# Brief for a Longitudinal Study of Automotive Manufacturing and Supply Chain Workers

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# Contents

# Section 1: Foreword

This Brief for a 'Longitudinal Study of Automotive Manufacturing and Supply Chain Workers' is the product of a Scoping Study initiated by the South Australian Government through its Department of State Development. The aim of the Scoping Study was to develop, through a consultative process, this best practice Design Brief.

## Scoping study aims and method

The South Australian Government, through the Department of State Development, initiated a Scoping Study, the aim of which was to deliver a brief for a best practice or 'gold standard' Longitudinal Study of Automotive Manufacturing and Supply Chain Workers through a consultative process. This process involved engagement with university and other academic researchers, officers of the Commonwealth and State Government departments, and key stakeholders from the automotive industry and its unions. In the Scoping Study, these individuals were interviewed as key informants about the need for the proposed Longitudinal Study, its scope, timeframe and key parameters, and the resources needed for its successful implementation.

The Scoping Study consisted of:

- A literature review that focused on identifying the full range of potential impacts of business and industry closures on affected workers, their families and communities and the range of interventions that constitutes a best practice approach. Evidence of the impact of industry closures and lessons learned were especially documented.
- Interviews with members of 27 key informant groups, with the interview questions evolving particularly from the evidence and lessons learned that were identified in the literature review.
- Use of an expert group from among these key informants to review a draft of this Brief and provide further suggestions for its refinement. Almost all of the experts provided written comments that ranged from the very general to the quite specific.
- Finalisation of the Brief based on the feedback received and its presentation to the South Australian Department of State Development.

## This report

This report is the final product of the Scoping Study. Section 2 presents the case for the Longitudinal Study, and identifies the preparatory work required. Section 3 sets out the guidelines for a gold standard Longitudinal Study and its preferred design, advising on a range of key features that need to be considered by prospective research teams. Section 4 provides additional contextual information from a brief review of the key literature to aid research teams in planning, designing and delivering a Study.

# Section 2: The need for a Longitudinal Study

Past studies on workers affected by industry restructuring have focussed on short-term outcomes. They reveal that affected workers' transitions are complex and it can take considerable time for the full impacts to be experienced. Longer-term studies are more effective for determining these impacts. Also, they offer a more valid approach for determining causal relationships between predictor variables and outcomes measures.

The proposed Longitudinal Study, involving repeated observations of a cohort of automotive manufacturing and supply chain workers over several years, will be an important resource for the workers and others involved. The Study will add to the solid platform of knowledge being gained from the current shorter term tracking studies of automotive workers. The Study will complement existing studies and, together with these studies, will enable a comprehensive examination of the short and longer-term impacts from the closure of the automotive industry on its workers. The monitoring through this Study of a cohort of displaced and continuing workers will inform evidence-based policy responses to inevitable future industry restructuring. The Study will be of international interest and significance and can provide a blueprint for reporting on workers' transitions into the future.

The degree of urgency to plan and implement this Longitudinal Study is heightened by the imminent automotive manufacturing closures in late 2017. Preparatory work is required. A full list of workers from all automotive and supply chain companies needs to be compiled with contact details from which to draw a sample for the Longitudinal Study. This requires cooperation of automotive manufacturing and supply chain companies and is paramount to the success of the proposed Longitudinal Study.

## Background and context

The closure of Australia's entire automotive manufacturing industry encompasses the cessation of the motor vehicle assembly operations of Ford, Holden and Toyota in Victoria and South Australia. Engine plants operated by Ford and Holden will also close. The three companies announced their closure timeframes between mid-2013 and early 2014. Ford exited the industry in 2016. Holden has progressively exited and will fully cease production in October 2017. Toyota will also cease production, fairly swiftly, at the end of October 2017. Further, the full impact extends through a complex supply chain of firms that feed the automotive assembly plants, both directly (Tier 1 firms) and indirectly (Tier 2 firms that feed Tier 1 firms; Tier 3 firms that feed Tier 2 firms and so on). Some supply chain firms have already closed, and others will close or downsize. Yet other supply chain firms are seeking to diversify. It is hoped that they can sustain their production by moving into new areas, and perhaps even grow. Overall, many workers are affected by the closure of Australia's entire automotive manufacturing industry.

## What is meant by a "longitudinal study"?

A longitudinal study is any study involving repeated observations of the same unit(s). A key issue is the length of the observation window. A longitudinal study does not have to cover a long period. Researchers can design short-running longitudinal studies through to long-running longitudinal studies that afford study of the same unit(s) over a more extended period of time. What is proposed here is a longer running study of automotive manufacturing workers and supply chain workers than those undertaken in the past. Past studies on workers affected by industry restructuring have focussed on short-term outcomes. They reveal that affected workers' transitions are complex and it can take considerable time for the full impacts to be experienced. Longer-term studies are more effective for determining these impacts and how they are experienced. They also offer a more valid approach for determining causal relationships between predictor variables and outcomes measures.

A type of longitudinal study, the longitudinal cohort study, such as the one outlined in this Design Brief, observes, over time, subjects that fall within a similar group or demographic based on shared characteristics. In this case, the cohort is the automotive manufacturing and supply chain workers affected by the closure of Australia's automotive manufacturing industry. Furthermore, in a cohort study, a group of individuals exposed to an outcome (e.g. job loss) and a group who are not exposed to this outcome (e.g. continue to be employed in automotive and supply chain industries) are followed over time to determine the impact.

## The case for the proposed Longitudinal Study

A Study of a cohort of automotive manufacturing and supply chain workers over many years is required for the following reasons:

1. The Study will be an important resource for the automotive workers and others involved. It will provide a resource for automotive workers and their families with its opportunities to connect regularly with others who are interested in monitoring their 'personal journeys'. These benefits align with the aims of the current short term structural adjustment assistance programs by governments and automotive manufacturers to provide 'respectful and successful' transitions out of the automotive manufacturing and supply chain companies that will close.
2. The proposed Longitudinal Study will have an international profile and significance. The closure of a whole industry, as with automotive manufacturing in Australia, is a rare event even globally. There is international interest in how Australian governments and the car manufacturing companies manage this industry closure, as the restructuring of businesses and industries is an increasingly common and ongoing feature of economies worldwide. The proposed Study can provide valuable insights that will inform future responses to industry restructuring in Australia and overseas.
3. There have been numerous studies in Australia and internationally over the years that have aimed to identify the impacts of business closures and in particular, the most effective interventions to manage and minimise the negative impacts on workers, their

families and local communities. These prior investigations include several studies on the restructuring of manufacturing since the 1980s (detailed in Section 4). However, the vast majority of these prior studies have focussed only on the short-term outcomes over one year to eighteen months, and occasionally over three years. They have revealed that any transition is a complex process that can take considerable time for many affected workers, their families and their communities. Little is known, across numerous types of industries in Australia and internationally, about these transitions and impacts over longer periods of time.

4. More specifically, there is currently no longer-term longitudinal study that can report on the full consequences over time of economic restructuring and business closure on automotive and supply chain workers, their families and communities. Prior studies with shorter time periods may not provide a sufficient observation window to understand the full impact of industry closure on workers, families and communities. It is possible that impacts may take a number of years to fully appear, as workers begin a journey whereby they might retrain, re-skill, move in and out of various jobs, and begin to face the full impact of the loss of social and financial and related supports. With observation and measurement over a longer time period, the proposed longitudinal study of automotive workers offers a more valid and comprehensive approach for detecting causal relationships between the key variables being measured.
5. The proposed longitudinal study is required as the findings from international studies may not be directly relevant to Australia. For instance, there are unique features in the nature of the Australian workforce, the job market, regional influences, and our social security system in Australia. We need to design and complete our own research to investigate how Australian factors – at national, state and regional levels - shape the outcomes of a high profile industry closure.
6. Multimillion dollar investments have been made by Australian governments, the automotive manufacturers and supply chain companies to support successful transitions from automotive jobs to other types of work. ‘For what overall return?’ is a question of national importance that the proposed Longitudinal Study can help address. The full economic, social, health and wellbeing impacts will take years to materialise. The proposed Longitudinal Study will help to capture reliable information and contribute to our understanding of overall costs compared to benefits of the numerous assistance programs (see Section 4).
7. The closure of car manufacturers has national impacts in terms of employment, consumer spending, value adding and research and development. In the 2014-15 financial year for instance, the motor vehicle and parts manufacturing sector supported over 40,000 jobs. The majority but not all of the jobs were full-time, and relatively high paying compared to other commensurate jobs across the Australian economy. Total wages and salaries paid out in the sector were close to $3 billion per year, providing households with financial stability and their regions with an important base of consumer spending. Total value-added by car manufacturing amounted to $3.7 billion. The industry also accounted for $3.1 billion worth of exports in 2015, constituting Australia’s second largest high-tech export sector. In addition, automotive manufacturing has contributed

significantly to Australia's innovation efforts. Finally, the full economic impact extends through a complex supply chain of Tier 1, 2 and 3 firms that feed the car assembly plants. These final business closures and readjustments will have negative ripple effects on jobs in many other sectors and regions of Australia (Stanford 2016; Spoehr 2015; The Allen Consulting Group 2013).

8. The South Australian Government has a major interest in understanding the full range of outcomes - economic, social, health and wellbeing - for automotive manufacturing and supply chain workers, their families and their communities in South Australia. The outcomes for workers may be less positive than in the past as these final closures are occurring where prevailing economic and labour market conditions are not as positive as when the initial shutdowns occurred with the closure of the car manufacturer Mitsubishi in South Australia in 2004-05. On the other hand, the outcomes may be more positive than in the past as a result of the numerous assistance programs put in place as a result of the early announcements of closure, and to best practice standards according to the evidence base (see Section 4). Also, the South Australian Government has a major interest in understanding the long-term outcomes at a national level from the investments by governments, car manufacturers and supply chain companies to support successful transitions of affected workers. As the closures are geographically concentrated in varying regions they provide an opportunity to compare and contrast impacts in various conditions. The Victorian Government shares these interests.
9. In addition, the proposed Longitudinal Study will provide a blueprint for use with other cohorts of displaced workers who experience restructuring in other industries and businesses in the future. It provides a tool to monitor future business or industry closures, providing data and insights that policy makers can use to revise and fine tune policy and assistance measures.

In summary, the case for the proposed Longitudinal Study of automotive and supply chain workers exists at three levels:

*Affected individual worker and family level*: The proposed Longitudinal Study is aligned with the values being promoted in the delivery of ongoing assistance to workers to ensure a 'respectful and successful' transition out of the automotive manufacturing industry. The Study can be designed to provide an ongoing source of monitoring, social connection and support for the workers and their families during this major transition.

*Policy level*: Recording the longer term impacts fills a gap in our knowledge and will inform policy responses to support individuals, their families and communities now and into the future. The findings will provide advice on areas for improvement and fine-tuning of support programs and other investments such as job searches, up-skilling and career and general counselling provided to workers and their families and the economic diversification strategies facilitated for their communities. It is a unique opportunity to investigate a rare event in the Australian community with the closure of a whole industry. Recording of the longer-term impacts will fill a gap and inform policy responses to support individuals, their families and communities to transition to other desired jobs/life positions in the future. The Study is

aligned with the motivations and aims of structural adjustment assistance programs to assist targeted individuals and their communities to cope with changes largely outside of their control.

*International knowledge level:* The proposed Longitudinal Study adds to a worldwide knowledge base into work and life transitions. The Study adds to an international literature around the broad set of factors that help successful transitions and what factors have less impact over the short and longer term.

## Proposed Longitudinal Study: immediate challenge and advice

The ideal time for the recruitment of participants for the proposed Longitudinal Study was at the time of the announcement of closures. The next alternative was soon after an announcement. However, the announcements came in stages. Ford announced in May 2013 that it would cease automotive manufacturing by October 2016; then Holden announced in December 2013 it would cease manufacturing by October 2017; followed by Toyota, in February 2014, announcing that it would cease manufacturing by late 2017. Given these stepped announcements, and for the purpose of defining the sampling frame (i.e. the total population of interest) a 'census date' of 1 March 2014 has been chosen, with all automotive sector workers employed at this time (and subsequently) forming the potential sampling frame.

To be as representative as possible, the proposed Longitudinal Study must initially achieve a large sample of automotive and supply chain workers who were employed in 2014. Also, the Study must be 'future proofed' by commencing with a large representative sample to cope with the attrition that will occur over time, despite the best efforts of any research team.

Recruitment of the sample is an urgent matter. Ford has closed and its transition program ceased at the end of April 2017. Holden and Toyota are to close fully in October 2017. Many Holden workers have left already in small batches. Some supply chain companies have already closed, and others will fold or downsize in the lead up to industry closure. Ideally, an exhaustive list of workers from all automotive manufacturing and supply chain companies as of March 2014 is required, including their names and current contact details, from which to sample and create a unique respondent identifier: date of birth, last name, company belonged to, date of exit (as relevant), exit circumstances (e.g. voluntary, retrenched), and other pertinent details.

Researchers interested in designing and budgeting the proposed Longitudinal Study will need to assume that there will be little difficulty in obtaining the names and contact details of workers from these companies and that the contact details will be up-to-date, especially for those that have already left the company, and including those who have moved location. Otherwise, the effort to establish an initial sample may be overwhelming.

The cooperation of automotive manufacturing and supply chain companies is paramount to the success of the proposed Longitudinal Study. The National (Automotive) Governance Committee, with high levels of cooperation among its members, will continue to be a major resource in working through solutions to the challenges of creating a full list of names and contact details of workers from all automotive and supply chain companies from March 2014 onwards, from which researchers can sample for the proposed Longitudinal Study.

There is good data available on the population of affected workers among the managers of the assistance programs for Ford, Holden and Toyota. Each has up to three year transition programs for all of their workers on which they have been collecting data. They are attempting to keep workers' contact details up to date (for details see Section 4).

The identification of workers in the supply chain firms is another matter. The transition programs of the governments of South Australia and Victoria and the Commonwealth (for details see Section 4) for eligible automotive supply chain workers include only the contact details for those workers who have selected to participate. The problem with using these lists of workers is the bias towards self-selection, as workers who are more likely to require additional assistance and support are more likely to access these transition programs. Supply chain company cooperation will be required to obtain comprehensive and accurate lists of all affected workers. The supply chain companies in Victoria and South Australia have already been identified, and their cooperation in this task can be sought.

As demonstrated, in order to obtain a sufficiently representative sample, there is significant work to be done to establish the full list of names and contact details of workers from all automotive and supply chain companies from March 2014 onwards. A 'Pre-work Project' may be necessary to reach out to automotive companies and supply chain firms to establish such a list. Also, it is imperative to contact all currently employed automotive manufacturing and supply chain workers to ascertain their interest in being part of the proposed Longitudinal Study before they leave their jobs as it will be more time consuming and very costly to do so once they leave.

Collation of the contact details of workers is not only an urgent issue, but also a sensitive one. In particular, many supply chain firms are reluctant to have their workers contacted as firms continue to fill their automotive contracts and diversify towards their survival. However, to establish these contact details, appropriate and sensitively conducted 'pre-work' could be done to contact to automotive manufacturing and supply chain firms, unions and case workers in the Transition and Outreach Centres who may be able to assist. If contact details of all workers from the census date cannot be obtained, then purposive sampling may be used where the researchers employ their own judgement based on the profile of workers as at March 2014 and to ensure the sample reflects as accurately as possible the entire affected worker population, with care taken so that the study findings are limited to the types of workers sampled.

This pre-work can also consider other options. One alternative is to use the same sample as the Australian Government initiated short term tracking study of automotive workers being undertaken by ACIL Allen and Wallis Consulting (see Section 4).) The sample in the ACIL Allen Study could be a foundation for the sample in the proposed Longitudinal Study. The proposed Longitudinal Study could build upon the data that is collected by the ACIL Allen Study. However, issues that will need to be investigated are the size and representativeness of the ACIL Allen Study sample, the benefits and costs of increasing or altering the sample, and the utility of broadening the core measures to meet the aims of the proposed Longitudinal Study.

## Proposed Longitudinal Study: coverage opportunities

There is a major opportunity to design and deliver a Longitudinal Study that samples workers from across Victoria and South Australia, and to consider this as a 'national study'. There are also small numbers of automotive supply chain workers in other States (e.g. New South Wales and Tasmania). However, compared to South Australia and Victoria, the number of affected workers is much smaller and their exclusion from the proposed longitudinal study is also suggested for logistical and cost reasons. The more dispersed the Study population, the greater the effort involved to fully engage and retain participants in the Study. As outlined in Section 3, sample engagement and retention are going to be especially challenging for the selected researchers.

If the proposed Study involved a multi-state sample of workers from across Victoria and South Australia, it would enable a comprehensive analysis and examination of the wide range of factors that might influence successful transitions of workers. As noted earlier, there have been multimillion dollar investments by automotive manufacturers, numerous Australian governments and automotive supply chain companies to support successful transitions from automotive jobs to other types of work. There are differences in the nature and timing of the closures that a national Study can and should explore.

There also are differences in transition programs offered by the three automotive manufacturing companies and by governments to supply chain workers. Also, there are differences between Victoria and South Australia in their policy responses and supports that could be compared according to their influences on workers' transitions (see Section 4).

In addition, there are regional influences at work that can be more fully understood in a multi-state Study. Employment in automotive manufacturing has been geographically concentrated. Differences in the economic and social contexts in which automotive manufacturing has been located could be studied for their impacts on worker transitions. For instance, a multi-state Study is more able to investigate a wider range of conditions around demand for labour (jobs); employment rates; the use of Australian and State Government services; and the 'ratchetting down' effect that can occur when ex-automotive workers take up job vacancies ahead of other workers who are less skilled. The Study could examine impacts in the context of a broad range of affected regions (e.g. Northern and Southern

Adelaide, Geelong, Altona, Broadmeadows) and the data analysed to prepare valuable comparative case studies of region-specific impacts and responses.

All of the above factors could be more fully investigated and tested for their value-adding potential through a multi-state Study.

A single state (in this case, South Australia) Study, where there is strong motivation and interest in supporting the proposed Longitudinal Study, is another option. A South Australian Longitudinal Study has the advantage of leveraging off the considerable ground work already done in bringing together the range of potential partners among the automotive companies, suppliers and local government bodies to plan and implement existing transition arrangements for workers in South Australia. The South Australian Government has a major interest though in understanding the long term outcomes at a broader level from the investments by governments, the automotive manufacturers and supply chain companies if there are others keen to support a Longitudinal Study that samples workers from across Victoria and South Australia.

# Section 3: Design brief for the proposed Longitudinal Study

This section provides the Design Brief for a proposed Longitudinal Study that is to monitor and report on the economic, social and health impacts of industry closure on a representative cohort of impacted Automotive Manufacturing and Supply Chain workers, and with some of these workers' partners also included, if funds are available.

The Longitudinal Study aims to achieve a gold standard through adhering to several features of successful high profile longitudinal cohort studies. It is to be a blueprint for ongoing use for monitoring other cohorts of workers affected by future industry restructuring.

The parameters for the proposed Longitudinal Study and on which advice is provided include:

- Research questions
- Duration and waves of data collection
- Sampling frame, sample and subsamples
- Sample engagement and retention
- Methods and possible data items to be collected
- Data matching and data linking opportunities
- Estimating costs and potential funding partners
- Governance.

Additional contextual information from a review of key literature to aid research teams to plan and design their proposals for a Longitudinal Study is provided in Section 4.

## A 'gold standard' Longitudinal Cohort Study: key requirements

The proposed Longitudinal Study must aspire to the standard set by other long-term cohort studies. It should adhere to the following key requirements:

1. Design a Longitudinal Study to address the question: "*What are the economic, social and health impacts of industry closure on a representative cohort of impacted Automotive Manufacturing and Supply Chain workers and what factors aid adjustment over time to lead to positive economic, social and psychological outcomes?"* Research teams should refine and add to this overarching research question, as appropriate.
2. Design a Longitudinal Study to collect data on a core set of labour market changes, factors influencing and respondents' views on these, and another set of data on social, health and wellbeing. Contextual or background factors are to be taken into account in data collection and analyses. The research team will need to explain a rationale for what data will be collected and at what time periods.

3. Design a Longitudinal Study that will employ a mixed methods approach, where different research methods are used to collect primarily quantitative data but also some qualitative data. Research teams seeking funding are best placed to determine what this mix of methods might be, and how the mix might vary over time, and with different types of respondents.
4. Design a Longitudinal Study that at a minimum will collect data from a cohort of automotive manufacturing and supply chain workers for at least 5 years. Any longer time period will be subject to ongoing discussions between the research team and the funders of the Study. Researchers must explore initial timeframes of 3, 6 and 12 months to complement existing short term impact studies of automotive worker transitions, and to make initial contact to engage with workers. Annual contact with respondents after this period will provide a suitable time to allow changes in the transition experiences but not too much time in case the levels of engagement with the sample of workers diminishes. Research teams are to identify the timeframes of their proposed data collections.
5. Obtain a sufficiently large initial sample to mitigate the attrition rates over time that will occur despite the best efforts of the research team. A full list of contact details of the target population (i.e. the sampling frame) should be made available to the research team, that is, all automotive manufacturing and supply chain workers employed at the 'census date' of 1 March 2014 and subsequently. This list should be of sufficient detail, currency and quality to allow the research team to determine a sample that is representative of the target population of workers. Research teams are to explain their proposed sample.
6. The individual worker is the primary unit of analysis and their transition over time is the major focus. However, a sub-study of a smaller representative sample of partners of the workers (i.e. a separate longitudinal partner cohort sub-study) is desirable to analyse spill-over consequences for family members. It is up to the research teams how they design and budget this parallel study of partners.
7. Involve substantial upfront contact with potential participants to promote their engagement with the aims and benefits of the Study. In addition, researchers may plan to incentivise participants. A high response rate from the cohort of workers in the first contact (phase 1) of data collection for the Study is critical. Research teams will need to identify how they will communicate to potential participants that their involvement in the Study will make a difference to their lives, and must allocate time and budget to allow face to face contact at least in the initial phase of data collection, while less face to face contact (including the use of computer assisted telephone interviewing) might be possible at later stages.
8. Establish close and trustful working relationships with automotive manufacturing and supply chain companies as each is concerned with the nature of any engagement with their workers by external parties. This includes establishing privacy and confidentiality protocols noting that sensitivity among the supply chain companies about their workers being approached stems in some cases from the fact that the future of their business is still unclear. To avoid worker survey fatigue it will be important for the Study research

team to work very closely, and in full co-operation with, the automotive companies in recruiting and surveying workers and gaining access to relevant databases.

9. Design and budget a range of administrative and follow-up checks that will allow contact to be maintained with respondents who might move residence or location as they seek alternative employment/life arrangements. Data collection methods with workers in the sample who have moved from the automotive regions will need to be considered carefully since face to face interviewing will be expensive.
10. Design data collection approaches to meet special background features of the sample. Any interview or survey questions must fully reflect the educational and cultural backgrounds of respondents. Given the multicultural nature of parts of this workforce, and possible lower levels of literacy in English, it will be important that methods of engagement allow for this. Engagement through face to face contact or by telephone may prove more fruitful than on-line or hard copy questionnaires, for example.
11. Provide a sufficiently rich set of research data that will enable multiple research questions to be answered by the Study and through related research. The major topic areas to be covered are: pertinent background characteristics of the respondents; their transition pathways; labour market experiences (including income, progression and satisfaction levels with various aspects of work); labour market disengagement; alternate lifestyles and financial supports; choosing and understanding training, developing new skills and transferable skills for alternative work; use of social networks; general health and wellbeing; and changes in workers' family life, marriages and community engagement.
12. Position the Study to add value to existing shorter term impact studies currently underway (see Section 4). The proposed longer term Study might overlap and build upon the knowledge that is emerging from these studies (e.g. transitions to other work, use of support services). Also it can take the opportunity to explore less understood areas of worker transition, such as supply chain workers' transitions that have not really been a large focus to date; understanding more about the emotional and grieving side of job loss and the required change process; interviewing others affected about the impacts including the partners of workers; and investigating regional impacts through administrative and other data sets on how affected regions track over time around demand for labour, employment rates, housing prices, use of Government services, and community health and wellbeing.
13. Make the data collected through the Study available to approved researchers from government, academic institutions, non-profit organisations and the public. Researchers will need to explain how they will make the different waves of data available.
14. Include the investigation of the potential for data linking and data matching to support the Longitudinal Study. The advantages to the Study include enabling researchers to access various sets of data (e.g. required background information, more sensitive de-identified data) without having to ask participants and so saving time; and yielding potential cost savings. These expanded data sets can create opportunities for investigating more complex research questions and relationships between key research variables.
15. Include study design options at various levels of funding.

16. Have governance arrangements that promote accountability, transparency, responsiveness, inclusiveness, effectiveness and efficiency, participation and accessibility, as explained in the advice below.

## Research questions

The overarching research question is:

> *"What are the economic, social and health impacts of industry closure on a representative cohort of impacted Automotive Manufacturing and Supply Chain workers and what factors aid adjustment over time to lead to positive economic, social and psychological outcomes?"*

There are multiple research questions to be addressed within this broad question, given the complex and long-term nature of any major life transition. Related sub-questions might include: Q1. What is the range of pathways and strategies that workers adopt after losing their automotive jobs as they seek alternative work? Q2. What factors predict more positive outcomes for workers around their economic, social, health and emotional wellbeing over time? Q3. What are the differences in the adjustment experiences of workers who leave the industry and those who stay employed in the industry? Q4. What is the role of regional factors in explaining worker adjustments?

Research teams should refine and add to the overarching research question, as appropriate, and depending upon their focus and the priorities of the funding body(s).

## Duration and waves of data collection

The "automotive workers' journeys" are to be followed over at least five years to understand more fully the transition experience over time. A mixed methods approach is to be taken with a focus primarily on quantitative data collection for at least five waves, with at least one point of data collection each year. This will provide time for data collection set up, gathering and analysis and reflection/presentation. This annual collection of data will also provide sufficient time for workers to have a range of experiences between waves, while at least annual contact is required to maintain engagement with participants. A set of initial short term (3, 6 and 12 month) data collection contacts is also recommended to maximise initial engagement with workers. These quantitative data should be supplemented by qualitative data to aid interpretation of the quantitative findings, and also by secondary data on the locational contexts of the workers. The mode of primary data collection must create a strong connection between participants and the research team. Prospective research teams must detail their planned methods.

## Sampling frame, sample and sub-samples

The proposed Longitudinal Study is a *cohort study*. As such, the research team will target a population that has experienced a certain event in a given period, and track those individuals within the population over a number of years. This tracking aims to determine the ups and downs that occur as a result of a major life changing event, and reflect the reality that transitions take time.

### The sampling frame

The most straightforward type of sampling frame is a list of the entire population with accurate contact information. The sampling frame for the Longitudinal Study is all automotive workers in the selected jurisdiction(s) as at 1 March 2014 (and who joined after that date) and, as a result, are affected by the closure of Australia's car manufacturing industry. The Study target population includes two key sub-cohorts of workers (manufacturing and supply chain) and across two states (South Australia and Victoria).

Estimated sizes of the target population that research teams can use for planning a sample(s) based on published numbers are:

a) As at 2011, based on ABS 2011 Census of Population and Housing (SA Centre for Economic Studies (2013)

| **Sampling frame Cohort** | **South Australian workers** | **Victorian workers** | **Total workers** |
|---|---|---|---|
| **Vehicle manufacturing** | 3,100 | 12,200 | 15,300 |
| **Supply chain** | 2,800 | 9,000 | 11,800 |
| **Total car industry** | 5,900 | 21,200 | 27,100 |

b) As at 2013, as recorded in Productivity Commission *Australia's Automotive Manufacturing Industry Inquiry* report 26 August 2014:

| **Sampling frame Cohort** | **South Australian workers** | **Victorian workers** | **Total workers** |
|---|---|---|---|
| Vehicle manufacturing | Holden1760 | Ford 3250 (including 1100 in design and development<br>Holden-1900<br>Toyota 4400 comprised of 2500 manufacturing employees and 1900 in supporting activities across Melbourne and Sydney | 11,310 |
| NB Directly affected car company workers to lose their jobs are about 1600 employees in South Australia and 5000 employees in Victoria, noting that the Ford and Toyota given job losses only relate to manufacturing employees, so a greater number of retrenchments could occur if there are also reductions in design and engineering, head office, sales and marketing positions at these two firms. | | | |
| Supply chain | An estimated additional total of 40 000 may lose their jobs as a result of the closure of the motor vehicle manufacturing plants and the rationalisation of firms in the supply chain. | | |

Section 4 includes additional data, however it is clear from the numbers above that there is considerable work to be done to establish the full target population.

**The sample**

The sample of workers will need to be designed to be as representative as possible of the entire population of workers from all automotive manufacturing and supply chain companies as at March 2014 (and those who have joined the industry since), including those who are laid off, those who leave of their own volition and those who remain employed with the companies. The sample recruited will need to be retained as much as possible for at least five years using design features and fieldwork procedures that will maximise retention. The use of positive engagement and retention strategies will be crucial to aid participant commitment to the Study over the longer term and minimise attrition rates. Any longer time period will be subject to ongoing discussions between the research team and the funders of the Study.

**Sub-samples**

Based on the findings of past research (see Section 4), sub-cohorts of workers of interest that would be required to be in sufficient numbers in the overall sample data to enable meaningful analyses might include:

- early leavers as well as late leavers and non-leavers (and not just those involved in transition programs)
- production workers and other white collar and professional workers
- supply chain workers from companies with large percentages of their work linked to the automotive industry as well as smaller percentages
- male and female workers
- younger and older workers
- workers from location/regions impacted
- home owners and non-home owners
- workers unwilling or unable to relocate (because of their age, children's schooling, housing prices etc.).

**A parallel longitudinal cohort study of partners**

Prior research of firm and industry closures (see Section 4) has given little attention to the views and experiences of the partners of retrenched workers. A smaller sub-sample of partners of the workers should be tracked over time, including if they move out of the household. The focus here is on investigating the impacts of automotive workers' job loss on family routines; the need for partners to seek work or additional work outside of the home; the role partners play as social supports; and perceived impacts upon family relationships. There is also an opportunity for the research team to design questions that mirror those

asked of the worker to explore the similarities and differences in the perceptions of partners. Again, the research team, based upon their expertise and experience, can develop the research questions to be investigated in this related parallel study with partners, and determine the proposed size and composition of a sample of partners, together with the research questions and methods.

## Sample engagement and retention

The Longitudinal Study team must build contacts, trust and positive relationships with participants. The team must employ design features and fieldwork procedures that will maximise sample retention and, since some non-response is unavoidable, deliver as much information as possible about non-respondents to assist data analysts to make inferences in the presence of missing data.

Regarding the mode of data collection, key informants to the Scoping Study emphasised the use of face to face interviews, at least initially, as being critical to connect with the participants. Face to face techniques are linked to gaining more commitment to the project in the longer term, while the use of experienced interviewers to conduct these interviews is seen to be critical in building rapport. However, home visits and interviews may not always be possible due to the locational spread of the participants in the sample. Also, face to face interviews may be too costly unless the sample is clustered. Technology solutions (such as Face Time) may be appropriate.

The research team, based on their experience, will need to explain how they might choose to mix face to face with other methods where the sample varies between locations with heavily concentrated groups of workers (that suit the use of face to face interviews), and locations with much lower densities.

High levels of engagement may be gained if affected workers feel they are part of a community of ‘like-minded’ people who are sharing their experiences. The Longitudinal Study will provide workers and their families with opportunities to connect regularly with the research team. The research team needs to describe how they will report their findings back to participants and other key stakeholders over time. It is also possible the research team will prove to be a resource to workers, providing additional information and connections to services. The research team needs to explain how they might provide this role, while not biasing their data collection efforts.

As noted above, the use of skilled and experienced interviewers is essential. They produce better outcomes for initial engagement, commitment and lower attrition over time. For instance, a major finding of Australia’s Household, Income and Labour Dynamics in Australia (HILDA) survey is that a respondent’s perception of the interview experience is the single most important influence on cooperation in future survey waves.

In addition, support for the use of face to face methods with automotive workers exists in the good response rates and ongoing levels of commitment being shown by participants in the ACIL Allen Study. Some 98% of automotive participants who were initially contacted for face to face interviews agreed to participate in a second round of interviews. This response rate is not surprising given employer support, as well as support from unions. On the other hand, Barnes's study (2016) (see Section 4), conducted independent of employers and with access to responses limited by *Privacy Act* considerations, gained a 6% response rate to a mailed self-completion questionnaire sent anonymously to automotive (union affiliated) workers, although this was still able to yield sufficient participants (n = 428) for a statistically representative sample.

Research teams will draw upon their existing networks of trained interviewers and survey firms or could use external sources of skilled interviewers of high repute, who are accredited with relevant industry bodies.

Once rapport is established, computer assisted telephone interviewing (CATI) might be used by a research team to reduce costs in later waves of data collection. As another guide to the utility of CATI, the ABS Labour Force Survey that includes households every month for eight consecutive months is very successfully capturing data using CATI. The existing ACIL Allen surveys of automotive workers (see Section 4) are also making use of CATI.

Online surveying down the track for those who prefer this mode of response is a possibility, particularly with white collar workers. However, experts consulted note that response rates to online surveys are often low, typically lower than postal surveys, in the order of 30 to 40%.

Another option is the use of survey forms or questionnaires that are distributed in the household at the time of the face to face interview. These might be able to be completed while the interviewer is in the household. However, when the survey is completed after the interview, the interviewers will need to make at least one additional visit to pick these up, and this visit will need to be budgeted.

The survey team may wish to consider the use of financial incentives to boost retention rates. For example, the ACIL Allen study of automotive workers is offering shopping vouchers. However, it is reported that this incentive is not a major motivator for participation. The households in the HILDA survey are paid, with the higher amount paid when interviews are completed with all in-scope household members. Again, the prior experiences of the research team are expected to guide a response about the use or not (and type) of financial incentives. The research team will also need to comment upon the potential use of non-financial incentives that they have successfully used in the past.

Finally, from prior and existing studies of automotive workers (see Section 4) the following points may be of value to the planning of engagement and retention of participants by a research team:

- A good participant recruitment program is critical with appropriately worded approach letters, newsletters and materials tailored to respondents to emphasise the importance of their involvement in the program.
- Appropriate and timely feedback from the Study's findings that is of interest to the cohort.
- There has been prior success in contacting participants using text messaging, apps and other social media (e.g. Facebook); and to stay in contact with them using these methods.
- Tracking of workers between data collection points can be time consuming, but is highly critical. Key information to locate workers must be available. Prior longitudinal cohort studies have used up to four contact points, including work, home and mobile numbers, email addresses, and contact details of relatives or friends. How successful research teams are at obtaining this information is potentially very important to minimise subsequent attrition.
- Any information about job opportunities or links to potential employers promotes worker engagement in a study.

The research team is expected to draw upon their expertise, experience and track record to propose how they plan to 'future proof' the study, by engaging with participants and collecting the required data over time in ways that maximise response rates and minimise attrition rates.

**Attrition rates**

The research team needs to explain how attrition rates will be measured and reported. As a guide, many longitudinal cohort studies find, even after just a few waves of data collection, that relatively large proportions of the responding sample from the initial wave are no longer participating. As reported below, this has certainly been the case for many of the world's leading household panel surveys:

- After eight years of interviewing, the German Socio-Economic Panel (GSOEP), which commenced in 1984, and the British Household Panel Survey (BHPS), which commenced in 1991, both reported the loss of about 34% of their original sample.
- Relatively high rates of sample loss in the European Community Household Panel (ECHP), a multi-country study conducted over the period 1994 to 2001. For example, five-year retention rates varied from a high of 82% in Portugal to a low of 57% in Ireland (after excluding deaths and other movements out-of-scope).
- Finally, Australia's HILDA survey: some 10,565 or 76% of persons initially interviewed in Wave 1 were re-interviewed in Wave 4. The wave-on-wave attrition rates for Waves 2, 3 and 4 were 13.2, 9.6 and 8.4%, respectively.

As noted previously, a primary concern in this Longitudinal Study is not simply to maximise responses in the first wave of the survey, but also to maximise sample retention across all subsequent waves. In designing the sampling and research methods the research team will need to recognise these challenges, and apply assertive efforts to maximise the response

rate in Wave 1. A failure to engage the sample at Wave 1 will result in a lower than otherwise retention rate in subsequent waves. Also, a strategy for non-responses will need to be identified by the research team.

As there can be systematic differences between those who drop out of the Study and those who continue, 'drop-out' analyses will need to be planned and explained. The research team will need to show how they will monitor and respond to this issue. Also, the research team will need to plan and budget for a tracking exercise over the 12 months after each wave to maintain contact and update information about the whereabouts and basic socio-demographic circumstances of those in the sample.

## Methods and data items to be collected

The proposed Longitudinal Study will provide a rich research data set that will enable multiple research questions to be answered. A mixed methods approach is to be taken with a focus primarily on quantitative data collection for at least five waves, with at least one point of data collection each year. These data should be supplemented by qualitative data to aid interpretation of the quantitative findings and also by secondary data on the locational contexts of the workers.

The major topic areas to be covered by the proposed Longitudinal Study are: transition pathways; labour market experiences (including income and progression and satisfaction levels with various aspects of work); labour market disengagement; alternative lifestyles and financial supports; choosing and understanding training, developing skills for alternative work; use of social networks; general health and wellbeing; and changes in worker and family home and personal lives.

Additional advice given by key informants on the categories and specific items that might be measured is listed below. Again, research teams will have their own preferences, but this information is provided as a possible guide. It is expected that these 'categories' will be well-represented in the Study, while the choice of individual items will be determined by numerous factors (e.g. the research questions, required background data for tracking and data analysis, a desire to link to other data sets by asking identical questions etc).

Background characteristics of workers: age, gender, marital status, English as a second language, location, union membership, type of automotive employer (supplier versus manufacturer), region in which worked for automotive employer, qualifications/educational level/skill level, automotive job type, time to travel to work, when left automotive employer, current home ownership (or mortgage) or renting, depth of social networks (family and friendship ties), and various financial variables (e.g. remuneration when working, size of redundancy payout, employment status and remuneration of their partner and spending habits).

Preferred methods of contact over time: Residential address including post code, mobile phone, email, contact who would know where they have moved to.

Labour force data: if employed – job history since redundancy or leaving voluntarily or ongoing if retained; when and where new employment was found; current employment total number of jobs and industry; average hours of work per week; whether seeking more hours; self-employed or employee; type of employee including full time, part-time, casual; how many jobs held in total since exit; how many employers in total since exit; changes in household income, and changes in spending habits.

If unemployed: intended occupation; weeks since last job; how many jobs in total since exit; whether registered with jobactive; other jobs services provider, outplacement firm assistance engaged with; methods of job search; number of job applications submitted and interviews attended since exit; household income (pre and post exit); and changes in spending habits.

If not in the labour force: how many jobs in total since exit; current main activity (retired/study/voluntary work/temporary break from work/holiday, household duties/caring responsibilities); household income and changes in spending habits.

Quality of work indicators: workers' perceptions of current employment quality, the principles of work with dignity (e.g. measures of skills and career progression), and freedom from discrimination.

Access to training and upskilling: use of vocational education and training organisations to upskill and/or obtain Recognition of Prior Learning; type of training; when and where training was accessed; experiences around possible transferability of skills; design and coordination of the training (e.g. age-inclusive training, highly experiential, practical, fills gaps in existing knowledge and skills); and provision of foundation skills training in core skills (learning, reading, writing, oral communication and numeracy), employability skills and digital literacy skills, and use of higher education to upskill to obtain a job.

Quality of life indicators: Health and wellbeing: pre-existing injury/other health issues, feelings of anger, loss and grief (measures of anxiety, depression, psychological wellbeing, social isolation); reported psychosocial health problems (e.g. poor sleep, loss of motivation, injury proneness); sense of self-esteem and social identity.

Social capital: perceived connections and support from partner, family, friends and the community; access to services like transition and employment assistance, community development and housing assistance.

The research team might consider the value in using existing banks of questions from other surveys. These questions are pre-tested, valid and reliable and might allow comparisons with other data sets. Examples include:

- Measures used in other similar Australian shorter-term studies (see Section 4) and international studies. A key international example is the study on the closure of the MG Rover plant at Longbridge in April 2005, with around 6,300 workers losing their jobs

when MG Rover went into administration, with several thousand also affected in the supply chain (Bailey et al 2008: https://core.ac.uk/download/pdf/30618896.pdf)

- UniSA Centre for Life and Work has an Australian Work and Life Index (AWALI) used in a national study of work and life outcomes. http://www.unisa.edu.au/Research/Centre-for-Work-Life/Our-research/Current-Research/Australian-Work-And-Life-Index/
- HILDA surveys that have many items that ask about employment and labour force; see http://melbourneinstitute.unimelb.edu.au/__data/assets/pdf_file/0007/2194342/HILDA_User_Manual_Release_15.0.pdf
- ABS Labour Force Survey; see www.abs.gov.au/ausstats/abs@.nsf/exnote/6202.0
- Australian Institute of Employment Rights that promotes the principle of work with dignity and includes measures of skills and career progression and freedom from discrimination indicators (see their 2015 Submission to Productivity Commission inquiry: The performance of the workplace relations framework) and that are in line with the International Labour Organisation's (ILO) concept of 'decent work' (International Labour Organisation, 2008).
- ABS National Health Survey; see www.abs.gov.au/ausstats/abs@.nsf/mf/4364.0.55.001
- Kessler Psychological Distress Scale, a 10-item self-report questionnaire about anxiety and depressive symptoms intended to measure distress that a person has experienced in the most recent four week period: see: https://health.adelaide.edu.au/pros/docs/reports/br200214_k10.pdf
- The Wellbeing and Resilience Centre of SAHMRI offers a purpose built wellbeing and resilience assessment tracking tool that assesses changes in wellbeing and resilience over time https://www.wellbeingsurveys.com/
- The Longitudinal Survey of Australian Youth (LSAY) has labour force measures, training, upskilling and soft skills measures, and uses a version of the Kessler Psychological distress instrument for health and wellbeing. It asks a general health question and a series of life satisfaction questions; see example questionnaire at https://www.lsay.edu.au/publications/search-for-lsay-publications/2869

## Study data availability

The primary data generated by the Longitudinal Study is to be made available to others towards answering additional questions for research purposes. For instance, data might be made available through an application process. It should involve agreeing to strict conditions of use and signing a deed of licence.

An example of an application process, conditions and forms around accessing data from a longitudinal cohort study includes the Building a New Life in Australia: The Longitudinal Study of Humanitarian Migrants (BNLA). Data in the study is made available through application via the Department of Social Services website (https://www.dss.gov.au/our-responsibilities/families-and-children/programmes-services/access-to-dss-longitudinal-datasets. Another example is the Organisational Licensing arrangements and Individual

Licensing arrangements for access to HILDA datasets.
http://melbourneinstitute.unimelb.edu.au/hilda/for-data-users/ordering-hilda-survey-data

Researchers will need to explain how they will make the different waves of data available to approved researchers from government, academic institutions, non-profit organisations and the general public.

## Opportunities for data matching and linking

The feasibility of data matching and data linking to supplement the collected primary data is to be explored through the Study. Consent from workers and any partners involved in the Longitudinal Study may be required depending on the circumstances. Consent procedures would best be included into the Longitudinal Study design. At the Australian Government level, there is advice about governance arrangements on data matching and sharing. See https://statistical-data-integration.govspace.gov.au.

### Data matching

The research team should investigate the possibility of data matching at different stages of the Study. The opportunities for data matching would involve, for instance, bringing together different data sets that contain personal information, with the intention of producing a match using shared personal data to increase the factors that can be explored and without burdening the participant workers with more in depth surveying.

The Australian Tax Office (ATO) is very supportive of sharing its new Australian Longitudinal Income File to be launched later in 2017 on the SECURE host site. While not yet fully determined, the final sample could include 1.4 million tax-payers (i.e. 10% of all Australian tax payers) in the Longitudinal Income File. This file will bring together all information reported in an individual tax return, HECS-HELP data, and related data from 2000 to 2013. It is planned that the 2014 data set will be added in 2018, the 2015 data set in 2019 and so on. All data shown in the File will be de-identified. The inclusion of industry codes, post codes and information on redundancy packages would provide valuable information for the proposed Longitudinal Study.

The research team should also investigate, during the life of the Study, the potential for data matching using other well-known data sets that might include:

- Centrelink data
- The Survey of Income and Housing, Labour Force Survey, see: http://www.abs.gov.au/Ausstats/abs@.nsf/exnote/6202.0
- The ABS Labour Mobility Survey
- Other ABS census data (Australian Census Longitudinal Data Set, see: http://www.abs.gov.au/ausstats/abs@.nsf/mf/2080.0

However, there are a number of challenges around any opportunities for data matching that a research team must consider. These include the time involved in arranging and getting

sponsorship of any data matching and the likelihood that the matches will be for a de-identified group of workers rather than one-on-one matching.

The advice is that it is best to give the data set generated by the Longitudinal Study to the relevant government agency and let them data match. Depending on the level of interest by Commonwealth or State agencies, there may be costs that the research team will need to include in the funding application.

## Data linking

Data linking provides a research team with the opportunity to bring together information from different sources in order to create a new and richer data set. Data linking brings together information from more than one source that relates to the same individual or institution. The records in the resulting linked data set contain some data from each of the source data sets about the individual or institution. The research team will need to have the capacity and expertise to undertake the linking.

The most obvious data sets for data linking for the proposed Longitudinal Study are the Human Resources (HR) records of the automotive sector employers involved. Access to HR records from Ford, Holden and Toyota and the supply chain companies involved will need to be negotiated.

A number of other possible data sets for linking are held by Australian Government agencies. Under the Australian Government arrangements, an integrating authority is responsible for managing the linking and merging of these. The authority's guide on the process of finding and determining links between individual records across different data sets might be useful. See https://statistical-data-integration.govspace.gov.au/project-delivery/linking-and-merging-of-data .

The ABS reports that all data linking undertaken to date has been processed internally using de-identified data. A researcher can also set up an "in-posting" arrangement, where they are located at the ABS and investigate data sets under supervision. A research team will need a government sponsor as part of this arrangement.

The ABS employer-employee data set (LEED) is also potentially relevant to the Longitudinal Study. Linked LEEDs have been used to study labour productivity, firm profitability, job creation, wage determination, and the effects of policies and business practices on employees and firms. LEEDs combines information about employees, their jobs and their employers in a consistent framework. A research team could separate effects associated with employees from those associated with employers. However, currently the LEED employee-employer data set is only available for 2011-12, and contains few variables, which limits its current use by researchers. See, www.abs.gov.au/ausstats/abs@.nsf/Lookup/6311.0main+features12011-12

Researchers will need to work within the ABS's strict rules about data access and privacy, including gaining consent from participants if data is going to be linked. Research teams will

also need to gain consent from the data custodians and relevant human ethics committees for any linking.

The data custodians, and particularly the ABS and ATO, may undertake the data linking without cost if it aligns with their strategic priorities. The ABS and ATO have informally shown interest in the proposed Longitudinal Study. Otherwise there is a possible cost in doing data linking, with a research team paying the ABS or other bodies. Research teams should exclude data linking costs from their costs estimate for the proposed Longitudinal Study as at this time they are unknown.

Explored data matching and linking opportunities are to be reported on annually and the costs of feasible and desirable exercises presented for consideration by the Longitudinal Study Governance Body.

## Estimating costs

It is accepted that the costs of any longitudinal study are high. Key factors affecting costs are the need to: engage well with the sample, requiring a high degree of face-to-face contact at least initially; the use of highly skilled and experienced interviewers to gain rapport and commitment and to minimise attrition; collecting data over numerous points in time; and staying in contact with participants by regular checking and tracking of their movements and locations. Then there is analysis of the data and optimising the presentation and dissemination of data and findings and making the primary data sets accessible for use by approved others and managing the process this involves. There will also be the cost of exploring data matching and data linking

To guide potential funding proposals, the following information is provided about costs as reported in the public domain for other longitudinal studies:

- $9m approximately per year for the HILDA study, see: http://melbourneinstitute.unimelb.edu.au/hilda
- Estimate of $10m over several years for the Australian Longitudinal Study on Women's Health. See: http://www.alswh.org.au/about/about-the-study
- Numerous longitudinal studies under $1 million in total, over 3-5 years, supported by various funding schemes managed by the Australian Research Council (ARC):
    - a longitudinal study of 3 years duration into the psychosocial adaptation of refugees, funded as an ARC Linkage Project for a total of $600,000; a longitudinal study into the development of personal vulnerabilities and wellbeing in adolescence, funded as an ARC Future Fellowship for a total of $740,000; Transition to Adulthood in Greater Jakarta: A Longitudinal Perspective that interviewed 3,000 young adult Indonesians at two points in time, funded by an ARC Discovery Grant for a total of $350,000; and a large-scale survey study with in-depth qualitative interviewing that tracked stability and change in the values, aspirations, health and wellbeing of a cohort of young people who were first surveyed as secondary school students a decade earlier, funded by an ARC

Discovery Grant over 4 years for a total of $650,000. For more details see http://www.arc.gov.au/grants-dataset and search under “longitudinal”

- another example involving ARC and a mix of different funding sources is the Beer and Associates study (Beer et al. 2016) of the plant closures in South Australia of Mitsubishi Motors Australia Limited. Stage 1, supported by the South Australian Department of Health, and the Department of Families and Communities, through the Human Services Research and Innovation Program (HSRIP) ($176,892). Stages 2 and 3, supported by an Australian Research Council (ARC) Linkage Program grant ($308,558 over 2006 to 2010), with the Department of Housing (DOH) serving as the Industry Partner (and a further $273,208 from the Department of Health).

- Under $500,000: current ARC Discovery Early Research Award (DECRA) project on charting overtime work, life and wellbeing after the closure of the Australian automotive industry in Melbourne and Geelong funded over 3 years at $350,000. This ongoing study by Barnes and associates also has in-kind support from three trade unions: the Australian Manufacturing Workers Union (AMWU), the Electrical Trades Union (ETU) and the National Union of Workers (NTU): See: https://rms.arc.gov.au/RMS/Report/Download/Report/d6b15b2b-3a50-4021-8e6f-6c7ef1cba553/0.

However, there are provisos for research teams to be aware of when using the examples cited above for costing, budgeting and designing this project. For instance:

- The HILDA study is an indefinite life study that follows the lives of more than 17,000 Australians each year. Participants are followed over the course of their lifetime.
- The Australian Longitudinal Study on Women's Health is a longitudinal cohort survey of over 58,000 women in three cohorts who were aged 18-23, 45-50 and 70-75 when surveys began in 1996. It is mostly a mail out survey with no personal contact with respondents due to confidentiality.
- The various ARC funded longitudinal projects include some that are surveys only, or may combine survey and interviews, with only 2 or 3 years of actual tracking due to the ARC funding window.

In short, it is not possible to provide definitive cost guidelines for the proposed Longitudinal Study of automotive manufacturing and supply chain workers. Experienced researchers consulted in preparing this Brief have made initial estimates of $1 to $2 million dollars annually to conduct a successful longitudinal study of the Study’s proposed size and scope.

Three budget options are presented here:

1. A Longitudinal Cohort Study that has an annual budget of $500,000 as a maximum annually and is highly focused on fundamental labour market, health and wellbeing indicators for affected workers;

2. A Longitudinal Cohort Study that has a budget of $500,000 to a maximum of $1 million annually and features a parallel longitudinal cohort study of partners and perhaps and an expanded set of labour market, health and wellbeing indicators for workers; and
3. A Longitudinal Cohort Study that has a budget of $1 million to $1.5 million annually and features automotive workers and partners and with a fulsome range of labour market, health and wellbeing indicators for each and/or other specialty areas of research.

Key issues that will need to be factored into the annual budgets by the research team must include the following:

- The proposed budget(s) must give an accurate assessment of all cost items and amounts that are deemed necessary and reasonable. They should be complete and include the costs of any personnel, supplies, and activities required to implement the project and achieve stated outputs and outcomes. The project and research design must be feasible within the budget presented, with a description of each item. A budget over 5 years must be presented.
- All direct costs need to be included such as expenditures for project personnel salaries; interviewer salaries; research assistance; possible payment of participants; participant engagement, tracking and retention methods; supplies; travel; equipment; and communication (Study web site, emails, telephones, and postage).
- All indirect costs of the research need to be included in the budget including any costs that cannot be directly attributed to a project, such as costs incurred by a university (library, IT, human resources, finance, insurance and legal, security, space and infrastructure, major items of research equipment or specialist infrastructure).
- A cost for pursuing data matching and linking opportunities as outlined in a previous section and reporting annually on the findings should also be considered and may bein addition to the grant proposal funding.

## Potential funding sources and partners

Each of the automotive manufacturing companies has set aside substantial funds for the purpose of worker transitions. They report having some residual funds that might be invested in the Study.

Supply chain firms are recipients of government funds to support diversification and worker transition. They should also be approached about the opportunity to be funding partners.

Australian and State Governments have allocated substantial funds to the transition programs for automotive supply chain workers. Again, the use of these or similar funds to support the Study should be investigated. Local governments in the most affected areas should also be approached.

In addition, there is possible support funding from the relevant unions and through the research team seeking research grants.

A research team that has an established track record can seek to win Australian Government research funds. These research grants include:

- Australian Research Council (ARC) Linkage Grants that can be for 5 years, but typically funding is for 3-year grants. Applications can be submitted at any time during the year
- National Health and Medical Research Council (NHMRC) competitive funding grants that are for five years
- Australian Academy of Science research funding that is exclusively for Fellows of the Academy and for quality projects of national significance.

These and other research grant sources all require industry partners. A mix of funding sources is most likely. The research team and other potential funding partners or organisations may explore this jointly.

## Governance arrangements

Experienced research teams will have a track record in how they have established and managed the governance and regular reporting of projects they have undertaken. Appropriate governance arrangements for the Longitudinal Study will need to take into account any collaborators and include the scale and jurisdictional coverage of the study (e.g. national or South Australian in scope).

Sound governance arrangements in large research projects typically include the following:

- Overall advisory or steering group
- Data development reference group
- Survey administration team
- Interviewer team
- Data analysis and reporting team
- Data management and providing access to others team
- Overall study co-ordination and management and performance reporting team.

The most appropriate governance structure is dependent on the funding source. For example, it is possible that the Study might be funded in part by an ARC Linkage Grant or by a grant from the NHMRC. Both bodies have clear guidelines around the required governance frameworks. Further, a partnership between the South Australian and Victorian governments to fund the longitudinal survey would have other arrangements that need to be explored.

Governance and reporting structures will necessarily vary depending on the funding sources being pursued. It is expected that any governance arrangement set up for the Study will promote the following:

- Accountability: with obligations to report, explain and be answerable for the decisions made.

- Transparency: researchers and funders will be able to clearly see how and why a decision was made about the Study.
- Responsiveness: information about the Study will be provided in a timely, appropriate and responsive manner.
- Inclusiveness: all groups, particularly the targets of the Study (i.e. impacted workers), should have opportunities to participate in the process.
- Effectiveness and efficiency: the Study will follow processes that make best use of the available people, resources and time to ensure the best possible results.
- Participation: anyone affected by or interested in decisions that might emerge from the Study should be provided with information, asked their opinion, given the opportunity to make recommendations or, in some cases, be part of the actual decision-making process.
- Accessibility: the data generated by the Study will be made available for others to use within eligibility criteria and process guidelines.

The research team must describe their preferred governance structure for the conduct of this Longitudinal Study. The research team can offer a range of models based on past experience that will provide appropriate governance and reporting structures over the length of the Study to be aligned with the funding sources being pursued.

Further information is also provided in Section 4.

# Section 4: Further contextual information

To assist prospective research teams and funding partners in scoping the Longitudinal Study of Automotive Manufacturing and Supply Chain Workers, this section contains a brief summary of selected past research. It identifies the impacts of business and industry closures on affected workers and the interventions used to assist them, their families and their communities.

## Past research on business and industry closures

### Introduction

Restructuring of businesses and industries is a common and ongoing feature of economies everywhere, with business closures due to restructuring being a more common occurrence than closures of entire industries. Across different countries, the displacement of workers due to closures is linked to either market based factors (e.g. changes in technology and consumer tastes) or policy changes (e.g. tariff reductions, deregulation) or a combination of these factors, see Murtough et al. 1998. Economic restructuring is an inescapable feature of contemporary societies as globalisation, shifts in competitive and comparative advantage and the emergence of new, and often disruptive technologies, results in the decline of some industries or closure of enterprises within a still prosperous sector (Porter, 1990).

There have been numerous studies over the years aimed at identifying the impacts of business and industry closures on individuals and their communities and the most effective interventions to manage and minimise negative impacts. To assist research teams, we initially provide an overview of the findings from these studies of affected workers, with a focus on outcomes associated with restructuring of the manufacturing industry. The interventions that constitute a best practice approach and aid more positive outcomes for workers are identified in the second section. The third section outlines the transition programs and short term tracking studies in place for automotive workers.

### Outcomes experienced by workers from economic restructuring

#### *Workers' job outcomes*

Australia has witnessed the closure of car manufacturing plants previously, with Renault in 1981, Nissan in 1992 and Mitsubishi Motors Australia Limited (MMAL) in 2004 (Bradley, 2015). A research team from Flinders University (Beer et al., 2006; Beer & Thomas, 2008; Verity & Jolley, 2008) has studied the impacts of the closure of the MMAL plant in Southern Adelaide. The various reports are particularly informative about labour market impacts post-redundancy, as well as health impacts on workers and their families (discussed in a later section).

The context for the Beer et al. studies is that Mitsubishi announced a need to shed jobs in early May 2004. Closing the engine assembly plant caused the loss of 700 jobs and a further 400 job losses occurred through voluntary redundancy at the vehicle assembly plant. Some contract staff left at the end of June 2004 and progressive departures occurred from both sites on an on-going basis throughout 2005. Beer et al. (2006) tracked around 300 displaced Mitsubishi workers. They report that while at Mitsubishi all respondents were employed on a permanent full-time basis. However, 12 months post-redundancy only 34% of displaced Mitsubishi workers were in full-time work. Over 20% of respondents were in casual or part-time employment, and some 69% of those in casual employment reported that they would rather be working full-time.

Many respondents struggled to find full-time employment and had to settle for casual or part-time contract positions. The difficulty these displaced workers faced in finding new employment is illustrated through the fact that 66% of respondents reported that they were unemployed at some stage during the 12 months since leaving Mitsubishi. Significantly, over 30% of respondents were not participating in the workforce 12 months post-redundancy. The fact that many workers had withdrawn from the labour market hid the true extent of unemployment and under-employment amongst the displaced workers. Other data indicated that wages offered to the re-employed were on average lower than those paid in their MMAL jobs (Beer et al., 2006).

Notably, the wider economy was relatively buoyant at the time, and there were job opportunities in the resources and other sectors of the economy. Beer et al. (2006) noted that the Government's Labour Adjustment Package (LAP) response at the time focused on successful immediate reemployment of MMAL workers who had lost jobs, rather than on taking the opportunity to address the identified skills shortages in the South Adelaide region. Furthermore, the Structural Adjustment Fund for South Australia (SAFSA), funded by both Commonwealth (primarily) and State governments to provide capital subsidies to firms with business proposals that would generate a significant number of new jobs, mainly went to firms not in the local region (Armstrong et al., 2008).

These transition programs did not anticipate the strong sense of attachment to their region by the displaced workers. The many homeowners among them wanted local jobs. The high cost of transport to regions where employment was on offer also contributed to a lower rate of re-engagement with the formal labour market. The Beer et al. studies (2006, 2008) highlighted the importance of tailored assistance programs in locating employment in local regions.

Linked to these studies is the case for future research to consider quality of work, not just the numbers of jobs gained. As Stanford (2016) observes, automotive workers' jobs are generally of higher quality than other jobs in Australia. For example, most of them work full-time in contrast to the steady shift toward part-time work visible across the labour market. Also focused on job quality, Barnes et al. (2016) argue that the International Labour

Organisation's (ILO, 2008) concept of 'decent work' can be applied to frame employment quality indicators, as a subset of quality of life indicators.

***Outcomes encompassing skills transferability***

A report by Snell, Gekara and Gatt (2016a) on the role of transferable skills in cross-occupational mobility during times of industrial restructuring highlights that the transferability of a retrenched, or soon-to-be retrenched, worker's skills depends on their ability to identify specific skills as being transferable. The researchers report that many individuals focus on their technical skills when applying for jobs. They do not consider other skills that they may have developed, such as their communication skills and their knowledge of workplace health and safety. They argue that transition programs and job support agencies should help workers to better understand these transferable skills.

A subsequent report by Snell, Gekara and Schermuly (2016b) for the Australian Department of Education and Training focuses specifically on transferability of automotive skills. They found that auto workers possess a wide range of skills, both generic and specific, which are transferable across a broad spectrum of industries. The generic skills include dexterity, ability to follow instructions, flexibility, reliability, strong work ethic, teamwork, communication, attention to detail, problem-solving, ability to work to high standards under time pressure, ability to anticipate needs of self and work team, and the ability to stand for long periods.

Further, by analysing core and elective units of competence contained in auto production workers' qualifications, Snell et al. (2016b) reveal that many units are shared across a wide range of other certificates and occupations outside of auto manufacturing. These include qualifications in food manufacturing, healthcare, laundry, warehousing, storage and logistics. For non-production auto workers (engineering professionals, trades workers, administrative and clerical support staff and managerial staff), Snell argues that the available occupations that workers can transfer to are even wider compared to those for production workers.

Picking up on the specific issue of recognition of prior learning (RPL), Snell and his team (2016a) also found that, for some level 4 occupations, there are likely to be RPL opportunities for many auto workers to move horizontally into new jobs with limited reskilling required. However, the jobs they can move into tend to be highly casualised and relatively low paid.

Significantly, Snell and his colleagues (2016b) present key information in easy to understand diagrams for use by both automotive workers and career coaches to enable a better understanding of local job opportunities, the transferable skills that workers have acquired and how these skills relate to the occupations most likely to provide future employment opportunities. These materials are intended for dissemination directly to automotive and supply chain workers. The aim is to assist them in understanding their current skills and how these may be relevant to opportunities for occupational mobility and employment near where they reside.

***Outcomes relating to worker identity***

Reframing one's personal identity is an important feature in being able to recognise other skills that help a worker to transition successfully to other types of work. Keating (2010) has demonstrated that individual identities, social networks and overall work dispositions can change after retrenchment. Workers' self-identities three years after retrenchment had incorporated new features that included expectations of continued change, uncertainty, customer focus, and an increased level of personal responsibility for career development. Some of the retrenched textile manufacturing workers that were part of the study perceived their new jobs as an opportunity to change their lives and identities in fundamental ways.

However, at the same time many had a continuing struggle with the sense of insecurity from the constant change and a perceived lack of control over their work conditions. In terms of their financial position, only one of the 17 workers in Keating's study was earning more money than when in a textile job. In his case, opportunities arose as a direct result of his self-identity as a young, strong Australian man with the confidence to enter the transport industry. This new job came with full-time hours, good pay and a sense of being protected by his union.

***Outcomes encompassing vocational education and training (VET)***

Keating's (2010) study included consideration of the role played by VET in the changes undergone in the retrenched textile workers' dispositions for work. The vocational education and training on offer though the Textile, Clothing and Footwear Structural Adjustment Program proved to require a high level of knowledge, persistence and self-advocacy from those hoping to access it. Notwithstanding, VET played a role in the lives of most of the workers interviewed. VET confirmed relevant worker attributes and provided essential qualifications, certificates and licences. VET was a positive experience of learning for less confident learners that altered their self-perceptions. However, Keating criticised VET for not supporting the ability to experiment with and practise new work identities.

Callan and Bowman (2015) also provide some useful insights about the role and impact of VET in industry closures. Their findings might also partly explain the less positive views expressed above by Keating (2010). They found that while VET is important, it is just one component in any package or program designed to reduce the impacts of industry restructuring on individuals. Training is more likely to be effective when training providers and support agencies partner to ensure displaced workers access upfront career counselling, training for in-demand skills and follow-up assistance with job search and attainment. They found a coordinated approach by many services is critical.

Also, Callan and Bowman found that positive outcomes for workers in terms of engagement and upskilling were more likely where age-inclusive training was designed and provided. Training needed to be highly experiential and practical, and fill gaps in existing knowledge and skills, identified upfront through recognition processes. The provision of foundation skills training was also important. The focus must be on a combination of core skills (learning,

reading, writing, oral communication and numeracy), employability skills and digital literacy skills to help older second-chance workers who are reskilling after job loss. In addition, they found access to training resources for small numbers of displaced employees in small-to-medium-sized enterprises companies was more challenging than for displaced workers from large firms, who were more likely to be recognised and supported by government interventions.

An NCVER report by Stanwick et al. (2015) integrates the findings of the studies cited above and numerous others. They conclude that access to coordinated skills training and re-training initiatives plays an important role in reducing the effects of industry restructuring on workers. However, the training must be: a fundamental part of broader restructuring packages; timed appropriately; tailored to the specific needs of individuals; and developed with the distinctive local or regional labour market in mind. Training should have as its primary focus the transferability of existing skills, allowance for extra support with foundation skills, and be age-appropriate. The exact nature of the training required and when it will be most beneficial will vary.

In other studies on industry closure in Australia, the Department of Industry, Innovation, Science, Research and Tertiary Education (2013) investigated lessons learned from large firm closures. They report that the ability of a region to withstand a major firm closure can be viewed at three levels:

- Economic capacity - the degree of economic diversity and internal supply chain dependency and how ‘thin’ the labour market is.
- Institutional capacity - the degree that there are concentrations in the region of government services (Commonwealth, State and Local) and other institutions such as universities, industry or not-for-profit organisations that can bring intellect and resources to bear.
- Workers’ capacity - how skilled, resourceful and flexible the workforce is within the firms most likely to be affected by structural adjustment and firm closures.

Studies of major closures in the UK also highlight the value of training, as well as links between training, employment, health and wellbeing. Bailey and associates (2008) in their investigation of the closure of MG Rover plant at Longbridge in April 2005 found that those workers who found re-employment sooner used similar skills to those they used at MG Rover. Of those who were still unemployed eight months’ post closure, 80% underwent some form of training; 60% of all workers received some form of training or educational support, with 40% taking up the offer of free training; workers who took up training reported higher satisfaction and less of a decline in health than those who did not receive any form of training; and workers re-employed sooner reported higher levels of overall job quality with higher life satisfaction and lower anxiety levels.

Finally, Spoehr (2015) highlights international experiences that link industry closure to opportunities in communities and regions for urban renewal and a focus on city revitalisation. This revitalisation can drive development of a stronger and more widespread regional innovation system with increased connectivity and collaboration (e.g. better linking of the city's businesses to high quality customised training). New businesses come to regions with new digital technologies and communications, and provide access to creatives and innovators.

***Workers' social outcomes***

The Beer et al. (2006) MMAL study found that the workplace was an important component of the social life of the men and women who worked there. Beer and his colleagues reported many former Mitsubishi workers missed the comradeship of work. Some 18.5% of respondents at the time of their retrenchment indicated they did not participate in formal social or group activities at all. Fully half of the respondents believed the loss of employment at MMAL had affected their social life. With retrenchment, many workers reported a disruption of valued social connections. These social changes were associated with loss and grief and also with psychosocial health problems.

Keating (2010) also found that the break-up of their workplaces for retrenched textile workers meant a loss of the close bonds of neighbourhood and family, which had been overlaid in the workplace, and the loss of working identity and sense of belonging. Keating found that immediately after retrenchment, close networks of family and friends were crucial in supporting personal resilience, as workers completed training and looked for work. However, networks beyond the close-knit factory based community were required in order for individuals to move into new occupations. Once they had found their way into these occupations, a diverse set of networks were needed for individuals to access advice and information for work, build social lives outside of work, have their work identities affirmed and confidently face the rigours of constant change. New social networks were critical in the provision of advice, information and support in relation to working life, offering affirmation of changing work identity and exerting influence and support in the process of accessing new employment opportunities.

***Workers' mental and physical health outcomes***

The experiences of workers due to structural change in the manufacturing industry have been extensively studied in Australia since the early 1980s. Webber and Campbell (1997) provide an overview of the evidence on personal impacts from studies to 1997 (supplemented by some international studies.) The personal impacts of retrenchment are far ranging, and noted to affect not only the individual but also their households and communities. The personal impacts can include:

- shock, disbelief, anger, a sense of powerlessness and a loss of self-confidence
- loss of income and the need to rationalise expenditure due to reduced or no income

- changes in household relations, particularly power relations
- loss of structure in daily life as other life activities were organised around work
- loss of social interaction
- the need to search for a new job and all that this involves (Webber and Campbell, 1997).

In more recent studies of the impacts of retrenchments from manufacturing plants in Australia (detailed below), the outcomes experienced by workers can be generally categorised as:

- job outcomes and related skills transferability outcomes and experiences with vocational education training
- social outcomes and
- health and wellbeing outcomes.

Beer and his colleagues have highlighted the mental and physical costs of retrenchment. For example, Beer and Thomas (2008) showed that the mental health of displaced workers plummets relative to their peers in the first 12 to 18 months after redundancy, followed by a recovery to population norms. Physical health, however, was high at the time of retrenchment but declined over time, which suggested that such events have both short-term and long-term impacts on affected individuals. Given these findings, they highlighted the need for a range of supports to be put in place including health interventions, employment assistance, community development and even housing assistance to address the difficulties confronting affected individuals.

The collapse of Ansett airlines (Weller and Webber, 2004; Weller, 2009) provides further evidence of the links among career, financial and personal impacts, as well as how the impacts are felt differently by males and females. Males possibly reflecting their different positions in their households and in the labour market had more intense experiences associated with adverse job loss. The Ansett collapse reveals that an adequate understanding of post-redundancy experiences must incorporate wellbeing as well as employment and financial effects.

Jolley and colleagues' (2011) report on their survey of 371 workers and in-depth interviews with 39 workers about the family impacts of their job loss from the Mitsubishi car factory in Adelaide in 2004-2005. A majority of workers reported that family life had been affected by their job loss. Four factors significantly associated with family impacts were: marital status, children living at home, employment status and financial management. The predominantly negative impacts were financial strain, loss of relationship stability, and general stress and worry, although few faced catastrophic impacts from their job loss. However, the in-depth interviews also revealed positive impacts from job loss, such as having more time at home and to spend with family. This research team concluded that the existence of ongoing income support and public health insurance in Australia were important in avoiding catastrophic financial impacts on these workers and their families.

Finally, in a literature review for the Holden Supply Chain Project, Esther House et al. documents a range of psychosocial issues faced by those under threat of redundancy that include:

- Employees can feel threatened by redundancy as they rely on their jobs to provide them with a sense of status, identity, social connection, a time structure to days and weeks, income and a sense of meaning and purpose.
- The threat of redundancy is a chronic stressor right from the day the employee's job is at risk. Anticipation of job loss can negatively impact on health even before redundancy. Job insecurity will be more stressful for those who lack social support, rank work highly important in their lives or are highly dependent on their jobs for meeting living expenses.
- Job loss is high on the list of most stressful events, after bereavement. Job loss results in similar stages of grieving (denial, anger, bargaining, depression, exploration and acceptance).
- People who lose their jobs unexpectedly are likely to take about six weeks just to come to terms with their situation; during that time many will feel paralysed and unable to search for work effectively.
- Job loss also affects the family of the employee by putting a strain on relationships, which can lead to separation and divorce. Children experience the same negative emotions that the redundant employee faces, and they can also pick up on the negative mood at home.
- Redundancy can contribute to limited family outings/holidays and a change of schooling from private to public. However, some people experienced a positive impact for example being able to spend more time with family and less shift work.
- Some use unhealthy coping strategies (alcohol) or demonstrate suicidal behaviour as a result of feeling inferior and worthless. A negative coping strategy is seen in men more than women.
- Optimism plays a critical role in helping individuals appraise a stressful situation in a more positive way.
- Resilience can be the difference between a person flourishing or becoming de-motivated and disengaged. Resilience can be built using four factors – adaptability, social support, confidence and purposefulness.

***Key background factors linked to worker outcomes***

South Australian studies (Beer et al., 2006; Beer and Thomas, 2008; Verity and Jolley, 2008) reveal that many background factors shape the outcomes or impacts faced by workers. These include: their age, gender, marital status, remuneration when working, home ownership (or mortgage), household structure, the depth of social networks (family and friendship ties), educational qualifications, existing skills and new vocational education and training undertaken, and relative position within the labour market.

The Barnes (2016) study also lists evidence that several background factors might influence workers' expectations and reactions to retrenchment. His study suggests the need to

measure at least the following background variables: differences by gender (that impact on pay levels); who the car manufacturer was (e.g. Ford, Toyota, Holden); if the employer is an auto supplier versus a manufacturer; qualifications and educational level that in turn impact on pay (e.g. trade qualifications, educational level and occupation); and various financial variables (e.g. size of redundancy payout and the employment status of the worker's partner.

In addition, Barnes (2016) proposes that retrenched workers' outcomes be analysed within the broader framework of the transitional assistance programs on offer to them in their home locations. He provides a baseline account of several intervention programs put in place (as relevant to Victoria) by the Australian government and the Victorian government, the three car companies and their supply chain companies. He notes that the intervention programs by the three car companies are not exactly the same. Nor are the broader programs delivered on the ground in the same way in each affected region of Victoria. As well, the particular socio-economic circumstances of retrenched workers' communities are key contextual factors to be taken into account.

**Types of intervention programs that reduce negative worker impacts**

As emphasised by Scott (2015), business shutdowns have real human impact. They affect many people's lives, not only the workers themselves, but their families and the surrounding communities. There are many possible interventions that might mediate or reduce the negative impacts of industry restructuring on workers.

Callan and Bowman (2015) reviewed literature on the closure of companies in Australia and overseas from the perspective of older workers. They undertook four case studies in regions of Australia experiencing substantial job losses due to manufacturing industry restructuring. They documented the value of a comprehensive set of interventions, and identified key types of interventions important in assisting workers to transition, including:

- Engage in early intervention
- Provide holistic programs
- Seek regional responses as many retrenched older workers want to stay in their local community to maintain social ties and family commitments
- Recognise and manage age-related stereotyping noting that older workers require supportive workplace environments associated with access to training and jobs
- Offer upfront screening prior to the commencement of any training
- Design age-inclusive training that is highly experiential and practical
- Provide foundation skills training
- Provide accelerated training so displaced older workers can complete their training as rapidly as possible
- Provide job search and self-promotion services that are well targeted to the local job market and bring together potential new employers and displaced workers
- Seek effective partnering throughout.

A similar set of views about the need for a comprehensive set of interventions is made by ACIL Allen (2016) in their qualitative study of retrenched workers' views of the automotive industry interventions in place to assist them. ACIL Allen make specific reference to the prior work of Callan and Bowman (2015) and the related NCVER (2015) Good Practice Guide, '*Helping displaced older workers get back into employment*' that was based on the Callan and Bowman report.

## Current transition programs for Australian automotive workers

There is a range of programs in place to assist affected workers and their families.

ACIL Allen (unpublished) describes the responses put in place as a result of the announced closures of Ford, Holden and Toyota. Services being provided include:

- Information on local job opportunities and career advice, and the development of personalised transition plans
- Use of a case management model to provide a holistic approach including the presence of dedicated case managers on the shop floor to communicate and engage with workers
- Assessments of the existing skills of workers through application of recognition of prior learning (RPL), identification of transferable skills and skill gaps analysis to facilitate upskilling and access to appropriate training, training in foundation skills, including language, numeracy and digital literacy
- Services that address the health and wellbeing of workers
- Job search assistance tailored to the worker and the needs of the local job market
- Ongoing support and monitoring through the provision of outplacement services, career advice and training.

### Company funded transitions programs

Each of the three car companies has its own Worker Transition Program with each accompanied by a short term tracking study. These are detailed below.

#### *Ford Workers Transition Program*

Auto Skills Australia (ASA) managed the Ford Workers Transition Program. The program ran for three years and finished at the end of April 2017. The Ford Motor Company gradually scaled back production over three years from 3,250 workers in assembly or engine plant jobs in 2013. Ford stopped production at its Broadmeadows assembly plant and the Geelong engine plant on 7 October 2016. Details of the Transition Program are contained in a case study of the Geelong region and how it is handling substantial job losses due to manufacturing industry closures/restructuring by Callan and Bowman (2015).

Outcomes from the Ford Transition Program after three years as at 28 April 2017, and as reported by ASA include:

- 624 Ford employees were made redundant as a consequence of the Ford manufacturing closure (down from 633 as a result of redeployments/employment extensions)
- The 624 redundant employees included 551 hourly production employees and trade workers and 73 salaried workers that were assisted by Transition Program.

By end of the Program:

- 321 ex-Ford workers were employed in work of some type, including permanent work with a new employer, in their own business, casual work, part time work or were in training and will secure work on completion of training. The industries that absorbed the workers are outlined in the table below
- 116 workers were no longer in the workforce (they had retired or withdrawn)
- 110 workers were still seeking employment.

**Industries that absorbed Ford Production Employees and Trade Workers**

| **Broadmeadows:** | **Geelong:** |
|---|---|
| 375 of which 236 secured work of some sort in:<br><br>Manufacturing 43%<br>Road construction/traffic control 17%<br>Warehousing 13%<br>Transport/driving 7%<br>Own business 6%<br>Security 4%<br>Admin 3%<br>Cleaning 3%<br>Other 4% (includes outdoor operations, child care, age care, auto retail, sales, trade) | 176 of which 85 secured work of some sort in:<br><br>Manufacturing 24%<br>Health and community services 17%<br>Trade 12%<br>Own business 9%<br>Transport/driving 7%<br>Construction 4%<br>Warehousing 4%<br>Hospitality 4%<br>Food processing 3%<br>Maintenance/handyperson 3%<br>Cleaning 3%<br>Government 2%<br>Agriculture 2%<br>Other 6% (includes admin, landscaping, outdoor operations, retail sales) |

***Holden Transition Program***

This program is for Holden workers and uses Holden funds. Holden surveyed its 1,500 workers still employed on site in 2014 via a paper based instrument. Holden is repeating its survey in 2017, with a few new questions added. They are keeping in contact with their workers via several means (for example: phone, letter, email, LinkedIn). Holden has encouraged workers to leave when they can and has not pre-selected assistance providers. They use a needs-based approach to hiring assistance and retain contracted services on the basis of outcomes achieved. Holden plans to run its transition program until everyone who wants a new job has one.

About 600 Holden workers have already been made redundant in the past two years since it announced it would close its Elizabeth plant in October 2017. Holden reports that 78% of former employees have successfully transitioned and obtained a new job elsewhere.

Of the workers who have already left Holden:

- 465 have subsequently found work in: manufacturing (23 per cent); transport, postal and warehousing (14.6 per cent); and public administration and safety (11.6 per cent).
- Another 90 have retired, started full-time study or are volunteering. http://readnow.isentia.com/ReadNow.aspx?2HbjVpy1WKK8

At time of writing, Holden employs about 1,000 employees in the following broad groups:

- Approximately 900 manufacturing workers (based in South Australia) of which 80 are traditional white collar workers with the remaining 820 in blue collar jobs. Their work will cease at the end of October 2017
- 40 engineering employees (based in Victoria). Their work will cease between August and November 2017
- 43 administration employees (Victorian based). Their work will cease in December 2017. (Human Resources Manager, Holden).

***Toyota Transition Program - DRIVE***

The DRIVE program is for Toyota workers and workers in its Tier 1 companies (companies that are direct suppliers to Toyota). It is utilising Toyota funds. Toyota is collecting worker information during 2017. The majority of Toyota workers will not depart until October 2017. The Board of Toyota has engaged Professor Danny Samson, University of Melbourne, to undertake an independent academic study into the plant's closing, and the value of the programs put in place to assist employees to transition into new career paths. At a later point, Professor Samson will be looking at the outcomes from Toyota programs, using information collected by Toyota.

**Government funded transition programs with a focus on supply chain employees**

There are two automotive supply chain company worker transition programs. One is in South Australia and the other in Victoria and both have short term tracking studies in place.

The South Australian Government's automotive supply chain worker transition program is for all eligible workers. It is an early intervention program and encourages eligible workers to sign up regardless of whether they know they will lose their job. The program is administered by a single provider, Northern Futures Inc. Partners are also eligible for services through the program.

The South Australian Department of State Development expects that around 55 of the 74 automotive supply chain firms in South Australia will remain open, having successfully diversified their business and found new markets. As a result, the overall job loss impact in the State is now expected to be around 5,000 jobs. This includes 1,000 job losses that have occurred already at GM Holden's Elizabeth site and around 1,500 in the supply chain. Government initiatives and grant programs are believed to have reduced the expected impacts. Early estimates of total job losses in South Australia following the closure of automotive manufacturing in Australia ranged from 8,390 jobs (Productivity Commission, August 2014) to 13,200 jobs (Burgan and Spoehr, November 2013, including consumption-induced job impacts).

The Victorian Government's automotive supply chain worker transition program targets individuals who are likely to lose their jobs and is administered through the Victorian network of Skills and Job Centres, including some dedicated to automotive workers.

In addition, there is the Australian Government's Automotive Industry Structural Adjustment Program (AISAP) administered through the Job Network. This is available to all workers affected by automotive industry closures (Holden, Toyota, Ford and supply chain firms). Workers can register with AISAP as well as other programs they are eligible for, however registration and participation is not mandatory for any of the programs.

ACIL Allen (2016) found some major challenges in gaining worker engagement in the supply chain companies. These challenges include:

- the wide variation in the capability and resources of companies from the larger Tier 1 suppliers to the smaller and less well-resourced Tier 2 and 3 suppliers
- communication aimed at Tier 2 and Tier 3 suppliers needs to be better and more targeted to increase their engagement and provide better information to workers in smaller companies
- there can be worker scepticism about the value of training and upskilling
- workers can have a sense of uncertainty about what skills to gain and what job and career opportunities are available
- current training is being delivered in ways (e.g. off site, after hours) contrary to worker preferences.

**Workers perceptions of the levels and quality of assistance provided**

In their study of retrenched Mitsubishi workers, Armstrong and her colleagues (2008) found that workers were very critical of the labour adjustment assistance provided through Job Network agencies. Some 38% of respondents reported that they did not use the Job

Network providers. Of those currently employed, only 6% reported that they got their job through Job Network agencies. Of those who did use a Job Network provider, their reported experience was one of disappointment and frustration. They felt that the Job Networks were more used to dealing with the long-term unemployed than skilled workers with a long work history.

Similarly, Callan and Bowman (2015) found Job Network service providers were seen to be of mixed value in assisting retrenched workers. They argued that these providers must be more personable when they engage with workers and help them more quickly to move towards a new job.

Also, Barnes et al. (2016) studied perceptions of the levels of assistance at the early stage before retrenchment. In total, 60% reported receiving some help from their employer to find a new job. However, for Original Equipment Manufacturer (OEM) workers, this rate was 73% against 41% for auto supply workers. Employees' perceptions of the quality of assistance also varied between companies. For the whole sample, only 29% reported their employer's help was 'very useful'. However, Ford and GMH workers were more likely to report this assistance to be 'very useful' (48% and 46% respectively) than Toyota workers (16%).

The ACIL Allen (2016) report found that there is currently overlap and duplication between the work of career advisors/case managers and jobactive providers in the preparation of resumes for workers. They propose that contracts should be reviewed to minimise any duplication of effort. Given the detailed knowledge that career advisors have about a worker's skill, they argue that consideration should be given to funding advisors within the auto companies to assist workers in preparing their resumes rather than use external providers.

In addition, the coordination and sharing of information between jobactive providers and State Government needs to be improved. There is a low level of awareness of the supports and programs each provide and little sharing of non-confidential information. There are opportunities for more sharing of information and closer collaboration between State Government officials working with affected workers and jobactive providers to create a more seamless transition for workers.

## Government funded short term automotive worker study

The Australian Department of Employment is funding a multi-stage study that is being undertaken by ACIL Allen with Wallis Consulting. The National (Automotive) Governance Committee (NGC) is the steering committee for the project. Its members comprise GM Holden, Toyota Australia, South Australian Department of State Development, Victorian Department of Education and Training, Victorian Department of Economic Development, Jobs, Transport and Resources, Australian Department of Education and Training , Australian Department of Employment and the Australian Department of Industry, Innovation and Science.

Stage 1 was undertaken in 2016. It looked at automotive workers' perspectives on the current overall automotive response package and services provided to the workforce to determine what has worked well and what could improve from the perspective of affected workers.

Stages 2 and Stage 3, to be conducted concurrently up to June 2019, will examine the effectiveness of programs in more detail and the outcomes for retrenched workers, including transition of workers to growth industries. The methodology includes:

- Existing data review and gap identification and data cross referencing with jobactives and Centrelink
- Surveys with workers at 3, 6 and 12 months post closure
- In-depth interviews with a sample of these workers to complete a "respondent journey" story
- In-depth interviews with partners and family at 3, 6 and 12 months ( ACIL Allen Consulting, 2017).

## Conclusion

The above studies provide valuable information about the impact and value of interventions in the short term. As such, they lack the scale and scope required to assess the long term impacts of the range of assistance programs being provided to workers, their families and communities to mitigate the negative impacts of the closure of automotive manufacturing in Australia.

The proposed Longitudinal Study of Automotive Manufacturing and Supply Chain Workers will fill significant gaps in our existing knowledge and practices as well as complement studies currently in the field. The Study will enable a more complete determination of the overall return on the investments that are being made to aid the successful transitions of workers. The Study will also inform policy responses to inevitable future industry restructuring, while adding to the international literature on work and life transitions.

Finally, the Study will join only a handful of international studies that have examined the closure of an entire industry, and the range of economic, social and psychological impacts upon workers, their families and local communities.

# References List

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