



Scoping Study
IMPACT OF FLY-IN FLY-OUT/
DRIVE-IN DRIVE-OUT WORK
PRACTICES ON LOCAL
GOVERNMENT

Report for Australian Centre of
Excellence for Local Government

MAY 2012



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- Banana Shire Council
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- McKinlay Shire Council
- Rockhampton Regional Council
- Townsville City Council
- Western Downs Regional Council

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Inside Cover Image: Kalgoorlie Mine, Australia. Photo courtesy of [mattyp](#) / Matthew Perkins

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1 Background

In June 2010, the State Council of the Western Australian Local Government Association (WALGA) resolved to undertake a desktop review of literature on the impacts of fly-in/fly-out (FIFO), drive-In/drive-out (DIDO) work arrangements on mining communities in Western Australia (WALGA 2010, 90). This review sourced research from Western Australia, Queensland, Victoria and overseas and was completed in September 2010 (Lenney 2010). This review subsequently recommended to the State Council of WALGA:

“That the matter of the impacts of Fly-In/Fly-out on communities be referred to an appropriate research body such as:

- The Australian Centre of Excellence for Local Government; or
- The Economic Regulation Authority

for further scoping and discussion with Local Government to enable an expert assessment of the impacts of Fly-In/Fly-Out arrangements on local communities to be undertaken.” (WALGA 2010, p.90)

The Australian Centre of Excellence for Local Government (ACELG) was considered the preferred research body as this would ensure that further research into this issue would have a specific local government focus (WALGA 2010, p.94). This recommendation was endorsed by the WALGA State Council at its 2010 meeting.

WALGA subsequently approached ACELG via its Western Australian Program Partner, Edith Cowan University (ECU), to explore opportunities for conducting further research on this issue. This proposal was referred to the Assistant Director of ACELG and the ACELG Research Advisory Committee in December 2010. At this time, even though this project was deemed to have considerable merit it did not fit with the current ACELG research priorities, thus was put on hold for further consideration at a later date.

Subsequently, in August 2011 the Minister for Regional Australia, Regional Development and Local Government, The Hon Simon Crean MP, announced an Inquiry into the use of ‘fly-in, fly-out’ (FIFO) and ‘drive-in, drive-out’ (DIDO) workforce practices in regional Australia by the House of Representatives Standing Committee on Regional Australia (August, 2011). The Terms of Reference for this inquiry were to inquire and report on:

1. the extent and projected growth in FIFO/DIDO work practices, including in which regions and key industries this practice is utilised;
2. costs and benefits for companies and individuals, choosing a FIFO/DIDO workforce as an alternative to a resident workforce;
3. the effect of a non-resident FIFO/DIDO workforce on established communities, including community wellbeing, services and infrastructure;
4. the impact on communities sending large numbers of FIFO/DIDO workers to mine sites;
5. long term strategies for economic diversification in towns with large FIFO/DIDO workforces;
6. key skill sets targeted for mobile workforce employment, and opportunities for ongoing training and development;
7. provision of services, infrastructure and housing availability for FIFO/DIDO workforce employees;
8. strategies to optimise FIFO/DIDO experience for employees and their families, communities and industry;

9. potential opportunities for non-mining communities with narrow economic bases to diversify their economic base by providing a FIFO/DIDO workforce;
10. current initiatives and responses of the Commonwealth, State and Territory Governments; and
11. any other related matter.

(<http://www.aph.gov.au/house/committee/ra/fifodido/tor.htm> retrieved 14/09/2011)

In response to the announcement of this Parliamentary Inquiry, ACELG engaged Dr Robyn Morris at ECU to undertake a brief scoping study to evaluate if there is a role for ACELG in this space that might complement the Inquiry activities of the Standing Committee on Regional Australia.

2 Research approach

The scoping study was undertaken in several steps:

- A brief literature review to update and supplement the work undertaken by WALGA in September 2010;
- A review of the FIFO work practices submissions by local governments and other local government sector stakeholders to the Standing Committee on Regional Australia;
- Discussions with a small number of local government sector representatives with an interest in the FIFO issue and its impact on local government (including WALGA, LGAQ and the Pilbara Regional Council);
- Input from members of ACELG's rural-remote and Indigenous local government reference group on the possible role of ACELG on the FIFO issue; and
- With the assistance of the Local Government Association of Queensland (LGAQ), input was sought from the Queensland resource communities councils on key areas that future research could focus in relation to the impact of FIFO/DIDO work practices on local government and its operations should ACELG take on a role in this space¹.

This approach aimed to identify potential gaps in the literature and our understanding of the impacts of FIFO/DIDO work practices specifically within the local government context, around which ACELG might play a role. A synthesis of the findings from the information garnered from these different sources formed the basis for the recommendations contained in this report.

3 Literature overview

It is not the intent of this section of the report to present a comprehensive review of the literature and research on the impacts of FIFO/DIDO work practices as this would essentially duplicate prior works (see for example Lenney, 2010; Watts, 2004). Rather, this section aims to provide a summary of key issues raised in prior reviews and, where appropriate, supplement this with other recent literature found. Furthermore, given the nature of ACELG's *modus operandi*, the focus is on the impact of FIFO/DIDO work practices on local government.

Thus, this overview firstly considers the meaning of the terms fly-in/fly-out and drive-in/drive-out. It then presents a summary of the main areas in which prior FIFO/DIDO research has been undertaken and the key issues raised in these areas.

¹ The Queensland resource communities councils are a group of local governments located within or adjacent to Queensland's key resource regions – the Bowen Basin, Galilee and Surat Basins and the North West Minerals Province.

3.1 Meaning of fly-in fly-out/drive-in drive-out work practices

Professor Keith Storey (2010), a renowned researcher on long distance commuting, employs the concept of 'fly-in/fly-out' as a generic term to describe a variety of long distance commuting work practices whereby workers travel by air or some other mode of transport (e.g. car or bus) to and from worksites that are typically in remote areas and are often at a distance from existing communities.

Key characteristics of FIFO/DIDO work practices include:

- Working in relatively remote locations where the resource company typically provides and funds accommodation, food and other services for workers but not for their families at or near the worksite;
- A work roster with a fixed number of days at the worksite followed by a fixed number of days at home;
- Worker place of origin is usually a large city, coastal community or large established town;
- The employer typically organises and pays for transportation to and from the worksite; and
- Transport normally involves flying but may involve alternative modes of transport such as car (drive-in drive-out or DIDO) or bus (bus-in bus-out or BIBO). (Sibbel 2010; Storey 2010)

Consistent with Storey's approach, this scoping study uses the generic term FIFO to refer to this set of work practices irrespective of the mode of transport used. Thus, FIFO is formally defined as:

"Circumstances of work where the place of work is sufficiently isolated from the workers place of residence to make daily commute impractical." (Watts 2004, p.26)

3.2 Prevalence of FIFO

'Long distance commuting' to work, or what Australians commonly call 'fly-in fly-out', is not a new phenomenon. This form of work employment has existed in the Australian resources and mining sector for more than 25 years. Today, however, FIFO has become a common work practice in regional Australia, especially for new mining and resource developments located in remote locations. This practice by mining companies in Australia and internationally is based on what Storey calls a "no town" rather than a "new town" model (Storey 2010, p.1161).

Storey contends that this approach was "encouraged by the expansion of mining into increasingly remote areas at a time when corporate interests were focussing on "lean" and "flexible" modes of production and when governments were unwilling to support the development of new single-industry communities in remote areas" (Storey 2010, p.1162). This impetus was subsequently reinforced by substantial labour shortages and rapid growth in the demand for labour in the resources sector. He comments that although FIFO is a feature of many mining operations in remote locations, the increased use of non-resident workforces on worksites in or adjacent to established communities in recent times suggests that *remoteness* is perhaps not the principal driver behind its use.

The Chamber of Minerals and Energy Western Australia (CMEWA) contend that "the increase in FIFO employment in recent years has been driven by a tighter and more competitive labour market, increasing volatility in the resources sector, increased disparity between the relatively large construction workforces and smaller operational workforces in new projects, and increased dispersion of resources operations" (CMEWA 2011, p.6). In addition "the short-term nature of construction versus ongoing operations, the relatively short life of some new mines, the cost of building towns with a limited life and with no alternative economic supports, and the reality of

workers seeking to make individual lifestyle choices for themselves and their families, requires that many new and expanding mines be operated by long-distance commuting workforces” (CMEWA 2011, p.7).

Western Australia and Queensland are the two major states in which the resources and mining sector account for a substantial proportion of GDP and within which FIFO work practices are prevalent. Some 20 years ago it was suggested that the numbers of workers involved in FIFO rosters in Western Australia were modest and were not expected to increase in any major way (Australia 1991). More recent studies, however, indicate that the magnitude of the FIFO workforce has become very substantial and is expected to increase further. Table 1 provides a snapshot of some FIFO growth trends in Western Australia.

Table 1: FIFO growth trends in Western Australia

Region	Percentage of employees on FIFO rosters		
	2005	2011	2015
WA State Mining Sector			
All mining sector employees	47%		
▪ Mining contractor employees	77.7%	52%	57%
▪ Mining company employees (CMEWA, 2005; CMEWA, 2011)	37.5%		
Pilbara Region	2004	2015	2020
All mining sector employees (Watts, 2004; Waller, 2010)	43%	57%	62%

Similar strong FIFO growth trends are also very evident in major mining areas in Queensland. For example, Central Queensland’s Bowen Basin region contains the largest coal reserves in Australia. Isaac Regional Council (IRC) is the regional municipality at the heart of the Bowen Basin. In 2011, 46% of the IRC’s population was estimated to be non-resident. The FIFO full-time equivalent population is forecasted to grow by more than 40% by mid-2012 which will increase IRC’s non-resident population to nearly 54% as major planned black coal mining expansions occur (KPMG December 2011). This projected growth driven primarily by FIFO work practices in the region will make the IRC the fifth fastest growing population in Australia. Furthermore, the Western Downs Regional Council (WDRC) which is already experiencing historically high population growth (above 2% per annum), has record low unemployment (below 2%) and is at the epicentre of the Queensland coal stream gas activity, also anticipates dramatic population growth in coming years due to increased numbers of FIFO/DIDO workers as current projects grow and proposed projects come on stream (WDRC, 2011).

The rapid expansion of FIFO work arrangements especially in recent years has raised many concerns particularly in mining based communities (‘host’ communities) throughout Australia. As a result it has attracted considerable criticism in the media (see for example News 4 January 2012; Miko 9th November, 2011; Miko and Stanley 15th July, 2011; News 21 June 2011; Cleary July 23, 2011; News October 13th, 2011). This growing concern is likely to have been one impetus behind the Parliamentary Inquiry by the Standing Committee on Regional Australia that is now underway.

3.3 Summary of prior research on FIFO work practices

It is contended that, although expanding, the literature on the effects of FIFO work practices remains quite limited and is generally inadequate for providing a good understanding of the implications of this form of employment (Watts 2004; Lenney 2010; Sibbel 2010; Storey 2010). Prior research on this issue has examined the drivers of FIFO work practices, its impact on FIFO

employees and their families and more recently, the regional and local community impacts of FIFO and its implications for local community sustainability. The premise of much of prior research seems to have been that FIFO has adverse rather than beneficial implications at an individual and community level.

Together, Lenney (2010) and Watts (2004) provide a reasonably comprehensive review of the FIFO literature, much of which is mainstream rather than academic in nature. These reviews consider the effects of FIFO work practices at two levels:

- i. The individual level impact on the FIFO worker and his/her family largely in terms of health, wellbeing and relationship effects; and
- ii. The community level impact largely in terms of its social, economic and infrastructure effects and the implications for community sustainability.

Lenney (2010) concluded that many of the claims about the effects of FIFO work practices at both levels are anecdotal and drawn from media reports with little empirical support based on rigorous research being available. Sibbel (2010) noted that even though there has been considerable research into the interface between work and home life, this body of research has tended to concentrate on traditional 'two-parent family with dependent children' situations to the exclusion of other family structures. Furthermore, it has focussed on the negative side of this interface. She comments that few Australian studies have investigated the impacts of non-standard work arrangements like FIFO on employee and family well-being.

Prior studies investigating the effects of FIFO work practices on individuals and their families have tended to look at the effect of different shiftwork patterns. Lenney (2010) also commented that the broader impacts of FIFO on communities and regions has been much less well investigated and is therefore less well understood. Amongst the literature reviews examined, however, there were no dedicated studies investigating the impact of FIFO work practices on local governments cited. At best, this impact was incorporated into a broader discussion of the impact of FIFO on local communities and community sustainability. The supplementary review of the literature conducted as part of this scoping study, however, uncovered a very limited number of studies relating to local government impacts. The findings from these recent works will also be reported here.

The following sections of this literature overview provide a dot point summary of issues raised at each level in the prior reviews examined.

Impact on FIFO employees and their families

Amongst the adverse effects suggested in the literature are:

- Increased stress levels and poor health including depression, binge drinking, recreational drug use and obesity;
- Poor quality relationships leading to increased break-ups and divorce;
- Family disruption and stress;
- Reduced social and community interaction by FIFO workers.
- Reduced socialisation by partners;
- Feelings of loneliness and isolation.

Overseas research has supported the view that FIFO workers are more likely to experience health issues compared with daily commute employees. To date, however, Australian research has revealed conflicting and inconclusive results in relation to the impact of FIFO work practices on employee health and well-being, partner and family relationships and psychological stress on partners and families (Sibbel 2010). It appears that work roster patterns and the availability of

support networks for employees and their families are two key factors that play an important role in determining the extent that potentially negative effects of FIFO work practices are experienced at the worker/partner/family level.

Amongst the beneficial impacts of FIFO on employees and their families that have been noted in the academic and mainstream literatures are:

- Improved financial circumstances from high wages and lower living costs of living away from mining based towns thereby lowering financial stress.
- The availability of cheap housing for FIFO workers at worksites.
- The opportunity for workers to make lifestyle choices for themselves and their families.
- Uninterrupted blocks of time enable FIFO workers to spend better quality time with their partners and families or to pursue volunteer, recreational or leisure activities.
- A heightened sense of empowerment by FIFO employee partners.

Although the most extensive academic research has been undertaken at this individual/family level, there are still many issues that require further investigation using larger samples and rigorous research methodologies (Lenney 2010; Sibbel 2010).

Community level impacts of FIFO work practices

A common theme in the limited academic literature on the effects of FIFO on local communities and regions is that there appears to be no uniform effect across resource based communities ('host') or FIFO worker place of origin ('home') communities. It has been argued that from an economic perspective FIFO can simultaneously be:

- Beneficial to capital cities and large urban or regional centres by adding to their economic diversity;
- Destructive to local communities if they are unable to meet the infrastructure and service demands generated by a non-resident workforce; and
- Erosive to local communities where there has been a shift from a permanent resident workforce to a largely FIFO workforce if it reduces the economic viability of local infrastructure, services and businesses.
- Erosive to communities or regions bordering 'host' or 'home' communities if workers relocate to take advantage of FIFO work arrangements.

(Hogan and Berry 2000; Maxwell 2001; Storey 2010)

Much of the mainstream and academic literature on the implications of FIFO work practices for communities and regions relates to the impact of FIFO on community sustainability. Many of the claims in the mainstream literature are anecdotal and in need of formal testing. The suggested impacts relate to the economic, social, infrastructural and environmental effects of FIFO work practices. Amongst the key issues raised in the literature are:

Economic impacts

- Adverse impact on housing availability and affordability.
- 'Fly-over effects' from mining companies purchasing goods and services from suppliers outside local mining based communities which threatens the economic viability, survival, growth and diversity of local businesses and reduces employment opportunities for local residents.
- Economic benefits of FIFO reliant mining operations dissipate in the long-term.
- Demise of purpose-built mining towns with the closure of mining operations.

- Increased costs of living and per capita costs of supporting existing townships and ancillary support services in mining based communities has contributed to regional population decline.
- There has been no specific research into the loss of local government rates revenue resulting from FIFO work practices. However, it has been proposed that revenue shortfalls arise from Financial Assistance Grants (FAGs) being calculated on the basis of resident population estimates with only a small allowance for 'effective' or 'serviced' population (resident and non-resident). Australian demographer Bernard Salt recently argued that a 'services and infrastructure footprint' is created by both resident and non-resident populations and so it is the 'effective population' not just the resident population that places pressure on local governments to respond to the infrastructure and service needs of mining companies and their FIFO workforces (Salt 2011).

Infrastructure impacts

- Although there are suggestions of mining activities reliant on FIFO work practices affecting local roads and other local government infrastructure (e.g. bridges, recreation facilities and community buildings), with the exception of one Queensland study no other comprehensive robust research on the extent of mining company use of local roads and other infrastructure under local government responsibility and the implications of this use for road maintenance and other costs to local government was uncovered in the literature.
- In 2010 the LGAQ surveyed its member councils impacted by resource industry activity to gain a better understanding of the infrastructure funding impact of projected growth in the Queensland resources sector on its resource communities councils {LGAQ, September 2010 #29}. The study revealed that as a direct result of resource industry activity growth, the estimated five-year infrastructure capital outlay for eight councils that provided data was \$421 million. These capital outlays represented 3-21% of council operating expenditure with the average being 7%. The combined capital and recurrent costs for this capital was estimated at \$770 million. Infrastructure (primary roads, water and sewerage) accounted for almost two-thirds (63.5%) of the total cost estimates. For two councils, the recurrent costs associated with the increased capital requirements were twice the capital cost. In contrast, the projected total increase in rate revenue (general, differential and special) from increased mining company activity for councils where data was available was estimated at \$87 million per year over the next five years. This represented about 7% of the operating revenue of these councils and a mere 3.6% of the expected royalties that would be generated. Although all mining sector activity within these local government areas is not fully reliant on FIFO, a large and growing proportion of resource companies operating in these regions use FIFO work arrangements. Thus, a substantial proportion of these estimated net costs could be attributed to FIFO operations.

Social Impacts

- Social impacts are usually expressed in terms of "changes to population demographics, the availability of human services, housing affordability, the standard of community infrastructure, community participation and integration as well as general community wellbeing and identity" {LGAQ, September 2010 #29, p.41}.
- Limited participation and integration by FIFO workers reduces the viability of volunteer groups and community clubs.
- FIFO creates a reduced 'sense of community' in mining based communities.

Environmental Impacts

- FIFO mining operations occupy a considerably smaller ecological footprint than purpose built residential mining towns thus enhances environmental sustainability.

Storey noted that because FIFO can have both adverse and beneficial effects on communities and that these divergent outcomes may be simultaneously present in a community, examining the impact of FIFO involves considerable complexities. For this reason it is “not simply the net of the perceived pluses and minuses of the system” (Storey 2010, p.1163). Lenney (2010) concluded in her review of the FIFO literature that minimal studies have investigated the impact of FIFO work practices on community sustainability but that Storey’s work (Storey 2001; Storey 2010) is a positive step towards advancing research in this area.

Economic, social and environmental impacts - recent Queensland research

There are two notable Queensland studies that were conducted subsequent to Lenney’s (2010) and Watt’s (2004) literature reviews that offer further useful insight on this issue. One is a KPMG study commissioned by the Isaac Regional Council (IRC) in 2011. The second study was conducted by a Queensland University of Technology research team and investigated the social impacts of mining activity and the use of FIFO workforces in the Bowen Basin in Queensland (Carrington and Periera 2011).

The KPMG study developed an ‘Infrastructure and Services Model’ (ISM) as a forecasting tool to enable the IRC to identify anticipated changes in demand for infrastructure and services within its boundaries based on population changes. This models enables the IRC to identify expected infrastructure and services gaps resulting from the rapid growth in mining activity and the presence of substantial FIFO workforces at regional and local community levels (KPMG December 2011). KPMG noted that even though mining companies and their FIFO workforces are largely self contained in relation to housing, food, water, entertainment and recreational demands, there are certain ‘touch points’ where the non-resident population impacts on local services and infrastructure in ‘host’ communities.

This study investigated 15 built infrastructure and 23 soft infrastructure (community service) benchmarks that mining operations in the region might affect. Eight of these appear to be local government responsibilities in Queensland – landfill, roads, water, waste water, open space (active, passive and general) and local government services. The ISM model classified the services into three categories based on their use by the resident and non-resident populations. The ISM model findings revealed that even though FIFO workers have a minimal requirement for many community services like gyms, cafes, restaurants, museums and so forth, the need for other services and infrastructure like road usage and maintenance, medical and allied health services and police services is much greater. This study concluded that based on the expected growth in the FIFO workforce population resulting from growth in mining operations in the region, there would be an under supply of services and infrastructure especially in the area of health and allied services (general practitioners, nurses, hospital beds, paramedic officers, pharmacists). The other areas of under-supply were police officers, post offices, hotel/motel beds, cinemas and landfill sites. This study acknowledged that although mining companies are often generous in their contributions to local communities, there needs to be better alignment between these contributions and the service and infrastructure priorities and shortfalls in the affected communities.

The QUT study examined resident and non-resident perceptions of the social impact of mining projects that rely on a non-resident workforce on Queensland mining communities. The majority of the 559 survey responses received came from residents and FIFO workers in the Bowen Basin region which services most of Queensland’s resource sector and coal mining developments. The

areas of FIFO workforce impact investigated were the local economy, local employment, provision of social services and recreational activities, housing, community safety, crime, lifestyle and overall community wellbeing. The researchers noted that as many of these factors are intangible, they are difficult to measure objectively. Thus, community perceptions seem to provide the only guide available for measuring most of these consequences. The researchers reported an overwhelmingly negative response by the study participants with three-quarters of people feeling that mining developments reliant on FIFO workforces have an adverse impact in their communities. Between 55% and 79% of respondents considered that FIFO based mining operations impact negatively on:

- Housing availability and affordability;
- Local infrastructure;
- Local services;
- Recreational amenities;
- Local employment opportunities;
- Local businesses and the local economy;
- Crime and justice;
- Community safety; and
- Lifestyle.

Much smaller numbers (6% - 26%) reported positive effects in these areas with local liquor stores (23%) and the local economy (26%) seen as the main recipients of beneficial effects.

These findings are consistent with those reported in another Queensland study conducted in 2011 by market research consultants Market Facts (Qld) Pty Ltd on behalf of the Remote Area Planning and Development (RAPAD) Board (Market Facts 2011). This study conducted a random telephone survey with 610 respondents across seven Councils in the region. It examined community attitudes towards coal seam gas and coal mining activities in Central West Queensland. Although this research did not specifically address the impacts of FIFO work practices, the fact that a high proportion of coal mining employment in this region is on a FIFO basis suggests that community attitudes would be moulded by this employment arrangement.

The RAPAD study reported that 71% of participants thought that coal seam gas and coal mining activities in the region will have more negative than positive effects on Central West Queensland communities. The benefits of coal mining activities, however, were perceived to be greater than the benefits from coal seam gas operations. Damage to artesian basin/water resources (80%) was considered the most negative effect of coal seam gas operations while the impact on grazing/agriculture (52%) and the environment (21%) were seen as the most negative impacts of coal mining activities. In terms of economic impact, almost three-quarters of respondents believed that coal mining activities would bring positive business and economic development opportunities while 40% believed that coal seam gas operations would bring little or no benefits to the region. Also, less than one in ten participants (7%) felt that these resource activities would provide positive social outcomes while more than half (58%) disagreed that they would bring positive social outcomes.

In addition to investigating community perceptions of the impact of FIFO work practices on communities, the QUT study evaluated what level of FIFO workforce was considered acceptable by mining based community residents and non-residents. The results showed that “the social license to develop new mining projects is strong for projects requiring a 25% or less non-resident workforce, diminishes thereafter and is very weak for projects planning to recruit a non-resident workforce in excess of 75%” (Carrington and Periera 2011, p.5).

From the results of these recent studies it appears that although the *direct* impact of a large FIFO population on local government services and infrastructure in mining based communities like the IRC may not be extensive, the LGAQ has argued that the *indirect* impacts can be significant, complex and diverse. The LGAQ contends that there are many challenges facing councils “seeking to balance the benefits of resource industry activity with community wellbeing and long term sustainability” (LGAQ 2011, p.3). Amongst the key challenges identified are in the areas of infrastructure provision, housing affordability, recruiting and retaining skilled workers, social and cultural cohesion, environmental protection, supplying essential services, public order and safety, town planning and amenity, increased administration, managing and maintaining industry relationships and participating in legislative processes.

Government policy and legislative concerns – a Queensland review

Further to the empirical studies on the economic, social and environmental impacts of FIFO and mining activities on resource communities in Queensland outlined above, the LGAQ recently reviewed the impact of relevant government policy and legislation on the capacity of its resource community councils to engage with and respond to the rapid expansion of resource activity in their regions {LGAQ, September 2010 #29}. This critique of the State government’s overarching policies and legislative instruments relating to resource development approval processes and activities articulates key local government concerns and recommended responses. Although this review was not limited to policies and legislation relevant to mining operations employing FIFO work practices, it has broad significance for capacity of resource community councils to respond to the strong growth of this practice amongst resource companies operating in their regions.

The LGAQ noted that although the Queensland government developed three key policy frameworks in consultation with local government and industry to help local resource based communities manage mining activity impacts, the emergence of the coal seam gas industry along with rapid growth of the resources sector in the State’s four main regions has “resulted in multiple cross government agency initiatives and proposals, that, from local government’s perspective, lack coordination, clear channels of reporting and monitoring of outcomes against their stated objectives” {LGAQ, September 2010 #29, p.53}. Resource community councils are under considerable pressure to provide the necessary physical and social infrastructure to support increased mining activities in their regions but derive little direct financial benefit from these operations. Table 2 summarises the key policy and legislative issues identified in the LGAQ review and their associated concerns that exacerbate the challenges these councils face.

Table 2: Key resource activity government policy and legislative concerns of local government

Key issues	Associated concerns
Tenure approval processes	<ul style="list-style-type: none"> ▪ Complicated and non-transparent tenure approval processes - no guides, flow charts or simplified information in a central location to simplify tenure approval processes; ▪ Lack of early local government engagement – critical if they are to respond to and support mining activity in their regions; ▪ Inadequate timeframes for local government to assess and respond to tenure or environmental authority applications.

<p>Infrastructure provision and management</p>	<ul style="list-style-type: none"> ▪ No legislative requirement to notify councils of tenure applications to support planning and budgeting for infrastructure requirements; ▪ Significant deficits in council revenue sources to fund infrastructure and service requirements to meet the needs of resource industry activities; ▪ Inability to levy rates or charges against tenure holders to compensate for damage or impact on council infrastructure or services; ▪ Unclear legislated compensation arrangements create confusion around tenure holder liabilities and requirements for entering into agreements.
<p>Environmental concerns</p>	<ul style="list-style-type: none"> ▪ Significant cumulative local and regional impacts of multiple concurrent and overlapping applications for new and expanded resource activities - not considered in Environmental Impact Statement (EIS) and Terms of Reference (TOR) processes; ▪ Inappropriate Environmental Impact Assessment trigger criteria particularly for approval of mining operation upgrades; ▪ Insufficient requirements for notifying councils and communities about serious environmental incidences; ▪ Intensified competition for land for agriculture and mining has highlighted shortcomings in the State's planning policies to ensure the conservation of agricultural land in key mining regions; ▪ Inadequate monitoring and compliance mechanisms for monitoring the impact of coal seam gas water use.
<p>Managing social impacts</p>	<ul style="list-style-type: none"> ▪ No requirement for social impact management plans to be incorporated into environmental impact statements under the Environment Protection Act.
<p>Compensating council participation</p>	<ul style="list-style-type: none"> ▪ No provisions to compensate local government for participation in EIS and TOR processes that involve significant workload and cost – cost estimated at \$15,000-\$150,000 per EIS and average cost estimated at \$403,000 per council over the past two years

Overall, this overview of the existing research and literature demonstrates that insufficient robust research has been undertaken for the full extent of the impact of FIFO work practices on local governments and their communities to be well understood.

4 Local government sector perspective on the effects of FIFO

This section of the report provides an overview of the major issues raised in the submissions to the Standing Committee on Regional Australia from the local government sector and discussions held with some other representatives in the sector. Almost one-quarter (35 of 155) of the total submissions received by the Standing Committee were from individual local governments, Regional Councils or key local government sector stakeholders including Local Government Associations across most jurisdictions. These submissions by local government stakeholders were examined with respect to:

- Adverse impacts of FIFO work practices;
- Beneficial impacts of FIFO work practices; and
- Strategies for improving the distribution of benefits of mining activities to regional areas particularly to resource based communities.

It was clear from the submissions examined that FIFO work practices are perceived to be a ‘two-edged sword’. This was reflected in the varied and diverse comments provided about the challenges and opportunities that this employment practice can or does generate. The impacts of FIFO seem to vary across Australia and depend upon a number of factors including whether a town or region is a supplier of FIFO employees (i.e. a ‘home’ community) or is a community needing and demanding a skilled workforce (i.e. a ‘host’ community).

Although it was recognised and generally understood by many councils that the use of FIFO workforces is necessary in some circumstances and in some communities, it was also argued that for longer term operations, a largely resident workforce should be encouraged as much as possible to facilitate resource based community normalisation and sustainability. The following discussion presents a summary of the major issues raised by councils and other local government sector stakeholders in their submissions.

4.1 Challenges of FIFO work practices

The bulk of the local government submissions (91%) raised at least some negative impacts of FIFO work arrangements. These largely related to economic, infrastructure and social challenges that ultimately affect the sustainability of resource based communities and adjoining councils in mining regions. The most frequently raised challenges identified related to:

Stress on community services and infrastructure

Mining based communities experiencing a population influx come under pressure and are adversely affected by:

- FIFO/DIDO workforce often being underestimated
- Revenue implications of FIFO workforce not counted as official residents in ABS population.
- Census statistics that adversely affect funding allocations for local governments and other government agencies delivering local services
- Demand outstripping the community’s capacity to supply key community and emergency services
- Local residents forced to travel to other larger towns to access essential services (e.g. medical and allied health services) under pressure in the mining based community
- Difficulties in effectively planning, supplying and pricing the provision of infrastructure and services where a high proportion of the population is FIFO
- Reduced access and higher cost of flights
- Increased vehicle traffic damaging local roads and buildings.

In ‘home’ communities there is a greater need for and pressure on support services for FIFO worker families experiencing social isolation and other family stressors.

Contributions to local economy

Mining companies and FIFO workers contribute little to the local economy due to:

- Mining and resource company contracts going to external providers not local providers (fly-over effects)
- Majority of the FIFO workers’ wages going to ‘home’ communities

- Demise in mining /resource company commitment to infrastructure development and operating expenditure in local host communities
- Mining companies not sourcing labour from mining based communities
- Mining/resource companies only offering FIFO with no option to relocate to the mining based community
- 'Skills drain' in local communities making it difficult to recruit and retain local employees
- Loss of population in towns that are not a transport hub.

Housing availability and affordability

Housing shortages and high rents from increased accommodation demands:

- Lack of choice of housing/accommodation for willing buyers and renters
- Raises the cost of living in rural and regional communities
- Adds to the difficulty of attracting and retaining staff
- Displacement of lower income workers and families in rural and regional communities
- Discourages tourism

Lifestyle and safety issues

- A lack of choice where 100% FIFO used
- Less integration of FIFO workers into the local community resulting in social problems (e.g. violence, crime) in 'host' communities
- Non-participation or limited participation by FIFO workforce threatening the survival of volunteer, community and sporting groups
- Long-term loss of social capital in rural and regional communities
- Safety issues around worker fatigue, increased vehicle traffic etc

FIFO worker and family impacts

- FIFO worker health issues
- Social isolation of FIFO employee partners
- FIFO workers less engaged with family life resulting in family stresses and high turnover rates

Government policy and legislative concerns

- The current taxation system favours the use of FIFO work practices by mining companies and discourages relocation to mining based communities
- No local government input/say in the tenure approval processes for major mining/resource developments
- With no regulations in at least some jurisdictions obligating resource and mining companies to apply for permission or advise either local government or state government of FIFO camps/villages constructed on tenures and/or numbers of FIFO workers onsite local government legislation and ability to manage services and compliance with local government regulations is undermined or superseded. Implications of this include:
 - Public health risks and issues
 - Non-conformance with license applications and other local government regulatory requirements
 - Water/sewerage and waste management difficulties
 - Disaster management and emergency services difficult to plan and effectively manage without accurate FIFO worker numbers

- No capital contribution by resource and mining companies towards water/sewerage and waste/landfill infrastructure resulting in local governments and ratepayers bearing the cost burden.
- Lack of transition planning for shifts to increased FIFO workforce population and mine closure

Environmental impacts

- Adverse environmental effects from increased carbon emissions with increased air traffic.

Issues relating to each of these main themes were identified in approximately one-fifth and in some cases by as many as one-half of the local government sector submissions.

4.2 Benefits of FIFO work practices

Far fewer submissions (46%) raised actual or potential benefits of FIFO on local communities. These were principally from local governments promoting themselves as “regional centre ‘home’ communities” to resource and mining companies as an alternative to capital cities for their FIFO workforces. The most frequent comments related to:

Economic opportunities

- The capacity to boost local economies of rural and regional towns that could function as places of origin or ‘home’ communities for a FIFO workforce
- Potential for building larger and more diverse workforces and economies in regional centres that can offer recruitment and employment solutions to mining companies
- Can help compensate for poor performance by other industries
- Can help address/reverse unemployment issues in depressed rural and regional centres
- Rural and regional locations from mining based communities or capital cities can offer more affordable housing for FIFO families
- Without FIFO work practices some resource and mining developments would not be economically viable; if not developed this could have more adverse implications for rural and regional communities

Regional Development

- Reversal of urbanisation and centralisation trends with the development of FIFO hubs in regional centres
- Reduced congestion and pressures on city/metropolitan infrastructure.

Social benefits

- Increased air services and improved airports increasing rural town and regional centre connectivity
- Inward migration creating population growth and reduced mean age in rural and regional communities

4.3 Strategies for distributing benefits to regional areas

Several strategies for enhancing the flow of benefits to local townships and regional areas affected by resource mining activities were proposed in many of the submissions (77%). Many of these were inter-related but focussed on a few central themes:

- 1. A regionalisation policy that supports infrastructure and service development in mining affected areas** – it was suggested that there needs to be a greater government focus on long-term land-use planning and infrastructure and service development that might include:

- A review of environmental and investment approval processes to mandate a local and regional employment and a social dividend for mining affected communities with a greater level of local government engagement in planning and approval process on issues affecting their communities and operations;
- Growth management strategies for affected communities ('host' and 'home') that consider infrastructure, social and economic issues;
- Legislate a cap on the percentage of FIFO workforce permitted where operations are near established communities;
- Allocate a share of mining royalties or resources tax revenues into infrastructure and service development in all jurisdictions where there are mining based and adjoining communities affected by substantial FIFO workforces.
- Collaborate with key stakeholders to promote rural and regional towns as 'home communities' for FIFO workforces.
- Review of current taxation policy, legislation and systems that favour FIFO work practices by mining companies and provide a disincentive for mining workers and their families to relocate in mining based communities
- Introduce an 'incentive package' to increase the attractiveness of 'host' communities to mining employees and their families. Incentives might include:
 - Attractive housing packages
 - Taxation incentives and increased zone rebates
 - Increased investment in local training facilities and programs
 - Immigration policy changes to redirect overseas labour to rural and regional centres
- Introduce an independent Planning Commission to oversee long-term land-use planning and development of cities in mining affected areas

2. Review Census population data methods

- ABS needs to develop mechanisms for capturing population flows created by modern workforce practices in mining region 'hotspots'
- Recognition of the implications of FIFO work practices on infrastructure and service delivery demands and costs incurred by rural and regional communities

3. Economic diversification strategies to build community resilience and sustainability

- Promote the development of mining camps adjoining towns
- Review the design FIFO accommodation camps so they can be converted into other uses post-mining leaving a local legacy
- Collaborative negotiation with key stakeholders to provide opportunities for diversifying local businesses

4. FIFO family support systems

Provide better support for FIFO families in 'home' communities that could include:

- Emergency child care
- Empowering social networks
- Review of roster and commuting policies and procedures by mining companies

5 Apparent gaps in our understanding

From the author's review of the local government sector submissions to the Parliamentary Inquiry into FIFO workforce practices and the prior research and literature uncovered on the impacts of FIFO work arrangements on communities and FIFO workers and their families, it appears that under the Terms of Reference of the Standing Committee stakeholders have been asked to suggest possible solutions to a complex array of issues that are not yet well understood. Furthermore, it was clear from this overview of the literature that there has been insufficient robust evidence based research on the costs and benefits of FIFO work arrangements on local government. This is true for local governments in both the 'host' mining town communities and the 'home' communities of the FIFO workforces. Of particular interest is the extent and level of use of local government infrastructure, services and facilities by FIFO workers and mining companies and the net cost implications of the demands placed on these by resource development and mining activities.

Local governments are responsible for the governance and provision of a wide range of local infrastructure, services and facilities to local communities. They need to respond to local community demands and pressures including those of mining companies and their associated resident and non-resident workforces. Responding to these needs can require substantial financial resources for both capital and on-going operating and maintenance costs. The capacity of local government to support and respond to these needs is further complicated by shortcomings in government policy and legislative frameworks relating resource development approval processes and operations as well as a lack of clarity around proponent obligations and liabilities. The implications of the demands on local government capital and operational costs and their long term financial planning need to be better understood to enable these councils to better manage them and to inform their decisions. This is an area in which there is a clear need for further research (LGAQ October, 2011).

6 Potential role for ACELG

In consulting with ACELG's Rural-remote and Indigenous Local Government reference group, the common view held was that before taking any further action, it is advisable for ACELG to await the outcomes of the Parliamentary Inquiry. At the time of preparing this report, the House of Representatives Standing Committee on Regional Australia had commenced a series of public hearings in capital cities and regional areas across Australia as the next phase of the inquiry. These hearings are scheduled to continue until mid-2012. The report on this Inquiry is due to be released at some time in the second half of 2012 although no exact date has yet been announced.

Nevertheless, discussions with other key local government sector stakeholders revealed a recognised need for, and interest in, partnering with ACELG to undertake research that specifically focuses on the impact of FIFO work arrangements on local government and its operations. To assist with developing a possible scope for a research project with this focus, the LGAQ assisted in canvassing its 'resource communities councils' to gain their perspective on what issues should be investigated. To assist these councils in formulating their ideas they were provided with a frame of reference and some potential areas that could be researched. Their response to these issues was sought along with an invitation to offer any other suggestions. Input was received from 8 practitioners (mostly CEOs) across 7 resource community councils and 4 personnel at LGAQ.

Generally it was felt that future research needs to initially focus on 'host' resource based community councils as these typically appear to be most directly and adversely affected by FIFO work practices. Some Queensland resource community councils, however, also expressed the view that the scope of the research needs to include councils adjoining major mining areas. This would

involve examining the effects on councils adjoining mining areas that could provide 'home' communities for FIFO workforces as well as adjoining councils that are experiencing a population decline as they are not transport hubs for FIFO workforces.

The scope of a future research project that initially focuses on 'host' community councils could include:

- Direct impacts of FIFO operations on local government infrastructure, services and facilities including:
 - The nature of the local government infrastructure, services and facilities impacted;
 - The extent of mining company and FIFO workforce use of local government infrastructure – roads, airports, sewerage and water infrastructure where relevant, and social and other infrastructure that comes under local government responsibility;
 - The extent of mining company and FIFO workforce use of local government services and facilities, including emergency services that come under local government responsibility.
 - The impact of the shorter life pattern of demand/use of sewerage, water and other relevant infrastructure associated with resource and mining activities with FIFO operations on local government planning, depreciation and charges for this infrastructure;
 - Resource and cost implications for local governments of the demands/pressures created by resource and mining operations using FIFO/DIDO.
 - Level of mining company contributions/compensation to cover the added costs of providing infrastructure and asset maintenance to service mines and FIFO accommodation needs by local government.
 - The extent of resource taxation/royalty revenues returned to resource based community councils.
 - Identification of deficits in funding to local governments in relation to infrastructure and operational costs associated with mining operations with FIFO workforces.
- Funding model options for compensating resource based community councils for any deficit in funding for added investment and/or operational costs resulting from increased demand on local government services and/or infrastructure by FIFO reliant mining activities.
- Comparison of the costs to local government of supporting an increased population under different FIFO scenarios - for example 100% FIFO versus a 100% resident workforce or other alternatives.
- Indirect impacts of FIFO operations on local government operations including:
 - Added cost of doing business from "spill-over" effects of mining and FIFO operations in the area – e.g. impacts on wages to retain staff, staff turnover costs, staff accommodation costs, council administration costs associated with liaison/negotiation with mining companies;
 - Cost of delivering State/Federal agency services picked up by local government where these have been withdrawn following the introduction of FIFO work practices in resource based communities; and
 - Impact on effective local government governance including the extent of local government engagement in planning and decision-making processes relating to mining operation approvals affecting their communities.

Although the views presented also included broader issues relating to increased pressures on or withdrawal of other community services (e.g. health, education, policing etc) that may reduce overall community well-being or sustainability, the provision of these services falls outside the non-discretionary responsibilities of local government and so at this point have not been included as part of the scope of the initial research proposed for ACELG's consideration.

Based on the findings of this scoping study, it is recommended that following the completion of the Parliamentary Inquiry into the impacts of FIFO by the House of Representatives Standing Committee of Regional Australia, ACELG considers partnering with interested stakeholders such as LGAQ and WALGA to undertake research into the impacts of FIFO work practices specifically on local government. It is suggested that the initial research project be designed to address at least some of the issues presented in the research scope outlined above taking into account the decision making processes that would need to be influenced.

There is no question that the proposed scope of research required is extensive, complex and may not all be easily quantified. Thus, should ACELG decide to progress with taking a role in helping to fill the gap in this field of research, it may be necessary to design the research to be conducted in a number of stages. In time, this research needs to examine the impacts on 'host' councils, 'home' councils and local governments adjoining mining regions. In a subsequent stage, it could also be extended to examine the impact of FIFO work practices on the 'sustainability' and 'liveability' of communities in mining regions.



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Appendix

Submissions to the Standing Committee on Regional Australia – Local Government stakeholder submissions reviewed

Submission Number	Organisation/Individual
5	Cobar Shire Council
10	Banana Shire Council
12	Shire of Mount Magnet
17	City of Albany
23	City of Swan
25	District Council of Grant
27	Shires of Westonia and Yilgarn
29	Shire of York
35	Roxby Council
42	City of Kalgoorlie-Boulder
45	City of Mandurah
46	Shire of Wiluna
50	NSW Association of Mining Related Councils
51	Narrabri Shire Council
57	Shire of Roebourne
60	Shire of Ashburton
64	Townsville City Council
71	Western Downs Regional Council
81	Isaac Regional Council
83	Town of Port Hedland
85	Mackay Regional Council
89	WA Regional Cities Alliance
91	Shire of Manjimup
92	Local Government Association Queensland (LGAQ)
Personal communication	
105	Shire of Gnowangerup
106	Shire of Wagin
107	Charters Towers Regional Council
111	City of Greater Geraldton
117	Shire of Northampton
136	West Coast Council of Tasmania
142	Southern Gold Coast (Council entity)
143	Gold Coast City Council
155	Outback Communities Authority
156	Western Australian Local Government Association (WALGA)
Personal communication	
43	Pilbara Regional Council
Personal Communication	

ABOUT ACELG

ACELG is a unique consortium of universities and professional bodies that have a strong commitment to the advancement of local government. The consortium is led by the University of Technology Sydney's Centre for Local Government, and includes the University of Canberra, the Australia and New Zealand School of Government, Local Government Managers Australia and the Institute of Public Works Engineering Australia. In addition, the Centre works with program partners to provide support in specialist areas and extend the Centre's national reach. These include Charles Darwin University and Edith Cowan University.

PROGRAM DELIVERY

ACELG's activities are grouped into six program areas:

- Research and Policy Foresight
- Innovation and Best Practice
- Governance and Strategic Leadership
- Organisation Capacity Building
- Rural-Remote and Indigenous Local Government
- Workforce Development

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