

**ASECAP
6th Marketing Workshop
Zagreb, 12th of April 2019**

Maintaining the Level of Service for Tollway Customers

**A continuous effort that creates loyal customers and
ensures the appropriate "VALUE" for toll paid**

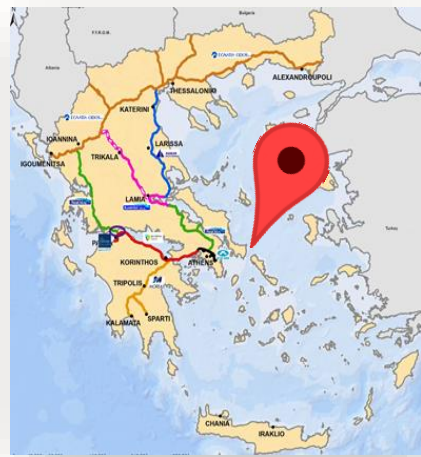
**Charalampos M. Malimoglou,
Technical Advisor, Hellenic Association of Toll Road Network, HELLASTRON
Operations Manager, InVision Consulting S.A.**

Among the things that have changed in the last 15 years in Greece is that....



...more than two thousand kilometers of motorways have been developed creating a modern national Road network !

Hellenic Association of Toll Road Network "HELLASTRON"



Hellenic Association of Toll Road Network "HELLASTRON"



Hellenic Association of Toll Road Network "HELLASTRON"





Members

| Project | Length in operation (Km) |
|-----------------|--------------------------|
| ATTIKI ODOS | 70 |
| GEFYRA | 3,5 |
| EGNATIA ODOS | 887,2 |
| NEA ODOS | 366,1 |
| MOREAS | 205 |
| AEGEAN MOTORWAY | 262,6 |
| OLYMPIA ODOS | 202,3 |
| KENTRIKI ODOS | 136,5 |
| TOTAL | 2.133,1 |


 HELLENIC ASSOCIATION OF TOLL ROAD NETWORK
GREEK MOTORWAY NETWORK

Legend

-  Attica Tollway
-  Rion Antirion Bridge
-  Egnatia Motorway
-  Nea Odos Motorways
-  Moreas Motorway
-  Aegean Motorway
-  Olympia Odos Motorway
-  Central Greece Motorway



Development almost completed (Just two sections are under construction).

And now what?



But, what is the most difficult and risky period for a concession project?

It is widely accepted that the operation period is the most *risky* and *complicated* period of the life of a concession project....

Construction Period



Operation Period



Securing the investment and the expected ROI of the project

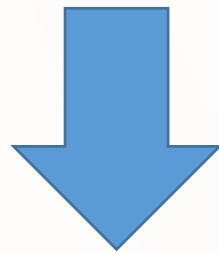
Tollway Infrastructure is an alive entity and every single day is a different day..

Why ??

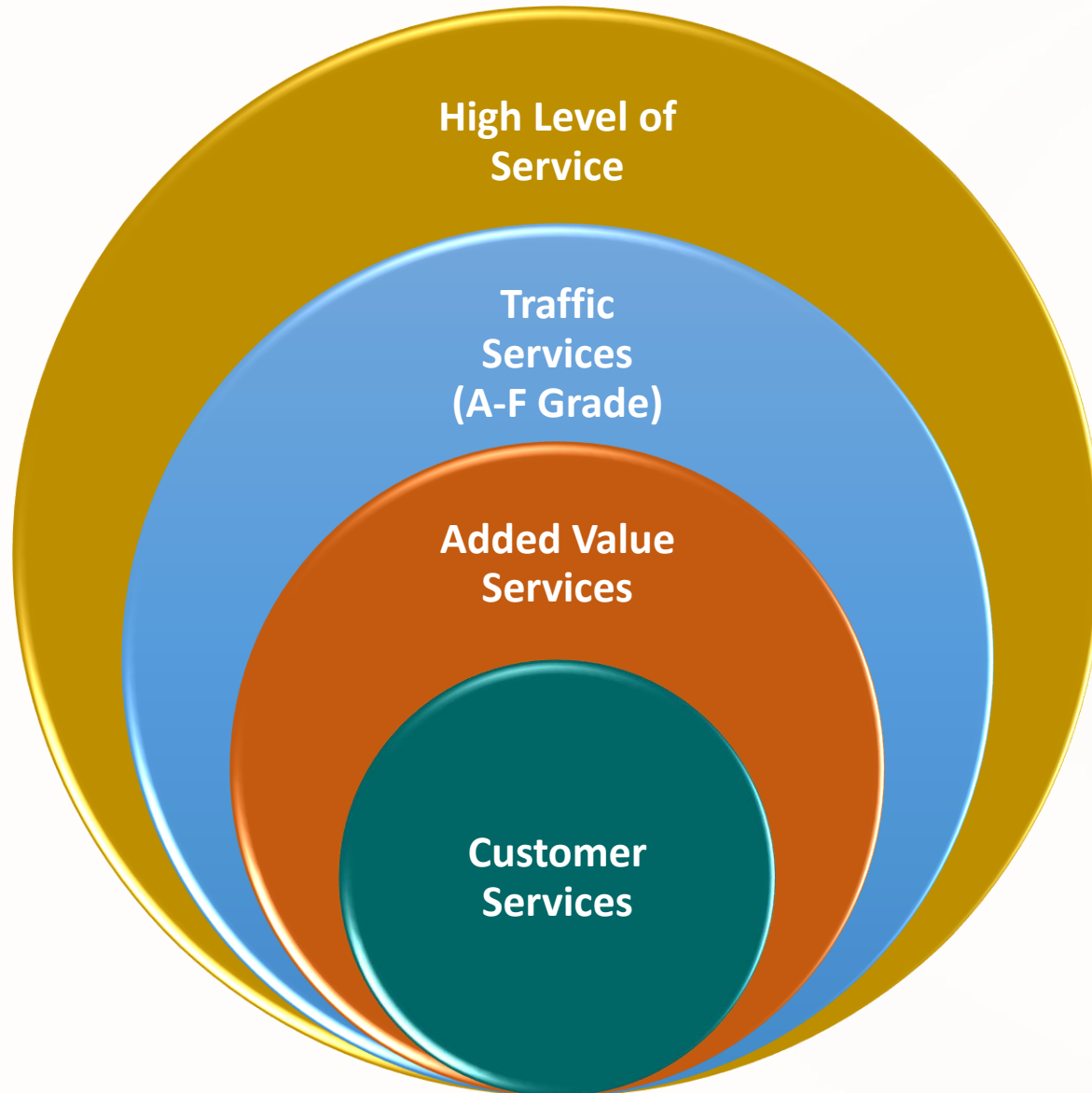
You must CREATE and RETURN the appropriate "VALUE" for the TOLL paid by your Customer.

Tollway operation is a long time period extremely sensitive to Weather, Socio, Economic and Political conditions not under the control of the operator

At "HELLASTRON" we provide high quality innovative services creating loyal, satisfied and informed customers that use the Hellenic Toll Road Network safely every day.



High Level of Service

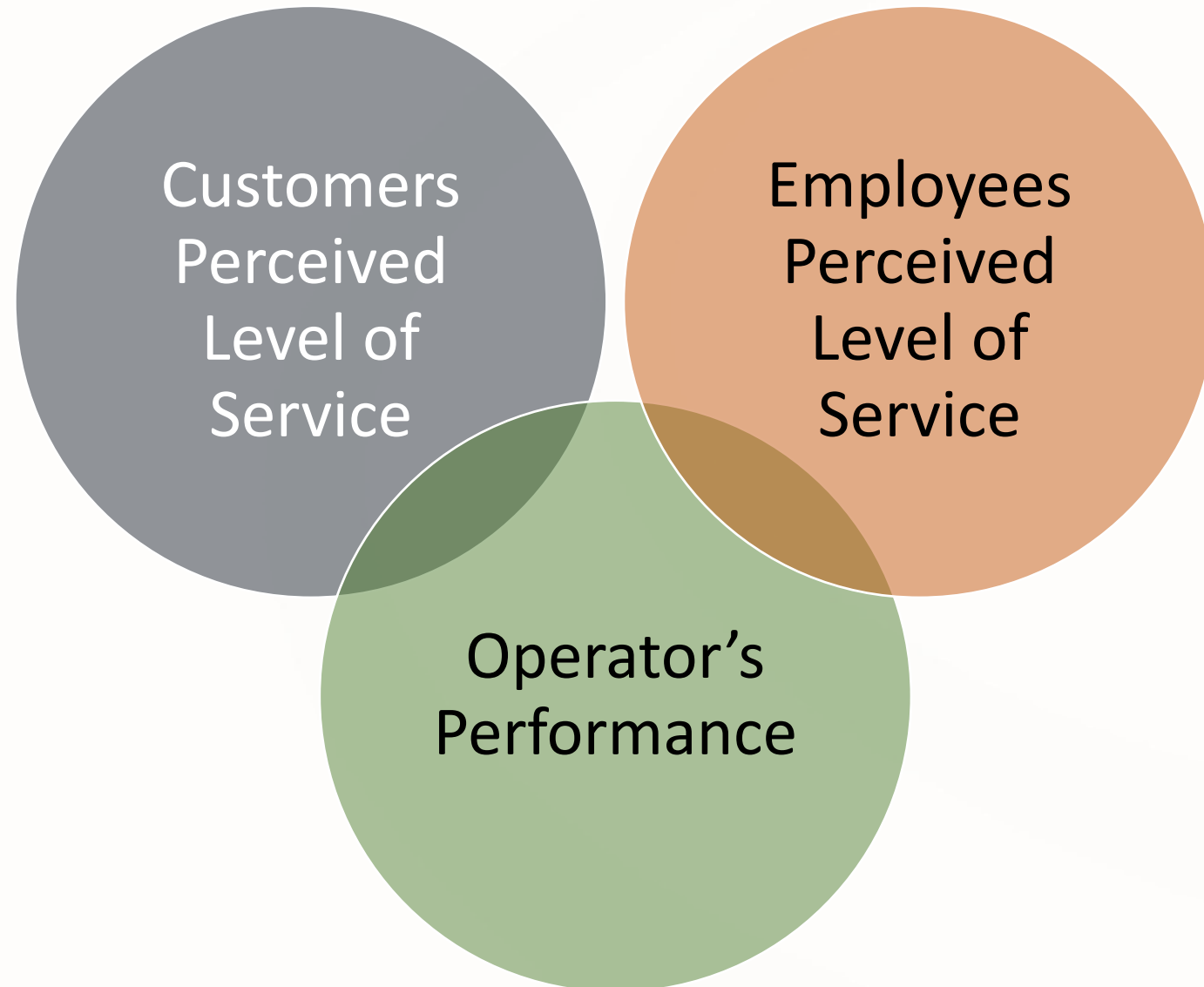


**For our members, High Level of Service
Is a commitment, not a contractual obligation**



**High Level of Service is ensured by
the development & application of an integrated
Monitoring and Measurement system**

Monitoring and Measurement (Our Toolkit)



Customers
Perceived
Level of
Service

Road Side
Surveys

Target Group
Surveys

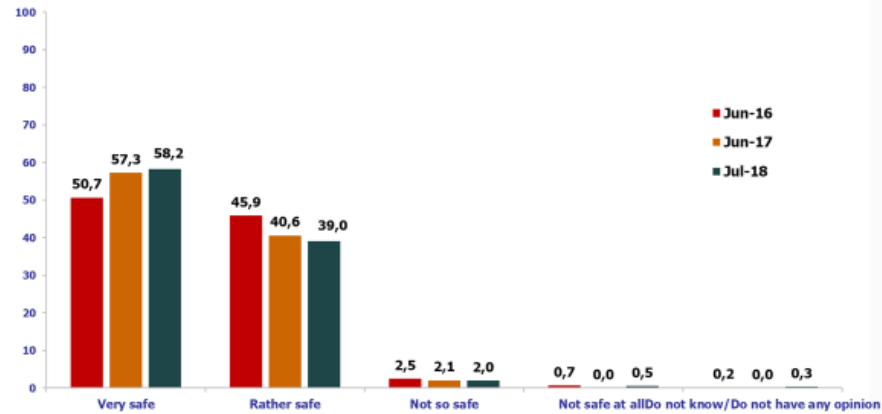
Telephone
Surveys

Customer
Complaints &
Comments



Customers Perceived Level of Service

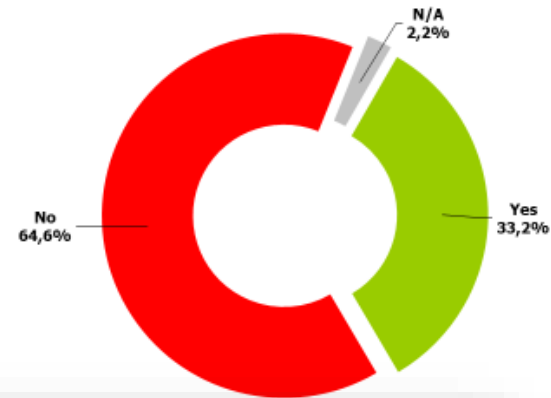
Level of Satisfaction from the Road Safety in A.O. 2016 - 2018



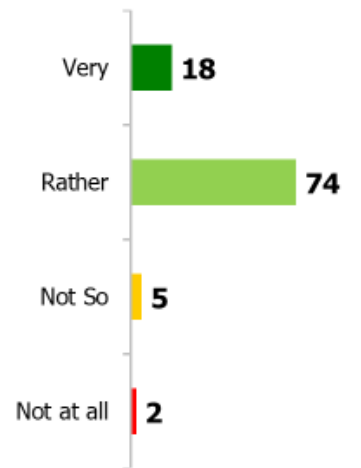
Satisfaction Level of Automated Payment Machines

Νέα Οδός

Usage of APM



Satisfaction Level



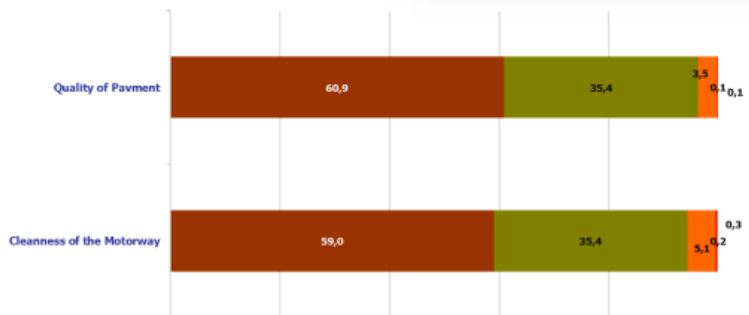
Base: Customers used APM

Level of Satisfaction From: 2018

METRONANALYSIS



Very Rather Not So Not at all N/a

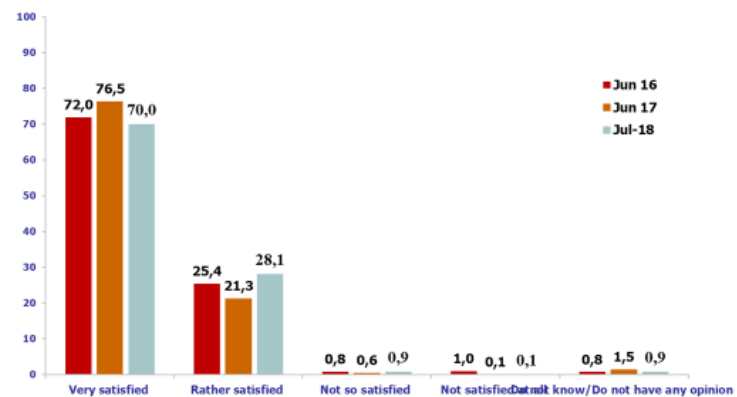


METRONANALYSIS



ePass 13

Level of Satisfaction from the Customer Support Service 2016 - 2018



METRONANALYSIS



ePass

Τεύχος Β': ΝΟ-ΙΟΝΙΑ ΟΔΟΣ Έρευνα παρά την Οδό, Νοέμβριος 2018

62

Employees
Perceived
Level of
Service

Employees
satisfaction
survey

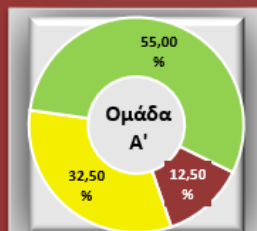
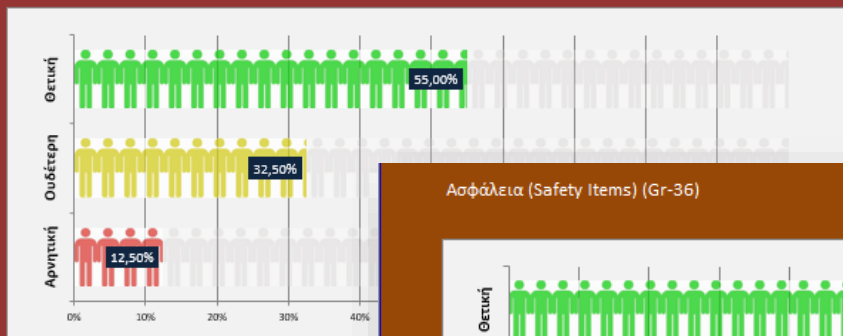
Employees
Complaints &
Comments



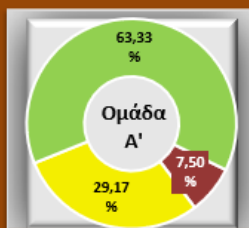
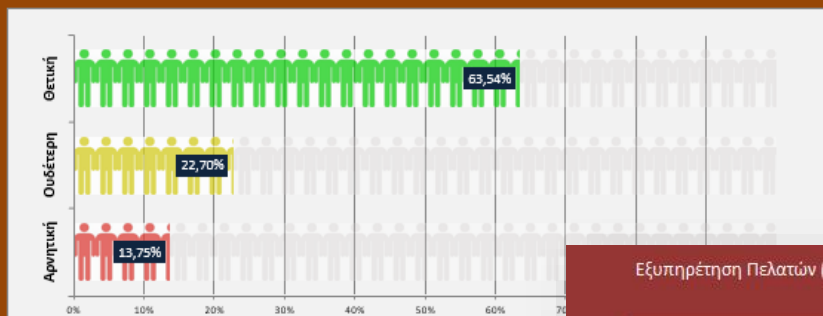
Employees
Perceived
Level of
Service



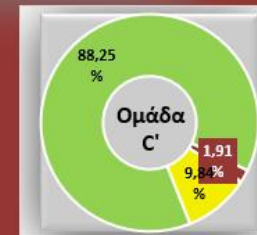
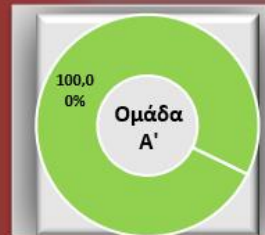
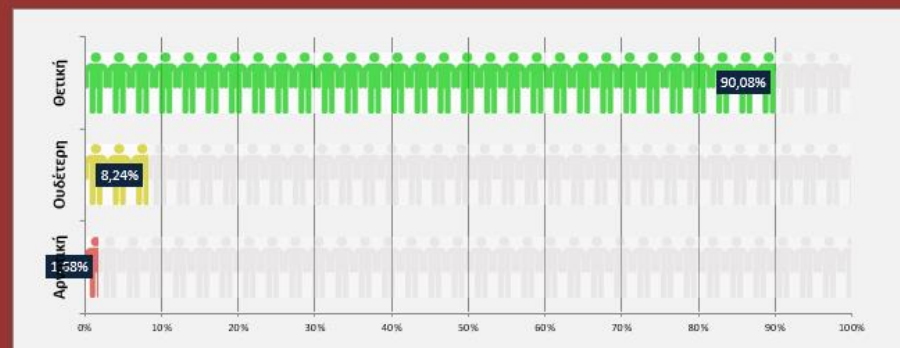
Πόροι (Resources Items) (Gr-34)



Ασφάλεια (Safety Items) (Gr-36)



Εξυπηρέτηση Πελατών (Customer Service Items) (Gr-9)



Operator's
Performance

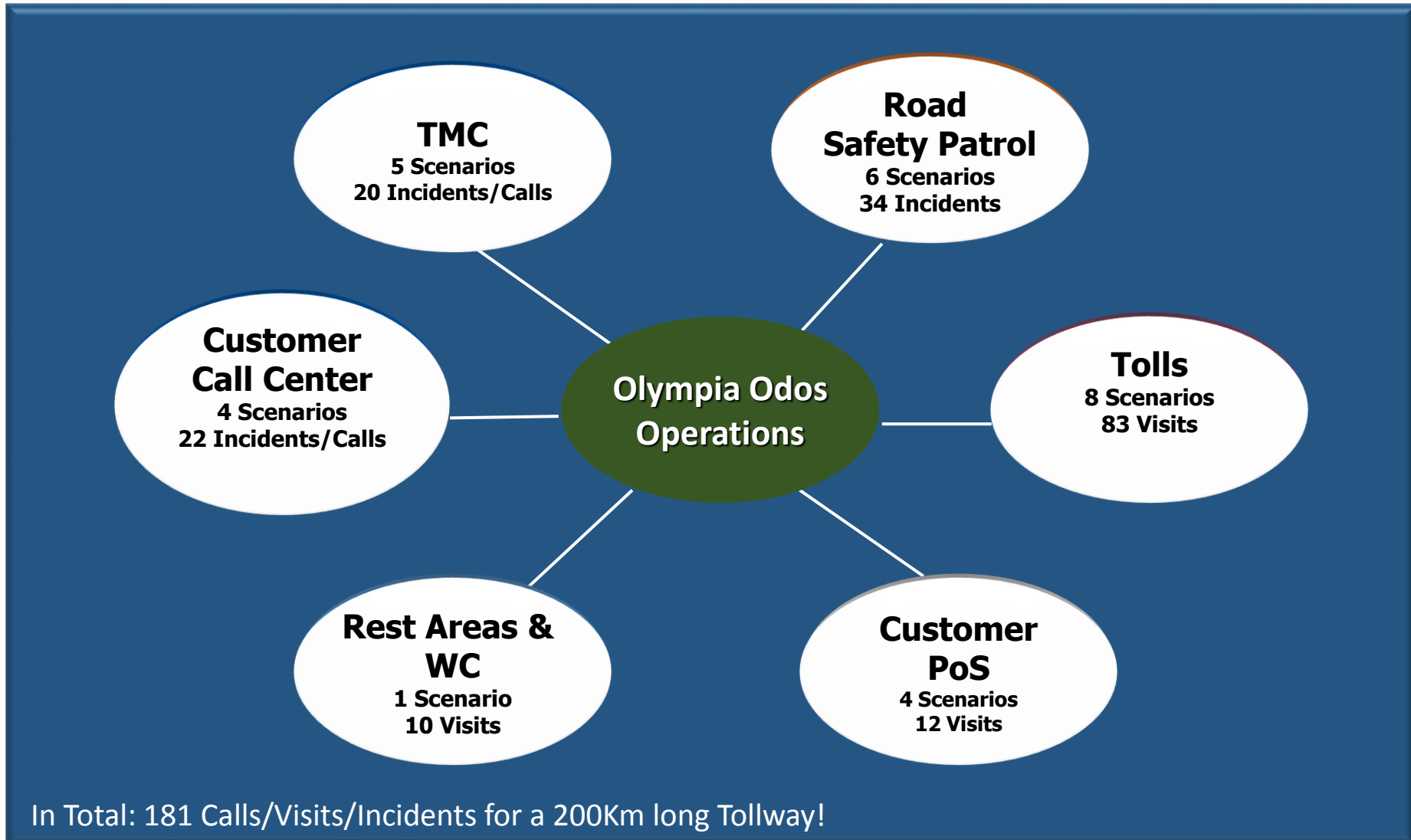
Mystery
Shopping

Key
Performance
Indicators
(KPI)



Mystery Shopping.....

Operator's
Performance



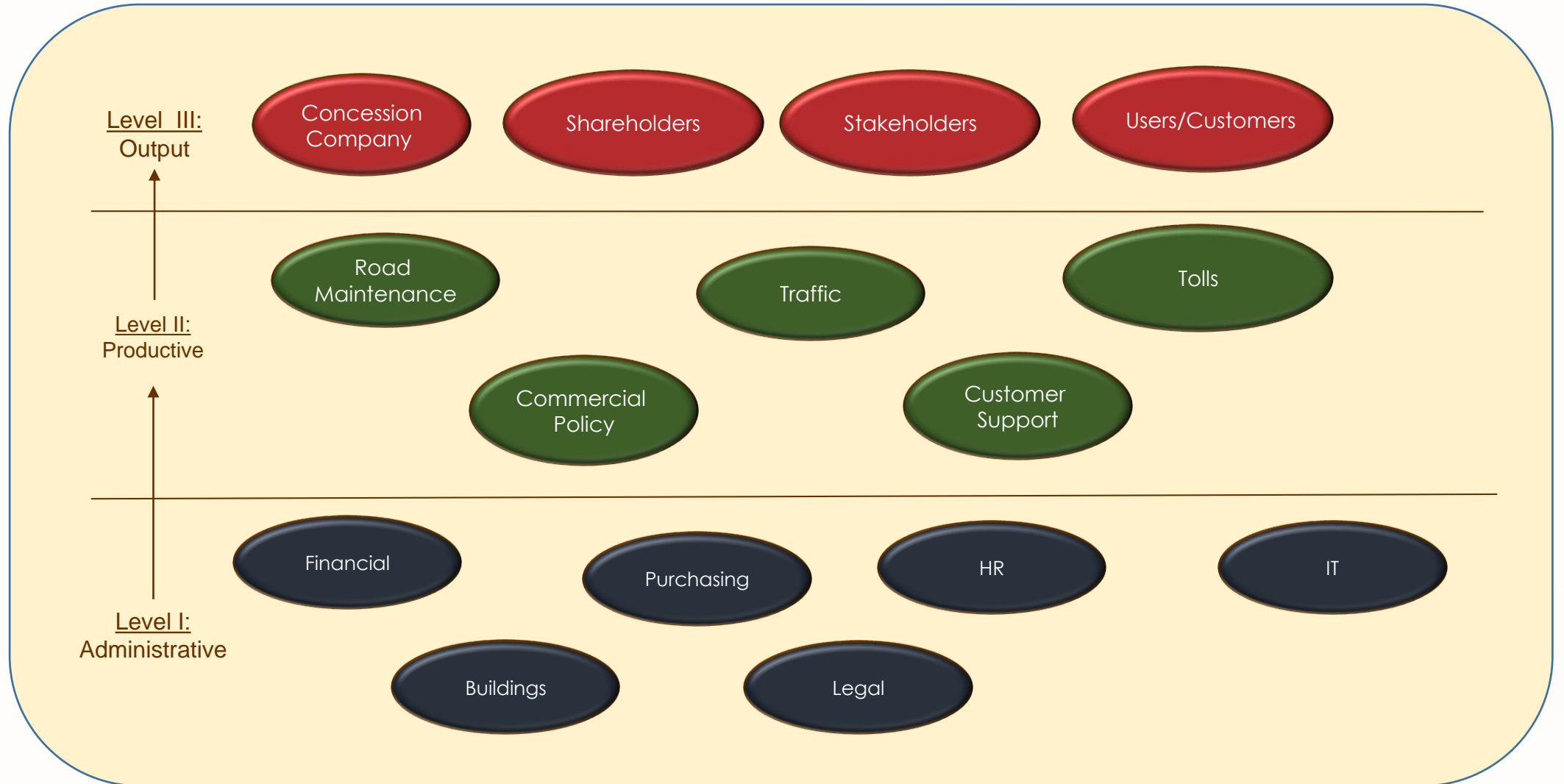
C. Presentation of Results

Based on the category of Criteria (%)

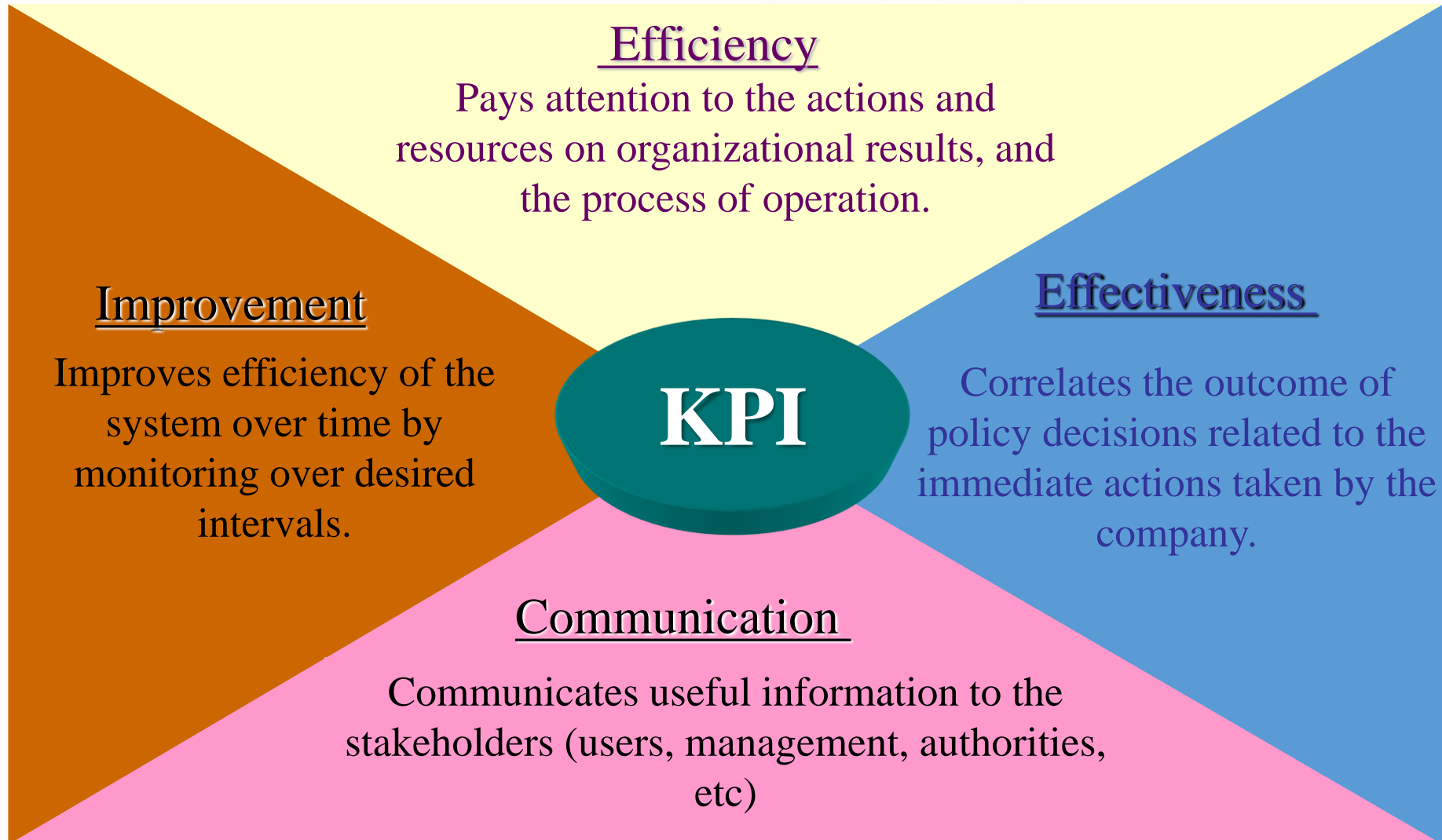
| AA | Service/Department | Corporate Image | Procedures Compliance | Problem Management | Positive Initiative | Total Score |
|----|----------------------------------|-----------------|-----------------------|--------------------|---------------------|-------------|
| 1 | Tolls | 96,51 | 94,83 | 87,14 | 55,89 | 94,30 |
| 2 | Safety Patrols | 98,62 | 88,96 | 95,25 | 87,00 | 94,72 |
| 3 | Traffic Management Center (TMCs) | 95,59 | 81,00 | 93,50 | 47,75 | 88,95 |
| 4 | Customer Call Center | 92,38 | 65,22 | 100 | 0 | 78,93 |
| 5 | Customer Point of Sale | 97,02 | 85,68 | 86,00 | 35,01 | 93,01 |
| 6 | WC & Rest Areas | -- | 98,90 | -- | -- | 98,90 |
| | Olympia Odos Operations | 95,80 | 88,02 | 91,30 | 45,91 | 89,60 |

Operator's
Performance

KPIs-An information and communication tool KPI Strategic Map



Operator's
Performance



Operator's Performance

Indicative Tolls KPIs

- Toll lane processing capacity
- Waiting time at toll gates
- Toll collection cash discrepancy
- Counterfeit or worn banknotes /coins
- Non Payment Form (NPF)
- Manually issued receipts (Toll System Availability)
- ETC volume
- Subscription accounts renewal



| Code | KPI or basic informative element | 2018 Data | | | | | | | | Unit | Definition |
|---------------------------------|---|---|-------------|--------------|------------|--------------------|------------------|------------|-----------|------|--|
| | | EGNATIA ODOS (MAIN AXIS A2, VERTICAL AXES A29 & A25 & A1, AKTIO SUBMERGED TUNNEL) | ATTIKI ODOS | OLYMPIA ODOS | MOREAS | AEGEAN MOTORWAY | KENTRIKI ODOS | NEA ODOS | GEFYRA | | |
| TOLL | | | | | | | | | | | |
| TOLL.01 | Total number of toll stations | 13 | 39 | 16 | 12 | 21 | 16 | 27 | 1 | no | Sum of mainline & ramp plazas (Αθροισμα) |
| TOLL.02 | Number of mainline toll stations | 13 | 4 | 5 | 6 | 6 | 4 | 7 | 1 | no | |
| TOLL.03 | Number of ramp toll stations | 0 | 35 | 11 | 6 | 15 | 12 | 20 | 0 | no | Twin ramp stations are counted twice, unless |
| TOLL.04 | Total number of toll lanes | 94 | 195 | 135 | 68 | 89 | 62 | 125 | 12 | no | Physical lanes |
| TOLL.05 | Number of MTC lanes | 94 | 103 | 117 | 68 | 85 | 62 | 125 | 8 | no | Maximum simultaneously usable |
| TOLL.06 | Number of STC lanes | 0 | 0 | 46 | 0 | 28 | 20 | 37 | 0 | no | Maximum number of "self-serve" equipped |
| TOLL.07 | Number of ETC lanes | 0 | 92 | 109 | 49 | 50 | 62 | 125 | 4 | no | Maximum number of ETC equipped lanes |
| TOLL.08 | Total number of ETC tags | 0 | 622.876 | 56.069 | 0 | 46.413 | 3.896 | 82.142 | 19.694 | no | total number of active tags (both LV and HV) |
| TOLL.09 | Number of ETC tags - light vehicles | 0 | 607.336 | 47.652 | 0 | 33.829 | 2.699 | 67.703 | 15.701 | no | total number of active LV tags till the end of |
| TOLL.10 | Number of ETC tags - heavy vehicles | 0 | 15.540 | 8.417 | 0 | 12.584 | 1.197 | 14.439 | 3.993 | no | total number of active HV tags till the end of |
| TOLL.11.a | Total Number of Transactions including Escapes & Suspensions | 40.872.491 | 82.605.063 | 49.937.702 | 17.529.032 | 23.005.269 | 9.279.278 | 37.172.111 | 3.865.353 | no | Total Transactions (Systemic & Escapes & Suspensions) |
| TOLL.11.b | Number of Escapes & Suspensions | 12.464 | 102.183 | 363.941 | 18.012 | 234.407 | 35.050 | 36.856 | 2.918 | no | Includes escapes and suspensions due to |
| TOLL.11 | Total number of toll transactions excluding Escapes & Suspensions | 40.860.027 | 82.502.880 | 49.573.761 | 17.511.020 | 22.770.862 | 9.244.228 | 37.135.255 | 3.862.435 | no | Systemic transactions both of LV and HV (including MTC) |
| TOLL.12 | Number of toll transactions - light vehicles | 34.428.791 | 78.752.862 | 43.014.876 | 16.017.229 | 17.403.984 | 7.366.119 | 30.548.009 | 3.337.972 | no | Systemic transactions of LV (includes MTC) |
| TOLL.13 | Number of toll transactions - heavy vehicles | 6.431.236 | 3.750.018 | 6.558.885 | 1.493.791 | 5.366.878 | 1.878.109 | 6.587.246 | 524.463 | no | Systemic transactions of HV (includes MTC) |
| TOLL.14 | Number of MTC toll transactions | 40.860.027 | 39.984.427 | 25.133.239 | 12.095.534 | 16.496.940 | 6.823.516 | 26.767.026 | 2.925.349 | no | Systemic MTC transactions of LV and HV |
| TOLL.15 | Number of STC toll transactions | 0 | 0 | 8.384.490 | 0 | 979.869 | 784.145 | 3.068.396 | 0 | no | Systemic STC transactions of LV and HV |
| TOLL.16 | Number of ETC toll transactions | 0 | 42.518.453 | 16.056.032 | 5.415.486 | 5.294.053 | 1.636.567 | 7.299.833 | 937.086 | no | Systemic ETC transactions of LV and HV (including MTC) |
| TOLL.16.a | Number of ETC toll transactions LV | | 39.920.130 | 12.272.320 | 4.653.584 | 2.584.026 | 757.533 | 4.255.769 | 708.637 | no | Systemic ETC transactions of LV |
| TOLL.16.b | Number of ETC toll transactions HV | | 2.598.323 | 3.783.712 | 761.902 | 2.710.027 | 879.034 | 3.044.064 | 228.449 | no | Systemic ETC transactions of HV |
| TOLL.17 | STC Penetration | 0,00% | 0,00% | 16,91% | 0,00% | 4,30% | 8,48% | 8,26% | 0,00% | % | Percentage of STC transactions out of the total |
| TOLL.18 | ETC Penetration | 0,00% | 51,54% | 32,39% | 30,93% | 23,25% | 17,70% | 19,66% | 24,26% | % | Percentage of ETC transactions out of the total |
| TOLL.19 | LV ETC Penetration | 0,00% | 50,69% | 28,53% | 29,05% | 14,85% | 10,28% | 13,93% | 21,23% | % | Percentage of LV ETC transactions out of the total |
| TOLL.20 | HV ETC Penetration | 0,00% | 69,29% | 57,69% | 51,00% | 50,50% | 46,80% | 46,21% | 43,56% | % | Percentage of HV ETC transactions out of the total |
| TRANSITS WITHOUT PAYMENT | | | | | | | | | | | |
| NONP.1 | % Exempted | 3,29% | 0,92% | 1,38% | 1,63% | 2,14% | 3,20% | 2,16% | 1,98% | % | Number of exempted transactions / total |
| NONP.2 | % Handicapped | 0,26% | 0,00% | 0,41% | 0,39% | 0,44% | 0,35% | 0,41% | 0,39% | % | Number of handicapped transactions / total |
| NONP.3 | % Other Non-payments (includes refusals, escapes & protests) | 0,04% | 0,12% | 0,74% | 0,11% | 0,31% | 0,59% | 1,02% | 0,08% | % | Number of (non-payments, refusals, escapes & protests) / total |
| NONP.4 | % Other specific type by Project | 0,00% | - | - | 0 | 0,79% | 0 | 0 | 0,00% | % | Number of specific type of non-payments / total |

Indicative Traffic & Maintenance KPIs

- Response time to incidents indicators (own units)
- Cooperating agencies response time to incidents indicators (others)
- Lane closure due to road maintenance indicator
- Incident handling indicators
- Accidents-over-incidents indicator
- Congestion indicators
- Users' safety indicators
- Customers' complaints regarding traffic services



Indicative Traffic & Maintenance KPIs

| Code | KPI or basic informative element | 2010 DATA | | | | | | | | Unit | Definition |
|---------------|---|---|-------------|--------------|-----------|--------------------|------------------|-----------|-----------|------|--|
| | | EGNATIA ODOS (MAIN AXIS A2, VERTICAL AXES A29 & A25 & A1, AKTIO SUBMERGED TUNNEL) | ATTIKI ODOS | OLYMPIA ODOS | MOREAS | AEGEAN MOTORWAY | KENTRIKI ODOS | NEA ODOS | GEFYRA | | |
| SAFETY | | | | | | | | | | | |
| AF.1 | Number of Accidents with casualties | 158 | 40 | 54 | 26 | 58 | 9 | 93 | 3 | no | Number of Accidents with casualties include both accid |
| AF.2 | Number of serious incidents in tunnels more than 500 meters | 4 | 0 | 0 | 1 | 0 | 0 | 0 | N/A | no | Serious incidents include: accidents with casualties, cr |
| AF.3 | Number of Accidents with injuries | 142 | 33 | 47 | 20 | 56 | 8 | 80 | 3 | no | Number of Accidents with heavy & light injuries as confi |
| AF.4 | Number of Fatal Accidents | 16 | 7 | 7 | 6 | 2 | 1 | 13 | 0 | no | Number of Accidents with fatalities |
| AF.5 | Number of Injured persons | 182 | 46 | 73 | 33 | 88 | 12 | 112 | 3 | no | Number of Persons Injured |
| AF.6 | Number of Fatalities | 20 | 7 | 8 | 6 | 3 | 1 | 13 | 0 | no | Number of Fatalities |
| AF.7 | Number of property damage only accidents | 593 | 580 | 878 | 301 | 317 | 153 | 1,290 | 7 | no | Number of Crashes without injuries or fatalities |
| AF.8 | Fatal accidents rate | 4.90 | 5.12 | 4.12 | 10.90 | 2.11 | 3.96 | 7.18 | 0.00 | no | Fatal accidents per billion km travelled (Κλάσμα SAF 4 |
| AF.9 | Fatality rate | 6.12 | 5.12 | 4.71 | 10.90 | 3.17 | 3.96 | 7.18 | 0.00 | no | Fatalities per billion km travelled (Κλάσμα SAF 6 προς 1 |
| AF.10 | Injured Accidents Rate | 43.46 | 24.15 | 27.68 | 36.34 | 59.20 | 31.70 | 44.17 | 221.89 | no | Accidents with injuries per billion km travelled (Κλάσμα |
| AF.11 | Injuries Rate | 55.71 | 33.67 | 43.00 | 59.95 | 93.02 | 47.56 | 61.84 | 221.89 | no | Injuries per billion km travelled (Κλάσμα SAF 5 προς TR |
| AF.12 | Property Damage only Accidents Rate | 181.51 | 409.89 | 517.14 | 546.85 | 335.10 | 606.36 | 712.32 | 517.75 | no | Crashes (material damage only) accidents per billion k |
| AF.13 | Total number of Incidents | 751 | 23,867 | 19,459 | 9,731 | 14,906 | 6,773 | 46,260 | 173 | no | Total Number of incidents [different definitions may app |
| AF.14 | Incidents "Immobilised vehicle" | | 16,488 | 12,245 | 5,327 | 6,477 | 2,663 | 22,458 | 129 | no | Includes incidents with breakdown of vehicles such as f |
| AF.15 | Incidents "Obstacle on the pavement" | | 2,519 | 4,438 | 1,480 | 1,788 | 1,595 | 8,310 | 1 | no | Includes any kind of obstacle (objects, stones, signage |
| AF.16 | Incidents "Animal" | | 666 | 815 | 1,399 | 3,180 | 1,069 | 3,097 | 4 | no | live animal incidents (subcategory of Obstacle on the P |
| AF.17 | Other Incidents | | 3,594 | 1,029 | 1,198 | 3,086 | 1,284 | 11,012 | 29 | no | Traffic congestion, Problem with user (contra flow, bike |
| AF.18 | Incidents rate | 229.87 | 17,469.26 | 11,461.29 | 17,678.95 | 15,756.87 | 26,842.21 | 25,543.96 | 12,795.86 | no | Total number of Incidents per billion km travelled (Κλάσ |
| AF.19 | Incidents detected by Patrol - Company Staff | | 10,852 | 12,339 | 6,287 | 6,493 | 4,679 | 31,434 | 94 | no | |
| AF.20 | Incidents detected by Emergency four digit Number | | 4,641 | 3,607 | 1,930 | 4,717 | 1,178 | 7,957 | N/A | no | |
| AF.21 | Incidents detected by ERT | | 215 | 233 | 191 | 77 | 1 | 10 | 4 | no | |
| AF.22 | Incidents detected by CCTV & SD | | 4,456 | 1,176 | 872 | 1,636 | 406 | 3,808 | 55 | no | |

Operator's
Performance

Typical KPI's Measurement Report

| Indicator's Name and Unique Code: Lane closure due to road maintenance indicator (KYK05) | | | | | | | | |
|--|--|--|---------------|---------------|------------------------|---------------|---------------|---------------|
| Description and Purpose of the measurement | | Records the continuous availability of the MW and depicts the influence of maintenance works on traffic loads with the aim of: <ol style="list-style-type: none"> 1. Minimising Lane closure with high incidence rate 2. Minimising traffic congestion and consequently avoiding driver disturbance 3. Improving maintenance planning 4. Maintaining high level of safety in the MW. | | | | | | |
| Input Data Used | | | | | | | | |
| a/a | Data Description | Responsible | | | Frequency | | | |
| 1 | Date of closure | Sector Manager of Traffic Management Division | | | Daily | | | |
| 2 | The Lane (LL,ML,RL,EML) that closed (A) | Sector Manager of Traffic Management Division | | | Daily | | | |
| 3 | The product of time in hours of lane closure times the length in Km. The result of this multiplication is entered as factor B _i where i is the day of the month | Sector Manager of Traffic Management Division | | | Daily | | | |
| 4 | Maintenance works Requester (AD, Proastiakos, Mobile Telephony, etc) | Sector Manager of Traffic Management Division | | | Daily | | | |
| Short Data processing description | | The above information is recorded in the file Lane_closures. The data is sorted by month and the lane closure indicator (B) is summed up for each lane. The total KilometerHours of closed lanes is the total of the sums of all lanes (LL,ML,RL). | | | | | | |
| Mathematical expression of the indicator's calculation | | $\sum_j B_j$ where j=LL,ML,RL and in total and j the day of the month | | | | | | |
| Results (Output) | | | | | | | | |
| Indicator | Dec 07 | Jun 08 | Feb 08 | Mar 08 | Apr 08 | Mai 08 | Jun 08 | Jul 08 |
| Left Lane | 63,69 | 72,00 | 81,10 | 115,35 | 231,85 | 346,27 | 318,08 | 89,58 |
| Middle Lane | 3,00 | 11,33 | 18,53 | 26,33 | 35,075 | 214,625 | 43,12 | 26,00 |
| Right Lane | 59,30 | 63,63 | 69,33 | 64,19 | 116,075 | 111,195 | 88,45 | 153,13 |
| Total | 125,99 | 146,95 | 168,95 | 205,87 | 383,00 | 672,09 | 449,65 | 268,71 |
| Comments | | | | | | | | |
| Target Value | 220 | | | | Target achievement by: | 02/2009 | | |
| Next Indicator's measurement: | 20/09/2008 | | | | | | | |

Operator's
Performance

An integrated and sensible KPI system is the best
"yard stick"
for monitoring the toll road operations.



Hellenic Association of Toll Road Network "HELLASTRON"





At **"HELLASTRON"**
we believe that Maintaining
the Level of Service for Tollway Customers

CREATES and **RETURNS**
the best **VALUE**
for the **TOLL** paid by the user.



Charalampos M. Malimoglou,
Technical Advisor, Hellenic Association of Toll Road Network, HELLASTRON
Operations Manager, InVision Consulting S.A.