During the latest round of legislative redistricting, we embarked upon an ambitious project to enhance transparency and public participation in electoral mapping by making it easy for the public to draw legal redistricting plans. The result is DistrictBuilder, open-source software coupled with open data, that allows ordinary people to collaboratively draw and evaluate redistricting plans through their web-browsers, thereby providing the public with the same access to tools and data that is available to political consultants. DistrictBuilder was developed by Drs. Altman and McDonald in collaboration with software development partner Azavea and was generously supported by the Sloan Foundation, Joyce Foundation, Amazon Corporation, and the Judy Ford Wason Center for Public Policy at Christopher Newport University.

Redistricting is an extremely complex mathematical problem—in even a modestly populated state one can draw a practically infinite number of different redistricting plans. Furthermore, redistricting involves complex legal requirements, which, in the past have made it almost impossible for those outside the legislature to develop redistricting plans that precisely meet all legal requirements. In 2011 and 2012 thousands of people in states and localities across the country were able to use our software to draw communities, districts, and even entire legal plans.

Analysis of the plans created by members of the public demonstrated that no one person or group has a monopoly on how to draw districts to best achieve a goal. Members of the public were able to draw plans that were more competitive and more politically balanced than plans created by professional legislatures, and members of the public were able to identify communities of interest that had been overlooked, and to create maps that better represented minorities.¹

In Virginia, William and Mary students, competing in a redistricting competition that we supported, were the first to show how to draw a Southside minority influence congressional district, while University of Virginia students demonstrated how to draw an additional majority-minority Senate district. Dr. McDonald, as a consultant to Gov. McDonnell’s Independent Bipartisan Advisory Redistricting Commission, further showed how to draw an additional majority-minority House of Delegates district. The William and Mary congressional scenario was also adopted by the governor’s commission.

The congressional scenario first demonstrated by William and Mary students became a flashpoint in the legislature between the Senate Democrats and the House of Delegates Republicans, with Democrats favoring the creation of an additional minority influence district and Republicans opposing. Gridlock ensued, which was relieved once Republicans gained functional control of the Virginia Senate following the 2011 state legislative elections. Regrettably, Gov. McDonnell disavowed his own commission and did not seriously challenge the legislature’s actions, either regarding the congressional or state legislative redistricting.

Virginia speaks to the limits of public mapping on policy outcomes when politicians ignore the public’s ideas. In contrast, our experience in Minneapolis is heartening, and demonstrates that minority representation can be enhanced when decision makers are partners with the public.

Minneapolis voters in 2010 created a citizen redistricting commission for city council districts. Working with our Minnesota advocacy partners, we deployed DistrictBuilder to support public mapping in Minnesota and Minneapolis (supporting web-based mapping at multiple levels of government is itself an innovation that can dramatically reduce costs). The public, commissioners, and public interest groups used our software; among them were local Latino and Somali groups who drew new districts to meet the representational needs of their communities. Commissioners incorporated these ideas into their adopted plan.

**Recommendations**

In a year, our vision for web-based, crowd-sourced redistricting evolved from a proof-of-concept in Virginia to a reality in Minneapolis. In both places, the public was empowered to draw alternative plans that improved minority representation.

Twenty-first century governance should incorporate transparency at internet speed and scale—open source, open data, open process—and twenty-first century redistricting should incorporate internet technology for twenty-first century participation: direct access to the

---

redistricting process; access to legal-strength mapping tools; and the integration of
crowdsourcing to create maps, identify communities and neighborhoods, collect and correct
data, and gather and analyze public commentary.\(^2\)

No one person or group has complete information about modern communities, or about their
locations, constituents, or values. And no one has a monopoly on ideas about how to create
electoral maps that represent communities and achieve good-government goals. Why not
enable wider direct participation in this critical area of democracy?

\(^2\) See for more detail Altman M, McDonald MP. Redistricting Principles for the Twenty-First Century. Case-Western
Altman, Thomas E. Mann, Michael P. McDonald and Norman J. Ornstein, 2010, Principles for Transparency and
Public Participation in Redistricting: <http://www.brookings.edu/research/opinions/2010/06/17-redistricting-statement>