



THE EXTENSIONS PROGRAMME OF ATHENS METRO

PRESENTATION AT THE ISIGE – UTNA COLLOQUE
ASPECTS D' ATHENES: ARCHITECTURE – URBANISME – TRANSPORT - SOCIETE
Athens , March 4th, 2009

George Yannis, Ass.Professor NTUA
Chairman of ATTIKO METRO S.A.

PRESENTATION STRUCTURE

- The Company and its Institutional Set-Up
- Current State of Development and Future Projects
- Project Management
- Socio-economic Impact



ATTIKO METRO S.A. (AM)

The Company and its Institutional Set-up



ATTIKO METRO S.A. (AM)

LEGAL FRAMEWORK

- Attiko Metro S.A established in July 1991 as a legal entity under private law (Law 1955).
- The Greek State is the sole shareholder of Attiko Metro.
 - Attiko Metro is supervised by the Ministry of Environment, Physical Planning and Public Works (YPEHODE).
- Attiko Metro Operating Company (AMEL) was established in 1998 as a subsidiary of Attiko Metro for the operation, maintenance and business exploitation of the new Metro lines and their extensions.
- In December 2003 Attiko Metro was assigned the responsibility for the Thessaloniki Metro.
- In 2002 the construction of Parking Facilities and Transfer Stations serving the Metro lines was assigned to Attiko Metro.



ATTIKO METRO S.A.

THE COMPANY'S OBJECTIVES

- Efficient implementation of Metro Projects in Athens and Thessaloniki through:
 - Sound planning and design of the Metro system parameters
 - Implementation of state-of-the-art international construction, safety and operation standards
 - Organization and systematic *in situ* supervision in all project phases.
- Securing the public interest by means of:
 - Strict adherence to all contractual obligations of the Contractors (scope, cost, time schedule of the project)
 - Full adherence to Greek and European Legislation in all planning, design, tendering and project construction phases
 - Securing the necessary conditions for high level competition and equal opportunities for all bidders.



CURRENT STATE OF DEVELOPMENT & FUTURE PROJECTS



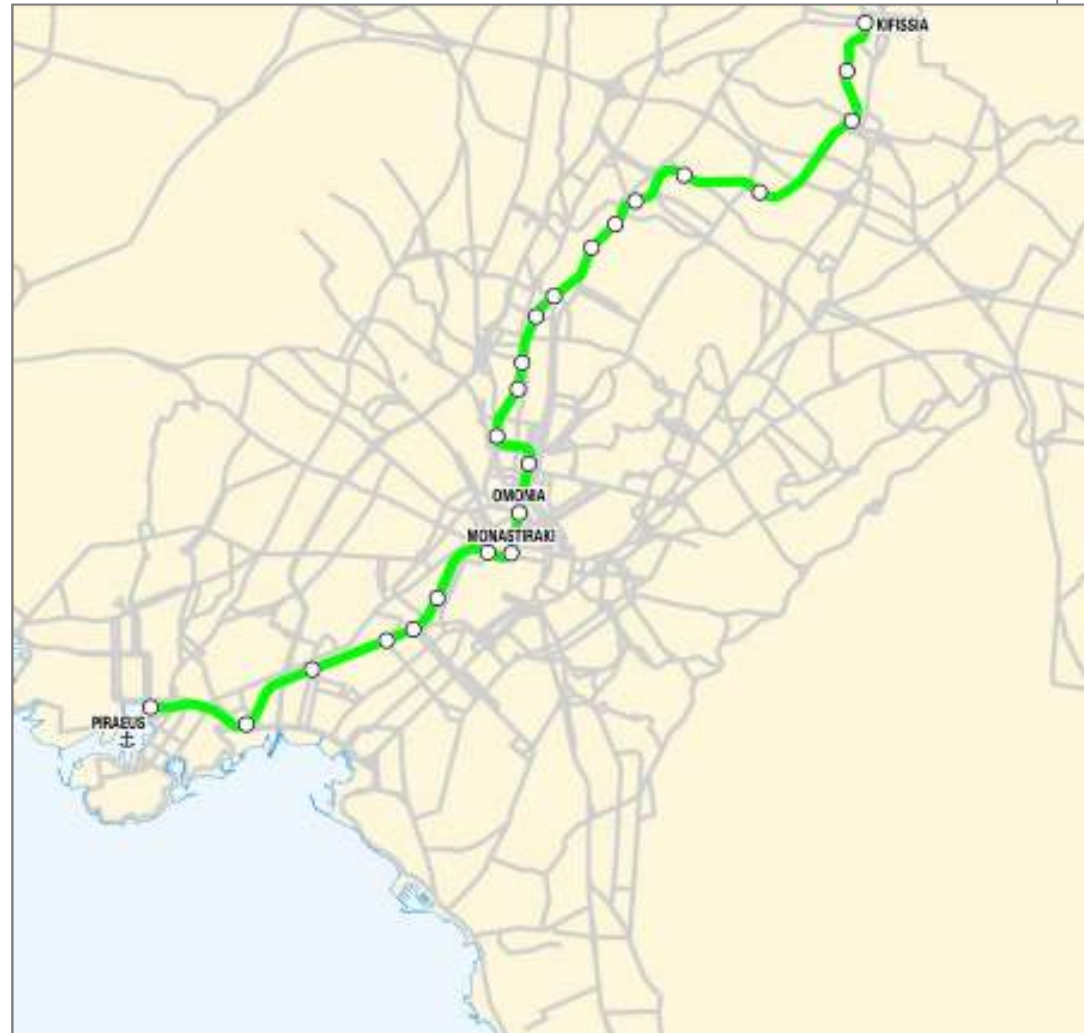
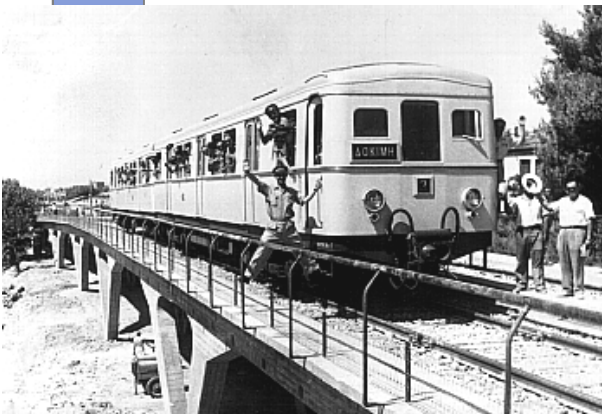
ATHENS METRO



ATHENS METRO

LINE 1 - ISAP

- ✓ 26 km long
- ✓ 24 stations
- ✓ 3.1 km of underground line
- ✓ In operation since 1869
- ✓ 450,000 passengers/day





ATHENS METRO

BASE PROJECT

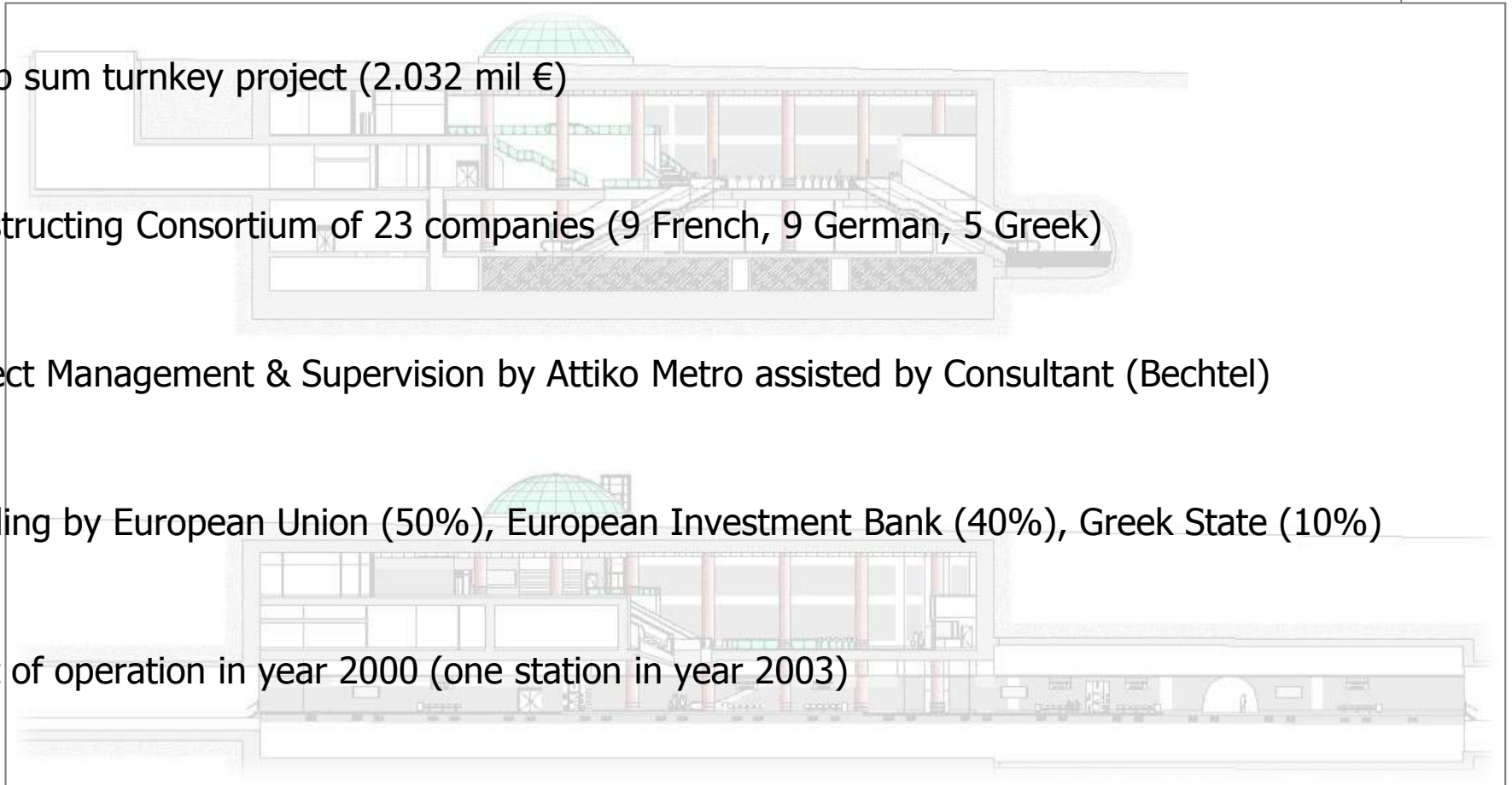
BASE PROJECT		LENGTH (km)	STATIONS
Line 2	Sepolia – Dafni	9.2	12
Line 3	Monastirakii – Ethniki Amyna	8.4	8
TOTAL		17.6	20



ATHENS METRO

BASE PROJECT

- Attiko Metro established in 1991 and works started in 1992
- Lump sum turnkey project (2.032 mil €)
- Constructing Consortium of 23 companies (9 French, 9 German, 5 Greek)
- Project Management & Supervision by Attiko Metro assisted by Consultant (Bechtel)
- Funding by European Union (50%), European Investment Bank (40%), Greek State (10%)
- Start of operation in year 2000 (one station in year 2003)



ATHENS METRO

EXTENSIONS PHASE A (2004)



ATHENS METRO

EXTENSIONS PHASE A (2004)

		Line Length (Km)	Stations	Project Cost (mil. €)	Funding
EXTENSIONS PHASE A (2004)		29.2	5	611	
Line 2	Sepolia – Ag.Antonios	1.4	1	106	C SF
Line 2	Dafni – Ag.Dimitrios	1.2	1	118	C SF
Line 3	Ethniki Amyna – Plakentia	5.9	2	335	C SF
Line 3	Plakentia – New Airport*	20.7	1	52	C SF

* Suburban Railway Infrastructure



ATHENS METRO

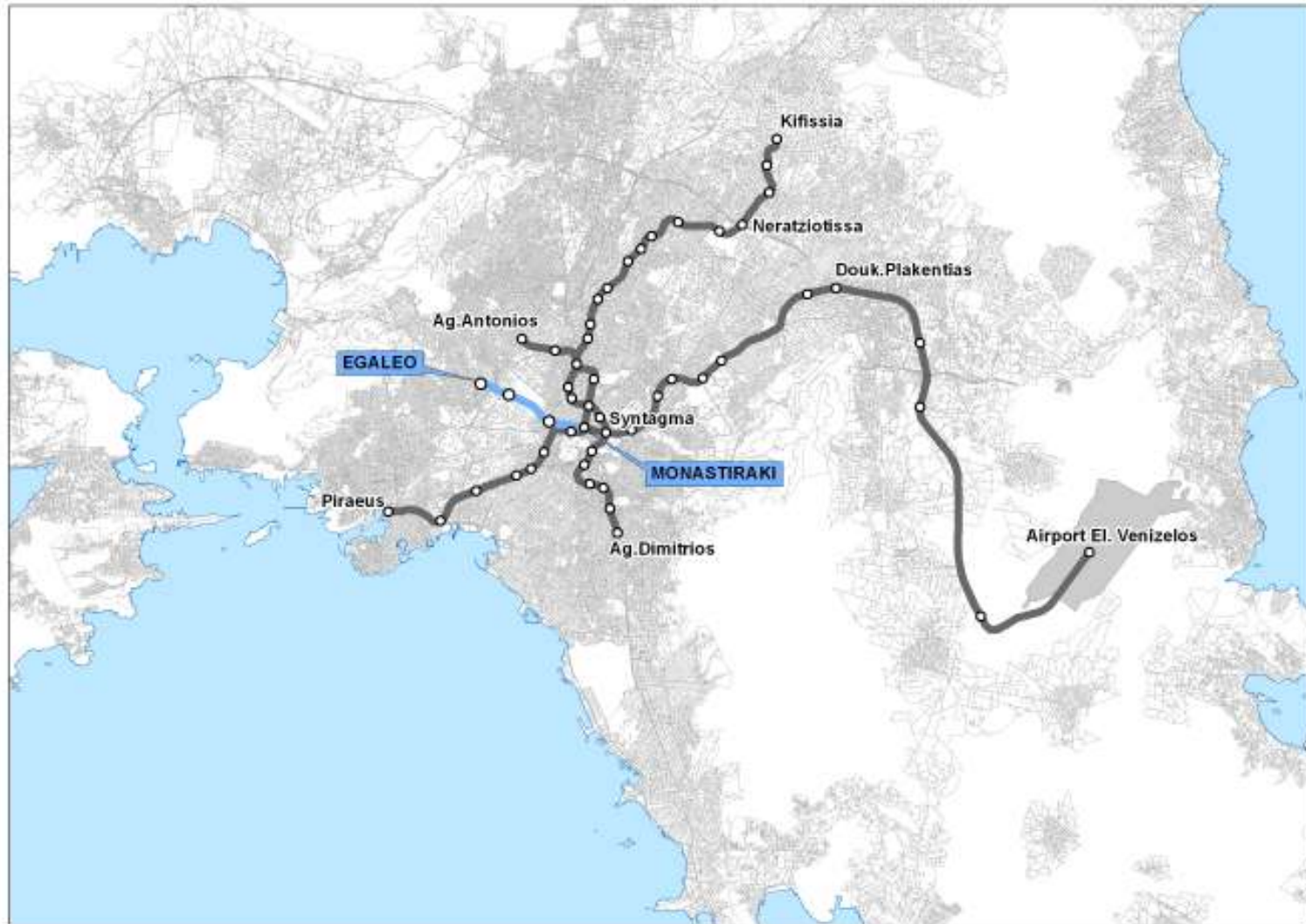
EXTENSIONS PHASE A (2004)

- Extensions aimed to be ready for the Olympics
- 8.5 Km of Metro line extensions and 4 stations
- Additional station at the new Airport of Athens shared with Commuter Rail
- Additional depot (stabling facilities) near Plakentias station
- 21 additional trains (seven dual voltage air-conditioned trains running on both Metro and Suburban Rail lines)
- Coordination of multiple contractors by Attiko Metro
- Construction duration 4 years
- Funding similar to Base Project



ATHENS METRO

EXTENSIONS PHASE A (2007)





ATHENS METRO

EXTENSIONS PHASE A (2007)

		Line Length (Km)	Stations	Cost (mil. €)	Project Completion	Funding
Line 3	Monastiraki-Egaleo	4.3	3	400	2007	C SF – RAPUD



ATHENS METRO

PROJECTS IN OPERATION

- 650,000 passengers / day (average number of passengers in the network in 2007)
- 51,1 km of network in total
- 31 stations in total (27 stations + 4 used in common with the Suburban Railway)

INDICATIVE TRIP DURATION:

- HALANDRI-SYNTAGMA: 15 min
- EGALEO-SYNTAGMA: 7 min
- Airport-SYNTAGMA: 37 min
- Airport-Piraeus: <60 min (one transfer)

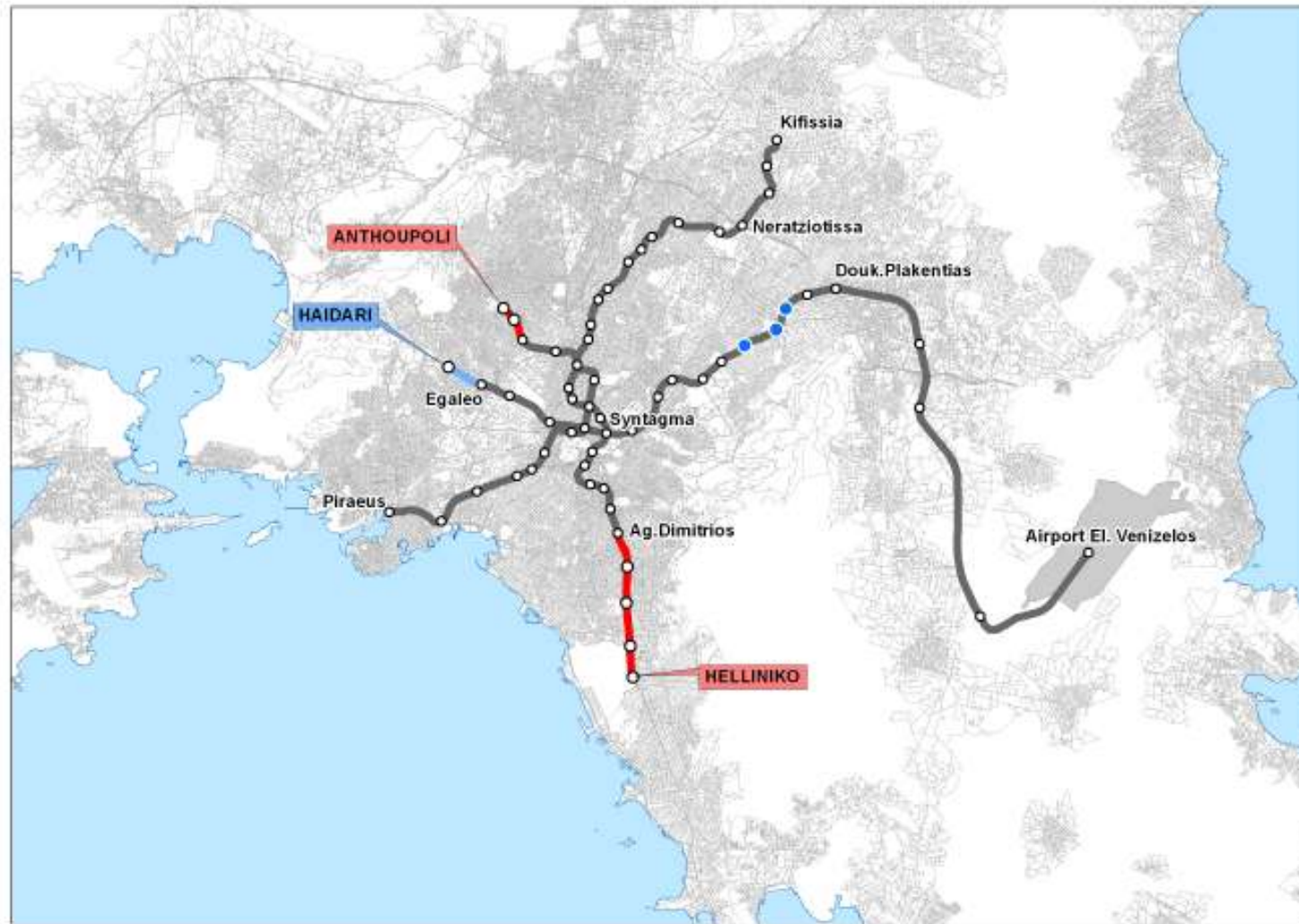
TRANSFER:

- Line 2 – Line 3: 1 station (SYNTAGMA)
- Line 1 – Lines 2,3: 3 stations (MONASTIRAKI, OMONIA, ATTIKI)
- SUBURBAN RAILWAY – Lines 2,3: 1 station (DOUKISSIS PLAKENTIAS)

ATHENS METRO

EXTENSIONS PHASE B (2008-9)

under construction





ATHENS METRO

EXTENSIONS PHASE B (2008-9)
under construction

		Line Length (Km)	Stations	Cost (mil. €)	Project Completion	Funding
PROJECTS		8.5	10	833		
Line 2	Ag.Dimitrios-Elliniko	5.5	4	400	2009	Cohesion Fund
Line 2	Ag.Antonios-Anthoupoli	1.5	2	125	2009	C SF – RAPUD
Line 3	Egaleo-Haidari	1.5	1	121	2009	C SF – RAPUD
Line 3	Stations Holargos, Nomismatokopecio, Ag.Paraskevi		3	87	2008-2009	C SF – RAPUD
Line 3	Eleonas Depot			100	2009	C SF – RAPUD



ATHENS METRO

EXTENSIONS UNDER CONSTRUCTION

Ag. Dimitrios – Elliniko

- Tendering : February 2005
- Signing of the Contract : March 2006
- Commencement of construction works : May 2006
- Anticipated commissioning (based on the time schedule) : End 2009

Ag. Antonios – Peristeri - Anthoupoli

- Tendering : November 2004
- Signing of the Contract : June 2006
- Commencement of construction works : September 2006
- Anticipated commissioning (based on the time schedule) : End 2009



ATHENS METRO

EXTENSIONS UNDER CONSTRUCTION

Egaleo – Haidari

- | | |
|--|---------------|
| • Tendering : | October 2004 |
| • Signing of the Contract : | February 2006 |
| • Commencement of construction works : | November 2006 |
| • Anticipated commissioning (based on the time schedule) : | End 2009 |

Stations: Holargos, Nomismatokopio, Ag. Paraskevi

- | | |
|--|-------------------------------|
| • Tendering : | January 2005 |
| • Signing of the Contract : | March 2007 |
| • Commencement of construction works : | April 2007 |
| • Anticipated commissioning (based on the time schedule) : | 2008-2009 (gradual operation) |



ATHENS METRO

EXTENSIONS UNDER CONSTRUCTION

- 150,000 additional passengers / day in the network (800,000 total daily ridership)
- Extensions of both Metro Lines
- + 8.5 km \Rightarrow 59.6 km of network in total
- + 10 stations \Rightarrow 41 stations in total

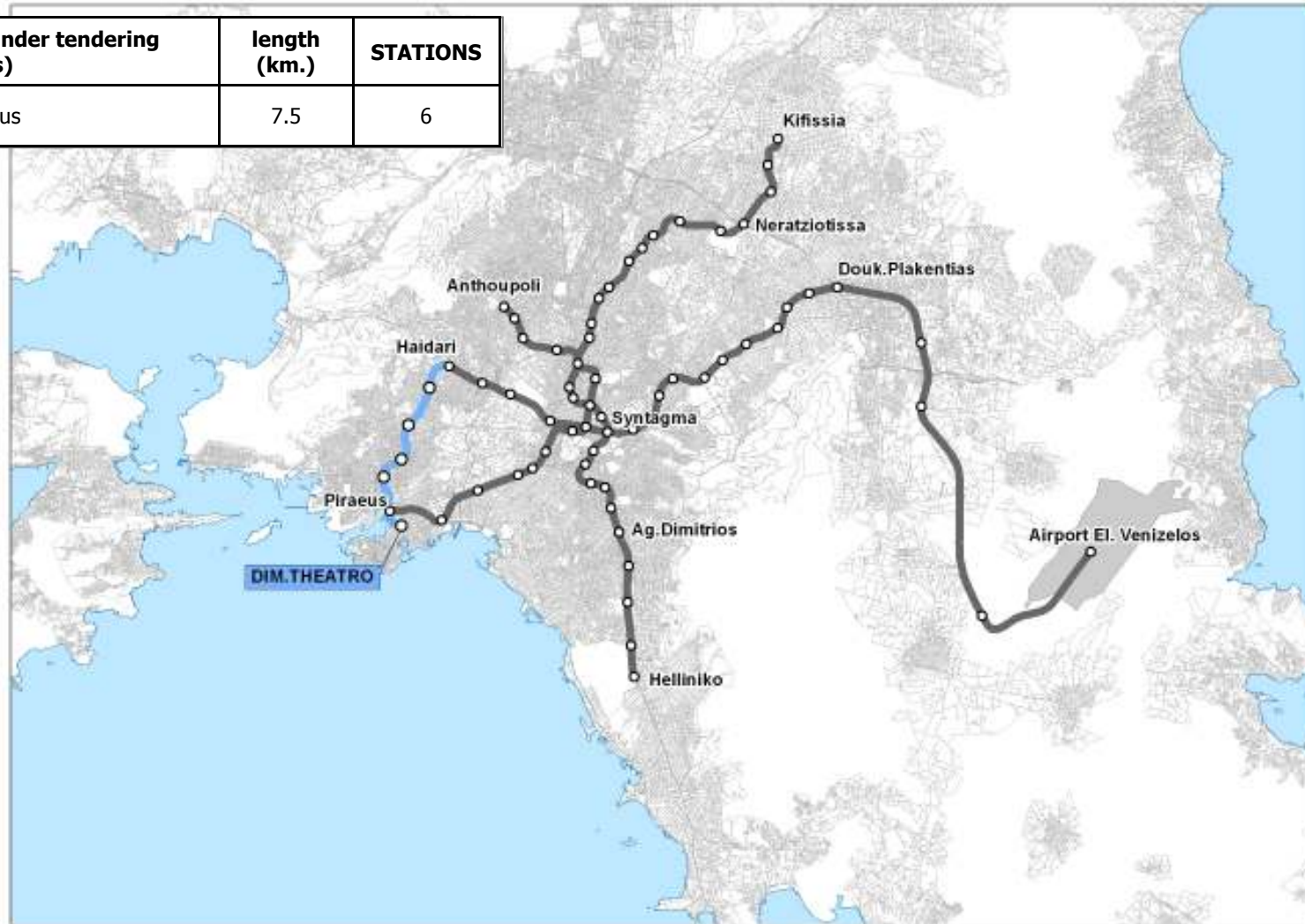
INDICATIVE DURATION OF TRIPS:

- NOMISMATOKOPIO-SYNTAGMA: 10 min
- ANTHOUPOLI-SYNTAGMA: 11 min
- ELLINIKO-SYNTAGMA: 14 min
- HAIDARI-SYNTAGMA: 8 min

ATHENS METRO

NEW EXTENSIONS (under tendering process)

NEW EXTENSIONS (under tendering process)		length (km.)	STATIONS
Line 3	Haidari – Piraeus	7.5	6





ATHENS METRO

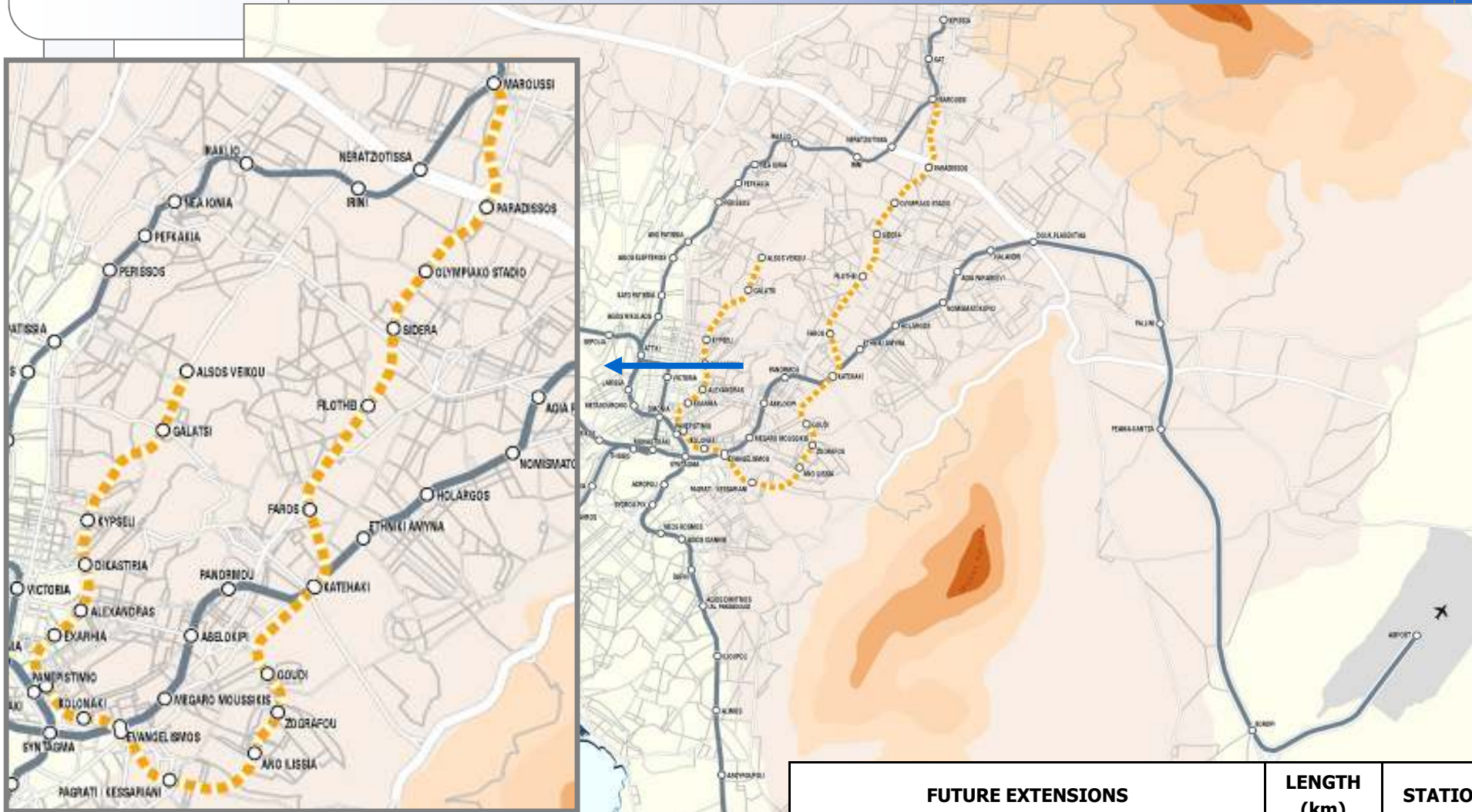
NEW EXTENSIONS (under tendering process)

- Haidari – Piraeus: 160,000 additional passengers / day
- + 7.5 km \Rightarrow 67.1 km of network in total
- + 6 stations \Rightarrow 47 stations in total

The first phase of the Tender has been completed, while all candidates who had expressed interest were pre-qualified. The second phase of the Tender (submission of financial offers) shall commence in June 2008. It is anticipated that the Tender will be completed at the end of 2008 (on condition that no objections, appeals, etc. are filed by the bidding technical companies), while the construction of this extension of Athens Metro Line 3 will commence right afterwards.

ATHENS METRO

FUTURE EXTENSIONS



FUTURE EXTENSIONS		LENGTH (km)	STATIONS
Line 4	Alsos Veikou – Panepistimio – Maroussi	20.9	20



ATHENS METRO

FUTURE EXTENSIONS – LINE 4

- Line 4: over 400,000 additional passengers / day
- Provide transportation service to densely populated areas of the city (Galatsi, Kypseli, Pangrati, Kaissariani, Zografou, areas adjacent to Kifissias Avenue, etc.).
- Provide transportation services to many important facilities: Hospitals (Paidon, Laiko), University Foundations (University Campus, Technical University Campus, University & Technical University in the city center) and Courts.
- 3 new correspondence services with the existing Metro lines (Line 3 : KATEHAKI, EVANGELISMOS & Line 2: PANEPISTIMIO) and one new correspondence with ISAP line (MAROUSSI Station).
- + 20.9 km \Rightarrow 88 km of network in total
- + 20 stations \Rightarrow 67 stations in total



ATHENS METRO

LINE 4 - FUNDING

- Line 4: Funding the Project through the securitization of Attiki Odos future toll revenues is under consideration
- Advantages of funding scheme:
 - “Polluter pays principle” – “Dirty car” pays for “green Metro” as revenues raised from Attiki Odos are used to fund capital expenditure of Metro Line 4
 - Readily available funding
 - Value for money for the State
 - No burden on public deficit.





ATHENS METRO

COMPREHENSIVE TABLE (Project Details)

	Metro Underground Lines (km)	Metro Stations
Base Project (March 2004)	17.6	20
Olympic Games Extensions (2004)	8.5	4
Extension to Egaleo	4.3	3
In operation until the present date	30.4	27
Currently under Construction	8.5	10
Under the Tendering process	7.5	6
Metro Line to the Airport	20.7	4
Line 1 – ISAP	26	24
ATHENS METRO – GRAND TOTAL	93.1	71



ATHENS METRO

TRANSFER STATIONS & PARKING FACILITIES FOR PRIVATE VEHICLES

EXISTING PARKING FACILITIES FOR PRIVATE VEHICLES & TRANSFER STATIONS TO/FROM BUS LINES

1. **SYNGROU-FIX Transfer Station**

- An underground car park area consisting of 6 levels, with a total capacity of 642 parking spaces
- OASA bus transfer station, which shall be the terminus for 1 bus line, while 15 other bus lines and 2 tramway lines shall pass through the transfer station.
- Shops

2. **KATEHAKI Transfer Station**

- An open-air car park area with a total capacity of 240 parking spaces
- OASA bus transfer station, where there are 5 bus line terminuses, while there are 10 bus lines passing through the transfer station

3. **ETHNIKI AMYNA Transfer Station**

- An open-air car park area with a total capacity of 300 parking spaces
- OASA bus transfer station, which shall be the terminus for 8 bus lines, while 12 other bus lines shall pass through the transfer station.

4. **DOUKISSIS PLAKENTIAS Transfer Station**

- Two (2) surface parking facilities with a capacity of 270 and 360 parking spaces, respectively.
- OASA bus transfer station, which shall be the terminus for 10 bus lines, while 5 other bus lines shall pass through the transfer station.

5. **HALANDRI Transfer Station**

- Surface car park area with a total capacity of 280 parking spaces
- OASA bus transfer station, which shall be the terminus for 3 bus lines and 2 trolley lines, while 1 more bus lines shall pass through the transfer station

6. **DAFNI & AGHIOS DIMITRIOS / ALEXANDROS PANAGOULIS Transfer Station**

Each one of these stations includes only one OASA Bus Transfer Station; in particular:

- **DAFNI** Transfer Station: terminus for 10 bus lines, while 7 more bus lines shall pass through this station
- **AGHIOS DIMITRIOS / ALEXANDROS PANAGOULIS** Transfer Station: terminus for 1 bus line, while 16 more bus lines shall pass through this station



ATHENS METRO

TRANSFER STATIONS & PARKING FACILITIES FOR PRIVATE VEHICLES

UNDER CONSTRUCTION – 1.295 parking spaces

- HAIDARI Station : 380 parking spaces, Transfer Station
- NOMISMATOKOPIO Station : 630 parking spaces, Transfer Station
- KERAMIKOS Station : 285 parking spaces

NEW PARKING FACILITIES UNDER CONSIDERATION OR DESIGN – 7.780 parking spaces

- ETHNIKI AMYNA Station
- HALANDRI Station
- DOUKISSIS PLAKENTIAS Station
- ELEONAS Station 1
- AG. PARASKEVI Station
- HALANDRI Station
- ANTHOUPOLI Station
- ILIOUPOLI Station
- ALIMOS Station
- EGALEO Station
- ELEONAS Station 2
- HAIDARI Station
- AG. VARVARA Station
- ELLINIKO Station
- ARGYROUPOLI Station





ATHENS METRO

METRO DEVELOPMENT STUDY

- Attiko Metro is currently updating the Metro Development Study, i.e. the Transportation Planning Study for Attica taking into consideration all the transport systems in the region.
- The Metro Development Study will examine alternative projects and programs and it will propose the Athens Transport Infrastructure Plan for the Attica Transportation System up to the year 2030.
- The Metro Development Study will justify and propose the new Metro lines required in the Athens metropolitan area.



PROJECT MANAGEMENT

PROJECT PREPARATION

- Early and sound preparation is an essential parameter for the successful implementation of projects.
- Preparation includes:
 - Careful and reliable planning well in advance, in order to identify, evaluate and finally select the most beneficial projects in respect of a well-coordinated Transportation Plan
 - Project Preliminary Design
 - Feasibility and Environmental Impact Studies based on the results of the aforementioned Planning and Preliminary Design Studies
 - General Final Design Studies and Technical Specifications
 - Tender Documents usually based on the General Final Design.

ADHERENCE TO GREEK & EUROPEAN LEGISLATION

Successful and positive outcome in mandatory controls/checking performed by 15 National and European independent bodies:

European Authorities

1. European Commission
DG for Internal Market & Services
2. European Commission
DG REGIO
3. European Court of Auditors
4. EIB

Greek Authorities

5. Greek Parliament
6. Greek Civil Courts
7. Council of State
8. Court of Audit
9. Managing Authorities of Operational Programs
10. Ministry of Economy – General Secretariat of Investments & Development
11. State Committee of Fiscal Control
12. Revenue Office and Social Security Authorities
13. The Greek Ombudsman
14. Chartered Auditors
15. Independent Consultant of Infrastructural Quality Control



SOCIO-ECONOMIC IMPACT

SOCIO-ECONOMIC IMPACT

- High Level of Service
- Socio-economic Effectiveness
- Effectiveness in Changing Travel Behavior
- Travel Time Savings
- Positive Impacts to the Environment
- Positive Employment Effects
- Revealing the Cultural Heritage
- Upgrading the urban areas near Stations



ATTIKO METRO STRENGTHS

- The knowledge
- The Procedures
- The people

