

Assisting Voters using GIS online in Jefferson County, Kentucky

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Abstract

Using the Internet is an efficient way to get pertinent voting information to citizens. In Jefferson County, Kentucky it has been used for several years through the Louisville /Jefferson County Information Consortium (LOJIC) GIS to provide polling locations and elected official contact information for specific addresses. During the 2004 Presidential Election, 279 unique sample ballots were also linked to specific addresses. Care was taken to insulate the voter's registration and personal information from the inquiries and geographic responses given, to quell the possibility of identity theft, or misuse of data. The online system greatly reduced the number of routine phone calls, except where a question of proper registration remained. The cooperative efforts of the Jefferson County Board of Elections, the Jefferson County Clerk's Office and LOJIC enabled 475,805 registered voters access to voting information at their convenience, helping staff more efficiently respond to voters' needs and effectively encourage voter participation.

Introduction

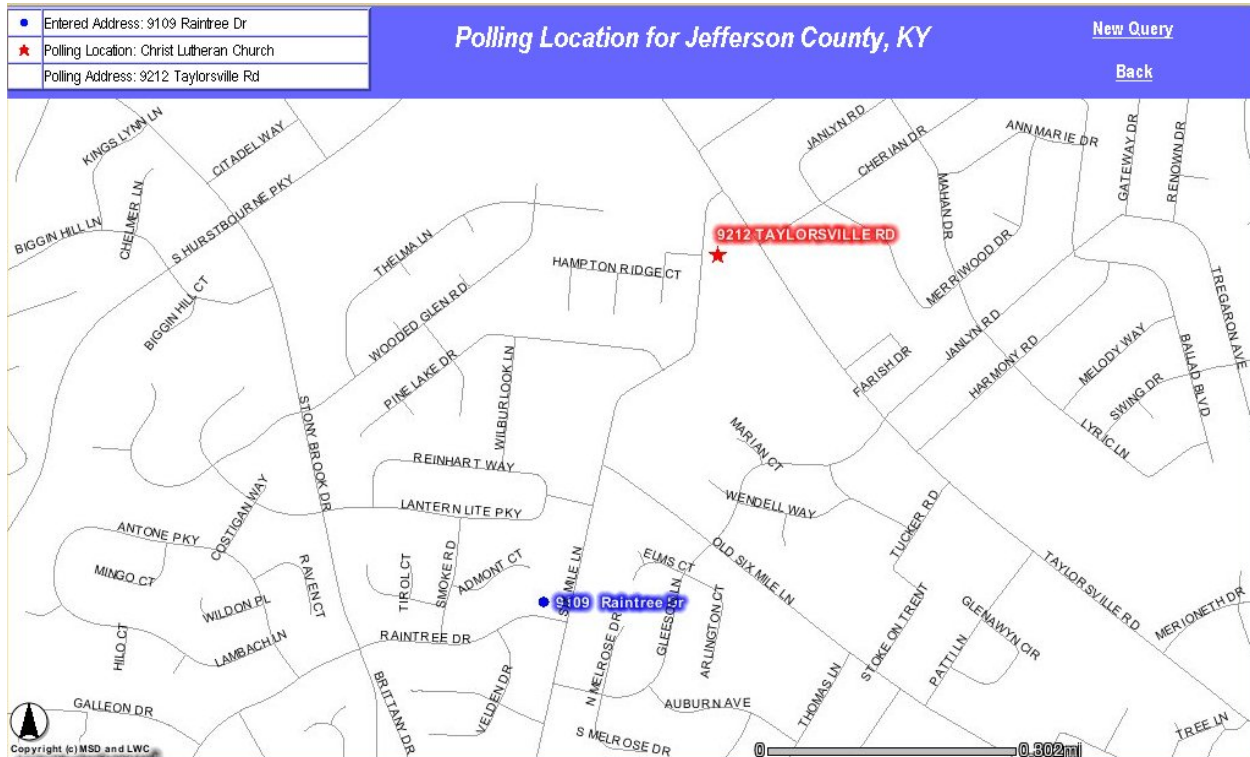
While the 2004 presidential race created more than the usual stress and scrutiny, it was not the only election the Jefferson County Board of Elections staff had to deal with. Local ballots for the 2004 elections included hotly contested races for U.S. Congress, State Legislature, the local Board of Education and several judicial seats. There were also 83 local suburban cities with races on the 2004 ballot. As expected, local voter turnout was higher than usual as 71% of the nearly 500,000 registered voters in Jefferson County came to the polls. Answering the thousands of phone calls and questions from prospective voters has long been a drain on Board of Elections resources. A staff of 15 call-takers that manned phones in the days leading up to the election was increased to 38 call-takers to handle nearly 30,000 calls on Election Day. The Board of Elections wanted to develop alternative ways of getting more timely information out to voters using local data from the Louisville and Jefferson County Information Consortium (LOJIC) GIS. LOJIC is a partnership between the Louisville Metro Government, Louisville Water Company, the Jefferson County Property Valuation Administrator and the Louisville/Jefferson County Metropolitan Sewer District.

A long-time user of ArcInfo and ArcGIS, Board of Elections maintains spatial databases of 506 local precincts, 143 political jurisdictions and 271 polling locations in the community's shared LOJIC GIS. This along with the wealth of other spatial data from LOJIC, including local site addresses and streets, combined with the capabilities of ArcIMS allowed the creation of a simple tool to provide voter information and site maps through the Internet. The "Voter Connection" available at www.lojic.org provides interactive access to Jefferson County polling locations, site maps and lists of local, state and federal officials based on any local address. "Voter Connection" was enhanced for the 2004 election to include 279 jurisdiction-specific ballot styles to allow citizens to preview ballots and candidates before going to the polls.

The Board of Elections creates and maintains GIS data as ESRI coverages and has done so since 1992. Initially, using ArcInfo on UNIX workstations, it has evolved into ArcView and within the past year has migrated to ArcGIS ArcInfo. Additionally, LOJIC staff has extensive programming experience in ESRI ArcInfo and ArcView and have created many complex and innovative applications used daily by its 350 users. This project was an excellent opportunity to start learning how to program in ArcIMS because it had a focused purpose and did not involve many data layers or complex queries.

Because of the potential for high demand, a quicker option for citizens to find the polling location for an entered address without viewing a map was also needed. Macromedia Cold Fusion was selected to access the voter information database and provide a fast response.

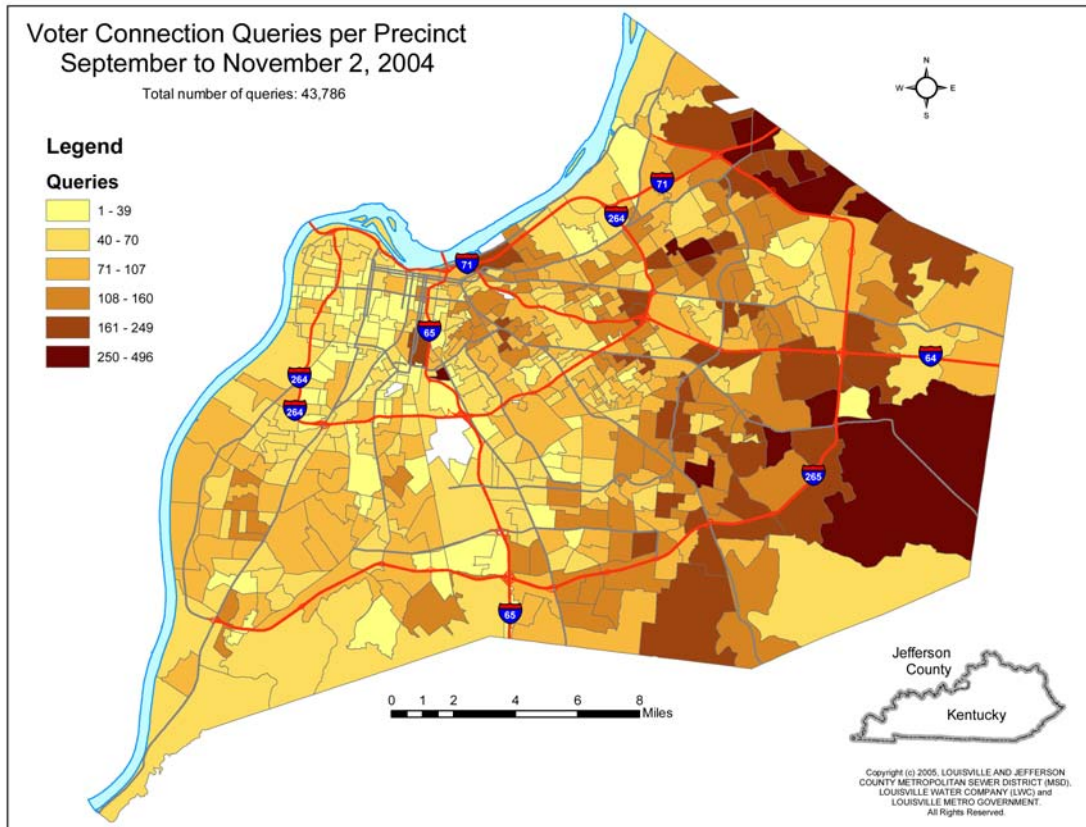
To build the voter information database, an ArcInfo AML program joins all the appropriate LOJIC GIS political data into one table based on precinct. This table relates to a street range database maintained by the Board of Elections that defines residential address ranges per precinct. An address is entered into the Cold Fusion application which uses the street range database to find the correct precinct. This precinct is the key to finding the correct polling location and all the elected official information relating to that precinct. Citizens get basic voting information immediately, and then have an option to view the information in a map. The precinct information is then passed to the ArcIMS application which shows the entered address and the polling location on the street network.



ArcIMS Map Display in Voter Connection

This year sample ballots were also available for viewing. Because of the large number of suburban city races on the ballot, 279 unique ballots were used throughout the county. Precincts were again used to find the correct ballot for an entered address. Because these ballots look very similar to the actual ballots used, many citizens found this addition extremely useful.

“Voter Connection” had over 43,000 successful queries from September through the November 2, 2004 election and usage logs indicated that some number of voters in every precinct accessed the tool.



Map showing the number of address queries per precinct from September to Election Day 2004. This will be useful in defining focus areas to encourage increased voting participation.

Links to “Voter Connection” appeared in the websites of every major media outlet as well as websites for the County Clerk, Louisville Metro Government, the Kentucky Secretary of State and several candidates, and it was heavily publicized on the local public affairs cable channel. Bill Lile, Co-Director of the Jefferson County Board of Elections states that, "The main benefit has been the reduction of incoming phone calls for polling site information. We hope to see eventual relaxation of the requirement for printed advertising of the ballot, which cost \$64,000 in the 2004 General Election. This would require passage of legislation by the General Assembly of Kentucky."

“Voter Connection” is located at www.lojic.org/app/voter/index.cfm.

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