Summary

Problem
It is difficult for both the general public and city employees to readily acquire an up-to-date and complete answer when they ask "what use is permitted in this location" or "what is going to be built in that location". Municipalities generally store this information in different ways and in different locations; one has to visit several departments to get an exhaustive answer.

Target
Target is to provide recommendations as to getting fast and accurate answers to the questions "what use is permitted in this location" or "what is going to be built in that location". In the current Internet era, such information should be published in a map viewer of the municipal website such that the general public has direct access to this information. Similarly, city employees should be able to find the answers on the intranet map viewer and provide the information on paper to those without Internet access.

Environment
Recent developments such as the basic registrations of topography, addresses, buildings, and the digital zoning plans should be considered examples to follow on. Two registrations can be added. The connecting component is the geometry, which provides a uniform interface such that all features of an object or area can be accessed by a map viewer. Only if these features are stored in a spatiotemporal database management system can the geo-information be automatically shown in a map viewer.

Means
In order to achieve the target three intertwining components are required. Firstly, information as to "what use is permitted in this location" has to be stored in an Urban Policy registration. Secondly, the information as to "what is going to be built on that location" has to be stored in a Building Projects registration. Finally, the geo-information from these registrations can be accessed with map viewers, both in and intra- and internet setting through a "Geographic Information Infrastructure". By means of a literature and empirical search the optimal properties of the three components are obtained and thoroughly summarized.

Research
The introduction of something new is called innovation. The Technological Innovation System is a research method, which describes seven key processes that explain the successful development of new systems. For each key process one can determine in five steps whether it should be started or whether the action is running in an optimal fashion. When all key processes are running in an optimal fashion, the users will be satisfied and the innovation has been successful.
The research population includes stakeholders of the abovementioned components in the twelve largest cities in the Netherlands. By means of interviews they were asked to describe the status of each key process per component.

Results
The answers of the stakeholders are translated to score tables per component. The results provide insight into the developments per component per city. Comparing these results sheds light on the question which components in which cities are more developed than others. The interviews have also produced some "best practices" of stakeholders who are already working on the development of one of the components.

Conclusions and recommendations
On the basis of the ideal properties of the three components and the insights into the key processes to develop these components, every large or medium sized city can determine what steps are needed to develop each component. Two example business cases are added for information managers who want to start developing the two registrations.