Polythecnic of Road Transportation Safety

UI Green Matric

Sustanability Report

Be the change to keep the world green

2026

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01 Executive Summary

PKTJ's Commitment to Sustainable Campus

Campus 1 (Perintis) — Jl. Perintis Kemerdekaan No. 17, Tegal

Campus 2 (Margadana) — Jl. Abdul Syukur No. 17, Tegal

Politeknik Keselamatan Transportasi Jalan (PKTJ) Tegal is a state polytechnic under the Ministry of Transportation of the Republic of Indonesia, specializing in road transportation safety education. The institution was founded on 14 May 1971 and officially inaugurated on 27 September 1971 by the Director General of Land Transportation, Sumpono Bayuaji, on a former PJKA (SCS) warehouse site at Jalan Semeru No. 77, Tegal City, Central Java, covering approximately 6.5 hectares.

Since its establishment, the institution has undergone several changes in name and organizational status in line with the evolving structure of the Ministry of Transportation. It originated as the Land Transportation Education Center under the Land Transportation Education Institute (LEMDIK) in Jakarta, before being renamed the Land and Road Transportation Education and Training Center (Balai Diklat Trans Jaya) Tegal in 1978, and subsequently the Land Transportation Education and Training Center (BPPTD) Tegal in 2002. It was formally established as PKTJ Tegal through Ministerial Regulation No. PM. 15 of 2012.

PKTJ Tegal currently operates two campuses in Tegal City. Campus 1 (Perintis), located at Jalan Perintis No. 77, serves as the primary center for academic activities, administration, and institutional management, covering approximately 3 hectares. It houses lecture buildings equipped with modern air- conditioned classrooms, projectors, and digital learning systems, as well as the Transportation and Road Safety Laboratory, Computer Laboratory, Transportation Management Laboratory, Digital Library, and a Seminar Hall and Auditorium.

The campus is designed with a green concept, featuring landscaped gardens and open green spaces that create a comfortable learning environment. Its strategic location in the city center ensures easy access from Tegal's bus terminal and railway station. Campus 2 (Margadana), located at Jalan Abdul Syukur No. 17, Margadana, Tegal City, was developed in 2018 as an extension for practical training and technical education, also covering approximately 3 hectares. It is equipped with an Automotive Engineering and Vehicle Testing Workshop, Road Safety Simulation Laboratory, Emergency Response Training Room, cadet dormitories, a multipurpose hall, and sports facilities. The campus also features an Educative Fish Pond, a Productive Green Area supporting urban aquaculture, a rainwater management system, a liquid waste treatment plant, and energy-efficient lighting, all reflecting PKTJ's commitment to environmental sustainability.

Together, both campuses cover a combined total area of approximately 6 hectares, forming an integrated learning environment that encompasses academic instruction, technical training, research, and community outreach all aligned with sustainable development principles.

PKTJ is committed to building a green campus culture that integrates environmental sustainability into every aspect of academic life, campus operations, and community engagement — aligned with the United Nations Sustainable Development Goals (SDGs).

Key Performance Highlights

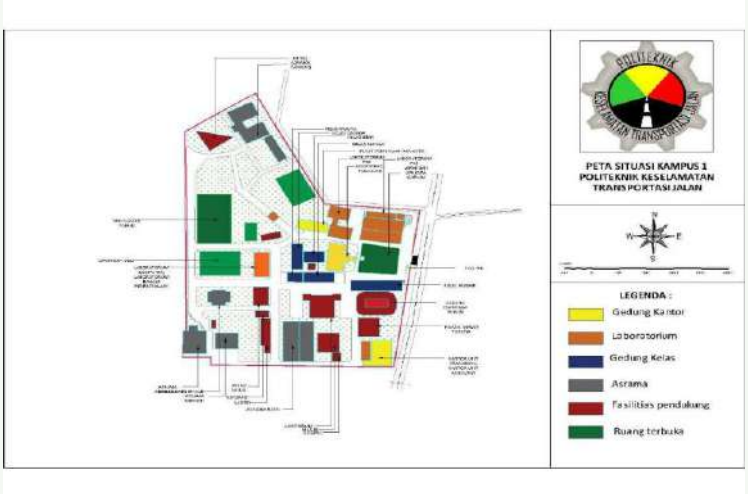
94,572 m² Total Building Area	**72.3%** of 5,633 lamps LED Lighting Coverage	**19 Units** 11.4 kWh capacity Solar Street Lights	**85.71%** of total generated Hazardous Waste Treated
3,536 kg /year CO_2 Reduction	**41,161** kWh/year Energy Savings	**1–25%** of total water Water Conserved	**2** Perintis & Margadana Campus Sites

02 Setting & Infrastructure (SI)

Campus Profile, Buildings & Inclusive Facilities

1.1 Campus Overview

PKTJ was established on 14 May 1971 and officially inaugurated on 27 September 1971. Located in Tegal City on the northern coast of Central Java, PKTJ operates two integrated campuses covering approximately 6 hectares combined. Tegal City has a population density of 7,461 people/km² (2023), the second most densely populated city in Central Java.



Campus buildings — PKTJ Tegal (Campus 1, Perintis)

Campus	Location	Area	Function
Campus 1 (Perintis)	Jl. Perintis No. 17, East Tegal	~3 ha	Academic, Administration & Institutional Management
Campus 2 (Margadana)	Jl. Abdul Syukur No. 17, Margadana	~3 ha	Practical Training & Technical Education (est. 2018)

1.2 Total Campus Building Area — 94,572 m²

Campus	Subtotal Area	Key Buildings
Campus 1 (Perintis)	23,261 m²	Lab TKO & MKTJ (3,200 m²), Workshop TKO (2,566 m²), Gor Transjaya (2,000 m²)
Campus 2 (Margadana)	71,311 m²	Gedung Rektorat (8,772 m²), Gor PKTJ (6,180 m²), Library & Canteen (6,159 m²)
GRAND TOTAL	94,572 m²	All functional buildings across both campuses

1.3 Inclusive Campus Facilities for All

PKTJ is committed to providing an accessible and inclusive environment for persons with disabilities, special needs, and nursing mothers across both campuses.

Disability ramp with stainless steel handrails

Campus map showing disability ramp & toilet locations

Facility	Description	Locations
Disability Ramps	Stainless steel handrails, wheelchair accessible gradients	Faculty Room, CDC Building, Splash Building, Rectorate
Accessible Restrooms	Wide doorways, sliding doors, maneuvering space	Both campuses incl. Splash Building
Lactation Room	Private space with comfortable seating for nursing mothers	Both campuses

03

Energy & Climate Change (EC)

Efficiency, Renewable Energy & Smart Buildings

2.1 Energy-Efficient Appliances (EC.1)

PKTJ has systematically replaced conventional equipment with energy-efficient alternatives across all campus buildings at both campuses, covering three main categories.

LED Lighting System

LED lighting panels installed on ceilings across campus buildings — 72.3% LED coverage (4,075 of 5,633 lamps)

Campus	Total Lamps	LED Units	LED Coverage
Campus 1 (Perintis)	2,116	1,731	81.8%
Campus 2 (Margadana)	3,517	2,344	66.6%
TOTAL BOTH CAMPUSES	5,633	4,075	72.3%

CCTV IP Camera — Digital Surveillance

Hikvision IP Camera — 100% energy efficient (237 units)

Air Conditioning units across campus buildings (394 units total)

Equipment	Campus 1	Campus 2	Total	Efficiency
CCTV IP Cameras	76 units	161 units	237 units	100% digital IP
Air Conditioning	209 units	185 units	394 units	Inverter verification ongoing

2.2 Renewable Energy Sources — Solar Street Lighting

19 solar-powered street lights installed across campus — total capacity 11.4 kWh — saving 41,161 kWh/year and reducing CO_2 by 3,536.85 kg/year.

Solar monocrystalline street light (100–150 Wp each, LiFePO4 battery)

Backup Generator Set 450 kVA — Campus 2 Margadana

Renewable Energy Indicator	Value
Number of Solar Street Light Units	19 units
Total Power Capacity	11.4 kWh
Solar Panel Rating per Unit	100–150 Watt Peak (Wp)
Battery Type	LiFePO4 Lithium — 12 hrs autonomous operation
Annual Energy Savings	~41,161 kWh/year
Annual CO_2 Reduction	~3,536.85 kg CO_2/year
Grid Independence	100% off-grid at night (no PLN required)

2.3 Green Building Implementation (EC.6)

Selected campus buildings are assessed against the Green Building Indonesia (GBI) Non-Residential Existing Building standard, covering Energy Efficiency, Indoor Environmental Quality, and related sustainability criteria.

Asrama Garuda — Green dormitory building

Lab TKO & MKTJ — Smart lab facility

Gedung Rektorat — Administration building

GBI-assessed buildings include: Gedung Rektorat, Kelas Mahesa, Kelas Garuda, Lab TKO & MKTJ, Gor Indoor PKTJ, and Asrama Garuda. Each building must meet at least 5 smart building requirements covering automation, safety, energy, water, indoor environment, and lighting.

04 Waste Management (WS)

3R Programs, Paper/Plastic Reduction & Toxic Waste

3.1 3R Program — Reduce, Reuse & Recycle (WS.1)

Organic & inorganic waste separation bins — 3R program on campus

Digital system on screen — reduction of paper through digitalization (Reduce)

Paper and material reuse — repurposing used paper and resources (Reuse)

Reduce Programs

PKTJ reduces resource consumption through digital transformation across all campus services:

- SIMPEL (Electronic Environmental Licensing) — paperless environmental reporting at polyclinic
- @LAB-PKTJ — digital laboratory scheduling, equipment inventory & maintenance (zero printed forms)
- E-Library (Perpustakaan Digital) — online access to books, journals, academic resources
- SIAKAD — fully digital academic information system for grade management

Reuse Programs

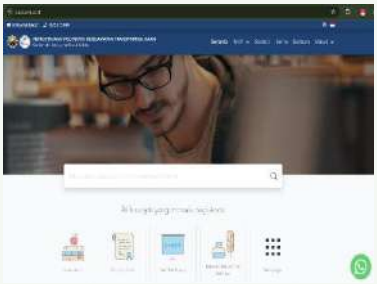
- Paper Reuse Program — used paper repurposed for drafts, notes, and internal documents
- Container & material reuse in office and operational activities

Recycle Programs

- Color-coded recycling bins at strategic campus locations
- Plastic bottle collection system channeled to licensed recycling facilities
- Cardboard and paper waste collection for recycling
- Innovative plastic waste-to-alternative fuel (BBM) conversion program

3.2 Paper & Plastic Reduction Program (WS.2)

LAB-PKTJ digital laboratory management system — paperless lab scheduling & inventory



E-Library & SIAKAD — digital academic resources and grade management

Tumbler collection — campus-wide program to replace single-use plastic cups & bottles

Outdoor waste separation bins — strategic placement across campus

3.3 Inorganic Waste Treatment (WS.4)

Organic/inorganic waste separation bins

Plastic bottle collection for recycling

Dedicated waste collection points on campus

Programs implemented for inorganic waste management:

- Separated waste bins (organic vs. inorganic) at strategic campus locations
- Dedicated plastic bottle collection system for recycling
- Sub Plastic Program — reducing single-use plastics campus-wide
- Tumbler & refillable water bottle program for all campus members
- Paper and cardboard collection for recycling
- Ongoing environmental education and awareness campaigns

3.4 Toxic & Hazardous Waste Treatment (WS.5)

Achievement: 85.71% of all hazardous waste properly treated — with total volume reduced 26.32% (from 0.19 tons to 0.14 tons in the reporting period).

Color-coded hazardous waste containers (segregation at source)

Cold-storage freezer for temporary storage of infectious medical waste

Licensed hazardous waste transport truck — transferring waste to certified facility

Temporary Hazardous Waste Storage Facility (TPS B3) — PKTJ Tegal

Stage	Process	Facility / Method
1 – Segregation	Separated at source by type & hazard class	Color-coded and labeled containers
2 – Storage	Infectious waste in cold-storage	Dedicated TPS B3 (Temp. Hazardous Waste Storage)
3 – Recording	Monitored and documented	Digital tracking & reporting system
4 – Transport	Collected by licensed operators	Authorized third-party hazardous waste companies
5 – Final Treatment	Processed per environmental regulations	Licensed waste management companies

Indicator	Previous Year	Current Year	Change
Total Hazardous Waste	0.19 tons	0.14 tons	▼ 26.32% reduction
Properly Treated	—	85.71%	Target exceeded

3.5 Sewage & Wastewater Disposal (WS.6)

Retention pond — natural sedimentation & flood control

Dormitory wastewater drainage system

Dining room 3-stage wastewater treatment

Retention pond system — campus wastewater management & natural sedimentation

Source	Management Method
Retention Ponds	Temporary holding enables natural sedimentation & flow control before further treatment
Dormitories	Dedicated drainage for cadet activities; routed to treatment facility to remove soaps, detergents
Dining Rooms	3-stage: (1) Initial storage, (2) Filtration & sedimentation, (3) Final clarification before discharge

05

Water Conservation (WR)

Infrastructure & Programs — 1–25% Conserved

Selected Category [3]: 1%–25% of campus water is conserved through 5 dedicated infrastructure systems.

4.1 Water Conservation Infrastructure

Rainwater harvesting — HDPE Penguin-brand tanks with PVC piping

Modular ground tank (blue panel) for irrigation water storage

Absorption/infiltration wells — groundwater recharge & runoff reduction

Water retention pond — natural storage & flood prevention

Water tower — gravity-based centralized distribution system

#	Infrastructure	Description	Purpose
1	Rainwater Harvesting	Penguin HDPE tanks + PVC piping	Collect rainwater for irrigation & cleaning
2	Modular Ground Tank	Blue modular panel tanks	Water storage for green areas & landscaping
3	Absorption / Infiltration Wells	Concrete wells with PVC pipes	Groundwater recharge & surface runoff reduction
4	Water Retention Pond	Open-area retention ponds	Natural storage, flood prevention, garden irrigation

#	Infrastructure	Description	Purpose
5	Water Tower & Distribution	Gravity-based centralized system	Optimizes stored water, reduces pump energy

4.2 Utilization of Conserved Water

All conserved water is used for non-potable purposes only:

- Irrigation of campus gardens, green open spaces, and landscaping
- Outdoor area cleaning and environmental maintenance
- Pond replenishment and campus water ecosystem maintenance

Together, these 5 systems contribute to conserving 1–25% of the campus's total water needs — directly reducing consumption from primary water sources (PDAM/PLN) and supporting more sustainable resource management.

06 Transportation (TR)

Sustainable Mobility, Zero Emission Vehicles & Shuttle Services

5.1 Zero Emission Vehicles on Campus (TR.3)

PKTJ is committed to reducing transportation-related carbon emissions by adopting zero emission and low-emission vehicles for campus operational needs. These vehicles serve as both practical tools and educational demonstrations of clean transportation technology.

PKTJ operates 1 electric car, 1 electric motorcycle, 2 hybrid vehicles, and provides 15 bicycles with dedicated parking facilities — actively demonstrating zero emission mobility on campus.

Electric Vehicle (EV Car) — with PKTJ Tegal & Ministry of Transportation livery

Zero Emission Electric Motorcycle — daily campus operational use

Hybrid Vehicle — supporting daily transport with lower fuel consumption & lower exhaust emissions

Campus bicycles (15 units) stored in dedicated bicycle facility

#	Vehicle Type	Units	Purpose
1	Electric Motorcycle	1 unit	Zero emission campus mobility & operational activities
2	Electric Vehicle (Car)	1 unit	Zero emission campus transport & demonstration vehicle
3	Bicycle	15 units	Active mobility — short-distance trips within campus
4	Hybrid Vehicle	2 units	Low-emission campus operational transport

Electric vehicle — PKTJ livery — in active operation on campus

Electric Vehicle Charging Station — dedicated EV charging infrastructure on campus

5.2 Shuttle Services (TR.2)

PKTJ provides an official internal shuttle bus service connecting Campus 1 (Perintis) and Campus 2 (Margadana), supporting sustainable mobility for students, lecturers, staff, and visitors throughout the academic year.

Shuttle Fleet

Shuttle Bus (Isuzu) — yellow school bus used for campus activities

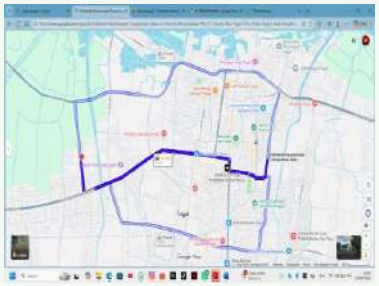
Shuttle Bus (HIACE) — white minibus for inter-campus travel

Shuttle Bus Fleet — dedicated parking & maintenance area (Campus 1)

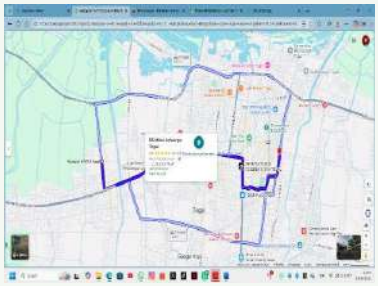
Shuttle Bus (Micro HINO PKTJ) — blue medium bus for inter-campus shuttle

Cadets using shuttle bus during campus activities and institutional events

Shuttle Routes & Timetable



Shuttle Route: Campus 2 (Margadana) → Campus 1 (Perintis)



Shuttle Route: Campus 1 (Perintis) → Campus 2 (Margadana)

Official Shuttle Timetable — PKTJ Tegal (Shuttle Bus A, B, Mini Shuttle C & D)

The shuttle service is also deployed for special campus events including: Battalion Elections, Campus Ambassador Selection, Student Orientation & Gathering Programs, Class Committee Activities (Classcom), academic competitions, official ceremonies, and extracurricular events.

5.3 Initiatives to Decrease Private Vehicles (TR.7)

PKTJ has implemented a comprehensive set of policy-based and infrastructure-based initiatives to systematically reduce private vehicle use on campus, contributing to lower carbon emissions, reduced congestion, and a healthier campus environment.

KEMENTERIAN PERHUBUNGAN
BADAN PENGEMBANGAN SDM PERHUBUNGAN
POLITEKNIK KESELAMATAN TRANSPORTASI JALAN

KEPUTUSAN DIREKTUR

TENTANG

DIREKTUR POLITEKNIK KESELAMATAN TRANSPORTASI JALAN

WFH schedule document — official WFH arrangement reducing staff commuting & private vehicles on campus

POLITEKNIK KESELAMATAN TRANSPORTASI JALAN
BATALYON KORPS TARUNA

SURAT KEPUTUSAN

TENTANG

LARANGAN MEMBAWA KENDARAAN BAGI TARUNA
POLITEKNIK KESELAMATAN TRANSPORTASI JALAN

Official Surat Keputusan — Batalyon Korps Taruna: Prohibition on personal vehicles for cadets

Initiative	Description	Impact
Campus Shuttle Service	Free shared transport between Campus 1 & Campus 2 with official timetable	Reduces private car & motorcycle dependency
Student Vehicle Ban Policy	Official decree prohibiting cadets from bringing personal vehicles to campus during study period	Significantly reduces traffic, parking demand & GHG emissions
Walking-Friendly Campus	Safe pedestrian pathways, green walkways, and designated walking zones across campus	Encourages walking for short trips; promotes healthier lifestyle
WFH & Flexible Work Scheme	Work-from-home arrangements for employees when possible	Reduces commuting frequency & transport-related emissions
Bicycle Program	15 campus bicycles with parking facilities for active mobility	Promotes zero-emission short-distance travel on campus

5.4 Pedestrian Infrastructure & Inclusive Mobility

PKTJ has invested in pedestrian-friendly campus infrastructure to encourage walking and reduce reliance on motorized vehicles, while ensuring inclusive access for all campus members.

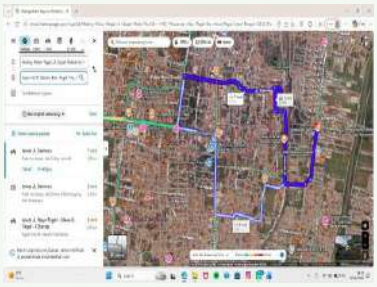
Green pedestrian pathway — tree-lined walkways connecting buildings

Paved pedestrian path with integrated drainage system

Students walking on campus pedestrian path — everyday active mobility

Accessible ramp with handrails — inclusive mobility for persons with disabilities

Organized covered parking shelter — structured vehicle management reducing congestion



Digital integrated transportation route mapping for campus accessibility

Electric vehicle in operation — living proof of zero emission campus commitment

Infrastructure	Description	SDG Alignment
Paved Pedestrian Walkways	Safe, well-maintained paths connecting all academic buildings	SDG 3, SDG 11
Green Pathway	Tree-lined walking corridors for pleasant non-motorized travel	SDG 3, SDG 15
Drainage-integrated Paths	Walkways with proper drainage to maintain safety in all weather	SDG 11

Infrastructure	Description	SDG Alignment
Accessibility Ramps	Handrail-equipped ramps for wheelchair and disability access	SDG 10
Covered Parking Shelter	Organized vehicle parking to minimize congestion	SDG 11
EV Charging Station	Dedicated charging point for electric vehicles on campus	SDG 7, SDG 13
Digital Route Mapping	Integrated transportation connectivity map for campus navigation	SDG 9, SDG 11

5.5 Transportation & SDG Contribution (TR.18)

As an institution under the Ministry of Transportation of Indonesia, PKTJ recognizes sustainable transportation as a key driver in achieving the SDGs. Transportation programs directly contribute to:

SDG	Goal	PKTJ Transportation Initiative
SDG 3	Good Health & Well-Being	Pedestrian walkways, walking culture, non-motorized mobility
SDG 7	Affordable & Clean Energy	EV car, electric motorcycle, EV charging station
SDG 9	Industry, Innovation & Infrastructure	Digital route mapping, smart campus transportation management
SDG 10	Reduced Inequalities	Accessibility ramps, inclusive campus mobility for all persons
SDG 11	Sustainable Cities & Communities	Shuttle service, vehicle ban policy, WFH scheme, pedestrian paths
SDG 13	Climate Action	Zero emission vehicles, reduced private vehicle use, lower GHG emissions

07 Education, Research & SDGs

Sustainability Culture & Future Commitment

6.1 Sustainability in Academic Programs

PKTJ integrates environmental sustainability through practical training programs. Students actively engage with sustainable technology — including electric vehicle inspection at the TKO & MKTJ Laboratory, green transport research, and environmental engineering coursework.

6.2 Environmental Awareness & Behavioral Change

- Tumbler Campaign — campus-wide program to eliminate single-use plastic cups and bottles
- Waste Segregation Education — training all campus members on proper waste separation
- Green Campus Events — periodic awareness campaigns aligned with environmental calendar
- 3R Culture Building — integrating Reduce, Reuse, Recycle into daily campus life

6.3 Alignment with UN Sustainable Development Goals

SDG	Goal	PKTJ Initiative
SDG 3	Good Health & Well-Being	Hazardous waste treatment, campus polyclinic, wastewater management
SDG 4	Quality Education	Digital learning platforms, EV lab training, sustainability education
SDG 6	Clean Water & Sanitation	5-infrastructure water conservation, 3-stage wastewater treatment
SDG 7	Affordable & Clean Energy	19 solar street lights, LED upgrades, energy-efficient appliances
SDG 11	Sustainable Cities & Communities	Inclusive campus (disability access), urban green campus design
SDG 12	Responsible Consumption	3R programs, paper/plastic reduction, circular economy (plastic→fuel)
SDG 13	Climate Action	3,536 kg CO_2/year reduction, 41,161 kWh/year energy savings
SDG 15	Life on Land	Green open spaces, retention ponds, campus biodiversity areas

6.4 Future Commitments

- Expand LED lighting to achieve 100% coverage across both campuses
- Install additional rooftop and facade solar panels on campus buildings
- Increase water conservation capacity to exceed 25% of total campus water needs
- Strengthen smart building integration across more campus buildings
- Develop a comprehensive campus carbon footprint measurement and reporting system
- Expand the zero emission vehicle fleet and add more EV charging stations
- Develop cycling lane infrastructure to further promote bicycle use on campus
- Deepen sustainability integration into all academic study programs

Through consistent commitment to sustainable infrastructure, green technology, zero emission transportation, and environmental education, PKTJ Tegal strives to be a leading green campus institution in Indonesia — contributing to a more sustainable future for transportation, technology, and the environment.