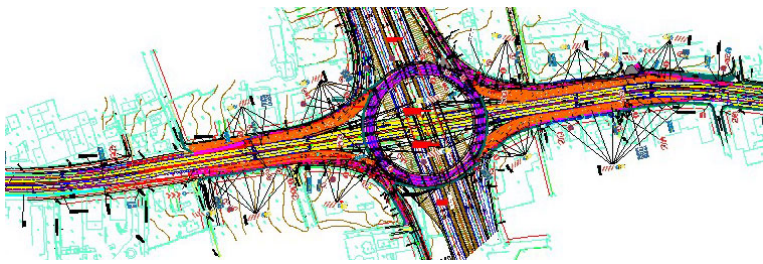


Maintenance of Work Zones during the construction of “Attica Road”



The existing network for transportation in Attica has been formed actinically from the city centre to the suburbs. As a result, all the movements are carried out via the centre, creating traffic congestion and bad environmental conditions. This problem of Athens and the Attica basin was solved through the construction of the Regional Attica Road, which is of vital importance for the upgrade of the quality of life and the viable and balanced growth of Attica.

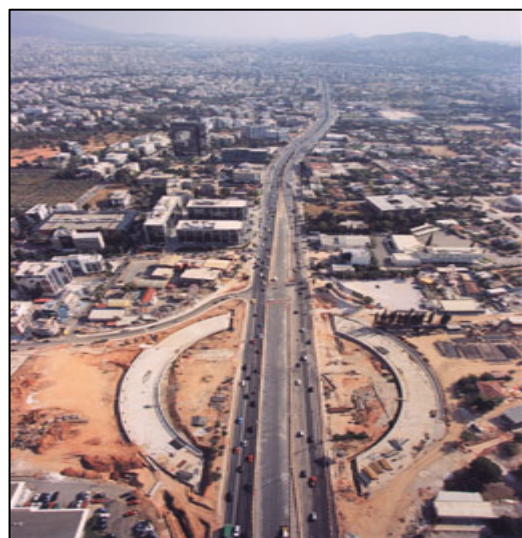


The work, with a total length of 65 km highway and a budget of 1.3 billion drachmas, began in 1997 and it was completed in September of 2006. Therefore it was achieved the connection between the new airport in Spata (Eleftherios Venizelos) to the National Highways of Athens – Patras, Athens - Thessalonica - Evzonon (PATHE) in two points (exit towards South and exit towards North) creating an axis for fast and safe transferring in the Attica basin.

The studies of detouring and traffic signalization have been materialized in almost all the network of the basin (from Elefsina to the Airport of Spata) from where Attica Road passes through. These traffic management studies, provided on one hand temporary solutions during the construction of Attica Road and on the other hand created a massive database with geometrical characteristics of the regional network, traffic loads, problematic points and defined regions where accidents often occur.

The team has undertaken the study of 147 different roadways (existing, new, detours, etc), along the Attica Road, which was primarily two parts:

1. From Elefsina – to the airport “Eleftherios Venizelos Spata
2. Western Regional Imitos Highway (D.P.L.Y.), and the

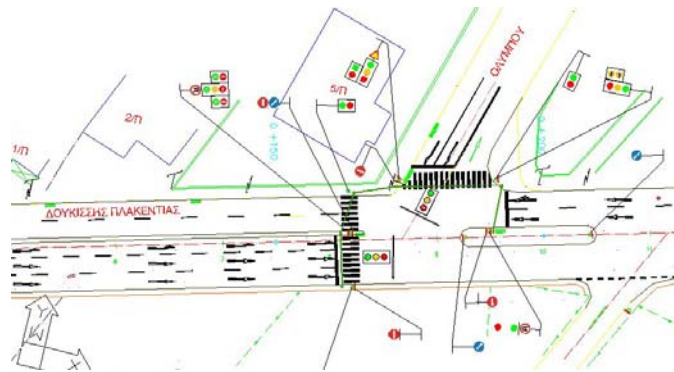


supporting roads connecting with the Elefsis-Airport part
The total length of parallel to the main Attica Road facility,
feeders, local connections, is 152 km.

The study of IMPETUS also included the Traffic Management
during the construction works, with the following functions:

- (a) Analysis of the existing traffic operation conditions.
- (b) Measurement of existing traffic loads, turning movements and Level Of Service analyses (LOS).

Based on the traffic analysis results, scenarios have been
developed to provide support to the Ministry of Public Works, in
order to alleviate chronic congestion problems, reduce traffic accidents and organize, manage and plan the traffic in a
more efficient way. So all facilities, either under rehabilitation and expansion, new, connectors, feeders, overpass
connections, local roads, signalized and non-signalized intersections and roundabouts, etc have been studied in this
extremely large scale and challenging project. IMPETUS was also responsible for the approvals of reports, drawings,
etc from the Ministry of Public Works and the Independent Engineer.



The team has worked on all Attica region, covering
many km of roadway design, but also they have
been cautious on the development of the
construction specifications (tender documents).
These studies have provided support to create a
large database with geometrical characteristics
of the regional network (GIS based), with all
traffic loads, the problematic points, the areas of
frequent accidents, the maintenance of the

facilities, the public networks under the roadways, the signs and many other issues containing needed information for
the facility owners (Ministry of Public Works).

In addition to the functions and tasks described above, the team has also undertaken the following:

- ✓ Realignment of the existing facilities (scale 1/500)
- ✓ Topographical Survey (1/500) – when it was needed
- ✓ Alignment of the Facility (1/500)
- ✓ Vertical Profile (1/100-1/1000)
- ✓ Typical Cross Sections (approved)
- ✓ Cross Sections every 20 m – scale 1/50
- ✓ Cadastral – when it was needed (1/500) for relocation of private properties utilized for the expansion or the new facilities
- ✓ Cadastral reassignment (public and private properties) and issue new land or financial values for all pieces of land impacted
- ✓ Tender documents for the construction of the facilities, rehabilitation, etc (7 different types of tender documents)
- ✓ Various types of Health & Safety Plan (based on EU's specifications)