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Queensland Treasury
and
Industrial Land Analysis and Planning Branch,
Office of the Coordinator-General,
Department of Employment, Economic Development and
Innovation**



Industrial land monitoring program South East Queensland, 1 July to 31 December 2010

Explanatory notes

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Background

The Industrial Land Monitoring Program (ILMP) was established in 2009 as a joint initiative between Queensland Treasury and the Office of the Coordinator-General. The program was developed in response to requests from a number of stakeholders to provide information on industrial land supply.

The data from the ILMP are essential for monitoring industrial land supply as required by the *South East Queensland Regional Plan 2009–2031* (SEQRP). The data will also contribute to the decision making for specific regional strategies and regulatory provisions. An initial stocktake of industrial land as at 30 June 2009 was undertaken, with ongoing monitoring of development activity every six months adding and consuming land stocks. Included in this study is additional information to report on the development of industrial land from 1 July 2010 to 31 December 2010.

The industrial land monitoring program includes the local government areas of Brisbane, Gold Coast, Ipswich, Lockyer Valley, Logan, Moreton Bay, Redland, Scenic Rim, Somerset and Sunshine Coast, and also includes parts of Toowoomba based on the Toowoomba Statistical district plus the census collection district approximating Charlton Wellcamp, consistent with the boundary of the SEQRP.

1. Methodology

Overview – Industrial land supply

Industrial land supply for this program refers to land parcels that are planned and suitable for industrial use or development as at 31 December 2010, based on cumulative land monitoring from the stocktake to the most recent land supply. Further monitoring updates will be undertaken and released on a six monthly basis.

This program takes into consideration a number of components to identify industrial land supply, as follows:

- [Industrial land categorisation](#): To identify the industrial land base supply, the industrial zoned land was extracted from council planning schemes and state planning instruments. The categories used in the study are based on those of the Queensland Planning Provisions (QPP).
- [Aerial imagery assessment](#): The land use availability of parcels was assessed using aerial imagery.
- [Constraints model](#): Environmental and physical constraints were applied to potentially available industrial land parcels to remove the constrained areas.
- [Material change of use data processing](#): Material change of use (MCU) approvals were processed, which added or removed parcels of land from the industrial land supply.
- [Council and industry annotations, and timing categories](#): Feedback and input from council and industry representatives were taken into consideration.
- [Consumption/take-up](#): Building approvals were used as a measure of consumption.

Industrial land categorisation

The ILMP uses standardised land use categories which are based on the zones as defined in the Queensland Planning Provisions (QPP), made under the *Sustainable Planning Act 2009*.

As new planning schemes are prepared over time, local government councils will use these definitions to designate their zones. In the interim, the current zones, precincts and intended development patterns of the listed local government planning schemes that best match the standard industrial categories are referenced.

The standard categories used in the ILMP are:

- Low impact industry: This category seeks to include areas that could be accommodated by the QPP 'Low impact industry zone', the purpose of the land being to provide for *"industrial activities which have negligible impacts on surrounding non-industrial uses"*¹.
- Medium impact industry: This category seeks to include areas that could be accommodated by the QPP 'Medium impact industry zone', the purpose of the land being to provide for *"industrial activities that have offsite air, noise and odour emissions. Despite mitigation measures these activities would still have noticeable impacts on non-industrial uses"*.
- High impact industry: This category seeks to include areas that could be accommodated by the QPP 'High impact industry zone', the purpose of the land being *"for industrial activities that have significant offsite impacts on non-industrial uses including air, noise or odour emissions that are not easily controlled or contained"*.
- Noxious and hazardous industry: This category seeks to include areas that could be accommodated by the QPP 'Noxious and hazardous industry zone', the purpose of the land being for land uses defined as having *"the potential for extreme, adverse impacts on other land uses. This includes the potential for fire, explosion or toxic release"*.
- Waterfront marine industry: This category seeks to include areas that could be accommodated by the QPP 'Waterfront and marine industries zone', the purpose of the land being for *"waterfront and marine and business industry uses for which a location adjoining or near the waterfront is essential"*.
- High technology industry: This category seeks to include areas that could be accommodated by the QPP 'High technology industry zone', the purpose of the land being for *"industrial activities involved in research, design, manufacture, maintenance and repair of high technology machinery, equipment and components used in developing industry areas"*.
- Industry investigation: This category seeks to include areas that could be accommodated by the QPP 'Industry investigation zone', the purpose of the land being *"to identify and protect land that is suitable for industrial activities where further detailed planning, investigations and studies are required to determine the suitability of the industry investigation zone for use as an industry zone"*.
- Industry equivalent: This category is intended to include areas that could be accommodated by the QPP 'Industry zone', whose purpose, as the only industry zone in a relevant planning scheme, is *"to cater for a wide range of service, low, medium, or high impact industrial activities along with uses that support and promote industrial business activity"*. These are areas that cannot be further differentiated into relevant sub-areas.
- Non-industry zones: This category is intended to capture approvals in non-industrial zones where industry is the predominant use approved. Non-industrial zones may include

¹ Queensland Planning Provision, version 2, The State of Queensland (Queensland Department of Infrastructure and Planning), viewed January 2011, <<http://www.dlqp.qld.gov.au/resources/policy/state-planning/qpp-2.0.pdf>>

areas equivalent to the mixed use zone of the QPP because the range of uses permitted in such areas means industry cannot be regarded as the predominant use across the zone generally.

Aerial imagery assessment

Aerial imagery was used to ground-truth the availability of industrial land by assessing the presence of buildings, structures or other physical improvements. The two classifications (available/developed) are based on the following criteria:

Available	Developed
a. Vacant land	a. Established uses
b. Under-utilised sites	
c. Functionally obsolescent uses	

Constraints model

A computer modelling technique was developed to analyse and extract the available and constrained parcels based on the planning, physical, environmental and land tenure constraint layers. A decision rule was applied to each layer or attribute data in the layer to determine whether the layer should be considered as a 'hard' or 'soft' constraint. Hard constraints pertain to areas that are unable to be developed for industrial use (e.g. parks, koala conservation areas, key resource areas, steep terrain). Soft constraints, such as heritage sites, may allow for industrial development. The model was able to be edited to develop scenario mapping. The resultant model layer was then used in conjunction with other spatial layers to determine the available, constrained and developed parcels.

Material change of use (MCU) records supplied by councils were processed to identify:

- proposed industrial development in the industrial zoned land
- planned development that adds to the stock of industrial land by overriding/superseding the zoning of a non-industrial zone parcel to allow industrial use
- any new non-industrial uses that occupy parcels currently zoned industry, making them unavailable for industrial use
- any development that has a neutral effect on industrial land supply or is an extension/alteration to a pre-existing use.

Council and industry annotations, and timing categories

Industry and council consultations were undertaken to determine the availability of the industrial land and any issues with the spatial data. Similarly, Priority Infrastructure Areas (PIA), as adopted by councils, are included in the analysis to determine the provision/access to infrastructure and potential for development.

The timing categories applied to the industrial land supply are as follows:

Timing	Timing Category
0 – <5 years	Industrial development permits and preliminary approvals for a material change of use (MCU) and/or reconfiguring a lot (RaL) on industrial zoned land; MCU applications and RaL applications on industrial zoned land; industrial lot registrations after June 2004
5 – <15 years	Based on infrastructure provision – serviceable land and infrastructure identified under Priority Infrastructure Plans (PIPs) within a PIA; balance is parcels of industrial categorised land with development approval or lot registrations after June 2004 greater than ten hectares in area requiring additional reconfiguration
15+ years	Remainder of industrial land stock

Consumption/take-up

An estimate of industrial land consumed by development is based on building approvals over \$0.5 million in construction value. Building approvals that relate to extensions, demolition, additions, alterations and tenancy fit-outs were not considered for consumption purposes.

2. Other information

Program outputs

The spatial layers within the computer model were used to create industrial land supply maps for each LGA and for South East Queensland (SEQ) based on the indicative development time frame and industrial land category. An industrial land development activity profile has also been created for SEQ and is updated for every six month monitoring period. The industrial land development activity profile provides a comprehensive summary of recent industrial land development building activity indicators for each LGA. Development stages covered include land supply, uncompleted lots (approvals, operational works and plan certifications), lot registrations, vacant and improved land sales, and building approvals.

Limitations of data use

The available industrial land stock is reliant on the quality of the spatial constraint layers supplied by local government councils and State Government. The industrial land supply indicates land that may be potentially used for industrial activity; however, this is contingent on strategic holdings by occupiers/owners, market conditions or physical (on-the-ground) constraints. Minor land segments, which result from the broad application of the constraints, are removed on the basis they are unable to be productively developed or occupied due to these constraints. Some flood regulation and waterways layers are considered hard constraints; however, generally, flood and water inundation areas do not preclude industrial development. The treatment and decision rules for flood regulation layers will be reviewed for future updates.

Appendices

Definitions, acronyms and abbreviations

Term	Meaning
BA	Building approval (approval to commence building works on a lot or parcel of land, generally granted by a local government authority)
DERM	Department of Environment and Resource Management
DLGP	Department of Local Government and Planning
GIS	Geographic Information System – data/mapping software (using Mapinfo Professional)
ILAP	Industrial Land Analysis and Planning
ILMP	Industrial Land Monitoring Program
IRTM	Interactive Resource Tenure Maps
LGA	Local Government Authority
MCU	Material change of use – change the nature or intensity of a land use on a lot or parcel of land, under approval generally granted by a local government authority
PIA	Priority Infrastructure Areas – used to determine the provision/access to infrastructure and potential for development
QPP	Queensland Planning Provisions
RaL	Reconfiguring a lot – change the boundary configuration of a lot or lots, under approval generally granted by a local government authority
SEQ	South East Queensland
SEQ Regional Plan 2009–2031	Statutory land use planning document covering all SEQ local government authorities
SEQGMP	SEQ Growth Management Program – DLGP business unit managing and monitoring regional urban growth under the policies established by the SEQ Regional Plan
Stocktake	A stocktake or baseline of industrial land was undertaken as at 30 June 2009

Data sources and constraint layers

Data Type	Description	Currency	Custodian/Source	Decision Rule (refer to footnote)
Acid sulphate soils	acid sulphate soils in low-lying coastal areas	varies	Department of Environment & Resource Management (DERM)	not applicable
Biodiversity	areas of significant biodiversity	2008, 2009	DERM	not applicable
Bushfire risk	derived from Regional Ecosystem data analysis	2008	Department of Emergency Services	not applicable
Coastal Management Plan	Queensland coastal boundary	2008	Infolink	not applicable
Committed land	committed land unsuitable for industrial supply (emergency services, Energex, Powerlink)	2008	Department of Emergency Services	N
Council development data	material change of use (preliminary approvals, development permits and applications), reconfiguring a lot, building approvals	2006-2009	Councils	Industrial MCU – Y Non-industrial MCU – N
Digital Cadastral Database (DCDB)	cadastral parcels, easements, road casements	July 2009, December 2009	DERM	Cadastral base layer used to integrate constraint layers
Digital elevation model	derived from topographical data; used to create slope	2009	DERM	slope <=15% – Y slope >15% – N
Extractive/Mining	mines, mining tenure and extractive industry areas, exploration permits	2008	MERLIN, ITRM	Abandoned mines – Y Others – N
Good quality agricultural land	identified agricultural land based on planning guidelines	2008	Department of Local Government & Planning (DLGP)	N
Heritage Queensland	Queensland Heritage Register	2009	Spatial link	Y
Koala Conservation South East Queensland	Koala Assessable Development Area (KADA) and Koala Protection Area (KPA); bushland habitat outside of identified koala broad-hectare area	May 2010	DERM	Protected habitat – N
Local Government Area (LGA) boundaries	LGA boundaries	2007	DERM	not applicable

Decision rule: the qualification to apply a constraint layer to identify constrained land which is unsuitable for industrial land development.

'Y' nominates constraints that are considered a soft constraint and may allow for industrial development;

'N' indicates a hard constraint to industrial land development and generally will not allow industrial development;

'not applicable' is a null constraint or irrelevant layer.

Data Type	Description	Currency	Custodian/Source	Decision Rule (refer to footnote)
Marine Parks of Queensland	Moreton Bay Marine Park zoning	2009	Spatial link	N
Oil and gas pipeline	oil and gas pipeline buffer	2008	Spatial link	N
Ortho rectified aerial imagery	15–50cm aerial photography; used to create a subsidiary layer to determine 'available' (vacant, functional obsolescence, under-utilised) and 'unavailable' (developed) lots	late 2008 – mid 2009	AAM Hatch, DERM	Based on aerial imagery assessment layer 'available' – Y 'unavailable' – N
Planning scheme data	council planning schemes including neighbourhood plan, precinct, local area plans	2009, 2010, 2011		industrial zones – Y non-industrial zones – N
Protected areas	State estates	2009	Spatial link	N
Queensland Valuation and Sales (QVAS) data	used to determine recent sales activity (for profiles)	2009	Administration Module – DERM	not applicable
RAMSAR	Ramsar protection areas	2002	DLGP	N
Regional Plan	South East Queensland Regional Plan 2009–2031 urban activities and regulatory areas; identifies development areas and enterprise opportunity areas	2009	DLGP	Y – identified development areas and enterprise opportunity areas N – regional landscape and rural production areas generally do not allow industrial uses
Schools	land vested for school and education purposes	2009	OESR; Department of Education & Training	N
State Digital Road Network (SDRN)	arterial roads, streets, suburb boundaries	Current	DERM	not applicable
State power/electricity	State electricity transmission routes	2001	Spatial link	N
Wetlands	natural waterways and wetlands	2008	DERM	N

Decision rule: the qualification to apply a constraint layer to identify constrained land which is unsuitable for industrial land development.

'Y' nominates constraints that are considered a soft constraint and may allow for industrial development;

'N' indicates a hard constraint to industrial land development and generally will not allow industrial development;

'not applicable' is a null constraint or irrelevant layer.

Generic data

Data Type	Description	Currency	Custodian/Source
Environment	unexploded ordnances, conservation, contaminated land, remnant bushland, vegetation protection order, visual scenic tourist amenity		Councils
Heritage	council heritage sites, cultural, Indigenous, historical sites		Councils
Infrastructure	aircraft airspace, airport environs, airport height controls, airport lighting restriction, public safety buffer, electricity routes, facilities, highway buffer, haul routes, railway noise buffer, waste water		Councils
Land use	community, extractive resource areas, foothill buffer, mining constraints, motorsport buffer, public open space, planning scheme, urban village areas		Councils
Native title	Native title claim areas	2009	Native Title Tribunal (NTT)
Natural hazards	slope, erosion, flooding, development lines, highest astronomical tide, land slide instability, storm surge <i>Note: Ipswich City Council regulation development line has been adopted as a hard constraint; flood layers for other councils have not been adopted.</i>		Councils
Physical	catchment protection overlay, geological, soils, landscape and scenic amenity		Councils
Property sales data	land and property sales information	2011	QVAS
Water	dam catchment, fish habitat, future water, stormwater flow path, natural waterways, waterway buffer, wetlands		Council

Addendum

The SEQ and LGA industry zone category maps as at 31 December 2009 show the industrial land supply, as well as unavailable industrial land. Unavailable industrial land pertains to industrial zoned areas that are developed or unavailable due to land use conflicts, or planning, environmental and planning constraints. Unavailable constraints related to land use buffers, school sites, good quality agricultural land, easement, interim koala provisions, flooding (for Ipswich City), topography (landslip, moderate to high slope), mines, mining disturbance, native title (where appropriate), oil and gas pipeline, natural waterways, community title, infrastructure corridors (rail, tollways, roads), wetlands, building approval, open space or reserves, state, and non-industrial development permits or preliminary approvals. Constraints identified during consultation workshops with council and industry representatives were also implemented.

Changes between December 2009 and June 2010

The industrial categories maps as at June 2011 were altered to remove developed parcels and land use conflicts (e.g. residential estates) from the 'constrained land' layer.

Changes between June 2010 and December 2010

In order to remove conflicting land uses, easements, non-industrial development permits and preliminary approvals on industrial zoned land, community title, open space or reserves, committed land and building approvals from the 'constrained land' layer (i.e. planning and administrative constraints), only physical and environmental constraints are shown on the December 2010 industry zone category maps.

The 'constrained land' on the December 2010 industry zone category maps refers to areas that include:

- Koala conversation (habitat)
- Flood prone (Ipswich City only)
- Wetlands
- Key resource areas
- Riparian/waterway and drainage corridors
- Amenity landscape zones
- Native title
- Moderate to high slope
- Informal park use
- Pipeline corridors
- Annotations by industry and council representatives (other constraints)

The comparative physical and environmental constraints for June 2010 (as revised) and December 2010 are provided below.

LGA	QPP Category	Constrained area (hectares)	
		June 2010	December 2010
Brisbane City	Low impact industry	68	64
	Medium impact industry	31	31
	High impact industry	13	13
	Noxious and hazardous industry	5	5
	High technology industry	1	1
	Industry equivalent	0	26
	Non-industry zones	67	16
Gold Coast City	Low impact industry	4	3
	Medium impact industry	4	4
	High impact industry	<1	4
	Waterfront marine industry	1	1
	Industry equivalent	0	0
	Non-industry zones	3	<1
Ipswich City	Low impact industry	25	30
	Medium impact industry	65	66
	Industry equivalent	13	0
	Non-industry zones	81	30
Lockyer Valley Regional Council	Low impact industry	7	7
	Medium impact industry	2	2
	Noxious and hazardous industry	0	11
	Industry equivalent	0	0
	Non-industry zones	0	0
Logan City	Low impact industry	<1	<1
	Medium impact industry	<1	<1
	High technology industry	2	3
	Non-industry zones	<1	<1
Moreton Bay Regional Council	Low impact industry	33	33
	Medium impact industry	46	40
	High impact industry	0	0
	Non-industry zones	7	4
Redland City	Low impact industry	3	4
	Medium impact industry	0	0
	High technology industry	4	4
	Non-industry zones	<1	<1
Scenic Rim Regional Council	Low impact industry	0	0
	Industry equivalent	0	0
	Non-industry zones	0	0
Somerset Regional Council	Industry equivalent	0	0
	Non-industry zones	0	0
Sunshine Coast Regional Council	Low impact industry	17	17
	Medium impact industry	36	35
	Industry equivalent	1	1
	Non-industry zones	58	58
Toowoomba study area	Low impact industry	10	10
	Medium impact industry	4	4
	High impact industry	0	0
	Industry equivalent	<1	<1
	Non-industry zones	27	27