Volunteered Geographic Information
For Community Outreach, Research and Professional Practice

VGI Meeting, December 13, 2007 – Santa Barbara

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VGI in the Design Process

- Inventory (data collection) → Analysis
- Participatory Design Development (concepts)
- Design Review (masterplan)
- Participatory Research (human tracking)
Site Inventory

• Used to collect information about the site. A good site inventory is critical for developing a site analysis and later a site plan.

• Both paper and digital methods can provide opportunities for the public to submit information – however the digital method tends to be more efficient and accurate.
While easy to use, collecting public information using USGS Maps makes for a time consuming task when digitizing the collected information.

Digital method show aerial image as background and allows participant to place points on the map via drag/drop interface. Comments for each placed point can also be submitted to server for design team review.
Fairground masterplan development online spatial survey asked participants to answer questions about seating, parking, vegetation etc. and locate items on the provided map.
Collected data was saved in a MySQL database and then exported as an Access file – allowing it to be easily added to ArcMap.

*Note: The Access file preserved the long comments as BLOB whereas conversion to Excel, DBF or text truncated the comments when imported into a geodatabase.*
Mapping tool collects good and bad views along highway corridor as identified by the public.
Extend public meeting by collecting public input online. GIS overlays toggled on and off.
Find Skill/ Knowledge of Local Participants

Spatial survey allowing citizens to select area of community they want to focus on.
Ideas for Future of Lake Forest Park

Charrette ideas mapped in ArcMap → Overlaid on Google Maps → Easy public viewing of info
Ideas for Future of Lake Forest Park

Public enters comments directly on maps and submits to design team.
SelectingPriorityProjects

Select map icon for description of project, then select top two projects for the city to do.

F4. McAleer Creek Delta
PROJECT LOCATION:
@ intersection of the McAleer Creekway and the Lakeway

POSSIBLE PROJECT ELEMENTS:
Habitat
- restore and enhance Lake Washington shoreline
- create more distributary channels in McAleer Creek

People Places
- acquire lakeside parcels to increase public access to the shoreline
- build park amenities such as picnic shelters and restrooms for shoreline visitors

Water
- use bioswales, rain gardens, and other LID features to manage run-off from adjacent roads and residences

Healthy Connections
- use build trail spur between Bothell Way, Burke Gilman trail, and the shoreline

What projects should the city pursue first?

Instructions:
Click on any of the icons on the map to the left to read about the potential project. Once you have reviewed the projects, cast your first and second choice votes below.
Selecting Priority Projects

- Design team/City review comments and project vote totals in table and on map.

- A total of 86 votes have been submitted. 2 individual's selected the same project for both votes. 2 individual's did not vote at all.

- Before choosing projects, each one should have a price tag on it. Something needs to be done with that vacant school on Persius. It is soo bad that the Shoreline School district did not allow the previous school to continue for at least it kept.

- Map data ©2007 Terra Alterra
Participatory Design Tools

Allows the public to select where they think design elements should be placed

- Useful in developing masterplans
- Customized applications can be created
- Responses are geocoded so easy to work with in a GIS
- Control participant access through login and cookie access
Digital Chip Game Planning

Public Input
Each participant drags and drop an icon from the left menu to the map to indicate the location they think the activity should take place. Comments for each item are also recorded.

Composite View
After input is collected from the public, the design team can review the info by clicking an icon on the left menu to display all submitted locations for that item on the map. Clicking an icon on the map then displays its comment.
Digital Chip Game Planning

Same as previous example, but more refined interface. This particular example was built using Flash, PHP and MySQL and is based on templates created by the Visual and Spatial Survey Builder tool by LandViz Media. LLC.

Participation was limited to Park Board members via a login page. Site allowed members to revisit the page and make changes as more information became available during the design process.
3D Design Review

Allows the public to review the designer’s conceptual design and provide a critique of the project early on in the design process as opposed to just a few ‘elected’ city officials.

3D model created in SketchUp after exporting spatial geometry from ArcMap
3D Model exported from SketchUp to Google Earth → Public can navigate the design and place comment markers that can be submitted to the design team.
The show barn is in major need of repairs. Currently the coating is limited to the lower area as water runs off the eaves of the adjacent buildings onto the showers during rain storms.

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The roof of the Show Barn needs to be fixed and re-shingled, then rain gutters should be installed.
Study participants wear GPS and Physical Activity monitors to document where they walk/run and the amount of physical activity they receive in different environments. Collected data is analyzed in GIS.
Network Mapping

**Safe Routes to School Planning:**
Mapping Actual Routes Selected (MARS) by students in Google Maps and Analyzing/displaying results in ArcGIS Server

**Preferred and Most Used Walking Routes:**
Composite map of study participant’s routes collected using heads-up digitizing over aerial imagery via ESRI’s ArcSketch.