

Journal of civil engineering and transport

2025
Volume 7
Issue 1



transEngin

ISSN 2658-1698
e-ISSN 2658-2120



CASIMIR PULASKI
RADOM UNIVERSITY

Casimir Pulaski Radom University

Journal of civil engineering and transport

 **transEngin**

ISSN 2658-1698

e-ISSN 2658-2120

Volume 7
Issue 1



CASIMIR PULASKI
RADOM UNIVERSITY

2025

Editorial Committee Contact

Journal of civil engineering and transport transEngin



Casimir Pulaski Radom University
Faculty of Transport, Electrical Engineering and Computer Science
ul. Malczewskiego 29
26-600 Radom
Poland
phone: (+48) 48 361-77-59
email: transengin@uthrad.pl
www.transengin.uniwersytetradom.pl

All articles are reviewed by two external reviewers. The list of reviewers is published in the current issue of the journal and on the website of the magazine.

CC BY-NC-ND

ISSN 2658-1698
e-ISSN 2658-2120

Copyright© 2024 by Publishing House Casimir Pulaski Radom University

All rights reserved. No part of this publication may be modified, reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without permission in writing from publisher.

**Journal of civil engineering and transport
transEngin**

Editorial Board / Komitet Redakcyjny

Editor-in-Chief / Redaktor Naczelny

*Aldona Kuśmińska-Fijałkowska, DSc., PhD, BEng., Assoc. Prof.
Casimir Pulaski Radom University, Poland*

Associate Editors / Koordynatorzy Redakcyjni

*Renata Krajewska, PhD
Casimir Pulaski Radom University, Poland
Sylwia Olszańska-Wesoły, PhD, BEng.*

Section Editors / Redaktorzy Działów

Transport Infrastructure / Infrastruktura w Transporcie

*Tomasz Kamiński, DSc., PhD, BEng., Assoc. Prof.
Road and Bridge Research Institute in Warsaw, Poland*

Transport Logistics / Logistyka w Transporcie

*Waldemar Nowakowski, DSc., PhD, BEng., Assoc. Prof.
Casimir Pulaski Radom University, Poland*

Transport Means / Środki Transportu

*Andrzej Krzyszkowski, DSc., PhD, BEng., Assoc. Prof.
Casimir Pulaski Radom University, Poland*

Traffic Control in Transport / Sterowanie Ruchem w Transporcie

*Mieczysław Kornaszewski, DSc., PhD, BEng., Assoc. Prof.
Casimir Pulaski Radom University, Poland*

Electromobility / Elektromobilność

*Jacek Kozyra, DSc., PhD, BEng., Assoc. Prof.
Casimir Pulaski Radom University, Poland*

Journal of civil engineering and transport transEngin

Scientific Board / Rada Naukowa

*prof. Zbigniew Łukasik - **chairman**, Casimir Pulaski University Radom, Poland*

prof. Aldona Kuśmińska-Fijałkowska, Casimir Pulaski University Radom, Poland

prof. Andrzej Lewiński, Casimir Pulaski University Radom, Poland

prof. Janusz Dyduch, Casimir Pulaski University Radom, Poland

prof. Andrzej Chudzikiewicz, Casimir Pulaski University Radom, Poland

prof. Tomasz Perzyński, Casimir Pulaski University Radom, Poland

prof. Jerzy Wojciechowski, Casimir Pulaski University Radom, Poland

prof. Tomasz Ciszewski, Casimir Pulaski University Radom, Poland

prof. Marianna Jacyna, Warsaw University of Technology, Poland

prof. Anna Stelmach, Warsaw University of Technology, Poland

prof. Gabriel Nowacki, Military University of Technology, Poland

prof. Jerzy Merkisz, Poznan University of Technology, Poland

prof. Wojciech Ślęczka, Maritime University of Szczecin, Poland

prof. Adam Weintrit, Gdynia Maritime University, Poland

prof. Jerzy Herdzik, Gdynia Maritime University, Poland

prof. Tomasz Kamiński, Instytut Badawczy Dróg i Mostów, Polska

prof. Aleš Janota, University of Žilina, Slovakia

prof. Pavol Špánik, University of Žilina, Slovakia

prof. Anna Križanová, University of Žilina, Slovakia

prof. Zdeněk Dvořák, University of Žilina, Slovakia

prof. Juraj Grenčík, University of Žilina, Slovakia

prof. Algimantas Valinevicius, Kaunas University of Technology, Lithuania

prof. Robertas Keršys, Kaunas University of Technology, Lithuania

prof. Vaidas Lukoševičius, Kaunas University of Technology, Lithuania

prof. Rolandas Makaras, Kaunas University of Technology, Lithuania

prof. Algimantas Fedaravičius, Kaunas University of Technology, Lithuania

prof. Gintautas Bureika, Vilnius Gediminas Technical University (VGTU), Lithuania

prof. Olegas Prentkovskis, Vilnius Gediminas Technical University (VGTU), Lithuania

prof. Edgar Sokolovskij, Vilnius Gediminas Technical University (VGTU), Lithuania
prof. Mareks Mezitis, Transport Academy, Riga, Latvia
prof. Aleksandr Grakovski, Transport and Telecommunication Institute, Riga, Latvia
prof. Vanja Ambrožič, University of Ljubljana, Slovenia
prof. Artur Kahramanian, Ukrainian State University of Railway Transport, Ukraine
prof. Jiří Stodola, University of Defence, Czech Republic
prof. Zdeněk Vintr, University of Defence, Czech Republic
prof. Jaromír Široký, University of Pardubice, Czech Republic
prof. Paulo M. S. T. de Castro, University of Porto, Portugal

Marketing Marketing / Marketing

*Małgorzata Górską, PhD, BEng.
Casimir Pulaski Radom University, Poland*

Layout design / Projekt graficzny

*Mariusz Dański, DSc., PhD, Assoc. Prof.
Casimir Pulaski Radom University, Poland*

DTP Operator / Operator DTP

*Przemysław Rudzki, MSc, BEng.
Casimir Pulaski Radom University, Poland*

Publishing House

Casimir Pulaski Radom University
ul. Malczewskiego 29
26-000 Radom
Poland
tel. (+48) 48 361-70-33
fax (+48) 48 361-70-34
e-mail: wydawnictwo@uthrad.pl

ISSN 2658-1698
e-ISSN 2658-2120

Issue I. Edition 50 copies.

Printing and binding: Printing department of the Casimir Pulaski Radom University

Contents / Spis treści

1. MATIKO Fedir, Dzhhyhyrei Viktor, MATIKO Halyna Estimation of uncertainty of natural gas volume loss in the aspect of damage to pipeline transport infrastructure	9
2. ZMUDA-TRZEBIATOWSKI Paweł, BAR Karolina, BIĘCZAK Maciej Coverage of digital public transport information in Poland	19
<i>Zasięg cyfrowej informacji o transporcie publicznym w Polsce</i>	
3. LEWIŃSKI Andrzej The safety of railway transport systems - the historical and actual study	35
<i>Bezpieczeństwo systemów transportu kolejowego - studium historyczne i aktualne</i>	
4. BILIK Aleksandra, BORKOWSKI Maciej Assessment of municipal waste management in the selected EU countries	49
<i>Ocena gospodarki odpadami komunalnymi w wybranych krajach UE</i>	

**Journal of civil engineering and transport
transEngin**

Reviewers / Recenzenci

dr hab. inż. Danuta Miedzińska, prof. WAT, Poland

dr hab. inż. Gabriel Nowacki, prof. WAT, Poland

dr hab. Maciej Stajniak, prof. Poznan School of Logistics, Poland

dr hab. inż. Jerzy Mikulski, prof. Academy of Silesia, Poland

Prof. Ing. Aleš Janota, PhD. Eurlng, Slovakia

Prof. Dr. Edgar Sokolovskij, Vilnius Gediminas Technical University, Lithuania

*Prof. D.Sc. Orest Serediuk, Ivano-Frankivsk National Technical University of Oil and Gas,
Ivano-Frankivsk, Ukraine*

*Prof. D.Sc. Volodymyr Drevetskyi, National University of Water and Environmental
Engineering, Rivne, Ukraine*

Notes / Notatki