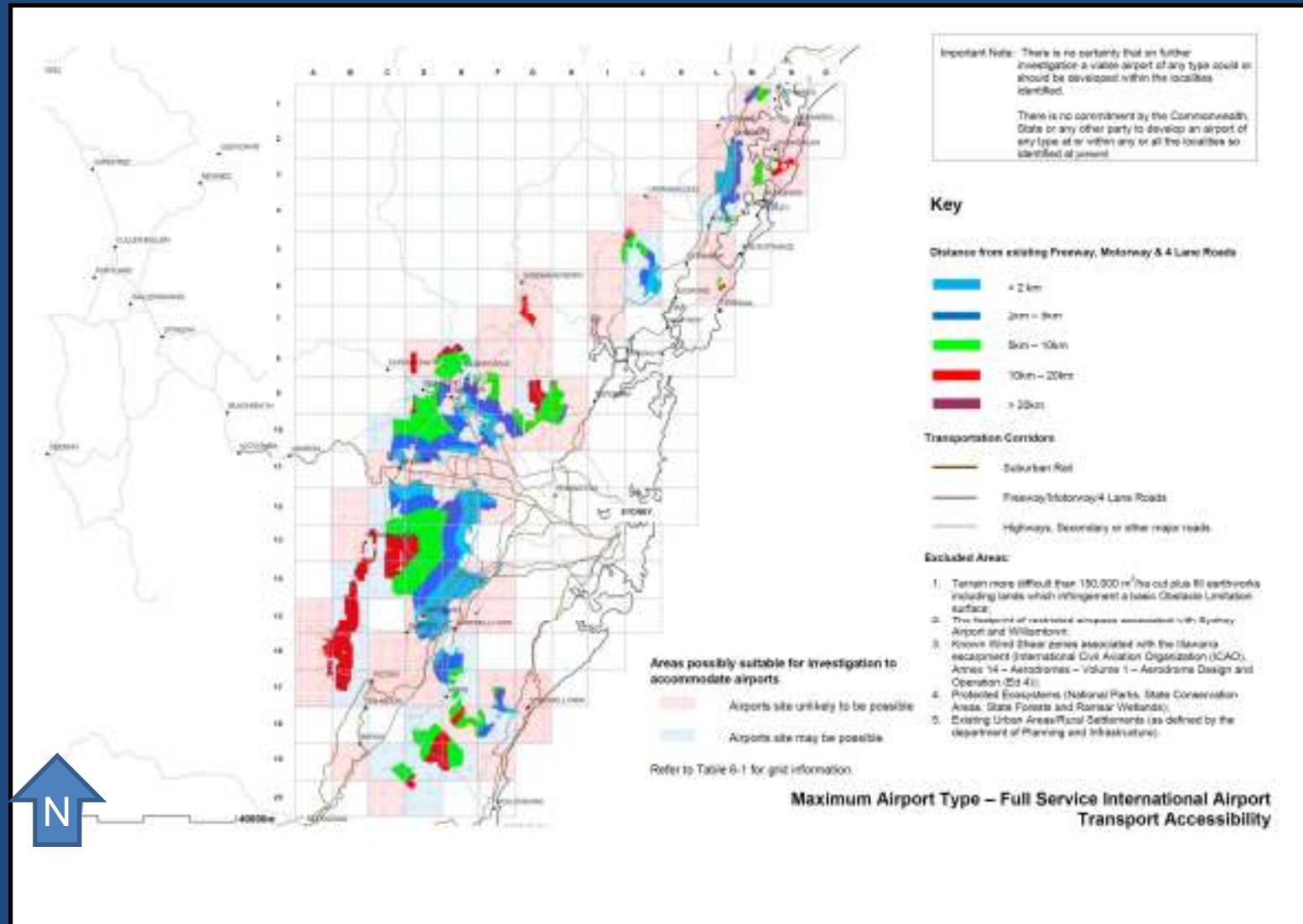
Airport Site Selection for Sydney

Suitable sites - Noise



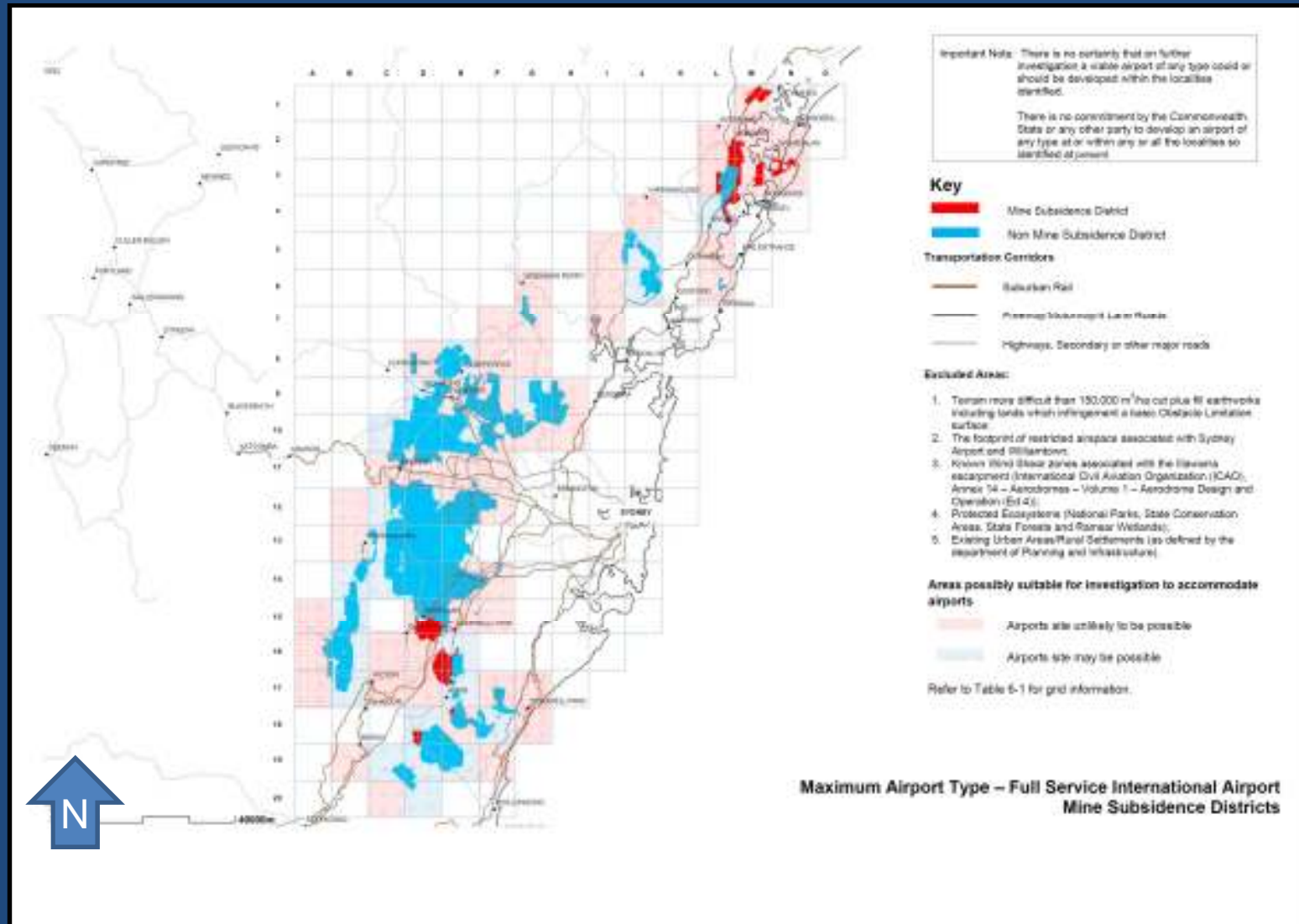
Airport Site Selection for Sydney

Suitable sites - Transport

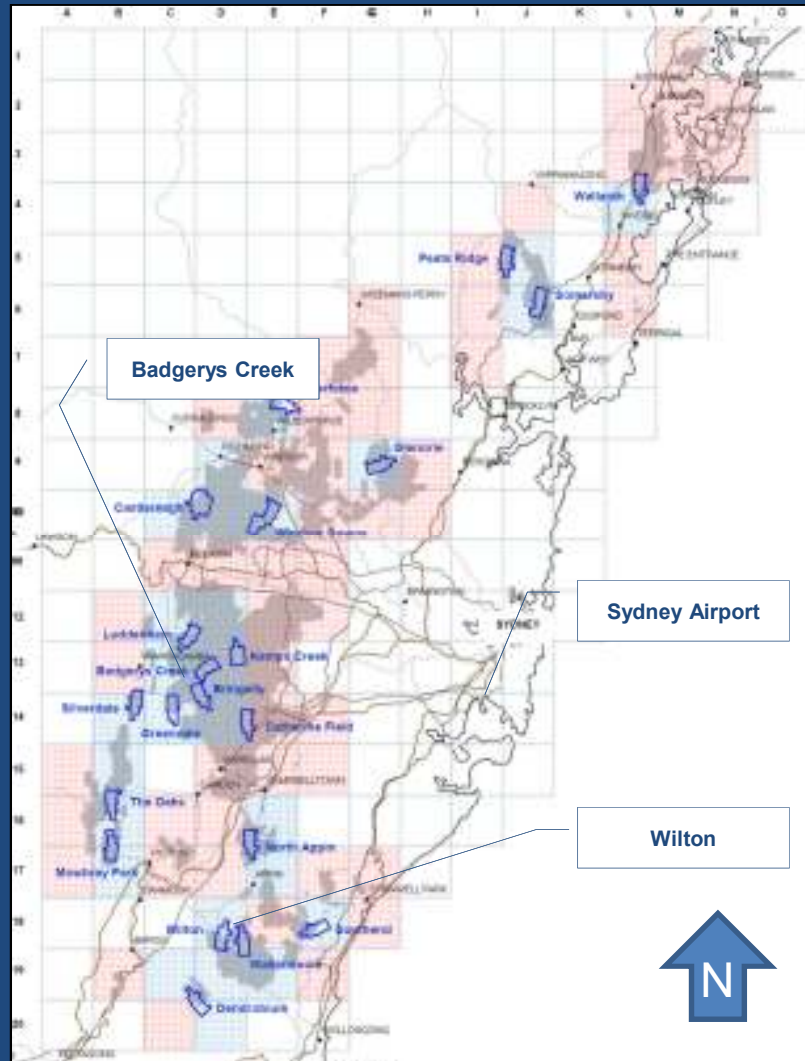


Airport Site Selection for Sydney

Suitable sites – Mining Subsidence

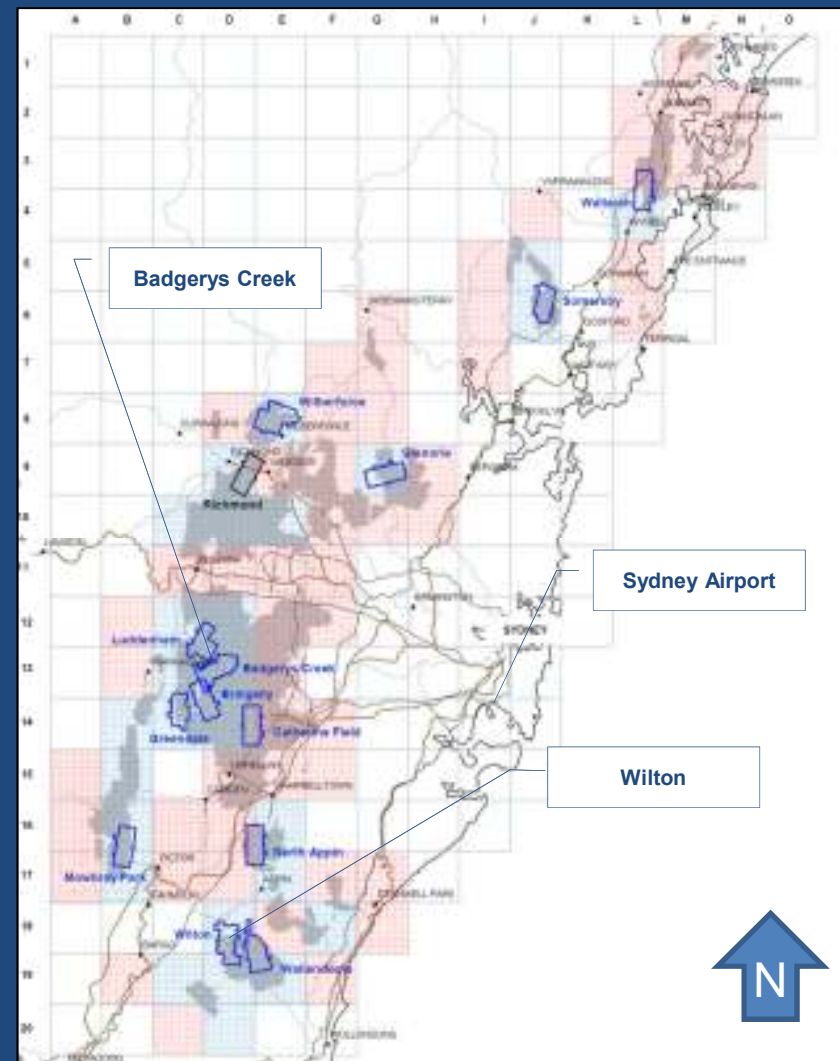


Airport Site Selection for Sydney



Airport Type 3 Suitable Sites (21)

Suitable sites within Specified Localities



Airport Type "Maximum" Suitable Sites (12)

Airport Site Selection for Sydney

Suitable sites within Specified Localities



Airport Site Selection for Sydney

Suitable sites within Specified

Criterion	Luddenham	Badgerys Creek	Bringelly2	Greendale
NPV \$ billions	+\$3.35	+\$1.13	+\$1.14	+\$2.45
Capacity Constrained	+\$3.35	+\$3.28	+\$3.30	+\$2.45
Capacity Unconstrained				
1- Transport - Comparative Transport Upgrade Costs \$ m	\$350 (road) \$1,130 (rail) ✓ ✗	\$190 (road) \$1,130 (rail) ✓ ✗	\$270 (road) \$1,130 (rail) ✓ ✗	\$370 (road) \$1,130 (rail) ✓ ✗
2 - Growth Centres	Not affected ✓ ✓	Partially Acoustic Footprint ✓ ✗	Partially Acoustic Footprint ✗ ✗	Not Affected ✓ ✓
3 – Earthworks Platform Comparative Cost \$ m	\$284 ✓ ✓	\$356 ✓ ✓	\$407 ✓ ✗	\$304 ✓ ✓
4 - Noise Impacts (N70) person-events	1,545,200 ✗ ✗	1,668,800 ✗ ✗	1,284,600 ✗ ✗	499,200 ✓ ✗
5 - Mine Subsidence Areas (MSAs)	Not affected ✓ ✓	Not affected ✓ ✓	Not affected ✓ ✓	Not affected ✓ ✓
6 - Property Acquisition (number of lots)	140 ✓ ✗	40 ✓ ✓	180 ✓ ✗	70 ✓ ✓
7 - Airspace Interaction Capacity (Movements per hr)	~90-100 ✓ ✓	~70-80 ✓ ✗	~70-80 ✓ ✗	~90-100 ✓ ✓
8 - Expansion to Maximum	n/a ✓ ✓	n/a ✓ ✓	n/a ✓ ✓	n/a ✓ ✓
9 – Major Flood risk	Non Major ✓ ✓	Non Major ✓ ✓	Non Major ✓ ✓	Partial, 1:20, 1:100 and PMF events ✓ ✗
10 - Other Major Costs	RAAF Orchard Hills Closure; may close Camden / Bankstown Flying training areas & Wilton PJE closure ; Major Power lines; Sydney Water Supply ✗ ✗	Camden and Wilton PJE closure; May close Camden / Bankstown Flying training areas; Major power lines ✓ ✗	Camden Airport - Closure, Severe impacts on Bankstown, Closure of RAAF Orchard Hills; Limitations on operations at Holsworthy; possible need to relocate some facilities/activities; Wilton PJE closure. Major power lines ✓ ✗	Impacts on Bankstown Airport, closure of Camden and The Oaks Airports and Wilton PJE, Buffer to RAAF Orchard Hills. Major power lines ✓ ✗

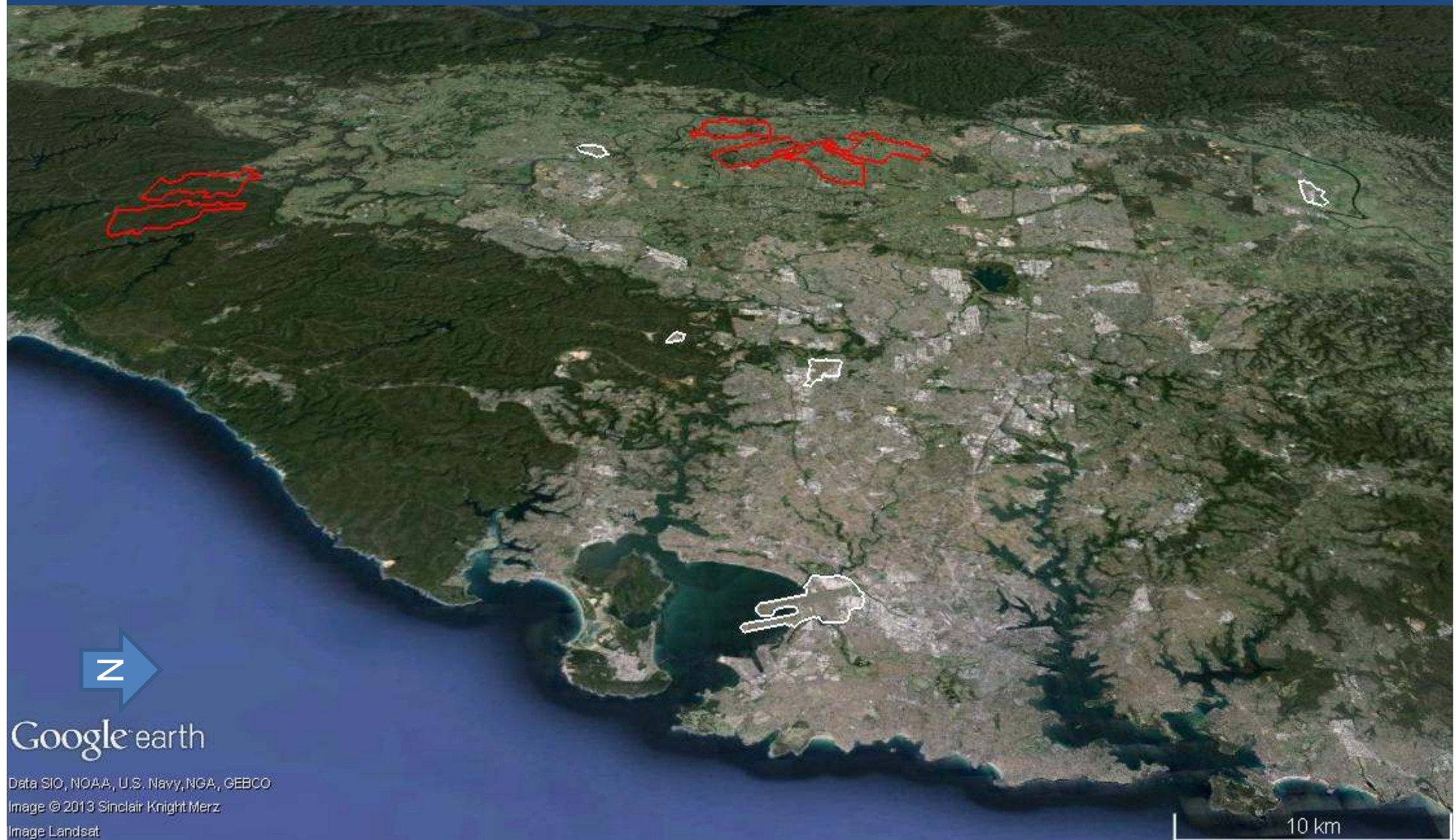
Airport Site Selection for Sydney

More Suitable sites within Specified Localities

	Central Coast	Hawkesbury	Nepean	Burraborang	Cordeaux-Cataract
Type 3 "Suitable" Sites	Peats Ridge Somersby Wallarah	Wilberforce 10/28 Wilberforce 01/19 Castlereagh (including RAAF)	Kemps Creek Luddenham Badgerys Creek Bringelly 2 Greendale	The Oaks Silverdale Mowbray Park	Wilton Southend Wallandoola Dendrobium
"More Suitable" Type 3 Airport(s) sites	Wallarah	a) Wilberforce 10/28 b) Wilberforce 01/19	Luddenham Badgerys Creek Bringelly2 Greendale	a) Silverdale b) Mowbray Park	Wilton Wallandoola
Key reason(s) for being "more suitable"	Airspace relationship to Sydney Airport	a) Compatibility with RAAF Base Richmond b) Better compatibility with Sydney Airport	Ability to expand to Maximum	a) for Least Noise Impact b) for Ability to expand to Maximum	Ability to expand to Maximum
Maximum "Suitable" Airport Sites	Somersby Wallarah	Wilberforce with RAAF	Luddenham Badgerys Creek Bringelly 2 Greendale	Mowbray Park	Wilton Wallandoola
"More Suitable" Maximum Airport(s)	Wallarah	Wilberforce with RAAF	Luddenham Badgerys Creek Bringelly 2 Greendale	Mowbray Park	Wilton
Key reason(s) for being "More Suitable"	Airspace Relationship to Sydney	Only available suitable site for Maximum	Such differences as exist between them may be able to be resolved through design refinements and/or identification of a site that comprises parts of some or all these sites	Only available suitable site for Maximum	Much lower noise impact

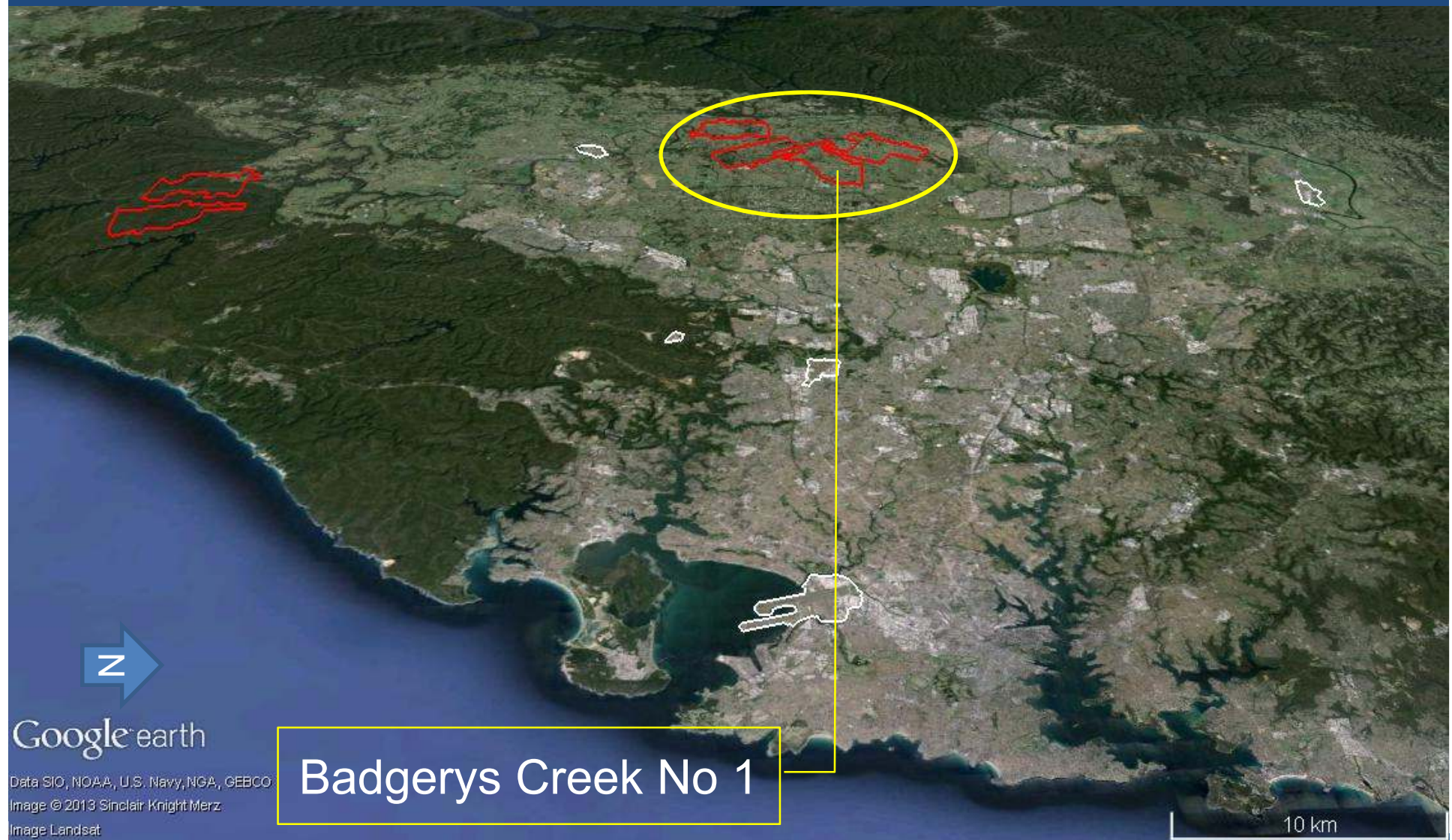
Airport Site Selection for Sydney

Joint Study Recommendations



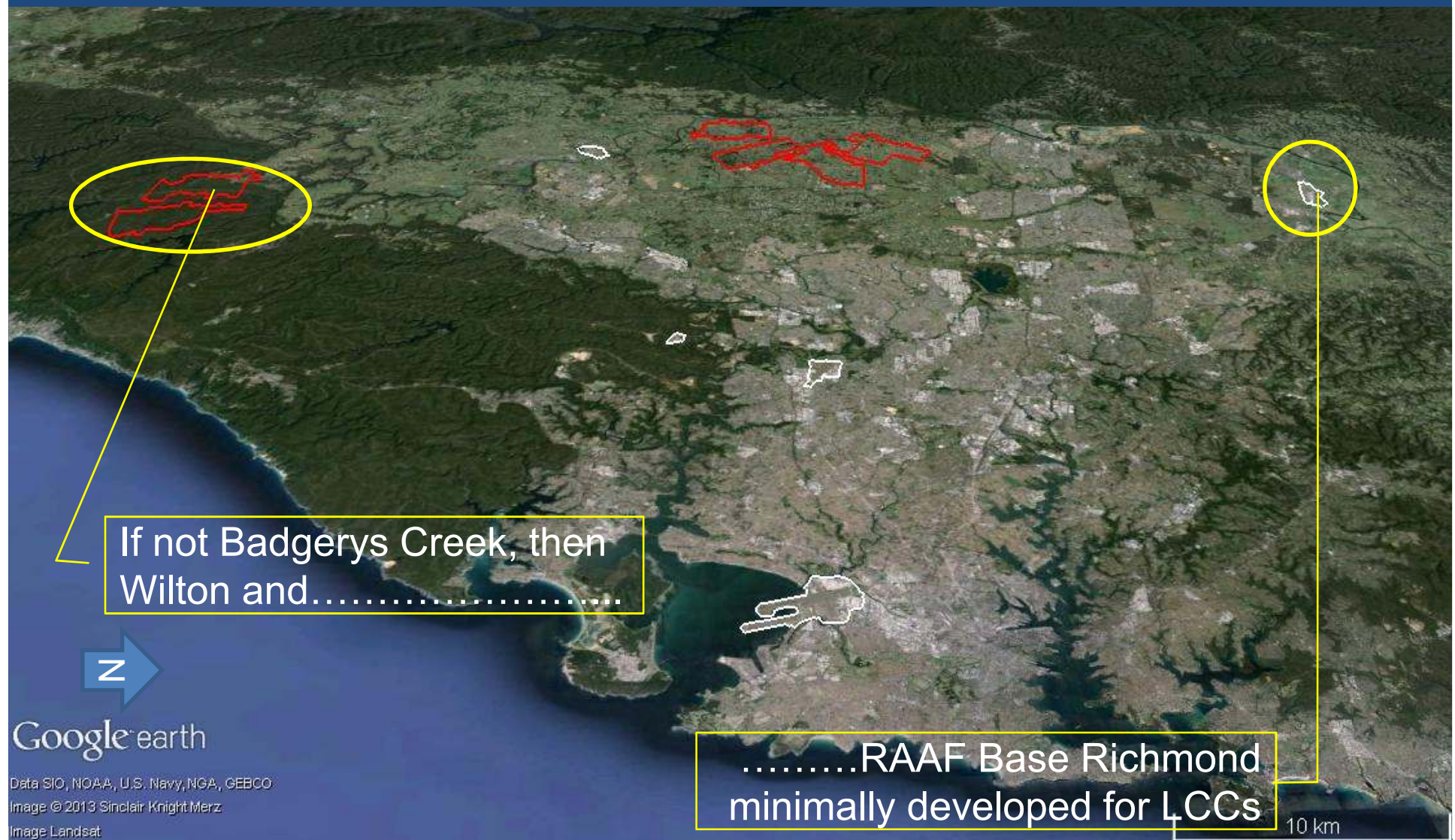
Airport Site Selection for Sydney

Joint Study Recommendations



Airport Site Selection for Sydney

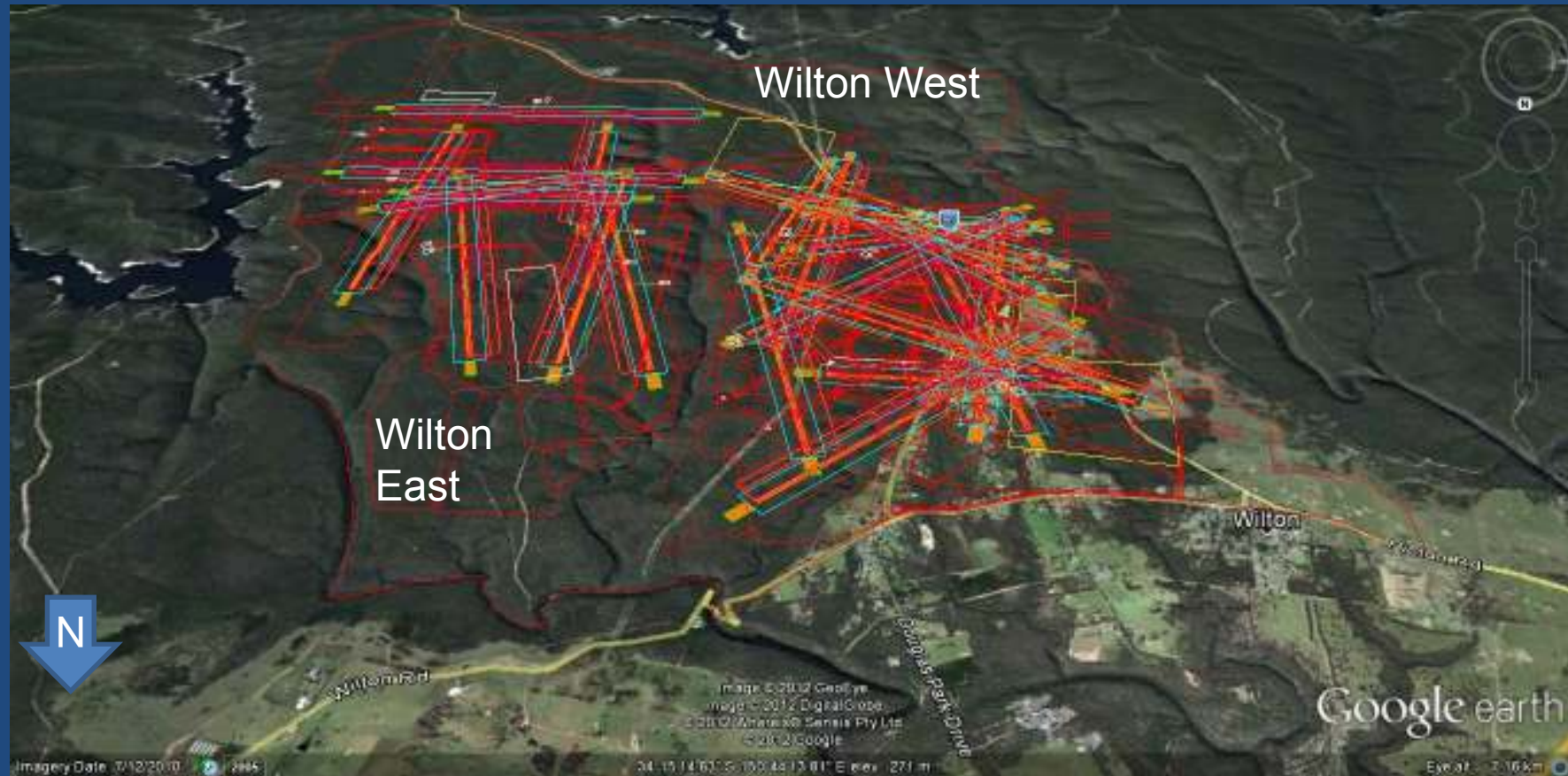
Joint Study Recommendations



Airport Site Selection for Sydney Further Assessment of Airport Development Options at Wilton -Technical Papers

- National transport policy context;
- Strategic and statutory planning; Planning and approvals; Land use planning context and future;
- Airport planning criteria; Meteorology; Airspace, existing aerodromes and aviation-related operational assessment;
- Acoustic footprints; Land transportation links; Utilities;
- Regional geology; Regional resource and resource extraction;
- Drinking water catchment, hydrology and drainage; Water and wastewater management; Earthworks;
- Flora, fauna and ecological values; Effects on airshed and air quality;
- Risks and site hazards- vulnerability to flood and fire;
- European cultural heritage; Aboriginal cultural heritage; Airport safeguarding;
- Impact on property and commercial enterprise; Social effects of airports; Visual impacts of airport; and Acoustic effects on people.

Airport Site Selection for Sydney Further Assessment of Airport Development Options at Wilton



<http://www.infrastructure.gov.au/aviation/scopingstudy/index.aspx>

Airport Site Selection for Sydney

Movers and Shakers – Back in July 2013

Proposed second airport site at Badgerys Creek, 60km west of Sydney

FOR

- ROSS GROVE, Holroyd Mayor (Lib)
- KHAL ASFOUR, Bankstown Mayor (ALP)
- NED MANNOU, Liverpool Mayor (Lib)
- JOHN CHEDID, Parramatta Lord Mayor (Lib)

- Committee for Sydney
- Unions NSW
- Campbelltown and Narellan chambers of commerce
- Tourism and Transport Forum
- Sydney Business Chamber
- Western Sydney Regional Organisation of Councils

AGAINST

- DAVID BRADBURY, Lindsay MP (ALP)
- BARRY O'FARRELL, NSW Premier (Lib)
- FRANK CARBONE, Fairfield Mayor (ALP)
- CHRIS PATTERSON, Camden MP (Lib)
- RUSSELL MATHESON, Macarthur MP (Lib)

UNCOMMITTED

- TONY ABBOTT
- KEVIN RUDD
- ANTHONY ALBANESE
* Agrees a new airport is needed but is not committed to a location.
- JOE HOCKEY
* Supports a second airport but says it's up to the NSW government on where to build it.

AGAINST Max Moore-Wilton, Chairman Sydney Airport

“THE Western Sydney Airport Alliance has launched - and it has just one message for the government and opposition: "Start digging." “ Daily Telegraph 11 July 2013



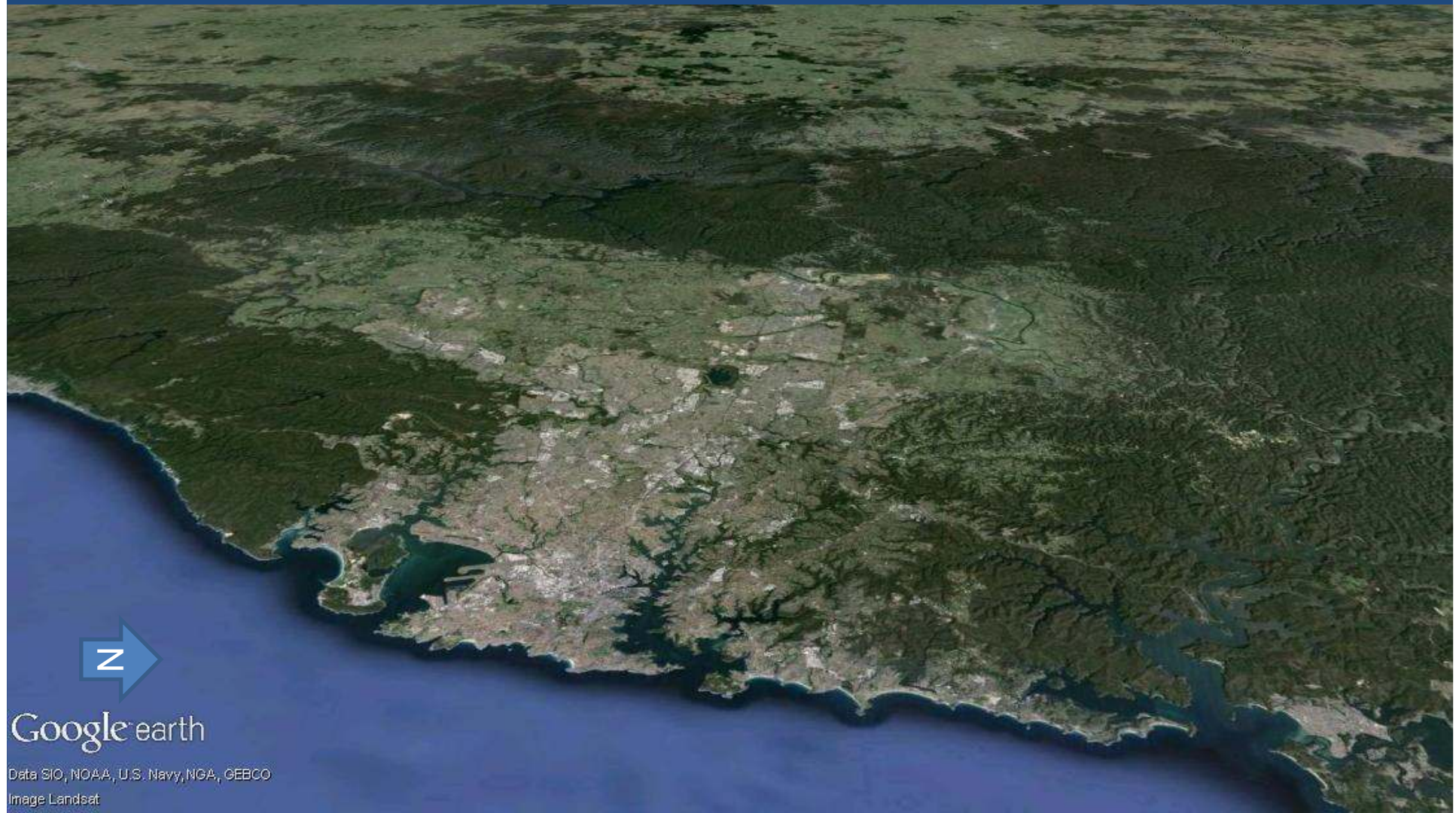
'Sydney needs a second airport, there is no argument about it.'
Treasurer Joe Hockey

The Sydney Morning Herald Friday, February 14, 2014

Photo Source: News Limited 10 September 2013

Airport Site Selection for Sydney

And in Conclusion



Airport Site Selection for Sydney



Source: Australian Financial Review – Airline industry demands new Sydney airport by 2022 (11 December 2012)

NOT IN MY BACK YARD

North West Residents Airport Group
Randwick Airport Action Forum
Coogee residents Against Aircraft Noise
Strathfield Residents Against Aircraft Noise
The Community Advisory Committee [Third Runway Noise Management Plan]
Save-Our-Skies [SOS]
St. Peters-Tempe-Sydenham Neighbourhood Centre
Fairfield Residents Against Aircraft Noise [FRAAN]
Blacktown Association Against Aircraft Noise [BAAAN]
Bligh Residents Against Aircraft Noise
St Clair Residents Against Airport Madness SCRAM
Hornsby Residents Against Airport Noise HRANG
Association for an Airport Located Outside the Sydney Basin [AFALOS]
Cranebrook Residents Against Airport Noise
Kensington Precinct Group
BAOTI - Bankstown Airport Out - Tourism In
Bankstown Airport Community and Environment Forum
Source:
<http://www.rag.org.au/barb/whoisinsydney.htm>

A Landing shortly?



Airport Site Selection for Sydney

And in Conclusion



Airport Site Selection for Sydney



<http://www.dailytelegraph.com.au/newslocal/west/prime-minister-tony-abbott-approves-an-airport-at-badgerys-creek-work-to-begin-in-2016/story-fngr8i5s-1226884369414>

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www.transportationassociates.com.au