



Universitatea
Transilvania
din Braşov
FACULTATEA DE
INGINERIE MECANICĂ

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Methods of teaching ITS concepts to students



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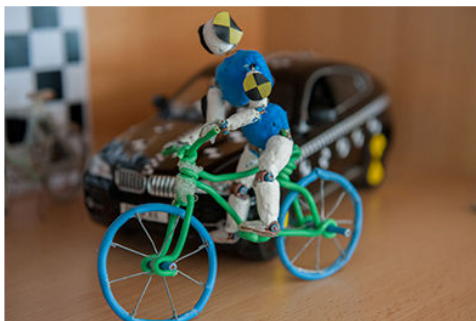
Study programmes:

Bachelor's degree:

- Automotive Engineering (taught in Romanian and English)
- Traffic and Transport Engineering
- Mechanical Engineering

Master's degree:

- Virtual Engineering in Automotive Design (taught in English)
- Road Safety, Transport and Interaction with the Environment
- Motor Vehicles and Environment (part-time studies)
- Simulation and Testing in Mechanical Engineering
- Practical Integrated Methods for Propulsion Systems Engineering (taught in English)
- Command and Control Systems for Motor Vehicles





Curricula where we teach ITS concepts

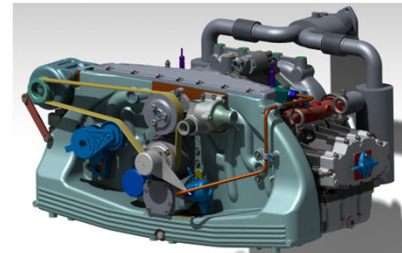
1. SRTIM (Road Safety, Transport and Interaction with the Environment):

- Traffic Flows Theory
- Environmental Impacts of Road Transport
- Planning and Design of Road Networks
- Geographic Information System – GIS



2. ITT (Traffic and Transport Engineering):

- Traffic Control and Command installations
- Road Traffic Management and Telematics I
- Road Traffic Management and Telematics II



3. AR (Automotive Engineering):

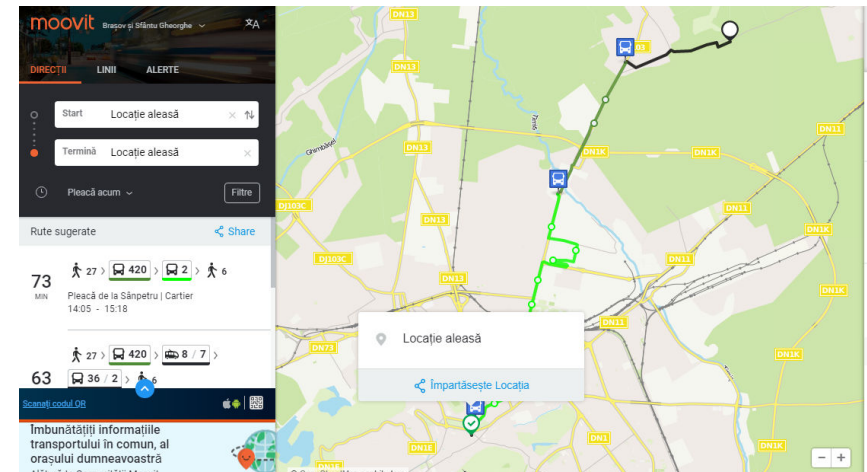
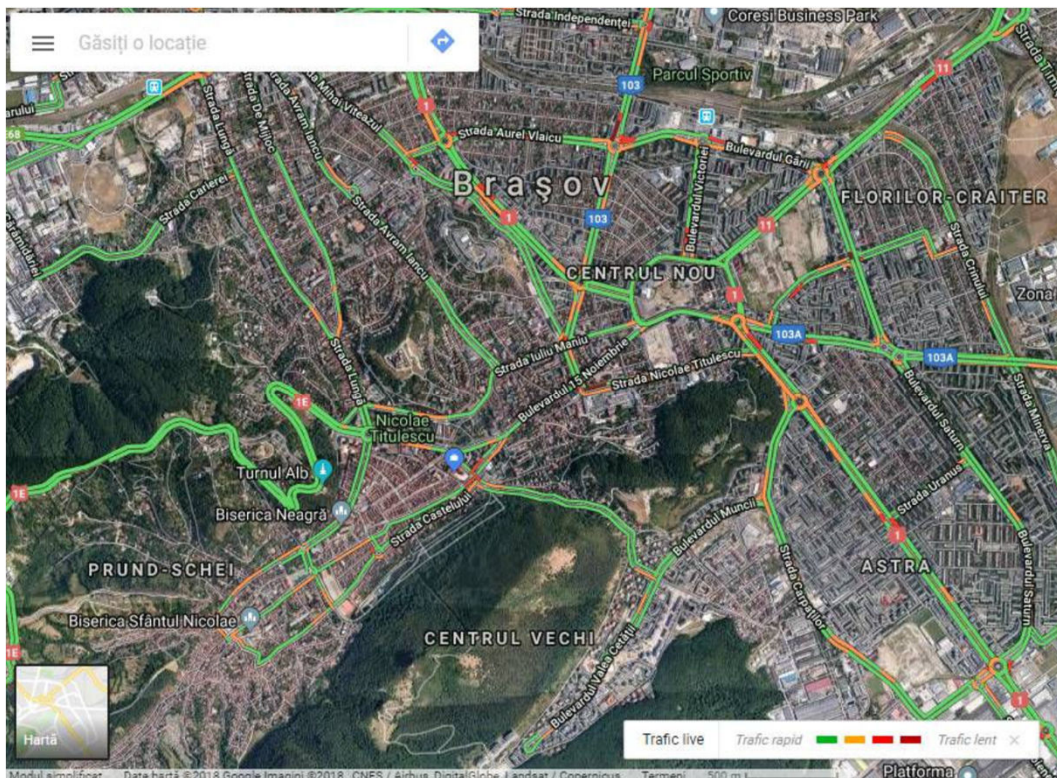
- Road Traffic Management
- Design and planning of urban transport networks
- Optimization of road networks' traffic flows





Main ITS concepts:

- Computer technologies - platforms and tools used for solve problems in transport systems.
- Floating car data - a concept used in intelligent transport systems to determine, the speed of a vehicle, the location of a vehicle, a signal from a mobile device.
- Detection technologies - the sensors that provide information related to the activities carried out in a transport system.



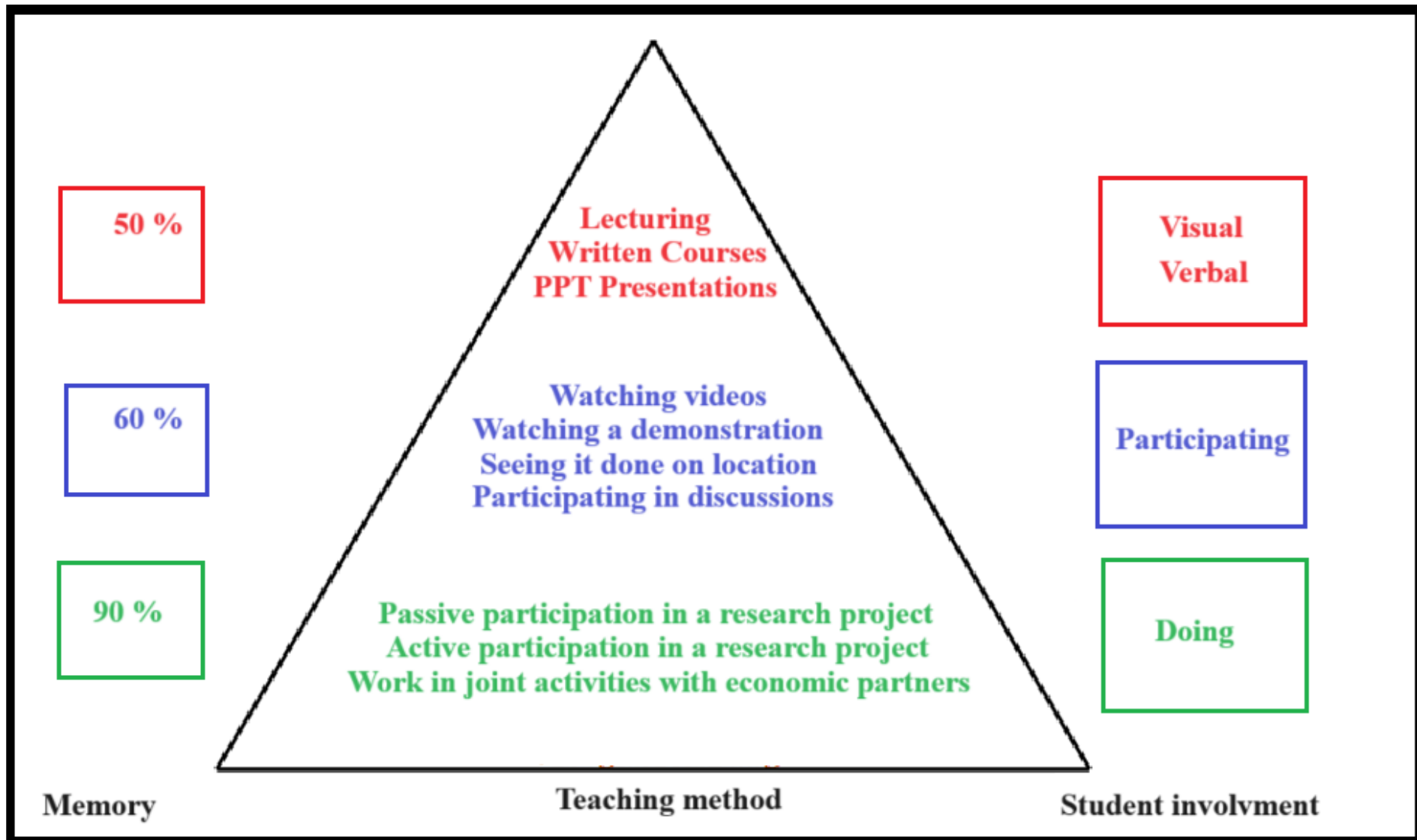


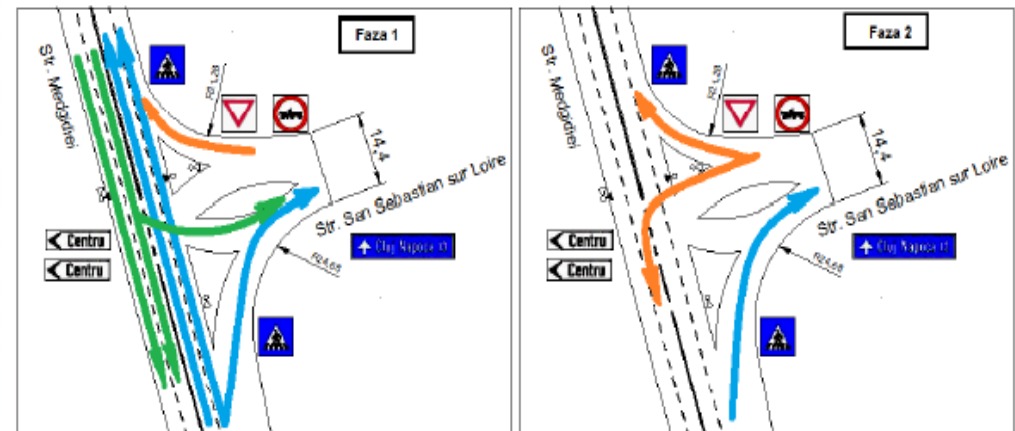
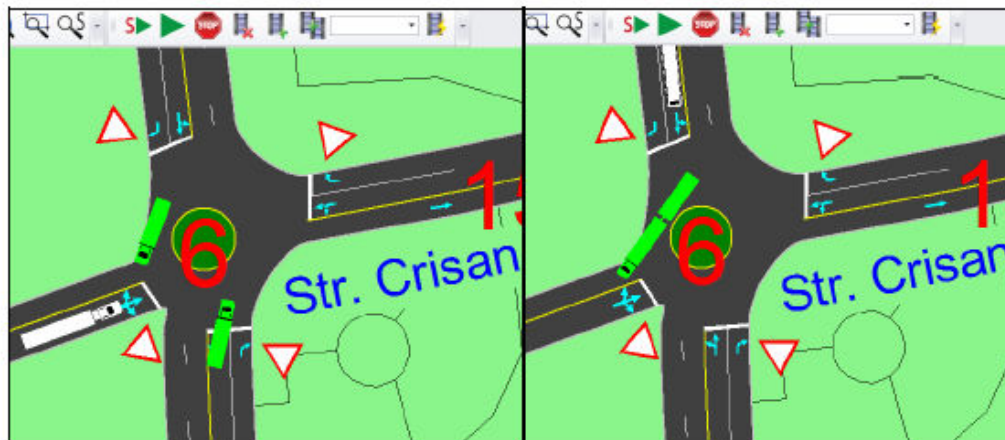
Objectives for ITS knowledge:

- Efficient and comfortable transport (Example: 1. Dynamic traffic management based on real-time data from roads, vehicles and even mobile phones and the use of simulations will improve strategies to mitigate congestion. 2. The use of navigation systems in the car reduces distances driven to the destination and can lead to a more relaxed and thus safer driving.)
- Safe and secure transport (Example: 1. Electronic Stability Control (ESC) stabilizes the vehicle and prevents skidding. 2. Connected and automated driving technologies will significantly improve traffic flows, reduce the incidence of critical situations, optimize the handling of corresponding scenarios, relieve the pressure on drivers and the environment and support jobs and growth.)
- Clean and CO₂-reduced transport (Example: 1. With electronic fee collection systems, charging road vehicles can be flexible, for example according to vehicle type and emissions category.)

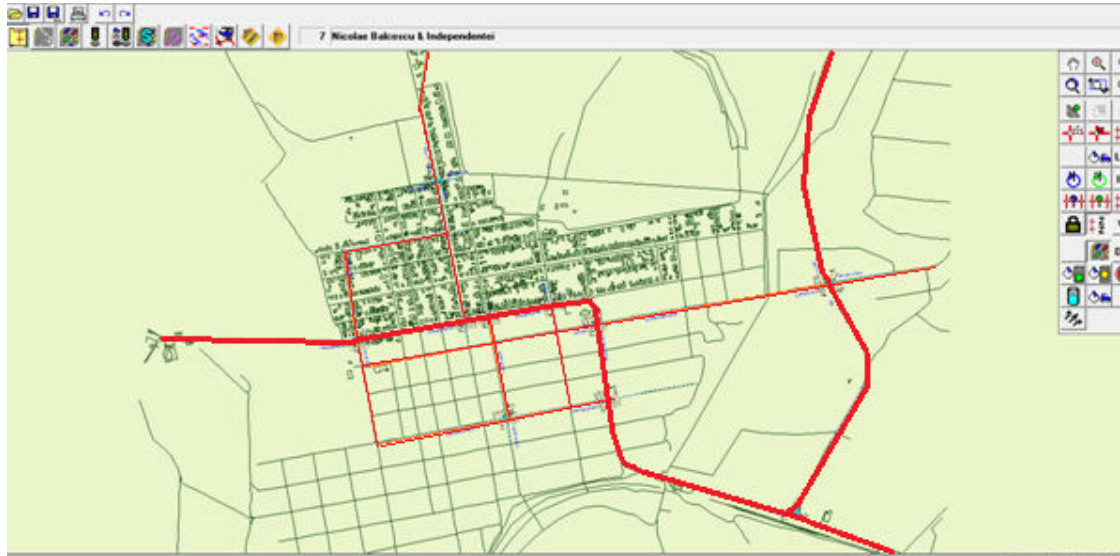


Methods of Teaching ITS concepts: 1. Formal subject or technical knowledge.
2. Practical workplace experience.





The road traffic study for Cernavodă - the involvement of AR students of the Ovidius University of Constanța, together with the master's students from SRTIM - UNITBV



Principiile strategiilor de mobilitate integrată

Mobilitatea integrată are rolul de a găsi compromisul dintre nevoile de mobilitate ale cetățenilor și calitatea vieții, respectiv a mediului în spațiul urban.

Planificare tradițională a transportului rutier

- Axată pe trafic rutier
- Obiectiv: Capacitatea și viteza fluxului de trafic
- Axat modal
- Axare pe infrastructură
- Planificare sectorială
- Planificare realizată de experți

Planificarea conform accesibilității și mobilității integrate

- Centrată pe oameni
- Obiective: Accesibilitate, calitatea vieții, durabilitate, viabilitate economică, echitate socială, siguranță, calitatea mediului
- Dezvoltare echilibrată a tuturor modalităților de transport relevante și schimbare spre modalități de transport mai curate și mai durabile
- Seturi integrate de acțiuni pentru obținerea unor soluții rentabile
- Utilizarea politicilor asociate: utilizarea terenurilor planificare spațială, siguranță
- Planificare cu implicarea părților interesate prin utilizarea unei abordări transparente și participative



Planul de mobilitate urbană durabilă al Orașului Ghimbav



Realization of Sustainable Urban Mobility Plans (Study for the realization of the Sustainable Urban Mobility Plan of the city of Nădlac; Sustainable Urban Mobility Plan of the city of Ghimbav) and Realization of strategies to reduce the impact produced by the transport sector on the quality of the environment. Students from ITT and SRTIM were involved in these projects



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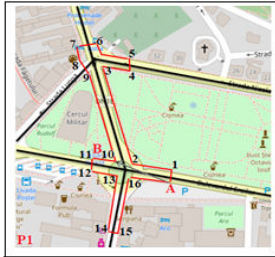
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Performance evaluation of the components of an electric vehicle carried out together with students from the AE and master's programs SRTIM and ATV (Battery Management System of E-Smart Vehicle; Electronic Control Systems of E-Smart Vehicle)



Scenariu	Traseu	Distanţa parcursă (m)	Indice de ocolire
P1_0	A-B (straight line)	95	1
P1_1	A-1-2-3-4-5-6-7-8-9-10 (B)	430	4.53
P1_1s	A-1-2-10 (B)	115	1.21
P1_2	A-16-15-14-13-12-11-10 (B)	305	3.21
P1_3	A-16-2-10 (B)	110	1.15
P1_4	A-16-13-10 (B)	110	1.15

Poligonul distanţelor de mers pe jos pentru studiul de caz P1



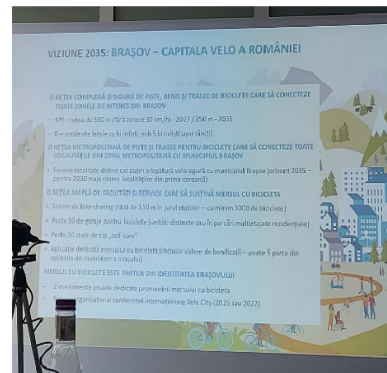
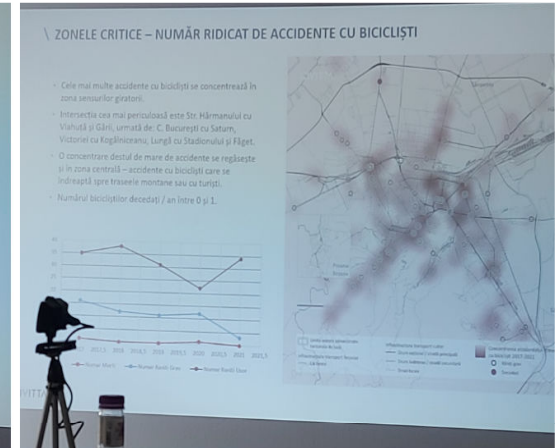
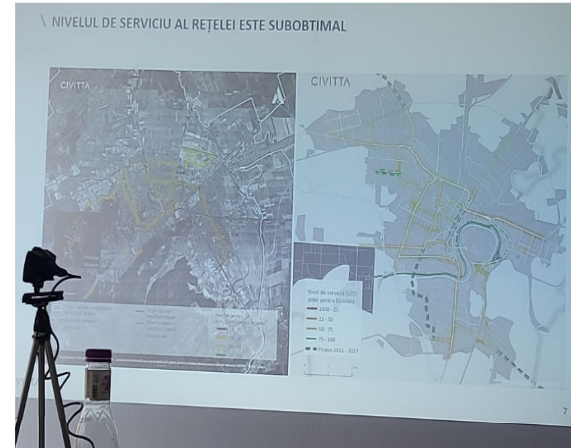
Scenariu	Traseu	Distanţa parcursă (m)	Indice de ocolire
P2_0	C-D (straight line)	185	1
P2_1	C-1-2-3-4-5-6-7-D	545	2.95
P2_2	C-12-11-10-9-8-7-D	660	3.57
P2_3	C-1'-9'-8-7-D	314	1.7

Poligonul distanţelor de mers pe jos pentru studiul de caz P2



Scenariu	Traseu	Distanţa parcursă (m)	Indice de ocolire
P3_0	E-F (straight line)	150	1
P3_1	E-1-2-3-4-5-6-7-8-9-F	420	2.8
P3_2	E-14-13-12-11-10-F	260	1.73
P3_3	E-13-F	170	1.13

Poligonul distanţelor de mers pe jos pentru studiul de caz P3



Proposal of actions to popularize and make non-motorized transport solutions accessible (Impact phase in frontal vehicle-pedestrian collisions; The Assessment of the Head Injury of a Pedestrian in Comparison with a Cyclist; Critical Evaluation of the Pedestrian Walking Distances on the Congested Urban Networks) – with the emphasis on the safety of pedestrians and cyclists.- Involvement in the realization of the Velo Masterplan for the Municipality of Braşov, together with the Braşov County Council



ZIUA 4 - joi, 7-10; 15-18

Ora	Linia	Tip vehicul						Grad de incarcare							
		Autobuz						Troleibuz							
7:34	35														
7:35	32														
7:35	34		x												
7:44	35														
7:46	37			x											
7:50	34		x												
7:50	32		x												
7:56	34			x											
8:02	32		x												
8:02	37														
8:03	35														
8:05	34														
8:14	34		x												
8:16	34B														
8:19	32		x												
8:22	37														
8:25	34			x											

BOBOAN BENEA

Intersecția 12 (H2)

Ziua 4

Necesar persoane: 12, 3 persoane pentru fiecare acces:

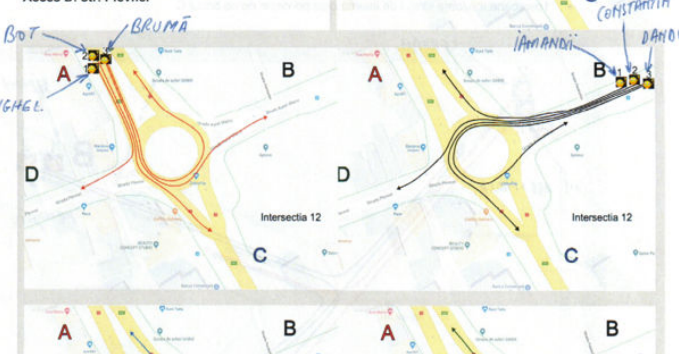
- 1 persoana masoara virajul de dreapta;
- 1 persoana masoara virajul de inainte;
- 1 persoana masoara virajul de stanga si virajul de intoarcere

Acces A: bd. Grivitei-Nord

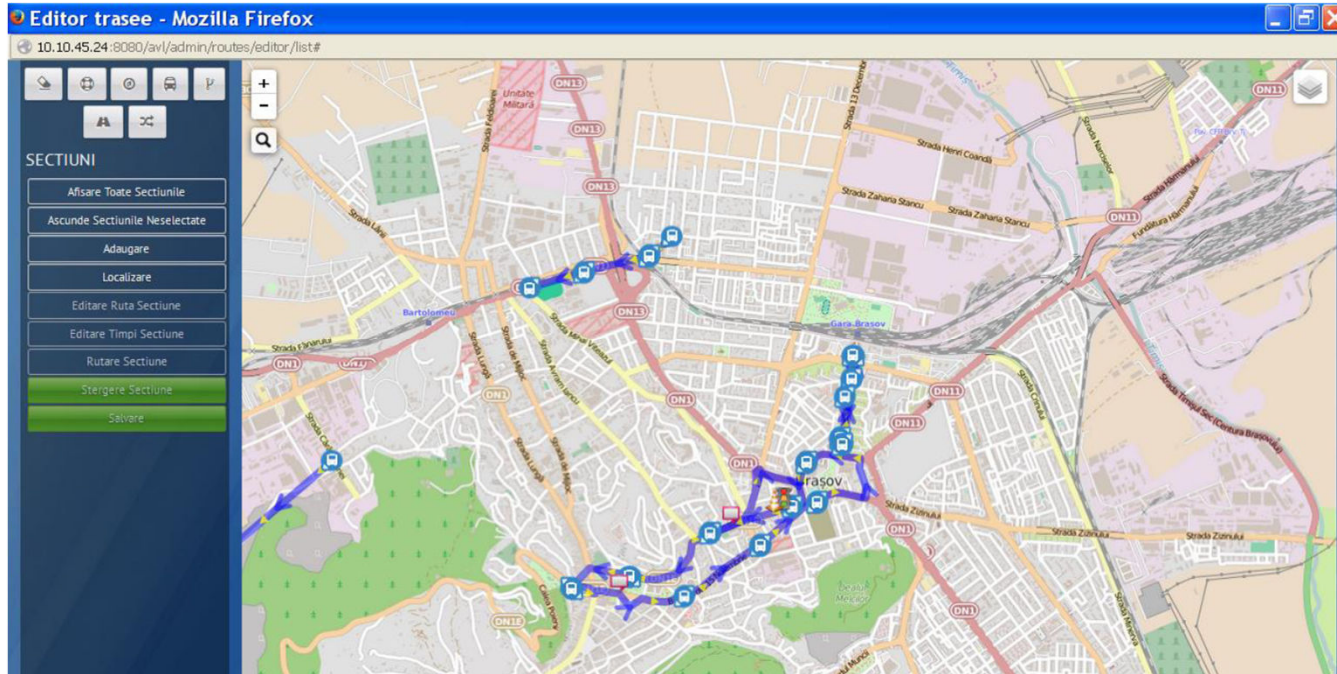
Acces B: str. Aurel Vlaicu

Acces C: bd. Grivitei -Sud

Acces D: str. Plevnei



In the scientific research projects (PAEDs, PMUDs, Road Traffic Studies, Studies for PUG Brașov) students from the undergraduate study programs: Transport and Traffic Engineering and Automotive Engineering and master's: Road Safety and Interaction with the Environment and the Vehicle and the Environment



INFORMATII PANOU DIN STATIA PRIMARIE 11 °C
34 Cernatului

LINIA	COD VEHICUL	TIMP
1	778	8 min
16	606	13 min
17	688	11 min
31	648	10 min
34-Cernatului	731	9 min
34-TimisTriaj	.....	13:04
36	759	10 min
4	776	5 min
41-Bacului	.....	13:31
41-Lujerului	.....	12:11
50	669	5 min
51	.....	11:32
52-Roman	.....
52-Roman	.....
5-Panșelilor	.....	11:42
5-Roman	753	8 min
6	725	12 min

Incluzi



Involvement in studies and research projects of students with Braşov City Hall and
RAT Braşov



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Thank you for your attention!

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