Waiting in Line to Vote
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For the Presidential Commission on Election Administration
June 28, 2013

• 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
  – 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 (SPAE)
  – 740k non-voters cite lines as a major factor

Long lines can reduce voter confidence

<table>
<thead>
<tr>
<th>Election day voters</th>
<th>Early voters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waited 10 minutes or less</td>
<td>Waited an hour or more</td>
</tr>
<tr>
<td>68%</td>
<td>69%</td>
</tr>
<tr>
<td>Waited 10 minutes or more</td>
<td>Waited an hour or more</td>
</tr>
<tr>
<td>47%</td>
<td>54%</td>
</tr>
</tbody>
</table>

*% saying very confident

Source: SPAE 2012

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

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<tr>
<td>Waited 10 minutes or less</td>
<td>Waited an hour or more</td>
</tr>
<tr>
<td>56%</td>
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</tr>
<tr>
<td>Waited 10 minutes or more</td>
<td>Waited an hour or more</td>
</tr>
<tr>
<td>32%</td>
<td>48%</td>
</tr>
</tbody>
</table>

*% saying very confident

Source: SPAE 2012
Long lines can reduce voter confidence

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

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</tr>
<tr>
<td>46%</td>
<td>43%</td>
</tr>
<tr>
<td>Waited an hour or more</td>
<td>Waited an hour or more</td>
</tr>
<tr>
<td>23%</td>
<td>34%</td>
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Long lines can reduce voter confidence

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

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</tr>
<tr>
<td>24%</td>
<td>23%</td>
</tr>
<tr>
<td>Waited an hour or more</td>
<td>Waited an hour or more</td>
</tr>
<tr>
<td>13%</td>
<td>21%</td>
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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

<table>
<thead>
<tr>
<th>Five states with shortest lines</th>
<th>Five states with longest lines</th>
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<tr>
<td>63%</td>
<td>23%</td>
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Source: SPAE 2012

Lines impose monetary costs

13.1 minutes average to vote

\[ \times \]

105.2 million in-person voters

23 million hours waiting

$23.67 average hourly earnings
Lines impose monetary costs

13.1 minutes average to vote

×

105.2 million in-person voters

23 million hours waiting

×

$23.67 average hourly earnings

$544 million

Basic Facts

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<th>2008</th>
<th>2012</th>
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<tr>
<td>Not at all</td>
<td>36.8%</td>
<td>37.3%</td>
</tr>
<tr>
<td>Less than 10 minutes</td>
<td>27.6%</td>
<td>31.8%</td>
</tr>
<tr>
<td>10-30 minutes</td>
<td>19.0%</td>
<td>18.4%</td>
</tr>
<tr>
<td>31-60 minutes</td>
<td>10.3%</td>
<td>8.6%</td>
</tr>
<tr>
<td>More than one hour</td>
<td>6.3%</td>
<td>3.9%</td>
</tr>
<tr>
<td>Average (min.)</td>
<td>16.7</td>
<td>13.3</td>
</tr>
<tr>
<td>N</td>
<td>18,836</td>
<td>30,124</td>
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Source: CCES, 2008 and 2012

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Source: CCES, 2008 and 2012

Geography of Waiting

Source: CCES and SPAE, 2012

Geography of Waiting

Source: CCES and SPAE, 2012
Variation within States

Source: CCES and SPAE, 2012

Variation within Counties

Source: Broward County SOE Web site

Variation within Counties

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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

Source: CCES, 2012

The Demography of Waiting

<table>
<thead>
<tr>
<th>Race</th>
<th>Avg.</th>
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<tr>
<td>White</td>
<td>11.6</td>
</tr>
<tr>
<td>Black</td>
<td>23.3</td>
</tr>
<tr>
<td>Hispanic</td>
<td>18.7</td>
</tr>
<tr>
<td>Asian</td>
<td>15.4</td>
</tr>
<tr>
<td>Native American</td>
<td>13.3</td>
</tr>
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<td>Mixed</td>
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</tr>
<tr>
<td>Other</td>
<td>13.3</td>
</tr>
<tr>
<td>Middle Eastern</td>
<td>11.7</td>
</tr>
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Source: CCES and SPAE, 2012

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

The trend has been the opposite

Appears to be happening for other reasons

Emerging literature on machine allocation

Mixed research evidence/popular reform
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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”