Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin

Summary - A Survey of Travel Modes to Trinity College Dublin

In February 2018 an online survey of travel modes was emailed to all Trinity students and staff. The survey yielded a response rate of 18% (n=3,912). Results were analysed in MS Excel to answer the four questions below and make recommendations for future action to promote Smarter Travel in Trinity.

1. **What transport modes are most often used to travel to Trinity and does Trinity differ in its transport use to other third level institutions and the broader population of Dublin?**

Walking (28%), bus, minibus or coach (27%), train or DART (17%), bicycle (14%) and Luas (11%) are the most popular modes of Transport in Trinity.

Trinity's Smarter Travel use of 97% vastly exceeds the national target of 55% of commuter journeys by walking, cycling or public transport. Trinity also exceeds Smarter Travel use by the general Dublin population (43%) and other third level institutions (67%) on the island of Ireland.

Bike use in Trinity (14%) exceeds national cycling targets which aims to have 10% of all commuter trips by bike by 2020. Cycling rates in Trinity are also much higher than the average cycling rates in Dublin of 8% and the average rates in other third level institutions of 6%. Trinity students and staff choose cycling despite the abundance of public transport available to the campus and the inconsistent cycling infrastructure serving it.

Recommendations:

- Trinity and partners should celebrate the Smarter Travel and cycling rates to campus and consider applying for national or international accreditation for both.
- Smarter Travel promotion in Trinity should continue.
- Trinity and partners should consider creating a cycling strategy to and between campuses to promote cycling to a population disposed to it.

2. **How has transport mode use changed in Trinity between 2011 and 2018?**

Cycling in Trinity has reduced since 2011 from 22% to 14%. It is not clear why. Trips on foot, by train or DART and by Luas have all increased. The increase in walking is welcome but a change from cycling to public transport use is contrary to Irish urban design goals.

Car use declined from 3% to 2%.

Recommendations:

- The Smarter Travel Committee should undertake an investigation into why cycling rates have reduced in Trinity
- Trinity and partners should consider creating a cycling strategy to and between Trinity campuses to promote cycling.
- Trinity should work with partners to audit public transport infrastructure to ensure it facilitates and encourages cycling.

3. What influences Trinity students and staff to choose their preferred mode of travel?

Speed is the most important factor for Trinity students and staff when choosing their mode of transport. Cost is the second most important factor.

Recommendations:

- Trinity and partners should develop a map comparing travel times per mode of transport to Trinity.
- Trinity and partners should promote walking and cycling to campus and should implement initiatives to reduce the cost of cycling.
- Future surveys should measure distances travelled by commuters.

4. How can cycling be promoted?

Trinity students and staff perceive cycling in Dublin as unsafe. An expressed need for segregated cycling is supported by the theory of behaviour change, previous Trinity led research on Dublin and research from Copenhagen.

Bike theft is a problem in Trinity although reducing bike theft is unlikely to be as effective at promoting cycling as segregated cycle lanes.

Recommendations:

- Segregated cycle routes to and between Trinity's campuses should be implemented as soon as possible to reverse the decline in cycling in Trinity.
- Efforts to increase cycling should incorporate a health psychology as well as a road safety perspective.
- Trinity should record rates of bike theft on campus.
- As a secondary cycling promotion aim, Trinity should improve bike parking on campus.
- Future surveys should assess if having a bike stolen resulted in discontinued cycling in the long term.

A Survey of Travel Modes to Trinity College Dublin

Background

The Healthy Trinity: Smarter Travel Committee was established in November 2011 when the Provost of Trinity College Dublin and the Chief Executive of the National Transport Authority signed a Smarter Travel Workplaces Partnership agreement. In 2015[i] and 2011[ii], surveys of the travel modes of Trinity students and staff were undertaken and multiple initiatives[iii] were implemented in response to the results.

In 2016, Trinity contributed to a survey of student participation in Sport[iv] in third level institutions on the island of Ireland. The study included an assessment of travel modes and found that Trinity has very low rates of driving (3% compared to the national average 33%) and high rates of cycling (15% compared to the national average of 6%).

Trinity is an An Taisce certified Green Flag campus since 2013[v] and in 2018, became a member of the International Sustainable Campus Network[vi]. An aim of Trinity's Strategic Plan (2014-2019)[vii] is to become a "global leader in university sustainability." In 2018, the Provost's Advisory Committee on Sustainability[viii] recognised cycling as an important tool in achieving this aim and stated that Trinity would like to see improved cycling infrastructure in Dublin City between its campuses and the residences it provides for students and staff. Both Trinity and Dublin would benefit.

Trinity's focus on cycling is supported by the Irish Urban Design Manual[ix] which states that transportation and planning policies should promote a cycling and walking environment. The limited evidence available on cycle networks and routes however, suggest that segregating cycling does not seem to reduce the risk of collision. A 2015 systematic review[x] of the effect of 11 types of cycling infrastructure on collisions, while noting the dearth of evidence, found that reducing speed limits and changing integrated cycling infrastructure may be more effective in reducing collisions than cycle routes and networks. Similarly, the national cycle manual[xi] recommends integrated rather than segregated cycling.

Both Ireland's Urban Design Manual (REF) and Transport for London[xii] recognise that low levels of perceived safety are an important barrier to overcome when promoting cycling. In 2013, Trinity researchers examined how cycling in Dublin was perceived. They surveyed 1,954 cyclists in Dublin who indicated that they considered cycling an unsafe mode of travel compared to driving even by cyclists who consider themselves competent[xiii]. Another Trinity led study[xiv] that offered hypothetical route choices based on the five most common infrastructure types in Dublin found that facilities segregated from traffic are the preferred form of cycling infrastructure, regardless of cycling confidence. Their work also incorporated a survey asking participants to indicate what would encourage them to begin cycling. 74.1% of respondents said more off road cycle tracks and 56.4% said that more connected on-road cycle lanes would encourage them to begin to cycle to work. The results for better facilities at work, better signage, improved information and increased bike parking were found to be unlikely to encourage individuals to cycle to work.

In 2017, a Danish study offered hypothetical route choices to 3,891 active cyclists[xv]. The authors noted that route characteristics were never previously studied. They found that the most attractive road environment was a segregated cycle path with cyclists stating they would be willing to cycle 1.84 km longer on a designated cycle track and 0.8km more if its surroundings were green too.

This report summarises the findings of a survey of travel modes in Trinity and aims to identify:

1. What transport modes are most often used to travel to Trinity and how does Trinity compare to others?

2. Has transport use changed in Trinity between 2011 and 2018?
3. What influences Trinity students and staff to choose their preferred mode of travel?
4. How can cycling in Trinity be promoted?

Methodology

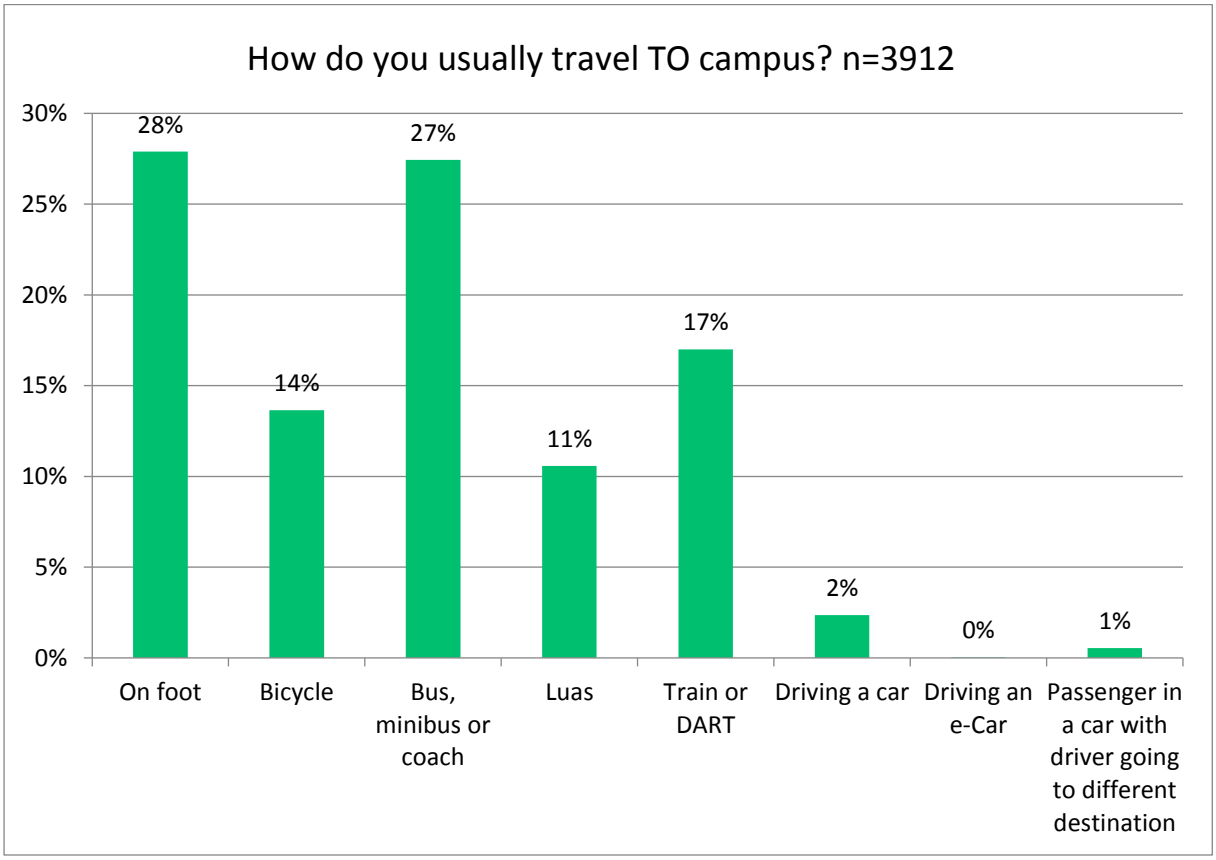
An online survey was circulated to all students and staff of Trinity College. Data were quantitatively analysed in MS Excel.

Results

Response Rate

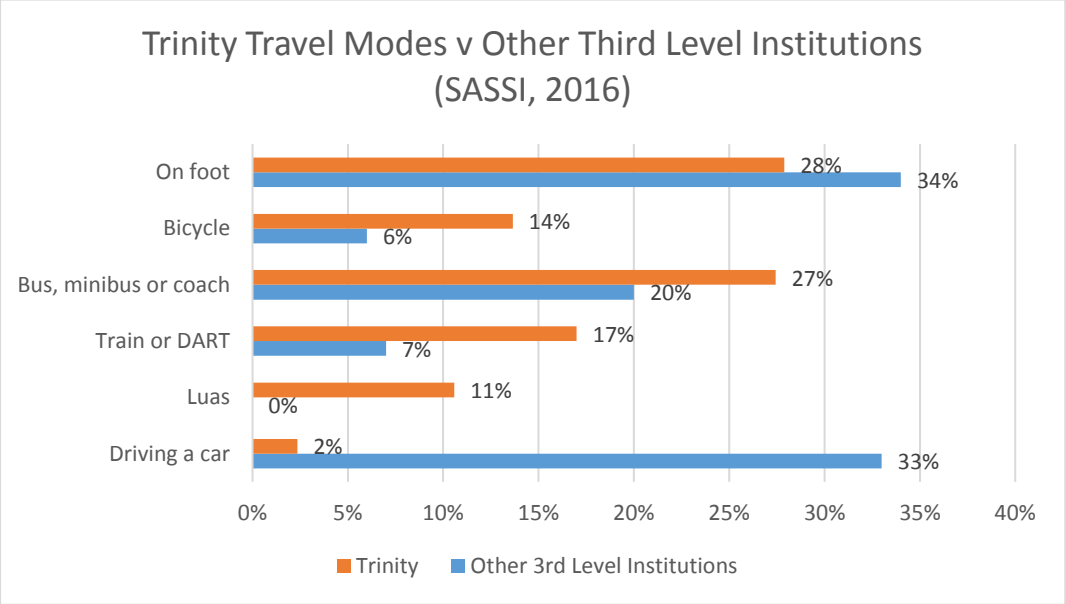
There were 3,912 responses to the survey which represents a total response rate of 18%.

Preferred Primary Transport Mode

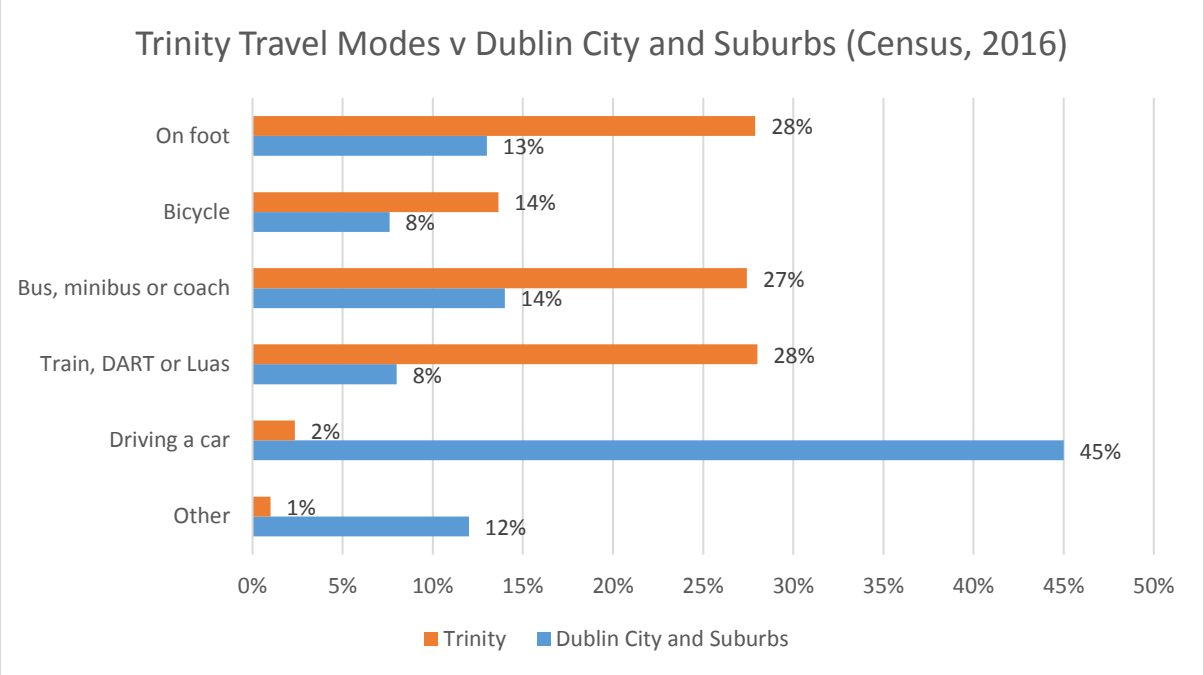


On foot and by bus are the two preferred travel modes of Trinity students and staff. Train, bicycle and Luas are the next most used. Trinity's car use is 2%.

Comparison of Trinity Transport Modes to Other Third Level Institutions

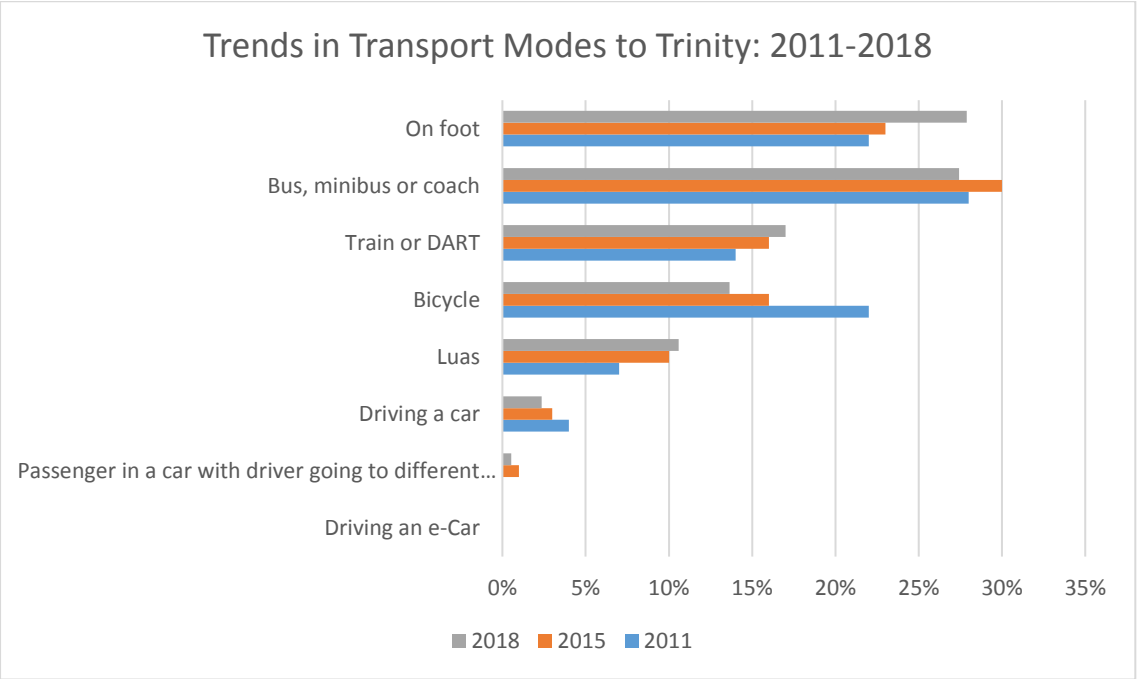


Trinity's car use is extremely low. Less people walk to Trinity than other campuses. Trinity's use of public transport is very high and more than twice as many people cycle to Trinity than to any other third level institution.



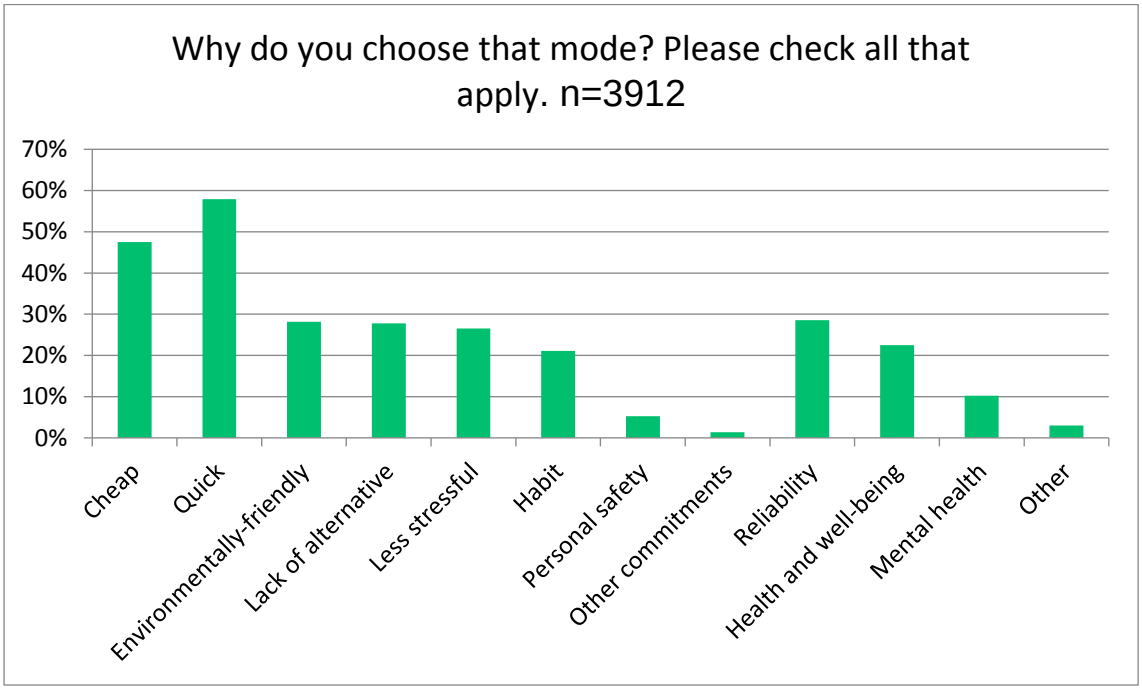
When compared to Dublin City and Suburbs, Trinity's car use is extremely low. Trinity has high levels of public transport use and cycling compared to the general public.

Trends in Transport Modes Since 2011



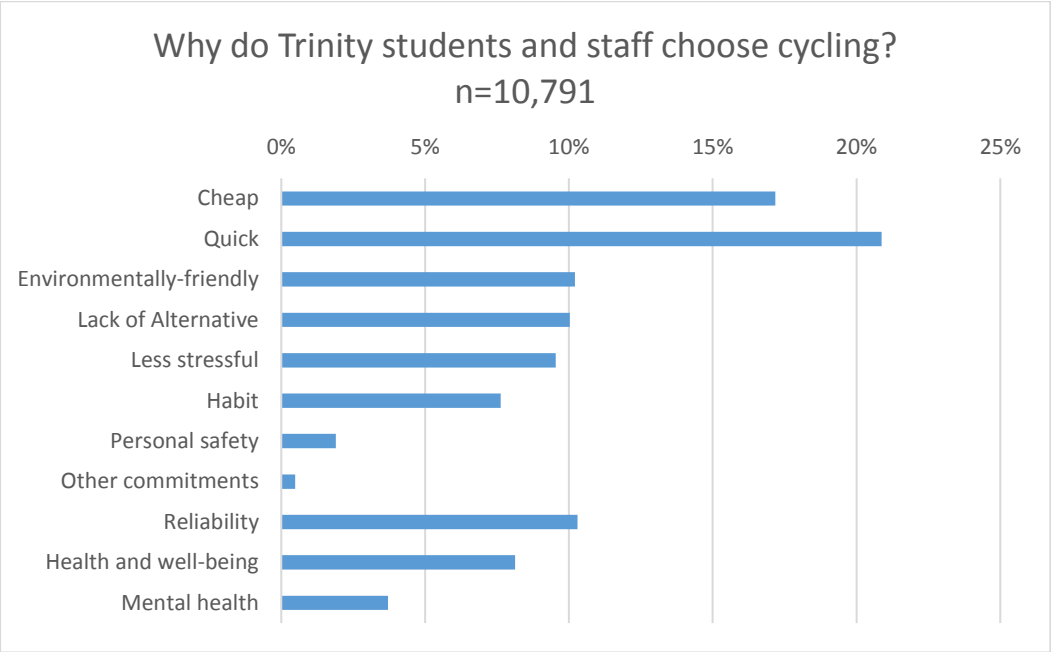
Travel by foot, Luas and Train or Dart has increased since 2011. Bicycle use declined from 22% in 2011 to 14% in 2018. Car use in 2018 reduced a further 1%.

Reasons for Modal Choice

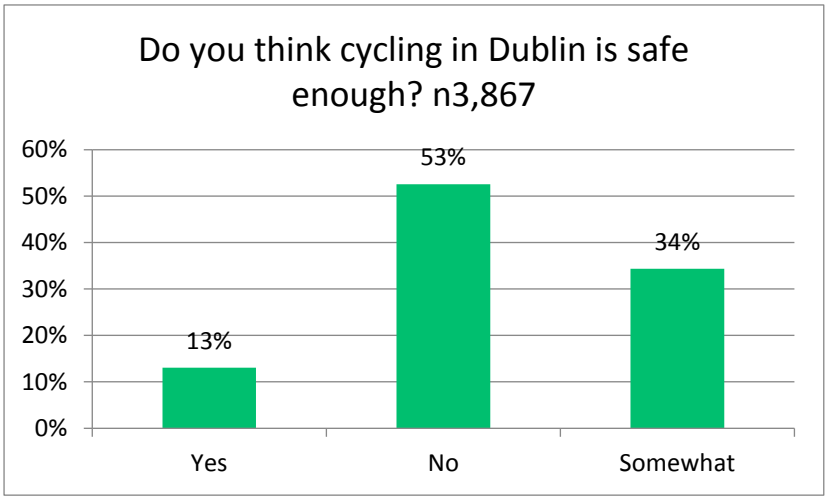


Students and staff choose their preferred mode of transport because it is quick, cheap, reliable and environmentally friendly.

Reasons for Cycling

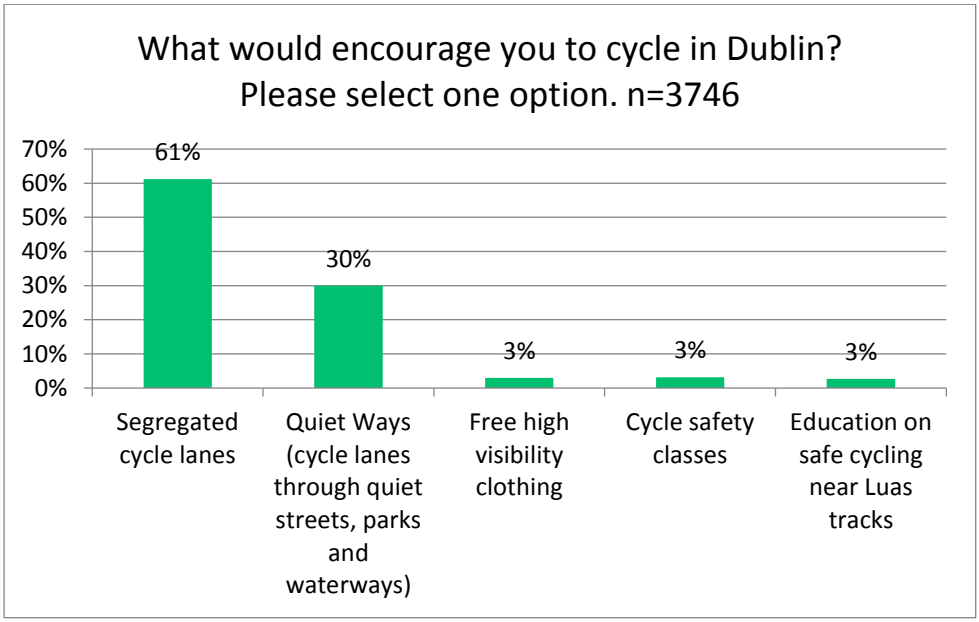


Nearly 11,000 reasons were giving for cycling with speed and cost the two most often cited. Also important was reliability, environmental friendliness, lack of alternative and lack of stress.



The vast majority of students and staff in Trinity think cycling in Dublin is not safe enough.

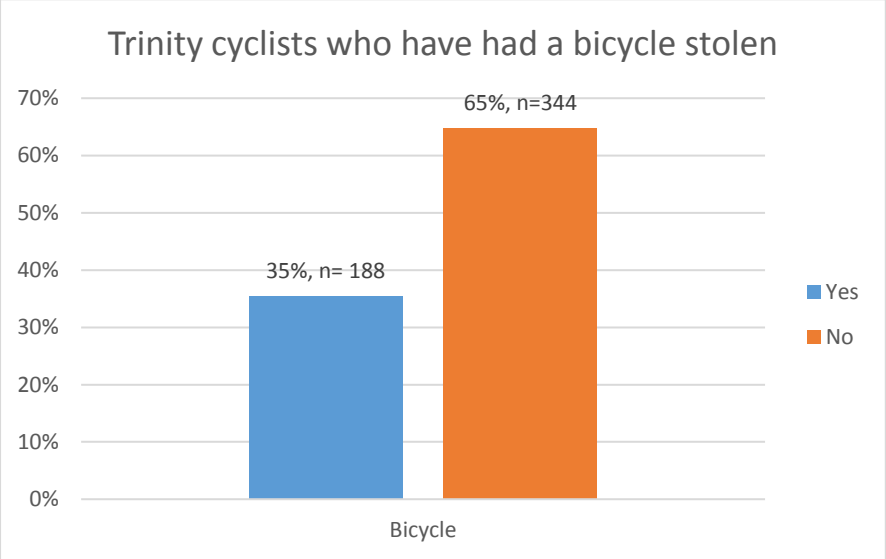
How to Encourage Cycling in Dublin



To encourage cycling, there is a clear preference for segregated routes or quiet ways.

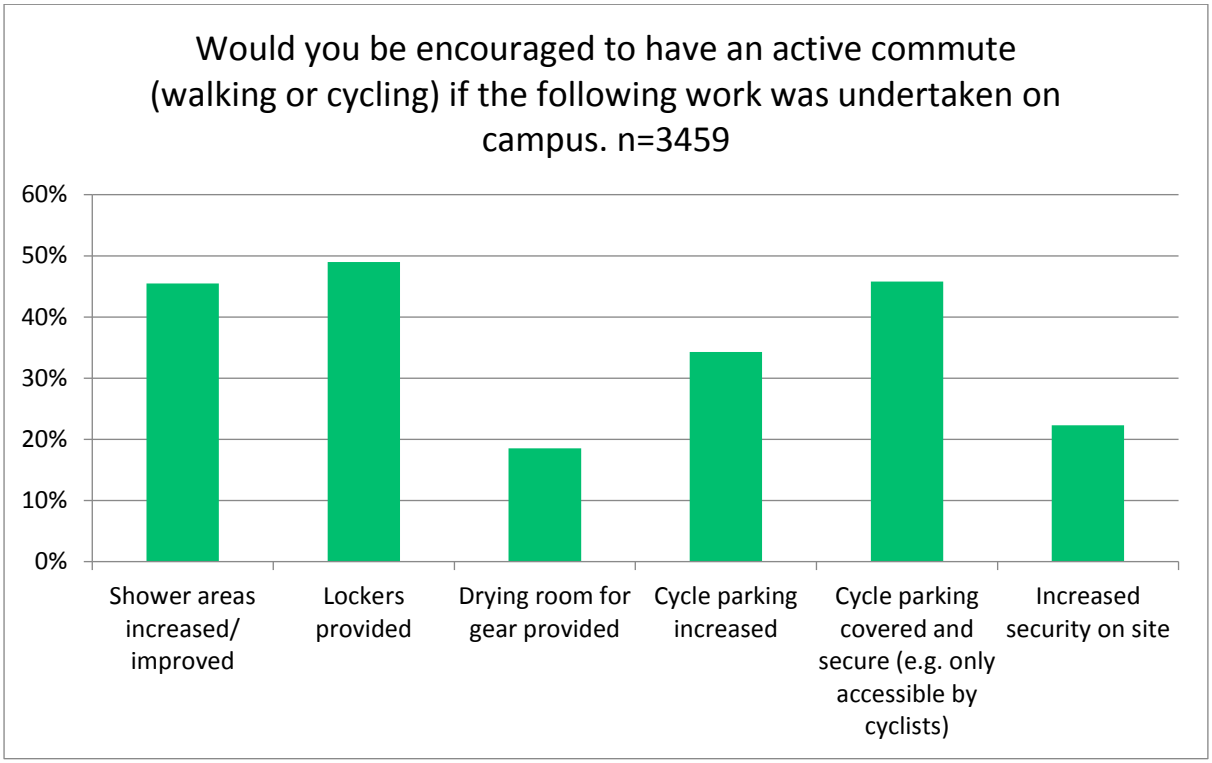
Bike Theft

644 (17%) of respondents have had a bicycle stolen in Dublin.



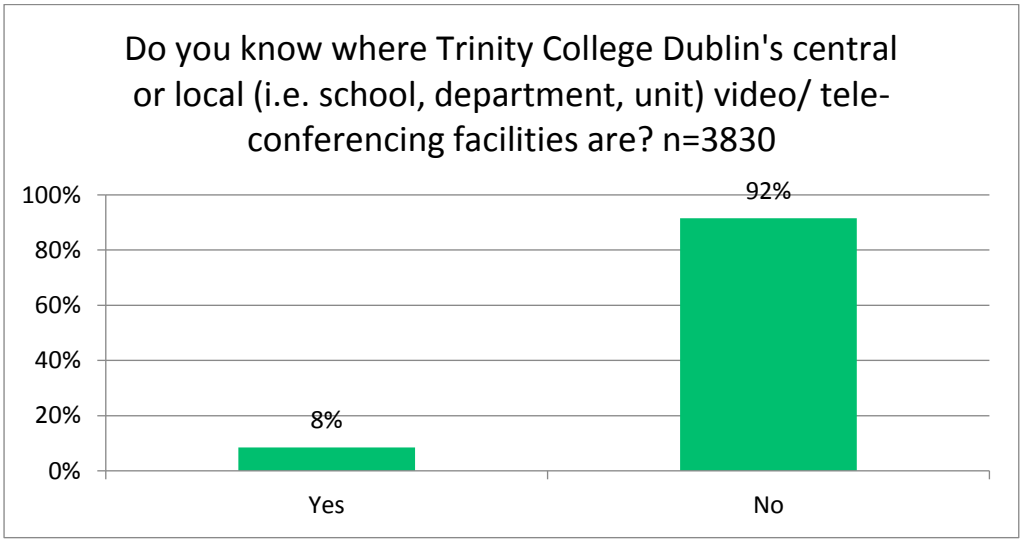
Of those who cycle, over a third have had a bike stolen.

Trinity Supporting Walking and Cycling



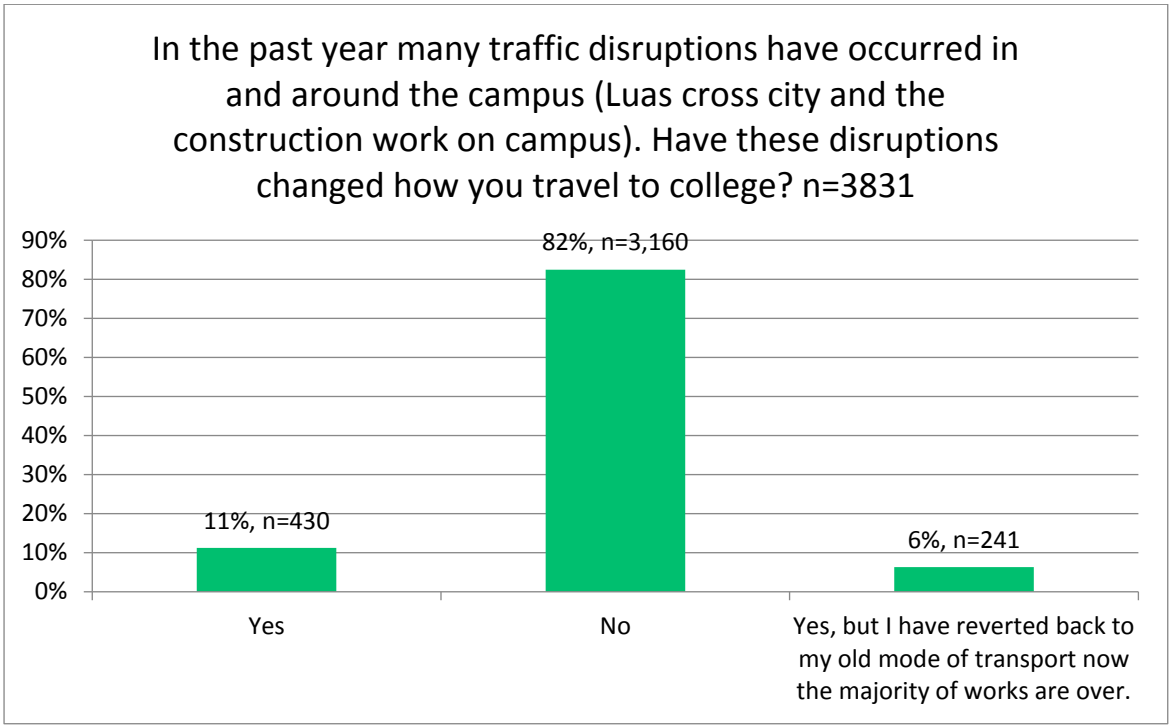
Bicycle parking, lockers and shower areas were the most often cited suggested facilities required on campus to encourage more walking and cycling.

Video/teleconferencing Facilities on Campus



There is a very low awareness of the video/teleconferencing facilities on campus.

Effect of Construction Work

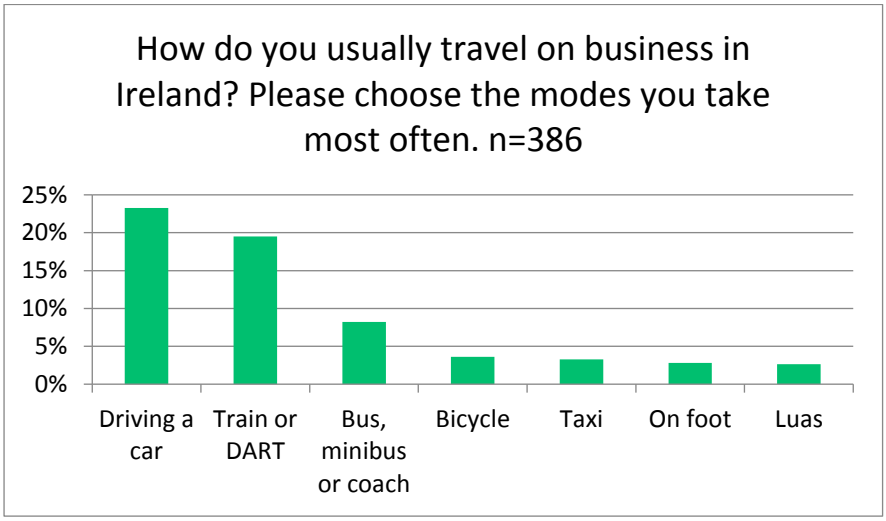


Over 650 Trinity students or staff were disrupted from their usual mode of transport by construction work on or near Trinity's campus.

Alternative Mode Used	%	No responses
On foot	34%	229
Bus, minibus or coach	31%	208
Train or DART	8%	56
Luas	8%	53
Bicycle	7%	45
Driving a car	3%	21
Other means	2%	16

Over two thirds switched to walking or bus.

Staff Travel



Driving is the most popular transport mode amongst staff travelling for work.

Respondents' Campus Location

Campus Name	%	n
Main campus	74%	2786
TBSI - Trinity Biomedical Sciences Institute	10%	360
Trinity Centre, St James's Hospital	7%	268
TTEC - Trinity Technology and Enterprise Centre	0%	15
Trinity Sports Complex, Santry	0%	6
Trinity Centre, Tallaght Hospital	1%	33
School of Nursing & Midwifery, D'Olier St	5%	197
Rochestown Ave. – No longer in use	0%	0
Trinity Hall, Dartry	2%	75
Other		92

Nearly 75% of respondents are most often based on main campus.

Discussion

Transport to Trinity

Trinity has very high rates of Smarter Travel use. The National Transport Authority's Strategy for Sustainable Transport[xvi] aims to cut car commuting to 45% by 2020 and increase walking, cycling and public transport to 55% of total commuter journey to work. With commuting figures of 2% by car and 97% by walking, cycling or public transport, Trinity is vastly exceeding these targets. Trinity's main campus is serviced by excellent public transport which coupled with Trinity's ongoing campaign (approx. 20 years) to reduce the amount of car parking on campus has resulted in Smarter Travel being almost universally adopted in Trinity.

Despite the abundance of public transport available to Trinity, cycling is very popular. Again, Trinity exceeds national targets[xvii] which aim to have 10% of all trips to work be by bicycle by 2020. The decline in cycling of 8% since 2011 is inconsistent with national cycling rates which doubled from 2012 to 2017. Trinity commuters have switched from cycling to walking or public transport but it's not clear why. Reasons suggested by the Smarter Travel Committee include improved public transport services like the new Luas line, students moving beyond cycling distance to obtain affordable accommodation or lack of perceived safety due to construction around Dublin and on campus. The Urban Design Manual[ix] prioritises walking and cycling in cities so an increase in the former is welcome but a decrease in cycling is of concern.

Trinity students and staff clearly feel that cycling in Dublin is unsafe and the stated preference for segregated cycle lanes is consistent with broader research in Dublin[xiii], [xiv] and Copenhagen[xv]. The national cycle manual's prioritisation of integrated rather than segregated cycling does not support this preference. It states "Segregated facilities are recommended where the traffic regime cannot be rendered suitable for integrated cycling"[xi]. Given the importance of overcoming barriers to change behaviour[xviii] and the need for environments to support behaviour before change can occur[xix], future cycling promotion in Trinity should respond to the expressed need for segregated cycling in Dublin by incorporating actions based on the theory of behaviour change as well transport safety.

Although speed is the most important determinant of modal choice in Trinity, the Smarter Travel Committee is unaware of any official comparison of modal speeds to campus (an unofficial DART v bicycle comparison by a Trinity student was created in 2017[xx]). Cost is the second most influential

determinant of how Trinity students and staff choose to travel to campus and both speed and cost were important to cyclists and those who use other modal types.

Bicycle theft appears to be a problem for Trinity students and staff and the most often cited required change to campus was improved bike parking. Research from Trinity suggests however that to increase cycling numbers, segregated cycling is more likely to be effective than improved bike parking.

Conclusions & Recommendations

Answers to the four questions this survey aimed to answer are below and recommendations are made based on them.

1. **What transport modes are most often used to travel to Trinity and does Trinity differ in its transport use to other third level institutions and the broader population of Dublin?**

Walking (28%), bus, minibus or coach (27%), train or DART (17%), bicycle (14%) and Luas (11%) are the most popular modes of Transport in Trinity.

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- Future surveys should assess if having a bike stolen resulted in discontinued cycling in the long term.

Other conclusions and recommendations:

Video conferencing, promotion of Smarter Travel during construction work and the promotion of Smarter Travel for work travel should be considered by the Committee.

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