

DEVELOPING A BICYCLE CULTURE AT THE UNIVERSITY OF LIMERICK

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Abstract

Prior to the introduction of a Limerick Smarter Travel (LST) presence at the University of Limerick (UL) in 2013, few facilities existed to encourage cycling as a primary travel mode among staff and students. A number of shared walking and cycling paths existed and bicycle stands were located away from building entrances and, in most cases, were unsheltered and unsecured. The bike shop which operated from summer 2010 to summer 2011 had remained closed. Single-occupancy driving was not discouraged with car parks available to staff in campus-central areas. The promotion of a behaviour change towards sustainable travel modes was not visible.

The 2011 travel surveys indicated that only 8.4% of staff and 6.6% of students cycled as their primary transport mode to commute to campus [1, 2]. It was identified and reported in the Limerick Smarter Travel Stage 2 Submission document (2010) [3] that significant scope existed to increase the cycling commuter numbers.

With support from Limerick Smarter Travel and UL, University of Limerick Smarter Travel was established whereby, a dedicated team engaged staff and students to collate information on the opportunities to facilitate cycling as well as other smarter travel modes such as walking, car-sharing and availing of public transport. The development of a bicycle culture had begun. Community engagement and focus group events supplemented information gathered in the 2011 travel surveys and informed the preliminary design of a range of infrastructural works. A number of pilot initiatives aimed at fostering a bicycle culture are described. The results of the 2014 Staff and Student Travel Survey are discussed. It is concluded that the formation of a dedicated team and the follow-on creation of a smarter travel coordinator role led, in many ways, to the creation and on-going development of a bicycle culture at University of Limerick.

1. Provision for UL Community Cyclists in 2011

A travel survey carried out in 2011 found that only 8.4% of staff and 6.6% of students "most frequently" cycled for their commute to UL [1, 2]. Of staff members that did not cycle in 2011, 41.9% indicated that they live too far from UL to consider cycling, 27.8% stated that the weather turns them off cycling and 23.1% stated that they felt it was unsafe to cycle. As 40.2% indicated that they live more than 11km from campus which is similar to the proportion indicating that they live too far away to consider cycling, it can be concluded that 11 kilometres is considered the approximate average maximum cycling commuting distance [1].

The three most popular responses from students when asked which elements from a list restrict cycling were "I do not own a bike" by 44.7%, "I live too far from UL" by 23.1% and "the weather turns me off cycling" by 19.9% [2].

In the years leading up to 2011, the University invested in some cycling facilities including dedicated cycle paths, cycle parking as well as the provision of showers in new buildings such as in the Tierney Building and in the North Campus buildings. However, as noted in comments from respondents from the 2011 travel surveys, a significant deficiency of facilities for cyclists remained.

“Cycling on campus should be made safer, both by reducing traffic speeds and providing off-road routes. We need a cycle route between the Stables area and the Eastern Entrance to promote cycling...We also need a safe route between the existing cycle track which ends outside the Tierney building, and the Main Entrance. Covered cycle parking is essential to promote year-round cycling. A bike which is left in the rain will quickly rust, and this takes time and money to put right...” [1]

“Roofed bike lock/park station that would prevent bikes getting wet. Station would also need to be securely monitored as many bikes now come with quick release wheels and accessories. Specialized changing facilities for people arriving at work/study in UL requiring change of clothes/shower.” [1]

2. Limerick Smarter Travel – University of Limerick Investment

Limerick City was designated as Ireland’s first Smarter Travel Demonstration City in 2012. The successful collaboration between Limerick City Council, Limerick County Council, and the University of Limerick (UL) resulted in Limerick City being ranked first in a national competition run by the Department of Transport between all local authorities in Ireland.

The Limerick Smarter Travel Stage Two Submission issued in April 2010 notes the key objective is to connect key hubs which include the City Centre and the Castletroy Super-Hub, with high quality walkways, cycle ways and public transport. In tandem with infrastructural works and other hard measures, LST set out to use soft measures to promote a lasting travel behaviour change. Soft measures include community-based interventions, education, and provision of information, changing attitudes, persuasion, and linking travel behaviour with positive and negative outcomes [3].

According to the UL Smarter Travel Strategy Document, approximately €1,5m was budgeted to be invested in smarter travel initiatives in UL, funded equally by the University and the Limerick Smarter Travel project [4].

To identify the hard and soft measures in which to invest in UL, a Feasibility Study was carried out and presented to the Buildings and Estates Department of the University. This study comprised examinations of the existing conditions on campus and proposals for a range of smarter travel investment opportunities. All proposals were informed by dialogue with relevant stakeholders, referencing the 2011 travel survey results, researching behaviour change strategies and learning from exemplar universities’ successful initiatives.

3. How was a Bicycle Culture Created?

3.1. Research

The beginning of a smarter travel culture was created as soon as the engagement commenced with the campus community. Communication was facilitated by setting up a 1.8m square aerial photograph, of the campus and offering staff and students opportunities to sketch their comments on acrylic sheets, which sat on top of the maps.

Full-time bicycle commuters were invited to focus group meetings which were held over a number of lunchtime sessions. Comments from these meetings were added to the comments from the community engagement events and comments from the 2011 travel surveys and presented in the Feasibility Study categorised into nine area zones of the campus and further categorised into comments of pedestrians, cyclists and motorists.

The findings from precedent studies of the successful measures introduced at similar sized university campuses also informed the design of smarter travel proposals for UL as well as the presentations from national and international contributors at the National Transport Authority Smarter Travel Campus Programme launch in April 2013.

3.2. Design

In June 2013, it was agreed that the outline design of smarter travel infrastructure was to be developed. It was agreed that the University of Limerick Smarter Travel team would design specific infrastructure relating to smarter travel and that the Buildings & Estates Department would complete the detailed design and procurement.

The design of a behaviour change strategy continued from June 2013. This built off initial research carried out during the Feasibility Study. While the design of a strategy was continuing, a range of soft measures were implemented with the return of students in September 2013 [4].

3.3. Implementation

3.3.1. Policy / High Level Actions

The development of the bicycle culture in the University is due to both top down and bottom up measures. The University is a corporate partner in the Limerick Smarter Travel project and participated in the development of the bid document which was issued to the Department of Transport [3].

On behalf of UL, the Director of the Buildings and Estates accepted a charter committing to promote and facilitate smarter travel among staff and students for their commute to and from the University. The charter was signed by UL President Don Barry and is seen as a formal guarantee by the University to implement a range of measures that would lead to a smarter travel culture on campus [5].

UL committed to matched funding for smarter travel related investments on campus over the course on the Limerick Smarter Travel project which means that the total budget to implement a range of hard and soft measures is equally funded by Limerick Smarter Travel and the University.

The University also formally appointed the roles of UL Smarter Travel Coordinator and Deputy Coordinator to manage the implementation for the smarter travel strategies aimed at generating a meaningful behaviour change towards sustainable commuting. The coordinator would also be the main liaison between the University and the Limerick Smarter Travel office and be the point of contact for UL from the National Transport Authority Smarter Travel Campus programme [5].

3.3.2. Bottom Up

The following section describes the main activities organised by the UL Smarter Travel coordinators.

Community Engagement / Smarter Travel Presence

Orientation Week of the autumn semester and Week 1 of both the autumn and spring semesters are the first-time arrival of many students to the campus and therefore are seen as important times to communicate to students the message of the benefits of sustainable travel such as walking, cycling, car-sharing and taking the bus. Thousands of students in groups led by their orientation guides were engaged with from a marquee which was positioned in campus-central locations. From this hub, large sized posters were also displayed which explained the various existing smarter travel facilities including, among others, cycle paths, bicycle parking and shower locations [5].

Human learn by watching others; much research has been carried out on observational learning notably by psychologist, Albert Bandura [6]. To build on this and to foster a bicycle

culture, a campus cycle was organised as part of the European Mobility Week which is an annual campaign on sustainable urban mobility. The aim of this annual campaign is to encourage European local authorities to introduce and promote sustainable transport measures and to invite their citizens to try out alternatives to car use. The European Mobility Week campus cycle in UL aims at highlighting the connectivity to the city centre along the river route. This was particularly appropriate in 2013 to align with the “Clean Air” theme.

Communication / Media Publicity / Publications

A UL Journey Planner was created which shows existing shower and parking facilities on campus; it highlights all surrounding housing estates and points of interest in the Castletroy area so people can check how long a walk or cycle would take and it contains bus timetables and maps for accessing the city. Also shown is useful information regarding travel applications for smart phones, locations of local bike shops and relevant health facts associated with cycling. 5,000 units of this document were distributed among students and staff and made available at various university building receptions in autumn 2013. An updated journey planner was reprinted in August 2014 to reflect changes with campus infrastructure and bus timetables and tariffs. The journey planner maps were also made available the UL “Getting Around Campus” webpages [7].

A series of posters are placed on noticeboards around campus each week promoting sustainable travel. They are themed around health, finance and the environment and the information they contain is chosen to encourage lifestyle change in terms of sustainable travel. The facts are generalised and persuasive, relaying health facts such as how active commuting, cycling for instance, can be a source of exercise. Other posters display information relating to the cost associated with running a car versus a bicycle.

The First Seven Weeks (FSW) is an established programme aimed at supporting newcomers to UL through a range of services over the first seven weeks of the autumn semester. UL Smarter Travel collaborated with the FSW in a number of ways. Firstly, the FSW guides stopped each of their tours at the marquee during Week 1 to allow students receive smarter travel related information and to learn that cycling is a particularly convenient way of getting around. Secondly, large prints of the UL Journey Planner maps were viewed by thousands of students in the FSW Hub. There was further collaboration during the “FSW Getting Around Campus” themed week and the “FSW Health and Well-being” themed weeks [7].

Digital media promotion of cycling and smarter travel initiatives generally were used to disseminate information. The Limerick Smarter Travel Facebook page in particular was used to share information about the implementation of various soft measures relating to smarter travel on campus. Between February 2014 and July 2014, 22 posts which included 102 photographs and 1 video were uploaded to the LST Facebook page [7]. This corresponds to approximately one post per week with each post reaching 312 people on average. Publicising in this way is considered to be an important part of the promotion of smarter travel in terms of developing a bicycle culture on campus particularly as the Facebook page has almost two thousand likes (as of mid-August 2014). A number of posts relating to smarter travel were also posted on the UL Students’ Union Facebook page which has 15,190 likes (as of mid-August 2014).

Other media has been leveraged to support the development of a bicycle culture on campus such as the main UL website and the Student’s Union newspaper, *An Focal* which were used to publish stories relating to smarter travel initiatives in UL.

Continuous promotion, emphasised with innovative messages, is considered important in terms of fostering the behaviour change towards sustainable commuting. A “7 Tips for Cycling in UL” booklet has been created for use by the UL campus community and provides information on:

1. Where to get a bike;
 2. Cycling Gear: Be Safe and Be Seen;
 3. Tips on how to cycle;
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4. Smarter Travel Campus Map;
5. How to securely lock your bike;
6. Bike Maintenance and
7. UL Cycling Facilities such as secure parking locations, shower locations and information on the free towel offering [9].

Challenges / Incentives / Education

A number of incentives were offered to the campus community to promote sustainable commuting. One of the most effective measures which contributed to a bicycle culture on campus was the provision of a bike mechanic on a regular basis. The service is brought to the campus community in the Students' Union Courtyard each Tuesday during which approximately 60 bikes are usually fixed. This is thought as a bridging until a bicycle shop opens on campus. The costs associated with the range of services on offer are presented in Table 1 [5].

Service	Cost
Gear / brake tuning	Free
Gear / brake cable replacement	Free
Patch-fix punctures	Free
Tube Replacement	5 euro
Tyre Replacement	10-15 euro

Table 1: Bicycle Repair Costs

This weekly event creates the opportunity to engage with staff and students on sustainable travel planning. UL Journey Planners, slapbands and saddle covers are given out as well as the range of Road Safety Authority offerings such as hi-visibility jackets, LED lights and reflective arm bands. People are also encouraged to follow the LST Facebook page in return for the repair service.

The University has purchased two male bikes and two female bikes as part of a pilot UL Fleet Bike Scheme. Staff and students can borrow bikes for free for up to a week. Since its launch, in February 2014, all bikes have been used with, in all cases, positive feedback given including comments indicating that users intend to avail of the 'Cycle to Work' scheme. Respondents were also asked: "What aspects of the UL Fleet Bikes experience worked well for you? The following is one of the responses:

"Having the opportunity to test using a bike not having cycled for a long number of years. Seeing how much time can be saved commuting using a bike and how convenient it actually is."

As part of the UL Green Week, a sustainable travel competition, called "The Change Lanes Challenge", was organised. Participants were asked to team up and commit to sustainable travel for the week to be in with a chance to win prizes. An overall team prize and individual prizes for each smarter travel mode (walking, cycling, taking the bus and car-sharing) were on offer. Fifty teams of three took part. Seventeen teams successfully completed the challenge of "green" commuting for a week from which the winning team was drawn. Each member of the winning team received a tablet. Mode-specific and runner-up prizes were also awarded for a photograph upload competition where participants were invited to submit selfie photographs of themselves as individuals or in their teams relating to their sustainable commute. Taking photographs while cycling was not encouraged.

The development of a bicycle culture requires the investment of resources. The promotion and coordination is required to ensure efficient management of the challenge. The offering of good quality prizes also incentivises individuals to take part. A survey of participants after the challenge revealed that 69% of respondents took part in the challenge "to win prizes".

The following quote from a respondent emphasises the importance of the quality of the prizes necessary to encourage participation:

"I think incentives in the form of prizes are the main way you'll get people to change. Good level of prizes given in this challenge made me complete the activities"

Collaboration between UL Smarter Travel and the UL Students' Union led to the promotion of UL Safety Week. A cycling road safety competition was also organised where staff and students were asked to submit an image of an on-campus cycling safety issue and caption to be in with a chance of winning prizes including helmets and other gear.

Introducing 'Sustainability' into curricula is considered to be an ideal way of engaging students with such issues. As part of the on-going development of a smarter travel culture on campus, students are challenged with sustainable mobility projects in many UL courses such as Civil Engineering, Construction Management, Product Design and Digital Media. Over the past two years, three final year projects relating to smarter travel have been completed by civil engineering students including "The development of a Smarter Travel Strategy for the University of Limerick" and "How to get more Irish women on their bikes?"

4. Results

The measurement of a cultural development is difficult to objectively measure. Reliable measurements can only be achieved by a mass-survey of the travel patterns of the entire campus community. In April 2014, travel surveys were published to the staff and students of UL. A total of 736 staff members completed the survey which represents 57% of all staff. The response rate offers accuracies with a margin of error of 2.7% given a 95% confidence level. 1,608 students completed the survey representing 11.6% of all students and corresponding with a margin of error of 2.3% given a 95% confidence level. [10, 11]

The results of the 2014 travel surveys indicated that 11.6% of staff and 11.6% of students cycle as their main commute to UL. This corresponds to an increase of 3.2% and 5.0% respectively when compared with the 2011 results. [10, 11]

Figures 1 and 2 highlight the direct comparison between all travel modes of UL staff from 2011 and 2014. Notably, the percentage of single-occupancy car commuters is down 6.8% and 6.7% among staff and students respectively, replaced mostly in both cases by an increase in active commuting modes of walking and cycling. [10]

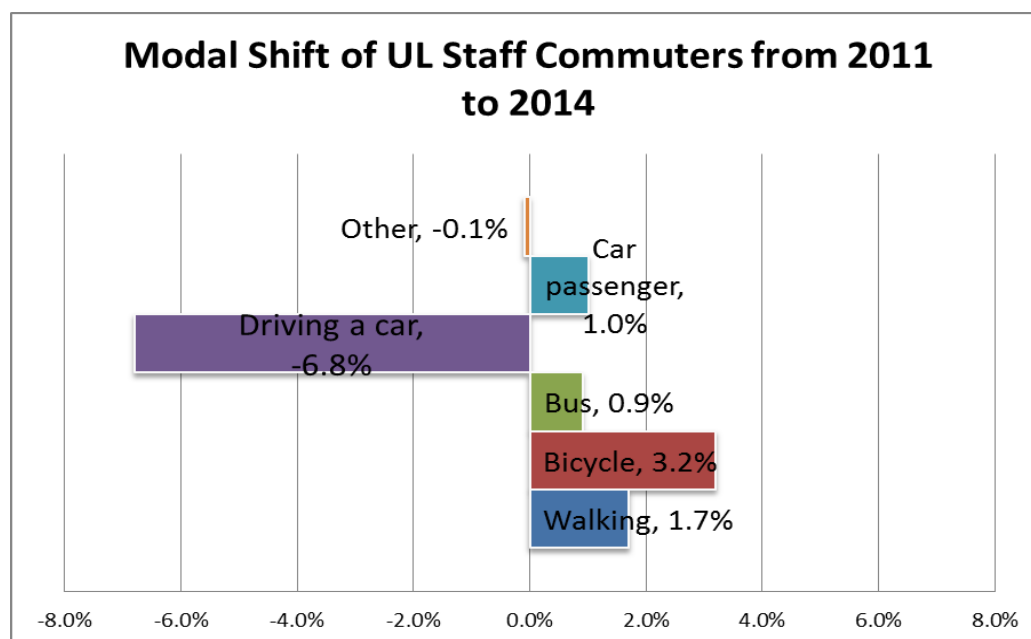


Figure 1: Modal Shift of UL Staff Commuters from 2011 to 2014

Figure 2 highlights the direct comparison between the travel modes of UL students from 2011 and 2014. Notably, the percentage of single-occupancy car commuters is down 6.7% and the active commuting modes of walking and cycling are up 2.2% and 5.0% respectively [11].

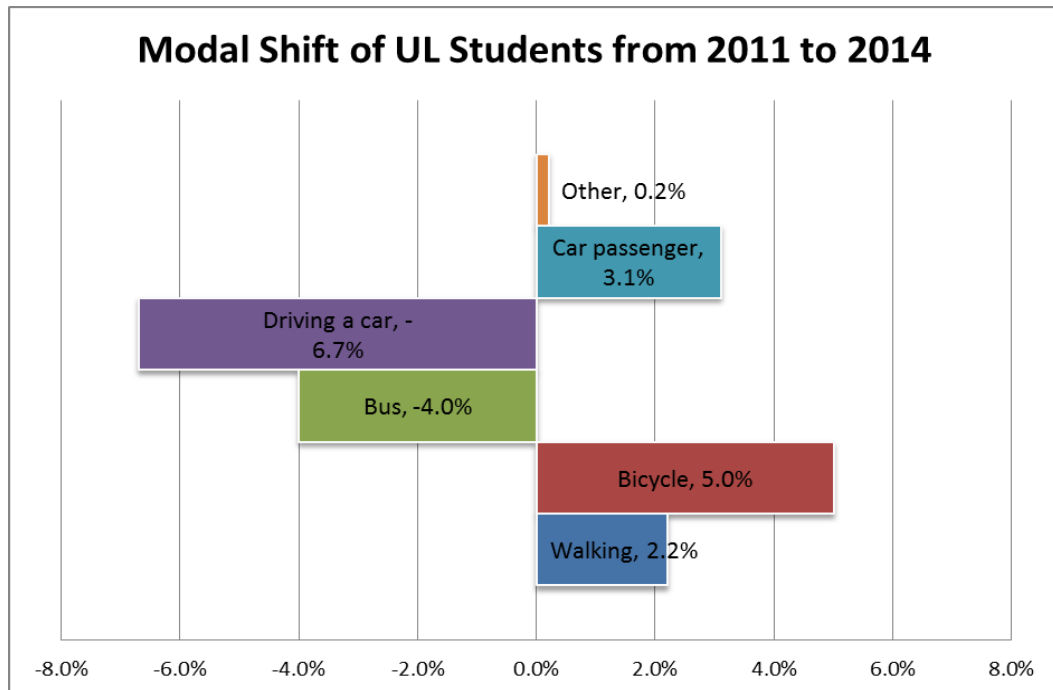


Figure 2: Modal Shift of UL Students from 2011 to 2014.

A significant increase in percentages of staff and students, 3.2% and 5.0% respectively, cycling as their commute was identified. It is unknown whether this increase is due to the general national trend toward sustainable commuting or the recent soft measures implemented in the University.

Between 2011 and 2014, no new significant infrastructural developments for cyclists were constructed. However, given the range of cycling facilities including new cycle lanes, new sheltered and secure bike parking facilities and new shower facilities in campus-central locations, the trend away from single-occupancy driving towards sustainable commuting such as cycling is expected.

The targets for percentages of bicycle commuters by 2017 are 15.5% and 15.8% for staff and students respectively which assumes approximately linear growth towards a 20% target by 2020.

Respondents to the travel surveys were invited to include “any other comments on travel to / from work that are not already covered.” While a number of the comments related to the requirement for new or improved paths and bike parking facilities, which are currently under construction, the quotes below highlight the development of a cycling culture.

“There’s been a noticeable increase in the number of cyclists. This is probably due to the general national trend towards cycling but also due to the activities of Limerick Smarter Travel on campus. Let’s hope this encouragement continues also with improvements to paths, showers and parking facilities.”

“While I applaud the idea of increasing the ease of access of bicycles on campus, it should be noted that most cyclists are either unaware or unconcerned about the rules of the road and other road users. As it stands it is quite dangerous driving in and out of campus with cyclists like this sharing the road and an increase will not improve matters. I think that this problem should be addressed before attempting to increase the number of cyclists on campus.”

“The free towels at the laundrette are a brilliant idea. The riverbank is a great cycling route, if very muddy at the moment. Better shower facilities in the main building would be appreciated.”

“I cycle to work every day. The showers, towels and bike mechanic are a great incentive. Well done! ...”

5. Conclusion

The implementation of a wide range of continuous promotions aimed at encouraging sustainable commuting among the University of Limerick community has led to the development of a bicycle culture and hence modal shift. Results show that single-occupancy driving as a main commuting mode is down 6.8% and 6.7% among staff and students respectively while bicycle commuting is up 3.2% and 5.0% respectively from 2011 to 2014.

With the completion of infrastructural works such as new cycle paths, shower facilities and secure parking facilities, many of the comments that survey respondents listed as barriers to cycling will be removed. The implementation of soft measures aimed at encouraging smarter travel will also continue by the UL Smarter Travel coordinators. The cycling culture that has been created at the University of Limerick is expected to strengthen as a result.

6. References

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