Increasing Urban Resilience of Athens’ Historic Center

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Literature Review: What a “Resilient City” is? (1)

A Resilient City goals in making

Problematic urban areas

More flexible & efficient in facing disasters

DEVELOPMENT

People protection

Properties Protection
Literature Review: Principles for a Resilient City

- Develop in a way that is transit supportive
- Provide the needs of daily living, within walking distance
- Prioritize walking
- Transport Sustainable Mobility

Environment
- Conserve and enhance the health of natural systems
- Enhance the effectiveness & safety of technical and industrial systems to increase energy efficiency & reduce environmental footprint
- Develop building types & urban forms with reduced servicing costs
- Produce the resources in close proximity

Urban Planning
- Embrace density, diversity and mix
- Enhance and create strong, vibrant places
- Plan for redundancy & durability of their life safety and critical infrastructure systems

Community Engagement
- Require the active participation of community members
Aim and Objectives

Aim

Increase awareness
Disaster risks
Need for enhancing
Disaster preparedness
Improving responsiveness

Objectives

Preparation for protection against negative impacts of a possible disaster in this area. For this particular scope, the following spatial parameters are investigated:

- Which are the **free spaces** in the center of Athens and what locations may be utilized as **potential** and **temporary gathering spaces** in case of emergency?
- Which is the **zone of influence** that may be efficiently served by each of these selected potential gathering spaces?
- Which are the **shortest routes** that may best serve specific types of vehicles in case of emergency?
Methodology

**Definition of the case study area**
the central historic zone of Athens | preserved traditional morphology (18th Century) | linear neoclassical influences (19th Century) | a compact neighborhood | small plots with narrow streets | centrality

**Analysis of the current situation**
Field research | geometrical characteristics of the street network | land uses | existing open spaces
Literature review | spatial analysis tools (Thiessen Polygons) | Design Software (AutoCad, Q-GIS & Photoshop CS5)

**Findings-Proposal**
The proposal is focused on the identification of the hosting potential of the various open public urban spaces including the open private spaces, and their possible usage in case of emergency situations.
Analysis of the Existing Situation (1)

Many small open spaces (OS) in the denser area

A few big OS on the northern part
- Streets were classified into 4 categories according to their width
- A large number of them may be considered as accessible by emergency vehicles
Findings and Proposals (1)

A large number of streets - due to their width - may be considered as accessible by emergency vehicles. However the on-site research has found that:

(a) the actual operational width of some streets is substantially limited due to both legal and illegal street parking, even on narrow streets, and
(b) emergency vehicles, due to their size, when moving through such streets face additional difficulty caused by a lack of proper signage.
Findings and Proposals (2)
Findings and Proposals (3)

Today

Proposal
Findings and Proposals (4)
Findings and Proposals (5)

Installation of “smart boards”: dual role
Common information boards and providers of information about the nearest “temporary shelter areas”/directions – nearby hospitals and health centres
Conclusions

- Natural disasters are matters on which modern cities must focus and require specific spatial data infrastructure to be prepared.

- A resilient city is a model which is combined with models of sustainable, economic and social models of city.

- Athens cannot function as a “resilient city” (narrow roads, extensive vehicular traffic, roadside parking and the absence of signage) – Opportunities (i.e. many open spaces).

- Our proposals focus on: (a) making Athens more flexible in dealing with natural disasters, (b) improving pedestrian conditions and promoting sustainable mobility and (c) social interaction.

- Research should be continued to provide the necessary spatial data infrastructure and identify the most appropriate measures that would function well in the various types of disasters.
Thank you!

Bakogiannis E., Kyriakidis C., Siti M., Milioni T. & Potsiou C.

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