

KBR

A large, stylized world map composed of a grid of small white dots is centered on a grey background. The map is oriented with North to the left. Three service sectors are labeled in white text over the map: 'Technology & Consulting' in the upper right, 'Engineering & Construction' in the lower left, and 'Government Services' in the lower right.

Technology
&
Consulting

Engineering
&
Construction

Government
Services

The logo of The University of Queensland Australia, featuring a shield with a book and a lamp, with the motto 'SCIENTIA AC LABORE' on a banner below. The text 'THE UNIVERSITY OF QUEENSLAND AUSTRALIA' is positioned to the right of the shield.

THE UNIVERSITY
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Measuring cumulative socio-economic impacts of coal seam gas (CSG) projects in the Western Downs: Building the case for a strategic monitoring framework

EIANZ Conference 2015
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We Deliver



1. Background – UQ Research
2. ‘Cumulative’ impacts?
3. Coal seam gas projects and legislation in QLD
4. Assessing cumulative impacts
5. Predicted v measured outcomes
6. Strategic monitoring framework



Centre for Social Responsibility in Mining,
The University of Queensland.

SMI CSR
Centre for Social
Responsibility in Mining

**Working to Improve
Social Performance in
the Resources Sector**

“Cumulative Socioeconomic Impacts: Phase 1”

*Identifying and developing mechanisms to understand,
measure and respond to cumulative socio-economic impacts
of coal seam gas development in rural Queensland.*

What are cumulative impacts?



Franks, Brereton & Moran (2010, p. 300):

*“The **successive**, incremental and **combined** impacts of one, or more, **activities** on society, the economy, and the environment ...
... Impacts can be both **positive** and **negative** and can vary in both **intensity** as well as **spatial** and **temporal** extent.”*

Speed + Size + Fragmented governance

Franks, Brereton & Moran (2010, p. 300)



Socio-economic impacts possible:

- Land and water access agreements
- Demands on human capital and social infrastructure
- Challenges to rural community lifestyles

- **Positive**, for example:
 - e.g. economic growth on regional scale

- **Negative** on local scale and short term, for example:
 - amenity impacts
 - increased traffic
 - non-resident workers (linked to perceptions of safety and wellbeing in communities)



- Environmental Impact Statement (EIS) – *State Dev. & Public Works Org. Act 1971*
 - Includes SIA & SIMP
- EPBC Act Referral



CSG gas field (~2012)

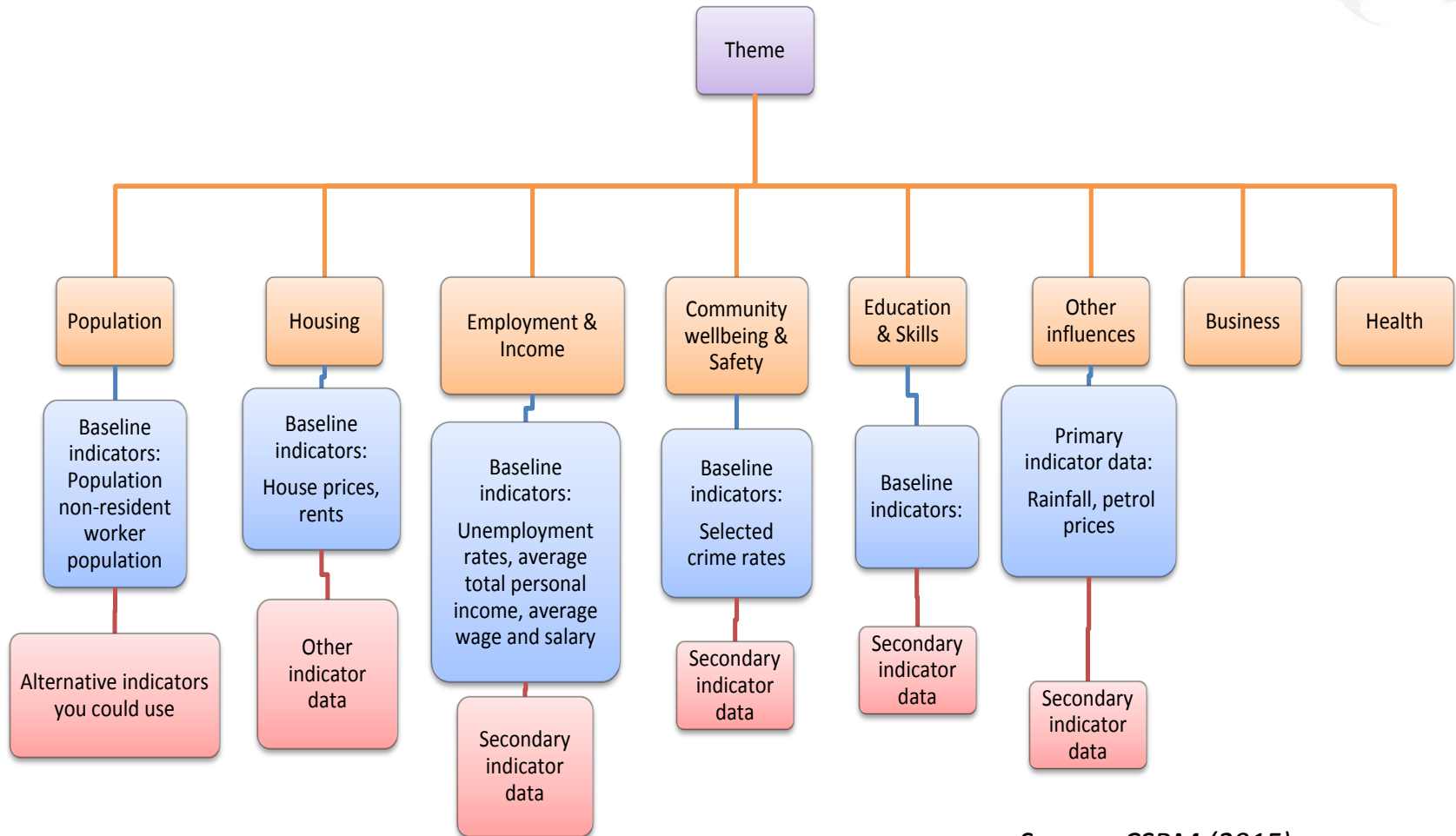
Source: ABC (2014) <http://www.abc.net.au/news/2014-09-10/aerial-photo-of-coal-seam-wells/5733970>



- Challenges faced by EIS/SIA practitioners:
 1. Limits to assessment and mitigation due to bounds of assessment process
 2. Data availability
 3. Companies unwilling to disclose development strategy



- UQ Boomtown toolkit
 - cumulative socio-economic indicators

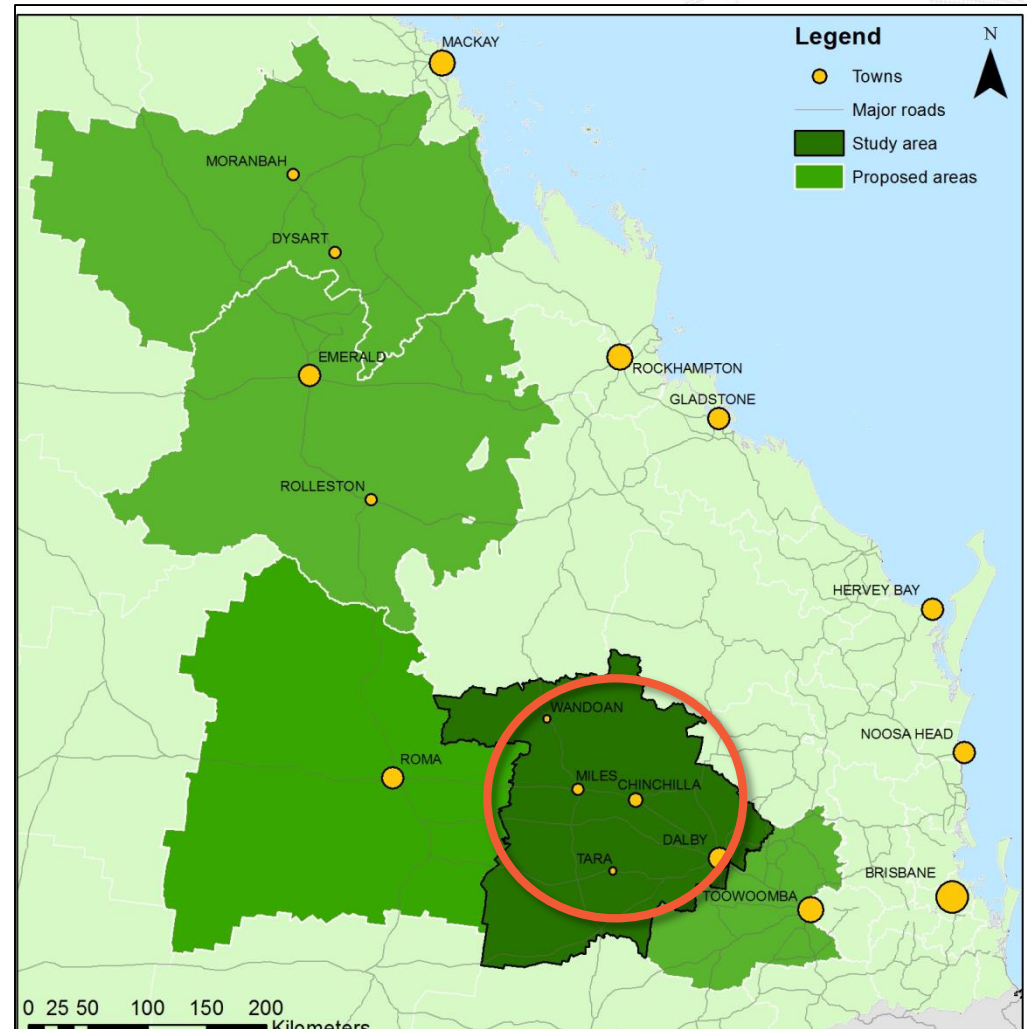


Source: CSRM (2015)

Predicted socio-economic impact outcomes



- SIA for a CSG Project in Western Downs region
- Key impacts:
 - Demand for housing
 - Demand for employment
 - Population growth.
- Predicted v measured outcomes in housing, employment, population



Source: CSRM (2015)

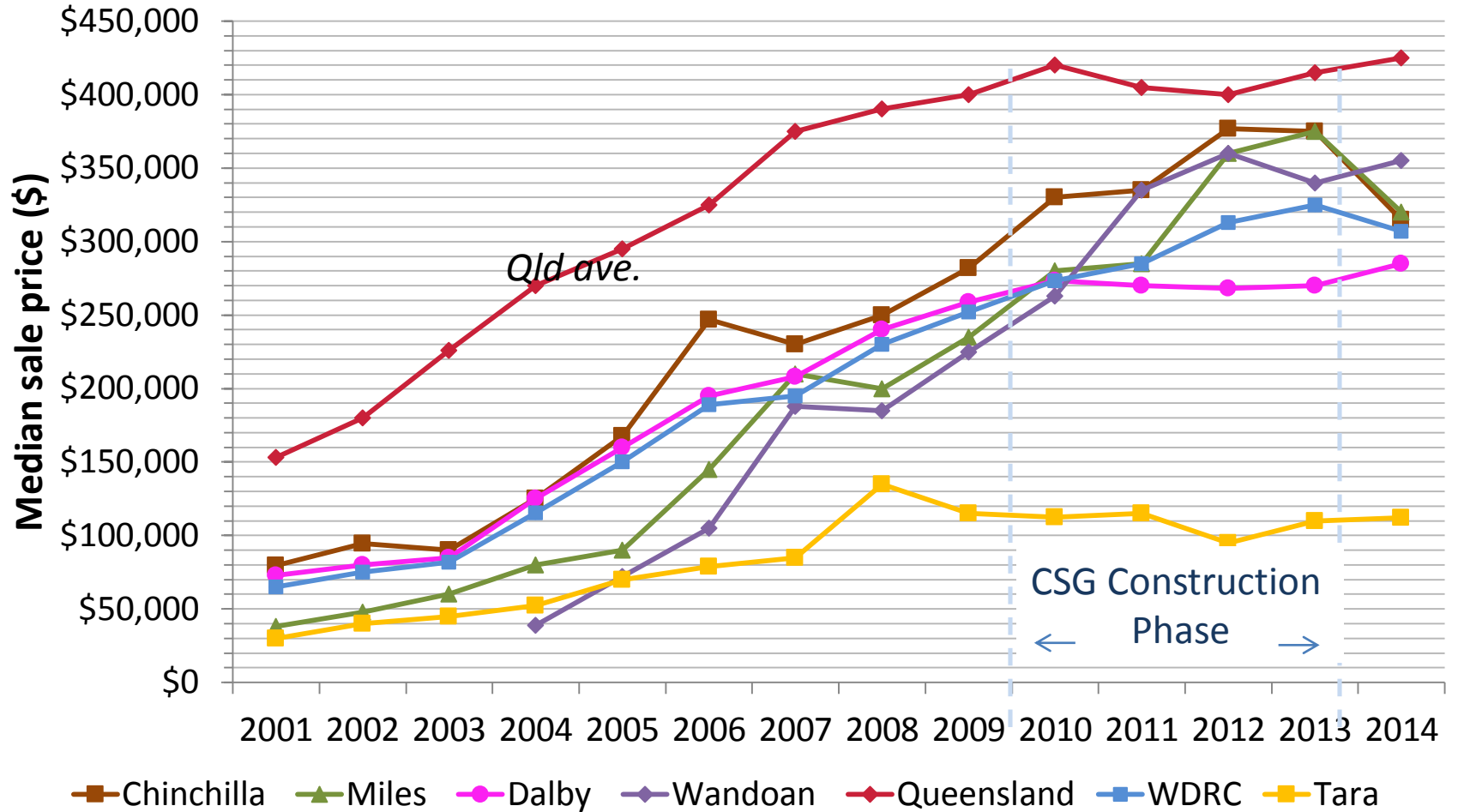
Predicted outcomes v measured outcomes



- Predicted outcomes:
 - Housing availability & affordability
 - Cumulative demand of multiple projects, increasing housing stress
 - Low-income households can experience difficulty in maintaining housing
- UQ Boomtown Toolkit[©] indicators:
 - **Primary:**
 - Median House price for a 3-bedroom house
 - Rent for a 3-bedroom house

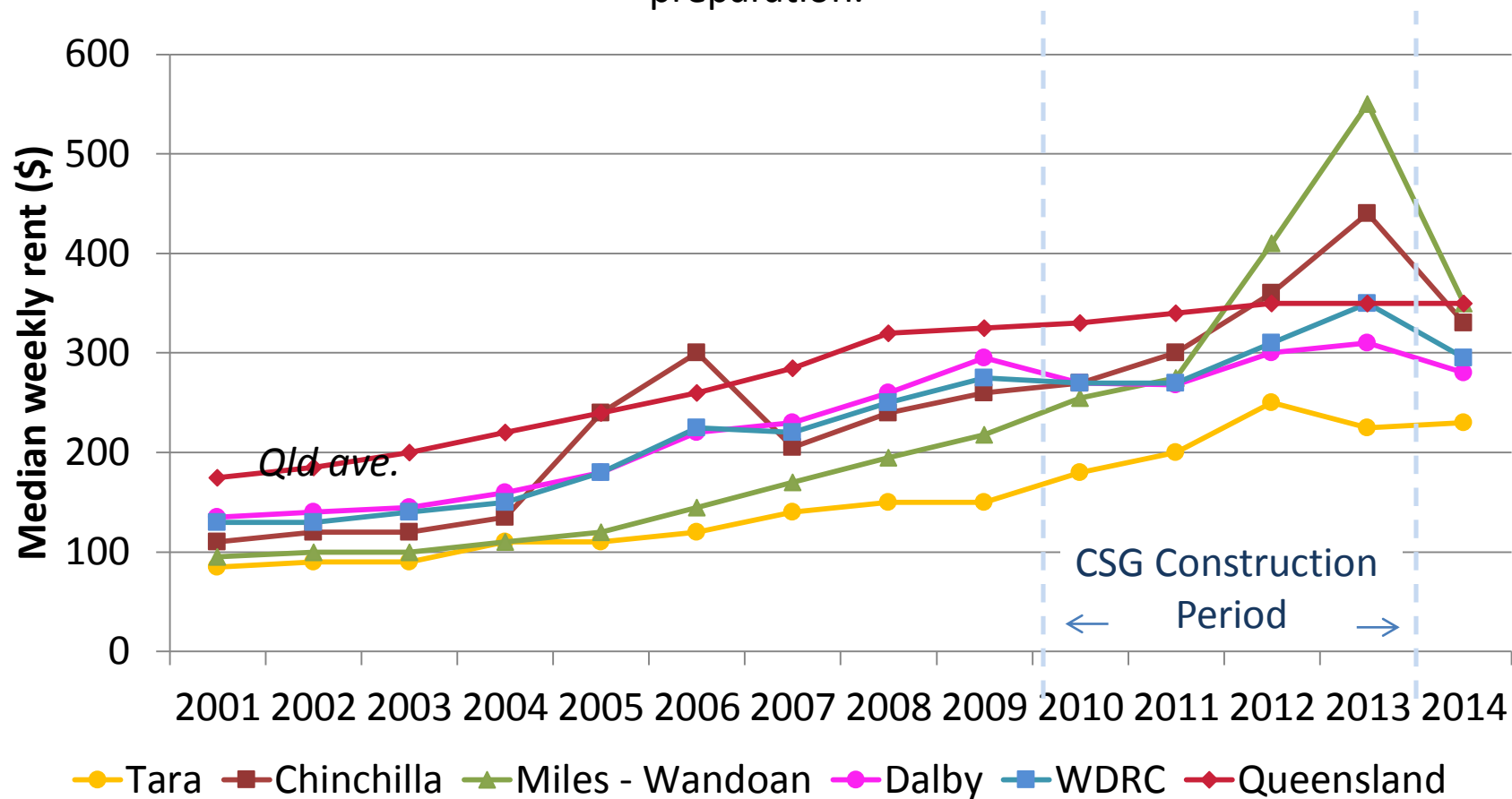
Median house prices 2001–2014

Source: UQ Cumulative Socioeconomic Impacts: Coal Seam Gas development in the Western Downs region, Queensland, manuscript in preparation.



Median weekly rent 2001–2014

Source: *UQ Cumulative Socioeconomic Impacts: Coal Seam Gas development in the Western Downs region, Queensland, manuscript in preparation.*



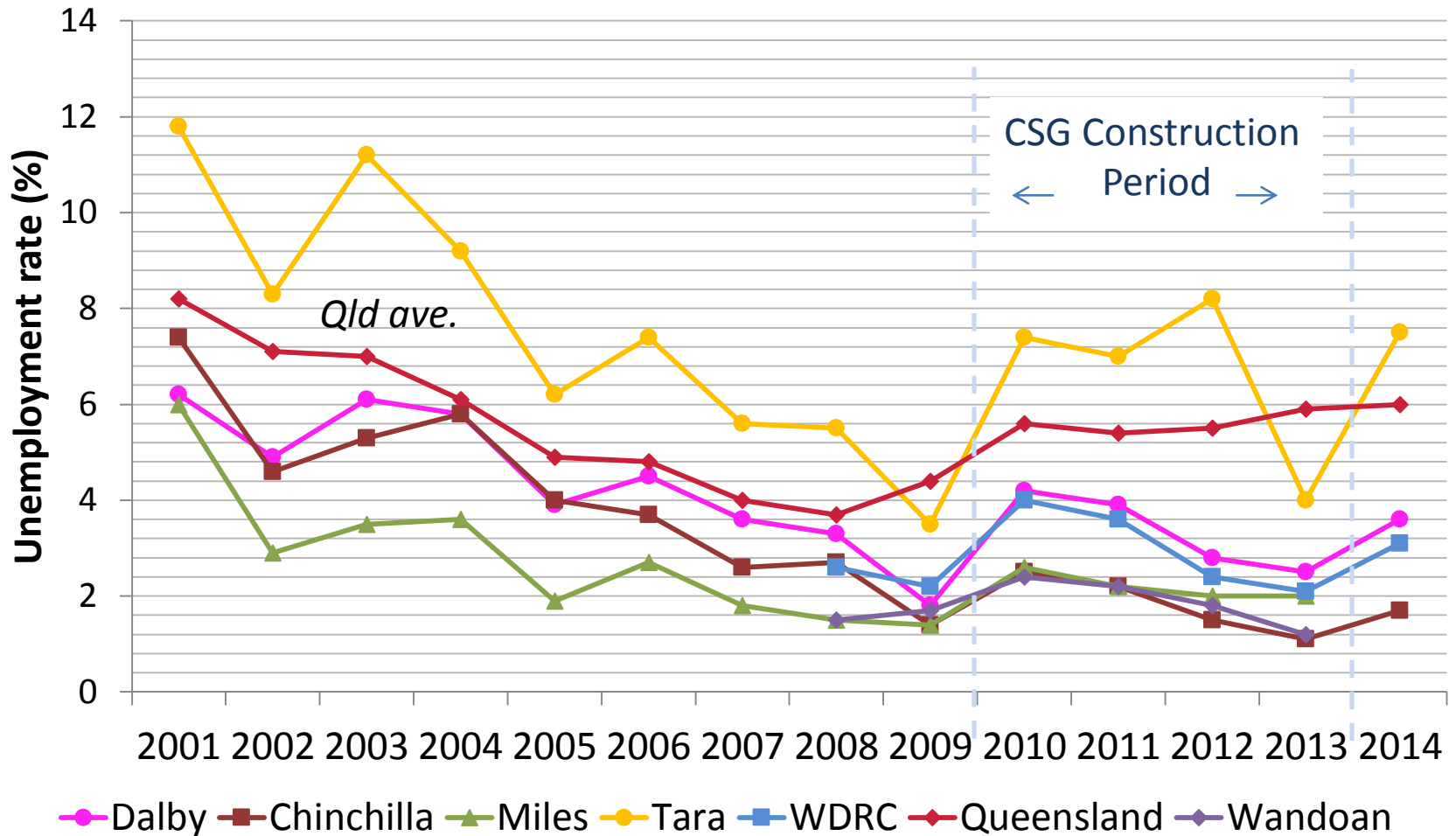


- Predicted outcomes
 - Peak employment = 2,400
 - Permanent employment = 500 people
 - Cumulative impacts: labour force availability stress for other businesses and services

- UQ Boomtown Toolkit © indicator
 - **Primary:** Unemployment rates

Unemployment rate (%) 2001–2014

Source: UQ Cumulative Socioeconomic Impacts: Coal Seam Gas development in the Western Downs region, Queensland, manuscript in preparation.

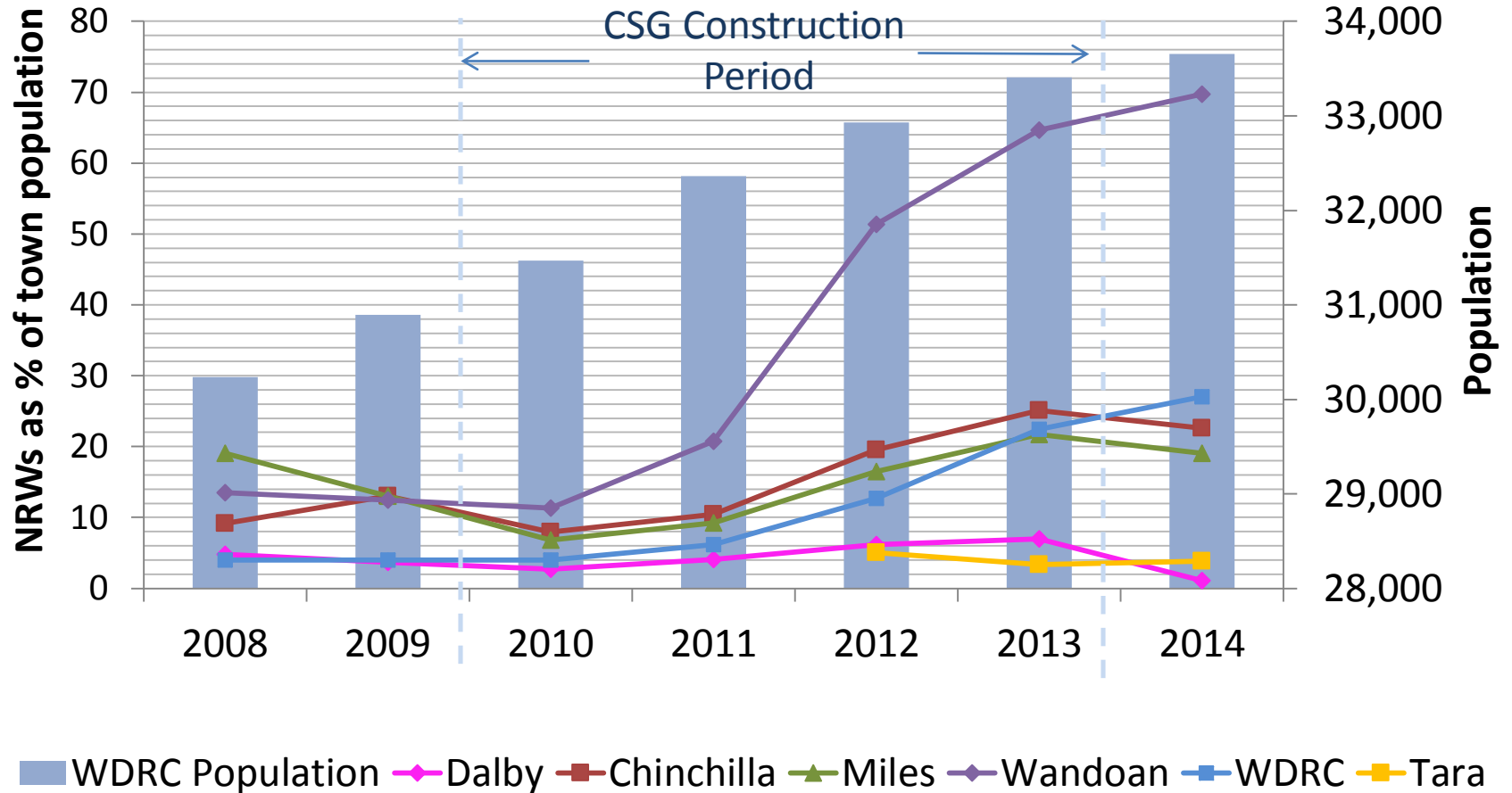




- Predicted outcomes
 - Population = 31,620 in 2011 to 33,037 in 2016 (increase of 1,417 people)
 - Increase in WDRC LGA pop. by 200 households (5% of non-res. Workforce)
 - Increase in pop. = 700 *during* construction
 - *Permanent* residents up by 400 people
- UQ Boomtown Toolkit © indicators:
 - **Primary:** Non-resident Workers, Resident population

Non-resident workers as a proportion of town population & total resident population of WDRC LGA

Source: UQ Cumulative Socioeconomic Impacts: Coal Seam Gas development in the Western Downs region, Queensland, manuscript in preparation.





Trends show that the:

1. SIA predictions are at the regional level
2. Multiple projects distribute various sized impacts across communities.
 - ‘Adaptive assessment’ needed for township, rather than regional level



Trends show the need for:

3. Coordination of SIAs/SIMPs
- strategic monitoring framework
4. Shared management post-development approval.



1. 'Adaptive assessment' for cumulative SIA indicators - UQ Boomtown Toolkit[©]
2. Can be applied to resources and infrastructure projects affecting regional communities
3. Shift from development assessment to strategic and adaptive assessment
4. Coordinate/share approach to monitoring and management

Questions?



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