Azerbaijan TECHNICAL University

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AZERBAIJAN TECHNICAL UNIVERSITY

UI GREENMETRIC REPORT

REPORT ON TRANSPORTATION

2024

Introduction

Transportation systems play a crucial role in determining the ecological footprint of urban institutions. Azerbaijan Technical University (AzTU) recognizes that higher education institutions are uniquely positioned to lead by example in adopting and promoting sustainable mobility practices. The impact of transport on greenhouse gas emissions, air quality, noise levels, and land use compels universities to rethink their transportation systems—not only for operational efficiency but for climate responsibility as well.

Situated in the capital city of Baku, AzTU experiences a daily influx of students, faculty, and staff. The university has observed changing mobility patterns over the years and has taken action to facilitate this transformation. A significant reduction in private car usage on campus has been observed, replaced by increased reliance on shared mobility, electric scooters, bicycles, and public transit. The availability of metro lines, low-cost bus routes, and scooter-sharing systems provides convenient alternatives to single-occupancy vehicles. AzTU supports these choices through infrastructure design and affordability policies.

The university's strategic plan includes the adoption of policies that align with the United Nations Sustainable Development Goals (SDGs), particularly SDG 11 (Sustainable Cities and Communities) and SDG 13 (Climate Action). This report provides a comprehensive overview of AzTU's current achievements, challenges, and future plans in the field of campus mobility, highlighting its long-term commitment to creating a cleaner, healthier, and more inclusive transport ecosystem.

References

UI GreenMetric

National Information Portal on Sustainable Development

AzTU Sustainability

Objectives

- To minimize the number of private vehicles on campus.
- To promote the use of public transportation, bicycles, and scooters.
- To enhance pedestrian and cyclist infrastructure for safety and convenience.
- To support zero-emission vehicle policies and practices.
- To implement smart parking solutions and reduce space occupied by parking lots.
- To raise awareness about environmental impacts of transportation choices.

Keywords

Sustainable transport	**Public transportation**	**Bike sharing**	**Electric scooters**	**Carbon footprint**
Hybrid vehicles	Zero-emission vehicles	Urban mobility	Traffic optimization	Smart parking
Pedestrian pathways	Cycling infrastructure	Scooter rentals	Electric vehicle charging	Transport policy
Public awareness	Campus accessibility	Emission reduction	Eco-friendly commuting	Ride-sharing services
Multi-level parking	Digital mobility	Student mobility	Green campus	Solar lighting
Vehicle-free zones	Transport innovation	Urban sustainability	Fleet management	Low-carbon mobility

Current Situation

Azerbaijan Technical University (AzTU) has already taken significant steps to establish a more sustainable and efficient campus transportation system. The

university currently operates a small internal vehicle fleet consisting of 6 cars, 1 truck, 1 van, and 6 scooters. In addition, around 370 private vehicles and 16 scooters enter the university daily. This results in a low vehicle-per-capita ratio of 0.036, based on a total campus population of 11,000. Compared to previous years, there has been a noticeable reduction in the number of cars used by the campus community, thanks to the growing popularity of scooters, public transportation, and pedestrian access.

The university's geographical location in Baku offers excellent connectivity to city-wide transport networks. AzTU is located within 500 meters of a metro station and is served by several municipal bus routes, including lines 3, 6, 10, and 18. This makes it highly convenient for students and staff to choose public transportation over private vehicles, which contributes to reducing urban congestion and lowering emissions.

Furthermore, AzTU has invested in developing pedestrian-friendly and cyclist-safe infrastructure. Dedicated lanes for walking and cycling exist in several areas of the campus, some of which are vehicle-free zones to ensure safety and comfort. Scooter-sharing systems are in place, with rentals available for as little as 0.17 AZN per minute. If demand exceeds supply, users can also borrow scooters from the nearby Park of Academy of Sciences.

AzTU has allocated approximately 2,000 m² of its 39,000 m² campus area to parking, resulting in a parking-to-campus ratio of 5.12%. This relatively low ratio reflects the university's intent to limit car dependency and optimize land use. Researchers at AzTU have proposed multi-level parking systems as part of future space-saving strategies.

In summary, AzTU has made substantial progress in promoting low-emission commuting, reducing reliance on private vehicles, and improving campus accessibility. These efforts form a strong foundation for implementing more advanced transportation strategies in the coming years.

No.	Vehicle	Total Number
1	Cars managed by the university	6
2	Trucks managed by the university	1
3	Vans managed by the university	1
4	Scooters managed by the university	6
5	Cars entering the university	370
6	Scooters entering the university	16
	Total	400

Transportation Overview and Vehicle Count

Vehicle-to-population ratio = 400 / 11000 = 0.036

Shuttle Services and Public Transport

Shuttle Service (Azerbaijan Technical University, Baku)

The university is well-connected via public transportation including buses (№3, №6, №10, №18) and a nearby metro station (500 meters away). Due to the excellent connectivity, demand for internal shuttle buses is minimal.

Zero Emission Vehicles (ZEV) Policy and Infrastructure

Zero Emission Scooters
(Azerbaijan Technical University, Baku)

Pedestrian area
(Azerbaijan Technical University, Baku)

AzTU promotes walking, cycling, and scooter use through infrastructural improvements such as dedicated bike lanes, pedestrian paths, and vehicle-free zones. Scooter rentals are subsidized, costing as little as 0.01 USD per minute. These policies help reduce emissions and create a healthier campus environment.

Parking Area Ratio

Total campus area: 39,000 m²

Total parking area: 2,000 m²

Parking-to-campus ratio: 5.12%

Program to Decrease Parking Asharing services further support the initiative by minimizing private vehicle demand. rea (2021–2023)
AzTU researchers have explored and proposed multi-level parking systems to reduce land usage. Scooter sharing and ride-

Limiting parking zone
(Azerbaijan Technical University, Baku)

Free Scooters for rent
(Azerbaijan Technical University, Baku)

Transportation Initiatives to Reduce Private Vehicle Usage

Public Bus
(Azerbaijan Technical University, Baku, Azerbaijan)

Free Scooters for use (Azerbaijan Technical University, Baku, Azerbaijan)

- Public transport access: bus and metro stations adjacent to campus.
- Scooter-sharing with nearby Academy of Sciences.
- Underground pedestrian crossings and solar-powered street lighting.
- Cyclist-friendly infrastructure and pedestrian priority zones.
- Ride-share services widely used across the city.

Pedestrian Path Policy

AzTU prioritizes pedestrian access via designated walkways, solar-powered street lighting, and underground crossings. Though a formal pedestrian policy is not in

place, infrastructure ensures safety and walkability in accordance with the university's sustainability plan.

Future Goals

Azerbaijan Technical University (AzTU) envisions a future where sustainable mobility is seamlessly integrated into campus life through innovation, strategic planning, and community engagement. One of the primary goals is to implement a smart mobility management system that monitors real-time traffic flow, parking occupancy, and carbon emissions. By using sensors and data analytics, the university aims to optimize campus transport efficiency and reduce energy consumption associated with mobility.

In addition, AzTU plans to gradually transition its internal vehicle fleet to electric and hybrid models, significantly reducing its carbon footprint. Charging stations will be installed in key areas of the campus to support this transition. New investments will be directed toward expanding the bike-sharing and scooter-rental programs, especially during high-demand academic periods. To support non-motorized commuting, the university also intends to develop covered and secured bike parking zones, integrate solar-powered lighting, and improve the safety of pedestrian and cycling paths.

On an academic level, AzTU will promote interdisciplinary research projects that address urban mobility, climate-friendly transportation, and behavioral change in commuting practices. These research efforts will be supported by national and international grants and partnerships with municipalities, private companies, and international universities.

Furthermore, AzTU will launch a student awareness and incentive campaign to promote green transportation choices. This includes competitions, workshops, and mobility challenges that reward low-emission commuting. By 2030, AzTU aims to cut its transportation-related emissions by at least 40%, positioning itself as a model for sustainable university campuses in the region.

Conclusion

The efforts by Azerbaijan Technical University to create a more sustainable transportation system reflect its broader environmental philosophy. With clear actions in place—from infrastructure development and vehicle use monitoring to public transport partnerships and education initiatives—AzTU is not only reducing emissions but also enhancing quality of life on campus. These advancements position the university as a forward-thinking institution capable of balancing operational needs with environmental integrity.

A key strength of AzTU's strategy lies in its multidisciplinary approach. It brings together urban planners, engineers, data analysts, and sustainability experts to co-design long-term solutions. This holistic strategy ensures that transportation infrastructure is aligned with student and staff needs, while also serving as a model for national urban sustainability policies. The reduction in single-occupancy vehicle use, integration of electric scooters, and expansion of walking paths are early indicators of the program's success.

Going forward, AzTU will continue investing in intelligent systems, community engagement, and environmentally friendly operations. The university aims to achieve a significant decrease in its transportation-related carbon emissions by 2030. Through leadership, innovation, and collaboration, AzTU is committed to shaping a green campus that inspires sustainable behavior and contributes meaningfully to national and global climate goals.