

Waiting in Line to Vote

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For the Presidential Commission on Election Administration

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- Lines are costly
- Lines are not universal
- Queuing theory helps organize thinking about improvements
- Research on effective strategies is thin

Long lines discourage voting

- Voting and Registration Supplement (VRS) of the Current Population Survey
- Cooperative Congressional Election Study (CCES)
- Survey of the Performance of American Elections (SPAEE)

Long lines discourage voting

- Voting and Registration Supplement (VRS) of the Current Population Survey
 - 500k eligible voters failed to vote because of inconvenient hours or polling place locations, or **lines too long**
- Cooperative Congressional Election Study (CCES)
 - 730k non-voters due to long lines at the polls
- Survey of the Performance of American Elections (SPAEE)
 - 740k non-voters cite lines as a major factor

Long lines can reduce voter confidence

Q: How confident are you that **your vote** was counted as intended?*

Election day voters		Early voters	
Waited 10 minutes or less	Waited an hour or more	Waited 10 minutes or less	Waited an hour or more
68%	47%	69%	54%

*% saying very confident

Long lines can reduce voter confidence

Q: How confident are you that votes **in your county or town** were counted as intended?*

Election day voters		Early voters	
Waited 10 minutes or less	Waited an hour or more	Waited 10 minutes or less	Waited an hour or more
56%	32%	57%	48%

*% saying very confident

Long lines can reduce voter confidence

Q: How confident are you that votes in **your state** were counted as intended?*

Election day voters		Early voters	
Waited 10 minutes or less	Waited an hour or more	Waited 10 minutes or less	Waited an hour or more
46%	23%	43%	34%

*% saying very confident

Long lines can reduce voter confidence

Q: How confident are you that votes **nationwide** were counted as intended?*

Election day voters		Early voters	
Waited 10 minutes or less	Waited an hour or more	Waited 10 minutes or less	Waited an hour or more
24%	13%	23%	21%

*% saying very confident

Long lines can reduce voter confidence

Q: How confident are you that **your vote** was counted as intended?*

Respondent did not wait at all to vote

Five states with shortest lines	Five states with longest lines
63%	23%

*% saying very confident

Lines impose monetary costs

13.1 minutes average to vote



105.2 million in-person voters

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105.2 million in-person voters

23 million hours waiting

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\$23.67 average hourly earnings

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\$23.67 average hourly earnings

\$544 million

Basic Facts

	2008	2012
Not at all	36.8%	37.3%
Less than 10 minutes	27.6%	31.8%
10-30 minutes	19.0%	18.4%
31-60 minutes	10.3%	8.6%
More than one hour	6.3%	3.9%
Average (min.)	16.7	13.3
N	18,836	30,124

Source: CCES, 2008 and 2012

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N	14,336	30,124



**110 minutes
on average**

Source: CCES, 2008 and 2012

Basic Facts

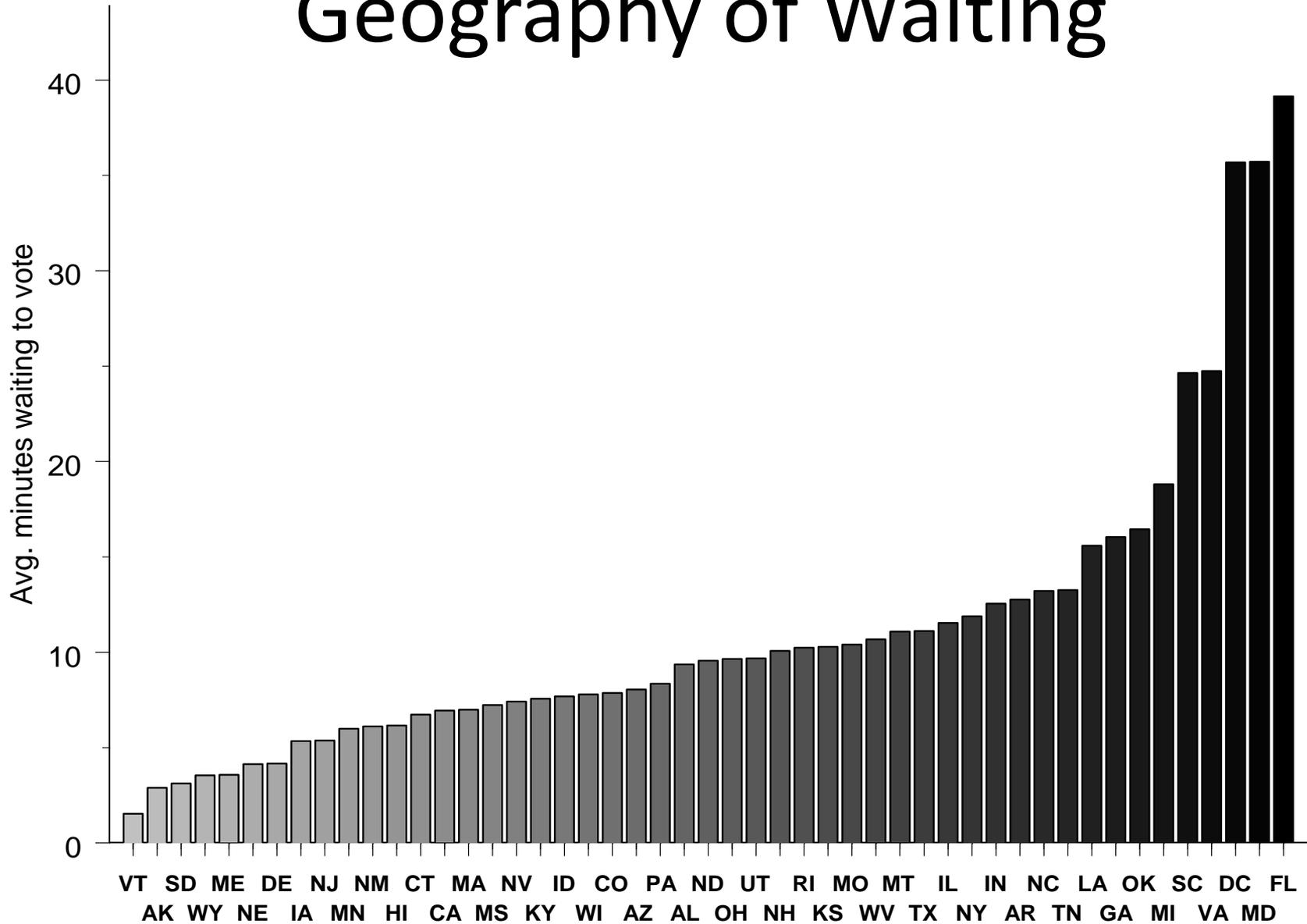
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**31% of total
time waiting**

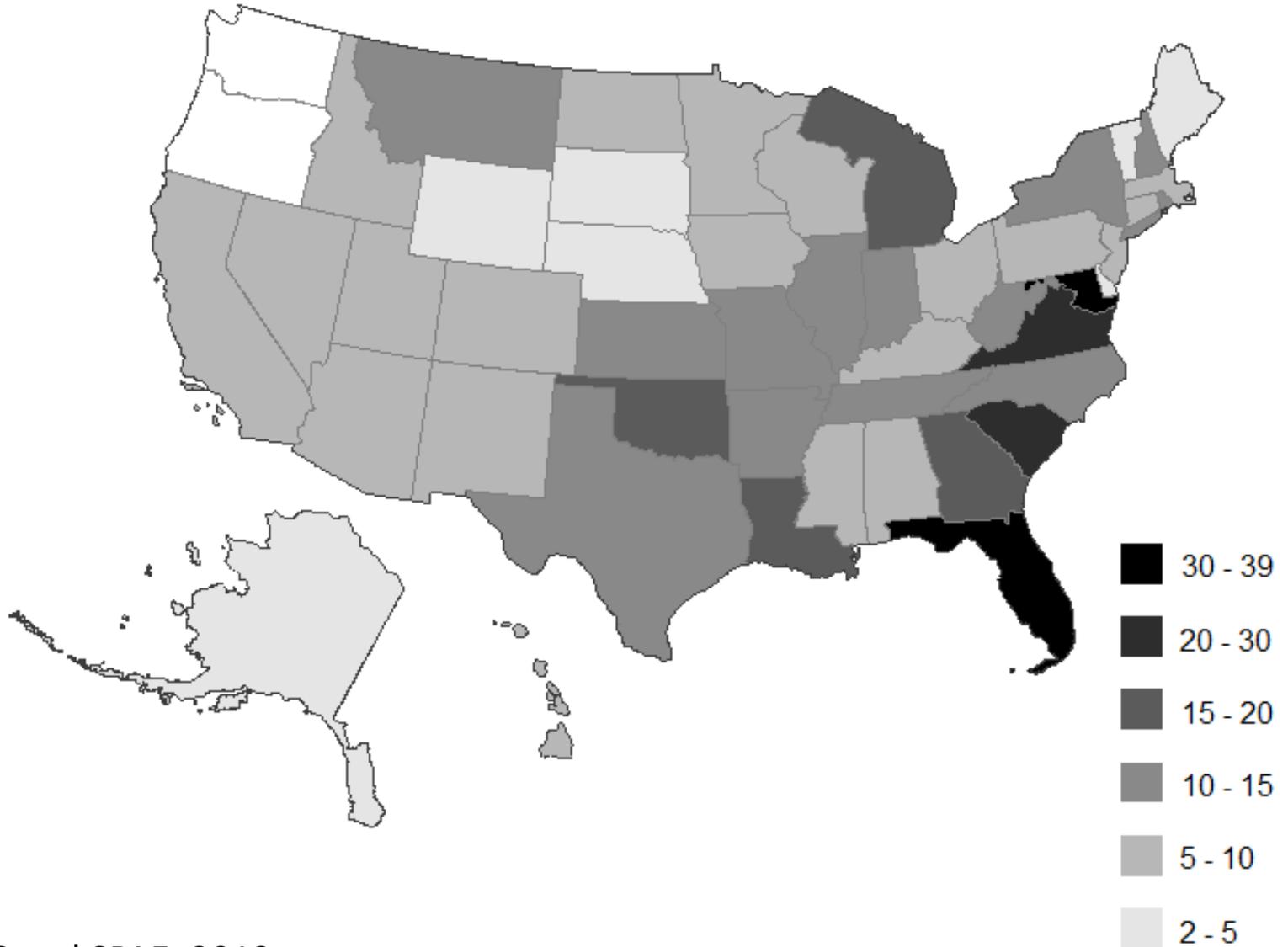
Source: CCES, 2008 and 2012

Geography of Waiting

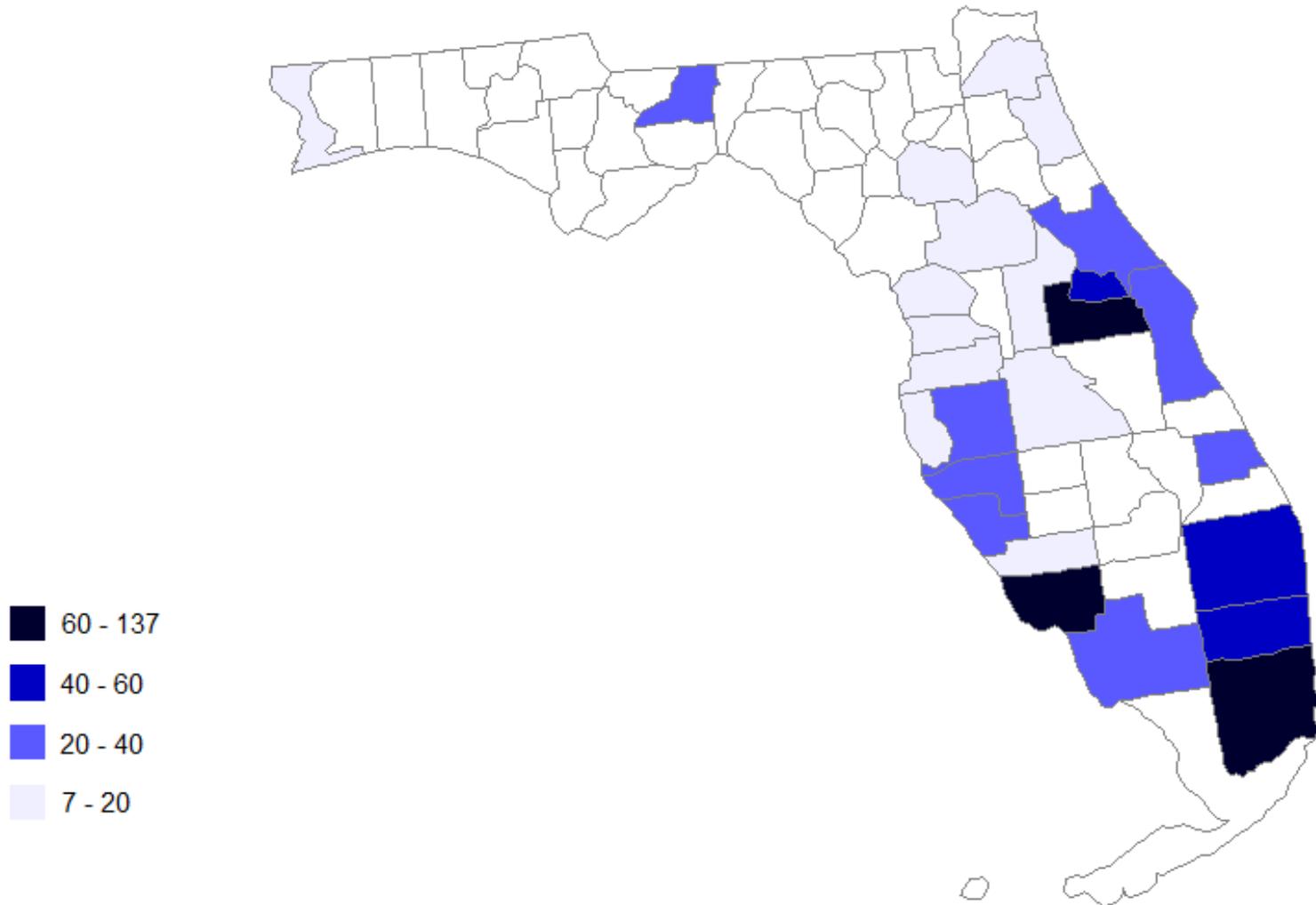


Source: CCES and SPAE, 2012

Geography of Waiting



Variation within States

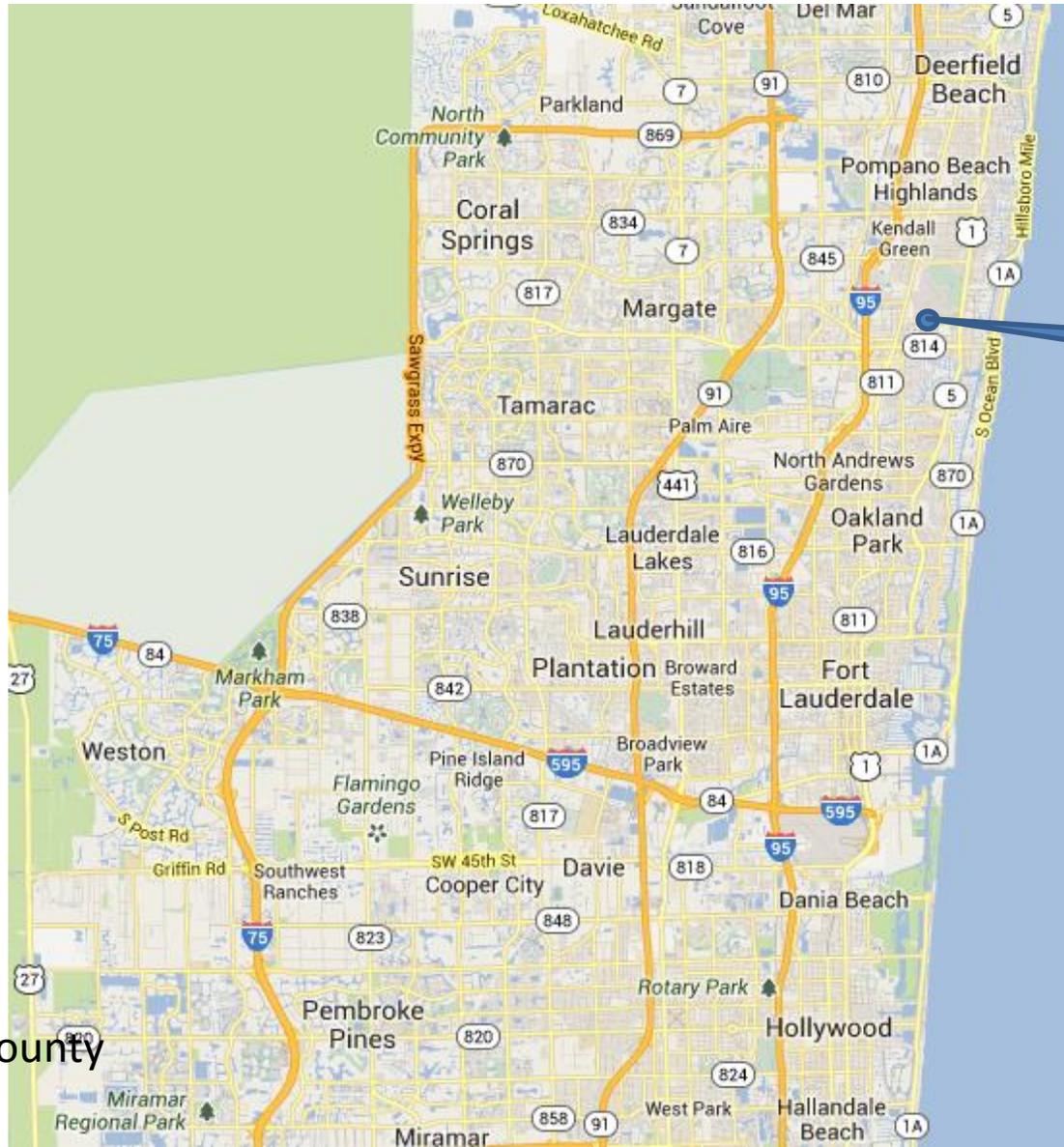


Variation within Counties



Source: Broward County
SOE Web site

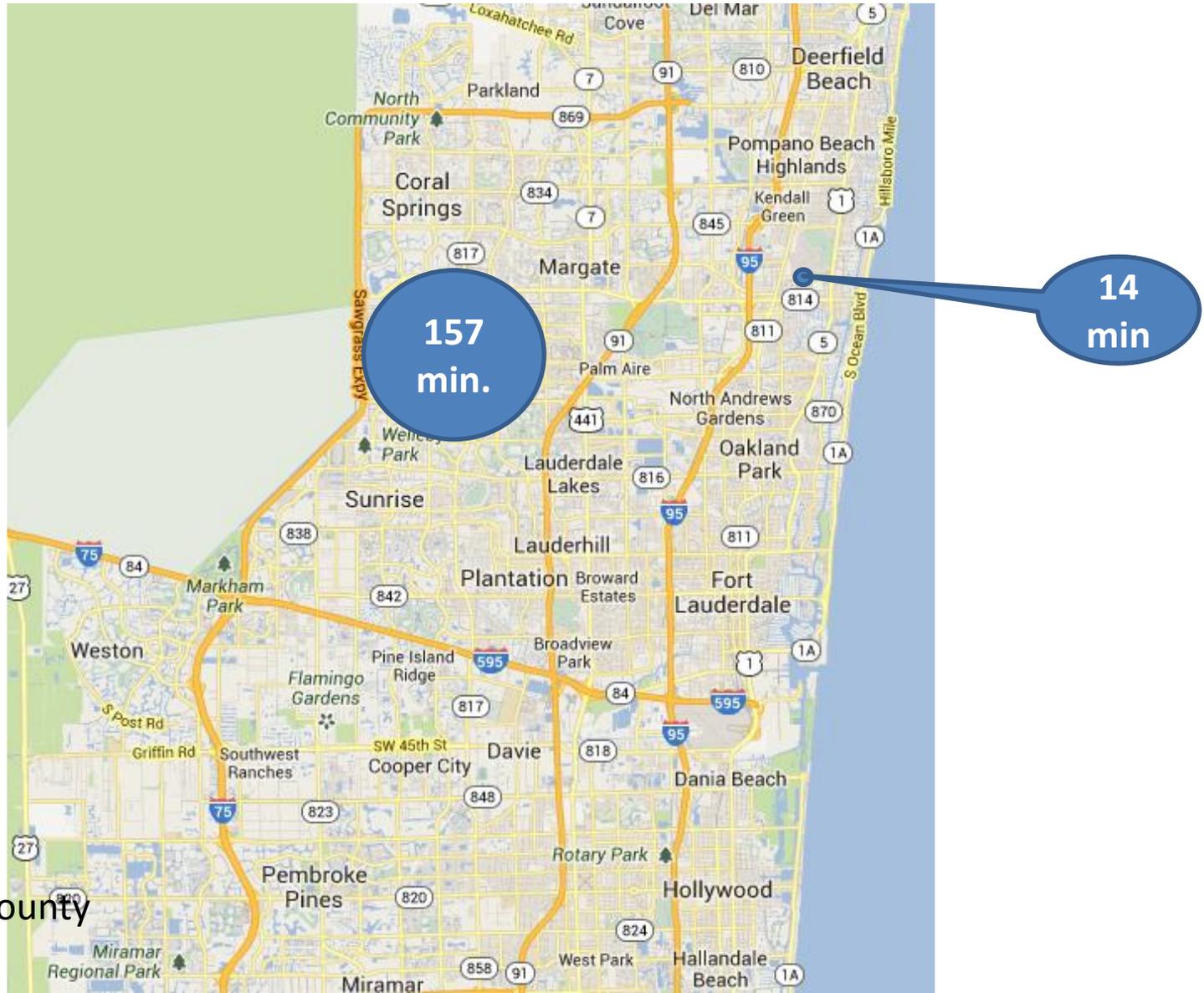
Variation within Counties



14 min

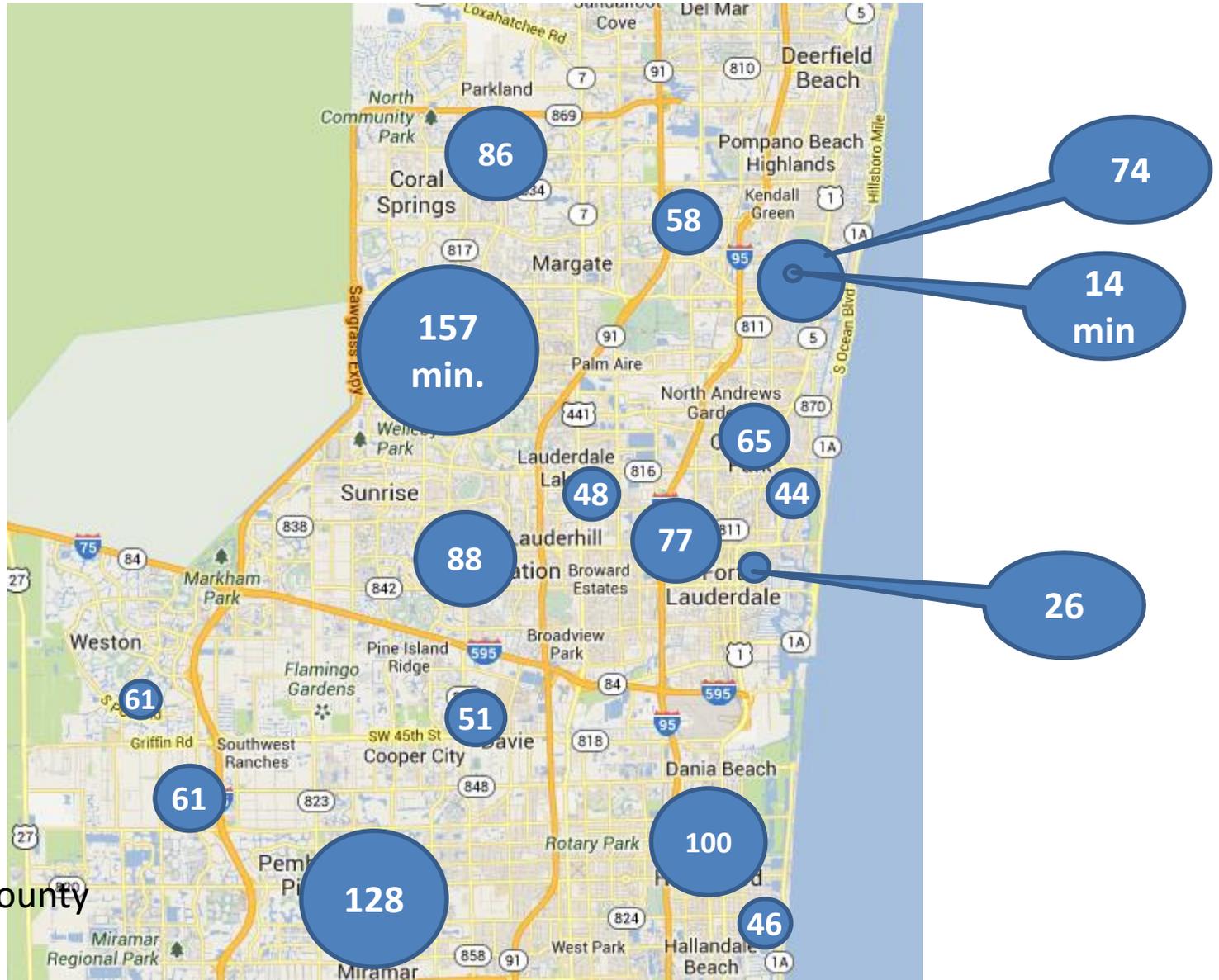
Source: Broward County SOE Web site

Variation within Counties



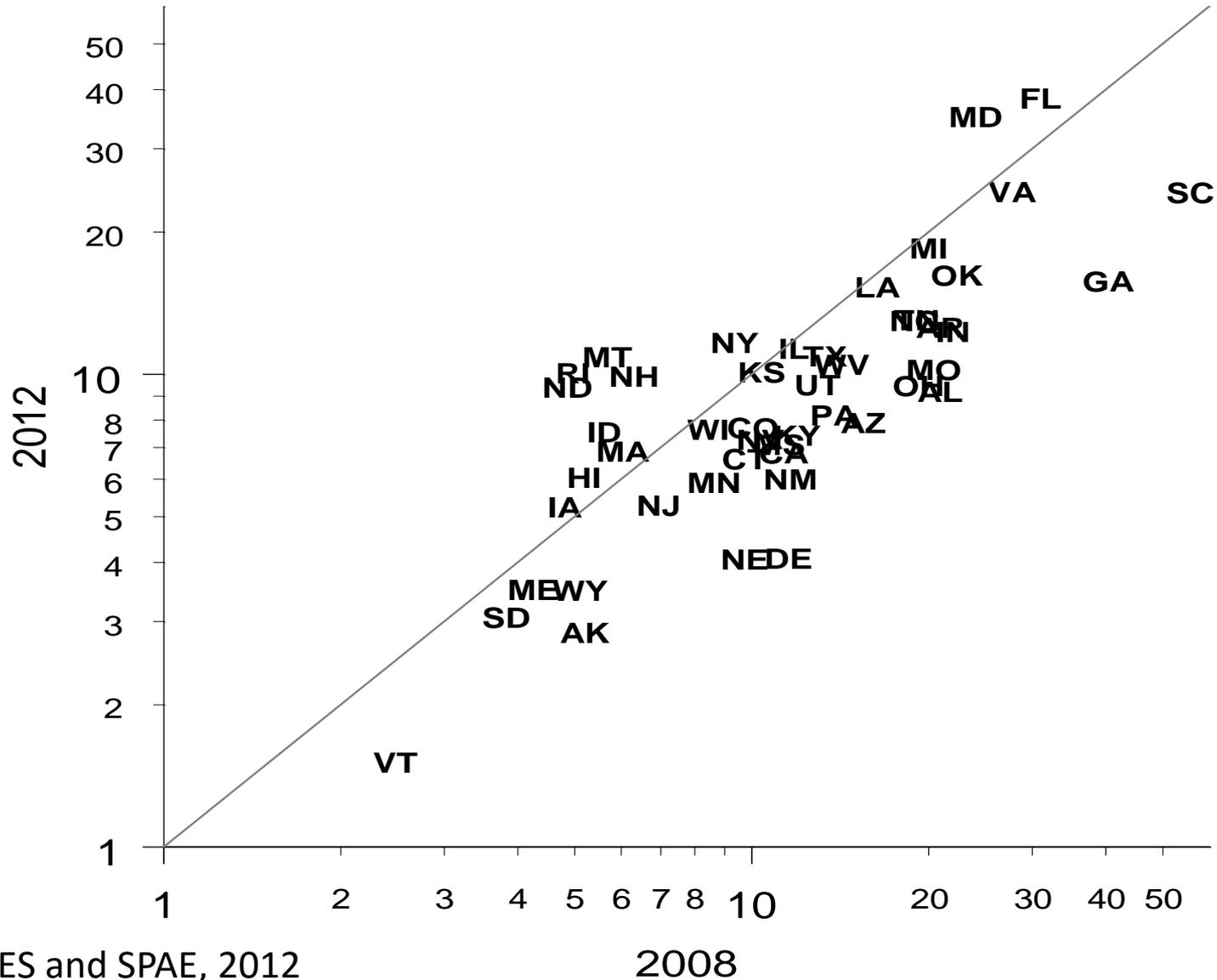
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Variation within Counties



Source: Broward County
SOE Web site

State-Level Persistence



Source: CCES and SPAE, 2012

The Demography of Waiting

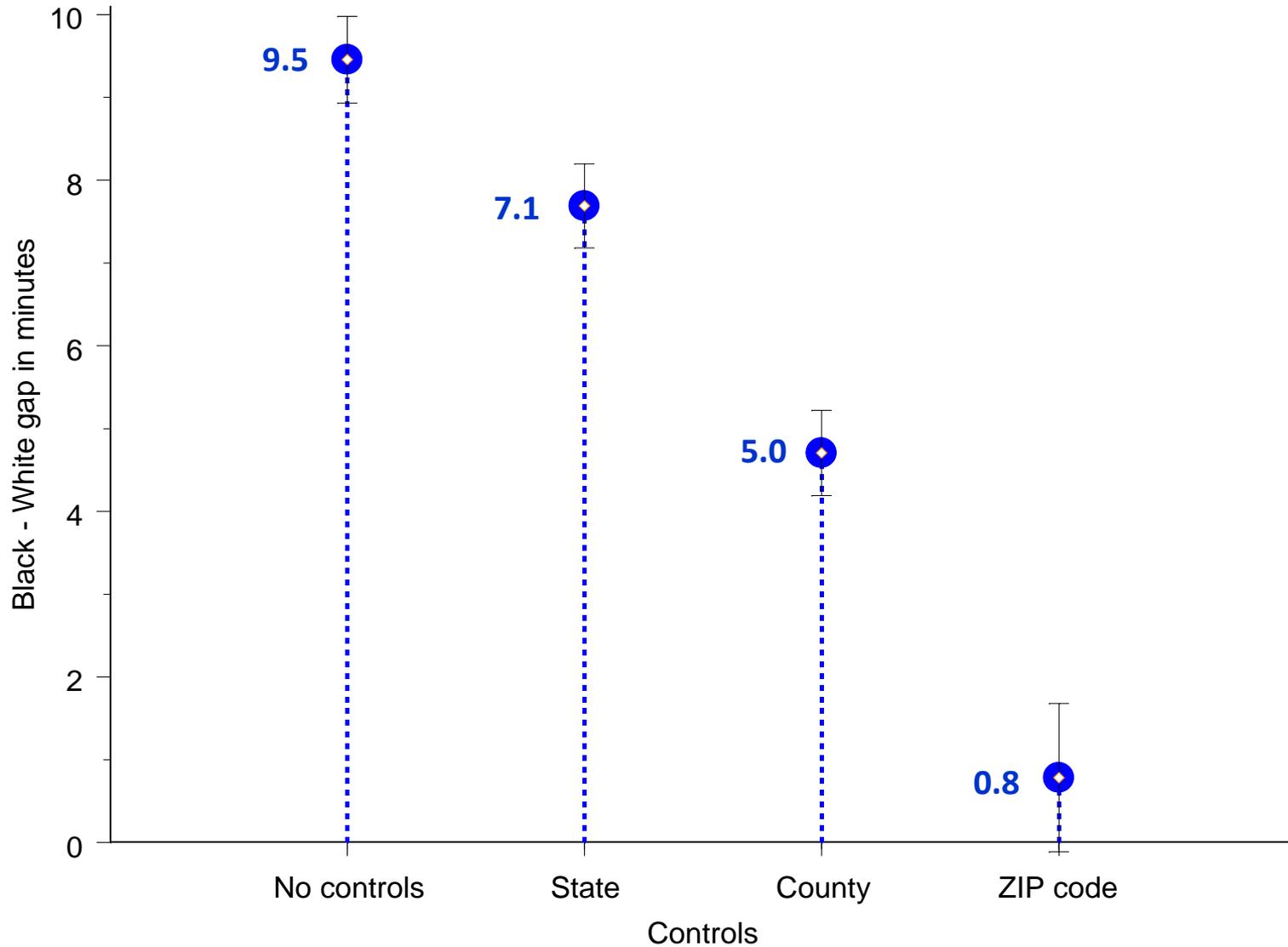
Early voters = 18 minutes

Election Day voters = 12 minutes

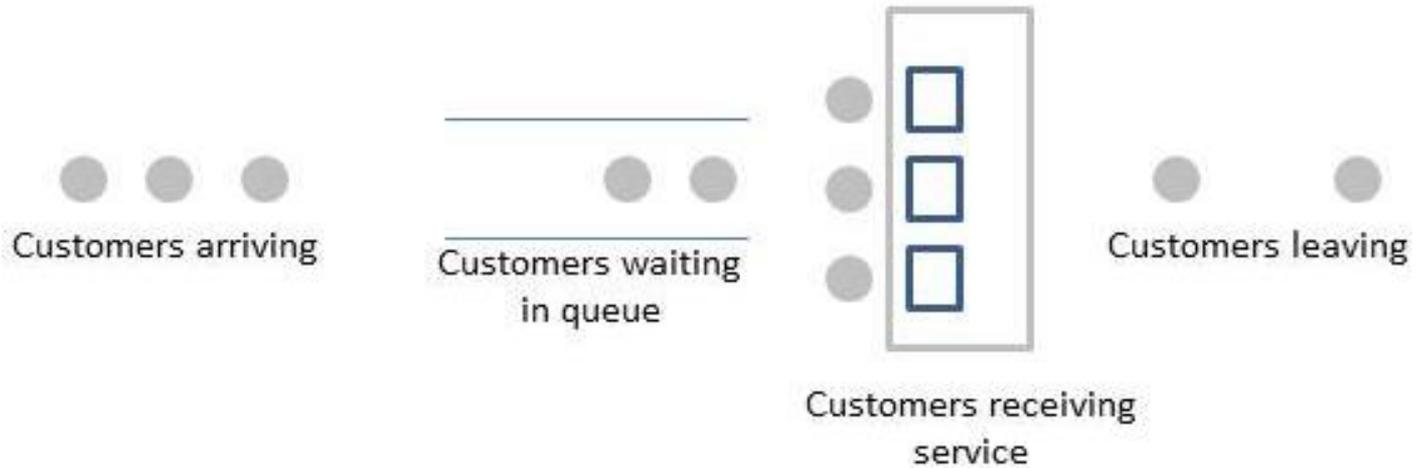
The Demography of Waiting

Race	Avg.
White	11.6
Black	23.3
Hispanic	18.7
Asian	15.4
Native American	13.3
Mixed	13.6
Other	13.3
Middle Eastern	11.7

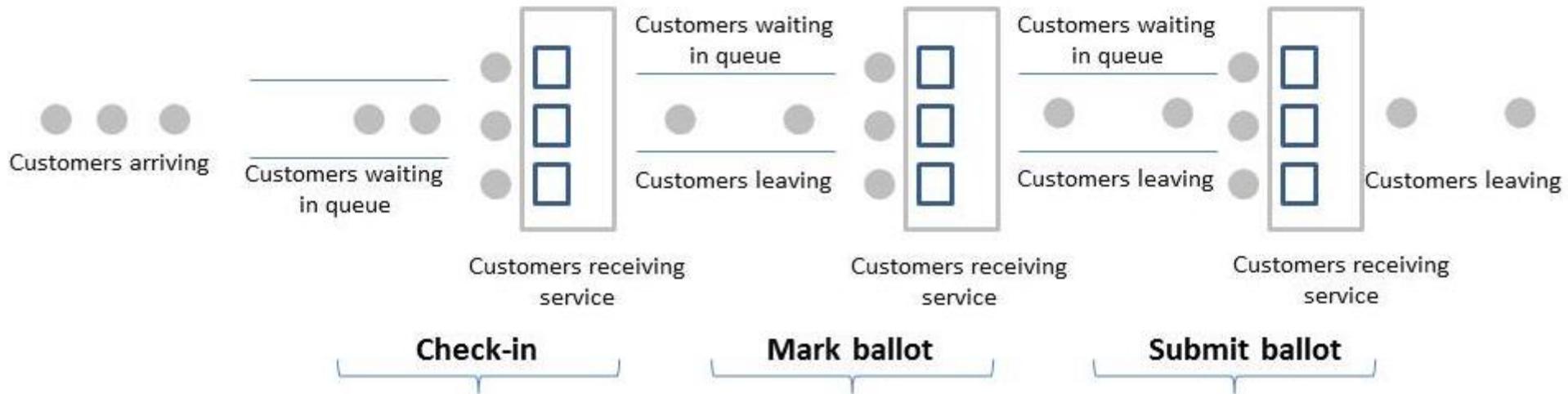
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Queuing Theory

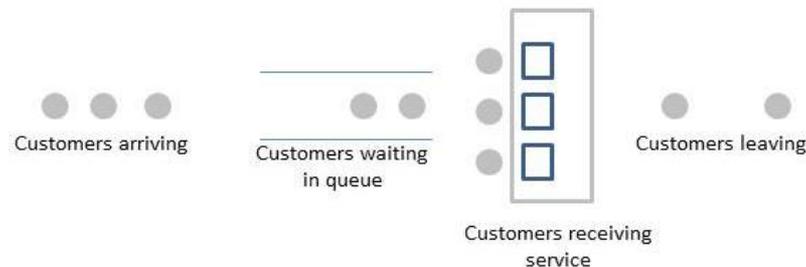


Queuing Theory



Queuing Theory Prescriptions

- Reduce the number of voters coming to the polling place
- Increase the number of service points
- Reduce average transition times



Queuing Theory Prescriptions

- Reduce the number of voters coming to the polling place
 - Increase vote-by-mail
 - Increase early in-person voting
 - Make Election Day a holiday
- Increase the number of service points
 - Increase the number of precincts
 - Increase the number of poll workers
 - Increase the number of machines
 - Favor paper over DREs
- Reduce average transaction times
 - Increase information to voters
 - Increase the functionality of electronic poll books
 - Decrease the length of ballots

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The empirical evidence suggests the opposite

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Mixed research
evidence/
popular reform

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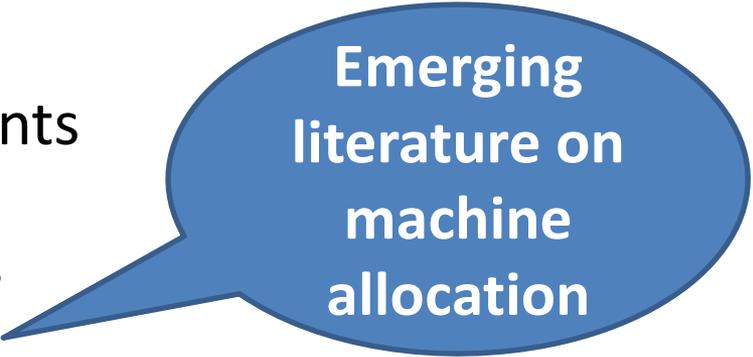
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The trend has
been the
opposite

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Emerging
literature on
machine
allocation

Queuing Theory Prescriptions

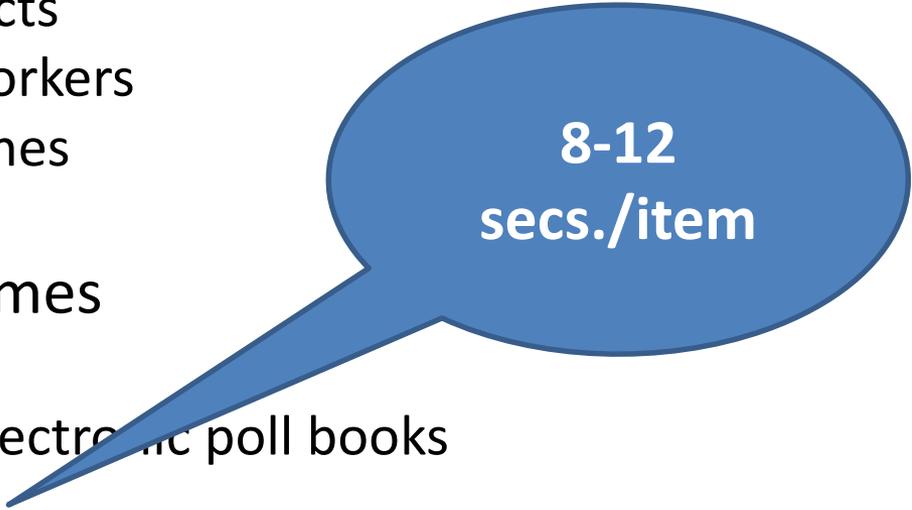
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Appears to
be happening
for other
reasons

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 - Increase the number of machines
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 - Increase the functionality of electronic poll books
 - **Decrease the length of ballots**



8-12
secs./item

Conclusions

- No magic bullet, like 2000
- *Chronic* and *one-off events* are likely different.
- Understand why states with similar demographics have wildly different line lengths (Calif. [7 min.] vs. Fla. [39 min.]
- Support efforts to help local governments deal with “normal challenges”