GIS-T란 무엇인가?

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What is GIS-T?

- A GIS environment for managing and analyzing spatial data related to transportation.

- Use of GIS for transportation applications.

Applications and Challenges

- Manage and Manipulate Transportation Data

  - point, line, and polygon data
  - attributes, maps, images, etc.
  - linear referencing systems
    - fixed versus dynamic segmentation
  - vector and raster integration

Applications and Challenges

- Visualization of Transportation Data

  * Representation issues

  * Static versus Dynamic visualization

Applications and Challenges

- Transportation Modeling and Analysis

  - Inventory
  - Modeling and Analysis
  - Decision-support and Management

  GIS + Modeling/Analysis + User Interface
  + Data Sharing + Management = Useful

GIS as a Data Management Tool

- Transportation Data Structures

  - Link-and-Node Structure

  - Route Structure

GIS as a Data Management Tool

- Fixed segmentation

- Dynamic segmentation

GIS as an Analysis Tool

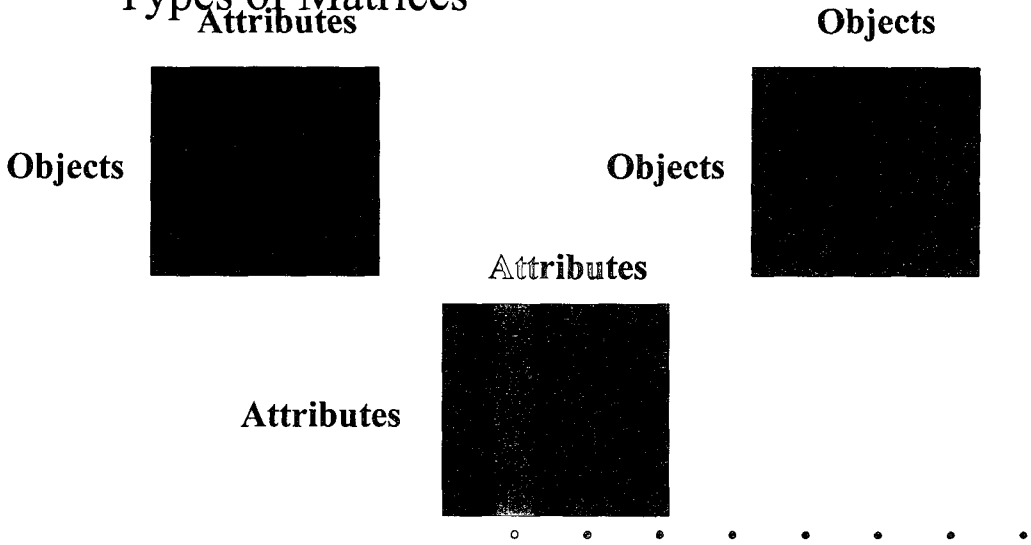- Geometry vs. Topology

- Planar vs. Non-planar

- Graphic vs. Matrix Representations

GIS as an Analysis Tool

- Types of Matrices

Attributes   Objects

Objects   Objects

Attributes

Attributes

- Urban Transportation Modeling System

- Needs of GIS-T Analysis

- Cross-layer & Inter-feature Connectivity

GIS as an Analysis Tool

- Types of Analysis:

  - Spatial Analysis

  - Statistical Analysis

  - Mathematical Models
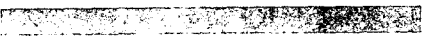
GIS as an Analysis Tool

- GIS and Modeling Integration:

  * Loose coupling
  * Full Modeling System with Partial GIS
    Functions
  * Full GIS with Partial Modeling Capabilities
  * Full Integration of GIS & Modeling

Practical Issues

- Different Needs

- Data Sharing Issues

- Implementation Issues

Major GIS Applications

- Inventory Systems
- Pavement Management
- Traffic Management (ITS)
- Accident Analysis
- Vehicle Routing
- Transportation Planning/Modeling
- Transit Marketing & Customer Support