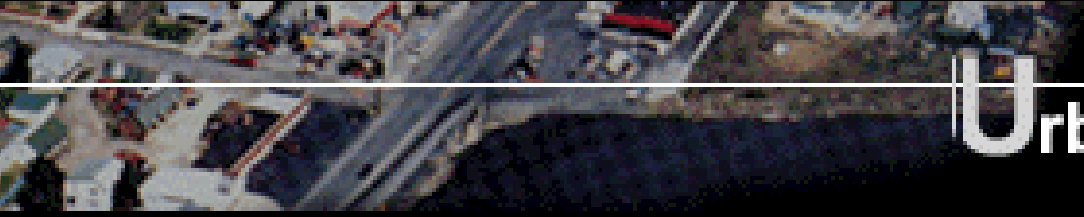

Urban Data Visualization

Visualizing Alternative Urban Futures

Creating Opportunities for Communication, Conversation, and Policymaking Using Spatial Multimedia

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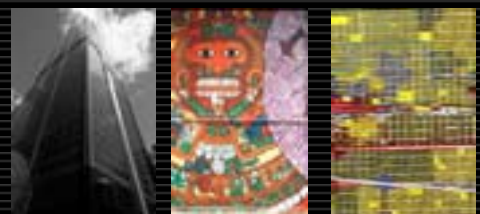
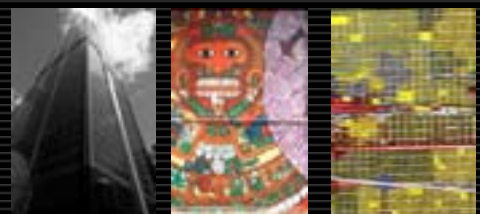
Outline

- Overview
  - Planning with spatial technologies
  - Case Studies
- Digital Spatial Multimedia
  - Data Organization
  - Representation
  - Argumentation
  - Implications for Policymaking
  - Sites and Scales of Engagement
- Benefits and Constraints
- Concluding Thoughts



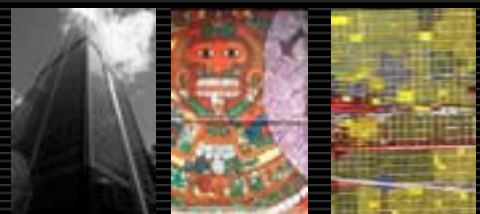
Planning with Spatial Technologies

- Tools/Techniques
- Planning Processes and Frameworks
- Models of Citizen Engagement
- Scale
- Contextual Issues
- Resources



What about GIS?

- What does GIS mean to you?
  - Grossly Inconsistent Software
  - Grand Imperial Strategy
  - Great Intellectual Status Symbol
  - Generally Intrusive System
- Benefits of Using GIS
  - Citizens reframe problems
  - Participation processes are energized
  - Local knowledge is validated
  - Community Cohesion?
- Barriers to GIS adoption and use
  - Enduring Concerns
  - Practical Limits….



Enter Spatial Multimedia

- Enhancing GIS
- Working without GIS
- Working Around GIS

- How?
  - Annotating PDF maps

  (Adding text, audio, photos, panoramic views, video)

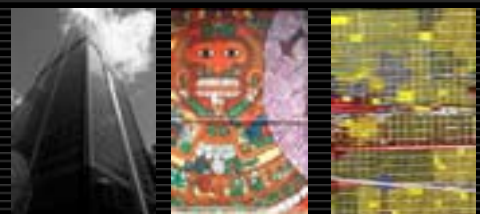
- Online Tools
  - Visual Preference Surveys
  - Animated Maps
  - Sketch Planning Tools

- Interactive Websites
- Interactive (Stand Alone) Products

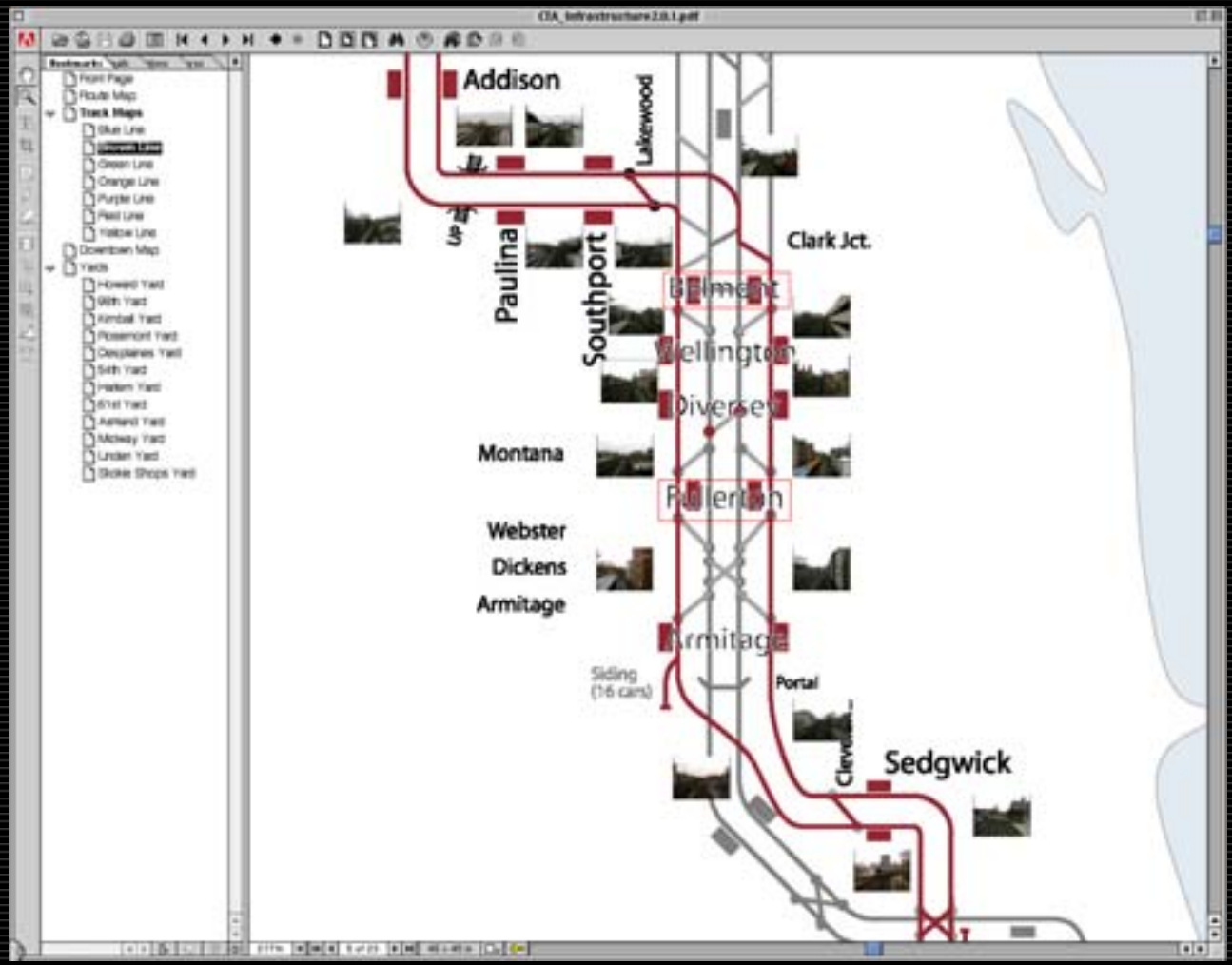


Example: Annotating Maps

Aerial view of Harrison Street in Oak Park



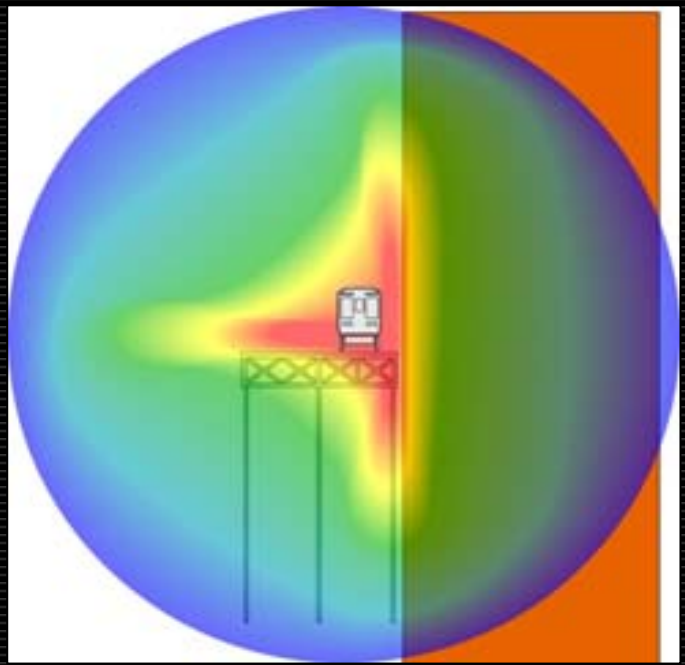
Example: Visualizing Urban Infrastructure



Client: CTA

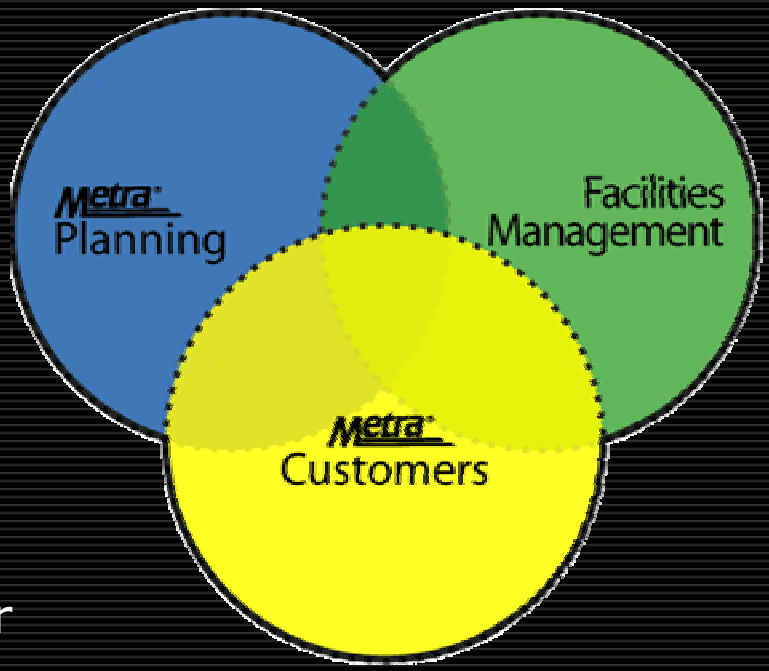
Example: Addressing Planning Problems

- Harrison Street Noise Study
  - Demonstration of noise dissipation over distance
- Time Lapse Movie
  - Demonstration of the re-construction of a stretch of track



Visualizing *Metra*

- Develop a customized interactive application
- Customize for multiple purposes and users
- Integrate maps, data, photos, aerials, panos
- Considerations
  - Maintaining hierarchy
    - system, line, station, interior areas
  - Scale
    - Regional, local, neighborhood, station and surroundings



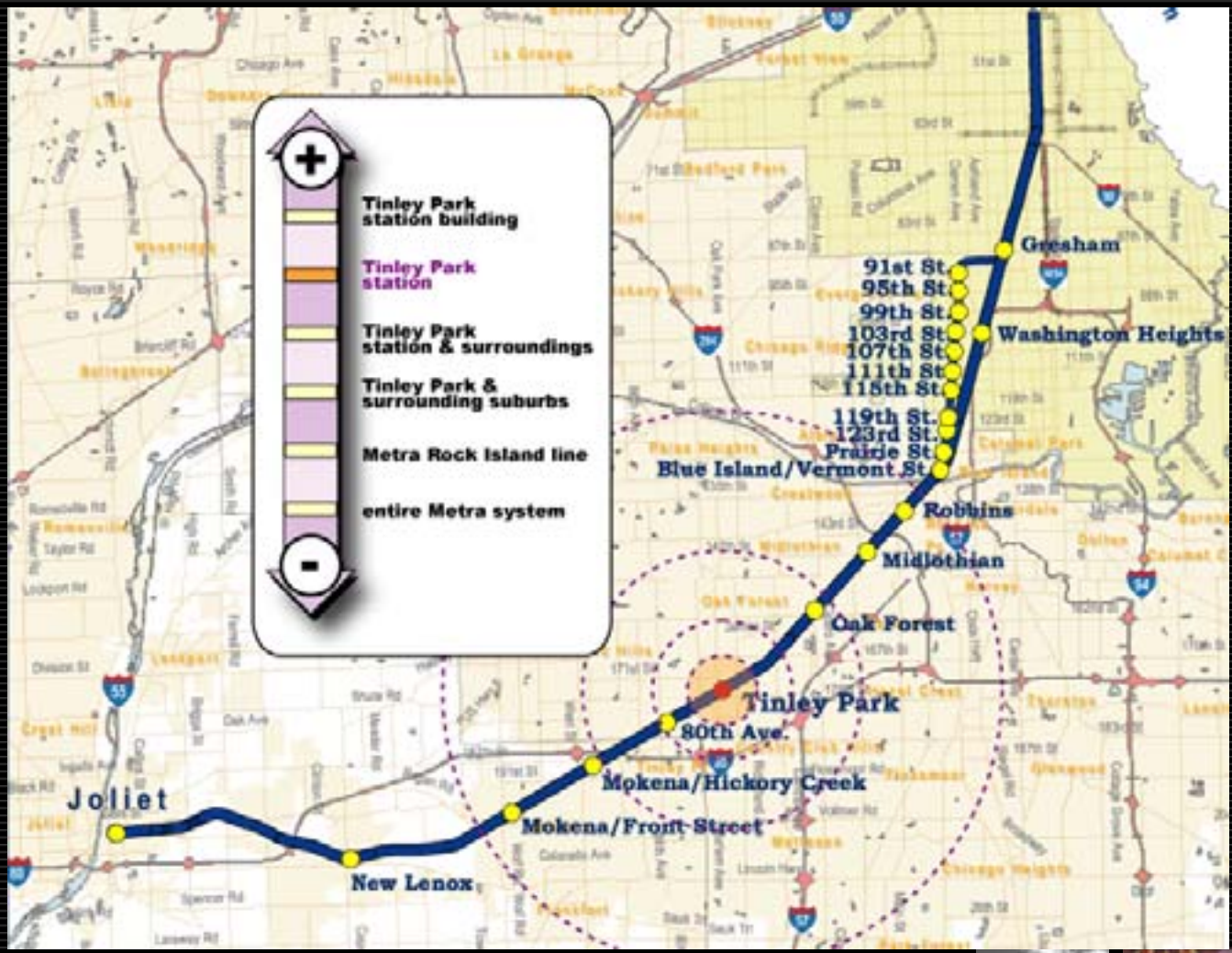


Visualizing *Metra*

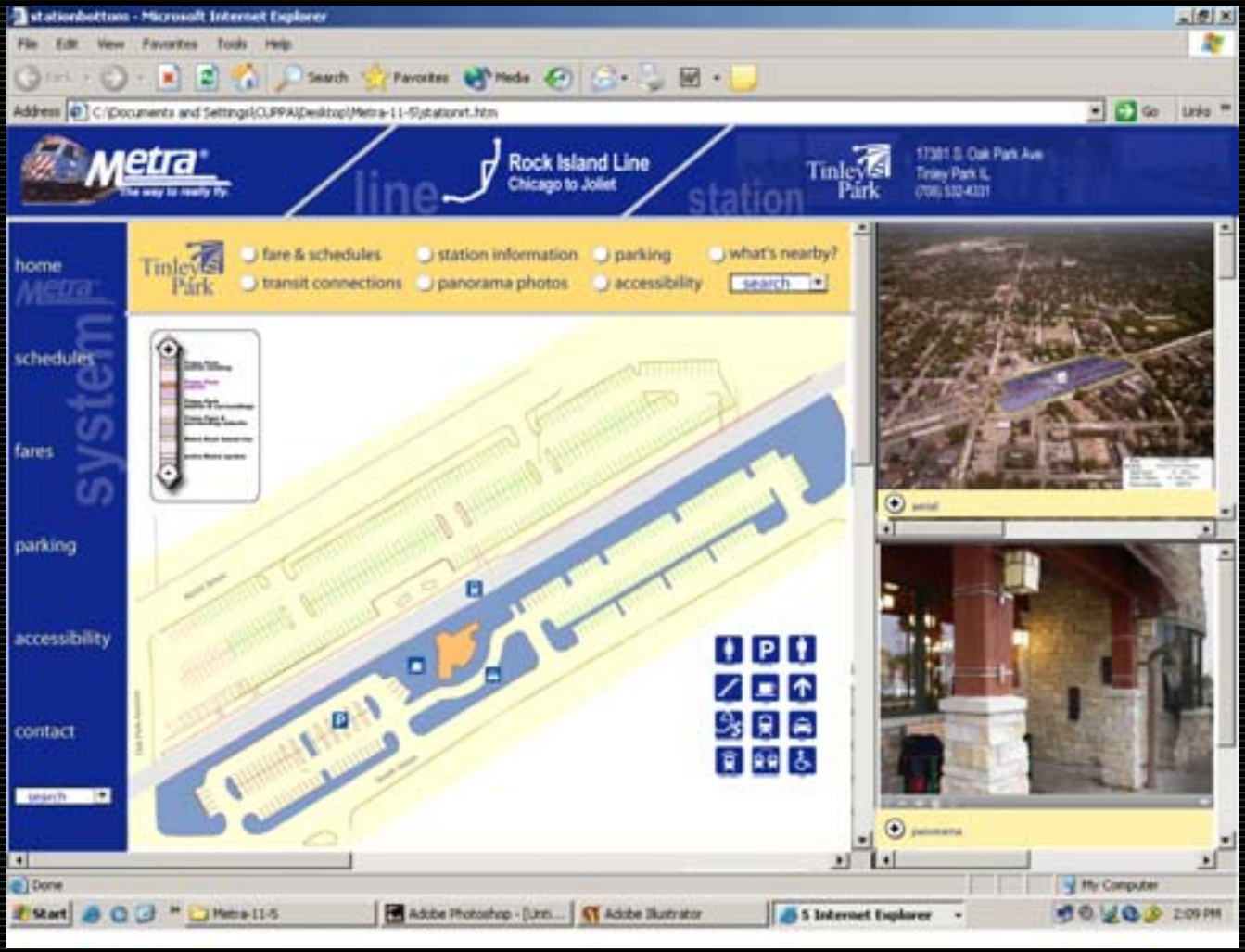
Aerial View


What is this??
Orland Park
173rd Street
What ballfield??
to Oak Forest Station
173rd PLACE
Tinley Park
South
to 80th Avenue Station
Hickory Street
174th Street
Oak Park Avenue
67th Court
174th Place
City: TINLEY PARK
Station: Tinley Park Station
Rail Line: IB - Main
Date Taken: 21 May, 2003
View Looking: NORTH

Scale


Tinley Park station building
Tinley Park station
Tinley Park station & surroundings
Tinley Park & surrounding suburbs
Metra Rock Island line
entire Metra system
Joliet
New Lenox
Mokena/Front Street
Mokena/Hickory Creek
80th Ave.
Tinley Park
Oak Forest
Midlothian
Robbins
Blue Island/Vermont St.
Prairie St.
123rd St.
119th St.
115th St.
111th St.
107th St.
103rd St.
99th St.
95th St.
91st St.
Washington Heights
Gresham

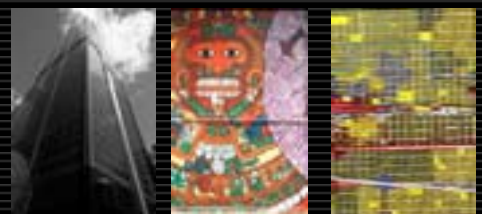
Visualizing *Metra*



Planning Together: Village of Oak Park, Illinois

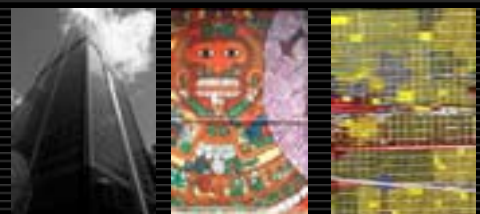
Survey of Existing Conditions

- 77% of respondents liked the type of business
- 69% said they liked the look of the building



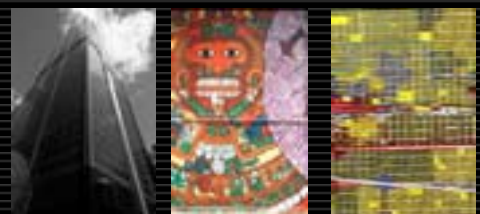
Data Organization

- Facilitates better ways to share and use information
- Documents process as well as final outcomes
- Manages comments and reactions
- Increases efficiency



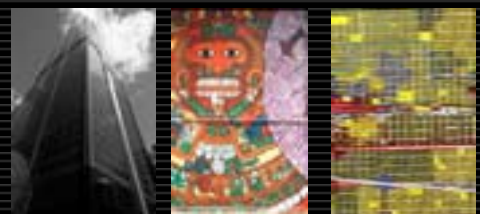
Representation

- Illustrates different dimensions of change
- Integrates multiple opinions and perspectives
- Provides alternatives ways of exploring data
- Facilitates conversations



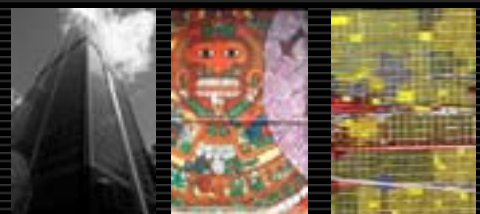
Argumentation

- Provides powerful evidence to support policymaking
- Facilitates real time planning and decision-making
- Enhances community participation processes
- Builds community memory



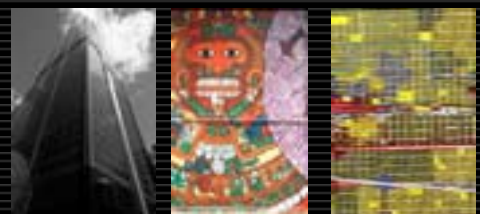
Visualization Tools for Participation

- Manage comments, reactions
- Complement traditional methods of participation
  - Display and discussion regarding existing conditions
  - Consensus regarding best practice examples
  - Perceptions of different stakeholders
  - Recommendations from different stakeholders
  - Displaying and discussing existing conditions
- Virtual commons
  - Chat, sharing information
  - File sharing, data repository
  - Process Archive



Enhancing conventional spatial analyses

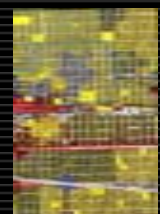
- Annotated PDF maps
  - text, audio, video, panoramic images
- Design of Visual Preference Surveys
- Customized Sketch Planning tools
- Interactive websites
- Interactive multimedia CD-ROMs



Benefits

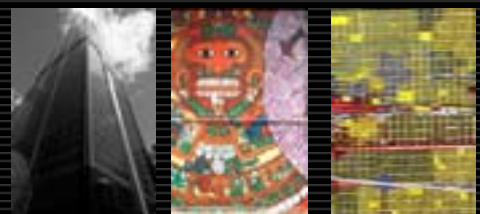
- Integrates qualitative and quantitative information
- Enhances community participation
- Promotes civic engagement (place matters)
- Promotes interdisciplinary partnerships





Constraints

- Initial investment in software, training
- Convincing colleagues in-house
- Raising expectations of citizens, colleagues
- Dangers
  - Manipulation
  - False representations
  - Undermining community's trust
- Privacy, Ethical Issues related to image data



Concluding Thoughts

- What does it take to create sustainable planning initiatives that fully integrate spatial technologies and digital multimedia?
  - Technical competence
  - Understanding of participatory planning
  - Credible process
  - Communication with stakeholders regarding goals, outcomes, and expectations
  - Willingness to look for the right technologies for the job