

Travel Coaching: Commuter Evaluations of Behaviour Change Dialogue Sessions

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Abstract

Travel coaching is a structured interpersonal dialogue that explores options for using various transport alternatives. A facilitator guides the participant in clarifying their goals, creating personally unique solutions, and then establishes a mentoring relationship to maintain ongoing contact with the participant (Ampt & Engwicht 2007). The paper presents results from travel coaching sessions conducted with 50 volunteer UniSA staff and students as part of a Travel Smart initiative on the Mawson Lakes campus. The authors characterize 'readiness to act' with regard to commuting behaviour by profiling university staff and students in terms of Doppelt's (2010) phased model of dissonance, beliefs about self-efficacy, and benefits attainment and social mentoring. How the travel coaching design and outcomes differed by user groups is detailed, as well the distribution of unique travel arrangements that were generated by the participants. The majority of content in the sessions related to cycle commuting, trialling new travel modes one day a week or for commitments on non-suburban campuses, and options that emerge as part of non-work lifestyle discussions. Despite work schedules, family pressure, equipment requirements and out-of-hours responsibilities, coupled with known barriers to public transit ridership and cycling, 84 percent of participants could still articulate an action they desired for reducing car use. Evaluation results for the travel coaching sessions show moderate satisfaction levels, with suggestions for process improvements. The data is presented within the context of a baseline survey on staff and student commuting to campus. The research suggests process barriers and refinements, and targets potential high impact uses of the travel coaching method.

1. Introduction

Universities can be viewed as unique and privileged places to communicate and practice the messages of sustainability (Balsas 2003). As some of society's oldest institutions, they are no different than other modern organizations in their complexity, conditioned bureaucratic-laden responses that limit innovation, and failure to use integration and systems thinking as a primary mental map (Sharp 2003). However, given their youthful 'clientele,' supposedly bright academics with access to cutting edge thinking, and research and funding resources, universities should be more likely to play a leadership role in demonstrating sustainability to the rest of society. Universities are also major trip generators (Allan 2008, Shannon et al. 2006). As such, Environmental Management Systems for tertiary institutions typically include a footprint estimate associated with staff and student mobility patterns, and an active travel component (Koester et al. 2006, Clarke & Kouri 2009, Atherton & Giurco 2011). Transport demand management strategies are ideally integrative, but can include stand-

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alone initiatives such as, for example, fare-free public transit (Brown et al. 2003), subsidized transit passes (Senft 2005; Shannon et al. 2006), establishment of a Green Transport Office (Aitken 2004) or TravelSmart program (Rose 2008), or innovative teaching about bicycle and pedestrian planning (Balsas 2001). But few approaches utilize 1-on-1 encounters and guided dialogue as a means of shifting perceptions about realistic commuting options.

It is difficult for individuals to change ritualized, habitual behaviour. Environmental and health care research on behaviour change shows that imposed solutions are often not maintained in the long-term. People who are told to water their gardens less or to stop smoking may be less likely to put new actions in place for the long-term, as compared with persons who identify personal benefits from behaviour change and are supported in their new choices and decision-making patterns (Barr & Gilg 2007; Jackson 2005). Marketers studying supermarket purchase behaviour have long noted the short decision-making time frame within which customers decide on a brand, and how strongly habit limits consideration of options (Warde 1999). In some ways, jumping into the car every day to go to work exhibits a similar pattern. The behaviour change field of study is burgeoning, and recent trends have seen health science professionals, psychologists, sociologists, and environmental scientists cooperating in the search for integrated theory, models and concepts that lead to successful interventions and trial outcomes. The units of analysis in these studies are multifocal, ranging from the individual, household, neighbourhood, or community, to the institutional level. In parallel, there is an entire body of work in transportation evaluating various programs to encourage drivers to consider their automobile use rationally and to promote shift to public transit or active travel modes. However, personalized approaches are rare in the context of this research stream.

This study looks at the implementation of personal travel coaching within a suburban university setting as a means of reducing daily commuting by car. South Australia's Department for Transport, Energy and Infrastructure (DTEI) funded the University of South Australia to prepare an institutional Travel Plan, develop a Sustainable Travel website (UniSA 2010), and test the effectiveness of various interventions to reduce automobile use by both staff and students on the Mawson Lakes campus. Mawson Lakes (ML) is a regional growth centre with 5,800 residents, an educational hub (UniSA, Endeavour College, a primary school), a business park, and growing retail centre. DTEI requested a trial of travel coaching, a guided, facilitated conversation about travel via automobile to reach the work or study setting, in order to test expansion of its use beyond previous applications in the community (i.e. not at the institutional level). This paper's main aim is to document the effectiveness of one-on-one travel coaching both in terms of operational recommendations to enable others to replicate the process, and respondent self-reported propensity to shift behaviours after the travel coaching. These outcomes are achieved through (1) reporting on operationalization of travel coaching at one UniSA campus; (2) exploring the range of commuting alternatives identified by participants; and (3) analysing individual satisfaction with engagement in the travel coaching process.

2. Behaviour Change and Travel Coaching Literature

Universities can be viewed as ideal and idealistic settings in which to trial strategies for the transition toward sustainability. The attempt is to link university operational performance by reducing environmental footprint, with integrated curriculum development that results in sustainability-literate graduates across the entire institution. In the framework of climate change, given massive transportation infrastructure investments, universities have often started by looking at ways to shape commuting behaviour. Senft's (2005) research suggests 'carrot-and-stick' campaign-based campus transport interventions work far less effectively than when there are increased costs associated with using single occupant vehicles (SOV)

and realistic alternatives are provided. The University of British Columbia's mandatory and subsidized transit pass achieved a 55% increase in transit ridership and a 20% SOV in part by integration of the program with shifting the start time of classes and increasing parking fees. Identifying distinctions in staff-student motivations is an important point of demarcation as well. Shannon et al. (2006) suggest university staff in Western Australia are driven by health and fitness considerations, and personal reduction of polluting activities, whereas students want to save money and avoid on-campus parking hassles. Heath and Gifford (2002) showed increased explanatory power in student intention to take the bus (after introduction of a universal pass system) by adding descriptive norms (what is typically done) and social identity variables. The notion is that early adopters will model and normalize the behaviour for their peers, and a wider range of society, a process accelerated when interpersonal trust is high. The issue of social networks as key to behaviour change has recently emerged in several New South Wales programs where energy conservation initiatives have been introduced at the neighbourhood level (3 Pillars Network, *pers comm.*, Oct.11,2010).

We know that one-size-fits-all campaigns to reduce car use are ineffective. Anable's (2005) work segmenting UK leisure day trippers is useful in defining endpoints of a 4-category car-owning spectrum. 'Die Hard Drivers,' 19 percent of the population, express the least desire to shift out of their auto and exhibit the highest levels of car dependency, whereas 'Aspiring Environmentalists' are a practical subgroup that still identifies problems with alternative transport but feels personal responsibility for environmental impacts (18%). In between, are 'Complacent Car Addicts' (26%) and 'Malcontented Motorists' (30%) that differ in their levels of self-described environmental awareness and moral responsibility to reduce car use, with the latter subgroup more open to alternatives.

There are a variety of theories that may describe auto-owning, staff/student behaviour in terms of the way individuals in various subgroups use their cars and rationalize their impact. Ajzen's (1991) well-established Theory of Planned Behaviour (TPB) conceptualizes the attitude-behaviour gap by focusing on intentions, as they are shaped by attitudes, subjective norms (the importance of what other people do), and perceived behavioural control (acts under an individual's control). Anable's (2005) work is in fact an expansion of TPB. The environmental discipline has also started to incorporate theories from the health care professions in that campaigns for smoking cessation, weight loss, diet change, or exercise may show staging that reflects an individual's readiness to act differently. The dominant Transtheoretical Model (TTM/ Prochaska et al. 2001; Glanz and Bishop 2010), describes a sequence of steps for addressing individual behaviour change: pre-contemplation (no change), contemplation (thinking about changing), preparation (planning), action (adopting new habits), and maintenance (anchoring of new behaviours). Shannon et al. (2006) utilized TTM to differentiate staff-students segments in their university commuting research. 'Pre-contemplators' were the largest staff subgroup (53%), and almost half (44%) of students were placed in the 'contemplators' category in terms of potential modal shifts to more sustainable forms of daily travel to campus. Doppelt (2010) has described a 3-phase TTM variant incorporating the 'readiness to act' model for environmental behaviours: feeling dissonance or a discomfort about the current situation, belief in self-efficacy and having the skills to make a change, and social networking and benefits benchmarking that rewards and implants the behaviour on a more permanent basis. Self-efficacy is central to behaviour change, defined as "a person's confidence in his or her ability to take action and to persist in that action despite obstacles or challenges" (Bandura cited in Glanz & Bishop 2010, p. 403), and is also a core construct of TPB and TTM.

Because environmental behaviours are mediated by a multiplicity of factors, much of the literature in transportation-related behaviour change seeks to understand perspectives gained through surveys, focus groups, secondary data analysis and evaluation research.

Conversely, travel coaching is a tool that asks the individual to design their own behavioural interventions under a personal responsibility framework (Ampt & Engwicht 2007). Travel coaching is a dialogue technique where a trained facilitator talks with a person as a complete social being, incorporating their attitudes, intentions, held norms, perceptions of control, and social identity. Proponent, practitioner and researcher Ampt (1997) suggests travel coaching is characterized by 'exploratory conversation' and guided discussion, and is a voluntary agreement to engage without a top-down mechanism (regulation) or external coercion. More specifically, some attributes of travel coaching (Ampt 1997, Tideman et al. 2006, Ampt & Engwicht 2007, Ampt & Tweedie 2009, Stopher 2009) are:

- Takes a facilitative approach
- Is implemented through face-to-face dialogue or phone conversations
- Includes a line of questioning about strategies the participant may have thought of regarding commuting choices, even if the actions didn't work
- Avoids describing a solution or offering resources early on
- Gets a commitment to action by the end of session
- Provides personalised tips with follow-up support materials (e.g. mailouts, resources, contacts) and personal check-ins to assess progress.

Travel coaching was initially used in both the context of water conservation in Victoria (Ampt & Tweedie 2009) and South Australia's TravelSmart program to reduce automobile usage. Anecdotal reporting of outcomes is most common, with the exception of a comprehensive travel reduction campaign in Adelaide's western households where an 18% reduction in distance driven (19.5km) was reported by panel households (Stopher et al. 2009). Uptake of the diary and travel coaching methodologies ranged from 25-34% across waves. This author also briefly calls attention to habit and lifestyle as two critical personal factors that receive attention in travel coaching. Anable (2005) and Ampt (1997) discuss how automatically activated behaviour – i.e. a well-ingrained habit - may bypass attitudes and intention. This perfectly describes commuting as it can become a firmly embedded choice without conscious and regular reflection.

Various authors have summarized Adelaide-specific data from the Household Travel Survey and the Census Household Sample File, or compared simulation outcomes with field data. We know that the number of vehicles per household averages from 1.43 to 1.61, and the average commute length to a university in Adelaide (23 minutes) is longer than the citywide average of 16.4 minutes (Stopher et al. 2002). Home-to-university work trips also show a later peak time period (Stopher et al. 2002) with 30% of trips occurring between 6:01 – 9am, 40% of travel from 9:0am to 4pm, and only 20% of trips taking place from 4:01 – 7pm, when compared with non-retail, non-education trips to work (40%, 24%, and 25% respectively). These figures suggest a greater flexibility in travelling to tertiary institutions, given varying teaching and meeting commitments. Both staff and students are largely car dependent, however, given Adelaide's spoke-and-CBD hub transit network, with most travel corridors based along roads (Kellett 2010). Extensive data on student travel to UniSA campuses is available in Allan's (2008) comprehensive study, showing approximately the same proportion of ML students (42%) live with their parents, as rent or share (44%). Cars hold 62% by modal share in terms of kilometres travelled to ML, exceeded only by the Magill suburban campus (70%), in comparison to the city sites (28-30%).

3. Study Design / Methodology

UniSA has two city and two metropolitan campuses. Like other studies by the author (Bonham and Koth 2010), the research focuses on the suburban ML campus because campus is adjacent to a relatively recent residential, business park and retail development that boasts a concern for sustainability, and the growing number of staff and students and

business professionals enhances the possibilities of active travel. ML is also the campus that generates the highest carbon emissions and uses the most travel energy, more than twice that of the other suburban campus (Allan 2008). Located 16km north of the Adelaide CBD, ML is bounded by 4 major roads and a railway. National Highway 1, a 6-lane road, runs along the eastern border, while a rail line (14 min express from the CBD) and another 6-lane road, Salisbury Highway, act as a double boundary in the west. A major east-west divided highway functions as the southern boundary of ML, and a newly constructed road, narrowing to one lane, creates the northern edge. More than 750 full-time staff are based at ML, and 5,950 students attend lectures on this campus. The campus proper is characterized by convenient near-campus parking and low rates, and has a burgeoning construction program. Campus traffic counts estimated by Bonham and Koth (2010) show the auto mode dominates (79%), but that public transport ridership - at 19 percent - is considerably higher than the metropolitan average (Transport SA 2002). The significant physical separation of ML from other residential areas (more than 1km on the north and south sides) explains the low walking rate (0.5%), and bicycle share is less than 2 percent.

The travel coaching work is part of a larger study of commuting to campus by staff and students. Initially, 175 staff whose assigned parking spaces were permanently reallocated due to building construction were asked to complete a 25-question online survey about automobile use and their travel patterns to ML. The assumption was that these individuals were more likely to be thinking about commuting to campus because the new parking spaces would typically be farther from offices and door-to-door travel time might be increased up to 8 minutes given additional walking time. After two reminder notices, 40 survey responses were received. Forty-one staff members with annual permits were on extended study or parental leave at the time, providing an effective response rate of 30 percent (N = 134) with a restaurant voucher drawing as a completion incentive. The promotional text to encourage survey participation asked whether 'a cheaper, greener way to get to campus' was desired; this was done given the link with the travel coaching component of the research. The researcher hypothesizes that while a proportion of non-response is random lack of involvement, the low response rate also reflects lack of interest in the topic of using a car less. Replies are, however, adequate, to provide baseline data on UniSA staff commuting.

Students were extremely difficult to engage in the baseline study. Research emails addressed to all students on the campus are not allowed by official university policy. Instead, professional-looking fliers asking for survey volunteers were placed on the windscreen of 900+ cars parked on campus during two days of the busiest class scheduling. Despite the same incentive as above, only 28 students went online and completed the questionnaire. The author has found it problematic to gain a sufficient sample size in student research, despite attractive incentives, and even when questionnaires are administered to a class given prevalent patterns of declining in-class attendance. Lack of topic interest, busy student lives competing with work, and a reduction in on-campus time are potential explanatory factors. In addition, the rail line to campus from the CBD closed for three months during the study period, forcing some students to use cars and alter their standard commuting patterns. Allan's (2008) results, therefore, are used as a contextual baseline for understanding student travel to the ML campus.

Forty staff that completed questionnaires were asked whether they were interested in booking a 20-minute private travel coaching session to be held in their office. The encounter was briefly described in the survey as follows: "Travel coaching is sitting down for a one-on-one discussion with a travel planning expert who has the resources on hand to talk through your unique commuting requirements, and possibly show you travel options for using your car less or saving money." Twelve individuals (30%) replied 'yes' or 'maybe,' and all completed a session, led by one of two experienced travel coaches suggested by DTEI. In

order to cluster appointments so as to utilize the travel coach's time efficiently, and to generate a larger sample size, the sessions were also offered to 36 new university staff. Nine new staff (40%) expressed interest, and four additional staff requested a travel coaching session through positive word-of-mouth reports. The coaching sessions averaged 19 minutes in length, varying from 9 to 38 minutes. Subsequently, the 25 persons were sent a follow-up email detailing the outcomes of their coaching session, and were asked to complete a short evaluation of the process. It must be noted that full completion of the travel coaching process would typically require ongoing email or phone contact with 'the client,' however this research focuses on outcomes from the personal dialogue itself. Given the high investment in locating travel coaching volunteers, a post-study ad hoc trial of cold doorknocking on campus was set up to test broader staff receptivity to travel coaching. In 79 contact attempts over 6 hours, results were as follows: Accepted/no commuting problems (6%), Accepted/received travel information and longer conversation ensued (9%); Outright refusal (4%); Closed door or no response to door knock (81%); and Additional appointment scheduled (0%). As above, individual invitations to engage have a low acceptance to contact ratio.

Given the prior difficulty in engaging students, travel coaching sessions were offered onsite on 3 occasions during orientation and the first week of the academic year. In all cases, a central working table/booth with laptop internet access was set up, with promotional signs guiding students to the session. The travel coaching was conducted by a research student who had mentored with the contracted travel consultants during staff conversations, paired with another student who approached their peers, explained the process, and encouraged participation, highlighting the voucher drawing. In the first case, the sessions were completed during a two-hour indoor lunch break during international orientation. Six of 43 international students (China, Columbia, India, Sri Lanka) who had driven to campus participated in coaching; it should be noted that majority of the international students did not own a car and lived within walking distance to campus or had taken public transport on the day, and intended to continue to do so. The second event was an outdoor barbeque during orientation for over two hundred engineering students. The refusal rate was 100% in this instance. The reasons given were that participation in the travel coaching required moving away slightly from the crowd of peers, and, that as a long-term resident of Adelaide, the student was very familiar with public transit options and had thought about commuting alternatives long before orientation. Finally, travel coaching was offered all day during a social event on campus during the first week of classes, with a booth set up near displays from campus clubs and non-profit groups, adjacent to food stalls and a band. Nineteen students participated in typically truncated sessions, often only after lengthy encouragement and for utilitarian reasons ('win the prize'). Several hundred students attended the event and again, expressed great familiarity with commuting options and a strong reluctance to consider change. The 25 students who engaged in travel coaching were also sent follow-up emails about their self-identified sustainable transport options, and were asked to complete an evaluation of the slightly shorter ($\bar{x} = 11\text{min}$) guided conversation about commuting. Three students completed the evaluation after several email prompts, and consequently student outcomes have been dropped from further analysis in this paper.

4. Results

Results are presented for the baseline campus staff survey, substantive outcomes from the travel coaching sessions, and individual evaluations of the dialogue process.

4.1 Campus study

The baseline survey of car park permit holders provides a profile of university employees that drive to campus, and offers a context for interpretation of the travel coaching results.

Staff responses are 60 percent female, with an even split of academic and non-academic staff. Sixty percent are in the 40-59 year age cohort ($\bar{x} = 43$), with the distribution skewed toward younger staff. Drivers live an average of 16.6 km from campus, ranging from 2 – 44km. Eight of ten staff drive alone, whereas 20% carry passengers for all or part of the journey. In contrast to students who do not generally commute to campus every day (Allen 2008), the majority of staff (at least 86%), drive daily, with Monday attendance highest and Friday the lowest. There is no mobility link to teaching responsibilities, as staff commute regardless of classroom schedules. The primary reasons given for variability in commuting patterns are formal administrative arrangements (e.g. alternate 4-day work week) or travel to another city campus.

In terms of 'readiness to act' in reducing car use, over half (57%) have not tried reducing car use or are not interested. When 'thinking about it' (17%) and 'planning some changes' (6%) are combined, the segment is approximately the same proportion as those who say they 'already do as much as possible' (20%). Similar to patterns observed in a plethora of studies, the rank order of primary factors that influence the choice to drive are: time considerations (72% cited as #1), shuttling of children, privacy and 'time for self,' the need to carrying equipment and paperwork, and before/after work commitments. While people without experience may over-estimate journey times for public transit, the average drive time of 26 minutes (actual) showed at least a doubling for a hypothetical bus (59 min) or train (64 min) journey to campus. The preference for direct bus services to UniSA's campuses emerged in both significant text commentary and statistics, most notably a median of 75 percent likelihood to patronage direct bus service within 200m of their residence. The majority of staff own a bicycle (66%), and 43 percent of respondents think they live within cycling distance. With two exceptions (9km, 10km), all staff living less than 14km described the distance as 'cyclable,' whereas no staff living more than 17km from work termed the distance similarly. There was no relevant uptake of 22 hypothetical strategies to reduce car use, with the following exceptions: discounted staff tickets for mass transit, more information on cycling pathways, assistance in finding carpool partners, cheaper parking rates for carpooling, a guaranteed ride home in an emergency, more (convenient) showers for cyclists and walkers, and at-work fitness programs and walking buddies.

4.2 Action outcomes from travel coaching

The travel coaching sessions starts by asking 'when was the last time you were in a car and didn't want to be?' Most respondents reply with an occasion within the last 24 hours, and then proceed to tell stories. The most common starting point for initiating a travel conversation where participants explained their lifestyle and the way they perceived commuting options was a complaint about Adelaide's hub-and-spoke transit system that necessitates travel into the city in order to reach suburban locations like Mawson Lakes ($n = 12$). Many staff started the session by identifying their residential suburb and attempting to impress the travel coach by highlighting the significant time differential between mass transit and driving independently. One UK expatriate expressed frustration at having deliberately bought a house along the train line, but the time investment needed to get to ML was quite extensive. The structure of the rest of the session then allows the author to profile participant motivations for commuting, preferred travel modes, lifestyle considerations and perceptions of Adelaide transit, and self-generated commuting solutions.

All 25 car-driving participants cited time and convenience in articulating how they made fundamental decisions about mode of commuting. The next most critical set of considerations in deciding how to travel was minimization of environmental impact and enhanced fitness opportunities, cited by half of the volunteers. Cost was only mentioned by 4 persons, and stress reduction, reconnection to nature and simple enjoyment of the act of

travelling rounded out the list of motivations in an open-ended inquiry. The need to meet family commitments in transporting children was the most common contextual factor (n =9), often combined with the necessity of multitasking errands. Other non-negotiable factors that constrained options were the desire for instant convenience and an absolute control of time, as well as carrying equipment and paperwork. Cycling was overwhelmingly the preferred travel mode (n = 12), followed in rank order by the bus (n = 5), train (n = 4) and walking (n = 3). Cycling feedback received most mentions, with participant details about how unsafe it was to travel along well-trafficked roads to ML (n =8), consistent with all the Level A variables (high traffic speed, high volume, unavailability of bicycle lanes) in assessing Bicycle Level of Service scores. Other cycling related topics mentioned were the enroute and scheduling problems encountered (e.g. weather, dark, hills, distance, magpies), lack of quality shower facilities on campus, and the need for extensive planning to undertake the daily journey. Comments about mass transit were limited: “overall poor uncoordinated and low quality transit network”, safety at train stations, and a long walk to the bus stop. Two persons had tried carpooling and found it ‘not feasible.’

The coaching discussions suggested a number of facilitating and inhibitory factors that, respectively, pushed people to be more receptive to move out of auto-centered commuting, or conversely, strengthened the decision to travel by car every day. In the former category were persons who had recently downsized from having two cars to one car, didn't like the act of driving and wasted time of driving, and someone who needed to be more active after a chronic injury. Factors that appeared to keep people in their automobiles were driving against the mainstream traffic direction and so the commute was faster, they had found free parking at the transit interchange rather than paid parking for staff, and a desire to “get their money's worth” out of a newly purchased auto.

The travel coaching session did not generate a new work commuting option for 16% of participants (n=4), and they planned to continue to use the car daily. Neither cycling nor mass transit were an option given objectives, and some were already working from home periodically. The conversation then expanded to brainstorm non-work low impact travel options, which are detailed later. Two of these persons, however, had no prior experience in working at home and the outcome was an intent to ask their boss for permission to try telecommuting on an occasional basis. Table 1 details the 12 self-generated solutions developed by the remaining twenty-one participants. These are offered as illustrative of the type of solutions emergent from the participant, rather than a definitive distribution of results.

Table 1: Self-generated commuting solutions emergent during travel coaching

Strategy	Frequency
Work at home (more or ask permission to start)	4
Buy equipment (pushbike, electric bike, scooter)	3
Combine train and bicycle	3
Different bus/train time for better connections, off-peak times	2
Try carpooling with colleague	2
Walk when working in city	2
Mass transit when working in city	2
Cycle when working in city	1
Cycle one day a week	1
Find cycling mentor to learn about cycle commuting routes, equipment	1
Effort to carpool to meetings off campus/on other campus	1
Manager will not travel between campuses on single day	1

Scheduling and time management are themes that underlie solutions participants 'created' to meet their objectives. The majority of strategies are not proposed to occur on a daily basis; only purchase of better cycling equipment (including panniers), identifying a cycling mentor, and mass transit timetabling shifts enable a new 5-days-a-week pattern. Instead, most ideas generated have to do with trialling a new behaviour (e.g. carpooling), an occasional commitment to vary commuting by doing something different one day a week (e.g. cycling) or basing mode choice on the work destination (e.g. a CBD campus). Twenty-five percent of participants indicated a willingness, without prompting, to try a different travel mode when working on one of the central city campuses where there are more direct bus and train connections. However, this willingness to shift modes is unlikely to apply to ML, as participants appear familiar with travel times and have determined travelling by car to the ML campus is still most consistent with personal objectives. The group appears to be correct in their calculations; for example, 84% of participants correctly estimated that the express train travel time from the CBD to ML takes between 12-18 minutes

There was very little time spent during the travel coaching sessions looking at online schedules or using web resources on the laptop. Partially this is explained by participant interest in cycling, which also highlighted the need for policy changes regarding pricing for bicycles on trains in Adelaide; 9 individuals mentioned this as a serious personal constraint. The interest in multi-modal bicycle + train commuting is significant with this staff group. Carpooling is not well established at the ML campus, with the university adding a link to Carpoolone (2011) when the sustainable travel website (UniSA 2010) was launched in late 2010. The carpooling match service covers Australia-wide, and UniSA does not yet provide a customized intranet/extranet application available only to staff and students. Yet, research outcomes suggest staff receptivity to trial carpooling, similar to findings in Allan's (2008) student study.

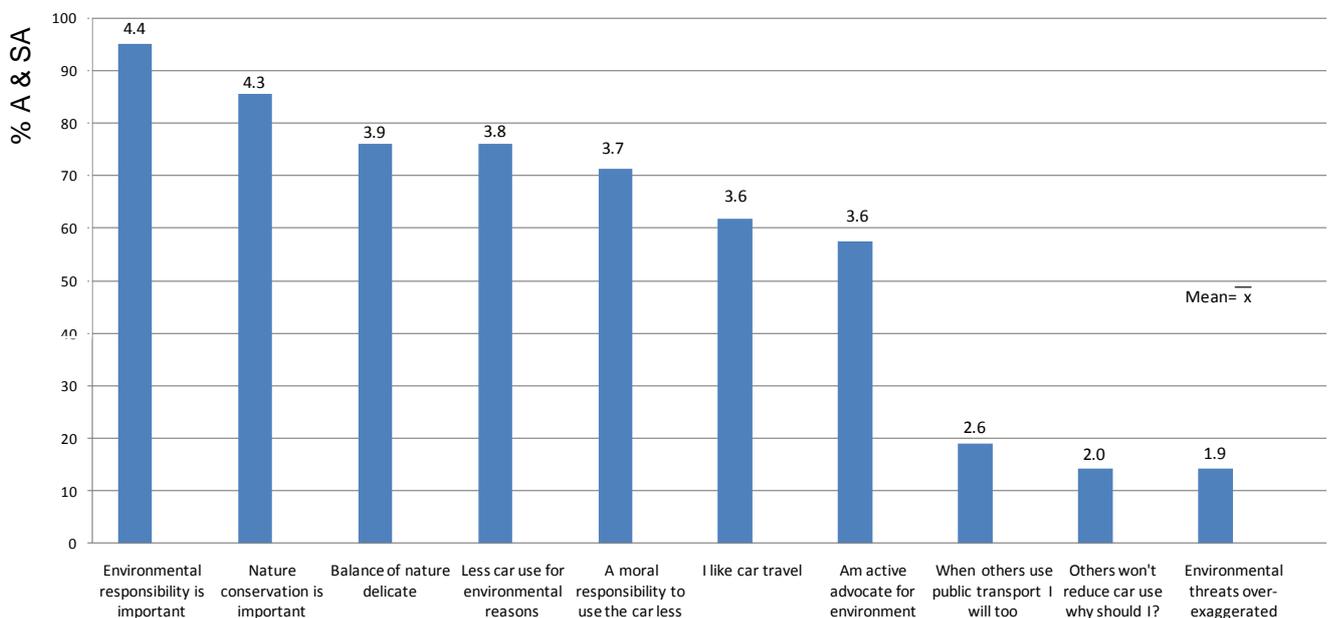
After the coaching explored workplace options, the conversation briefly expanded into looking at home-based travel patterns. Here, there was a great willingness to 'consider' mass transit or active travel. Staff willingness to use public transit or active travel were on occasions related to shopping, going to a child's school, travelling to the CBD, attending special events and major festivals with crowd control issues, leisure outings such as going to the beach, or visiting a friend's house. Two persons also expressed an interest in learning where the bus route near their home went, and what locations they could reach without transferring buses. Thus in non-work periods, these volunteers are willing to consider use of mass transit or active travel for certain locations, whereas the ML work-related modal shift is still very difficult. Finally, two participants told anecdotes about near-term plans (1-2 years) to reduce from a two-car to a one-car household given pending lifestyle shifts. One person was retiring and wanted to reduce costs and the complexity of having two cars while travelling more interstate/internationally, and one parent intended to sell one car when the couples' two children attended the same school. These stories indicate the longer-time frame within which these staff commuters plan their infrastructure needs and a conscious willingness to shift when life circumstances change.

4.3 Evaluation of Travel Coaching Sessions

To place the travel coaching evaluations in context and understand the psychographic profile of persons who volunteer for a session, questions were asked about environmental attitudes and behaviours. Figure 1 displays aggregate responses for a variety of standard pro-green measures (Dunlap et al. 2000) whose analytic dimensions include perceptions about the balance of nature, evidence of planetary crisis, environmental decision-making rationale, activism, and social benchmarking (using a 5-point Likert scale where 1 = strongly disagree [SD] and 5 = strongly agree [SA]). Travel coaching participants hold extremely strong pro-

environment views; they are cautionary in regard to disruption of natural processes and respect scientific warnings of ecosystem degradation. Moral and environmental rationale were of equal weight in making choices to use the car less. Respondents rejected the supposition that their reduction of auto use was linked to the status quo behaviours of other citizens. Measures of extent of environmental activism (group membership, attendance) can also be used to categorize these individuals as environmentally concerned. Additionally, travel coaching participants engage in an average of 4.3 self-defined 'environmentally responsible behaviours or low-impact actions.' Participants generated 34 unique steps they take, with recycling most popularly reported. Following in rank order, cycling and walking when practical, installation of solar panels, reduced water and energy use, composting and purchase of chemical-free household products are most commonly reported.

Figure 1: Environmental attitudes of travel coaching volunteers (n = 24)



Sixty percent of these environmentally aware volunteers would recommend the coaching sessions to others, with some in fact advocating that the process be mandatory for staff induction. The perception of travel coaching in terms of its informative content and generation of new solutions was viewed as 'average.' Only 35 percent of respondents agreed the session was highly informative (3.25 on a 5-pt scale), and even fewer (25%) said it gave them new ideas on commuting. When asked about the probable time frame for implementation of travel coaching actions, responses were evenly distributed among the immediacy of 'a month,' or the longer planning horizons of 'within the year,' or 'longer.' The self-reported list of 'the best thing' about travel coaching was evenly split among four response categories: (1) appreciation for tangible information that resulted (e.g. a helpful website, a map, shower locations, telecommuting package); (2) the opportunity to think through options or be reminded about intentions; (3) an enjoyable one-on-one engagement with unbiased information; and (4) an opportunity to 'vent' about the perceived poor state of public transportation in Adelaide. Other notable comments were 'it got me enthused about riding my bicycle again' and 'made me realize getting out of the car wasn't impossible.'

In an open-ended question, the volunteers also listed the attribute or part of the process they 'liked least.' While the majority (60%) had no suggestions or commentary, the remaining remarks suggested a 'lack of newness' ("I'm a green freak so nothing new for me") and 'lack of depth.' One respondent articulated how they felt they had to volunteer information rather

than being asked by the travel coach. Another recommended the inclusion of case studies detailing how individuals in similar life situations had arranged their commuting to reduce car use. The coaching process relies on self-generation of ideas by participants, after posing open-ended queries. In order to test outcomes from violation of this principle, on termination of the formal travel coaching period, the researcher asked several questions. This supplemental dialogue was placed outside the formal structure at the end of the meeting so as not to influence travel change behaviours generated. On nine occasions, participants were asked about a range of suggestions (“have you considered....?”) based on their commuting objectives. In each case, the suggestion was soundly rejected, often with quite articulate and complex arguments. This ad hoc intervention suggests that participants assume a defensive stance when provided with suggestions from a coach, yet ‘noninvolvement’ can be perceived as problematic. The commentary is reflective of the required skill of the coaching professional in balancing guided dialogue under the direction and control of the volunteer, with the travel coach controlling information provision and presenting the baseline for building options.

5. Discussion and Conclusions

The study focuses on daily car drivers to university who desired to learn more about efficient, and perhaps enjoyable commuting modes. The easiest option - i.e. the choice default - for getting to the ML campus is driving, due to a plethora of factors identified in a multiplicity of Adelaide-specific studies. There are both city-wide factors (e.g. lack of east-west routes, inter-modal challenges, perceived high costs) as well as campus-specific determinants (low parking prices, prevalence and ease of parking infrastructure, inter-campus schedules). Given this auto-centric setting, travel coaching was selected as an interpersonal tool with potential, through dialogue, to alter established daily travel patterns.

It was difficult to gain commitments for the travel coaching process, and staff who were involved exhibited strong environmental consciousness. The author’s supposition is that gaining travel coaching participation is problematic when offered as an isolated intervention outside the framework of a comprehensive sustainable commuting program. Certainly travel coaching does not precipitate the desired impact without follow-up contact to support and mentor the individual, a function that could be achieved through the ongoing presence of a green transport office or designating the task as an employee function. Until this time, travel coaching might operate by rotating availability through Schools, or publicized doorknocking. At a minimum, the service should be offered to new staff at induction. Informal experience with tracking parking permit holders indicates significant staff turnover (13% of the sample had changed jobs over the 8-month study period) and thus a sizeable potential clientele exists for the coaching sessions. The turnover rate as well calls into question the rationality of university policy to assign annual parking spaces to individual staff members. Students are also likely to respond favourably to the more permanent presence of a visible travel support program/office, seeking travel coaching assistance on their own time rather than forced scheduling at an event. International student orientation is another priority niche for travel coaching, as newcomers may be diverted from car purchase as they become more proficient in using public transport. A drop-in centre or ongoing travel coaching program is likely to diversify the audience beyond the attitudes of the environmentally committed profiled here – Anable’s (2005) ‘Aspiring Environmentalists’ - who have already made some commuting choices to minimize environmental impact. A more integrative approach would be hypothesized to attract more of Anable’s ‘Malcontented Motorists, and possibly ‘Complacent Car Addicts.’

In contrast, the volunteers in this study can be positioned in the planning stage of the TTM, having reached Doppelt’s (2005) third phase of ‘readiness to act,’ where they need peers

and benchmarking in order to solve their commuting problems and maintain desired behaviour. These are persons who likely experience dissonance about commuting because they attempt to enact a green lifestyle. They are hypothesized to have joined the travel coaching dialogue because their car travel remains problematic, although they practice sustainability behaviours in other areas of their lives. Being 'green, of which commuting choice is an aspect, is part of their environmental identity. These staff are potential change agents for sustainable travel, because they appear motivated to solve their problem of over-reliance on the car, and they can then model desired behaviour for others. These persons are important in the 'normalization' of non-car (or reduced car use in) commuting, and demonstrate the behaviour to late adopters (Bonham 2011).

Travel coaching assumes not having complete knowledge of travel commuting options – i.e. that not knowing - is the major issue. This assumption was not borne out by the research with the environmentally aware staff. Given the methodology employed (asking for travel coaching volunteers), participants were well informed and articulate in guiding the facilitator through their own travel decision-making. Only 25% of persons were missing information that constrained their ability to make choices, whereas the majority had a rational, defensible set of tradeoffs associated with their options. Therefore, the coaching sessions become important for a variety of outcomes beyond generation of new ideas: recalling prior intent and motivations (e.g. be healthier, do something for the environment), value of dialogue with an expert, and inputting frustrations into a public forum. Fulfilment of travel coaching expectations is moderate when the terms 'informative' and 'recommended' are used as proxy satisfaction measures. Respondent commentary suggests the process itself can be motivational, but emphasizes the necessity of achieving a balance between guiding the individual to discover personalised solutions, versus more overt control that 'leads' the volunteer.

At least four emergent topics account for the majority of the content during the coaching sessions: the potential for occasional shifts rather than consistent weekly patterns in travel mode, the importance of breaking established patterns when travelling to alternate campuses, cycle commuting, and lifestyle considerations. First, a core of individuals indicated a willingness to shift commuting patterns on a trial basis or one-day-a-week, most often with regard to telecommuting, but also for carpooling and cycling. The data suggest staff receptivity to a formal 'one-day-a-week' campaign that highlights reduced environmental footprint (or employee convenience). In addition, telecommuting occurs quietly, 'under the radar screen' at present, and some (professional, administrative) staff confusion indicates the need for policy clarification, or expansion. Second, staff drove to ML because the automobile most clearly met their daily objectives. However, habit takes over when travelling to other campuses, and most were also using the car for that intercampus movement. The coaching session appeared successful in opening options for cycle or train/bus travel to the city campuses, with a common reaction of "I'd never thought of that!!" or "I suppose I could..." UniSA administration, or suburban campuses, could encourage taking mass transit to meetings off the home campus. In an initial move, multitrip bus/train tickets were recently provided to Schools and research centres on the ML campus, in order to facilitate staff intercampus travel. Third, the travel coaching attracted a high proportion of potential cyclists. Participants also talked significantly more about integrating bicycles into a commute (especially the bicycle policy on trains), than time spent on mass transit issues in general. This particular audience was very interested in overcoming the significant locational and safety limitations of the ML campus to ride to work. For the 36% of individuals (n = 9) where cycling was part of their post-meeting 'agreement,' their objectives appeared to be health- and pleasure-related, with active travel compensatory for a sedentary workplace/workday. Lastly, another valuable notation in the sessions was the richness of 'whole of lifestyle' discussions. Where commuting options had been thoroughly explored or there were severe restrictions on alternative modes, communications centred on mobility patterns in non-work settings. The conversation about shifting habitual car use to walking,

cycling or taking the train for specific lifestyle occasions (neighbourhood, school, events) appeared to spur thought and consideration.

A limitation of the study is the location of ML campus since most transit options originate in the CBD. As most UniSA staff and students do not reside in the CBD (Bonham and Koth 2010), many are faced with two linked journeys when using public transportation. In effect, travel coaching about getting to the ML workplace represents the difficult end of the spectrum. There must be very strong motivations for transitioning out of daily use of the car because options are restrictive. Travel coaching did assist most of these strongly motivated volunteers in some way, but there were not dramatic revelations. The other limitation is that, although participants received a follow-up email communiqué delivering the resources promised and detailing the travel change commitment(s) outlined in the session, the study team did not contact the individual at regular intervals. Given research objectives, there was no continuing support or check-ins as in other travel coaching campaigns. Consequently, while there are circumstantial anecdotal reports (“I bought a bike;” “we drove together to the meeting”), there is no data on whether the participants in fact acted on the identified strategy for more sustainable commuting. The author judges there is an over-reliance on quantitative work in looking at the complex, human dimensions aspect of transport use. Despite above limitations, this study’s contribution may, in fact, be in providing a deeply qualitative look at outcomes when travel coaching is implemented and how the methodology potentially fits as part of the strategic toolkit in the quest for reduced car use through a campaign targeted at the institutional level.

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