Managing Water Utilities with Geographic Information Systems:

The Case of the City of Tampa, Florida

Abstract

This thesis presents a review and evaluation of diverse Geographic Information System (GIS) applications developed for the water utilities of the city of Tampa, Florida. This review encompasses the process from planning to replacement/refurbishing and supports all engineering activities to keep track of assets, while handling the relationship between physical elements and quality of service. The specific City of Tampa Water Department GIS plan has to be developed within the framework of the city GIS strategic plan. The main objective of this thesis is to make significant contributions to the design of a useful plan with real applications within the department and that can be used as a model for other departments in the city of Tampa, without affecting or disturbing the general plan of the city.

One important conclusion of this thesis is that GIS plans require new methodologies different from those adopted for the traditional IT departments. It is necessary to set up new models and proposals for this planning field. The traditional IT methodologies can generate conflicts and result in a waste of money and collapses that affect the perception of GIS by the city managers and that could affect deeply not only the economy, but also the health of communities in cases of failure and collapse.