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Making Fair Wisconsin Maps with the FastMap Algorithm

Matt Petering, PhD

Owner, District Solutions LLC

Associate Professor of Industrial & Manufacturing Engineering, UW-Milwaukee

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FastMap Redistricting algorithm

- Proprietary algorithm developed by District Solutions LLC (a Milwaukee-based company)
- Automatically generates election districts for any U.S. state that satisfy *criteria* inputted by the user
- Run multiple times to produce varying maps for U.S. House of Representatives and state senate + state house
- Assigns 7136 indivisible, existing Wisconsin wards to districts
- Handles the *immense complexity* of the redistricting decision in a timely manner (see next slide)



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Data Used to Make Wisconsin Maps

- 2020 census data
 - Total population of each ward
 - Total voting age population (VAP) of each ward
 - Black, Hispanic, Asian, Native American, Hawaiian and Pacific Islander VAP of each ward

• 2020 presidential election data (50D-49R)

- Number of votes received by Joe Biden in each ward
- Number of votes received by Donald Trump in each ward

• 2018 gubernatorial election data (50D-49R)

- Number of votes received by Tony Evers in each ward
- Number of votes received by Scott Walker in each ward

• 2018 U.S. senate election data (55D-44R)

- Number of votes received by Tammy Baldwin in each ward
- Number of votes received by Leah Vukmir in each ward

• 2016 U.S. senate election data (51R-48D)

- Number of votes received by Ron Johnson in each ward
- Number of votes received by Russ Feingold in each ward

• 2016 presidential election data (50R-49D)

- Number of votes received by Donald Trump in each ward
- Number of votes received by Hillary Clinton in each ward

Note: The maps shown here are just a few of scores of maps that we have created. The maps shown here are not our best maps, yet they satisfy all legal redistricting requirements and are much fairer (and better looking) than the maps put forth in SB 621 and SB 622 and those released by the People's Maps Commission.

99 WI State Assembly Districts

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Current



- 6 Black majority districts (VAP)
- 2 Hispanic majority districts (VAP)
- **296 Republican, 199 Democratic wins (5 recent statewide elections)**
- Compactness score (from 0-99): 31.35
- 21 competitive districts (won by < 10%)



Created by FastMap



- 6 Black majority districts (VAP)
- 2 Hispanic majority districts (VAP)
- 243 Republican, 252 Democratic wins (5 recent statewide elections)
- Compactness score (from 0-99): 51.23
- 29 competitive districts (won by < 10%)



33 WI State Senate Districts

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Current



- 2 Black majority districts (VAP)
- 1 Hispanic near-majority district (> 45% VAP)
- **22 Republican, 11 Democratic** wins (avg. of 5 recent elections)
- Compactness score (from 0-33): 9.29
- 9 competitive districts (won by < 10%)



Created by FastMap



- 2 Black majority districts (VAP)
- 1 Hispanic near-majority district (> 45% VAP)
- 16 Republican, 17 Democratic wins (avg. of 5 recent elections)
- Compactness score (from 0-33): 11.06
- 9 competitive districts (won by < 10%)



WI Congressional Districts

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Current



- No majority-minority districts
- 28 Republican, 12 Democratic wins (5 recent statewide elections)
- Compactness score (from 0-8): 2.05



Created by FastMap



- No majority-minority districts
- **20 Republican, 20 Democratic** wins (5 recent statewide elections)
 - 4-4 seat split in each of five recent major statewide elections
- Compactness score (from 0-8): 3.13



Conclusion

Total fairness (i.e., proportionality) is possible in Wisconsin

Maps created by FastMap algorithm are perfectly proportional; the expected proportion of seats won by each party is equal to the proportion of statewide vote the party has received in five recent statewide elections

Maps created by FastMap algorithm are nicer looking and much fairer than maps introduced in SB 621, SB 622, and by the People's Maps Commission

Fairness can only be attained if mapmakers (like **FastMap**) are allowed to use recent election data when making maps

Iowa redistricting model is flawed because it forbids mapmakers from using election data

Fair Maps bill recently introduced by Democrats in WI legislature would bring the Iowa redistricting model to Wisconsin

Without access to recent election data, mapmakers are "drawing blind" (former WI State Representative Fred Kessler, Wisconsin State Journal, Nov. 14, 2020)

How Much Does Fairness Matter to You??

For more information, contact us at the email address below:

Matt Petering, PhD

Email address: matt.petering@districtsolutions.net

Company website: www.districtsolutions.net

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Fair Map #1 of Arizona's 9 congressional districts

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