

## DEMONSTRATING LOCALISED WORKPLACE TRAVEL PLANNING IN LIMERICK CITY

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### Abstract

As 'Ireland's Smarter Travel Demonstration City' Limerick is charged with piloting ways to convince its citizens to move around their city in a more sustainable way, in particular to walk, cycle and use public transport more. The Limerick Smarter Travel (LST) project is funded by the Department of Transport with EU support and implemented by a multi-disciplinary team of University of Limerick (UL) researchers and Limerick Local Authority staff [Cullinane and Cosgrove 2013].

Travel is an integral part of everyday life, which allows people to meet their needs by providing access to work, services and social gatherings. Commuting to work by car makes up a large proportion of all car traffic, particularly during the morning and evening peak periods in Limerick City. Consequently, workplace travel planning forms an integral part of the LST project. Workplace travel plans are behaviour change packages that are a tried and tested means of achieving mode shift away from the single-occupancy car. In the early 1990s, the idea of workplace travel planning began to gain ground in Britain, based on successful experience in the Netherlands and the US. Research shows that workplace travel plans can reduce car use by between 10-24% [Cairns et al 2004]. However, achieving behaviour change, in relation to travel in particular, and coming to an understanding of how best to achieve it, is an extremely difficult task considering the vast range of factors that can influence behaviour.

LST collaborates with the National Transport Authority (NTA) through their already well-established Smarter Travel Workplace programme, to implement the LST Workplace and Campus Travel Planning Programme. Limerick's Local Authority is also involved in both developing their own travel plan, and encouraging other employers to develop their own, site-specific travel plans. Policy makers should consider localised measures to encourage sustainable transport, in particular walking and cycling in urban areas. However, the intrinsic, psychological motivations of car use are not well understood by policy makers. Therefore, non-deliberate choices by motorists make it extremely difficult to influence travel behaviour change. Policy strategies aimed at reducing car use should take these intrinsic motives for car use into account.

This paper describes the development and implementation of a comprehensive Workplace and Campus Travel Planning Programme in Limerick City. This paper highlights the importance of integrating transport and planning objectives. This paper describes how the LST project is supporting the development of a travel planning culture by leveraging the planning system at both the level of the Local Authority and the applicant, in order to meet social, environmental and economic objectives for Limerick City.

### Introduction

As 'Ireland's Smarter Travel Demonstration City' Limerick is piloting approaches to increasing the mode share for walking, cycling, and public transport in the city. The LST winning bid was based on a successful collaboration between the recently amalgamated (2014) Limerick City and County Council, and UL [Cullinane and Cosgrove 2013].

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The LST project is focussed on a subset of key hubs and linking routes and will create a substantial demonstration Smarter Travel zone within Limerick City. Limerick's workplaces and campuses form an integral part of this project. Consequently, LST designed a Workplace and Campus Programme building on the already established national Smarter Travel Workplace and Campus programmes, run by the NTA, and international best practice. The programme was officially launched by Minister for Public Transport and Commuter Affairs, Alan Kelly TD, on the 5th of July 2013. The LST Workplace and Campus Programme is currently being implemented by LST in association with the NTA. The programme aims to develop sustainable travel alternatives to the car initiatives, decrease congestion, reduce parking pressure, increase the available selection and quality of travel options available to staff and students, and to increase environmental credentials of partner organisations.

### **Commuter Travel Behaviour in Limerick**

Commuting to work by car makes up a large proportion of all car traffic, particularly during the morning and evening peak periods nationally. According to the 2011 Census, 69% of all commuters travel to work by private vehicle in Ireland [Central Statistics Office 2012]. 94% of these trips were made in single occupancy vehicles, and 29% of drivers travelled less than 5km [Central Statistics Office 2012].

#### *Limerick City Centre*

According to the 2011 Census, there are 14,658 people working at fixed places of work in Limerick City Centre (the old Local Authority jurisdiction) and 75% of these workers travel to work by car [Central Statistics Office 2012]. Just 4.4% travel by public transport (3.7% by bus and 0.7% by train) and 1.8% cycle [Central Statistics Office 2012]. However, walking is significant at 15.9%, reflecting the numbers who both live and work in the centre or live very close to it [Central Statistics Office 2012].

#### *Limerick City and Suburbs*

According to the 2011 Census, there are 39,391 employees working at fixed places of work within Limerick City and suburbs [Central Statistics Office 2012]. In contrast to the City Centre, this broader view of Limerick encompassing the entire metropolitan area shows areas that are entirely dependent on the City and suburbs for work and that there is a greater tendency to travel to this area from other counties [Central Statistics Office 2012]. The mode split data for this expanded area shows slightly higher car use than that for trips to the City Centre, with 80.7% of workers travelling to Limerick City and suburbs by this mode. Walking is significantly lower at 10.8%, 1.7% cycle to work, and 3.1% travel to work via public transport (2.8% by bus and 0.3% by train) [Central Statistics Office 2012].

#### *National Technology Park*

The National Technology Park (NTP) is located in the eastern suburbs of Limerick City. There are 2,415 fixed jobs in the NTP [Central Statistics Office 2012]. The mode split for the NTP as a destination is provided in Figure 1. The Census data shows 92% of total trips are made by those that work in the NTP were made by car and that only 38% of all trips to work to the NTP originate in Limerick City and suburbs. 30% originate from other settlements and 32% originate from rural locations [Central Statistics Office 2012].

Table 1 details the variations in commuting travel patterns in Limerick City centre and suburbs.

**Table 1** Limerick City & Suburbs Commuting Patterns (2011)

<b>Mode/ Area</b>	<b>Limerick City Centre</b>	<b>Limerick City and Suburbs</b>	<b>National Technology Park</b>
Car	75.0%	80.7%	92.0%
Walking	15.9%	10.8%	2.0%
Cycling	1.8%	1.7%	2.0%
Public Transport	4.4%	3.1%	2.0%
Other	2.9%	3.7%	2.0%

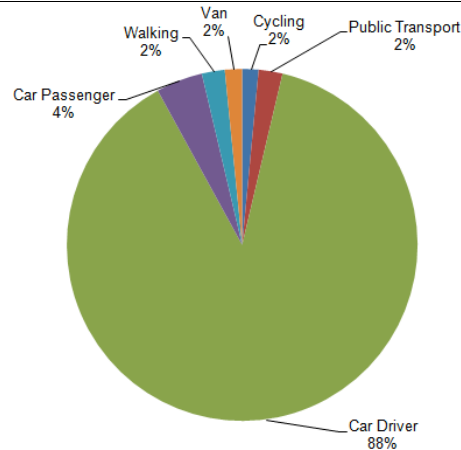


Figure 1 NTP Mode Split (2011)

### Changing Workplace Travel Behaviour

A workplace travel plan is a site specific package of measures to promote and support sustainable travel. In the early 1990s, the idea of workplace travel planning began to gain ground in Britain, based on successful experience in the Netherlands and the US. In 2001 the Department for Transport (DfT) in the UK commissioned a study into the effectiveness of workplace travel planning. This reviewed existing literature and added its own new results based on analysis of best practice in 20 organisations, employing over 69,000 staff. This study of 20 organisations implementing workplace travel plans looked at a range of private and public sector organisations, all selected as examples of good practice in workplace travel planning. It found substantial variation in their effects on car use whose travel plans had achieved a range of reductions in car use from 6% to 66% in 2-4 years [Cairns et al. 2002].

In 2003, the DfT commissioned further research into how initiatives such as workplace travel plans can have on travel demand. The key findings for workplace travel planning indicated that they can reduce car commuting by between 10% and 30% though the best ones have achieved considerably more than that [Cairns et al. 2004]. So far, UK city authorities prioritising workplace travel plans have typically managed to engage with organisations representing about 30% of the workforce, while UK county authorities have managed to engage with organisations representing about 10% [Cairns et al. 2004].

### Workplace Travel Planning in Ireland

In 2007 the Dublin Transportation Office, now the National Transport Authority (NTA) received funding to deliver a pilot scheme to promote workplace travel planning in the Greater Dublin Area. By early 2009, 25 public and private sector organisations, covering almost 45,000 staff, had adopted workplace travel plans and a number of other organisations had expressed interest in joining. The initial results showed an average reduction of 16% in car use [Department of Transport 2009]. In February 2009 the Department of Transport published 'Smarter Travel – A Sustainable Transport Future' Ireland's new Transport policy for the period from 2009 to 2020. The Smarter Travel policy document identifies sustainable travel and transport goals for 2020. These include a reduction in the total share of car based work trips from 65% to 45% nationally, and an increase of 55% nationally in the proportion of walking, cycling, and public transport work trips.

Action 8 of the Smarter Travel policy is as follows:

*"We will now focus on encouraging alternative ways of travelling to work. We will, therefore:*

- *Work towards a requirement on organisations with over 100 staff to develop and implement workplace travel plans*
- *Provide support and guidelines for the development and implementation of workplace travel plans*

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- *Seek a plan from the Office of Public Works to reduce car-parking spaces at Government offices where alternative travel options are possible and require other public sector organisations to do likewise as part of their workplace travel plans.”*

Consequently, the implementation of Smarter Travel policy ensured increased efforts in relation to workplace travel planning. The Department of Transport, through a service level agreement with the NTA, established the ‘*Smarter Travel Workplaces*’ programme. ‘*Smarter Travel Workplaces*’ is a public awareness programme working with large employers (250 employees or more) to implement voluntary workplace travel plans. In 2013, the NTA launched the Smarter Travel Campus programme. The NTA’s ‘*Smarter Travel Workplaces*’ guidance document [National Transport Authority 2012] shows that Workplace (and Campus) Travel Plans have reduced participating organisations car use by 18%, on average since the programmes inception [National Transport Authority 2012].

### **Workplace Travel Planning in Limerick**

The LST demonstration project, one of the key actions of Smarter Travel policy, is focusing on demonstrating new approaches to facilitate, promote and encourage sustainable travel. The LST bid identifies Limerick’s workplaces and campuses as an integral part of this project [Limerick Smarter Travel 2010]. Consequently, LST designed a Workplace and Campus Programme based on the already established national Smarter Travel Workplace and Campus programmes, run by the NTA, and international best practice.

The LST project, and the LST Workplace and Campus programme, is essentially a human behaviour change project. Behaviour change programs tend to focus on a few behavioural change theories which gained ground in the 1980s [Cullinane 2012]. Conceptual models of human behaviour such as Azjen and Fishbein’s *Theory of Reasoned Action* (1975) have been applied across a wide variety of disciplines, including travel and road user behaviour [Cullinane 2012] to examine how certain behaviours occur. However, these theories tend to be linear, and focus on change as a once-off cause and effect event. This can lead to a mistaken belief that a single intervention, such as the provision of a cycle parking at a workplace, can lead to the desired outcome, an increase in cycling to work in this case, within a short period [McKenzie-Mohr 2011]. Research demonstrates that behaviour change occurs in stages and progress through these stages can be described as spiral [Prochaska and DiClemente 1986]. However, those theories that attempt to explain behaviour change show that change is a process that occurs over time. A major insight offered by these “stage theories” of behaviour change, is the emphasis they place on assigning different types of intervention to the stage of readiness of the commuter or workplace.

The LST Workplace and Campus programme project utilises a multifaceted, workplace-based approach to intervention in which commuters at various stages of ‘*readiness for change*’ can potentially be influenced. Behaviour change can only take place in the context of an enabling or supportive environment. The workplace is a very significant node of influence. Workplaces can:

- Create norms - e.g. quality of entrances, facilities, cycle parking; and
- Provide community culture/ support - essential for behavioural change.

LST is therefore adopting an approach to behaviour change that focuses on local, sustained and regular communication and support. In contrast to the NTA’s programmes, LST’s Workplace programme is not limited to workplaces with 250 employees or more. The programme works with eight demonstration partners, including three of Limerick’s third level institutions, healthcare partners, local authority, multi national companies, and a shopping centre.

The existing partners and their corresponding number of employees and students is shown in Figure 2.

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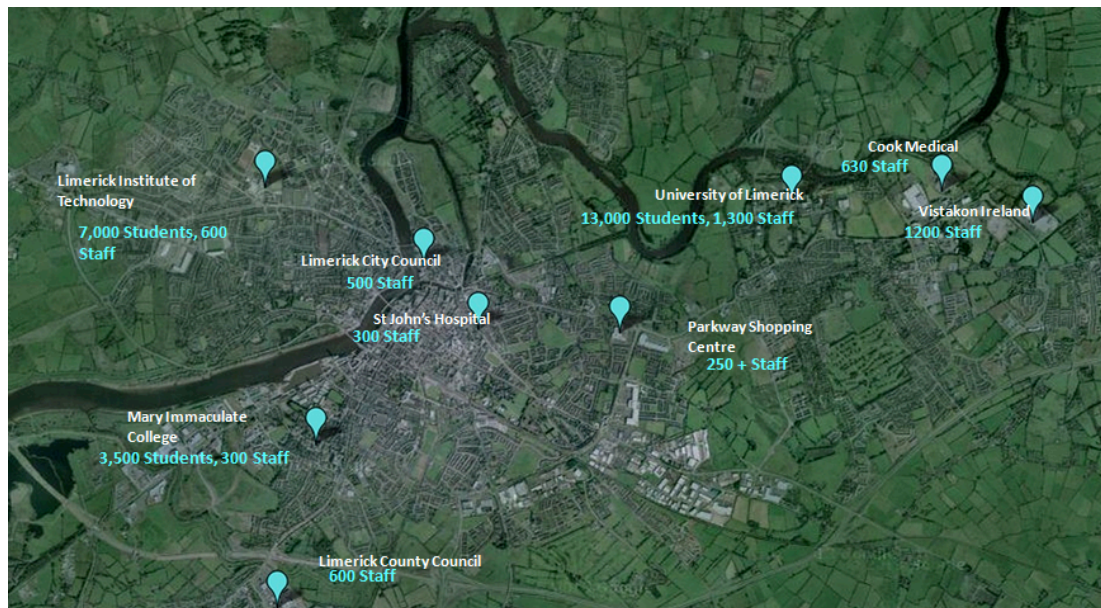


Figure 2 LST Workplace and Campus Partners

The LST Workplace and Campus Programme is designed to:

- Get commitment – good intentions to action;
- Identify benefits and barriers – devise strategies;
- Create social norms – building community support;
- Social diffusion - speed adoption;
- Provide prompts and incentives; and
- Communicate.

The programme is delivered via the following steps:

- Sign up – CEO/President/ senior support;
- Survey- identifying existing situation, behaviours, attitudes, and barriers;
- Identify feasible and viable actions based on the evidence gathered;
- Implement the actions – workplaces take ownership, LST supports; and
- Monitor and evaluate – lessons learnt, review and revise.

The first step, gaining the support of senior management, is vital to the success of promoting Smarter Travel in a workplace. It is vital that Smarter Travel options are promoted to senior members of staff because they are often the decision makers, budget holders; and key influencers. Travel surveys form an essential part of the process by offering a chance to find out how staff and students travel to work and college, their travel barriers and what would encourage them to travel more sustainably. The site audit provides vital information for the review on what facilities and services exist at each partner site, how they are viewed and how much they are being used or not. Both the travel survey and the site audit then inform the action plan to identify appropriate and feasible actions for each partner.

To date, all eight partners have signed up, completed baseline travel surveys (staff and students), finalised action plans, and have commenced implementing actions. Actions include provision of cycle parking, bike maintenance days, and participating in walking and cycling challenges (at a national level).

### Discussion of the Experience so Far

#### *Workplace Travel Planning and Securing Planning Permissions*

Research by Addison and Fraser in 2002 highlighted that the planning process is increasingly being used as a mechanism for requiring travel plans in the UK [Addison et al 2002].

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This should provide a further spur to travel plan development (although their research also showed that local authority use of the planning system is very varied across the UK, and there are concerns about the meaningfulness of planning requirements, given difficulties with monitoring and enforcement). Those partners participating in the LST Workplace and Campus programme that have also committed to complete a Workplace Travel Plan or Mobility Management Plan as part of proposed developments at their workplaces have been the most likely to implement actions.

Limerick County Development Plan 2010-2016 Policy IN P4 'Promotion of sustainable patterns of transport use, of the Development Plan' states that: *"It is policy of the Council to seek to implement in a positive manner, in cooperation with other Authorities and agencies, the policies of the Mid-Western Regional Planning Guidelines, and the Department of Transport Policy 'Smarter Travel, A Sustainable Transport Future 2009-2020' to encourage more sustainable patterns of travel, and greater use of sustainable forms of transport, including public transport, cycling, and walking"* [Limerick County Council 2010]. The development plan states that a Mobility Management Plan *"can be used as a key mechanism in the Development Management process whereby new developments can support the objectives of sustainable development through the encouragement of a modal split away from car based commuting dependency, and in turn help achieve the aims of the 'Smarter Travel Strategy' initiative"* [Limerick County Council 2010].

Workplace Travel Plans should not be used to justify the wrong development in the wrong place or mitigate its effects. Travel Plan policies should be embedded within the Development Plan/Local Area Plan process to ensure car dependency in Limerick and the Mid West region is decreased. LST now works closely with the Planning Department of the amalgamated Limerick City and County Council to ensure workplace travel plans, and in particular the implementation and monitoring of these plans, become an integral part of all developmental in Limerick City and suburbs.

#### *Parking*

Experience to date has shown that the costs of providing adequate parking can be a major drain on a workplace's resources and of course it is provision for parking that informs most people's decision as to whether to bring their car to work. From this it follows that limiting parking rights is a direct and effective way of reducing staff car use providing alternative means exist for employees to get to work. All the workplace travel plan case studies in both of the research carried out in the UK, and experience from the NTA programmes, contained an element of parking restraint. A key advantage of charging for a parking space is that revenue can provide a ring fenced income to pay for alternative travel options. However attractive parking schemes can be undermined by the availability of free and plentiful off street parking which is in abundance in Limerick City's workplaces. In addition not all workplaces are willing to limit the number of parking spaces it provides. If access to car parking is to be limited alternatives such as adequate public transport, car sharing and facilities for walking, cycling should be provided in the wider area, external to participating workplaces sites, and external to the LST study area.

#### *Measuring Behaviour Change and the Successes of Workplace Travel Planning in Limerick*

Most studies of the effects of hard measures on travel behaviour have concluded that effects in behaviour can build up over a period of several years, with typical adjustment periods of 5-10 years, and in some cases up to 20 years [Cairns et al. 2004]. These studies are predominantly based on quantitative analysis. The LST demonstration project will conclude in 2016 and final surveys at participating workplaces will be undertaken to determine the successes of the programme. If so monitoring for only a short period of time could underestimate the impacts of such measures after allowing the longer term effects of other factors (e.g. income, car ownership, etc.) which may also be operating in the opposite direction to the behaviour change effect of the measures. In addition, behaviour change occurs in stages and at various stages of readiness for workplaces as well as individuals, which requires reinforcement and refreshment over a period of time.

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LST is laying the foundations for long term change in relation to workplace travel, whose implications for local government practice, the built environment and the health and well-being of local communities will only become apparent over decades

#### *Wider Impacts of Individual Workplace Travel Plans*

Considerable research, presented in this paper, has been undertaken into the impact of workplace travel plans in achieving modal shift. A significant part of this research involves the collection of data on barriers to modal shift and on the conditions which should be in place to achieve modal shift. The impact of workplace travel planning at the network level i.e. in facilitating real reduction in travel on the wider road network, is much less clear, since trips removed by a participating workplace may simply be replaced by others workplaces. Given the complex relationship demonstrated between modal choice and subsequent travel habits, the baseline travel data collected from participating workplaces should be included in planning future local strategic travel management decisions given the need to plan for whole local areas and communities rather than for individual workplaces. For example in the National Technology Park, where according to the Census 2011 92% of workers travel to work by car, the baseline survey data received from individual participating workplaces should inform a future more integrated and sustainable transport strategy for the entire business park.

#### **Conclusions**

Workplace Travel Plans are behaviour change packages that are tried and tested means of achieving mode shift away from the single-occupancy car. This is supported by evidence from international and national programmes such as the Smarter Travel Workplaces programme. In addition to meeting policy objectives, the design and implementation of a Workplace Travel Plan provides an opportunity to examine the existing transportation infrastructure, and local public transport provision.

Implementation of a Workplace Travel Plan can result in a number of benefits not only for the employers and employees of an organisation, but also for the surrounding area as it can benefit from reduced traffic and parking demand. The NTA's Smarter Travel Workplaces guidance document shows that Workplace Travel Plans can reduce an organisations car use by 18%, on average.

Employer benefits include:

- Reducing costs (parking, fleet, mileage claims);
- Reducing staff downtime spent travelling on business;
- Enhancing accessibility to a site;
- Carpooling/sharing – reduction in car parking spaces;
- Improving staff health, stress-reduction and absenteeism;
- Enhanced Corporate Image and 'Green' Profile; and
- Compliance with planning permission conditions.

Employee benefits include:

- Reduced cost of travel to work;
- Carpooling/sharing – reduction in travel costs
- Health benefits - Opportunities to build exercise and stress-relief into daily life;
- Access to tax-saving schemes (Cycle to Work & TaxSaver); and
- Team building and access to social network within the workplace.

In the last five years, since the publication of Smarter Travel policy, workplace travel plans have become much more widespread in Ireland. The main thrust of the Governments approach has been to encourage voluntary promotion and implementation of travel plans, rather than legislate. LST is seeking to instil travel planning culture in local government and in the private sector in order to meet social, environmental and economic objectives. In order to increase sustainable travel and reduce car use for trips to work where potential exists, LST recognises that potential exists to reduce, but much of this change has to occur at local and organisation/individual level.

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Based on what is already known about timelines, longer term action and longer term monitoring is required. There is a need for a longer term commitment via a dedicated team, which is key to the continued development of Smarter Travel culture, and the monitoring of workplace travel planning, from within the Local Authority. The Local Authority planning system coupled with workplace travel planning could become a major lever to drive Smarter Travel culture in both the Local Authority and the wider community.

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