OGC Project Document 14-027r1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| TITLE: | | Urban Planning Domain Working Group Charter | | |
| Authors: | |  | | |
|  | Name: | | Organization: | Email: |
|  | Martin Ford | | GIStandards | martin@gistandards.eu |
|  | Giuseppe Conti | | Trilogis Srl | giuseppe.conti@trilogis.it |
|  | John Herring | | Oracle USA | john.herring@oracle.com |
| Date: | | 11 June 2014 | | |
| CATEGORY: | | Domain Working Group | | |

# Introduction

This DWG charter defines the role for OGC activities within the Urban Planning Discipline and to provide an open forum for the discussion and presentation of interoperability requirements, use cases, pilots, and implementations of OGC standards in Urban Planning.

For Urban Planning in particular, heavy emphasis will be on system issues of:

* Interoperability between disparate applications, especially in the shared data models and processing models
* Smooth transitions and process flows including planning, execution of changes and maintenance of the running ICT system that will support applications line Smart City, Smart Grid and continuous indoor/outdoor navigation

This Charter is to be presented to the OGC’s Technical and Planning committees for consideration.

Urban Planning is a distinct Information Communities that unifies many other domains into a cohesive whole involving many stages of operation from planning, to construction, to maintenance and to support of a urban infrastructure appropriate to the changing character of the urban environment, and defines a user community and application domain where:

1. A distinct market, application or business approach exists
2. Common data definition, structure, syntax, and definitions exists
3. Common user requirements exist
4. Common approach to vendors exists
5. Balances communitarian concerns (to ‘promote the general welfare’) and individual rights.

## Working Group

Operation of OGC DWG follows the policies and procedures of the [Technical Committee](http://portal.opengeospatial.org/files/?artifact_id=23325). The following definitions from the Technical Policies and Procedures apply to this DWG Charter template.

Definition of a DWG: A group (organizationally, a subgroup of the TC) of individuals composed of members of the TC and invited guests, with the specific intent of solving some particular interoperability problem or problems in a particular technology domain for recommendation to the Technical Committee.

Functions of a DWG:

* Provide a forum for discussion and documentation of interoperability requirements for a given information, user or application community;
* Provide a forum to discuss and recommend document actions related to the Interoperability Program.
* Develop Change Requests proposals (CRs) for existing OGC Standards.
* Develop engineering reports with the intent seeking approval by the TC for release of these documents as OGC White Papers, [Discussion Papers](#_Discussion_Papers) or [Best Practices Papers](#_Best_Practices_Documents).
* Informational presentations and discussions about the market use of adopted OGC Standards.
* Have a formal approved charter that defines the DWGs Scope of Work and estimated timeline for completion of the work.

Domain Working Groups:

* have all-member voting policies (unless otherwise stated),
* have defined missions and goals,
* do not work on RFC submissions, candidate standards, or revisions to existing OGC Standards, and
* can develop change requests as document interoperability requirements that can then be submitted as work items to a SWG.

The Urban Planning DWG wish to have public collaboration, in teleconference, email discussions, and a public WIKI. In this case, the DWG shall make a motion to the TC to approve public participation in the DWG. Voting in DWGs is by simple majority of OGC Members present at the WG meeting, not just Voting TC Members, with the caveat that no OGC Member organization may cast more than one vote in a WG vote

# Purpose of the Urban Planning DWG

Urban planning is the design and regulation of the uses of space that focus on the physical form, economic functions, and social impacts of the urban environment and on the location of different activities within it ([Encyclopedia Britannica](http://www.britannica.com/EBchecked/topic/619445/urban-planning)). In general, the purpose of urban planning is to improve the human geography of the designed environment; that is to facilitate how human activity affects or is influenced by the geography of urban space, including transportation, communication and utility networks, to ensure the orderly development and optimal use of urban space.

In today’s world this also means to understand and facilitate the communication of information about the urban space with the users of that space; to use this to optimize those interactions and potentially adjust the designs of that space to better serve those who related to that space (e.g. people living, working or visiting a given space).

Urban planning has been thought of in the past as a government function, but the improvement of communication and the rise of social media is changing that. The public, in general, are no longer pleased to be passive in acceptance of authority. Because of this, and other societal trends, the future of Urban Planning will depend on “crowd sourcing” decisions and plans that effect residents. The plan, execution, and maintenance of the urban infrastructure in the purposes to which it is involved will have to balance:

* Communitarian goals (“the common good”) with individual rights (e.g. privacy)
* Efficient management with public involvement and popular control.

Thus, urban planning is a process for the design of the urban environment to ensure the orderly development of communities for the benefit of its inhabitants. A “Smart City” invests in human and social capital and traditional (physical) and modern information, communications technology (ICT) infrastructure to sustain quality of life in the urban environment. Aspects of the “Smart City” can also be seen in the technologies that support Augmented Reality (AR), Smart Grids, Sensor Web Enablement (OGC SWE) and the Internet of Things (IoT). Applications like LBS (Location Based Services), navigation (indoor and outdoor) and “Big Data” Analytics can play important roles in satisfying these targeted requirements.

# Problem Statement

Like many endeavors related to architecture, urban planning began as an art, but the complexities of a modern world have forced it to adopt more scientific approaches in the development of laws of human geography, and how to optimize the design of designed-geographic space to best support human interactions.

For example, according to UN since the end of 2008, more than half of the world’s population lives in urban areas and, by 2050, the world population will exceed 9 billion, most of whom will need to live in urban areas that will have to be designed and used to optimize resource use. The first part of this is the planning of the city, but the second require intelligence use of that plan. The planning and the use of urban areas cannot be dealt with as separate endeavors.

The Urban Planning DWG has to address both issues – the planning of the space and the use of that space. Additionally, societal and economic development have extended the scope of urban planning from “public spaces” to a more general concept of “publicly accessible spaces” regardless whether these are outdoor, indoor or underground (e.g. shopping malls, large underground spaces etc.).

This connects the concerns of urban planning to those of e-government. In general, e-Government is concerned with supplying to citizens electronic services to meet their needs in relationship to the government; mostly concentrated in the as-built environment. The role of urban planning in government is basically two arenas:

1. The improvement of e-government services through a more accurate computer model of the as-built urban infrastructure and environment, allowing for more accurate and efficient delivery of information and related services to the citizen-resident-user-planner.
2. The improvement of the urban infrastructure and environment though using usage information and other public input to optimize the environment to supply resident-citizen needs, while controlling the transitions inherent in the transition between as-built and as-planned configuration.

# Charter

The **mission** of the Urban Planning DWG will focus on system interoperability standards for data and related processing services for urban design, implementation, and maintenance.

## Charter Members.

The initial membership of the Urban Planning DWG will consist of the following members and individuals with extensive education and experience in urban planning issues, namely:

| **NAME** | **AFFILIATION** |
| --- | --- |
| Martin Ford | GIstandards |
| John R. Herring | Oracle USA |
| Giuseppe Conti | Trilogis Srl |
| Jeanne Foust | Esri |
| Leif Granholm | Trimble |

## Key Activities.

The DWG will need to define key activities it intends on undertaking. Examples of such activity might be framed around the following considerations:

1. Determine OGC goals and organizational issues that impact urban planning data, technology and markets.
2. Define the business issues and approaches for OGC to incorporate so that urban planning considerations are brought into proper focus with the OGC Specification initiatives. The approach includes defining business objectives, tasks and schedule. Emphasis of the DWG will be on the integration of application and processing.
3. Define approach for engaging with the urban planning community to enlist their support.

## Business Case

Define the business cases related to interoperability that confront the urban planning community. Examples of issues that might be discussed include:

1. GeoData and support data taxonomy and characterization
2. Data sharing, interface standards and approaches
3. Metadata standards
4. Urban planning analysis models and processing standards
5. Data quality and accuracy
6. Data protection and truth in labeling
7. Data acquisition coordination
8. User education

Define the business case that requires resolution because businesses that are engaged in urban planning related activities view them as an obstacle for growth.

Define what measures OGC should consider for developing guidelines that address business case issues and that lead to or suggest that process-related standards and other intervention strategies available via consortia approaches will best support the infrastructure of the information community to come together and to inform information community consumers.

At a very practical level, one of the strong requirements we are aware of, as developers of GIS solutions for urban planners, is the definition of a standardized encoding mechanism to formally model legal requirements i.e. urban plans. Current standards always focus on the data that will be used to “populate” those plans (e.g. CityGML) but no standard provides support for encoding of all the “rules” within urban plans.

This requirement should be addressed through the development of a new urban Planning Mark-up Language (in short PML) standard together with a reference implementation. The development of such a standard encoding would allow for instance to predict impact of changes of urban laws (i.e. the urban plans) at territorial level, (for instance to assess the effect of being able to build an extra floor in areas of the city that meet specific requirements). PML-compliant software in fact could “load” the new specifications and simulate the effect over the city, for instance creating a new CityGML model of the city (with taller buildings wherever appropriate). This new model could be used to simulate environmental impact (e.g. in terms of solar potential, urban ventilation, traffic flow etc.).

# Organizational Approach and Scope of Work

## Urban Planning DWG Business Goals

The Urban Planning Domain Working Group will need to establish a set of business goals that frame the basis for determining the nature and type of recommendations made to OGC, framed around the above mentioned business issues. Examples of the types of discussion for framing goals include

1. Efforts should focus on working Urban Planning issues and problems that result in a net gain for the community.
2. Minimize technical distinctions between Urban Planning data processing systems that use geography, as this can lead to artificial barriers that limit the potential of all segments of the information community to come together and fully prosper.
3. Avoid placing artificial technical barriers on use of Urban Planning data.
4. Establish the means by which OGC can achieve interoperability and yet preserve the proprietary nature of data.
5. Define the supporting infrastructure for the community to achieve these goals.

## Urban Planning DWG: Mission and Role

The Urban Planning DWG will concern itself with technology and technology policy issues, focusing on geodata information and technology interests as related to Urban Planning and the means by which those issues are appropriately factored into the OGC standards development process.

1. The **mission** of the Urban Planning DWG will focus on system interoperability standards for data and related processing services for urban design, implementation, and maintenance under the auspices of OGC.
2. The **role** of the UP DWG to present, refine and focus application and system integration and interoperability- issues related to the Technical Committee.

## Activities planned for Urban Planning DWG

Define **scope of work and tasks** in terms of interoperability approaches for OGC Technical Committee consideration, define how this is to complement existing efforts and results produced by the OpenGIS Project, resulting in a specification for all forms of geospatial data and geoprocessing services. The following points should be discussed under scope of work and tasks

1. Define how the DWG will act as an impetus for the creation of whole new modes of operation and economic behavior which will influence the way businesses and governments operate in URBAN PLANNING business activity. These could include business rules, standards and interfaces that must be common across a multidisciplinary and fragmented geographic information community, as well as conformance processes pertaining to URBAN PLANNING data and technology.
2. Define DWG membership objectives
3. Define how user communities, both current and potential, should have access to the working group so that requirements and technology issues are addressed and results do indeed provide the technology they need.
4. Define technical tasks to be undertaken by the DWG

# References