

## Mexico Public Mapping Proposal

A grant proposal to the Ford Foundation

April 15, 2013

**Summary.** The process of selecting electoral boundaries offers opportunities for manipulation to favor parties, politicians, elites, and racial groups, especially when this process is not subject to public view. Mexico will redraw its federal electoral boundaries in the summer of 2013. If done as in 1996 and 2004, once again this process will be conducted behind closed doors. We propose to increase the transparency of and participation in the process of creating Mexico's electoral lines by making all data and analysis tools available to the public and the press, and engaging a wider audience in commenting on the process and in proposing electoral maps. This effort will be hosted and promoted by ITAM, Mexico's leading academic institution, which provides a key position from which to engage elites, students, the public, and the media. By building on award-winning open source, cloud-deployable software that we have developed for participative redistricting in the United States, ITAM will enable greater public participation at relatively low marginal costs. The result will be increased transparency, public awareness and participation, and ultimately a strengthening of this key part of the democratic process.

**The Problem.** When citizens vote for representatives in legislative assemblies, they are often unaware that important decisions have already been made. Redistricting, the periodic redrawing of district boundaries, is one of the most influential of the hidden forces shaping representation. The ostensible purpose of redistricting is to re-balance changing district populations, follow objective criteria to promote good governance, such as respecting municipal boundaries, and protecting racial and ethnic minority representation and other communities of interest. In the US, redistricting is deeply politicized, and often synonymous with "gerrymandering" -- the manipulation of boundaries to promote the goals of parties, incumbents, and racial groups.

In contrast, Mexico's federal redistricting is implemented nationwide through an algorithm devised by the Instituto Federal Electoral (IFE) in consultation with political parties. This has reduced outright partisan gerrymandering, at the cost of public participation and transparency. The IFE system purports to produce plans that are optimal on chosen criteria. However, Mexico's districting process is closed to both public participation and inspection. The software is, in practice, restricted to the bureaucracy and parties, so the performance cannot be verified independently. Parties and actors selected by parties are explicitly included in the redistricting process, but there is no public analysis of the partisan effects of district lines or of the prior selection of the districting criteria. Thus, while the algorithm and criteria are nominally neutral, the results are subject to substantial political influence.

Furthermore, in the state legislative assemblies, redistricting is conducted at the whim of state legislatures and local electoral authorities. In the populous State of Mexico, for example, opposition parties have accused the ruling party (PRI) of blocking the redistricting process for the last decade. Failure to redistrict creates malapportionment, whereby slow-growing rural areas have more representation than fast-growing urban areas. According to INEGI (responsible for Mexico's Census), two urban districts have over 450,000 people while a rural district has only 55,000 -- both far from the ideal of 337,000. The result is systematic bias in the legislature.

**The Proposed Solution.** We propose to enable widespread public district analysis and web-based "do-it-yourself" redistricting in Mexico, through open source software, cloud computing, and gamification. This web-based public system is a complement to the algorithmic system deployed by IFE. It will enable the public to use the same criteria to evaluate plans -- serving as a check that IFE's results best satisfy the published criteria as claimed. It will also enable the public to propose alternatives, to identify geographical communities of interest that are affected by district lines, and to evaluate and understand the political implications of IFE's plans.

This builds on successful work conducted in the US. During the recent United States redistricting two of the principals of this project -- Altman & McDonald -- created open-source web-accessible redistricting software called DistrictBuilder ([www.districtbuilder.org](http://www.districtbuilder.org)). The tool was successfully used by governments and advocacy groups in six states and five localities to enable thousands of users to generate hundreds of legal redistricting plans. Helped by redistricting competitions, the software garnered widespread media exposure. DistrictBuilder is the only open source system that supports public redistricting, and was recognized by *Politico* as one of the top-ten political innovations of 2011, honored by awards from the American Political Science Association, the *Strata Innovation* award in 2012, and is the 2013 recipient of the Tides Pizzigatti prize for public interest software.

We propose to play a watchdog role during the federal redistricting that will take place between June and August of 2013 by deploying the software for all of Mexico's states. Anyone with an internet connection will be able to view redistricting plans, create their own, and observe how well each meets official requirements while analyzing key political implications of any proposed plan. To further stimulate participation and engagement, we will launch student redistricting competitions.

Once configured, and deployed for analysis at the federal level, the redistricting websites created by the system can be replicated, tailored, and deployed to sub-national redistricting processes at minimal cost using the Amazon cloud computing environment. Thus, we intend to play a similar transparency role in states, engage students and the public in creating districts., and to shine a spotlight on those legislatures which either fail to take action or propose biased district boundaries.

**Execution.** We deployed demo software for the State of Mexico ([ec2-75-101-220-101.compute-1.amazonaws.com/](http://ec2-75-101-220-101.compute-1.amazonaws.com/)) that shows how the software can use Mexico's official cartographic information. With support from the Sloan Foundation, we are currently enhancing the software to add additional districting criteria that encompass all of Mexico's federal and state redistricting requirements. In parallel, Trelles is working with IFE and state electoral authorities to obtain data and inputs for the software. This work will be completed by the end of May, 2013.

With your support, we will publicly deploy the system in May, using Amazon's commercial computing cloud. Simultaneously, Magar will translate and adapt education material, create a project website to disseminate information about Mexico's redistricting, hold three public forums at ITAM in Mexico City, work with the media to develop editorials and stories about Mexico's redistricting process, and organize a public redistricting competition. Similar forums held in the United States were highly successful in bringing together politicians, academics, media, and advocates. The first forum will be held at end of May 2013, at the start of federal redistricting, to engage public participation. The second forum will further engage the media by focusing on the immediate outcomes of the 2013 redistricting. A final forum, held a year later, will engage scholars and think tanks to analyze Mexico's experience critically analyzed and compared it with other countries.

**Key Personnel.** *Dr. Eric Magar* is Associate Professor of Political Science (and former Chair of the Department) at ITAM, Mexico's leading University. *Dr. Michael P. McDonald* is Associate Professor of Government and Politics in the Department of Public and International Affairs at George Mason University and a Non-Resident Senior Fellow at the Brookings Institution. He has extensive experience in creating and evaluating redistricting plans.

*Dr. Micah Altman* is Director of Research at the MIT Libraries, and a Non-Resident Senior Fellow at the Brookings Institution. He is known for his work on computational models of electoral redistricting and for his contributions to the research methodology of social sciences, especially data curation and statistical computing.

*Alejandro Trelles* is currently enrolled in a doctoral program at the University of Pittsburgh – he worked at IFE during the last federal redistricting and who has published extensively on Mexico's redistricting process

**Expected Outcomes.** We will deploy the DistrictBuilder to support public oversight of the Mexico federal and state redistricting processes. Our United States experience is that the media warmly received the software to aid their observation of redistricting. Through these and other social media dissemination activities, we expect thousands of persons to view plans or draw their own. If a member of the public draws a plan that fares better on the required federal criteria than IFE's computer program, we will present such plans to IFE for their consideration.

In a broader sense, we will facilitate greater transparency in the redistricting process, greater public awareness of the issue, and greater public participation. Fostering such transparency will enable government officials to evaluate and compare proposed plans in a public context and thus facilitate adoption of clear and consistent redistricting criteria and rules. This will be perhaps most important to Mexico's states, where redistricting processes are more opaque and generally less well-known. Greater participation will empower citizens to express their representational needs for their communities to those in charge of redistricting, which then will enable government officials to respond by improving proposed redistricting plans to better fulfill citizen's wishes.

**Budget.** We ask \$160,000 USD to conduct the activities described in this proposal. We will submit a detailed budget upon request.