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Web-Based Planning:
A Survey of Local Government Planning Websites

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The worldwide web has provided the planning community with numerous opportunities to reach new audiences, analyze data, and publicize events. Planning departments across the country have placed zoning maps, comprehensive plans, and meeting schedules, among other things, on their websites. Plans that were once kept in the planning office, and only available to those who could personally stop in to see them, are now available online at any time. When combined with opportunities to view community access television broadcasts and communicate with the planning department by email, there have been significant improvements in communication with the public over the last ten years. In addition, advances in computer technologies, such as GIS mapping, have allowed planners to conduct more sophisticated analyses and better understand trends in their communities.

This issue of the *PAS Memo* provides the results of a comprehensive survey of local planning websites in more than 200 communities. It differs from previous studies for two reasons: first, it focuses specifically on local government; second, it identifies whether or not specific website features (such as mapping) are available. The results create a description of how planners are currently using the web. Based on the results of this study, specific examples of the current state-of-the-art show what can be achieved in a planning website.

The Current State of the Art

To determine what services and features planning websites provide, and how likely they are to do so, we surveyed 200 local planning departments. Because the purpose of the survey is to assess web sites, all surveying was done by searching the web for the relevant websites. We searched for websites of ten cities or counties from 20 states. Many jurisdictions have no websites, and of those that do, some do not include planning-related information. Of those with websites, we looked for relevant features such as a web-based comprehensive plan, dynamic mapping system, and meeting minutes and schedules. The survey was performed in the Spring of 2002.

The 20 states were chosen based on diversity in geography, income, and growth management legislation. States were classified based on whether they are east or west of the Mississippi River, whether their median income is higher or lower than the median income of the median state (Indiana), and whether the state has implemented comprehensive planning reforms or strengthened local planning measures, as defined by the American Planning Association (APA 2002). Within each state, 10 cities or counties were randomly chosen.

Survey Results

For each jurisdiction, we used the same survey instrument. Figure 1 shows the questioned addressed in the survey instrument.

We found that 137 of the 198 jurisdictions have a website. Of these, 74 have a planning-specific website. We found that 98 percent of the 137 websites include

Figure 1. Questions from the Survey

What planning-related information is addressed at the website?
Land use
Transportation
Environment
Housing
Public safety
Public facilities
Historic preservation
Economic development

What planning-related documents are available?
Comprehensive plan
Zoning ordinance
Neighborhood plan
Statutes
Administrave rules
Subdivision regulations
Capital improvement projects
Vision statement

Does the website include information about public meetings?
Meeting notices
Meeting minutes
Meeting agendas
Calendar of Events

Does the website include contact infomation about the planning staff?
Planning office
Individual planners

Does the website provide links to other sites?
Government
Planner's projects

Does the website include maps?
Property tax lots
Transportation and roads
Demographics
Existing land uses
Future land uses
Zoning
Environment
Political boundary maps with layers
Downloadable maps

What communication efforts are made?
Webmaster identified
Real-time discussion
Discussion board
e-mail comments
ListServ
Online survey

Downloadable data
Census data
Shapefiles
Local statistics

Are multimedia presentations available?
Audio
Video

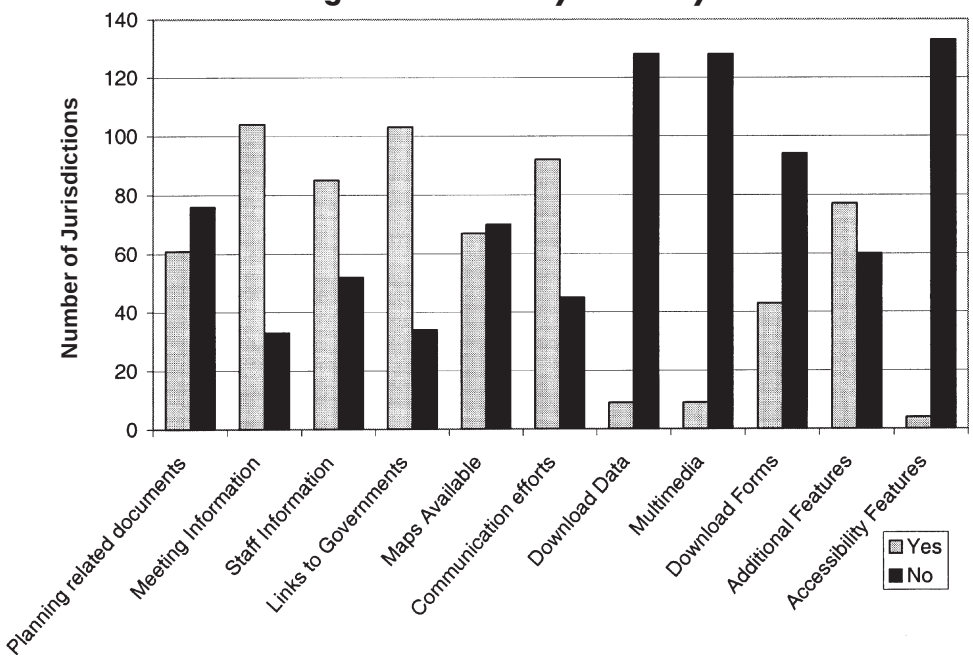
Can forms be downloaded?
Information sheets
Application forms

What additional features are available?
Online signature
Status check
Online payment
Form syubmission
Guest book
Search engine
Searchable database
Directory
Other

What accessibility features are available?
Large lettering
Text only
Multilingual format
Other

planning information such as housing statistics, crime data, or environmental issues. This means that most jurisdictions that do not have a planning-specific website do in fact include at least some planning-related information on their general websites. Therefore, we analyzed these jurisdictions as well as those with planning websites, amounting to 67 percent of jurisdictions surveyed. As shown in Figure 2, most jurisdictions with websites include basic types of information about their activities, such as meeting schedules, staff information, or other features. Relatively few provide more detailed or high-level data such as multimedia presentations or downloadable forms and data.

Figure 2. Summary of Survey Results



Once the data were gathered, we used a chi-squared test to see if there is a statistical difference in the responses based on the various types of state characteristics. For most variables, we found no statistical difference in the responses. The variable that created the most statistical differences in the responses is whether or not a state has growth management legislation. Jurisdictions in states with such legislation are statistically more likely to include planning related documents on their websites, provide meeting information, and provide downloadable forms. However, they were statistically no more or less likely to have a website than jurisdictions in states without growth management legislation.

Interpreting the Results

The information provided on planning websites can be categorized into three basic types. General information is appropriate for many types of audiences and answers common questions by providing contact names and addresses; a department organizational map, agenda or meeting minutes; and planning-related news, research, and reports. Targeted information is relevant to specific audiences and often answers questions about how to interact with the jurisdiction's agencies or how to assess community-specific concerns. Such information includes dynamic comprehensive plans; dynamic maps; visualization or virtual reality simulations; "How-to" guides for permitting or zoning requirements; and email newsletters. Note that we use the term "dynamic" when a website feature allows users to change the presentation of information. We use the term "interactive" when a website feature allows users to change the presentation of information *and* provide information to the planning department. Interactive information is again targeted to specific audiences, and in addition allows those audiences to provide information or feedback to the jurisdiction. Examples of interactive information include: on-line submission of permit applications; on-line payment options; public participation efforts, such as discussion boards or surveys; and interactive mapping that allows users to provide information about a property.

As shown in Figure 1, each question includes responses that vary between general, targeted and interactive information. For the most part, general and targeted information are more common than interactive information. For example, 92 websites, or 67 percent of the total, provide communications information. Although these efforts may include targeted or interactive information, most provide only general information:

- 88 percent provide a webmaster email address (general information)
- 39 percent accept comments (interactive information)
- 12 percent provide online surveys (interactive information)
- Less than 10 percent provide ListServs, discussion boards, or real time discussions (interactive information)

This shows that excluding "provide a webmaster email address" would drastically reduce the number of websites considered to be engaged in communications efforts. The same is true for other categories, in other words, although the average website has about one half of the possible features providing general information, on average a website will have relatively few of the possible features providing targeted or interactive information.

Case Studies

Planning-Related Documents. About 45 percent of websites have planning related documents such as zoning plans, a vision statement, or subdivision regulations. In most cases these are treated like print documents; they are in PDF files or non-hypertext writing. Occasionally, a jurisdiction will create a web-based document that changes based on the

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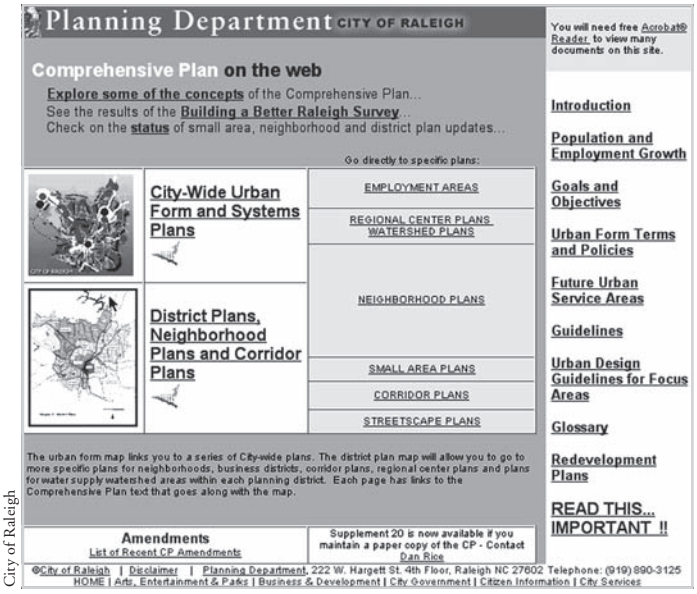
user's interests. We considered this "targeted information" because the user can choose what information to look at, but cannot respond to it online, as is the case with "interactive information."

Raleigh, North Carolina, although not in our survey, provides a dynamic comprehensive plan that allows users to find neighborhood-specific information, and provides information by subject area, such as transportation or economic impacts of development. The user can choose to read all or parts of the plan using easy-to-follow links that make the organization of the comprehensive plan clear. Figure 3 shows a screenshot from the plan.

Figure 3. Raleigh Comprehensive Plan



City of Raleigh

> Raleigh, North Carolina, provides a dynamic comprehensive plan that allows users to find neighborhood-specific information. Users of the mapping website for Tucson, Arizona, can search maps for a specific address or tax parcel.

Mapping. About three-quarters of websites include maps. Many of these are PDF files or images presented in HTML format. The most common types of maps show roads or political boundaries. The least common types of maps show demographic data or future land uses. In addition, about 39 percent of websites with maps have dynamic maps. Such maps use software to allow users to zoom, pan, or add layers of data, allowing them to change the image on the screen.

The mapping website for Tucson, Arizona, has various useful features. Users can search maps for a specific address or tax parcel. They can add layers of information to maps to show zoning boundaries and other features. Finally, once the user has zoomed in sufficiently, the map changes from a drawing to aerial photography, allowing users to see specific streets and buildings. Figure 4 shows a view of the mapping function.

The Oklahoma City, Oklahoma, Chamber of Commerce (Figure 5, page 4) has created an interactive mapping website that has many common features of interest to planners, as well as property-specific information that is uploaded by local realtors. For example, users may add layers such as public parking lots and empowerment zone boundaries. Realtors may obtain a password to add information to the mapping system. This makes a truly interactive system because the Chamber of Commerce central office does not need to make all of the updates to the websites. Realtors, because they are motivated by the opportunity to sell a property, include highly detailed information about it.

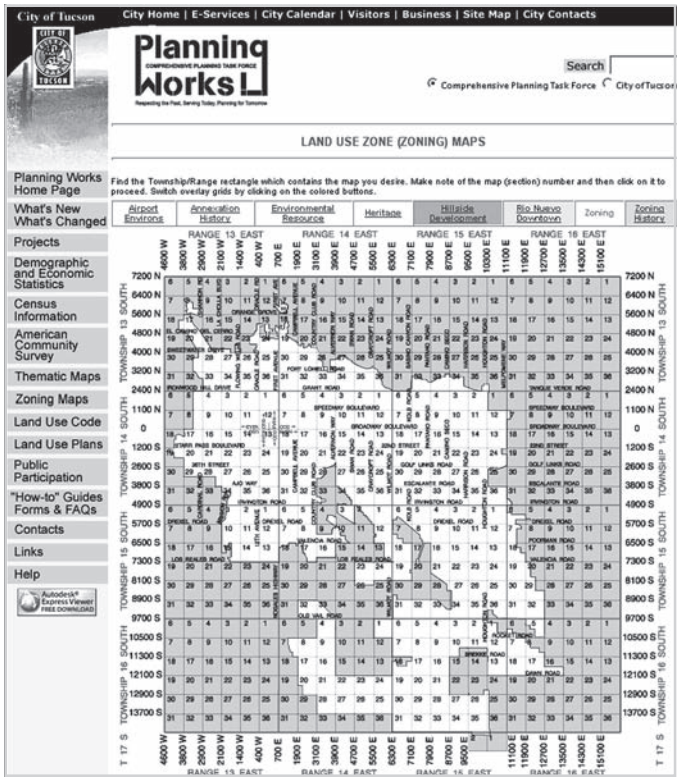
Communication Efforts

About two-thirds of websites have some sort of communication efforts, although about half of these only include a webmaster email address as a form of communication. For the 44 websites that include some other form of communication effort, the most common is to accept comments on the website. Very few include a listserv or online discussion board, and none include a real-time discussion opportunity. Although there may be valid reasons for these omissions, such as legal concerns, it is notable that very few websites allow direct communication with the planning department, besides emailing the webmaster if there is a problem with the mechanics of the site. For example, Oro Valley, Arizona's website shows how a simple form can be used to collect comments about a proposal.

Permitting and Form Submission

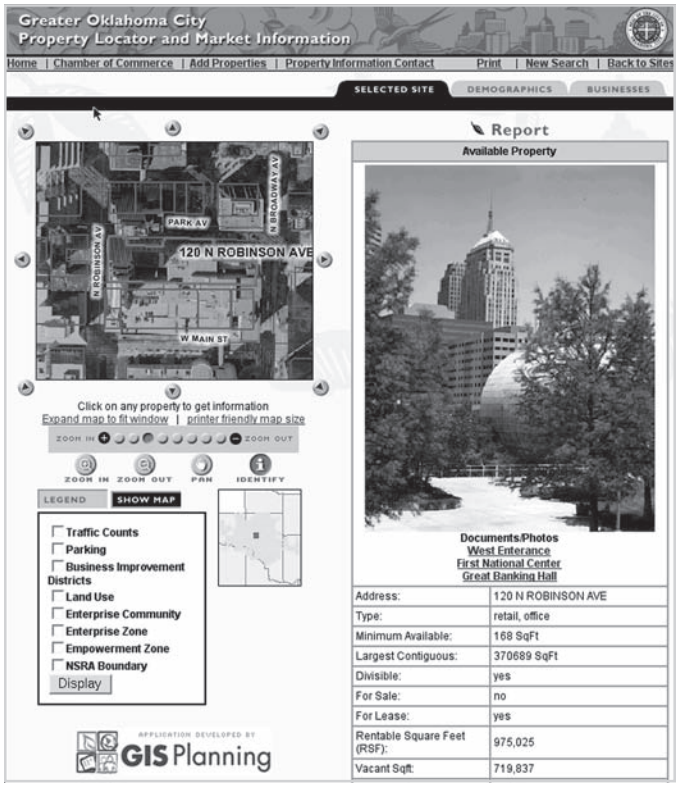
About 30 percent of websites have targeted information to provide people with information about how to apply for a building permit, or printable on-line forms to complete before going to the planning office. Seven percent of websites go to the next step and allow some or all of the permitting information to be submitted on line. Pierce County, Washington's website allows registered users to schedule inspections, renew expired permits, pay associated fees, and apply for permits on-line.

Figure 4. Tucson Mapping Function



City of Tucson

Figure 5. Oklahoma City Chamber of Commerce



Oklahoma City Chamber of Commerce

> The Oklahoma City Chamber of Commerce has created an interactive mapping website . . . users may add layers such as public parking lots and empowerment zone boundaries.

What's on the Horizon?

Several university-based websites (which are not in our survey) show what can be done with 3-D computer-generated visualization of current neighborhoods or proposed developments. Although we did not find any local governments using this technology, it is likely that as projects are completed for other clients, they may be linked to local government websites. Currently, the cost of this technology is quite high. In the longer term, as costs fall, local jurisdictions may commission their own 3-D models and include them on their websites.

The University of California at Los Angeles (UCLA) has a number of completed projects showing various Los Angeles neighborhoods. They plan to make models of the entire city.

Conclusions

As shown in our survey, most jurisdictions have a website, and many have a website or webpage specific to their planning department. These jurisdictions most commonly provide basic information such as housing and economic data or reports. Some have adopted sophisticated mapping interfaces, or provided opportunities to prepare applications using the web. Although such activities are less common, they represent the future of what planning websites can accomplish. In addition, we expect that new ways of using the web will emerge. Many opportunities to add interactivity, new interfaces, and new data, are available. As technology spreads and becomes less expensive, increasing numbers of planners will have these tools at their disposal.

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