



**Institute for Climate Change and
Sustainable Development**

Annual Report 2022-2024

Introduction

The Institute for Climate Change and Sustainable Development was established in 2009. During 2022-2024 the Institute strengthened its research areas and continued with its research efforts to promote interdisciplinarity.

The Board of the Institute met regularly during this year where a number of key decisions were taken with respect to the work of the Institute and the development of programmes, projects and events.

This report outlines the work and achievements of the Institute for Climate Change and Sustainable Development during the period October 2022 and September 2024.

Board meetings were held on 5 Dec 2022, 27 Feb 2023, 22 May 2023, 4 Sept 2023, 16 Jan 2024, 11 Mar 2024, 3 June 2024, 2 Sept 2024

Aims of the Institute

- (a) to perform and promote interdisciplinary research on issues related to sustainable development, social sustainability, and climate change including mitigation and adaptation strategies;
- (b) to provide consultancy, advice and assistance on sustainable development and climate change including mitigation and adaptation strategies;
- (c) to provide continuous education, undergraduate, and postgraduate courses within the scope of the Institute subject to the Statutes and Regulations of the University;
- (d) to act as host institution for scholars, professors and chairs of international repute, as well as programmes, networks and fora, that aim to enhance the profile of the Institute within the regional and European research area, in areas related to sustainable development and climate change including mitigation and adaptation strategies;
- (e) to use telemetry, IT tools, intelligent systems, and modelling for monitoring, research, decision support and strategic planning;
- (f) to engage in knowledge transfer and awareness raising initiatives on sustainable development and climate change with companies, organisations and other institutions outside the University to promote best-practice (e.g. to promote the uptake of cleaner technologies; to mitigate and adapt to impacts of climate change on business operations and markets);
- (g) to network and liaise with similar or complementary, university institutions and centres for sustainable development or climate change; and
- (h) to disseminate acquired knowledge through online media, publications, seminars, conferences and teaching programmes.

THE BOARD OF THE INSTITUTE

Chairman **Prof. Simone Borg**
Vice-Chair **Prof. Maria Attard**

Members:

Prof. Richard Muscat

Mr James Pearsall

Prof. Philip Von Brockdorff

Prof. Stefano Moncada

Prof. Alex Torpiano

Prof. Sandro Lanfranco

Prof. Adrian Muscat

Prof. John A. Schembri

Prof. Suzanne Gatt

Dr Thérèse Bajada

Dr Margaret Camilleri Fenech

Dr Anton Bartolo

Ms Karyn Scerri (student)

The Institute Study Programmes

Student Information Numbers 2022-2023

Number of new entrants: Nil (MSc)	11 (Short Course Award)
Total number of students: 18	Female students: 7 Male students: 11
Number of Masters by research students: 3	Number of doctoral students: 3
Number of post-doctoral students Nil	Number of international students: 1
Number of students with disability Nil	Number of mature students 11

Student Information Numbers 2023-2024

Number of new entrants: Nil (MSc)	11 (Short Course Award)
Total number of students: 16	Female students: 6 Male students: 10
Number of Masters by research students: Nil	Number of doctoral students: 3
Number of post-doctoral students Nil	Number of international students: Nil
Number of students with disability Nil	Number of mature students 11

During the period under review the Institute collaborated with the newly set up Lands Authority to provide professional development courses for their employees. A Short Course Award (SCA) was developed in collaboration with the Faculty of the Built Environment, Faculty of Laws and Faculty of Economics, Management and Accountancy. The Short Course Award is made up of four (level 4) study units each valued at 4 ECTS on principles of sustainability, property law, land economics and land use planning. This SCA in Sustainable Land Management is now being offered every year and is open to anyone with an interest in real estate and land management.

<https://www.um.edu.mt/courses/overview/slmscaugptd-2024-5-o/>

The first cohort of Lands Authority employees completed their programme in the summer of 2024, with the Authority organising a small ceremony at the Valletta Campus.



Source: TVM News, June 29.

The Administrative Office

During 2022-2024 the Institute was located in 45, Triq l-Esperanto, Msida and in Porta Cabins located in Car Park 6. The office housed the administrative as well as the academic staff, whilst the researchers, interns, students and project work was transferred to the Porta Cabins. The Director's Office was located in the Humanities. Although not ideal, work continued unabated throughout the years.

The Institute's Human Resources

Mr Carlos Cañas Sanz continued to work on his PhD and related projects until June 2024 when he submitted his thesis.

Mr Stephen Joseph Giuliano and Dr Suzanne Maas worked as a Part-time Research Support Officer II to support the work of the Nudging Active Travel Project until 2023.

Ms Karyn Scerri was employed as part-time Research Support Officer II to support the Nudging Active Travel Project and eventually supporting the HORIZON metacaze project. She continued to work on her PhD looking at active travel and the concept of laziness in transport and mobility research during this period.

A number of part-time research support officers have been employed during this period to support the various projects including **Mr Stefan Borg, Ms Buse Baris Kati, Mr David Micallef, Ms Diane Scicluna and Ms Raffaella Zammit.**

Dr Thérèse Bajada, Senior Lecturer continued servicing the Institute and several other departments within the University. She is also an Associate Member of the Institute for Sustainable Energy at the University. **Dr Margaret Camilleri Fenech**, Assistant Lecturer (TR4) further supports the growth in the Institute's teaching, research and administration.

Mr Raphael Mizzi has continued to work as the Green Travel Coordinator and supporting the Nudging Active Travel project.

Ms Romina Zammit, the Institute Administration Specialist has continued to manage and support the Institute, its staff and activities.

Community Outreach

The Institute on the WWW

The Institute website has continued to act as a medium for communication with the University community and the general public. The Institute's website contains reference to almost all the work that the Institute engaged in since its opening in 2009. This is complemented by a Facebook page and a LinkedIn profile where news and other items are regularly uploaded. Social media efforts have now also extended to the UM Instagram and Facebook page.

The Institute in Newspoint and Media (selection)

11 October 2022 Active travel workshop: 'Why don't we walk?'

<https://www.um.edu.mt/newspoint/events/um/2022/10/active-travel-workshop-why-dont-we-walk>

08 November 2022 University Forum on Transport and Logistics

<https://www.um.edu.mt/newspoint/news/2022/11/university-forum-on-transport-and-logistics>

09 December 2022 Nudging Active Travel: Community Workshop held at the University

<https://www.um.edu.mt/newspoint/news/2022/12/nudging-active-travel-community-workshop-held-at-the-university>

17 January 2023 Rethink | Ep.4: Sustainable Development

Prof. Maria Attard and Dr Marie Briguglio engage in a discussion on sustainable development organised by the Archdiocese of Malta

<https://church.mt/rethink-ep-4-sustainable-development/>

23 January 2023 Showcasing transport research at UM

<https://www.um.edu.mt/newspoint/news/2023/01/showcasing-transport-research-at-um>

Prof. Maria Attard and UM doctoral student Karyn Scerri attended the **Transportation Research Board Annual Meeting in Washington D.C. this January 2023** and presented their research after two years of no travel due to COVID-19. As part of her doctoral studies Ms Scerri presented work on perceived exertion when walking for short distances, work which she collaborated on and wrote whilst on an Erasmus+ mobility period at TU Delft in 2022. Prof. Attard presented her recent work on women and work in the public transport sector, a study across four European islands, which looks at the challenges faced by women and employers in the sector. This work was done in collaboration with Prof. Loukas Dimitriou from the University of Cyprus.

Whilst in Washington D.C., Prof. Attard also had the opportunity of attending the Chair's Reception of the Women in Transportation Society and meet US Transportation Secretary Pete Buttigieg.



Earlier in November 2022, Prof. Attard was also invited at an expert roundtable at the **Organisation for Economic Co-operation and Development (OECD) in Paris**, organised by the International Transport Forum on walking and cycling in urban areas. As part of a global panel of experts, Prof. Attard contributed her research and experiences on active travel, sharing also insights into her and her team's work and projects at the University of Malta.

27 January 2023 Making bicycle racks safer at UM

<https://www.um.edu.mt/newspoint/news/2023/01/making-bicycle-racks-safer-at-um>

25 January 2023 Active Travel Workshop

<https://www.um.edu.mt/newspoint/events/um/2023/01/active-travel-workshop>

08 February 2023 Active Travel Workshop: Reġjun Tramuntana

<https://www.um.edu.mt/newspoint/events/um/2023/02/active-travel-workshop-regjun-tramuntana>

23 February 2023 Government has no 'appetite' to penalise car use - Aaron Farrugia

Prof. Maria Attard and Prof. Marie Briguglio contribute to panel at Times of Malta event titled The Road to Reliable Public Transport.

<https://timesofmalta.com/article/watch-live-aaron-farrugia-takes-questions-public-transport.1015095>

07 March 2023 Testimonial by a graduating international student

<https://www.um.edu.mt/newspoint/news/2023/03/testimonial-graduating-intl-student>

09 March 2023 Active Travel Workshops in the North Region

<https://www.um.edu.mt/newspoint/news/2023/03/active-travel-workshops-in-the-north-region>

26 March 2023 Reconsidering Mobility discussed at the latest Malta Sustainability Forum

Prof. Maria Attard intervenes at this year's forum.

<https://timesofmalta.com/article/reconsidering-mobility-discussed-latest-msf-a2.1021171>

30 March 2023 Harbour ferry passengers down by two-thirds since 2019

Interview with Prof. Maria Attard about her research on ferry passengers.

<https://timesofmalta.com/article/harbour-ferry-passengers-twothirds-since-2019.1022420>

25 September 2023 UM Researcher doctoral student awarded the WCTRS Y-II Innovation Grant

<https://www.um.edu.mt/newspoint/news/2023/09/um-researchers-at-the-world-conference-on-transport-research-wctr-2023-in-montreal>

29 September 2023 Prof. Maria Attard delivers this year's Brian Hoyle Lecture at the Royal Geographical Society in London

<https://www.um.edu.mt/newspoint/news/2023/09/prof-maria-attard-delivers-this-years-brian-hoyle-lecture-at-the-royal-geographical-society-in-london>

02 November 2023 Therese Bajada appointed Road Safety Council chair

<https://timesofmalta.com/article/therese-bajada-appointed-road-safety-council-chair.1065135>

03 November 2023 UM Senior Lecturer appointed Chair of the Road Safety Council

<https://www.um.edu.mt/newspoint/news/2023/11/therese-bajada-chair-road-safety-council>

17 January 2024 Introducing metaCCAZE: New EU project on smart zero emission urban mobility

<https://www.um.edu.mt/newspoint/news/2024/01/pr-introducing-metaccaze-eu-project-smart-zero-emission-urban-mobility>



01 February 2024 L-MCESD jenfasizza l-importanza tal-ESG

Prof. Maria Attard and Prof. Simone Borg attend the visit of the MCESD to UM.

<https://talk.mt/l-mcesd-jenfasizza-l-importanza-tal-esg/>

15 February 2024 The HSBC Malta Foundation supports Three-Year UM Research Project through RIDT

<https://www.um.edu.mt/newspoint/news/2024/02/hsbc-malta-foundation-three-year-project-ridt>

28 February 2024 New Interreg EuroMED project on Green and Inclusive Mobility hubs GREENMO

<https://www.um.edu.mt/newspoint/news/2024/02/new-interreg-euromed-project-on-green-and-inclusive-mobility-hubs-greenmo>



GREENMO

**Interreg
Euro-MED**



Co-funded by
the European Union

07 May 2024 Bike vs Car – What’s the fastest way to commute to University campus?

<https://www.um.edu.mt/newspoint/news/2024/05/bike-vs-car-faster-commute-university>

17 May 2024 UM & AP Valetta launch Urban Resilience Project with support from HSBC Malta Foundation

<https://www.um.edu.mt/newspoint/news/2024/05/urban-resilience-project>

20 May 2024 Generous donation boosts UM’s sustainable commuting with new e-bike

<https://www.um.edu.mt/newspoint/news/2024/05/new-ebike-um-sustainable-commuting>

25 June 2024 UM academic asked to attend US-EU Symposium on Innovative Strategies for Transportation in Washington D.C.

<https://www.um.edu.mt/newspoint/news/2024/06/maria-attard-symposium-innovative-strategies-transport>

03 July 2024 Why an Msida park is a good idea... even for transport. This proposal is a golden opportunity. The alternative will be difficult to remove

Opinion article by Prof. Maria Attard on the Msida Creek project

<https://timesofmalta.com/article/why-msida-park-good-idea-even-transport.1094759>

03 July 2024 “Il-proposta li jsir park fl-lmsida hija opportunità tad-deheb”

News article on the opinion piece by Prof. Maria Attard

<https://netnews.com.mt/2024/07/03/il-proposta-li-jsir-park-fl-lmsida-hija-opportunita-tad-deheb/>

09 July 2024 Prof. Maria Attard is the new Chair of NECTAR (Network on European Communications and Transport Activity Research)

<https://www.um.edu.mt/newspoint/news/2024/07/maria-attard-chair-nectar>



29 August 2024 Mobilità urbana sostenibile, esperti europei a Bari per Summer School

Prof. Maria Attard among the group of experts contributing to the EIT Urban Mobility Summer School in Bari

<https://www.ambienteambienti.com/mobilita-urbana-sostenibile-esperti-europei-a-bari-per-summer-school/>

05 September 2024 ICCSD Engages with Kids on Campus for a Greener University!

<https://www.um.edu.mt/newspoint/news/2024/09/iccsd-engages-kids-campus-greener-university>

TV and Radio Contributions

During the year Prof. Maria Attard, Dr Thérèse Bajada, Dr Margaret Camilleri Fenech and Mr Raphael Mizzi contributed to a number of television and radio programmes to raise awareness and discuss issues related to sustainable mobility, climate change and sustainability and waste management. These included campus radio but also national radio and TV stations and programmes.

Participation in conferences, invited lectures and other events

Prof. Maria Attard delivered the following keynotes and invited talks:

Sustainable Transport in an island context – the islands of Malta. Guest lecture at the Department of Geography, University of Denver, Denver, USA. 22 April, 2024.

Resilience in urban land use and transport planning – what is behind the rhetoric? Invited Keynote at the AESOP 2024 Heads of Schools Meeting, Università Iuav di Venezia, Venice, Italy. 15 March 2024

Active Mobility Research and Climate Action. Seminar for the Department of Industrial and Systems Engineering, The Hong Kong Polytechnic University, Hong Kong. 13 December, 2023.

Active Mobility Research and Climate Action. Seminar for the Queensland Government Department of Transport and Main Roads, Brisbane, Australia. 27 November, 2023.

Active Mobility and Action Research. Invited keynote at the XXVI International Conference “Living and Walking in Cities” New Challenges for Sustainable Urban Mobility, Brescia, Italy. 7-8 September, 2023.

Active Mobility Research as Climate Action. Invited keynote for the Brian Hoyle Lecture at the RGS-IBG Annual Conference 2023 Royal Geographical Society, London, UK. 29 August - 1 September, 2023.

She was invited as Visiting Professor at University of Perugia, Italy (February 2023), Griffith University, Brisbane, Australia (November 2023), The Hong Kong Polytechnic University, Hong Kong (December 2023), Università Iuav di Venezia, Italy (March 2024) and University of Denver, USA (April 2024).

List of Conference Presentations

White, P. and Bajada, T. (2024) Changing bus networks through an incremental process versus a single step approach. Bus Centre of Excellence UK, Webinar, 10th September.

D'Orso, G., Torrasi, V., Attard, M., Migliore, M. (2024) Insights into E-Scooter Usage in Palermo (Italy): Influence of Socio-Demographic Variables and Individual attitudes. Paper presented at the 26th Euro Working Group on Transportation Meeting (EWGT 2024), Lund, Sweden, 4-6 September.

Scerri, K, Attard, M. (2024) Implementing a fully virtual urban living lab to evaluate public acceptance of active travel interventions. Presented at the RGS-IBG Annual International Conferences held in London, UK, 27-30 August.

Scerri, K, Attard, M. (2024) Analysing public acceptance of pedestrian interventions in a highly car dependent context – the case of Malta. Presented at the 35th International Geographical Congress (IGU-UGI) held in Dublin, Ireland, 24-30 August.

Cañas, C., Attard, M. (2024) Elements of perceived walkability – an analysis of walking experiences using citizen science techniques. Presented at the 2024 NECTAR Conference, Brussels, Belgium, 3-5 July.

Scerri, K., Attard, M. (2024). 'Understanding the barriers and facilitators of designing and implementing active mobility intervention in Brussels and Malta'. Presented at the Nectar 2024 Conference in Brussels, Belgium, 3-5 July.

D'Orso, G., Torrasi, V., Migliore, M., Attard, M. (2024) A GIS-Based Approach to Enhance Safety and Accessibility of Shared Mobility Services. Paper presented at the 2024 International Conference on Computational Science and Its Applications (ICCSA), Hanoi, Vietnam, 1-4 July.

Bajada, T. (2024) The Link of the Timed City Concept to Sustainable Mobility. SGroup BIP on Energy: Towards a Sustainable Energy System Challenges and Opportunities. Escuela de Ingenierías Industriales Universidad de Valladolid, Spain (Online 4 June).

Attard, M. (2024) The potential of sea ferries for multi-modal integration in island (transport) geographies. Presentation at the American Association of Geographers (AAG) Annual Meeting, Honolulu, Hawaii, USA, 16-20 April.

Goetz, A.R., Attard, M., Budd, L. (2024) Air travel and tourism in Malta: Impacts of low-cost airline introduction. Presentation at the American Association of Geographers (AAG) Annual Meeting, Honolulu, Hawaii, USA, 16-20 April.

Mifsud, W.J., Scheiber, S., Bajada, T. (2024) Walk the talk. Mapping the 15 Minute City towards Actionable Policy in Malta. mobil.TUM 2024 The Future of Mobility and Urban Space Conference, NECTAR Session 15mC and Walking, Technical University of Munich, Munich, 11 April.

Bajada, T. (2024) The Importance of Data to Identify Patterns in Road Injury Traffic Accidents. Road Traffic Collision and Extrication Symposium organised by the The Maltese Emergency Nurses Association, Xara Lodge, Rabat, 24 February.

Scerri, K, Attard, M. (2024) Walking Women: Exploring Gender Differences in Perceived Physical Exertion of Walking Short-distance Trips in Malta. Poster presented at the Transportation Research Board 103rd Annual Conference held in Washington, D.C., USA, 7-11 January.

Attard, M. (2024) Pandemic experiences, digital technologies and impacts on mobility behaviour in an extreme car dependent island community. Poster presented at the Transportation Research Board 103rd Annual Conference held in Washington, D.C., USA, 7-11 January.

Attard, M. (2023) Using nudges and action research to encourage active travel modes in car dependent island communities. Poster presented at the Hong Kong Society for Transportation Studies HKSTS 2023 International Conference. Hong Kong, 11-12 December.

Goetz, A., Attard, M., Budd, L. (2023) Air travel and tourism in Malta: Impacts of low-cost airline introduction. Presented at Australian Transport Research Forum (ATRF) Conference 2023, Perth, Australia, 29 November – 1 December.

Attard, M. (2023) Pandemic effects on mobility in the islands of Malta. Presented at the NECTAR Cluster 6 Workshop “The impact of ICT on accessibility after the pandemic: new formats of shopping, work and transport”. Antwerp, Belgium, 12-13 October.

Bajada, J., Grech, J., Bajada, T. (2023) Deep Reinforcement Learning of Autonomous Control Actions to Improve Bus-Service Regularity. Presented at the ECAI (European Conference on Artificial Intelligence), Krakow, Poland, 4 October.

Goetz, A., Attard, M., Budd, L. (2023) Air travel and tourism in Malta: Impacts of low-cost airline introduction. Presented at 9th EUGEO Congress, Barcelona, Spain, 4-7 September.

Attard, M., Scerri, K. (2023) The challenges to implementing pedestrian-focused interventions using a multi-stakeholder approach – the case study of Malta. Proceedings of the XXVI International Conference “Living and Walking Cities”. Pedestrians, Urban Space and Health, Brescia, Italy 6-8 September.

Attard, M., Canas, C., Scerri, K., Maas, S., Giuliano, S.J. (2023) Nudging walking and cycling in extreme car dependent communities. Proceedings of the XXVI International Conference “Living and Walking Cities”. Pedestrians, Urban Space and Health, Brescia, Italy 6-8 September.

Scerri, K., Attard, M. (2023) Virtual Urban Living Labs as a practical tool for citizen and stakeholder engagement in urban mobility intervention. Presented at the RGS-IBG Annual International Conference, London, 29 August - 1 September.

Scheiber, S., Mifsud, W.J., Bajada, T (2023) Exploring the Potential for Timed Cities: The Case of Paola. Presented at the RGS-IBG Annual International Conference, London, 29 August - 1 September.

Bajada, T. (2023) Road Space Wars. Rivalry between bus use and car use in a car-dependent island state. Presented at the RGS-IBG Annual International Conference, London, 29 August - 1 September.

Attard, M., Bergantino, A., Intini, M. (2023) Effects of local urban characteristics and driving behaviour on injuries among pedestrians and cyclists in Malta. Paper presented at the 16th World Conference on Transport Research, Montreal, Canada, 17-21 July.

Scerri, K. & Attard, M., (2023) Understanding the impact of pedestrian intervention on laziness and car dependency reduction in a European island. Presented at the 16th World Conference for Transport Research, Montreal, Canada, 17-21 July.

Bajada, T., Satariano, B. (2023) From hectic and busy outdoors to hectic and busy indoors? Mobility and activity related insights of families with kids during the first weeks of the COVID-19

pandemic in Malta. Presented at the 16th World Conference for Transport Research, Montreal, Canada, 17-21 July.

Jo, S-H., Attard, M., D'Agostini, E. (2023) Transport Capacity Adjustments of Shipping Lines: Chartering decision before and during COVID-19 Pandemic. Presented at the Italian Association of Transport and Logistics Economics XXV Conference "Pandemic, climate change and energy crisis: how to adapt the transportation system?", Trieste, Italy, 22-23 June.

Rocchi, L., Rizzo, A.G., Paolotti, L., Attard, M., Boggia, A. (2023) Climate Change and Vulnerability of Coastal Roads: assessinng the Malta case study. Presented at the Italian Association of Transport and Logistics Economics XXV Conference "Pandemic, climate change and energy crisis: how to adapt the transportation system?", Trieste, Italy, 22-23 June.

Attard, M., Dimitriou, L. (2023) Women and Work in Public Transport across four European Islands. Poster presented at the Transportation Research Board 102nd Annual Conference held in Washington, D.C., USA, 8-12 January.

Scerri, K., Attard, M., Duives, D., Cats, O. (2023) Analyzing the Impact of Perceived Exertion on Walking for Short Distance Trips; a Comparative Case Study of Malta and the Netherlands. Proceedings of the Transportation Research Board 102nd Annual Conference held in Washington, D.C., USA, 8-12 January.

New Research Activity

The Institute has continued to work on the projects awarded in the previous years. It has also succeeded to submit and participate in project proposals, both locally and abroad. Table below shows the projects and the outcome of the funding applications for 2022-2024.

Funding Programme	Title of Project	Project Partners	Outcome and Value
Regional Committees (Western)	Nudging Active Travel Project	Prof. Maria Attard, Carlos Cañas, Suzanne Maas, Karyn Scerri, Stephen J. Giuliano, Raphael Mizzi, Stefan Borg	AWARDED
COST	TRANSFORMERS (CA22156).	Prof. Maria Attard, Karyn Scerri	AWARDED
VREF (Volvo Research Foundation)	Enhancing Walkability to Public Transit: A Comparative User-Centric Approach in Cairo, Lima, and Valletta	Prof. Maria Attard	NOT AWARDED
HORIZON	Metacaze – Accelerating Smart and Shared Zero Emission Mobility	Prof. Maria Attard, Karyn Scerri	AWARDED
INTERREG MED	GREENMO Green Mobility Hubs in Med	Prof. Maria Attard, David Micallef, Karyn Scerri	AWARDED
HSBC Foundation	Nature Based Solutions for Urban Resilience	Prof. Maria Attard, Raffaella Zammit	AWARDED
HSBC Foundation RIDT	Sustainable Freight Movement	Prof. Maria Attard, Buse Bari Kati, Dr Enrico D’agostino	AWARDED
INTERREG Italia-Malta	CHORAL	Prof. Maria Attard, Stefan Borg, Karyn Scerri	AWARDED
SINO-MALTA	Advancing Demand-responsive Autonomous Public Transport – ADAPT	Prof. Maria Attard, Karyn Scerri	NOT AWARDED
Cyprus Research and Innovation Programme	INCENTIMOVE – Motivating Sustainable Mobility Through Incentives and AI Driven GEOINT	Prof. Maria Attard, Dr Suzanne Maas	AWAITING EVALUATION
MTIP (Min. for Transport)	Mobility Wallet	Prof. Maria Attard	AWAITING EVALUATION
MTIP	Multi-Modal Integration	Prof. Maria Attard	AWAITING EVALUATION

CLIMECO-MALTA	Climate Modelling for Ecological and Climate Assessment in Malta	Prof. Maria Attard, Dr James Ciarlo, Prof. David Mifsud	AWAITING EVALUATION
Environment and Resources Authority	Waste Characterisation Project	Dr Margaret Camilleri Fenech	AWARDED
COST	Implementing nature-based solutions for creating a resourceful circular city (Circular City Re.Solution) (CA17133)	Dr Margaret Camilleri Fenech	AWARDED
COST	Rethinking packaging for circular and sustainable food supply chains of the future (CIRCUL-A-BILITY) (CA1924)	Dr Margaret Camilleri Fenech	AWARDED
MCST (2023 Call)	Initiating the measurement of food security in Malta (Melisecur)	Dr Margaret Camilleri Fenech	NOT AWARDED
MCST (2024 Call)	MCST, Research Excellence Programme. Rerouting municipal waste collection in Malta to reduce emissions using GIS technology (Waste Reroute)	Dr Margaret Camilleri Fenech	NOT AWARDED
COST	Action Proposal <i>Micromobility for Innovative, Resilient and Sustainable Communities</i>	Prof. Maria Attard	NOT AWARDED
COST	Action Proposal <i>Grassroots Ecosystems for Social and Sustainable Innovation and Research in Europe' – GESSIRE</i>	Prof. Maria Attard	NOT AWARDED
COST	Action Proposal <i>Integrating Europe? Reconciling Long-Distance Travel Equity and the Environment</i>	Prof. Maria Attard	NOT AWARDED
COST	Action Proposal <i>The development of Women's Accessibility for more inclusiVe urban port arEas</i>	Prof. Maria Attard	NOT AWARDED
COST	Port City Territories in Action: A collaborative Laboratory for Inclusive Energy Transition (PACT) (CA23138)	Dr Thérèse Bajada	AWARDED
COST	The Geography of New Working Spaces and the Impact on the Periphery (CA18214).	Dr Thérèse Bajada	AWARDED

Travelling Smart – The Green Travel Plan Committee at the University of Malta



Prof. Maria Attard continues to chair the Green Travel Plan (GTP) Committee which aims to implement the University GTP approved in 2012. Mr Raphael Mizzi, the GTP Coordinator administers the GTP work as well as acts as secretary to the GTP Committee.

The GTP Committee for 2022 - 2024 was made up of:

Prof. Maria Attard (Chair)

Mr Raphael Mizzi (Secretary)

Perit Christopher Spiteri (Director Estate and Works)

KSU President (Alexandra Gaglione/Jeremy Mifsud Bonnici)

Dr Thérèse Bajada (Travel Plan Expert, ICCSD)

Ms Amanda Borg Ciantar (Office of Human Resources)

Mr Clayton Xuereb/Mr Silvio Magro (Precincts Officer)

Mr Gianluca Grech (Precincts Office)

Prof. Luciano Mulé Stagno (UMASA)

Ms Nathalie Cauchi (UHM)

The Website

In order to maintain communication lines open with the University community the GTP website is updated on a regular basis with useful information and links about green travel to and from university. <https://www.um.edu.mt/iccsd/travellingsmart/>

Facebook

Since 2015 the ICCSD created a Facebook page where all the news and events related to the Institute are posted on this page. The GTP coordinator uploads regular news to create awareness about green travel with UoM members and other visitors. The number of views has reached 67.8K.

Content overview

Kollha

Posts

Stories

Reels

Views ⓘ

67.8K

Ilhaqt ⓘ

24.1K

↑ 70.8%

GettingtoUM web page update

Updates were made to the GettingtoUM web page to keep the information as accurate as possible. Updates are added on the various options regularly with the information available also on the UM App.

<https://www.um.edu.mt/iccsd/travellingsmart/gettingtoun/>

Active Travel Workshop

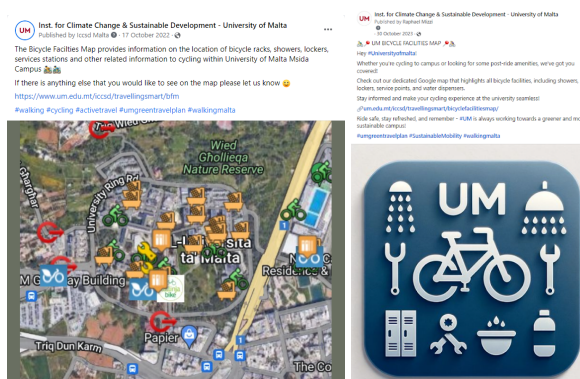
Several Active Travel Workshops were conducted as part of the Institute's efforts in promoting active travel. These follow work to identify and map a network for walking and cycling within Malta's regions. This is complemented by the installation of information totems in each locality, which display valuable information regarding walking and cycling distances as well as travel times to various destinations. This initiative aims to enhance public awareness of the distances between places and the convenience offered by walking and cycling.



The routes are easily accessible via smartphones and are readily available online for on-the-go access. The Green Travel Coordinator plays a crucial role in organising and actively participating in these workshops. In his capacity as a walking leader, he leads a group of participants on short guided walks in the area. The purpose of which is to identify obstacles and opportunities for promoting active mobility in the region.

Bicycle Facilities Map

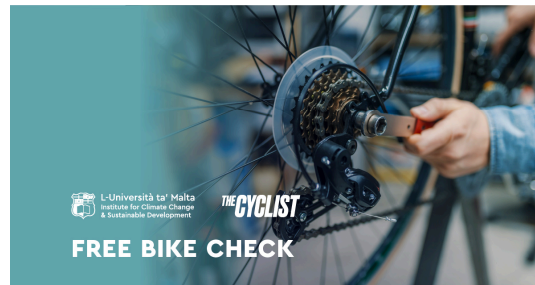
In late October 2022, Facebook followers were asked their input regarding additional facilities they would like to see included on the Bicycle Facilities Map. The Green Travel Coordinator updated this map based on the valuable feedback received from followers.



Additionally, the number of shower facilities for students on campus was increased through collaboration with KSU.

Free Bike Checks

On November 16th, the Green Travel Coordinator hosted a successful Free Bike Check event, where attendees had the opportunity to have their bikes examined by a skilled bike mechanic from 'The Cyclist' workshop. Simple repairs were efficiently carried out on-site. Additionally, for those considering the purchase of a new bicycle, a curated selection was available for exploration. This event was made possible through the voluntary support of 'The Cyclist' shop in San Gwann, who generously provided their expertise in servicing bikes for UM students and staff. They also showcased a range of e-bikes, which have become increasingly appealing due to incentives such as the TM grant, VAT refund, KSU Green Fund contributions, and Administrative, Technical, and Industrial Staff Work Resources refunds.



Inst. for Climate Change & Sustainable Development - University of Malta
Published by lccsd Malta · 17 November 2022 ·

The Free Bike Check event was a success, thanks to [The Cyclist](#) shop San Gwann who voluntarily came to fix bicycles of [University](#) students and staff on the spot.

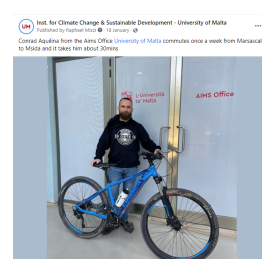
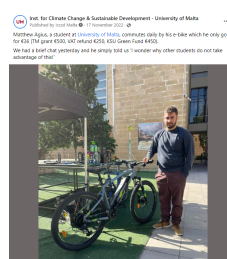
They also brought a small selection of e-bikes which are currently worth in looking into due to the TM grant, VAT refund, @KSU Green Fund and Administrative, Technical and Industrial Staff Work Resources refund...

Shall you have any questions please feel free to drop us a msg 🙋



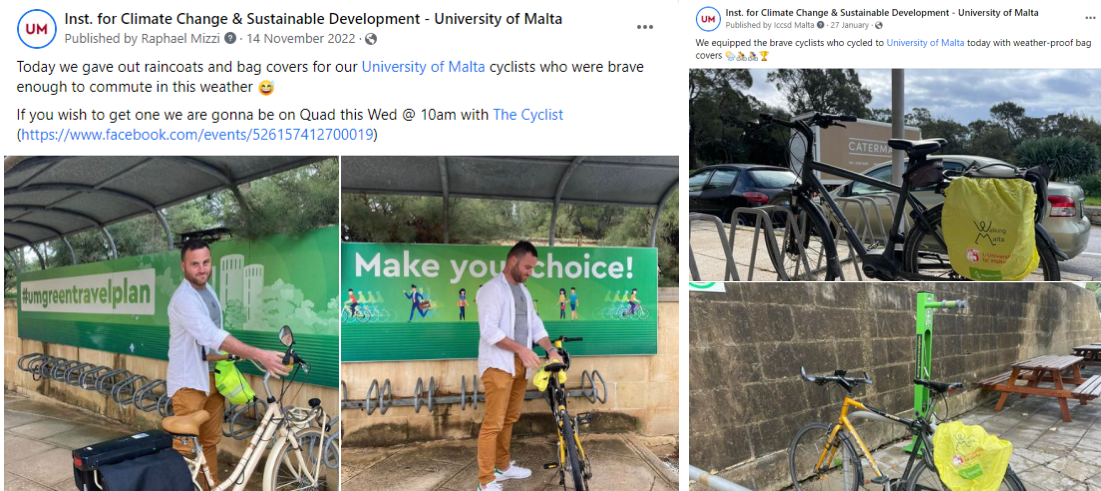
Celebrating our Champions and Advocating for Incentives

Throughout the year, the Green Travel Coordinator actively identified and highlighted students and staff who set a commendable example by choosing bicycle commuting, showcasing these cycling champions on our UM social media platforms, applauding their commitment to sustainable transport. Additionally, we actively promote incentives and initiatives provided by UM and other relevant entities, encouraging and facilitating the adoption of environmentally friendly commuting practices. This dual approach, celebrating champions and advocating for incentives, underscores our commitment to fostering a culture of sustainable transport within the UM community.



Promotions on Campus

During inclement weather, the Green Travel Coordinator actively engages in campus rounds to identify parked bicycles and provides raincoats and bag covers to acknowledge the determination and resilience of individuals who opt for cycling despite unfavourable weather conditions. This thoughtful initiative aims to offer support and appreciation to those committed to sustainable commuting, even in adverse conditions..



GTP Survey

In mid-November 2022, a comprehensive promotion targeting all UM members was initiated across various social media channels, encouraging participation in the GTP Survey. This survey is carried out regularly by the Green Travel Coordinator in order to monitor travel behaviour on campus.



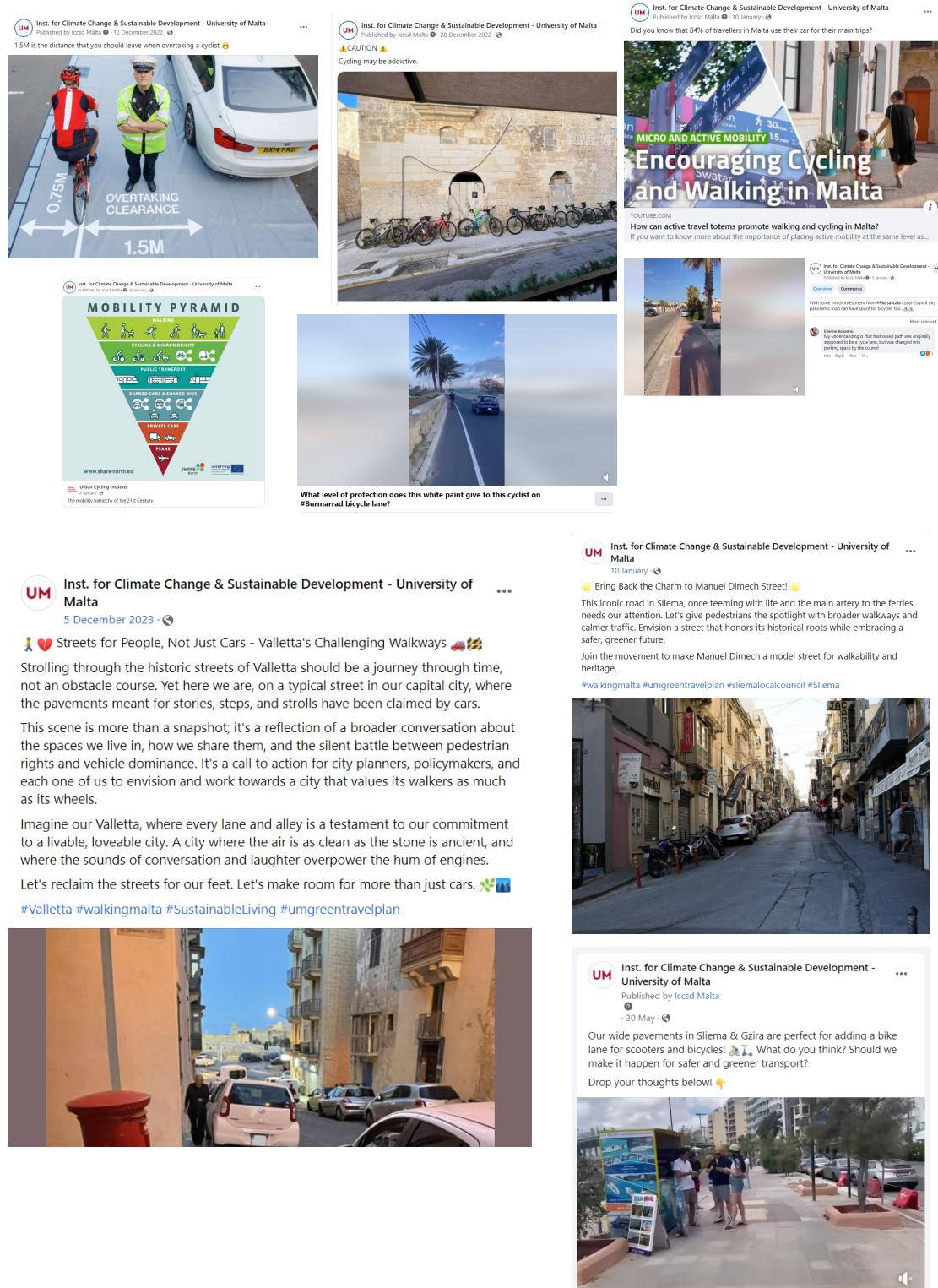
Mobilithon

On December 2nd 2022, the Green Travel Coordinator participated in a workshop focused on addressing the sustainable mobility challenges that Malta encounters.



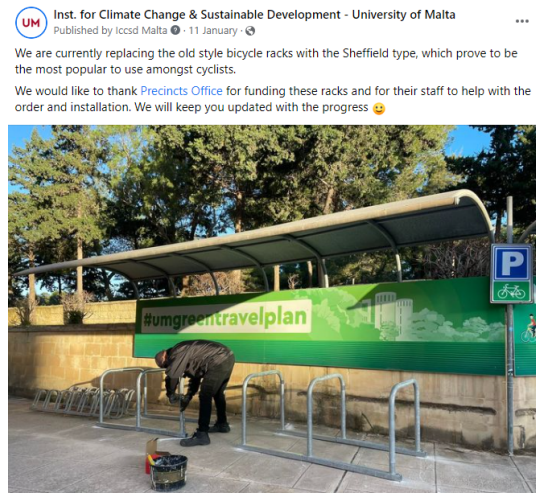
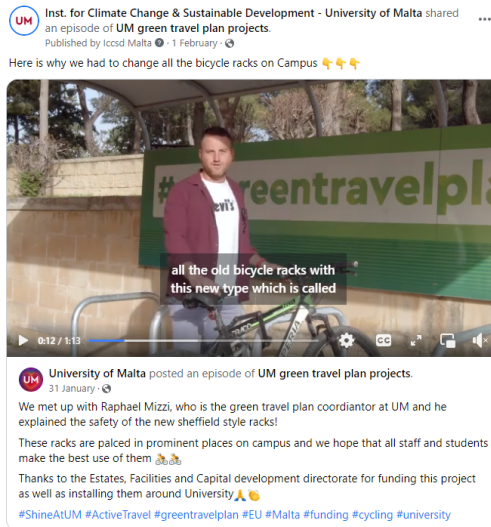
Amplifying Awareness on Social Media Platforms

Throughout the year, we actively curate and spotlight posts that align with our mission to promote sustainable mobility. Our efforts extend to raising awareness about various aspects of safe walking and cycling practices, emphasising the importance of safety while walking and cycling. Through these posts, we aim to inspire and encourage others to join the movement towards sustainable commuting, fostering a community of environmentally conscious individuals who actively contribute to a greener and safer transport environment.



Change of Bicycle Racks to Sheffield Type

The long-standing request for a change in bicycle racks finally came to fruition on January 11th. The old bicycle racks, often criticised for causing damage to wheels and other bicycle components, were successfully replaced with Sheffield-type racks. This straightforward yet highly effective design was chosen to address the issue. Later in the year, the Green Travel Coordinator gave an interview to explain the reason behind these changes and to showcase the various bicycle facilities available around the campus



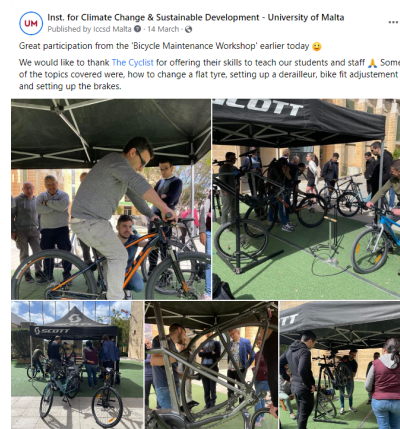
Revamping Bicycle Parking: Innovative Signage with QR Access

In February 2023, a new set of bicycle parking signs were set up across the campus. This innovative design incorporates a QR code, which provides direct access to the Bicycle Facilities Map. We are pleased to share that these signs were designed, funded and installed through the efforts of the Precincts Office.



Bicycle Maintenance Workshop

On March 14th 2023, a bicycle workshop was held at the UM Msida Campus. The event featured a dedicated team from 'The Cyclist' who offered free instructional sessions to visitors on a range of bicycle-related topics, including changing a flat tire, adjusting a derailleurs, optimising bike fit, and fine-tuning brakes. This event received significant participation and enthusiastic engagement from attendees, making it a success.



Bikeability Courses for UM staff

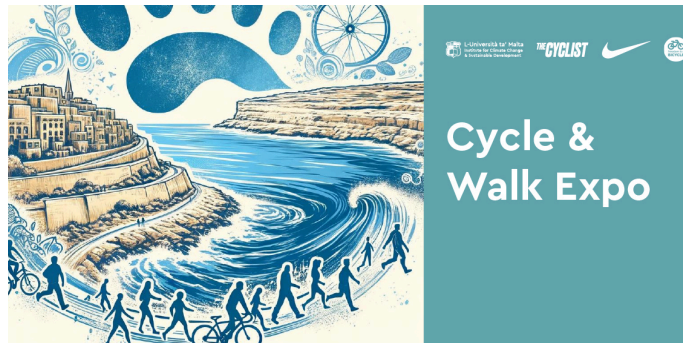
The Green Travel Coordinator collaborated with Freedom is a Bicycle to offer introductory bicycle lessons to UM staff members. The program included three one-hour sessions where participants gained essential skills, including balancing, pedalling, using the brakes effectively, and mastering bicycle control. Participants were provided with safety-related items. This course was conducted three times over the course of three months, benefiting numerous UM staff members in acquiring bicycle riding skills.



Cycle & Walk Expo

A Cycle & Walk Expo was held on 8th November 2023 at UM Quadrangle to promote sustainable commuting options. The event featured a display of commuter-friendly bicycles, with insights from a representative of

FreedomIsBicycle, and a presentation by Nike on choosing the right footwear. Information on grants and rebates from UM, KSU, and the Government was also provided. The event, which saw active participation from students, staff, and visitors, successfully raised awareness about the health and environmental benefits of cycling and walking, while also highlighting the expansion of campus facilities, including new showers and secure bike storage.



Community Engagement for New Bicycle Service Station Location

As part of our commitment to sustainable mobility, the Green Travel Coordinator sought input from the UM community to determine the location for a second bicycle service station on campus. Suggestions for potential sites included Dept. of Pharmacy or Engineering bicycle racks. The community provided valuable feedback, which will guide the final decision.



New Scooter Parking Locations Announced

During the year, five new scooter parking locations across campus were introduced as part of our ongoing efforts to promote sustainable and safe mobility. With the invaluable support of the Precincts Office, these new spots have been strategically identified and marked to improve pedestrian safety and campus order. The parking locations are now included in the updated Bicycle Facilities Map. This initiative emphasizes the growing role of e-scooters in reducing traffic congestion and enhancing last-mile connectivity on campus.



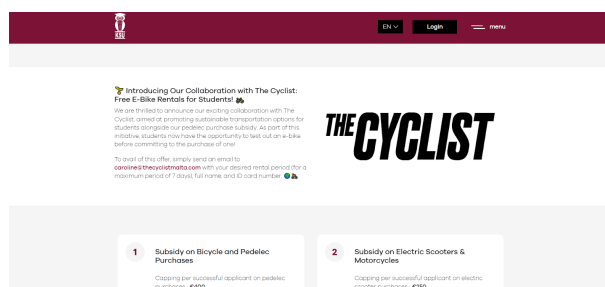
Breakfast Gathering for Cyclists

On 14 December 2023, the Green Travel Coordinator hosted a special Breakfast for Cyclists event at the Quad, aimed at bringing together the cycling community on campus. The event, organised to foster camaraderie among cycling enthusiasts, featured a range of breakfast options to energise attendees for the day ahead. Participants had the opportunity to connect with fellow cyclists, share experiences, and discuss potential future rides. In addition to the social aspect, the event supported the Christmas on Campus charity initiative, encouraging donations to brighten the holiday season for those in need.



Free E-Bike Rentals for Students through KSU Collaboration

This year, we continued our practice of collaborating with various entities, including KSU, to share insights and consult on new ideas for promoting sustainable transportation. As part of these efforts, KSU teamed up with The Cyclist to introduce an exciting new incentive: free e-bike rentals for students. This initiative allows students to test out an e-bike for up to seven days before committing to a purchase, complementing our existing pedelec purchase subsidy.



Celebrating our Champions and Advocating for Incentives

This year, the Green Travel Coordinator highlighted staff who set an example by choosing to cycle. These champions are featured on UM social media, where we celebrate their commitment to eco-friendly transport.

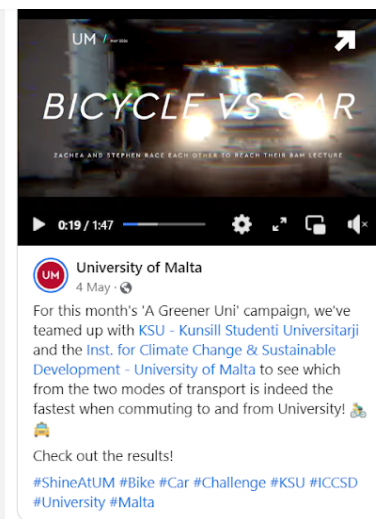
Simon, a UM employee, overcame his fear of cycling after 40 years with our support. He shared, *"Cycling has opened up a new world for me—the freedom from traffic, the fresh air, and the fitness benefits are incredible."*



Similarly, Jessica learned to ride through our first cycling training group and continued her journey while on Erasmus in Slovenia, saying, *"I felt really confident thanks to the sessions at UM!"*

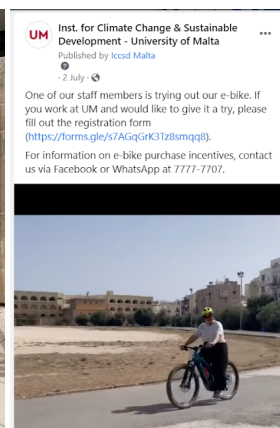
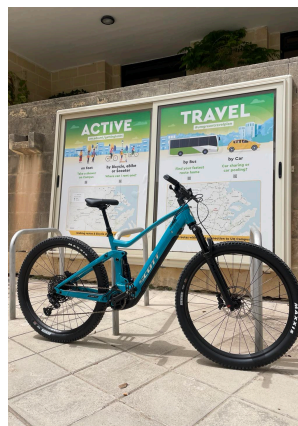
Bike vs Car Video

During the month of April in line with the “Greener Uni” campaign, the Green Travel Coordinator teamed up with KSU to determine which mode of transport is faster when commuting to and from UM: cycling or driving. With KSU and the Marketing & Communications Office a video was developed featuring a cyclist comparing the distance and time taken to reach UM. Students participated in the video which was then shared across social media platforms and campus screens to engage the community and promote sustainable commuting. Link to the video: <https://youtu.be/0MHd70o2Nyc>



New Electric Bicycle Initiative Promotes Sustainable Commuting at UM

UM was excited to introduce an electric bicycle, generously donated by an anonymous supporter, as part of its sustainable commuting initiatives. The e-bike, selected from The Cyclist shop, was made available for staff to try out, promoting health, sustainability, and active travel. The anonymous donor hoped this would encourage staff to consider purchasing their own e-bikes.



Participation in International Scientific Committees

Academic members of staff of the Institute have participated and contributed to a number of scientific committees and conferences during the period under review. Below is a list of contributions.

Prof. Maria Attard was a member of the Advisory Board of the AIIT International Conference on “Transport Infrastructure and Systems” TIS Roma 2024, September 19-20 in Rome, Italy.

Prof. Maria Attard was a Member of the International Advisory Committee for the Urban Transitions 2024 Conference organised by Elsevier, 5-7 November 2024 in Sitges, Spain.

Prof. Maria Attard was a Member of the International Scientific Committee of the XXVI International Conference “Living and Walking in Cities” LWC2023, organised by the University of Brescia and CeSCAM (Center For Friendly Cities For Mobility Safety), Brescia, Italy, 6th-8th September, 2023.

Prof. Maria Attard was a Member of the Scientific Committee, Topic Area Manager and Session Organiser on Urban Transport Planning and Policy for the 16th World Conference on Transport Research organised by the World Conference on Transport Research Society (WCTRS), Montréal, Québec (Canada), 17th- 21st July 2023.

During the period under review **Prof. Maria Attard**, **Dr Thérèse Bajada** and **Dr Margaret Camilleri-Fenech** acted as paper reviewers to several academic journals.

During this term **Prof. Maria Attard** held positions of **Co-Editor in Chief** of *Research in Transportation Business and Management*, **Associate Editor** of *Case Studies in Transport Policy*, **Associate Editor** of *European Transport Research Review*, and **Editorial Board Member** for *Journal of Transport Geography*; *Communications in Transportation Research*; *Sustainable Transport and Livability*; *Journal of Cycling and Micromobility Research*; and *Transportation Research Part E: Logistics and Transportation Review*. She is also a Co-Editor for the Emerald Transport and Sustainability Book Series.

Other staff news

Dr Thérèse Bajada have continued to support the MATSEC Boards for Geography.

In November 2023, **Dr Thérèse Bajada** was appointed Chair of Malta’s Road Safety Council by the Transport Ministry.

Dr Bajada was appointed Climate Change expert on ESPON Malta in 2024 and acted as Transport Expert for the Malta Tourism Observatory meeting with the OECD.

Dr Bajada presented at the 2023 UM Research Expo “Timed Cities: Exploring applicability to the Maltese context” with Dr Sarah Scheiber and Dr Wendy Jo Mifsud (Fac. Built Environment, University of Malta). She also engaged in a stakeholder involvement exercise at Science in the

City event. Title: “One step at a time – People-centred Timed Cities in Malta” 29 September 2023.

Dr Thérèse Bajada Organised and chaired the National Workshop titled: Coworking spaces, Digital Nomadism and Peripheral Territories. Reflections and Way forward at the Valletta Campus, Malta. Workshop was one of a series of national workshops done under the COST Action CA18214 The Geography of New Working Spaces and Impact on the Periphery.

COST Action CA18214
The Geography of New Working Spaces and Impact on the Periphery

Malta National Workshop

**Coworking spaces,
Digital Nomadism and Peripheral
Territories.
Reflections and Way forward.**

18th September
09:00-17:00
Valletta, Malta /
University of Malta,
Valletta Campus
St Paul's Street

[Click here to join online](#)

Meeting ID: 929 7436 5632
Passcode: 575787

PROGRAM

Monday, September 18th

11:00 – The importance of location for Coworking Spaces.
Dr Thérèse Bajada, Institute for Climate Change and Sustainable Development, University of Malta and Dr Bernadine Sattiano, University of Malta, Junior College, (Malta)

11:20 – One Billion Digital Nomads by 2035: How the Biggest Migration in Human History will Transform Humanity towards a Sustainable Future. **Dr Daniel Gebel, Founder CoCo, Digital Nomad Network State (Germany)**

11:40 – Timed cities and the link to Coworking Spaces. Points for discussion: **Dr Thérèse Bajada, Institute for Climate Change and Sustainable Development, University of Malta and Dr Bernadine Sattiano, University of Malta, Junior College, (Malta)**

12:00 – Round table discussion
13:00 – Lunch

Monday, September 18th

14:00 – Cultivating Creativity: Exploring the Role of Valletta Design Cluster in Fostering Community, Knowledge, and Resources in a Co-Working Setting. **Ms Joanne Attard Mallia, Valletta Design Cluster (Malta)**

14:20 – Hybrid collaborative spaces and local engagement. **Dr Mariachara Barotto, University of Bath School of Management (United Kingdom)**

14:40 – Cross generational approaches to work, spaces, and sustainability: Consequences on the real estate market and ESG reporting. **Dr Chiara Tagliaro, Politecnico di Milano (Italy)**

15:00 – Coffee break
15:15 – Way forward for policy making discussion
16:45 – Concluding remarks

The Core Group of the Action:
Action Chair and Grant Holder Representative: **Barbara Mariotti, Politecnico di Milano, Italy**
Action Vice Chair: **Pavel Bednar, Tomas Bata University, Czech Republic**
Science Communication Manager: **Chiara Tagliaro, Politecnico di Milano, Italy**
Leader WG 1: **Carles Méndez-Ortega, Universitat Oberta de Catalunya, Spain**
Leader WG 2: **Marco Möhl, Technical University of Munich, Germany**
Leader WG 3: **Mariachara Barotto, University of Bath, England**
Leader WG 4: **Gisela Felten-Haendrich, VU Amsterdam, Netherlands**

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The Director of the Institute **Prof. Maria Attard** served in the following roles:

- Visiting External Examiner, PhD Thesis Nejc Gerzinc TU Delft, The Netherlands 18 December 2023.
- Visiting External Examiner, PhD Thesis Ziling Zeng, Chalmers University of Technology, Gothenburg, Sweden 29 September 2023.
- Non-visiting External Examiner, PhD Thesis Mr Miguel Loyola Borja, Institute of Transport and Logistics Studies, The University of Sydney Business School, University of Sydney, Australia (April 2023).
- Visiting Professor at the Dipartimento di Economia, Management e Diritto dell'Impresa, Università degli Studi di Bari Aldo Moro, Italy (Oct 2022 to date)
- President of NECTAR (Network of European Transport and Communications Research) appointed July 2024 (previously NECTAR Cluster 2 co-chair on Policy and Environment).
- Co-leader in World Conference on Transport Research (WCTR) Special Interest Group G3 Steering Committee and Scientific Committee Member of the WCTRS.
- Country Expert TEN-T ScanMED Corridor 5 Studies
- Advisory Board Member, ERA-NET Cofund Urban Transformation Capacities Scheme (ENUTC) project entitled Capacities for Resilient and Inclusive Urban Public Transport

Infrastructure and Built Environment (CARIN-PT) led by Tallinn University, Estonia (2020-2022).

- Chair (Rector's Delegate), Committee for Sustainability (C-SUM), University of Malta.
- Evaluator on a number of funding panels in Belgium, Italy, Portugal, Spain, France and Romania.
- Academic Contributor, *EIT Urban Mobility Summer School*, Bari, Italy (September 2024)

Locally, **Prof. Maria Attard** is a Board member of the HSBC Malta Foundation and Advisor of Project Aegle, a non-governmental transport think-tank in Malta

Prof. Maria Attard also co-edited one Journal Special Issue: Oviedo Hernandez, D., Attard, M. (2022) *Making Equity Work*. Journal Special Issue in Research in Transportation Business and Management, Vol. 42. She also published an edited book volume: Thomopoulos, N., Attard, M., Shiftan, Y. (2024) *Sustainable Autonomous and Connected Transport*. Emerald Series on Transport and Sustainability

Dr Margaret Camilleri Fenech is a member of the Platform for Mediterranean Foodways (coordinated by the Mediterranean Institute, UM) and the Smart and Sustainable Business Award (coordinated by the Ministry for the Economy and Industry).

Ms Karyn Scerri was re-elected as a postgraduate representative on the Transport Geography Research Group Committee at the TGRG AGM on 31st August 2023. Together with Zhengyue Wan, Ms Scerri organised two special sessions sponsored by the Transport Geography Research Group. The two special sessions were entitled: Current and Emerging Research in Transport. These were held at the RGS-IBG Annual International Conference, Newcastle, UK, 30 August - 1 September 2023.

Together with Patrick Miner, **Karyn Scerri** organised two special sessions sponsored by the Transport Geography Research Group. The two special sessions were entitled: Current and Emerging Research in Transport. These were held at the RGS-IBG Annual International Conference in London, from 28 August – 30 August 2024.

Ms Karyn Scerri, Ph.D. student and researcher at the ICCSD was awarded the **WCTRS PhD Innovation Grant** at the WCTR Conference on the 15th of July 2023. The WCTRS PhD Students' Grants aim to inspire PhD students to compete for further transport-related research and submit papers for the WCTR conferences. The WCTRSYII is a collection of five grants for scholars conducting transport research, consisting of one Innovation Grant and four Prestige Grants, with abstract proposals being reviewed and selected by the Steering Committee of the Society.



Ms Karyn Scerri was invited to present her MSc research on transport and well-being at Willingness Clinic Malta on the 22nd of October 2022. She was also chosen to sit on the board of the KSU Green Fund (2023) to approve the budget for the fund and the criteria for each application of students who make use of the fund.

Ms Karyn Scerri secured Erasmus+ funding to visit the Mobilise lab at VUB in Brussels, Belgium for a 2-month period between April and June 2023. This work is linked to her PhD she is currently reading with the Institute.

Following the completion of all three modules over the past 3 years, **Ms Karyn Scerri** was awarded the Innovation & Entrepreneurship certification by The TUM International Graduate School of Science and Engineering (IGSSE) -Doctoral Training Network (DTN) of the **EIT Urban Mobility Academy**.

On 15th April 2024, **Ms Karyn Scerri** was invited to lead a workshop and presentation entitled 'We shape cities, and cities shape us: a workshop on urban street transformation and travel behaviour'. This was held during the SciCultured Intensive course held between the 12th-19th April 2024 in Valletta, Malta.

Staff Publications for 2022-24

Attard, M. (2022). Editorial: Active travel and sustainable transport. *Communications in Transportation Research*, 2, 100059

Attard, M., Mulley, C., (2022). Transport and Pandemic Experiences: An Introduction. In Attard, M., Mulley, C. (eds) *Transport and Pandemic Experiences*. Emerald Publishing. Chapter 1.

Maas, S., Attard, M., Caruana, M.A. (2022). Motivators and barriers for shared bicycle use in 'starter' cycling cities: Evidence from BSS user surveys in three Southern European island cities. *Transportation Research Procedia*, 62, 67-74.

Camilleri, R., Attard, M., Hickman, R. (2022). Understanding barriers to modal shift in Malta: A practice-theoretical perspective of everyday mobility. *Journal of Transport Geography* 104, 103446.

Scerri, K., Attard, M., Duives, D., Cats, O. (2023). Analyzing the Impact of Perceived Exertion on Walking for Short-Distance Trips: A Comparative Case Study of Malta and the Netherlands. *Transportation Research Record* <https://doi.org/10.1177/03611981231165018>

Scerri, K., Attard, M. (2023). Assessing perceptions of pedestrian-focused intervention in a car dependent European island. *Transp. Res. Procedia*, 69, 29–36.

Rocchi, L., Rizzo, A.G., Paolotti, L., Boggia, A., Attard, M. (2023). Cambiamento climatico e vulnerabilità delle strade costiere: una valutazione applicata al caso di studio di Malta. *Rivista di Economia e Politica dei Trasporti*, 1, 162-166. ISSN 2282-6599.

Attard, M. (2023). Climate Change and Urban Logistics. In J. Monios, S. Ison, L. Budd (Eds) *The Routledge Handbook of Urban Logistics*, Routledge. Chapter 23.

Attard, M. (2023). Planning for Bus Rapid Transit in an island context. The challenges of implementing BRT in Malta. *Research in Transportation Economics*, 100, 101309.

Attard, M., Budd, L., Le Pira, M., Yen, B.T.H. (2023). Editorial: Introducing a new chapter for the journal. *Research in Transportation Business and Management*, 100965.

Scerri, K. and Attard, M. (2023). People as planners: Stakeholder participation in the street experimentation process using a virtual urban living lab. *Journal of Urban Mobility*, 4(September), 100063.

Attard, M., Guzman, L., Oviedo, D. (2023). Urban space distribution: the case for a more equitable mobility system. *Case Studies in Transport Policy*, 14, 101096.

Satariano, B. & Bajada, T. (2023). The impact and complex effects of the COVID-19 pandemic on the working environment and the use of coworking spaces in Malta. In M. Akhavan, M. Hölzel, D. Leducq, (Eds.), *European Narratives on Remote Working and Coworking During the COVID-19 Pandemic* (pp. 125-132). Springer Nature Switzerland AG.

Scheiber, S., Bajada, T., Mifsud, W.J., Montebello, S.C. (2023). Exploring the Potential for Timed Cities in Malta: The Case of Paola. *Sustainability*, 15, 16397.

Pace, A., Attard, M., Camilleri, M., Valentino, G. (2023). Urban Growth in a Mediterranean Island-State: A Data-Driven Study of Malta's Development Permits in the Last Thirty Years. *Sustainability*, 15, 16063.

Bajada, T., Mifsud, W. and Scheiber, S. (2023). Transforming urban mobility and public space through slow streets. A stakeholder approach. *Journal of Urban Mobility*, 4 (February), 100068

Dörnyei, K. R., Uysal-Unalan, I., Krauter, V., Weinrich, R., Incarnato, L., Karlovits, I., Colelli, G., Chrysochou, P., Camilleri Fenech, M. ... & Corredig, M. (2023). Sustainable food packaging: An updated definition following a holistic approach. *Frontiers in Sustainable Food Systems*, 7, 1119052.

Bajada, T. (2023). Exploring bus reform in Malta. In R. Hickman & C. Hanningan (Eds.), *Discourse Analysis in Transport and Urban Development. Interpretation, Diversity and Controversy* (pp. 172-184). Edward Elgar Publishing.

Scerri, K., Attard, M. (2024). The Challenges of Implementing Pedestrian-Focused Interventions Using a Multi-stakeholder Approach: The Case Study of Malta. In: Tira, M., Tiboni, M., Pezzagno, M., Maternini, G. (eds) *New Challenges for Sustainable Urban Mobility: Volume I*. ECOOP 1987. Springer, Cham. https://doi.org/10.1007/978-3-031-62248-9_20

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Bajada, T., Satariano, B. & Chavoshi, S. H. (2024). The Importance of Location for Coworking Spaces and the Timed City Concept, Experiences, Perceptions, and Reality in Malta. In I. Mariotti, E. Tomaz, G. Micek & C. Méndez Ortega (Eds.), *Evolution of New Working Spaces Changing Nature and Geographies* (pp. 107 118). Berlin: Springer.

Bajada, J., Grech, J., Bajada, T. (2024). Deep Reinforcement Learning of Autonomous Control Actions to Improve Bus Service Regularity. In: Nowaczyk, S., et al. (Eds) Artificial Intelligence. ECAI 2023 International Workshops. ECAI 2023. *Communications in Computer and Information Science*, vol 1947. Springer, Cham.

Camilleri Fenech, M. (2024). The Management of Waste in Large Chain Hotels: A Review of Corporate Sustainability Reporting. In K. Tomazos (ed) *New Trends in Tourism*. IntechOpen DOI: 10.5772/intechopen.1007113

Camilleri Fenech, M. (2024). Sustainable Development Pathways. Chapter 5. *MedECC Special Report Climate and Environmental Coastal Risks in the Mediterranean*, MedECC.

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Camilleri, R., Attard, M., Hickman, R. (2024). Participatory Policy Packing for Transport Backcasting: A Pathway for Reducing CO2 Emissions from Transport in Malta. *Sustainability*, 16(1), 430.

Attard, M., Balbontin, C. (2024). Workshop 6 report: Micromobility movement in urban transport. *Research in Transportation Economics*, 103, 101399.

Gao, K., Jia, R., Liao, Y., Liu, Y., Najafi, A., Attard, M. (2024). Big-data-driven approach and scalable analysis on environmental sustainability of shared micromobility from trip to city level analysis. *Sustainable Cities and Society*, 115, 105803.

Cui, J., Attard, M. (2024). An Overview of Peer-to-peer Accommodation Operation during the COVID-19 Pandemic: Responses, Strategies and Opportunities. *Journal of Housing and the Built Environment*. <https://doi.org/10.1007/s10901-024-10140-7>

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STUDENT RESEARCH

Rosalie Camilleri Ph.D.(Melit.)

Mitigating climate change through sustainable mobility : a framework for developing low-carbon transport policies

Climate change mitigation and reducing greenhouse gas (GHG) emissions have become one of the most important global challenges. Transport is one of the sectors that contribute significantly to GHG emissions. It is one of the few sectors where emissions have continued to grow. Road transport is the largest contributor within the transport sector and further growth in the demand for personal transport is forecasted as the world population continues to grow. Despite the significant contribution of transport, the sector has taken a relatively low profile when it comes to emission reduction. Transition to more sustainable travel is proving to be difficult to achieve, and if the climate change mitigation targets are to be reached, alternative and trend-breaking transport futures are required. This research adopted a Theory of Social Practice as the conceptual framework for analysis to understand what type of alternative transport policies could lead to a significant reduction in the levels of emissions. To explore these alternatives, a backcasting framework was used which enabled visioning of these alternative and design of pathways to reach them. This framework and the impact of perspectives from the Theory of Social Practice on climate transport policies was tested in a case-study approach. This research was focused on the case of Malta which presents a setting with high population density and a high car-dependency and a case where transition to more sustainable forms of transport has proved to be challenging. The aim of the research was to analyse how a transition to low-carbon mobility can help to achieve climate change mitigation targets. This aim was reached through a combination of qualitative and quantitative methodological tools which served to i) provide a picture of the current situation in terms of mobility practices; ii) develop alternative transport and more sustainable futures for Malta; iii) test the potential of these futures to limit emissions; iii) design policies which can lead to these futures. Mobility practices in Malta were found to be dominated by the reliance on the car. These results were further complimented with other findings on the current travel conditions in the case study. Survey data revealed that the demand for travel and travel choices are shaped by the range of activities and daily routines of the inhabitants of the islands. Participation of a range of stakeholders in the visioning of alternative futures provided a space for discussions and brought together different ideas about what a sustainable transport future in Malta would look like. The results of the transport modelling exercise showed how significant emission reduction from transport is challenging and achieving the climate change mitigation targets might need an integrated approach and a mix of alternatives. The results of the research show how designing transport policies using concepts from the Theory of Social Practice can provide a broader range of influence and can help to provide insights into how transport choices can be influenced by interventions in non-transport sectors. The findings and recommendations of this study contribute to a better understanding of how transport policy making can benefit from social science perspectives and emerging theories, such as the Theory of Social Practice. The results of this research and how the analysis mobility and other everyday social practices could open new possibilities for the transition towards more sustainable transport futures.

Rosalie Camilleri completed her doctoral research in 2022 under the supervision of Prof. Maria Attard and Prof. Robin Hickman (University College London, UK)

Liliya Ausiannikava M.Sc.(Melit.) Sustainable Development

Rerouting municipal waste collection in Malta. An examination of waste collection routes with proposed new systems using GIS methodology

Kerbside collection of waste is not often included as part of carbon footprint analysis in view that it constitutes about five percent of the carbon emissions generated by the waste collection and treatment system. However, it also represents the most expensive functional element in the entire waste management process, reaching as high as 75 percent of all costs in the total municipal solid waste (MSW) management system. Most costs relate to fuel, together with labour costs. Fuel consumption results in various pollutants, predominantly carbon dioxide, nitrogen oxides and sulfur dioxide, which are of major concern due to their contribution to global warming and acid rain. In Malta, transport emissions reach 14 percent of total emissions which is significantly higher than the European average which generally reaches 5 percent. Currently there is no fixed collection route for waste collection. Routes are left to the drivers who devise a route simply on their experience. Therefore, room for improvement is clearly present and it is necessary to find an optimal solution to reduce fuel consumption and minimize emissions. This research uses Geographic Information Systems (GIS) through the ArcGIS Network Analyst application to optimize routes by enhancing the efficiency of waste collection and transportation in the cities of Mellieħa and Attard, Malta. The model that is created is based on data collection involving the Global Positioning System tracking including bin position, (landfill) and collection route as variables. Key performance indicators of the existing practice are estimated. Following this, potential optimal scenarios were developed and compared to the existing collection routes. Results indicate that the proposed scenarios have direct positive impacts on vehicle operating times with operational cost savings and reduced carbon dioxide, nitrogen oxide, and particle emissions.

Liliya completed her MSc research in 2023 under the supervision of Dr Margaret Camilleri Fenech.

Karl Mizzi M.Sc.(Melit.) Sustainable Development

Exploring the perceptions on mass public transport in an island context. The case of Malta

One of the main problems worldwide is traffic congestion, which is one of the leading causes of air pollution. Malta is no exception to this, additionally, it is one of the most densely populated countries in the world. One of the problems associated with the traffic congestion in Malta is attributed to the car-culture and the negative perceptions on mass public transport. In turn, people are discouraged to use mass public transport and instead turn to their personal cars. The aims of this dissertation are to understand and identify the reasons for people's perceptions on mass public transport. Different perceptions are a result of diverse factors, which include, amongst others, demographic factors such as age, gender, locality of residence and income. This dissertation evaluates these reasons and associates them with people's perceptions on mass public transport. Although Malta currently offers two services of mass public transport types, which are the bus and the ferry, this does not mean that other types of mass public transport cannot potentially be introduced in the future. In fact, this is not something unheard of, with several mentions by different governments, throughout the years, regarding their plans on solving the traffic problem by introducing a new type of mass public transport. This dissertation identifies the different types of mass public transport which have been in Malta in the past, some of which

do not currently operate, and also identifies the different potential options of mass public transport which can be introduced in the future. In order for a new type of mass public transport to be successful, it is necessary that people are willing to switch their preferred type of commuting, which in Malta is the car. Therefore, their perceptions on a new type of mass public transport should be positive if the government's aim is to encourage public transport usage and discourage car use.

Karl completed his MSc research in 2023 under the supervision of Dr Thérèse Bajada.

Natalia Vella M.Sc.(Melit.) Sustainable Development **Electric vehicle users and their travel behaviour patterns in Malta**

The use of Electric Vehicles (EVs) has long been encouraged to enhance environmental sustainability. This is because as opposed to conventional vehicles, EVs produce no exhaust gas emissions from their tailpipes and can help reduce greenhouse gas emissions, particularly if the electricity is produced from renewable energy sources. While many studies suggest the widespread use of EVs due to its benefits on the environment, other studies suggest the opposite. This is because the benefits of EVs have raised some concerns as switching from an ICEV to an EV may alter the travel behaviour of its users. Therefore, this study analyses a variety of travel behaviour outcomes as it looks at how the use of EVs affects daily travel among EV users in Malta. This study explores whether the widespread use of EVs influences the travel behaviour of the driver as it compares the number of weekly trips performed by EV drivers as they transition from driving an ICEV to an EV. Through the distribution of a survey, the results suggest that EVs are perceived by the respondents to be more environmentally friendly than other transport modes. However, according to the results EV users make more trips when driving their EV. Overall, the major findings indicate that the widespread usage of EVs in Malta has an impact on EV users' travel patterns, which may in turn exacerbate Malta's ongoing issues with traffic congestion and parking shortages.

Natalia completed her MSc research in 2023 under the supervision of Prof. Maria Attard.

Emmanuel Buttigieg M.Sc.(Melit.) Sustainable Development **Towards a zero-carbon future. Investigating the barriers that are limiting the adoption of electric vehicles in the Maltese islands**

As part of the national strategy in promoting sustainable development, the Maltese government is encouraging the adoption of electric vehicles in the Maltese Islands by providing consumers financial incentives. Yet, electric vehicle ownership results to be still very low. This study provides an understanding of the main barriers that are limiting the adoption of electric vehicles, considering also the effectivity of the vehicle's purchase price and costs on consumers' decisions. The efficacy of current financial incentives is also evaluated to establish if such incentives are determinant in incrementing sales. Data collection was performed utilising an online questionnaire to individuals of 18 years of age and over, including both consumers who possess a driving licence and those who do not. The questionnaire survey was structured in three sections: the demographic section, Likert Scales and stated choice experiments. The demographic section gives

a picture of the demography of the sample population, also providing valuable information in establishing the trends and patterns associated with electric vehicle purchase among different socio-demographic groups in the Maltese society. Likert scales evaluated consumer attitude, perceptions and knowledge towards electric vehicle adoption while stated choice experiments focused on economic factors considered as barriers in the adoption of such vehicles. The data obtained from the questionnaire survey was processed statistically employing crosstabulation, Chi-Square tests and the Multinomial logit model. Crosstabulation evaluated the association between individual socio-demographic variables and electric vehicle purchase, while Chi-Square tests examined the significance of each association. On the other hand, the Multinomial logit model assessed the effectiveness of purchase price, road licence cost, fuel/charging cost and battery replacement cost on the choice of the type of vehicle purchase. Furthermore, the statistical output was also supported by various graphical representations. This study concludes that purchase price and running costs result to be influential in determining consumers' decision on whether to purchase or otherwise an electric vehicle. Knowledge about such vehicles is still limited among the general public, therefore effective informative campaigns are necessary to increase awareness and reduce perceived risks associated with electric vehicles, which may arise when consumers perform purchase decisions based on heuristics (assumptions based on mental shortcuts). The findings of this research may result helpful when designing policies which aim in promoting an increase in the adoption of electric vehicles in the Maltese Islands, thus, contributing to reaching the target of carbon neutrality.

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Yolande Newton M.Sc.(Melit.) Sustainable Development **Climate Finance and Development Priorities in Small Island Developing States: A case of the State of Grenada**

As a Small Island Developing State (SIDS), Grenada joins the rest of the world in assimilating the Sustainable Development Goals (SDGs) into national plans and policies. However, executing national plans requires significant local resources which are often augmented by (and proportionally higher) concessional loans or grants from development entities but which come with clear conditions. Other major sources of development financing mobilised are private external investments, philanthropic donors and south-south cooperation agreements. Nonetheless, the governments of small states like Grenada as well as least development countries would often find themselves compromising priorities of both immediate and future national goals, in order to obtain the available financial support. A fundamental issue within the SDGs Agenda is climate change, which accordingly influences development support, particularly to SIDS as they are intrinsically more vulnerable. This research examined the realities of Grenada's development progress and the impacts, if any, of climate finance mechanisms on the country's development priorities. It did so with a specific review of the relevant literature followed by critical conversations with key individuals who were engaged in this 'development progress' in Grenada, and subsequent candid reflections.

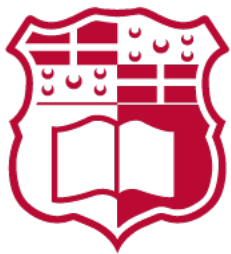
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Rainer Borg M.Sc.(Melit.) Sustainable Development

Investigating the involvement of plastic in the agriculture industry in the Maltese Islands

In the last few years, online news portals and social media helped to raise awareness on the negative long-term environmental impacts brought about by the use of plastics. The general public, including politicians, responded well and we can now see a paradigm shift towards a lifestyle with minimum plastic use. Unfortunately, promotional campaigns always target end-users and consumers. So far, there are no studies that investigate the use of plastics in the environment itself to grow crops. The main aim of this research is to study agriculture plastic waste in Malta, and its disposal patterns. Following a review of existing literature on the topic, a survey with farmers who part-take in agricultural activities, was carried out. This, to better understand the traits and trends on plastic disposal in the local sector. Additionally, site audits were carried out to quantify the plastic waste produced on-site. Such an approach helped to collect data that address the knowledge gap identified during the preliminary stage of this study. Interviews with stakeholders were also carried out to discuss existing waste policies and any strategies that are planned to help tackle this problem. Following analysis of the collected data, a number of research methods were adopted to help identify traits related to the industry. The main agricultural plastic waste in Malta was found to be related to irrigation pipes and mulching that are linked to the local climate and the crops grown respectively. At the moment, there are no policies or strategies that target the collection, reuse, or recycling of agricultural plastic waste. The survey helped to indicate that farmers generally dispose of the material at the Civic Amenity sites and ultimately, get diverted to the landfill. Disposal of plastic waste through incineration and ploughing, was also found to be common. This study succeeds in addressing the research gap, which concerns the typical generation of agricultural plastic waste, and the trends related to the disposal patterns, by local farmers.

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