

More Flex in the City: A case study from Brisbane of spreading the load in the office and on the road

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Abstract

Congestion is a major problem facing large cities across the world. Flexible workplaces are a newly emerging approach to managing congestion from within the voluntary travel behaviour change segment of the travel demand management spectrum. Flexible workplaces incorporate long standing traditional flexible work hours options into a more holistic workplace approach to achieving both transport outcomes (such as peak commuter spreading) and organisational outcomes (such as increased worker satisfaction or productivity). The Flexible Workplace Program – Brisbane Central Pilot undertaken in Brisbane, Australia, during 2009 demonstrated the benefits of this more holistic approach.

During the one-month Pilot, amongst almost 900 Brisbane Central Business District (CBD) workers across 20 private and public sector organisations, shifts of more than 30% out of the morning and afternoon peak travel were recorded. Around 80% of participants reported an enhanced work life-balance and, depending on the choice of flexible work arrangement, up to 70% of participants reported productivity increases.

1. Introduction

1.1 Congestion: a growing problem

Congestion is a major problem facing large cities across the world including Australia. The Australian Bureau of Transport and Regional Economics (BTRE) estimated that the avoidable costs of congestion in all major Australian cities in 2005 was \$9.4 billion and that this would likely increase to \$20.4 billion in 2020. Brisbane was expected to have the highest growth in congestion costs with a 150% increase from \$1.2 billion to \$3.0 billion over this time (BTRE 2007, pp.13-14).

Over the last decade, both the Queensland Government and Brisbane City Council have invested significantly in new road, public and active transport infrastructure and services across Greater Brisbane and particularly leading into and through the Central Business District (CBD) and its surrounding frame of suburbs.

Analysis of some Australian voluntary travel behaviour change (VTBC) initiatives reveals that a person's trip decision making can be quite responsive to sometimes simple changes. This can result in altered trip patterns that could have a significant impact on spreading demand.

A 'telecentre' trial in Sydney, Australia in 1999 by the New South Wales Roads and Traffic Authority (RTA) reported shifts in travel time and trip lengths.

The trial positioned participants in a 'telecentre' that was closer to the employees' home. The teleworkers were able to reduce their average daily work commute from 3h:15m to 2h:45m, (an 84% reduction) while also reducing average trip length by 88% (RTA 1999, pp. 25-26).

Recent research by Currie (2009, p. 8) on peak spreading in Melbourne, Australia found that offering free fares for 'early birds' on trains in 2007-08 resulted in 23% of passengers shifting their time of travel, resulting in the relief equivalent of 2.5 to 5 peak hour trains.

Within the VTBC spectrum of transport planning approaches, flexible workplace projects have also been trialled to test their effectiveness in helping manage congestion. For example, the 'Flex in the City' project run in Houston, USA, in 2006, found savings of 906 peak-commute hours on the targeted freeways, translating to annual user cost savings of \$16.8 million through encouraging greater workplace flexibility (City of Houston 2010).

In the Australian context, the Flexible Workplace Program – Brisbane Central Pilot was undertaken in Brisbane during June of 2009. The project was developed and run by the Queensland Department of Transport and Main Roads (DTMR) amongst 20 public and private sector agencies (Nolan 2009).

1.2 Objective and overview of this paper

The objective of this paper is to consider and discuss some of the key issues around designing and implementing flexible workplace programs and their potential to help manage congestion. The Flexible Workplace Program – Brisbane Central Pilot is used as a case study. The paper will:

- outline the basic transport challenge and congestion problem in Brisbane
- discuss some of the human resource and communication barriers and opportunities that likely influenced the success of the Flexible Workplace Program – Brisbane Central Pilot
- report on the Pilot outcomes
- draw any conclusions evident from the above analysis.

This paper is a companion piece to another paper titled *Flexible Workplaces: Achieving the worker's paradise and transport planner's dream in Brisbane*, by Marinelli, Cleary, Worthington-Eyre and Doonan which was also published in the proceedings of the Australasian Transport Research Forum 2010 (Marinelli, et al. 2010). That paper provides an in-depth analysis of the potential impact of a large scale application of a flexible workplace program across the expanded central city area of Brisbane.

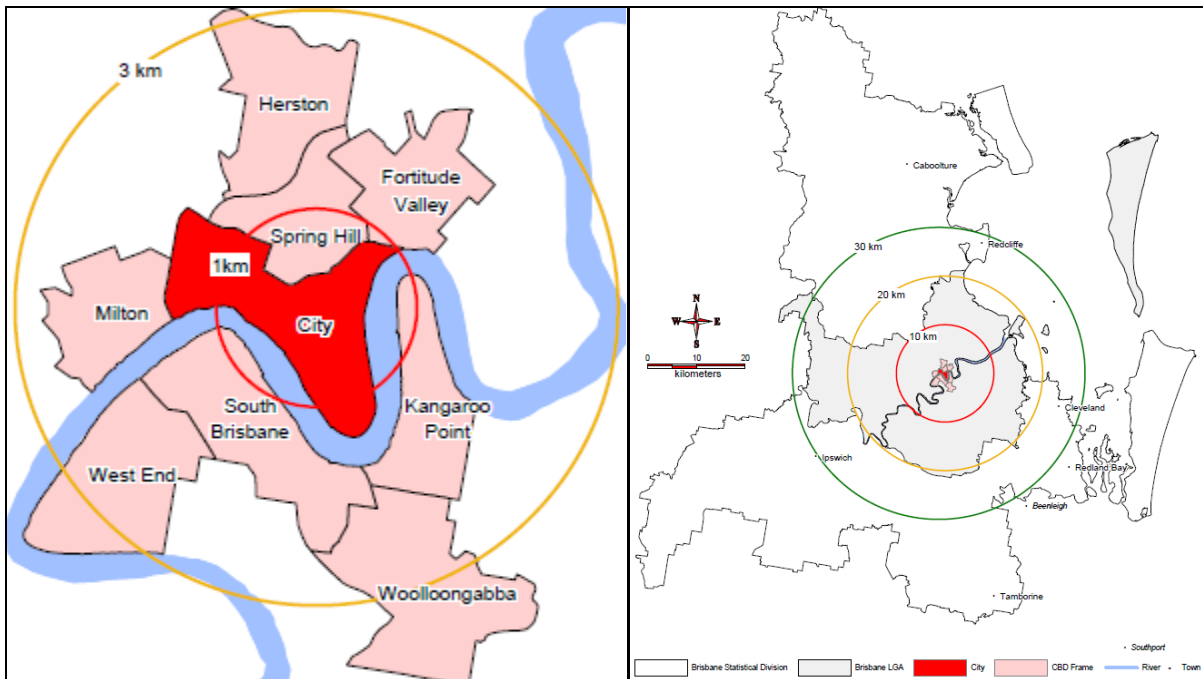
2. The basic transport challenge for the Brisbane CBD

2.1 Population and employment overview

The resident population in the Brisbane City Council area in 2009 was 1.05 million while the resident population in Greater Brisbane (the Brisbane Statistical Division) was 2.0 million (ABS 2010). The Brisbane CBD and its frame are clustered around the Brisbane River and is the major employment precinct in both Brisbane City Council and Greater Brisbane.

The Brisbane CBD Frame was defined for the purposes of the Flexible Workplace Pilot to include the suburbs of Brisbane City, Spring Hill, Fortitude Valley, Milton, South Brisbane, Kangaroo Point, Herston, West End and Woolloongabba. In area, the CBD Frame has a radius generally 2 to 3 kms from its centre and, as is typical for most Australian capital cities, is the radial focal point for most major road and public transport corridors and services in Greater Brisbane. Figure 1 below shows the CBD Frame, and its location in Greater Brisbane.

Figure 1 – The Brisbane CBD Frame and its Location within Greater Brisbane



The total number of people working in the CBD Frame in 2006 was 193,239. It has the highest concentration of employment for both Brisbane City Council and Greater Brisbane (DTMR 2010a). According to the ABS (2001), the most prolific occupations in the CBD Frame, as a relative share, in 2001 were:

- professionals (29%)
- intermediate clerical, sales and service workers (22%)
- associate professionals (16%)
- managers and administrators (9%).

Generally, these types of workers in these occupations (excepting some of Sales and Service) tend to work in a standard 'Monday to Friday 9 till 5' work pattern.

2.2 CBD Frame trip patterns and peaks

The *South East Queensland Household Travel Survey 2003-2008* (DTMR 2010b) revealed that on an average weekday in 2007, there were approximately 6.5 million private person trips a day in Greater Brisbane across all modes. On average, around 580,000 (about 9%) of these private person trips were to the CBD Frame.

Private vehicle was dominant at 47.0% followed by public transport at 43.6%. Figure 2 below shows the typical 2007 weekday private journeys to the CBD Frame by mode.

Figure 2 – Typical Weekday Private Journeys to the Brisbane CBD Frame in 2007

Mode	Private Vehicle	Public Transport	Walking	Cycling	Total
Share	47.0%	43.6%	7.7%	1.7%	100.0%

Turning our attention now to journey purpose and aggregating for all trip types with an origin or destination in Greater Brisbane, we see that the CBD Frame Morning Peak has the expected inbound flow and runs from 7:00-9:00am. This two hour period accounts for almost 190,000 (33%) of the approximately 579,000 CBD Frame arrivals for the entire 24 hour period. Within the Peak, 114,000, or almost two thirds of the arrivals, are concentrated between 7:30 and 8:30am, meaning that 20% of the day's total arrivals are in the one hour Super Peak.

Within this Super Peak, work trips comprise 75% the total with education or serve passenger (mostly school drop offs) combining for another 13% of the total – about 14,800 trips.

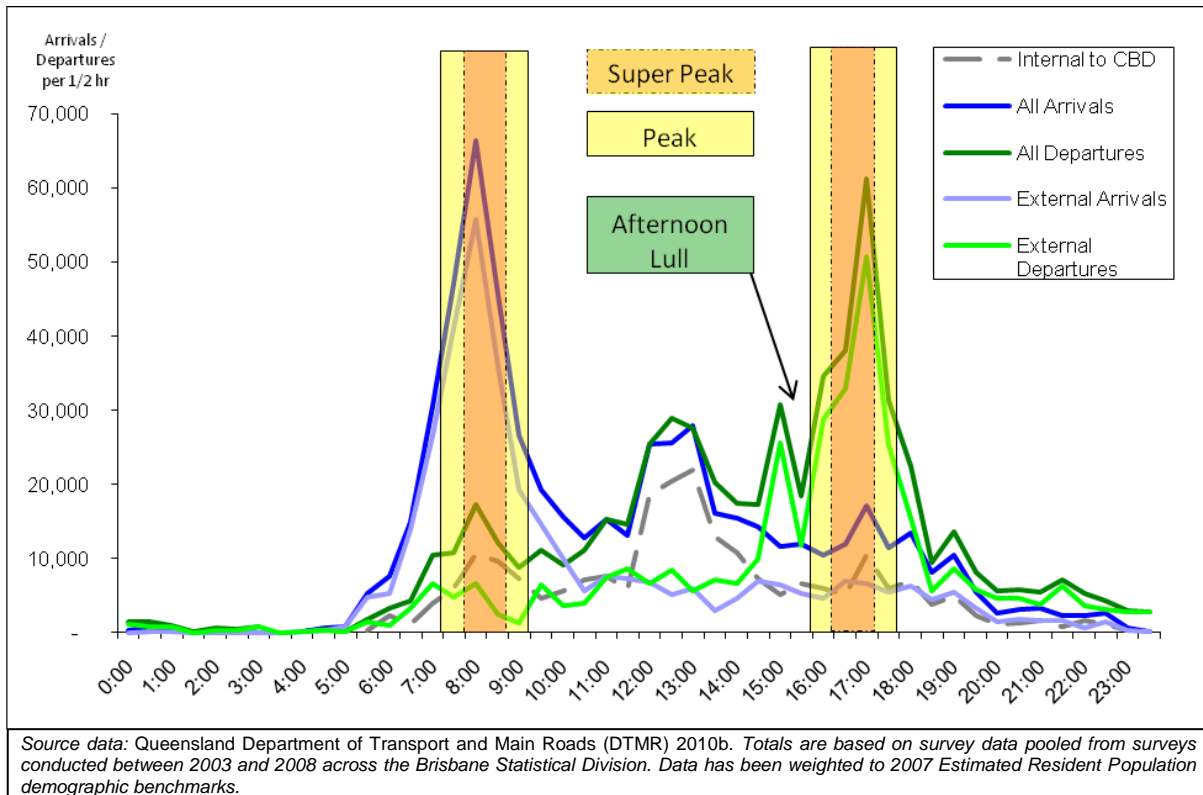
By comparison, the total arrivals in the combined periods from 6:00-7:00am and 9:00-10:00am are only 68,700 or just 12% of total arrivals.

The CBD Frame Afternoon Peak has the expected outbound flow and runs from 4:00-6:00pm. This two hour period accounts for more than 165,000 (28%) of the approximately 582,000 CBD Frame departures for the entire 24 hour period. Within the Peak, just over 99,000 departures are concentrated between 4:30 and 5:30pm, meaning that 17% of the day's total departures are in that one hour Super Peak.

Within this Super Peak, work trips comprise a slightly higher 77% of the total but education or serve passenger combined fall to only 6% of the total – about 5,300 trips. This drop is to be expected as most school trips would have been expended from the CBD Frame system by then, leaving predominantly tertiary education related trips.

By comparison, the total departures in the combined periods from 3:00-4:00pm and 6:00-7:00pm are only about 81,100 or just 14% of total departures. Figure 3 below shows the Peaks and Super Peaks in more detail.

Figure 3 – Brisbane CBD Frame Typical Weekday Arrivals and Departures (All Modes) 2007



3. Creating the Brisbane Central Pilot

3.1 Description and objectives of the Pilot

As part of the Queensland Government's response to managing urban congestion, the Queensland Department of Transport and Main Roads launched the Flexible Workplace Program – Brisbane Central Pilot in 2009.

The Pilot sought to promote, encourage and support the use of flexible work arrangements over a four-week period (1-26 June 2009), with the aim of measuring the subsequent and intended impact on travel behaviour change and peak hour congestion. Concurrently, the Pilot served as a research tool to gauge the barriers that discouraged the uptake of flexible work practices in a professional environment. The Pilot sought to identify the catalysts that would motivate a necessary shift in workplace culture to overcome such barriers.

Participants were encouraged to adopt one or more flexible work arrangements:

- compressed work week/fortnight – participants work standard weekly hours but this is compressed into either four days per week or nine days per fortnight
- flexible work hours – participants start work before 7:00am or after 9:00am, and finish before 4:00pm or after 6:00pm
- telecommuting – participants work from home.

Almost 900 employees across ten government agencies and ten private organisations participated in the four-week Pilot. Participants of the Pilot included employees across a broad range of professions and skill levels, including managers and administrators, professionals, advanced and intermediate clerical workers, and service workers.

3.2 Pilot specific challenges and opportunities

3.2.1 Excuse me – did you say you were from Corporate HR?

Traditionally, flexible work practices have been a HR management area of concern, thought to apply mainly to those with caring responsibilities. One noticeable difference with this study was that the Pilot was driven and run by a strategic policy unit managing a high priority transport priority: congestion. This brought higher ministerial, departmental and Queensland Government backing, allowing the project to resonate with a larger group of officers across public and private sector organisations as it was seen to be involved with a 'core' transport or economic outcome for the community, rather than a 'support' outcome for public servants.

3.2.2 Hi I'm over here being MOGed right now but I'd like to join in

The Flexible Workplace Pilot was conducted during the largest Machinery of Government (MOG) change that had occurred in Queensland for several decades. More than 23 line departments and affiliated agencies were reduced to 13 line agencies and affiliated agencies (Bligh 2009).

Within this more dynamic environment, the project team within DTMR and the champions within the participating Queensland Government agencies (as well as the other participating organisations) promoted and implemented the Pilot within their organisations with a short lead in time frame of only a few weeks prior to the Pilot's commencement.

3.2.3 Our organisation supports it but it's just a bit hard right now

Notwithstanding the MOG changes affecting some parts of the public sector, a number of pre-existing or 'typical' human resource management and communications challenges existed within many public and private sector participating organisations that hindered greater uptake of flexible work practices.

These included:

- workplace culture
- leadership issues
- lack of awareness and understanding about flexible work practices
- unaligned policies and procedures not actively encouraged for implementation
- cumbersome and confusing approval processes
- minimal recording of current flexible work arrangements
- ICT difficulties, including significant set up costs and information security concerns
- access to buildings outside of normal operating hours
- workplace health and safety issues.

Additionally, each flexible work arrangement has its own unique set of challenges. For example, with flexible work hours, safety outside of core business hours and a risk that staff work longer hours if work is provided late in the day pose concern. With compressed work week, concerns arise over staff wellbeing through working longer hours, and being potentially perceived as lacking dedication.

Telecommuting, in particular, presents perhaps more significant challenges. Effective telecommuting requires systems and procedures that support the telecommuter to experience a seamless transition from the office to the home or satellite workspace. Above all, telecommuting requires trust from the manager and team.

Of course, with these barriers come opportunities to improve workplace flexibility. The project team within DTMR undertook to minimise these barriers for all participating organisations prior to the Pilot commencing. This included, for example, communicating the ease of participating in the Pilot to interested organisations and staff through a forum and HR managers' workshop, and working with employees, employers and HR managers to overcome some perceived challenges for implementation.

While the project team could minimise the impact that 'accessories', such as forms, processes and technical support, could have upon the uptake of flexible work arrangements, the literature suggests that the single greatest influence over a person's experience with flexible working, however, is workplace culture and the related leadership that governs worker participation (Brewer 1998a, p. 3; Penfold, Webster, Neil, Ranns and Graham 2009, p. 31).

Effecting the long term or wide spread administrative cultural change needed to significantly improve workplace flexibility is a challenging process and was outside the scope or capacity of the Pilot. These issues are discussed in more detail in Section 4 as part of the analysis of the Pilot results.

3.2.4 I think I read about this stuff in a flyer somewhere

Throughout the course of the Pilot, it became increasingly evident that the success of flexible work policies within the context of the Queensland Government lies within their ability to maximise the benefits of flexible work policies for both the business and employees through effectual communication strategies.

The Pilot attempted to transform the customary workplace culture across the organisations that were participating. Unsurprisingly, the Pilot encountered a series of communication challenges when promoting and facilitating uptake of flexible work policies.

Perhaps the most obvious communication challenge of the Pilot was to establish and implement an effective communication strategy to maximise the uptake of flexible work policies within a strong, political context. In doing so, the Pilot sought to integrate within the Queensland Government's conservative communication framework, whilst implementing best practice communication activities that enable flexible work policies.

An effective communication strategy can maximise the potential of flexible work policies by managing the delivery of information to ensure a well-educated, prepared workplace. The research undertaken by Managing Work (2009) concluded that for the purposes of engaging staff with the benefits of workplace flexibility, an effective communication plan may involve interaction between employers and employees through the following media focus groups, one-on-one or team briefings, presentations, intranet website, electronic and print newsletters, brochures, fact sheets, forums, emails.

The Pilot was largely restricted by the availability of information technologies to communicate the Pilot's messaging effectively to a widespread audience. A larger, concrete roll out of flexible work policies could prompt a review of the restrictive communication barriers that challenged the Pilot.

Engaging the Queensland Government 'corporate community' within the context of flexible work arrangements was pivotal to the success of the Pilot. Given the external nature of flexible work policies to the Queensland Government's workforce, the Pilot faced another challenge in its ability to encouragingly communicate this previously foreign concept. Concurrently, this challenge exposed an opportunity for the Pilot to provoke a shift in a previously less informed workplace towards a new way of working.

Enabling an education program at the establishment of the Pilot could have assisted further with the dissemination of information to the broader Queensland Government personnel. This could potentially entail a series of small, structured workshops to facilitate an informed discussion of flexible work policies and how they could apply to the workplace. In doing so, this would present an opportunity for case-by-case discussions to impart further encouragement of flexible work policies.

Implementing flexible workplace policies triggers a significant shift in workplace culture through a series of organisational changes. Managing this transition into a new workplace culture requires the development of an effective communication strategy to ensure the accurate delivery and messaging of information. Klein (1996) reinforces this theory in his belief that "organisational changes often begin slowly and are subject to change as information is gathered concerning the effectiveness of the process".

The scope of the Pilot within the Queensland Government's corporate framework was restricted by its standardisation of traditional communication technologies. Although conservative media channels such as email and letters still prove successful, the Pilot's messaging could have been enhanced by a longer timeframe and greater accessibility to information and communication technologies.

Future development of large scale applications could provide an opportunity for a program sponsor and project manager to evaluate and modify existing communication technologies.

A final challenge for the Pilot was to maintain momentum and participant engagement with flexible work policies through sequential communication activities. Regular communication over an extended period could provide an opportunity to generate greater momentum in future implementations. A longer lead-time could also maximise the uptake of flexible work policies through an extended timetable of focus groups and workshops.

3.3 Flexible Workplace Pilot data gathering

3.3.1 Survey design

Figure 4 below shows the research program methodology, which involved a four-stage process, encompassing both quantitative and qualitative data.

Figure 4 – Flexible Workplace Pilot Research Methodology

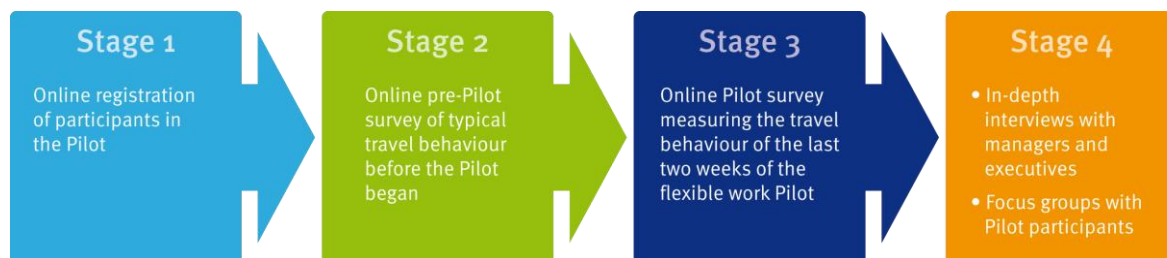


Diagram adapted from Nielsen 2009, 'Flexible Workplace Program – Brisbane Central Pilot Report', p. 6.

The research consisted of two main areas of questioning – measurement of travel behaviour and identification of barriers experienced by working flexibly. The travel behaviour section required participants to record their transport mode for the two weeks preceding the Pilot as benchmarking data, and in the post survey, the two weeks during the Pilot. This enabled mapping of participants' time, frequency and mode shifts, as well as their trip origins and destinations. Similarly, the flexible work arrangements section recorded participant perspectives before and after the Pilot.

The Pilot research focused separately (as well as generally) on each flexible work arrangement to identify perspectives on predetermined transport, HR and IT issues (such as perceived congestion on the road network, technical, workplace health and safety, and interaction with teams and managers).

3.3.2 Sample size and statistical significance

The online registration for the Pilot was completed by 888 participants across ten public and ten private sector organisations. The Pre-Pilot survey was undertaken from 1 June to 12 June 2009 and completed by 770 (87% of registrants). The Post-Pilot survey was undertaken from 30 June to 8 July 2009 and completed by 630 (71% of registrants). The breakdown of the Post-Pilot sub groups was:

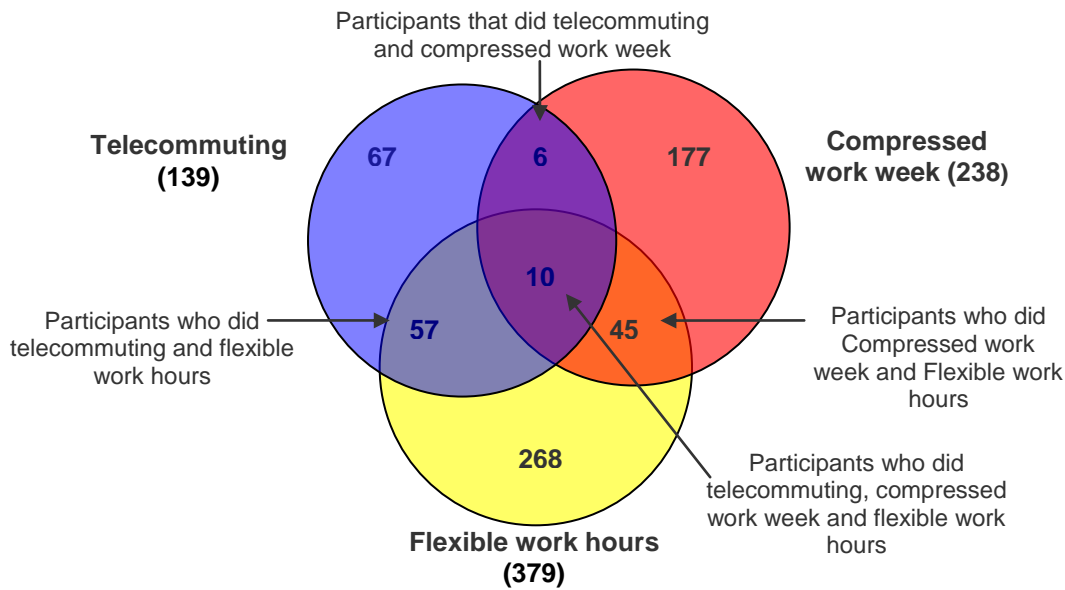
- 238 adopting compressed work weeks/fortnights
- 379 adopting flexible work hours
- 139 adopting telecommuting.

A number of participants chose more than one flexible work arrangement. Figure 5 on the next page details this option choice.

It should be noted that neither the participating organisations nor the individual participants were chosen in such a way as to be representative of the general population of workers in the Brisbane CBD Frame and it is not possible to infer that the results recorded would be replicated if a large scale program was rolled out. See Section 5.1 *Some limitations on interpreting and applying the results* below for a more detailed discussion.

Notwithstanding these methodological and applicability limitations it is important to remember that the Post-Pilot survey sample size of 630 allows for observations on participant behaviour to be made at the whole of group level and sub-group level that were statistically significant.

Figure 5 – Flexible Workplace Pilot Participant Option Choices



Venn diagram by Nielsen 2009, 'Flexible Workplace Program – Brisbane Central Pilot Report', p. 73.

Flexible hours were shown to be complementary to both telecommuting and compressed work week, with many participants opting to start earlier.

Four focus groups were completed with 23 participants overall (managers and staff). Ten telephone interviews were conducted with senior executives (seven public sector; three private sector) in late July 2009. Each interview lasted approximately 20 minutes.

4.0 So what were the Pilot results?

4.1 Transport system changes

4.1.1 Less and more work trips and VKT with a good dose of peak suppression

The three flexible work practices on offer as part of the Pilot contributed differently to managing the congestion problem.

Telecommuting and compressed work week had system wide and geographic impacts by eliminating journeys from the system and shifting some CBD Frame journeys to other destinations. Prior to the Pilot commencing, 82% of participants were destined for the CBD Frame. During the Pilot, this dropped to 74% (Nielsen 2009, p. 35).

The changes both to trips taken and vehicles kilometres travelled (VKT) were generally larger for participants whom undertook the telecommuting and compressed work week options during the Pilot as compared to those who undertook flexible work hours.

Modally, there were some interesting changes. In the case of private vehicle and public transport, there were reductions in both trips and vehicles kilometres travelled. Interestingly, trips and VKT for active transport increased significantly.

Some of the highlight changes across the system were:

- private vehicle trips decreased by 8% in the morning and 10% in the afternoon
- public transport trips decreased by 12% in the morning and 8% in the afternoon
- active transport trips increased by 42% in the morning and 9% in the afternoon

Overall, for a typical day this translated into VKT changes as follows:

- 9% decrease for private vehicle
- 12% decrease for public transport
- 25% increase for active transport.

Once the third practice – flexible work hours – is considered, the temporal impacts become apparent.

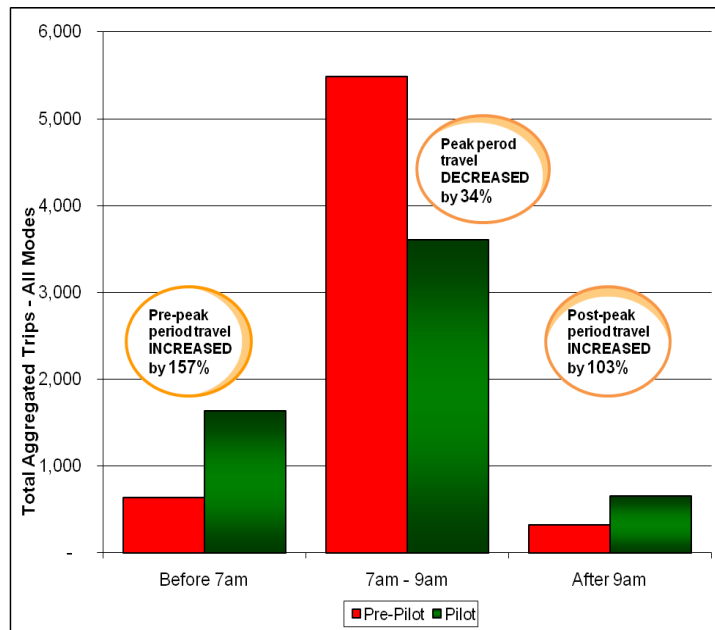
During the Pilot, trips to the CBD Frame by participants during the period from 7:00-9:00am, via all modes, decreased by 34%. The vast majority of the temporal shift in trips moved forward to before 7:00am in a ratio of 2:1 to shifts after 9:00am.

Focusing on the two modes putting most stress on the CBD Frame transport system in the morning peak – private vehicle and public transport – the benefits become more apparent.

Private vehicle trips in the period 7:00-9:00am decreased by 43% with time shifts split fairly evenly earlier and later (104% to 88%). Public transport trips in the period 7:00-9:00am decreased by 33% but with a clear preference by participants to move earlier in a ratio of 2:1 to shifts later (200% to 105%).

Figure 6 below provides more detail on the eliminated trips and the temporal shift patterns for the morning periods.

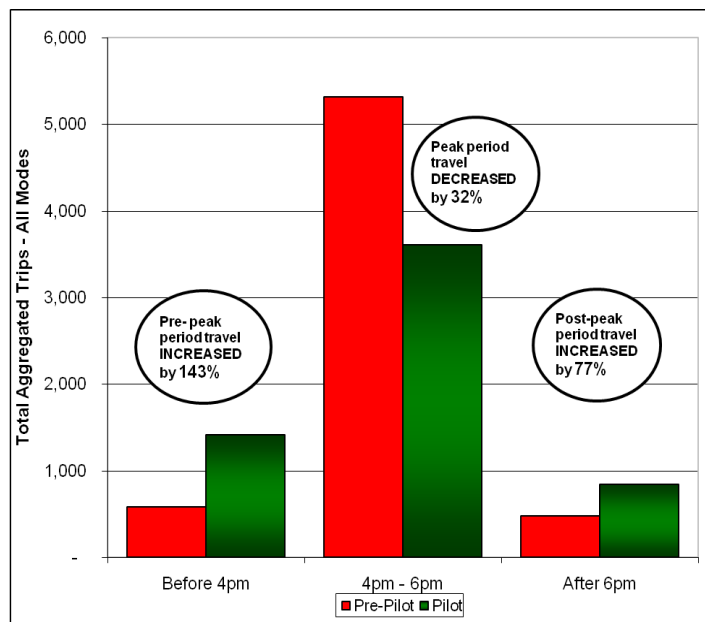
Figure 6 – Change in Morning Trips (All Modes) by Pilot Participants 2009



The change in the afternoon peak also saw significant change. Trips out of the CBD Frame by participants during the period from 4:00-6:00pm, via all modes, decreased 32%. The afternoon shift pattern generally followed the morning shift pattern. The vast majority of the temporal shift was to leave earlier (to depart the CBD Frame before 4:00pm). This was again a ratio of 2:1 (143% to 77%) to the shifts leaving later (after 6:00pm).

This strong forward shift provides the opportunity to fill the 'afternoon lull' identified in Figure 3 above and help smooth out the afternoon peak build up. This forward shift bias might be particularly useful for public transport managers as it may allow them to redistribute more of the changed service provision within normal shift hours. Figure 7 below provides more detail on the eliminated trips and the temporal shift patterns for the afternoon periods.

Figure 7 – Change in Afternoon Trips (All Modes) by Pilot Participants 2009



Figures 6 and 7 calculated by comparing total trips by Pilot participants in the Pre Pilot survey fortnight (Monday 18 to Sunday 31 May 2009) compared to the Pilot survey fortnight (Monday 15 to Sunday 27 June 2009). Source data from a working paper to Nielsen 2009, p. 37 and adapted in Marinelli, et al. 2010 Table 1. Figures modified from diagrams in Nielsen 2009, pp. 37-38.

4.1.2 Unchain my trips?

The above changes refer to trips undertaken to or from the CBD Frame by Pilot participants. What is unknown from the data sets is any changed trip behaviour by participants to non CBD Frame destinations not associated with a work trip. Total household trips during the Pilot period are also unknown. For example a participant may have switched mode from Private vehicle to Bus for a work trip and no longer trip chained a shopping trip on the way home. Another household member may now be undertaking that unchained trip in isolation of another trip purpose, potentially increasing both trips and VKT from the household.

Any large scale application should measure total household travel to determine if other government policy objectives, such as total greenhouse gas emissions from the transport system, are also being affected.

4.2 Outcomes from the HR perspective

The Pilot demonstrated that flexible work arrangements can result in personal and organisational benefits. It has provided a strong platform on which to challenge perceptions, work through leadership and cultural issues and use technology as a facilitator rather than as a barrier.

The findings from the Pilot strongly support greater uptake of flexible work arrangements for Brisbane CBD. Positive feedback was received from both employees and employers on work-life balance, team and management support, productivity and financial savings.

4.2.1 Breaking down the walls and seeing the light

From participant feedback, it appears a major HR barrier was overcome through the Pilot. While work-life balance has consistently shown to be valuable to all staff, flexible work arrangements have a low take-up rate in Australia and are mostly seen as applicable to carers or those with a significant case to put forward. Approval rates for parents are higher than those without children and those at higher income levels are least likely to gain access to workplace flexibility (Pocock, Skinner and Ichii 2009, p. 63).

The Pilot made flexible work arrangements 'OK' for the majority (during the one-month period and in those teams who allowed this). The Pilot increased awareness of, and encouraged individuals and organisations to trial and think creatively to make flexibility work.

Improved work-life balance was the second highest reported benefit of the Pilot, with 87% of participants reporting an improvement as a result of flexible work arrangements. People found that the time saved by not travelling during congested periods opened up possibilities to improve quality of life.

Findings demonstrated that this is not simply about the time saved itself – for participants, the time saved enabled people to exercise more, spend time with their children, meet with family and friends, study, and overall, rejuvenate.

Other benefits enjoyed by Pilot participants included improved work environment, feeling happier within themselves, having more time to attend to personal matters, and less congestion on trains and buses, which left participants feeling more relaxed upon arriving at work and at home after work.

4.2.2 It's not just about employee benefits

A common contentious issue relating to flexible work is the impact arrangements can have upon an organisation's productivity. Being able to adjust the working day to workload was overall qualitatively assessed (by participants and managers) to boost productivity amongst Pilot participants. Of participants, 68% felt that flexibility improved their productivity levels, including 81% of telecommuters. Focus groups confirmed this, expressing improved concentration levels due to reduced distractions and the ability to tailor work hours to better align with personal energy and concentration levels

Senior executives and managers reported similar improvements. While a number admitted difficulty in trusting and increasing employees' autonomy, most stated surprise at the productivity benefits they experienced through supporting flexible work arrangements during the Pilot.

Employers found internal and external motivations for participating in the Pilot. Internally, flexible work arrangements are seen by employers as aligning with corporate values and improving attractiveness of their organisation, with happier workers producing better work outcomes and performing better. Externally, workplace flexibility is viewed as producing community benefits through reduced congestion and positive impacts for climate change

4.2.3 Yet the challenges continue

While it is encouraging that 28% of participants found no issues with their experience, there are clearly areas that can be addressed to improve the level of adoption for flexible work arrangements. The research has identified improvements to be made in the areas of:

- workplace culture
- knowledge and support for workplace flexibility
- policies and procedures
- senior commitment and leadership.

Workplace culture appears to remain the most significant challenge for flexible working, perhaps due to the intangible, 'hidden' nature of it (Fursman and Zodgekar 2009, p. 36). Brewer (1998b, pp. 4-5) argues that managerial focus remains upon "place, distance and time". These elements can be embedded within workplace cultures, management and leadership approaches and linked with an employee's desire to protect their interests and job security (Brewer 1998b, p. 11).

Underpinning an unsupportive workplace culture can typically be stagnant leadership and management. The ability of employees to access flexible work practices depends upon managers' capability and willingness to shift from the entrenched notion of 'face time in the office' as an indication of commitment and productivity (Brewer 1998a, p. 3; Penfold, et al. 2009, p. 30). Negative attitudes from managers can permeate through an organisation resulting in a culture that is unsupportive of workplace flexibility (Penfold, et al. 2009, p. 31).

While participating organisations had policies in place to support flexibility, these policies were not necessarily encouraged by the workplace culture or commitment from managers. Participants reported they were well supported for workplace flexibility by their manager (87%) and colleagues (86%).

Interestingly, these perspectives were not replicated in the focus groups. Focus group participants mostly reported a workplace culture that did not support flexibility:

- absence of managers actively modelling flexible work arrangements
- being provided more work in the afternoon, causing them to work longer hours than usual if they started early
- a view that utilising flexible work arrangements hinders career progression
- office jokes help to foster the perception that those adopting flexibility lack dedication to the workplace.

The focus groups (particularly the group comprised of managers) confirmed the critical nature of managerial role models. Senior role models are important in encouraging the right culture and acceptance of flexibility at work at all levels of an organisation (Warrilow 2000). Consistent with the statements made in the Pilot's focus groups, managers who have utilised flexible work arrangements themselves or previously managed another working flexibly are likely to be better equipped to encourage workplace flexibility and strive to make it work (Warrilow 2000).

Resistance to flexible work arrangements from managers and colleagues can be subtle and indirect, making it difficult to identify and rectify. It is well noted that trust between an employee and their manager and team is essential for an effective flexible working arrangement (Penfold, et al. 2009, p. 31; Warrilow 2000). The invisibility of flexible arrangements, especially telecommuting, poses challenges for managers and teams.

The key benefits and challenges expressed by Participants specific to each flexible work arrangement can be found in Table 1 in the Appendix.

4.2.4 A flexible future in sight

The Pilot identified the need for more education and training to support flexible arrangements. While these practices are not new, there were many participants who, either as a staff member or as a manager, had little experience in working flexibly and there is clearly much that can be offered to improve the skills and understanding in this area.

An analysis of the Flexible Workplace Program – Brisbane Central Pilot Report (Nielsen 2009) shows that participating employers in the Pilot reported the following as facilitating successful flexible workplaces:

- trust in employees and clear communication channels
- determining which roles work and which roles do not work
- performance management
- managing perceptions and having high level support.

Some corresponding enablers were suggested by participants through the research to alleviate these barriers. A summary of the key HR findings and enablers identified through the Pilot are provided in Table 2 in the Appendix.

One of the key objectives of this Pilot was to improve the uptake of flexible work arrangements as an important congestion management strategy. Perhaps one of the most exciting findings is that 92% of participants expressed an interest in continuing flexible work arrangements after the Pilot. This confirms that individuals had a positive experience from this program and are motivated to continue. Combined with the positive impact on congestion, this provides powerful support for flexible work practices in organisations.

5.0 Applicability for broader implementation in Brisbane

5.1 Some limitations on interpreting and applying the results

It is important to note that there are some limitations in the Pilot methodology that could alter the results if a large scale application were to be run.

Most importantly, the Pilot used a self selected sample: Pilot organisations were selected based on an existing mandate for flexible work practices and a willingness to have a more flexible workplace culture. This could bias the results towards higher participation by workers with a higher desire to alter their current work practices or travel patterns.

The sample was also biased towards the public sector with about 79% coming from Queensland Government agencies or the Brisbane City Council. One agency - Pilot sponsor - the Queensland Department of Transport and Main Roads, alone comprised 40% of the sample size. While the private sector only represented 21%, the size (130 participants) was large enough to allow statistically significant analysis for certain comparisons.

For example, those participants working flexible arrangements during the Pilot from the private sector were more likely to start before 7:00am (47%) and finish after 6:00pm (49%) compared to those from the public sector (33% and 25% respectively). Those from public sector were more likely to travel into the CBD between 7:00am and 9:00am (73%) and out of the CBD between 4:00pm and 6:00pm (81%) compared to those from the private sector (50% and 60% respectively) (Nielsen 2009, pp. 39-40).

Within the Brisbane CBD Frame the public : private sector worker split is approximately 31:69 (ABS 2006). Assuming workers behaved in a similar fashion in a large scale application, one could expect to see an even greater shift forward in off peak travel patterns with the enhanced contribution of private sector workers in the travel task. This factor would need to be taken into account when considering any wider applicability of the Pilot results and design of a larger scale program.

Other factors that need to be accounted for are:

- a minority of Pilot participants were already working flexibly prior to commencing the Pilot. This may have impacted on the mode and time shift recorded before and during the Pilot for this sub-section of participants
- it was at each organisation's discretion which of the three flexible work arrangements were offered to staff. For this reason, some organisations did not offer all options. This must be considered when observing the most popular arrangements identified by the Pilot
- perspectives of participants and managers are subjective. Anecdotal feedback received indicated not all employers or managers were supportive of staff participating; however, this was not reflected in the senior executive interviews

- when considering the productivity claims of the participants, note that participants were not aware their employers would be asked on productivity outcomes from the Pilot, which should indicate a more accurate reflection of the productivity boost. For future programs, it would be worth comparing productivity prior to the program as a benchmark.

Finally, it needs to be noted that there was not a control group of non-participants to test for other variables that may have influenced the treatment group and thus applicability of the Pilot results to a wider scale roll out.

Equally though it needs to be noted there were no major changes to the transport system of Brisbane immediately before or during the Pilot (such as, changed ticketing prices or new service provision for public transport; new road or active transport infrastructure or major system disruptions). Neither were there any major changes to HR practice or policy for the participating organisations in the lead up to the Pilot.

5.2 Finding the right load bearing offices is very important

The Pilot showed that those certain occupations seemed better able to utilise flexible work practices. Three occupation categories accounted for more than three-quarters of Pilot participants (Professionals - 45%, Managers and administrators - 21%, Associate professionals - 12%). It is expected that in a broader scale roll-out, there would be similar take-up by these occupation groups, particularly in the public sector, and they should be the target for any wide scale application, particularly in the initial phases.

However, clearly not all occupations or role types are suitable to be flexible. Roles that require people to present for frequent face-to-face contact with clients and/or work within set hours are not fitting for flexibility (Fursman and Zodgekar 2009, p. 26-7; Walls, Safirova and Jiang 2006, p. 9). This is not to say, however, that some unlikely roles cannot be viewed in a different way to enable them to be worked flexibly. It is recommended that a future roll-out of the program would enhance employers' capability to think creatively to make flexibility work.

From the organisations involved in the Pilot, it is evident that larger organisations find it easier to enable uptake of flexible work policies and can contribute more significantly to reducing congestion. Large companies can typically provide the IT and HR support needed for workplace flexibility and manage a greater number of resources to cover business needs. Notably, one CEO from a Pilot participating organisation found flexible hours most valuable since his company could offer longer opening hours to customers. It is also typical that larger organisations have flexible work policies already in place, allowing quicker implementation.

If a broader roll out of a flexible workplace program was to occur, similar active participation rates to the Pilot could be expected. Through targeting large organisations, a synergistic effect is likely as smaller organisations seek to become involved.

The Pilot's research was consistent with the literature in that currently, it is difficult for staff at high levels to access flexible work arrangements (Warrilow 2000). As people in roles most receptive to flexibility utilise such an arrangement, a culture of embedded workplace flexibility could be cultivated, encouraging managers and teams to consider flexibility in other facets of the workplace.

Taken from an organisational management perspective, one of the major considerations in deciding to fund a large scale application of a flexible work place program would be the expected benefit to workforce productivity. At an individual organisational level, this means targeting organisations that can realise meaningful benefits to customers or operations.

Measuring productivity changes due to participation in flexible work practices can be problematic, particularly when the 'de facto metric' used by managers is 'face time' at work.

Some roles such as data entry and information processing may be better suited to quantitative productivity assessment. Generally, however there is little or no evidence pertaining to quantitative assessments of productivity changes as a result of flexible work practices.

If further research in the flexible workplace realm is able to determine steady or increased productivity in a quantitative manner, such as through work output, the argument for enhancing workplace flexibility in the future will be better defined.

5.3 So could we spread the load on the road?

Notwithstanding the methodological limitations of the Pilot discussed in Section 5.1 and noting the challenges and opportunities outlined in Section 5.2, the impact that flexible work arrangements had amongst participants in the Pilot is striking.

This prompts the obvious question: could such striking results be achieved on a broader scale and what contribution might this have to managing congestion?

An analysis of the Pilot participants across six basic demographics relevant to commuter trip choice was carried out. They were: age, gender, place of residence, occupation, employer type and mode choice. It shows that in essence, the Pilot participants reasonably matched the general worker profile of the Brisbane CBD Frame (Marinelli, et al. 2010, pp. 12-14).

Finding enough of the right workers and organisations presents the next challenge.

An analysis of potential worker participation in the Brisbane CBD Frame was carried out using three different 'worker profiles' (Work Schedule; Occupation; Working Time Arrangements). That analysis indicated that it is feasible to run a large scale application that could attract 20,000 workers to participate (Marinelli, et al. 2010, pp. 15-16).

If those workers participated in a large scale application and followed a similar trip pattern change as occurred amongst Pilot participants, the morning and afternoon peaks transport peaks across the central city area of Brisbane could be suppressed.

A full discussion of the how these conclusions were reached can be found in *Flexible Workplaces: Achieving the worker's paradise and transport planner's dream in Brisbane* (Marinelli, et al. 2010).

6.0 Conclusions

Brisbane, like many cities, suffers from congestion particularly in the city centre during peak periods. This occurs both on the road system generally and the public transport system

The relatively large scale Pilot, demonstrated statistically valid changes to the trip patterns of participants. It helped to raise awareness of how widespread flexible workplaces in Brisbane CBD could affect transport, organisational and personal outcomes.

However, many of the barriers commonly cited in literature became apparent through the Pilot's research and these barriers affected the participation level and congestion management potential of the Pilot.

These barriers ranged across human resource management and ICT agendas, however the perception of the need for 'face time in the office' was, paradoxically, the most powerful but subtle barrier. It is within this space that flexible workplace programs have an opportunity to solve both transport and work life balance challenges.

7.0 References

- Australian Bureau of Statistics 2010, *Publication 3218.0 - Regional Population Growth, Australia, 2008-09*, [Online] Canberra: Australian Government (Published 2010). Updated 29 March 2010, available at: <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/3218.02008-09> [Accessed 10 April 2010].
- Australian Bureau of Statistics 2006, *Census of Population and Housing 2006 for the Brisbane Statistical Division - Statistical Local Area and Government/Non-Government Employer Indicator by Method of Travel to Work data sets*. Canberra: Australian Government.
- Australian Bureau of Statistics 2001, *Census of Population and Housing 2001 for the Brisbane Statistical Division*, Canberra: Australian Government.
- Bligh, A. The Honourable Premier of Queensland 2009, Media Release dated Thursday 26 March 2009, *Bligh Reforms continue with Public Service Restructure*. [Online] <http://statements.cabinet.qld.gov.au/mms/statementdisplaysingle.aspx?id=63260>. [Accessed 23 May 2010].
- Brewer, A.M. 1998a, *Work design for flexible work scheduling: Barriers and gender implications*. Institute of Transport Studies, Working Paper ITS-WP-98-11.
- Brewer, A.M. 1998b, *Work design, flexible work arrangements and travel behaviour: Policy implications*. Institute of Transport Studies, Working Paper ITS- WP-98-9.
- Bureau of Transport and Regional Economics 2007, *Estimating urban traffic and congestion cost trends for Australian cities*, Working paper 71, BTRE, Canberra: Australian Government.
- City of Houston 2010, *Flex in the City demonstrates commuter time cuts, millions in yearly cost savings*. [Online] <http://www.houstontx.gov/mayor/press/20061012.html> [Accessed 24 May 2010].
- Currie, G. 2009, *Exploring The Impact of the 'Free Before 7' Campaign on Reducing Overcrowding on Melbourne's Trains*, Proceedings of the 32nd Australasian Transport Research Forum, 29 September-1 October 2009, Auckland.
- Department of Transport and Main Roads (Queensland) 2010a. Unpublished working paper on selected transport system indicators and demographics in South East Queensland.
- Department of Transport and Main Roads (Queensland) 2010b. *South East Queensland Household Travel Survey 2003-2008 - Brisbane Statistical Division*, Brisbane: Queensland Government. Unpublished technical report.
- Fursman, L and Zodgekar, N. 2009, *New Zealand families and their experiences with flexible work*, Australian Institute of Family Studies: Family Matters, no. 81.
- Klein, S.M. 1996, *A management communication strategy for change*, Journal of organizational change, vol. 9.
- Marinelli, P.A. Cleary, N. Worthington Eyre, H and Doonan, K. 2010. *Flexible Workplaces: Achieving the worker's paradise and transport planner's dream in Brisbane*, Proceedings of the 33rd Australasian Transport Research Forum, 29 September-1 October 2010, Canberra.
- Managing Work (MW) 2009, *Managing Work/Life Balance: Communication & Strategies*. <http://www.worklifebalance.com.au/communication-strategies.html> [Accessed 14 May 2010].

Nielsen 2009. *Flexible Workplace Program Brisbane Central Pilot Report* - Technical report to the *Flexible Workplace Program: Brisbane Central Pilot Final Report*. Queensland Department of Transport and Main Roads, 2010.

Nolan, R. The Honourable Minister for Transport, 2009, Media Release dated Thursday 28 August 2009, *Better work/life balance a winner with workers*. [Online] <http://statements.cabinet.qld.gov.au/mms/statementdisplaysingle.aspx?id=66014>. [Accessed 23 May 2010].

Penfold, C. Webster, S. Neil, H. Ranns, H and Graham, J., 2009, *Understanding the needs, attitudes and behaviours of teleworkers*, Prepared for the UK Department of Transport.

Pocock, B. Skinner, N. and Ichii, R. 2009, *Work, life and workplace flexibility: the Australian Work and Life Index (AWALI)*, University of South Australia.

New South Wales Roads and Traffic Authority. 1999, *West Gosford Telecentre Project 1998/99*. Prepared for the New South Wales Government.

Walls, M. Safirova, E. and Jiang, Y. 2006, *What drives telecommuting? The relative impact of worker demographics, employer characteristics, and job types*, Resources for the Future, Washington, DC.

Warrilow, P. 2000, *Learning to think flexibly? The reality versus the rhetoric of flexible work practices*, Family Futures: Issues in Research and Policy, 7th Australian Institute of Family Studies Conference, Sydney.

Appendix - Tables

Table 1 - Flexible Work Arrangements: Benefits and Challenges of Each Practice as Expressed by Pilot Participants

Flexible workplace arrangements	Benefits	Challenges
Flexible working hours	<p>Benefits associated with avoiding peak hour congestion including less stress and shorter commute time</p> <p>Improved productivity from fewer distractions in the early morning or late afternoon as well as according to personal productivity levels</p> <p>Increased work-life balance by being able to attend to personal commitments during the day.</p>	<p>Difficulty of waking up early or getting home late</p> <p>Workload and other commitments at work tend to impede the ability to leave work early and ultimately longer hours are worked than intended</p> <p>Public transport services tend to be less frequent and available outside of peak period.</p>
Compressed work week	<p>Increased productivity and improved focus at work by having a rostered day off to attend to personal commitments</p> <p>Financial, environmental and time saving benefits gained from eliminated trip to work on rostered day off</p> <p>Ability to contribute more to work goals through increased productivity on longer days.</p>	<p>Does not suit some roles that require daily staff or client contact</p> <p>Ability to meet work commitments prior to or after the rostered day off can be overwhelming</p> <p>Difficulty of getting used to the change in working longer days in exchange for a rostered day off.</p>
Telecommuting	<p>Improved productivity from a less distracting environment</p> <p>Ability to attend to personal commitments during the day without the need to take time off work</p> <p>Financial, environmental and time saving benefits from avoiding the need to travel during peak hour.</p>	<p>Technical difficulties such as the availability of information and communication technology to facilitate telecommuting</p> <p>Difficulty of scheduling commitments, such as meetings on telecommuting day</p> <p>Management perception that telecommuting is synonymous to having a day off work.</p>

Source Data: Reproduced from a table contained in Nielsen, 2009, p.13.

Table 2 - Key Findings and Enablers Identified by the Pilot’s Research

Issue	Details of findings	Enablers suggested by participants
Unsupportive workplace culture	<ul style="list-style-type: none"> • Despite the majority stating that their manager and co-workers supported flexible work arrangements in the post-Pilot survey, it became clear in the focus groups that this often was not the case • Participants discussed the following as leading to an unsupportive workplace culture: <ul style="list-style-type: none"> • perception that flexible work arrangements are an obstacle to career progression • indirect and subtle resistance from managers and co-workers, such as office jokes and exclusion from activities • perception that employees are “invisible” to colleagues if they are not present simultaneously, resulting in a “stigma” that they lack commitment. 	<ul style="list-style-type: none"> • Provide examples of implementation for staff and managers to recognise the value and practicality of working flexibly. This should include case studies from a diverse range of employees’ perspectives • Discourage disparaging office “jokes” about those accessing flexible work arrangements • Build workplace flexibility into the organisation’s vision and objectives.
Lack of knowledge and support for flexible work arrangements	<ul style="list-style-type: none"> • While all participating organisations had flexible work policies and procedures in place, staff indicated that flexible work arrangements are not usually well understood nor actively encouraged • There appears to be uncertainty around workplace health and safety assessments for telecommuters’ home worksites. When asked about workplace health and safety assessment requirements of their home worksite, 19% of telecommuters said they “didn’t know”. 	<ul style="list-style-type: none"> • Provide education and training amongst staff and managers to raise awareness and understanding of what is available and how to access • Appeal to managers’ interests with the benefits flexible workplaces can provide; for example, the potential for cost savings, increased productivity and more engaged staff • Provide clear guidance on the workplace health and safety policy and procedures applicable.
Unaligned policies and procedures that make uptake difficult	<ul style="list-style-type: none"> • Concerns were raised at focus groups around the number of forms and time required to set up a telecommuting arrangement • There appears to be some confusion around what is required from both the human resources and ICT perspective to set up a telecommuting arrangement. 	<ul style="list-style-type: none"> • Align human resource and ICT policies, procedures, processes and requirements • Communicate a clear, streamlined process to staff about accessing flexible work arrangements.

Issue	Details of findings	Enablers suggested by participants
<p>Lack of senior commitment and leadership</p>	<ul style="list-style-type: none"> • From senior level staff surveyed, there are perceptions that: <ul style="list-style-type: none"> • flexible work arrangements are suitable for selected, typically lower level staff. More senior staff tend to believe they are not eligible, cannot work flexibly in practice, or are discouraged from accessing such arrangements • the obstacles for working flexibly are higher for senior level staff due to their responsibilities for staff management and workload demands • senior staff undertaking flexible work arrangements are in the minority. There is peer pressure from those at higher levels and it is difficult to be the “exception” • staff are modelling the behaviours of their leaders • Of staff who were surveyed: <ul style="list-style-type: none"> • many said their managers provided additional workload demands close to the employee’s intended leave time (11% of those working flexible hours said it resulted in a longer working week) • 21% of telecommuters said their workload and work commitments impacted on their ability to work from home • 12% of those who chose not to telecommute for the purposes of the Pilot said they believed telecommuting was not feasible or not supported by management • many said information about the Pilot was provided close to the deadline and through non-verbal communication, such as an email, which was discouraging for staff participation. 	<ul style="list-style-type: none"> • Provide assistance to managers in terms of: <ul style="list-style-type: none"> • which roles can and cannot work flexibly • planning flexible work arrangements with their teams, including managing the workload • ways to communicate flexible work arrangements between the employee and manager and within the team • equity concerns • Encourage senior role modelling to embed flexibility in the workplace culture • Build workplace flexibility into incentive plans for managers • Provide clear communication from leaders of support for flexible work practices (in particular, some participants acknowledged the importance of receiving an email from their Chief Executive Officer).

Source Data: Constructed from Nielsen, 2009.