

# Vend & Ride

## No More Getting Stuck in the Campus

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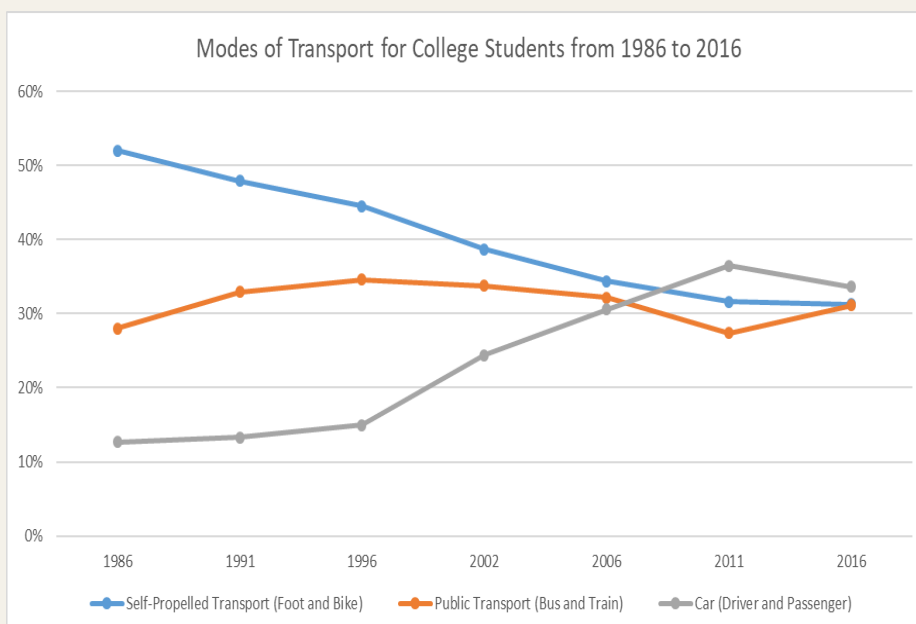
### Introduction

The objective of this project is to encourage more third level student cycle to the campus by installing a vending machine that has cycling essentials, spare parts and accessories beside the existing bike repair stations around the campus.

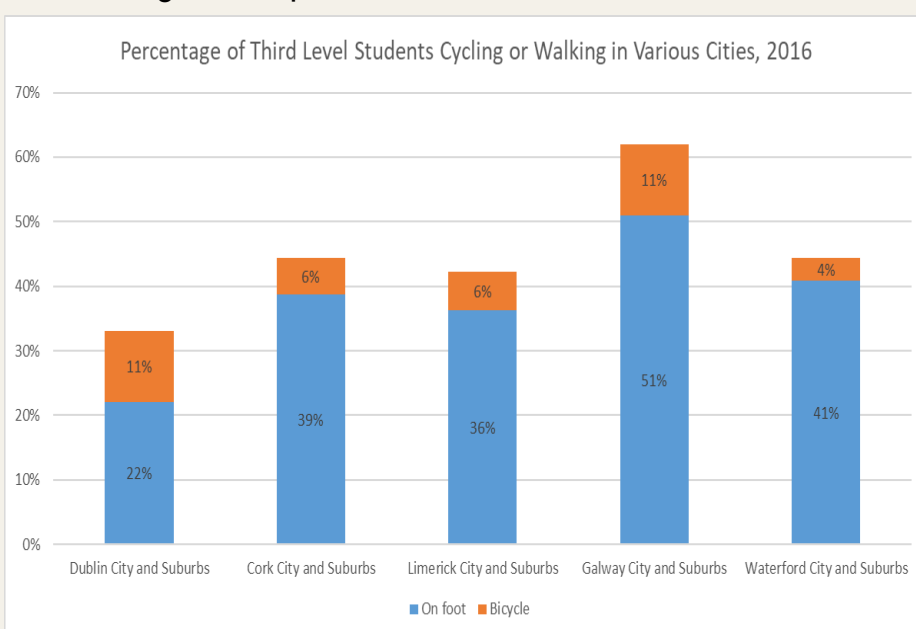
### Background Studies

Some background studies regarding the modes of transport students use when travelling to the campus are summarised in graphs below:

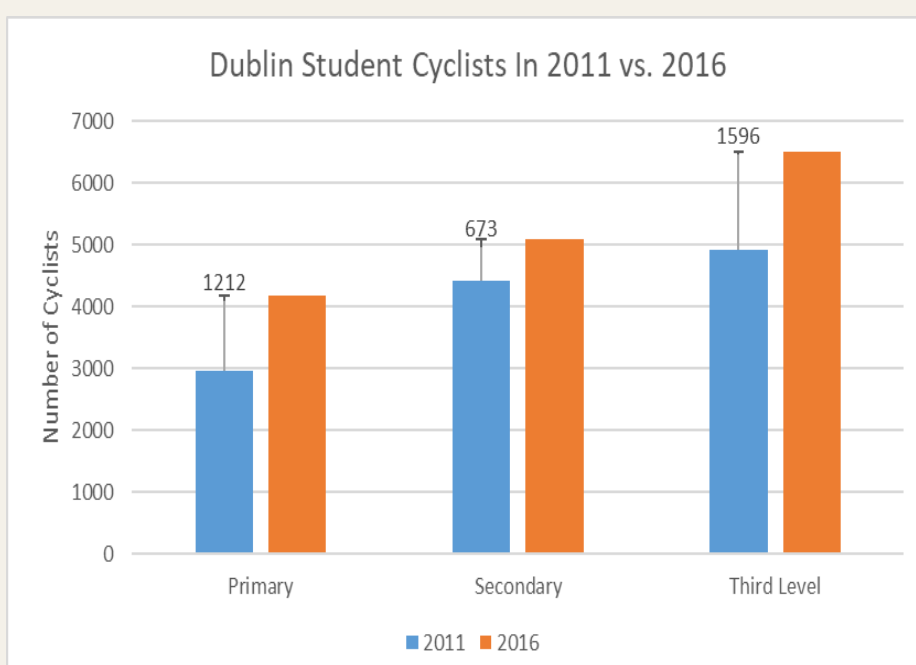
a.) Graph shows modes of transport for college student from 1986 to 2016.



b.) Graph shows percentage of third level students cycling or walking to campus in various cities in 2016.



c.) Graph shows number of Dublin student cyclists in 2011 vs. 2016.



Graph reproduce as per CSO Ireland (Available at: [www.cso.ie/en/releasesandpublications/ep/p-cp6ci/p6cii/p6stpl/](http://www.cso.ie/en/releasesandpublications/ep/p-cp6ci/p6cii/p6stpl/))

### How it Works?

- Specially designed to vend emergency bicycle repair parts and cycling essentials such as safety equipment and locks.
- Operates in the same way as a common vending machine
- The vending machine could be customised to accept coins, cash, bank cards, phone payment (NFC) and student card.

### How it Helps?

- Students can self-repair their bikes in case of an emergency.
- A cheaper way to repair your bike as there is no extra labour cost needed.
- No constraint from the business hours of bike repair shop and repair whenever you want as it operates 24/7.
- Feedback forms would be provided alongside the machine for users to suggest items they would like to have in the vending machine.

### Existing Machine

- The idea of vending machine with bicycle repair parts was already existed and implemented in the United State of America.
- Pictures below show the vending machine in America and the items it offers.



Images courtesy of Saris Infrastructure (Available at: [www.sarisinfrastructure.com/product/full-size-vending-machine/](http://www.sarisinfrastructure.com/product/full-size-vending-machine/))

### Locations of Vending Machine

- The vending machine would be placed directly beside the existing bike repair station around the campus.
- The photo below shows one of the repair stations located beside the Student Centre.



Images courtesy of Turvec (Available at: <https://turvec.com/product/public-bike-pump/cycle-repair-stand-pump/>)

### What is in The Machine and its Price?

Parts	Price in Vending Machine	Price in Belfield Bike Shop
Tube	€5.00	€12.00
Brake Pad	€5.00	€12.00
Brake Cable & Wire	€6.00	€15.00
Lubricant (WD-40)	€2.00	-
Front Light	€3.00	-
Rear Light	€3.00	-
Reflective Vest	€3.00	-
Bike Lock	€5.00	-
Bike Spokes	€8.00	€10.00
Pedals	€10.00	-

- Price of items in the vending machine are estimated based on online retail price from Chain Reaction Cycles (Available at: [www.chainreactioncycles.com/ie/en](http://www.chainreactioncycles.com/ie/en))
- Price to fix some of the common bike problems in the Belfield Bike Shop are much higher than the cost of self-repair.

### Conclusion

- Data from CSO Ireland shows the number of student cyclists has increased from 2011.
- Hence, the measure we are trying to implement is to maintain the cyclists that are already on the road as well as bringing those that were previously affected by the issue we investigated in back on the road.

### References

- Central Statistics Office Ireland (2019). Census of Population 2016 – Profile 6 Commuting in Ireland - Student Travel Patterns. Cork, Ireland: Central Statistics Office Ireland.
- Sarisinfrastructure.com. (2018). High Security Full Size Vending Machine | Saris Infrastructure. [online] Available at: <https://www.sarisinfrastructure.com/product/full-size-vending-machine> [Accessed 8 Oct. 2019].