






2.02 'Digital Mapping' and 'Manual Mapping' Compared

The use of GIS enables:

-  better work flow;
-  higher quality information for decision-making;
-  better integration among different offices / departments;
-  quicker access to information;
-  more efficient information dissemination.

All these lead to possible cost reduction and cost effectiveness.

The following matrix is a comparison of digital and manual mapping with respect to key activities:

ACTIVITIES:	DIGITAL MAPPING	PAPER MAPPING
PREPARATION	Initial version tedious to prepare but quick and efficient to monitor	Start from scratch every time
STORAGE	Digital Database Standardized and integrated, compact memory capacity	Different scales on different standards, voluminous and bulky
RETRIEVAL	Quick retrieval	Paper maps and tables
UPDATING	Automatic search and replace by computer	Manual check and revision
OVERLAY	Systematically done Faster integration of complex, multiple spatial and non spatial data sets	Expensive and time consuming
SPATIAL ANALYSIS	Faster	Time and energy consuming, slow
DISPLAY	Easier and faster to prepare Better quality	Slow Tedious and time- consuming

The computer has revolutionized the ways of communicating and analyzing information about the world, including decision-making. **Geographic Information Technology** (GIT) is now widely used for computer-assisted management and analysis of data concerning geographically related features.

GIS transforms data into timely information. It is capable of sorting out information and separating them into different layers, as well as combining them with other layers of information, according to the needs of the specific user. The information is stored in the computer in such a way that geographic data can be combined according to the needs of the specific user.

Integration Benefits

One remarkable facility of GIS is that it enables the coordinated use of data from many sources. This integrative ability is made possible by the geographic link through the defined coordinates in the geodetic reference system. The coordinated and integrated information exchange between a number of systems where the same basic data are used by many users for staff work, planning, decision making, information dissemination etc. is very cost-effective.

Information Availability

Using GIS requires a completely different and more systematic way of information management in order to make the information available. Disseminating information through GIS, makes it accessible to users, and enables transparency in governance for the municipality/city. GIS makes it possible to publish geographic and other data and distribute this data digitally in an instructive, easy and interactive manner.