

## New Year Event of the Department of Transportation Planning and Engineering

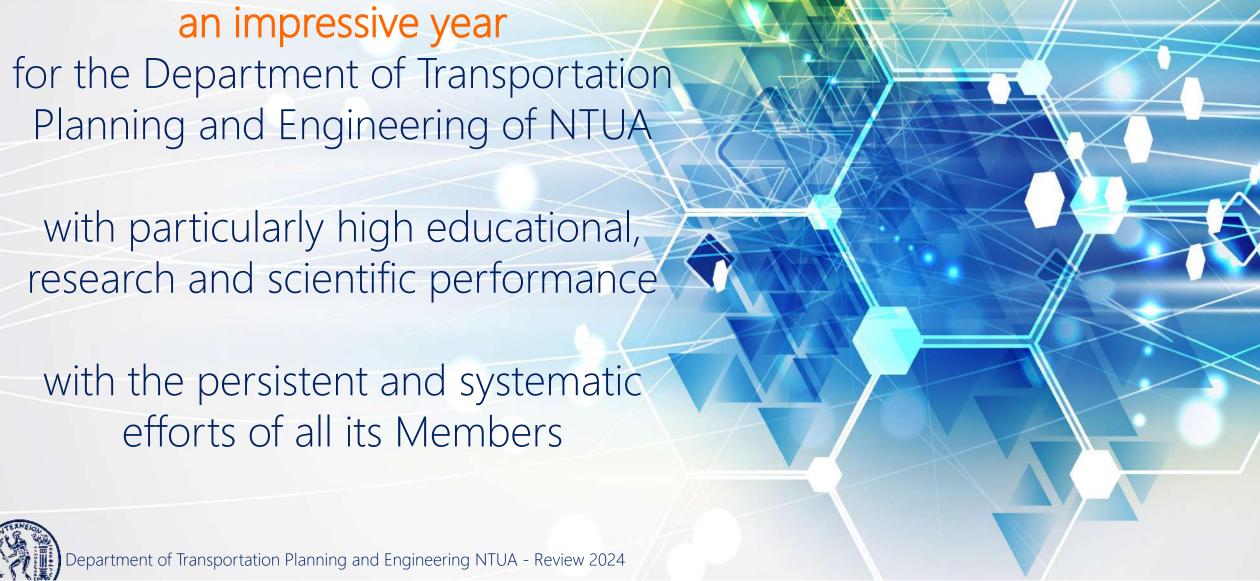
Tuesday 28 January 2025



**Annual Report 2024** 

George Yannis, Director of the Department TPE





# Department People

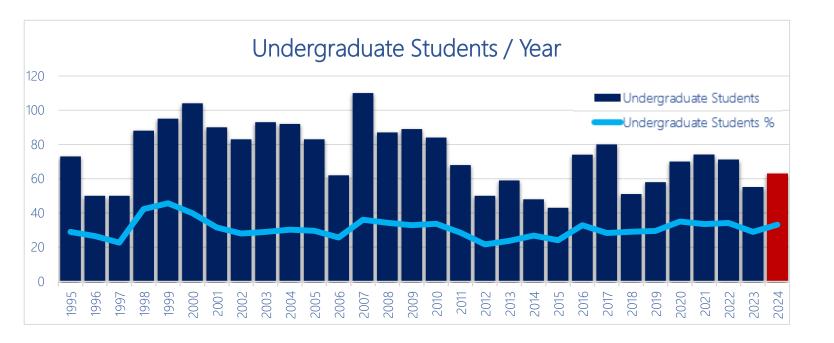
A dynamic team of more than 90 renowned scientists

- 6 Faculty
- 7 Emeritus Professors
- 2 Special Lab & Teaching Staff Member
- 16 Post Doctoral Researchers
- 43 PhD Candidates
- 5 Technical and Administrative Staff
- 13 Research Assistants



## Undergraduate Students

Civil Engineering - Transportation Cycle



Every year, we train more than 1/3 of the total number of students of the School





### Courses

- 22 undergraduate courses at the School of Civil Engineering (compulsory and elective for all civil engineering students, but also especially for students of the Transportation Cycle)
- 3 undergraduate courses at NTUA Engineering Schools
- 5 postgraduate courses at NTUA Engineering Schools



# Integrated Transport Planning Project

#### Greek Island Transport Plan Development

Exploitation of real data in a project that covers all transportation engineering disciplines, combining all different transport and development objectives in a comprehensive and integrated approach

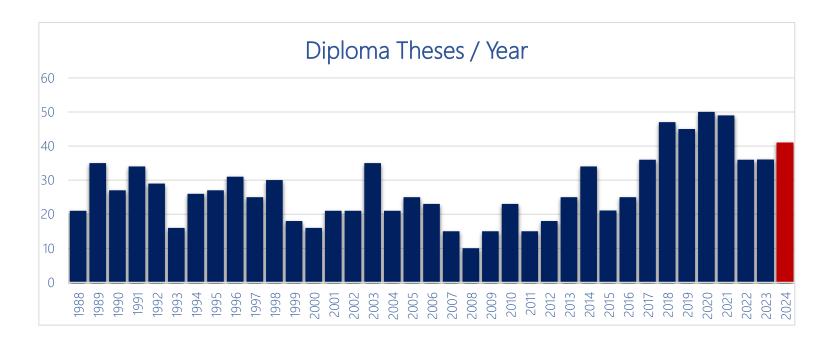
- Full analysis of current transportation situation
- Transportation (Internal and external transport analysis, Planning passenger / cargo ports and airports)
- Traffic Engineering (Traffic Analysis, Identification of high risk sites, Urban Mobility Plan)
- Road construction (Configuration of critical junctions, Pavement upgrade program)
- Technical and economic analysis of the overall plan of transportation development (cost-benefit)



# Diploma Theses 2024

5<sup>th</sup> best performance ever

• 41 high level Diploma Theses







## 13 New PhD Theses 2024 (1/2)

1st best performance ever

- Aristotelis Tsoutsanis: "Data fusion of traffic, behaviour & infrastructure for holistic driver assistance"
- Stylianos Peithis: "Deep Learning and Artificial Intelligence applications for optimized traffic and mobility performance"
- Sarkis-Sotirios Malevizian: "The concept of sustainability in the design and behaviour of asphalt pavement"
- Antonios Kontizas: "Investigation of Safety Margin with regard to Skidding and Dynamic Hydroplaning Risks of Two-Axle Vehicles on Motorways and Expressways"
- Konstantinos Eirinaios Kaselouris: "Investigation of the accessibility of urban environments considering vulnerable users needs"
- Alexandra Vasileiadou: "Electric bus and automated bus routing optimization with the use of Artificial Intelligence"



## 13 New PhD Theses 2024 (2/2)

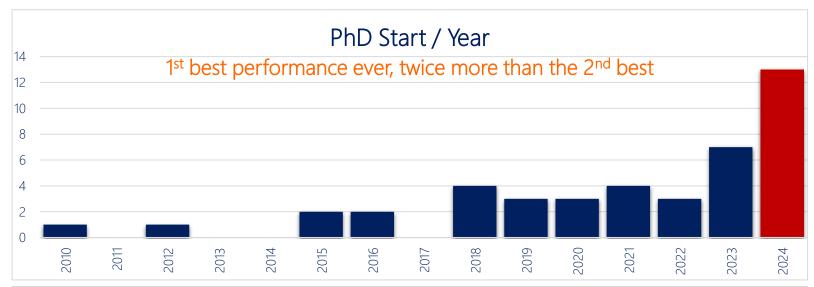
#### 1st best performance ever

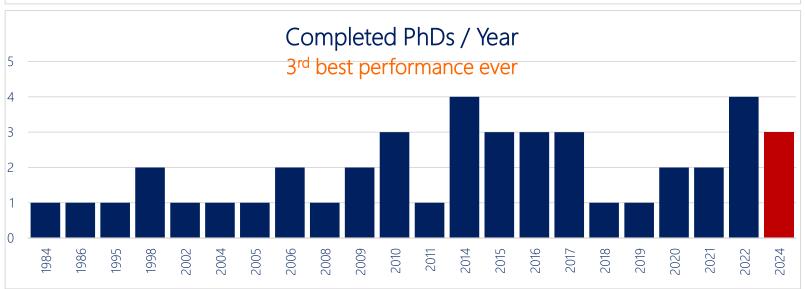
- Androniki Dimitriadou: "Resilient Planning of Urban Electric Bus Transit Systems"
- Aikaterini Papadatou: "Fundamental Multimodal Models for Short-Term Traffic Forecasting in Urban Networks"
- Viktoria Petkani: "Dynamic and on-demand data control in traffic management"
- Dimitris Tzanis: "Self-operated dynamic traffic control systems in urban networks"
- Aristotelis Styanidis: "Road safety prediction on the basis of ethically sound physiological measurements"
- Julia Alves Porto: "Proactive risk mapping and infrastructure safety management"
- Simone Paradiso: "Artificial intelligence for Road Safety Monitoring an Crash Prediction form micro to macro levels"





## PhD Theses 2024





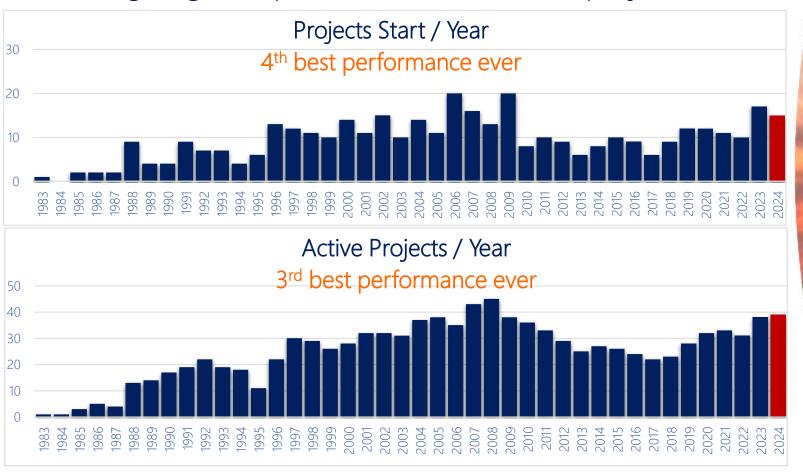




Department of Transportation Planning and Engineering NTUA - Review 2024

Department Research Projects 2024

- 15 new research projects 38 in progress
- 11 ongoing European Horizon research projects







# Scientific Work of the Department

- more than 44 published papers in scientific journals and more than 61 papers in scientific conference proceedings
- more than 84 presentations at scientific conferences
- the participation of the members of the Department in more than 59 scientific conferences in Greece and globally
- more than 3.661 new citations of the work of the members of the Department



## Distinctions of the Department

- The Department of Transportation Planning and Engineering was ranked 6<sup>th</sup> in Europe and 35<sup>th</sup> in the world among all Transport Sectors (EduRank 2024)
  - It was the best performing among all NTUA Departments and all Greek Universities
- 7 Professors of the Department of Transportation Planning and Engineering are among the top 2% of the world's top researchers (Stanford 2024)
  - E. Vlachogianni, +M. Karlaftis, G. Yannis, K. Gkiotsalitis, C. Plati, I. Golias, +D. Tsampoulas
- Professor George Yannis is ranked 2<sup>nd</sup> in Europe and 9<sup>th</sup> globally in road safety research (<u>PubMed 2024</u>)



IUA

EduRank 2023: Ranked 195th (7%) in Europe and 494th (4%) Globally

OS 2023: Ranked 422nd (30%) Globally

Research.com: Ranked 44th Globally



#### Civil Engineering

EduRank 2023: Ranked 11th in Europe and 31st Globally

Shanghai 2023: Ranked 2nd in Europe and 5th Globally

OS 2023: Ranked 21st in Europe and 69th Globally



#### Transportation

EduRank 2023: Ranked 4th in Europe and 26th Globally

Shanghai 2023: Ranked 41st in Europe and 168th Globa



#### **Road Safety**

- PubMed 2023: Ranked 4<sup>th</sup> in Europe and 45<sup>th</sup> Globally
- AAP 2019: Ranked 2<sup>nd</sup> in Europe and 6<sup>th</sup> Globally

#### **Prof. George Yannis**

- PubMed 2023: Ranked 2<sup>nd</sup> in Europe and 9<sup>th</sup> Globally
- AAP 2019: Ranked 2<sup>nd</sup> in Europe and 3<sup>rd</sup> Globally



Department of Transportation Planning and Engineering NTUA - Review 2024

# Distinctions of the Department

- Professor Eleni Vlachogianni was elected Dean of the School of Civil Engineering (September 2024)
- Professor George Yannis received honorary distinctions for his effort to run 30 Marathons in 30 months:
  - Environmental Awards (September 2024) and
  - Mobility Awards (December 2024)
- The Global Alliance of Non-Governmental Organizations for Road Safety won the Prince Michael International Road Safety Award, in recognition of the Accountability Toolkit, with the active contribution of NTUA (December 2024)



# Scientific Committees and Institutions

#### **International Committees**

- European Commission
- International Organisations (UNECE, OECD, WHO, World Bank, EIB, CEDR, ERF, IRF, PIARC, UITP, ETSC, ECTRI, WCTR, TRB, IEEE, ITSS)

#### Greece

• OASA, STASY, Public Works Council, Government Road Safety Committee



## Scientific Lectures

- Xumei Melanie Chen, Professor School of Traffic and Transportation, Beijing Jiaotong University (Online Seminar)
   «Environmental Impact of Connected and Autonomous Vehicles considering Platooning with Buses in Urban Scenarios»
   (March 2024)
- Constantine Kyriazis, Cityzen Parking & Services CEO «The parking of the future is here: Operation of 360° parking spaces & new technologies» (April 2024)
- Pantelis Kopelias, Associate Professor, School of Engineering of the University of Thessaly «Motorway operation, traffic and emergency management and the specification of special roads» (May 2024)
- Eng. Roberto Ventura, Assistant Professor, University of Brescia (Italy) «Traffic Hazard on Main Road Bridges: Real-Time Evaluation and Management of the Risk Related to Design Load Overcoming Events» (October 2024)



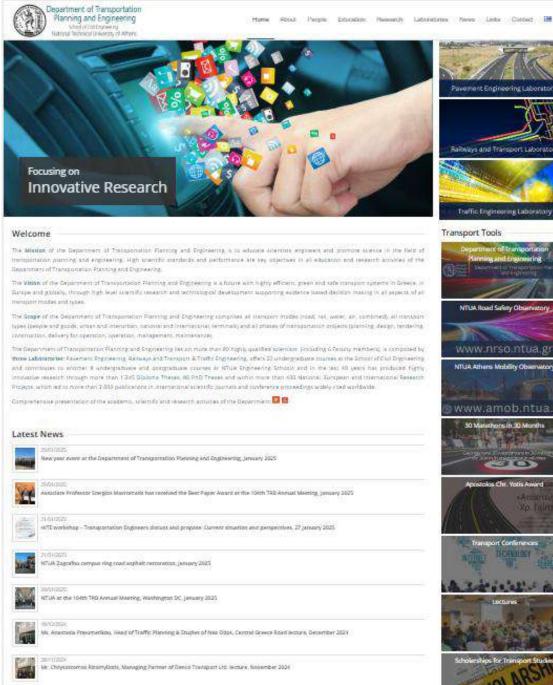
## Scientific Lectures

- Chrysostomos Rizomyliotis, Managing Partner of Denco Transport Ltd «Traffic Studies – Sustainable Urban Mobility Plans» (November 2024)
- Peter Savolainen, Research Foundation Professor and Chairperson of the Department of Civil and Environmental Engineering at Michigan State «Relating Available Stopping Sight Distance to Crash Risks: Insights from NCHRP 15-75» (November 2024)
- Anastasia Pneumatikou, Head of Traffic Planning and Studies of the Nea Odos company, Central Greece road
   «Road Safety in practice: The case of PATHE (Transformation of Skarfeia)» (December 2024)



## Website

- Continuous updating (30 posts within 2024)
- Full lists of Members,
   1346 Diploma Theses,
   43+43 PhD Theses,
   404 Research Projects, Lectures
- Reposting on social media
- High Visibility
   (150.000+ pageviews annually)



DCTR: General Assembly Meeting, NTUA, Athens, November 2004

# Digital Governance

- Cloud with all files online
  - Fully tidy & easy to use archive
  - Standardized coding of all files



- Standard operating procedures
  - Systematic role allocation
  - Continuous service line 1285
- Optimal Infrastructure Management

With system and perseverance against all odds



ομέας	Administration	Α
Γενική Συνέλευση	General Assembly	dta
Πρωτόκολλο	Registry-In/Out	dti/o
Οικονομικά	Budget	dta
Ενημέρωση DT Control	DT-Control	-
Πρότυπα έγγραφα	Templates	dta
Αλληλογραφία	-	-
Εκλογές Διευθυντών Τομέα/ Εργαστηρί	Elections	dta
Φόρμες, Αιτήσεις (εκτός Τομέα)	Forms	
Τεννικό και Διοικητικό Ποοσωπικό	Staff	dta

Εκπαίδευση	Education	E
Πρόγραμμα μαθημάτων	CoursesProgram	dte
Πρόγραμμα εξεταστικής - Επιτηρήσεις	ExamProgram	dte
Συγγράμματα	TeachingMaterial	dte
Διανομή σημειώσεων	-	-
Προετοιμασία εξετάσεων	-	-
Καταχώρηση βαθμολογιών	-	-
Διπλωματικές Εργασίες	Diploma Theses	dtd
Απαλλαγές	StudentExemptions	dte

Έ	ρευνα	Research & Postgrad	R
	Ερευνητικά Έργα	ResearchProjects	dtr
ſ	Υποψήφιοι Διδάκτορες	PhdCandidates	dtp
Ī	Επικουρικά	PhD-Assistance	dtp
1	Υποτροφίες ΕΛΚΕ	ELKE-Scholarships	dtp
	Πανεπιστημιακοί Υπότροφοι	PhD-Teaching	dtp

ΔΕΠ	Faculty	F
Εξειδίκευση καθηκόντων	FacultyTasks	dtf
Ορισμός Διδασκόντων	TeachingAssignments	dtf
Εξέλιξη μελών ΔΕΠ	FacultyElections	dtf
Μητρώο εκλεκτορικών σωμάτων	DisciplinesList	dtf
ΕΔΙΠ	TeachingAssistants	dtf
Άλλα έγγραφα μελών ΔΕΠ	FacultyOther	dtf
Άδειες Απουσίας μελών ΔΕΠ	AbsenceForm	dtf

Υποδομές	Infrastructure	I
Συντήρηση	-	dti
Βλάβες	InfraFailures	dti
Καταστροφές οργάνων	InfraEquipment	dti

Επικοινωνία	Communication	С
Δικτυακός Τόπος Τομέα	DTWeb	dtc
Παρουσίαση Τομέα	DT-Profile	dtc
Παρουσίαση Εργαστηρίων	-	dtc
Παρουσίαση Μελών Τομέα	-	dtc
Εκδηλώσεις	Events	dtc
Πολυμέσα	Media	dtc
Ανακοινώσεις	Announcements	dtc

# NTUA Road Network Upgrade

#### Active contribution:

- Design and supervision of implementation of the new road network asphalt pavements
- Design and supervision of the installation of speed reduction devices
- Assessment of Road Safety and Operation of the Road Network
- Road Markings and Signs Study
- Information Signs Study



# High Societal Impact

Integrated Communication Policy

- 32 newspaper/magazine articles
- 25 interviews in the electronic media
- 20 presentations in conferences/webinars
- 34 social media posts
- 200 republished posts from scientific organisations and institutions
- Campaign to promote 30km/h speed limit in cities worldwide, running 30 Marathons in 30 months
- 500.000+ pageviews per year
- Network with thousands of contacts in Greece & internationally



We start in 2025 with the best prospects

with a Plan
with new challenges
with research projects
with our students
with the best Team
and with extra surprises ©





## New Year Event at the Department of Transportation Planning and Engineering

Tuesday 28 January 2025



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George Yannis, Director of the Department TPE