جامعة بيروت العربية
BEIRUT ARAB UNIVERSITY

SUSTAINABLE DEVELOPMENT GOALS

SDG 11: SUSTAINABLE CITIES AND COMMUNITIES





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Measuring and Setting Targets for Sustainable Commuting

Beirut Arab University Lebanon

THE Impact Rankings SDG 11 Indicator 11 4 1

Evidence period 2021 to 2026

Recommended response

Yes

BAU measures commuting patterns through a university travel survey and transport-related environmental monitoring. It has institutional governance for measurable sustainability indicators and targets, a Climate Action Plan with sustainable-transport objectives, and a time-bound net-zero emissions target for 2035.

Executive Assessment

Beirut Arab University can answer this indicator affirmatively. The public evidence establishes both parts of the question. First, BAU measured how students, employees and academic staff travel to its Beirut and Debbieh campuses through a structured survey conducted during the 2023 to 2024 academic year. Second, BAU has formal target-setting and monitoring arrangements that cover sustainable transportation, supported by a Climate Action Plan and the University commitment to net-zero greenhouse gas emissions by 2035.

THE requirement	Verified BAU evidence	Assessment
Measurement	A 2023 to 2024 online travel survey measured modes, trip frequency, trip length, travel duration, barriers, preferences and proposed interventions. The study used 400 cleaned responses.	Verified
Targets	The Climate Action Plan sets sustainable-transport objectives. The Sustainability Committee must establish measurable indicators and targets and monitor sustainable transportation.	Verified
Time bound institutional outcome	BAU commits to net-zero greenhouse gas emissions by 2035 and states that it will monitor environmental performance and implement emissions-reduction measures.	Verified
Implementation and review	BAU operates shuttle transport, monitors transport performance, and is developing a travel-demand forecasting model to test proposed measures.	Verified

Evidence Chain

The evidence forms a coherent management cycle. BAU established a baseline, identified barriers and preferred interventions, assigned governance responsibility for indicators and targets, linked sustainable transport to its Climate Action Plan, and placed the work within the 2035 net-zero commitment. The

published evidence does not disclose a separate numerical modal-share target for walking, cycling, carpooling or shuttle use; this report therefore does not invent one.

Original evidence: BAU research publication record for the 2024 campus travel study Open original source

Original evidence: BAU Sustainability Committee terms of reference Open original source

Original evidence: BAU Climate Action Plan Open original source

Original evidence: BAU carbon footprint and net-zero commitment Open original source

Thesis - Faculty of Engineering

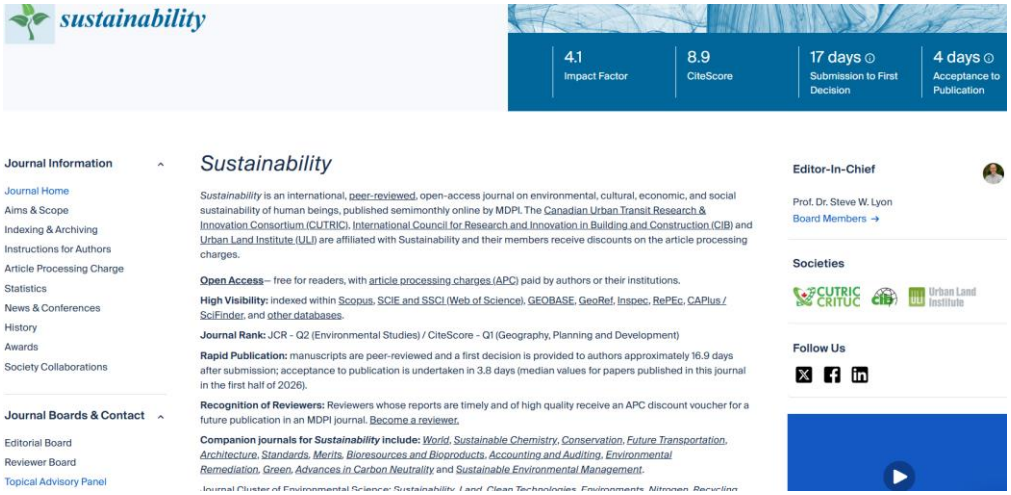
List of Publications by Department for the Academic Year Analysing Travel Patterns at Beirut Arab University, Lebanon: An In-Depth Characterization of Travel Behavior on Campus

Abstract

Understanding the travel patterns of university campus visitors is crucial for developing effective transportation strategies. Existing research predominantly focuses on student commuting within specific regions, often overlooking the diverse needs of faculty and staff and varying campus contexts. This study addresses a significant gap in the literature by investigating travel behaviors at Beirut Arab University (BAU), which has not been previously studied in this context. BAU’s unique situation, with campuses in both urban and rural zones, presents distinct transportation challenges, particularly for those traveling between these areas. Through a comprehensive survey of students, faculty, and staff, this research explores differences in transportation modes, travel distances, durations, and patterns. Statistical techniques, including one-way analysis of variance (ANOVA), Chi-Squared, and McNemar-Bowker tests, reveal significant variations among traveler groups. The findings highlight specific needs, such as improvements in bus services, car-sharing programs, and parking facilities, essential for creating sustainable campus environments. By examining these travel behaviors, the study offers valuable insights into the complexities of campus transportation, contributing new perspectives to the field. The originality of this research lies in its focus on an underexplored area, providing a deeper understanding of how diverse university environments impact transportation choices. This work not only fills a critical void in campus transportation research but also offers practical recommendations for enhancing transportation systems in similar settings.

Journal/Conference Information

Sustainability,DOI: 10.3390/su16188254, ISSN: 2071-1050, Volume: 16, Issue: 18, Pages Range: 1-12,



Sustainability Committee

1. **Purpose**

- The Sustainability Committee is established to provide institutional leadership, coordination, and oversight of the University's sustainability agenda.
- The Committee supports the integration of environmental, social, and economic sustainability principles across the University's governance, education, research, operations, campus development, and community engagement.
- It serves as the principal institutional body responsible for coordinating sustainability initiatives, monitoring progress against approved sustainability objectives and targets, and providing recommendations to University leadership on policies and actions that advance the University's sustainability commitments.

2. Committee Membership

The Sustainability Committee shall include representatives from key academic and administrative areas of the University to ensure institution-wide participation and accountability.

Chair

Prof. Hania Nakkash – Dean of Graduate Studies and Research

Provides strategic leadership to the Committee and ensures that sustainability priorities are aligned with the University's institutional strategy.

Vice-Chair

Dina Abou El Ez – Executive Research Administrator

Supports the Chair and assumes the Chair's responsibilities when required.

Secretary / Sustainability Coordinator

Ms. Hala Moghrabi – Research Administrator

Coordinates Committee activities, prepares meeting agendas and minutes, maintains sustainability records and data, and follows up on agreed actions.

Committee Members

- University senior management Dr. Omar Houri – Secretary General of BAU
- Academic faculties/schools Dr. Bilal Azakir
- Sustainability or environmental management Dr. Hiba Mohsen
- Facilities and campus operations Mr. Issam Kaissi
- Engineering and maintenance Dr. Mohammad Ayache
- Finance and procurement Dr. Maggie Houchaimi
- Research and innovation Prof. Hania Nakkash – Dean of Graduate Studies and Research

- Academic affairs and curriculum development Prof. Soubhi Abou Chahine – Dean of Academic Affairs and International Relations
- Student affairs Prof. Soubhi Abou Chahine – Dean of Academic Affairs and International Relations
- Human resources Dr. Cerine Tafran – HR Director
- Health and safety Prof. Nada El Darra
- Information technology Mr. Alaa Fleyfel
- Communications and public relations Mr. Tayssir Choughari
- Quality assurance / institutional effectiveness Prof. Fatima Saleh
- Community engagement Mr. Bilal Daaboul
- Student representatives Ms. Hala Moghrabi

3. Terms of Reference

The Sustainability Committee shall:

- Provide strategic oversight of the University’s sustainability policies, strategies, plans, commitments, and institutional targets.
- Develop and recommend sustainability priorities and targets for approval by the university leadership and periodically review progress toward their achievement.
- Support the integration of sustainability into institutional planning, governance, academic activities, research, operations, procurement, infrastructure, and community engagement.
- Oversee climate action and emissions reduction, including monitoring the University’s greenhouse gas emissions and progress toward its approved carbon-reduction and net-zero commitments.
- Monitor environmental performance, including energy consumption, renewable energy, greenhouse gas emissions, water management, waste and recycling, sustainable transportation, biodiversity, and responsible use of resources.
- Promote sustainability in teaching and learning by encouraging the incorporation of sustainability principles and the United Nations Sustainable Development Goals (SDGs) into relevant curricula and educational activities.
- Support sustainability-related research and innovation and encourage interdisciplinary collaboration addressing environmental, social, and economic sustainability challenges.
- Promote sustainable campus operations, including energy efficiency, green buildings, responsible procurement, waste reduction, water conservation, sustainable mobility, and environmentally responsible campus development.
- Strengthen social sustainability, including equality, inclusion, wellbeing, accessibility, community engagement, and responsible institutional practices.
- Coordinate sustainability data collection and reporting, ensuring that appropriate information is collected, reviewed, documented, and maintained to support institutional decision-making and external sustainability reporting.
- Review sustainability performance against established indicators, objectives, targets, and relevant national and international frameworks.
- Identify sustainability risks and opportunities and recommend appropriate actions to University leadership.
- Engage the University community by promoting awareness and participation among students, faculty, researchers, professional staff, and other stakeholders.
- Review and recommend sustainability policies and initiatives before their submission to the appropriate University authority for approval.

- Report regularly to the university leadership on sustainability performance, achievements, challenges, and recommended actions.

4. Governance and Oversight Role

The Sustainability Committee acts as the University's central coordinating and oversight body for sustainability.

The Committee shall work across academic and administrative units to ensure that sustainability responsibilities are appropriately assigned and that approved initiatives are implemented and monitored.

Individual departments and units remain responsible for implementing sustainability actions within their respective areas. The Committee provides institutional coordination, monitoring, guidance, and oversight and may request relevant information or progress updates from responsible units.

Where significant sustainability matters require institutional approval, funding, policy changes, or strategic decisions, the Committee shall submit its recommendations to the University President for consideration and approval.

5. Meetings and Decision-Making

The Sustainability Committee shall meet quarterly, with additional meetings convened when necessary.

Decisions should normally be reached by consensus. Where consensus cannot be achieved, matters may be decided by a majority vote of members present.

The Secretary shall maintain formal records of meetings, including attendance, decisions, recommendations, assigned responsibilities, and agreed deadlines.

6. Monitoring and Reporting

The Committee shall establish and periodically review measurable sustainability indicators and targets.

An annual sustainability performance review should be prepared summarizing:

- progress against sustainability objectives and targets;
- greenhouse gas emissions and progress toward the University's net-zero target;
- energy, water, waste, transportation, and other environmental indicators;
- sustainability activities in education and research;
- social and community sustainability initiatives;
- progress on relevant SDGs;
- significant achievements and areas requiring improvement; and
- priorities and actions for the following year.

The Committee shall present its findings and recommendations to the University Leadership and support the public communication of sustainability progress where appropriate.

7. Accountability

The Sustainability Committee is accountable to University President.

The Committee shall ensure that sustainability commitments are supported by measurable objectives, appropriate evidence, periodic monitoring, and transparent reporting.

8. Review of the Committee

The Committee’s membership, Terms of Reference, responsibilities, and effectiveness shall be reviewed periodically, and at least once every two years, to ensure continued alignment with the University’s strategic priorities and evolving sustainability requirements.

Climate Action Plan for Beirut Arab University

Introduction:

Beirut Arab University recognizes the urgent need to address climate change and its impacts on Lebanon and the global community. As a responsible institution committed to sustainability and environmental stewardship, BAU is dedicated to implementing a comprehensive Climate Action Plan (CAP) aligned with the university's rules and regulations and in harmony with Lebanon's environmental priorities. This plan outlines the key strategies and initiatives that BAU will undertake to mitigate greenhouse gas emissions, adapt to climate change, and promote sustainability across its campuses and operations.

Goals and Objectives:

- Reduce Greenhouse Gas Emissions: Implement measures to reduce BAU's carbon footprint and transition towards a low-carbon campus.
- Enhance Climate Resilience: Strengthen BAU's resilience to climate change impacts, including extreme weather events and sea-level rise.
- Promote Sustainable Practices: Encourage sustainable behaviors among students, faculty, and staff members, and integrate sustainability principles into all aspects of university operations.
- Engage the Community: Foster partnerships with local communities, government agencies, and non-profit organizations to address climate change collectively.
- Lead by Example: Serve as a model for sustainable practices and climate action within Lebanon's higher education sector.

Strategies and Initiatives:

Energy Efficiency and Renewable Energy:

- Conduct energy audits to identify opportunities for energy efficiency improvements.
- Retrofit buildings with energy-efficient lighting, HVAC systems, and insulation.
- Install solar panels and other renewable energy systems to generate clean electricity on campus.

Sustainable Transportation:

- Encourage the use of public transportation, carpooling, cycling, and walking among students and staff.
- Provide incentives for electric and hybrid vehicle owners, such as preferred parking spots and charging stations.
- Promote telecommuting and flexible work schedules to reduce commuting-related emissions.

Waste Reduction and Recycling:

- Implement a campus-wide waste reduction and recycling program, including segregation at source and proper disposal of recyclable materials.

- Minimize single-use plastics and promote reusable alternatives, such as water bottles and coffee cups.
- Compost organic waste generated on campus and use compost in landscaping and agriculture.

Water Conservation:

- Install water-efficient fixtures and appliances in buildings, such as low-flow toilets and faucets.
- Implement rainwater harvesting systems to collect and store rainwater for irrigation and non-potable uses.
- Raise awareness about the importance of water conservation through educational campaigns and outreach activities.

Climate Resilience and Adaptation:

- Conduct vulnerability assessments to identify climate risks and develop adaptation strategies for infrastructure and facilities.
- Enhance green spaces and urban forests on campus to mitigate heat island effects and improve air quality.
- Incorporate climate-resilient design principles into new construction projects and campus development plans.

Curriculum Integration and Research:

- Integrate climate change and sustainability topics into BAU's academic curriculum across disciplines.
- Support research initiatives and projects focused on climate change mitigation, adaptation, and resilience.
- Establish a Climate Change Research Center to facilitate interdisciplinary research and collaboration.

Monitoring and Evaluation:

BAU will establish a Climate Action Committee to oversee the implementation of the CAP and monitor progress towards its goals and objectives. Regular assessments and reporting will ensure accountability and transparency, allowing BAU to adjust strategies and initiatives as needed to achieve its climate targets.

Conclusion:

By adopting this Climate Action Plan, Beirut Arab University reaffirms its commitment to environmental stewardship and sustainability leadership in Lebanon and beyond. Through collaboration, innovation, and collective action, BAU will strive to mitigate climate change impacts, build resilience, and create a more sustainable and resilient future for its campus community and the wider society.

Campus building footprint



Beirut Campus	Total Area
Main Building	22,018 m^2
Hariri Building	28,000 m^2
Sport Facility	1,040 m^2
Forum	228 m^2
Student Activity Building	400 m^2
Alumni Building	232 m^2
Total	51,918 m^2

Footprint

Introduction

This report presents an assessment of the carbon footprint of Beirut Arab University (BAU) in Lebanon, considering its impact on the environment and climate. The carbon footprint measures the total amount of greenhouse gas emissions produced directly and indirectly by an organization or institution. BAU has been proactive in its efforts to address sustainability and climate change, and the results indicate that it is making progress in reducing its carbon footprint.

Methodology

The carbon footprint assessment for BAU covered direct emissions from on-campus activities, such as energy consumption, transportation, and waste management. It also considered indirect emissions associated with purchased electricity, water usage, and other services used by the university.

Results

	Emissions source	2021	2022
Scope 1	Vehicles	13.255,20	9.581,63
	Equipment and machinery	4.418,40	3.193,88
	Total Scope 1	17.673,60	12.775,50
Scope 2	Electricity	40.207,44	31.274,42
	Cold supply	21.650,16	14.717,38
	Total Scope 2	61.857,60	45.991,80
Scope 3	Business travel	4.860,24	2.810,61
	Rental cars	2.827,78	1.635,26
	Waste	1.148,78	664,33
	Total Scope 3	8.836,80	5.110,20

2021	2022	
Total net emissions	88.368,00	63.877,50
Population	7.364	7.515
Net emissions per population	12	8,5

Based on the data collected and analyzed for the reporting period, it is evident that BAU has made significant strides in reducing its carbon footprint. Compared to the baseline year, the university has successfully lowered its greenhouse gas emissions through various sustainability initiatives and practices.

Key Contributing Factors

Energy Efficiency: BAU has implemented energy-saving measures and adopted renewable energy sources, resulting in a substantial reduction in direct emissions from its buildings and facilities.

Sustainable Transportation: Efforts to promote sustainable transportation options, such as encouraging the use of public transport and cycling, have contributed to the decline in transportation-related emissions.

Waste Management: BAU's improved waste management practices, including recycling and composting, have led to a decrease in carbon emissions associated with waste disposal.

Climate Conscious Policies: BAU's commitment to sustainable procurement and environmentally friendly practices has positively impacted its indirect emissions.

Conclusion

Beirut Arab University's commitment to sustainability and climate action is evident in the positive trajectory of its carbon footprint reduction. The efforts made by the university in adopting environmentally conscious practices and embracing sustainability initiatives have had a tangible impact on its overall environmental performance. However, BAU recognizes that the journey towards a fully sustainable campus is an ongoing one, and it remains dedicated to continuously improving its environmental practices to further reduce its carbon footprint and contribute to a greener future for Lebanon and the region.

Net-Zero Commitment

Beirut Arab University (BAU) is committed to achieving net-zero greenhouse gas emissions by 2035.

As part of its sustainability and climate action strategy, the University is working to reduce greenhouse gas emissions across its operations through energy efficiency, renewable energy, sustainable campus development, responsible resource management, and other emissions-reduction initiatives.

BAU will continue to monitor its environmental performance and implement measures that support progress toward its goal of achieving net-zero emissions by 2035.

Measurement of Commuting Patterns

University Travel Survey

BAU researchers conducted a comprehensive online survey during the fall and spring semesters of the 2023 to 2024 academic year. The target population included students, employees and academic staff commuting to the Beirut and Debbieh campuses. The questionnaire recorded travel mode, trip frequency, origin and destination, distance, in-vehicle and out-of-vehicle travel time, household vehicle ownership, barriers to sustainable travel, views on parking and preferred mobility improvements.

The published study retained 400 responses after cleaning, error checking and removal of incomplete or duplicate submissions. Its sample-size calculation used a 95 percent confidence level and a margin of error

of plus or minus 5 percent, with a minimum requirement of 385 responses. This provides a documented institutional baseline rather than a narrative statement of intent.

Original evidence: Joumblat Jawad and Elkordi 2024 in Sustainability Open original source

Analysing Travel Patterns at Beirut Arab University, Lebanon: An In-Depth Characterization of Travel Behavior on Campus

Rouba Joumblat [1,*], Hadi Jawad [1] and Adel Elkordi [2]

[1] Faculty of Engineering, Department of Civil and Environmental Engineering, Beirut Arab University, Beirut 1105, Lebanon

[2] Faculty of Engineering, Department of Civil Engineering, Alexandria University, Alexandria 21544, Egypt

[*] Author to whom correspondence should be addressed.

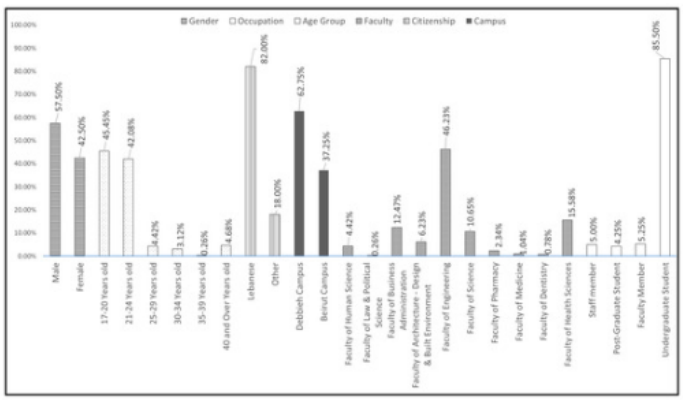
Sustainability **2024**, *16*(18), 8254; https://doi.org/10.3390/su16188254

This article belongs to the Special Issue Advances in Active Travel and Transportation Planning in Smart Cities: Past, Present and Future

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Travelers from BAU were classified based on their projected travel behavior, taking into account factors such as gender, citizenship, profession, and car ownership. The study examined various aspects of travel patterns, including trip generation, mode of travel, travel time and distance, trip production and distribution, and the perspectives of travelers. The research used descriptive analysis to illustrate the obstacles and incentives that affected the selection of sustainable transportation methods and investigated the possibility of changing travel modes within the BAU community. To ensure the accuracy of the study, it is crucial to analyze the collected sample, confirming that the responses are representative of the entire BAU population and identifying any potential biases.

Figure 4 presents the breakdown of the sample by gender, age, citizenship, occupation, campus attending, faculty, and occupation or study level, while Figure 5 demonstrates the interaction of various characteristics among the respondents in relation to car ownership.



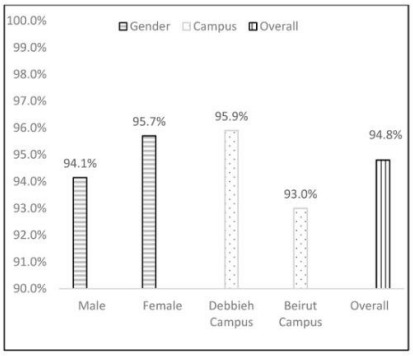
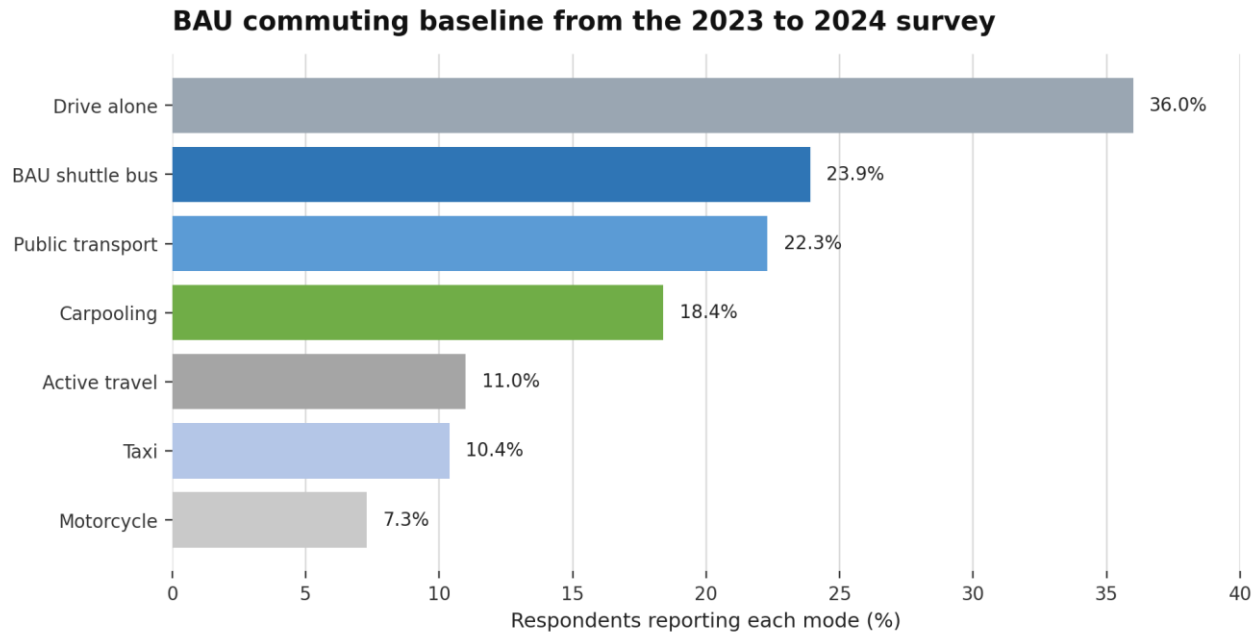


Figure 5. Percentage of the population that owns a car, with the split shown across gender and campus.

A bias was observed towards users from the Debbieh campus (62.75%) compared to users from the Beirut campus (37.25%), whereas in the BAU population, 69.9% of the students are from the Beirut campus, and only 30.1% are from the Debbieh campus. The sample also underrepresented graduate users, who, make up 10.8% of the student population, but only constituted 4.7% of the student respondents. Despite these biases, the overall distribution of survey respondents was deemed acceptable.

Respondents were asked to disclose the number of vehicles in their households. The data revealed that 23.6% of respondents reported owning more than two vehicles, 41.6% owned two, and 29.6% had just one vehicle. A small group of 20 respondents, representing 5.2%, reported no vehicle ownership, reflecting the previously high economic status in the country. Both male and female respondents exhibited similar rates of car ownership, with 94.1% of men and 95.7% of women owning cars. Comparable car ownership rates were also observed among respondents from both the Debbieh and Beirut campuses, at 95.9% and 93.0%, respectively.

Measured Baseline



Categories are not mutually exclusive; some survey questions allowed more than one response.

Interpretation note *Some questions allowed multiple responses, so the percentages should be read as reported use shares rather than a mutually exclusive modal split.*

Commuting mode	Overall	Beirut campus	Debbieh campus
Drive alone	36.0%	27.1%	41.5%
BAU shuttle bus	23.9%	Not stated	36.9%
Public transportation	22.3%	34.0%	Not stated
Car sharing or carpooling	18.4%	Not stated	20.7%
Active travel including walking or cycling	11.0%	22.2%	5.0%
Taxi	10.4%	Not stated	Not stated
Motorcycle	7.3%	Not stated	Not stated

Measurement Quality and Limitations

The survey is strong evidence that BAU measures commuting, but the study also reports limitations that matter for interpretation. Debbieh respondents represented 62.75 percent of the sample even though Debbieh accounts for a smaller share of the student population, and graduate users were underrepresented. The survey used self-reported data without sample weighting or population synthesis. BAU researchers judged the distribution acceptable, while recommending larger and more representative samples in future rounds.

These limitations do not negate the measurement. They define how the baseline should be used. Campus-specific figures are particularly useful because Beirut is urban and more accessible by walking and public transport, whereas Debbieh is rural and relies more heavily on private vehicles and the BAU shuttle service.

Additional Environmental Monitoring

BAU also publishes an institutional carbon-footprint assessment covering direct and indirect emissions. The published categories include campus vehicles, business travel and rental cars, alongside energy, waste and other operational sources. The University reports a decline in total net emissions from 2021 to 2022 and commits to continued monitoring. This is broader than the commuter survey, but it provides a second measurement stream relevant to transport-related emissions.

Original evidence: BAU carbon footprint assessment and 2035 net-zero commitment Open original source

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Based on the data collected and analyzed for the reporting period, it is evident that BAU has made significant strides in reducing its carbon footprint. Compared to the baseline year, the university has successfully lowered its greenhouse gas emissions through various sustainability initiatives and practices.

Key Contributing Factors

Energy Efficiency: BAU has implemented energy-saving measures and adopted renewable energy sources, resulting in a substantial reduction in direct emissions from its buildings and facilities.

Sustainable Transportation: Efforts to promote sustainable transportation options, such as encouraging the use of public transport and cycling, have contributed to the decline in transportation-related emissions.

Waste Management: BAU's improved waste management practices, including recycling and composting, have led to a decrease in carbon emissions associated with waste disposal.

Climate Conscious Policies: BAU's commitment to sustainable procurement and environmentally friendly practices has positively impacted its indirect emissions.

Conclusion

Beirut Arab University's commitment to sustainability and climate action is evident in the positive trajectory of its carbon footprint reduction. The efforts made by the university in adopting environmentally conscious practices and embracing sustainability initiatives have had a tangible impact on its overall environmental performance. However, BAU recognizes that the journey towards a fully sustainable campus is an ongoing one, and it remains dedicated to continuously improving its environmental practices to further reduce its carbon footprint and contribute to a greener future for Lebanon and the region.

Net-Zero Commitment

Beirut Arab University (BAU) is committed to achieving net-zero greenhouse gas emissions by 2035.

As part of its sustainability and climate action strategy, the University is working to reduce greenhouse gas emissions across its operations through energy efficiency, renewable energy, sustainable campus development, responsible resource management, and other emissions-reduction initiatives.

BAU will continue to monitor its environmental performance and implement measures that support progress toward its goal of achieving net-zero emissions by 2035.

How the Baseline Supports Decisions

The survey does more than record travel modes. It identifies why commuters choose private vehicles and what would make sustainable alternatives more attractive. Convenience of a private car, shorter travel time and inconvenient bus schedules were leading reasons reported by private-car users. The study found that 23.1 percent cited an inconvenient bus schedule. Among proposed initiatives for private-car users, improved public-transport services received the largest reported share at 45.72 percent.

The research recommends improving bus frequency and route coverage, gathering feedback from current bus users, testing ride-sharing platforms, and evaluating efficient parking systems. The authors state that the survey findings are the primary input to a comprehensive BAU travel-demand forecasting model under development. This creates a direct route from measurement to scenario testing and future target refinement.

Original evidence: Original peer-reviewed article and DOI record Open original source

Abstract
Introduction
Background Literature
Research Objectives
Description of the Study Area
Methodology
Results and Discussion
Conclusions
Limitations and Future Works
Author Contributions
Funding
Institutional Review Board Statement
Informed Consent Statement
Data Availability Statement
Conflicts of Interest
References
Article Metrics

Article 23 September 2024 26 Pages

Analysing Travel Patterns at Beirut Arab University, Lebanon: An In-Depth Characterization of Travel Behavior on Campus

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Abstract

Understanding the travel patterns of university campus visitors is crucial for developing effective

Institutional Targets for Sustainable Commuting

Climate Action Plan Objectives

BAU's current Climate Action Plan identifies sustainable transportation as a distinct operational area. It commits the University to encourage public transportation, carpooling, cycling and walking among students and staff; provide incentives for electric and hybrid vehicles through preferred parking and charging stations; and promote telecommuting and flexible work schedules to reduce commuting-related emissions. These are formal institutional objectives that cover the principal modes named in THE indicator 11.4.1.

The Plan also requires monitoring and evaluation. BAU assigns oversight to a climate-action governance structure, with regular assessment and reporting intended to track progress, maintain accountability and allow strategies to be adjusted in response to results.

Original evidence: BAU Climate Action Plan Open original source

Climate Action Plan for Beirut Arab University

Introduction:

Beirut Arab University recognizes the urgent need to address climate change and its impacts on Lebanon and the global community. As a responsible institution committed to sustainability and environmental stewardship, BAU is dedicated to implementing a comprehensive Climate Action Plan (CAP) aligned with the university's rules and regulations and in harmony with Lebanon's environmental priorities. This plan outlines the key strategies and initiatives that BAU will undertake to mitigate greenhouse gas emissions, adapt to climate change, and promote sustainability across its campuses and operations.

Goals and Objectives:

- **Reduce Greenhouse Gas Emissions:** Implement measures to reduce BAU's carbon footprint and transition towards a low-carbon campus.
- **Enhance Climate Resilience:** Strengthen BAU's resilience to climate change impacts, including extreme weather events and sea-level rise.
- **Promote Sustainable Practices:** Encourage sustainable behaviors among students, faculty, and staff members, and integrate sustainability principles into all aspects of university operations.
- **Engage the Community:** Foster partnerships with local communities, government agencies, and non-profit organizations to address climate change collectively.
- **Lead by Example:** Serve as a model for sustainable practices and climate action within Lebanon's higher education sector.

Strategies and Initiatives:

Energy Efficiency and Renewable Energy:

- Conduct energy audits to identify opportunities for energy efficiency improvements.
- Retrofit buildings with energy-efficient lighting, HVAC systems, and insulation.
- Install solar panels and other renewable energy systems to generate clean electricity on campus.

Sustainable Transportation:

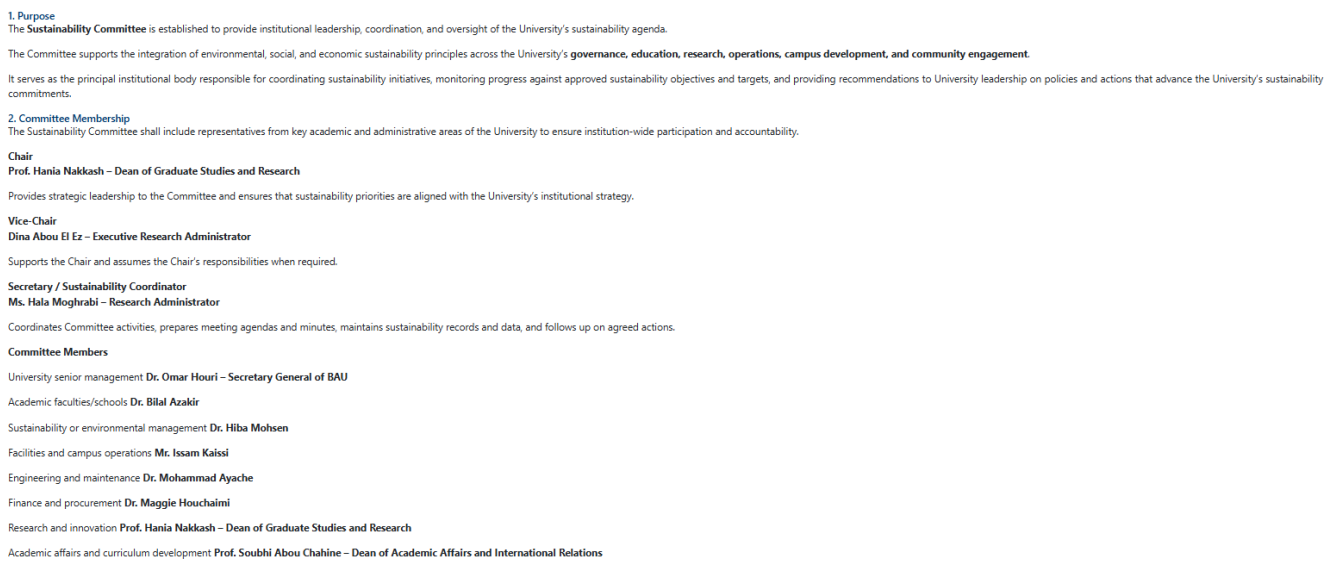
- Encourage the use of public transportation, carpooling, cycling, and walking among students and staff.
- Provide incentives for electric and hybrid vehicle owners, such as preferred parking spots and charging stations.
- Promote telecommuting and flexible work schedules to reduce commuting-related emissions.

Sustainability Committee Accountability

The Sustainability Committee provides the institutional mechanism for converting the Climate Action Plan into measurable performance management. Its terms of reference require the Committee to develop and recommend sustainability priorities and targets, monitor sustainable transportation, coordinate sustainability data collection, and review performance against established indicators, objectives and targets. The Committee meets quarterly and must establish and periodically review measurable sustainability indicators and targets.

The same terms require an annual sustainability performance review covering transportation and other environmental indicators, progress against objectives and targets, achievements, areas for improvement, and priorities for the following year. Accountability sits with the University President, and the Committee must support commitments with measurable objectives, evidence, periodic monitoring and transparent reporting.

Original evidence: BAU Sustainability Committee terms of reference Open original source



1. Purpose
The **Sustainability Committee** is established to provide institutional leadership, coordination, and oversight of the University's sustainability agenda.

The Committee supports the integration of environmental, social, and economic sustainability principles across the University's **governance, education, research, operations, campus development, and community engagement**.

It serves as the principal institutional body responsible for coordinating sustainability initiatives, monitoring progress against approved sustainability objectives and targets, and providing recommendations to University leadership on policies and actions that advance the University's sustainability commitments.

2. Committee Membership
The Sustainability Committee shall include representatives from key academic and administrative areas of the University to ensure institution-wide participation and accountability.

Chair
Prof. Hania Nakkash – Dean of Graduate Studies and Research

Provides strategic leadership to the Committee and ensures that sustainability priorities are aligned with the University's institutional strategy.

Vice-Chair
Dina Abou El Ez – Executive Research Administrator

Supports the Chair and assumes the Chair's responsibilities when required.

Secretary / Sustainability Coordinator
Ms. Hala Moghrabi – Research Administrator

Coordinates Committee activities, prepares meeting agendas and minutes, maintains sustainability records and data, and follows up on agreed actions.

Committee Members

University senior management **Dr. Omar Houri – Secretary General of BAU**

Academic faculties/schools **Dr. Bilal Azakir**

Sustainability or environmental management **Dr. Hiba Mohsen**

Facilities and campus operations **Mr. Issam Kaissi**

Engineering and maintenance **Dr. Mohammad Ayache**

Finance and procurement **Dr. Maggie Houchaimi**

Research and innovation **Prof. Hania Nakkash – Dean of Graduate Studies and Research**

Academic affairs and curriculum development **Prof. Soubhi Abou Chahine – Dean of Academic Affairs and International Relations**

Time Bound Net Zero Target

BAU has set a university-wide target of achieving net-zero greenhouse gas emissions by 2035. The University states that it will monitor environmental performance and implement measures across its operations to support progress. Because the Climate Action Plan explicitly connects sustainable transportation and telecommuting with reduced commuting emissions, the 2035 target supplies the time-bound institutional outcome to which mobility measures contribute.

Original evidence: BAU net-zero commitment for 2035 Open original source

Target level	Target or objective	Measure	Review route
Institution wide	Net-zero greenhouse gas emissions by 2035	Institutional carbon-footprint assessment	Continued environmental monitoring
Transport policy	Increase use of public transport carpooling cycling and walking and reduce commuting emissions	Travel modes barriers preferences and transport indicators	Climate Action Plan assessment and reporting
Vehicle transition	Incentivize electric and hybrid vehicles	EV and hybrid uptake and charging provision	Sustainability indicators and annual review
Governance	Establish measurable sustainability indicators and targets including transportation	Transportation and emissions indicators	Quarterly Committee oversight and annual

Target level	Target or objective	Measure	Review route
			performance review

Coverage of the Commuting Modes in the Indicator

Mode	How BAU measures it	Target or policy direction	Original evidence
Walking and cycling	Active travel reported by 11.0 percent overall and 22.2 percent at Beirut campus	Encourage cycling and walking among students and staff	Measurement Open original source Policy source
Carpooling and shared travel	Carpooling reported by 18.4 percent overall and 20.7 percent at Debbieh	Encourage carpooling and evaluate ride-sharing platforms	Measurement Open original source Policy source
University shuttle bus	BAU bus use reported by 23.9 percent overall and 36.9 percent at Debbieh	Maintain accessible shared transport and use survey evidence to improve routes and schedules	Measurement Open original source Policy source
Public transportation	Public transport reported by 22.3 percent overall and 34.0 percent at Beirut campus	Encourage public transportation and reduce commuting-related emissions	Measurement Open original source Policy source
Motorcycle	Motorcycle use reported by 7.3 percent overall	Measured as part of travel behaviour; no separate public target located	Measurement Open original source Policy source
Electric and hybrid vehicles	Survey asks about smart transport and EV-related options; carbon assessment tracks transport-related categories	Preferred parking and charging stations are stated policy incentives	Measurement Open original source Policy source
Telecommuting	Environmental performance and transport indicators fall under Committee monitoring	Promote telecommuting and flexible schedules to reduce commute emissions	Measurement Open original source Policy source

Current Shuttle Service as Implementation Evidence

BAU's current transport-services page confirms that the University provides an affordable and accessible public-transport option for travel to Debbieh Campus. The shuttle fleet includes accessible seating, GPS tracking, live-camera security, air conditioning, Wi-Fi and card scanning. A published schedule shows regular Beirut to Debbieh and Saida to Debbieh routes and an hourly Debbieh campus circulator. These operational records demonstrate that target-setting is linked to an active transport service rather than a future-only commitment.

Original evidence: BAU Parking and Transportation service page Open original source

Original evidence: BAU current bus schedule PDF Open original source

Measurement and Target Management Cycle

Stage	BAU evidence	Result	Next management use

Stage	BAU evidence	Result	Next management use
1 Baseline	2023 to 2024 campus travel survey	Travel modes and campus differences quantified	Use baseline for later comparison
2 Diagnose	Barriers preferences and satisfaction measured	Bus schedule convenience and service improvement priorities identified	Select interventions with the highest potential
3 Set direction	Climate Action Plan and 2035 net-zero commitment	Sustainable modes and reduced commuting emissions established as objectives	Translate objectives into annual indicators
4 Govern	Sustainability Committee terms of reference	Targets indicators evidence and review responsibilities assigned	Quarterly oversight and annual performance review
5 Model and adapt	Travel-demand forecasting model under development	Proposed measures can be assessed before wider implementation	Refine targets and actions based on modelled effects

Evidence Strength and Boundary

The public evidence supports a Yes response because it verifies measurement, institutional target-setting, monitoring responsibility and a time-bound emissions endpoint. The most direct measurement is the 2023 to 2024 travel survey. The strongest target evidence is the combination of the Sustainability Committee requirement for measurable transportation indicators and targets, the Climate Action Plan's sustainable-transport objectives, and the net-zero 2035 commitment.

A separate numerical modal-share target, such as a stated percentage increase in walking or shuttle use by a named year, is not disclosed in the public sources reviewed. Accordingly, this report does not present proposed survey interventions as already approved targets. For the strongest possible audit trail, BAU may attach an internally approved transport KPI sheet or annual sustainability review showing the current baseline, target value, deadline, responsible office and latest result.

Conclusion

Beirut Arab University measures commuting patterns and has an institutional system for setting and reviewing sustainable-commuting targets. The University has quantified current travel behaviour, identified barriers to mode shift, embedded sustainable transportation in its Climate Action Plan, assigned target and indicator oversight to the Sustainability Committee, and committed to net-zero greenhouse gas emissions by 2035. On this evidence, BAU meets the substance of THE Impact Rankings indicator 11.4.1.

Original Evidence Register

All links below lead to the original university source or the original peer-reviewed publication. Accessed 16 October 2026.

No	Evidence source	What it verifies	Original link
1	BAU publication record for the campus travel study	BAU ownership and publication details for the 2024 research	Open original source
2	Joumblat Jawad and Elkordi 2024 Sustainability volume 16 article 8254	Survey method sample baseline modes barriers recommendations and forecasting model	Open original source
3	BAU Sustainability Committee	Governance responsibility for targets transportation indicators data and periodic review	Open original source
4	BAU Climate Action Plan	Objectives for public transport carpooling cycling walking electric vehicles and telecommuting	Open original source

No	Evidence source	What it verifies	Original link
5	BAU Campus Building Footprint and carbon assessment	Transport-related emissions categories and net-zero target for 2035	Open original source
6	BAU Parking and Transportation	Current shuttle services accessible seating GPS and payment arrangements	Open original source
7	BAU Bus Schedule	Current scheduled routes and campus circulator	Open original source