



Department of  
Economics  
Democritus  
University of  
Thrace

**1<sup>st</sup> International Transport Conference  
&  
15<sup>th</sup> Special Conference of the Hellenic  
Operational Research Society**



**Mobility of any mode depends on  
Network Integration.  
The Greek Motorway Network.**

**BILL M. HALKIAS, P.E., F.ASCE, F.ITE**

President, Hellenic Association of Toll Road Network (HELLASTRON)  
Managing Director & CEO, Attikes Diadromes SA (Attica Tollway)

# **EUROPEAN POLICIES**

## **EU WHITE PAPER (2011) List of initiatives "Towards a competitive and resource efficient transport system"**

### **➤ AN EFFICIENT AND INTEGRATED MOBILITY SYSTEM**

A Single European Transport Area, Promoting quality jobs and working conditions, Secure Transport, Acting on transport safety: Saving thousands of lives.

### **➤ INNOVATING FOR THE FUTURE: TECHNOLOGY AND BEHAVIOUR**

A European Transport Research and Innovation Policy, Promoting more sustainable behavior, Integrated urban mobility.

### **➤ MODERN INFRASTRUCTURE AND SMART FUNDING**

Transport infrastructure: territorial cohesion and economic growth, A coherent funding framework, Getting prices right and avoiding distortions.

### **➤ THE EXTERNAL DIMENSION – TRANSPORT IN THE WORLD**

# Integrating the Greek Toll Road Network



# The HELLENIC ASSOCIATION of TOLL ROAD NETWORK



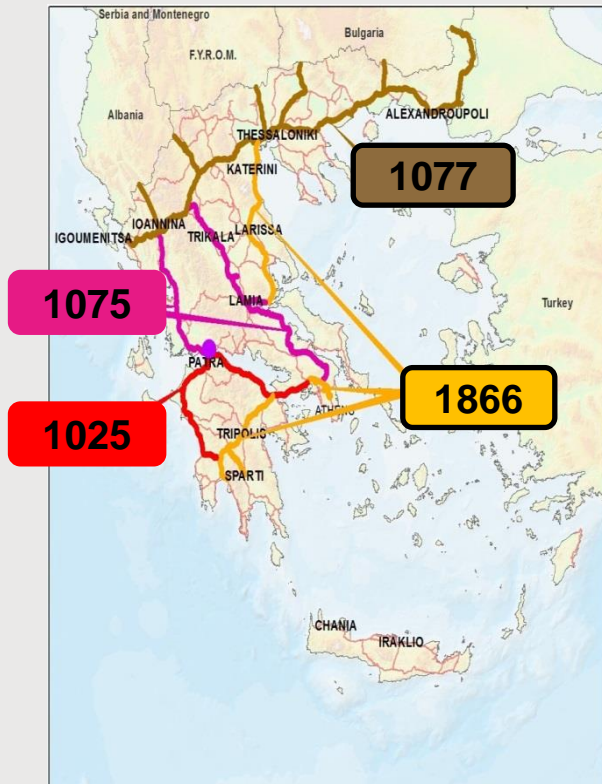
## **The association was created to promote:**

- Road traffic safety
- Interoperability of Electronic Toll Collection (ETC) Systems
- Establishment of common technical specifications for all projects
- Application of similar operational procedures
- Support of user finance transportation principles
- Integration of R&D into the everyday operations
- Exchange of know-how between the Association's members in Greece & abroad
- Adoption of new technological applications
- Best Practices in toll road operation

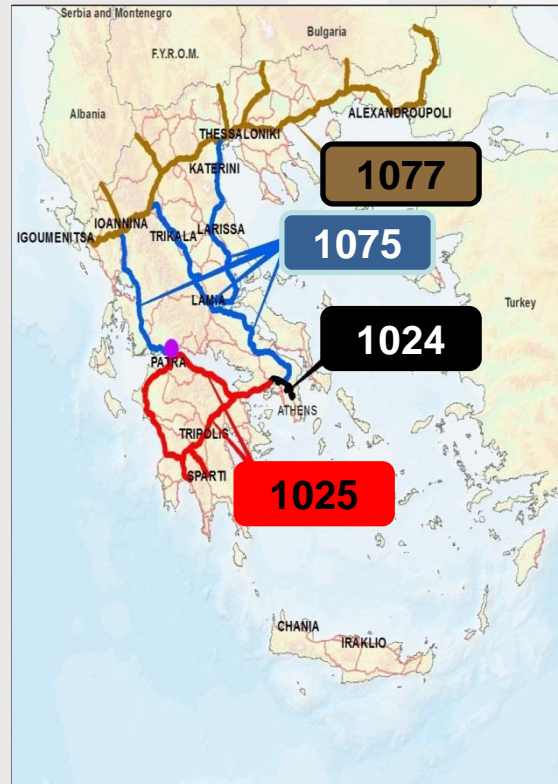
# Key data

Code	KPI or basic informative element	2014 Data								Unit	2014 Data
		EGNATIA ODOS	ATTIKI ODOS	OLYMPIA ODOS	MOREAS	AEGEAN MOTORWAY	KENTRIKI ODOS	NEA ODOS	GEFYRA		Summary
<b>NETWORK INFORMATION</b>											
INFO.1	Total Network Length	657,7	70	202,3	205	256,2	25,8	220,3	3,5	km	1640,8
INFO.2	Length in Construction		0	120	57	25,6	109,68	156,66	0	km	468,94
INFO.3	Length in Operation	657,7	70	202,3	148	230,6	25,8	220,3	0	km	1554,7
<b>STAFF</b>											
STAF.1	Total Permanent Staff	550	950	2.645	354	1.500	669	2.327	98	no	9.093
STAF.2	Permanent Staff in Concession & Operation	400	950	445	286	500	95	299	98	no	3.073
STAF.3	Permanent Staff in Construction and IE	150	0	2.200	68	1.000	574	2.028	0	no	6.020
<b>TRAFFIC &amp; REVENUE</b>											
TRAF.1	Total Annual Average Daily Traffic	9.300	46.381	20.180	9.596	9.273	12.856	17.609	8.650	no	13.646
TRAF.4	Vehicle Kilometres travelled	2.231	1.185	1.488	518	591	121	1.416	11,1	no	7.562
TOLL.11	Total number of toll transactions excluding Esc. & Susp.	23.251.913	71.754.342	32.283.976	14.671.205	19.457.533	4.665.547	22.519.688	3.157.149	no	191.761.353
REV.1	Annual Toll Revenues	49,400	159,300	64,047	27,866	52,000	11,800	72,000	32,459	million €	468,872
<b>SAFETY</b>											
SAF.9	Fatality rate (fatalities per billion km travelled)	7,62	4,22	8,74	3,86	1,69	0,00	5,65	0,00		6,08
SAF.13	Total number of Incidents	133	21.561	23.406	9.986	14.072	1.552	22.542	121	no	93.373
SAF.24	Average Operator's response time		6	13	16	17	8	10	2	minutes	11,53
<b>MAINTENANCE</b>											
MAIN.1	Number of Road Maintenance Damages		1.417	2.351	1.060	514	227	2.572	22	no	8.163
MAIN.2	Number of EEM & IT Maintenance Damages		2.892	2.223	1.753	2.655	531	4.206	837	no	15.097
MAIN.3	Average restoration time of Road Damages		43,77	19	168	666	39,8	37,91	1,86	hours	89,88
MAIN.4	Average restoration time of EEM & IT Damages		160,23	157	120	269	0,3	0,25	2,76	hours	115,29

# One Emergency Phone Number for all. How about a National Radio frequency?



Initial Stage – Sharing Numbers



2<sup>nd</sup> step – Going Regional



Future goal – Going National

# Tunnel Safety starts from uniform signage

Egnatia Odos



Olympia Odos



Nea Odos



Attiki Odos  
(Attica Tollway)



# Greek ETC Interoperability – Year 2014 Data

Project	ETC Penetration	Tag and Invoice Issuer					
		e-PASS Attiki Odos	O-Pass Olympia Odos	e-Way Aegean	E-PASS Gefyra	Fast Pass Nea Odos	All tags
		Annual Transactions	Annual Transactions	Annual Transactions	Annual Transactions	Annual Transactions	Annual Transactions
Attiki Odos	50%	34.637.668	142.077	54.906	19.795	0	34.854.446
Moreas (*)	24%	3.149.219	175.980	83.735	6.582	0	3.415.516
Olympia Odos	24%	5.398.319	1.781.625	90.639	96.121	0	7.366.704
Aegean Motorway	14%	517.970	91.030	1.654.641	8.427	0	2.272.068
Gefyra	15%	96.412	10.812	2.516	297.399	0	407.139
Nea Odos	13%	0	0	0	0	3.007.780	3.007.780
Kentriki Odos (*)	7%	0	0	0	0	329.093	329.093
<b>All 7 Projects.</b>	<b>27%</b>	<b>43.799.588</b>	<b>2.201.524</b>	<b>1.886.437</b>	<b>428.324</b>	<b>3.336.873</b>	<b>51.652.746</b>
		Annual Transactions	Annual Transactions	Annual Transactions	Annual Transactions	Annual Transactions	Annual Transactions
<b>In the Motorway operated by the same tag issuer</b>		34.637.668	1.781.625	1.654.641	297.399	3.007.780	41.379.113
<b>In other Motorways</b>		9.161.920	419.899	231.796	130.925	329.093	10.273.633
<b>Total ETC</b>		<b>43.799.588</b>	<b>2.201.524</b>	<b>1.886.437</b>	<b>428.324</b>	<b>3.336.873</b>	<b>51.652.746</b>



(\*) Moreas and Kentriki Odos have chosen not to be tag and invoice issuers. Egnatia Odos operates MTC only, while is in the process of installing ETC.



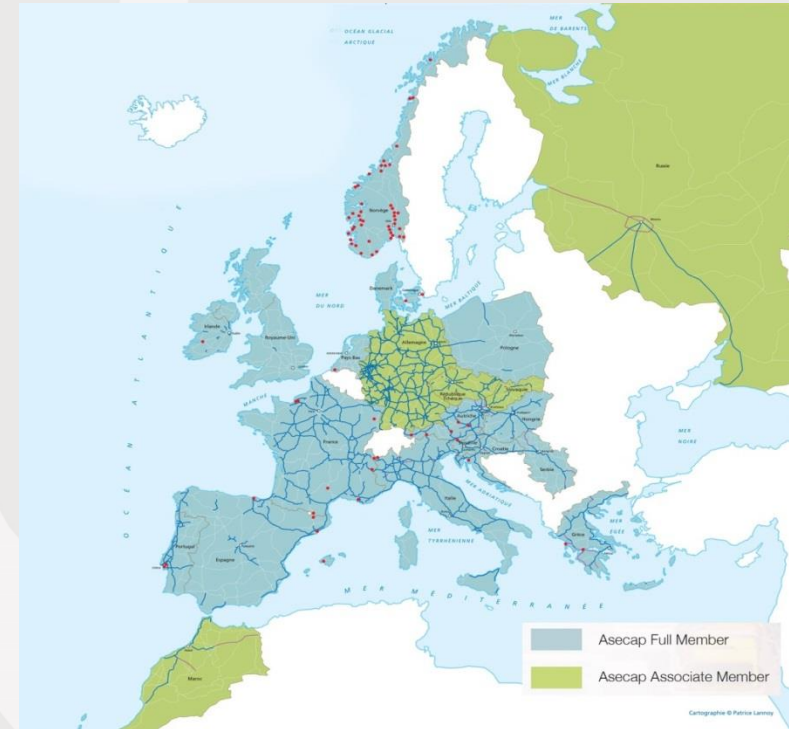
# HELLASTRON: The “eyes & ears” of Greece

HELLASTRON represents Greece in International Associations and it is the Scientific and Professional forum for Know-How exchange. As a Knowledge base Association it contributes to the advancement of road transport by the dissemination of best practices and by offering a real link which plays the role of the “observatory tower” of developments around the globe.



## **IBTTA**

**International Ridge, Tunnel and Turnpike Association  
(313 members from all 5 continents)**



## **ASECAP**

**Association Européenne des Concessionnaires  
d'Autoroutes et d'Ouvrages a Péage  
(16 Full European Country Members + 4 Associate  
Country Members + Morocco)**

***Thank you!***

**Bill M. Halkias P.E., F.ASCE, F.ITE**

**President, Hellenic Association of Toll Road Network (HELLASTRON)**

**bhalkias@hellastron.com – www.hellastron.com**

**Managing Director and CEO, Attikes Diadromes SA (Attica Tollway)**

**bhalkias@attikesdiadromes.gr – www.aodos.gr**