

THINKING “INSIDE” THE BOX (AND BUDGET): ALTERNATIVE WAYS TO PRESERVE THE BYZANTINE ANTIQUITIES WHILE RETAINING THE OPERABILITY OF THE VENIZELOU - THESSALONIKI METRO STATION

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ABSTRACT

The new Thessaloniki Metropolitan Railway infrastructure is a challenging engineering project of 1.1 billion € investment, in a difficult engineering environment due to the proximity with the sea side and the exposure to a considerable level of seismic hazard. Above all, the construction of the main Metro line is faced with the challenge to accommodate the fact the city has been historically built over different layers, each one corresponding to a different era: Macedonian (Hellenistic), Roman, Byzantine, Ottoman and modern Greek. Recently, significant archeological findings were revealed at the Venizelou Metro station involving the 75m long and 5.5m wide, Byzantine *Decumanous* road, also called *Middle Road* (*Μέση Οδός*) of Thessaloniki built by the Roman emperor Galerius in the 4th Century and reconstructed two centuries later. Next to it, the four pillars of the most important crossroad of the city at the time, this of the Middle Road with another significant pathway, *Cardo* were also discovered; This spot essentially marked the commercial heart of the ancient city right below the commercial heart of the today's one. The historical and cultural significance of these findings raised the question of whether the construction of the Metro station was indeed feasible without detaching and transferring the archeological findings elsewhere. The necessity to keep the construction within the limits of the initial design and the already constructed perimeter diaphragm walls, posed an additional constraint to the engineering problem on top of the tight already limiting budget and time constraints. This paper reviews the engineering problem and describes the proposal made by the Department of Civil Engineering when it was assigned by the Aristotle University of Thessaloniki the task to investigate alternative solutions on the basis of their feasibility, cost over and respective benefit. It was shown that, it is indeed feasible from both a technical and a financial view point to preserve the vast majority of the findings while keeping the construction within the topological and budget limits, by detaching the antiquities, proceeding to the construction of the lower layers up to the level of -6m and then placing back more than 70% of the findings to their original position. It is deemed that this proposal contributed significantly to the ongoing public discussion between the local and governmental authorities as it demonstrates feasible solutions towards the remarkable coupling of the modern city with its own past.



Figure 1: Byzantine archeological findings at the “Venizelou” Metro Station (left) and engineering proposal for

preserving them onsite after appropriate redesign of the station