EXHIBIT EIGHT

Early in-person ballots cast during the first five days of early in person voting as a percentage of all ballot cast in Collier, Hardee, Hendry, Hillsborough, and Monroe Counties; displayed for All Voters, African American Voters, Hispanic Voters, and White Voters; in the 2008 Presidential Preference Primary, 2008 Primary, 2008 General Election, 2010 Primary, and 2010 General Elections

Source: State of Florida Voter Registration, Voter History, and Early Voting Files

<table>
<thead>
<tr>
<th></th>
<th>First Five Days (%)</th>
<th>First Five Days (number)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All</td>
<td>Black</td>
</tr>
<tr>
<td>2008 PPP</td>
<td>7.44%</td>
<td>5.83%</td>
</tr>
<tr>
<td>2008 P</td>
<td>7.64%</td>
<td>7.15%</td>
</tr>
<tr>
<td>2008 G</td>
<td>10.01%</td>
<td>17.25%</td>
</tr>
<tr>
<td>2010 P</td>
<td>6.96%</td>
<td>7.91%</td>
</tr>
<tr>
<td>2010 G</td>
<td>7.89%</td>
<td>6.88%</td>
</tr>
</tbody>
</table>

![Bar chart showing early in-person voting data for different races and elections.](chart.png)
EXHIBIT NINE

Early in-person ballots cast during the first five days of early in person voting as a percentage of all ballots cast in Florida; displayed for All Voters, African American Voters, Hispanic Voters, and White Voters; in the 2008 Presidential Preference Primary, 2008 Primary, 2008 General Election, 2010 Primary, and 2010 General Elections.

Source: State of Florida Voter Registration, Voter History, and Early Voting Files

<table>
<thead>
<tr>
<th>Year</th>
<th>Election Type</th>
<th>Voters</th>
<th>Blacks</th>
<th>Hispanics</th>
<th>Whites</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>PPP</td>
<td>4.72%</td>
<td>3.12%</td>
<td>4.15%</td>
<td>4.97%</td>
</tr>
<tr>
<td>2008</td>
<td>General</td>
<td>9.92%</td>
<td>15.45%</td>
<td>7.86%</td>
<td>9.29%</td>
</tr>
<tr>
<td>2008</td>
<td>PPP</td>
<td>5.34%</td>
<td>4.87%</td>
<td>4.53%</td>
<td>5.47%</td>
</tr>
<tr>
<td>2010</td>
<td>General</td>
<td>6.31%</td>
<td>6.54%</td>
<td>4.94%</td>
<td>6.74%</td>
</tr>
</tbody>
</table>

First Five Days (number)

<table>
<thead>
<tr>
<th>Year</th>
<th>Election Type</th>
<th>All</th>
<th>Blacks</th>
<th>Hispanics</th>
<th>Whites</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>PPP</td>
<td>200,981</td>
<td>12,240</td>
<td>14,711</td>
<td>167,169</td>
</tr>
<tr>
<td>2008</td>
<td>General</td>
<td>104,145</td>
<td>9,564</td>
<td>6,446</td>
<td>85,196</td>
</tr>
<tr>
<td>2010</td>
<td>PPP</td>
<td>836,224</td>
<td>171,250</td>
<td>74,035</td>
<td>551,343</td>
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<tr>
<td>2010</td>
<td>General</td>
<td>130,021</td>
<td>12,224</td>
<td>7,454</td>
<td>106,113</td>
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<tr>
<td>2010</td>
<td>General</td>
<td>343,700</td>
<td>30,313</td>
<td>23,453</td>
<td>278,028</td>
</tr>
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</table>
EXHIBIT TEN

Early in-person ballots cast on the final Sunday of early in person voting as a percentage of all ballots cast in counties in Florida that offered early voting on the Sunday two days before Election Day. Displayed for All Voters, African American Voters, Hispanic Voters, and White Voters; in the 2008 Presidential Preference Primary, 2008 Primary, 2008 General Election, 2010 Primary, and 2010 General Elections

Source: State of Florida Voter Registration, Voter History, and Early Voting Files

<table>
<thead>
<tr>
<th>Percent</th>
<th>Last Sunday (2 days before ED)</th>
<th>Total</th>
<th>Last Sunday (2 days before ED)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All</td>
<td>Black</td>
<td>Hispanic</td>
</tr>
<tr>
<td>2008 PPP</td>
<td>1.98%</td>
<td>2.03%</td>
<td>2.13%</td>
</tr>
<tr>
<td>2008 P</td>
<td>1.92%</td>
<td>2.55%</td>
<td>2.01%</td>
</tr>
<tr>
<td>2008 G</td>
<td>2.16%</td>
<td>4.21%</td>
<td>2.79%</td>
</tr>
<tr>
<td>2010 P</td>
<td>1.28%</td>
<td>2.24%</td>
<td>1.70%</td>
</tr>
<tr>
<td>2010 G</td>
<td>1.44%</td>
<td>2.64%</td>
<td>1.56%</td>
</tr>
</tbody>
</table>
EXHIBIT ELEVEN

Early in-person ballots cast during the first week of early in person voting as a percentage of all early votes. Displayed Statewide; in Collier, Hardee, Hendry, Hillsborough, and Monroe Counties; and in Miami-Dade County.

Source: State of Florida Voter Registration, Voter History, and Early Voting Files

<table>
<thead>
<tr>
<th>Year</th>
<th>Statewide</th>
<th>Five Counties</th>
<th>Miami-Dade</th>
<th>Statewide</th>
<th>Five Counties</th>
<th>Miami-Dade</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008 PPP</td>
<td>37.39%</td>
<td>41.07%</td>
<td>36.17%</td>
<td>238,532</td>
<td>28,798</td>
<td>24035</td>
</tr>
<tr>
<td>2008 P</td>
<td>48.07%</td>
<td>47.28%</td>
<td>41.54%</td>
<td>120,617</td>
<td>10,659</td>
<td>11695</td>
</tr>
<tr>
<td>2008 G</td>
<td>38.73%</td>
<td>40.72%</td>
<td>31.25%</td>
<td>1,022,801</td>
<td>85,242</td>
<td>103309</td>
</tr>
<tr>
<td>2010 P</td>
<td>40.90%</td>
<td>38.27%</td>
<td>32.63%</td>
<td>148,545</td>
<td>15,279</td>
<td>12478</td>
</tr>
<tr>
<td>2010 G</td>
<td>37.95%</td>
<td>29.08%</td>
<td>38.94%</td>
<td>408,828</td>
<td>42,138</td>
<td>35431</td>
</tr>
</tbody>
</table>

![Graph showing early votes as a percentage of all early votes over different years and locations.](image-url)
Paul Gronke

EDUCATION

UNIVERSITY OF MICHIGAN
- Doctorate of Philosophy, Political Science
  Ann Arbor, MI
  December 1993

UNIVERSITY OF ESSEX
- Masters of Arts, Western European Politics
  Essex, UK
  June 1984

UNIVERSITY OF CHICAGO
- Bachelor of Arts
  Chicago, IL
  June 1982
  - Political Science, with honors, Phi Beta Kappa

EMPLOYMENT

REED COLLEGE
- Professor of Political Science
  Portland, OR
  January 2001 – Present
  - Taught introductory and upper-level classes focusing on American politics, political institutions and political research methods.
  - Published peer-reviewed articles, book chapters, and research reports including pieces in the Journal of Politics, Annual Review of Political Science, Pi Sigma Alpha, and Legislative Studies Quarterly.
  - Research support from foundations, contracts, and internal competitive grants.

Pew Charitable Trusts
- Consultant, Election Initiatives of the Pew Center on the States
  Portland, OR
  September 2007 – March 2011
  - Provided empirical analysis and wrote reports for ongoing projects pertaining to election integrity and equity.
  - Worked with strategic initiatives, reviewed grant proposals, provided methodological and substantive quality control.
  - Helped organize gatherings and conferences, manage inquiries from media and other stakeholders.

DUKE UNIVERSITY
- Assistant Professor of Political Science
  Durham, NC
  September 1991–December 2000
  - Taught undergraduate and graduate classes focusing on American politics, public opinion, legislative behavior, political parties, and graduate statistical methods (first course). Received campus-wide teaching award in 1996.
  - Published a university press book, peer-reviewed articles, and book chapters.
  - Worked with the National Science Foundation, the Ford Foundation, and internal grants.
  - Instructor from September 1991 to August 1993; Assistant Professor from September 1993 to December 2000.

ADMINISTRATIVE POSITIONS

DEPARTMENT CHAIR
- Department of Political Science
  Portland College
  - Responsible for curriculum planning, committee assignments, student progress toward degree, staff hiring and supervision, and other departmental governance for a five-member department and 30-40 majors (juniors and seniors).
  - Successfully expanded faculty from 4 to 7 members; worked with department and college to update and reform department requirements and curriculum; doubled departmental majors and expanded class enrollments.
- Budgetary planning and management of a $23,000 department budget and seven endowed funds with annual income exceeding $70,000.
- With Economics Department, responsible for campus-wide student-faculty summer research program, 3-5 awards each summer.

**FOUNDER AND DIRECTOR**
*Early Voting Information Center*
Reed College
2005-present

- Established a non-partisan center conducting research into and disseminating information about early voting and absentee balloting.
- Managed public outreach, recruit and supervise 2-4 staff members (undergraduate and post-baccalaureate researchers), manage budgets, work to attract continuing external support.
- Received $530,000 in external support since 2005.

**DIRECTOR**
*Public Policy Lecture Series*
Reed College
2001-2006, 2008-2011

- Created a campus-wide lecture series to bring nationally and internationally recognized speakers on domestic and international affairs to campus. Identify important areas of public and campus concern; identify potential speakers; and collaborate on public outreach.
- Empowered students by creating a student coordinating committee; continue to work with student committee to manage series, create student-run events with each speaker.
- Managed $20,000 annual lecture series budget; hire and manage part-time lecture coordinator.

**CO-EDITOR**
*Election Law Journal*
2010-present

- Responsible for reviewing incoming articles, hire and supervise an editorial assistant to assign reviewers and meet deadlines, and evaluating reviews and articles for acceptance or rejection.
- First social scientist chosen to co-edit the only peer-reviewed interdisciplinary journal covering election law, election administration, and election policy.

**DIRECTOR**
*Public Policy Workshop*
Reed College
2001-02, 2005-present

- Maintained a divisional student research and thesis writing workspace (6 workstations, group meeting space, computer projection).
- Responsible for hiring and supervising part-time facility manager, coordinating with divisional members to assure identifying new computational and statistical needs for students and faculty, and ensuring continuing support from the College.

**GRANTS, CONTRACTS, AND CONSULTANCIES**

**EXTERNAL COMPETITIVE GRANTS**
- Matching funds from ARIF/Brookings Election Reform Project: $4000.
- Mellon Foundation: Summer Teaching Conference "Integrating Quantitative Methods in Social Science Classes." Summer 2005, $12,000.
- National Science Foundation: Research Experiences for Undergraduates (REU) Program Award, $5000, July 1999-June 2000.
INTERNAL COMPETITIVE GRANTS:


McCullough Fund for Faculty Research. $8000 (2003-4)


Instrumentation Grant, 1998-9 ($6000).


HONORS, AWARDS, AND FELLOWSHIPS

Competitive Paid Leave Award, Reed College, Spring 2008 (leave for one semester)

Competitive Paid Leave Award, Reed College, Fall 2004 (leave for one semester).
Fellow, John Harvard Center for Press and Politics, Harvard University, Spring 2001 (declined)
Richard K. Lobbis Distinguished Award for Teaching Excellence, 1995-6
Nominee, Duke University Alumni Distinguished Teaching Award, 1999
Horace H. Rackham Dissertation Fellowship, 1990
National Science Foundation Graduate Fellowship, 1983-1986
Phi Beta Kappa

PUBLICATIONS

BOOKS

ARTICLES IN REFEREED JOURNALS
ADDITIONAL WRITINGS AND RESEARCH ACTIVITIES

PAPERS UNDER REVIEW


With Peter Miller. “Early Voting and Turnout in Oregon: A Replication and Extension.”

With Peter Miller. “Early Voting and Turnout in Washington.”

BLOGS, OP-EDS, TEXTBOOK WRITING


Book Review. Dennis Thompson, Just Elections: Congress and the Presidency.


“Politics In the News.” Fall, 1998 – ongoing. A twice weekly online analysis of current news stories, taken from the NY Times, and distributed with a brief commentary to American politics teachers and students. For W.W. Norton.

WORKING AND CONFERENCE PAPERS (PAST FIVE YEARS)


Political Science Association meeting, 2003.
Participant, Cantigny Conference on Civil-Military Relations, Naperville IL, April 2000.

ALL COLLEGE AND DEPARTMENTAL LEADERSHIP POSITIONS
Chair, Department Self-Study, Department of Political Science, 2010-12.
Member, Dean’s Search Committee, 2009-10.
Chair, Department of Political Science, Reed College (September 2001-August 2004; January 2005-August 2007; July 2009-present).
Member (campus wide elective position), Committee on Academic Planning and Policy, 2005-2007.
Chair, tenure track Environmental Politics Search 2009/10; visiting American Politics Search 2006/7; tenure track IR/Comparative Search, 2005/6; visiting searches (various fields) 2005/10, 2005/6, 2003/4.
Director, Reed Public Policy Workshop, 2001-2002; 2005-present.
Organizer and coordinator, Ducey and Munk-Datzing International Affairs lecture series, 2002-2007
Official Representative, Inter University Consortium for Political and Social Research, 2001-present.
Elected member, Duke University Arts and Sciences Council (1998-9)

OTHER INSTITUTIONAL AND DEPARTMENTAL ACTIVITIES
Reed alumni donor development visit and speaking engagement, Redmond WA, April 21, 2011.
Fuson-Scholz Alumni Lecturer, 2004
“Reed on the Road” Alumni speaker, Fall 2004 (Chicago and Washington DC).
Invited speaker, Reed alumni board meeting, Fall 2004.
Member, Staff/Faculty Benefits Committee (2011-2012); Emergency Response Team Committee (2010-2011); Ad Hoc Committee to establish an Environmental Studies Program at Reed College (2004-2006); Reed College Computer Policy Committee (2001-2004); Reed College Art Management Committee (2001-2004); Reed College Ad Hoc One Card Committee (2001-2002).
Member, Duke University Teaching Awards Committee (1998-2000)
Guest Lecturer on American Politics, Hkur University/Duke Exchange Program (Summers, 1995-1999).
Faculty in Residence, Pregam Dormitory of Duke University (1995-8)

DISCIPLINARY AND SCHOLARLY LEADERSHIP POSITIONS
Member, Ad Hoc Committee on the Public Understanding of Political Science, American Political Science Association, Fall 2011-Spring 2012.
Council member, Western Political Science Association, 2008-2010.
Section Chair, Communications and the Media, 2007 Annual Meeting, Southern Political Science Association; Election, 2004 Annual Meeting, Western Political Science Association.
Member, Trust and Development Committee, American Political Science Association, January 2005-present.
EXHIBIT THIRTEEN

DATA AND INFORMATION CONSIDERED

In forming my opinions, I considered national, state and county level voting data described in detail in my report. I also considered the current population surveys, voting research and publications identified in my report, the revisions to the Florida Election Code concerning early voting at issue in this case (§ 101.657, Fla. Stat.), the State of Florida’s Amended Complaint, information concerning the Florida Election Code on the Florida Secretary of State’s website, the Associated Press Elections Unit voting turnover reports, information provided by Russell Weaver and Dr. Charles Stewart and my own expertise in the field. I reserve the right to consider additional information concerning my opinions as it becomes available.
Convenient Turnout: A Case Study of the Indiana Vote Center Pilot Program

Steven R. Hall  
Ball State University  
USA

Joseph Losco  
Ball State University  
USA

Raymond Scheele  
Ball State University  
USA

Abstract

As academics have questioned the efficacy of convenience voting in increasing turnout, state legislatures and county election boards have responded by curtailing the availability of these innovations, particularly early voting. In the article, we contend that the combined use of vote centers, or super-precincts, with early voting offers a potential means of increasing voter turnout and the quality of the election experience while reducing the cost of elections at the same time. We present original data from the 2004 and 2008 elections consisting of a controlled comparison of three Indiana counties with vote centers and three using traditional precincts. Our findings of increased turnout in vote center counties, particularly among those who participate infrequently, are admittedly preliminary. However, because we also find that vote centers substantially reduce election costs, we contend that this issue merits examination.

Keywords: early voting, vote centers, convenience voting, turnout, election costs.

1. Introduction

In 2008, fully one third of the electorate cast ballots prior to Election Day. Convenience voting has become an important issue in literature on electoral institutions and political behavior, one that speaks to classic debates on the motivations behind political participation. Studies in this field have yielded mixed results about the efficacy of measures such as mail-in ballots, no-excuse early voting, and vote centers in affecting turnout and the composition of the electorate. Frequently, studies questioning turnout effects of convenience voting measures have concluded that they constitute a handout to the politically engaged. Academic ambivalence on the issue has a striking parallel in current policy debates on proposed convenience voting measure implementation. While some jurisdictions are striding forward, others cite cost, logistics, and efficacy in scaling these measures back.

In this paper, we consider the effects of the combination of early voting with the use of vote centers, or super-precincts that consolidate many smaller traditional precincts. Vote centers eliminate traditional polling locations and allow voters to cast their ballots at any of several locations within the county, giving them access to the franchise at locations close to where they work, live, attend school, or shop. Early voting is a key part of the vote center model as it reduces Election Day congestion at the polls. Indiana allowed three counties (Cass, Tippecanoe, Wayne) to use vote centers on a trial basis beginning in 2008. We compare changes in turnout from the 2004 to 2008 elections between these three counties and three similar counties that relied on traditional precincts (Blackford, Delaware, and Grant). Our preliminary evidence suggests that vote centers were associated with increased early voting and turnout. Further, we find that vote centers appear to have attracted infrequent voters, particularly through early voting.

Because vote centers are a relatively recent innovation, we do not have the luxury of observing several election cycles of data to determine whether the turnout increase is indeed transitory. Yet, our data show that vote centers combined with early voting 1) have the potential for attracting infrequent voters to the polling place, and 2) reduce the average cost per vote of election administration. Both of these results have important implications for policymakers seeking to lower election cost without sacrificing election turnout. The premature rejection of these forms of convenience voting risks civic harm. Simply stated, at least with regard to vote centers, it is too early to close the books on early voting.
2. Convenience voting: the literature and policy

Convenience voting has rapidly increased in recent years, taking a variety of forms including vote by mail, in person early voting, and absentee voting. Advocates of early voting hold that making the franchise more convenient reduces the costs associated with the act of voting and spurs turnout. Election administrators hold that many forms of convenience voting reduce the costs of holding elections and are a good bargain for taxpayers.

A substantial literature already exists regarding the impact of early voting on turnout. Early studies of vote by mail showed substantial increases in early adopting states like Oregon, Washington and California (Magleby, 1987; Southwell & Burchett, 2000). However, Gronke and Miller (2008) attribute these results to early novelty, finding that mail voting turnout declined significantly over time. With regard to absentee balloting, Oliver (1996) finds that liberalizing the rules to include no-excuse absentee voting increases turnout provided that there are concurrent party efforts to increase participation. Stein and Vonnahme (2008) investigated the use of non-precinct based vote centers in Colorado which permitted voters to cast ballots at any number of locations near to where they shop, work or live and found that vote centers marginally increased voting day turnout. However, in a review of the literature, Gronke et al. (2008) conclude that no-excuse absentee balloting, permanent absentee balloting, and early in-person voting have no effect on turnout; only voting by mail has a statistically significant positive impact. Similarly, Fitzgerald (2005) finds little evidence that convenience voting and measures that make registration easier increase turnout.

With regard to the identity of convenience voters, Jeffé and Jeffé (1990) found them to be politically engaged, conservative, and from upper socio-economic levels. Stein’s study of exit poll data from the 1994 Texas gubernatorial race found early voters “demonstrated a greater interest in politics and stronger partisan and ideological ties than did election-day voters” (1998, p. 67). They were also less wealthy than their Election Day counterparts. Richardson and Neeley (1996) found that while early voting increased turnout in Tennessee elections surveyed, demographic differences between early voters and Election Day voters were slight but also varied from primary election to general election. A later study by the same authors (Neeley & Richardson, 2001) found few significant differences between Election Day voters and early voters. Several studies have found that vote by mail and absentee voters tend to be older and more highly educated (Berinsky, Burns, & Traugott, 2001; Karp & Banducci, 2000, 2001). Stein and Vonnahme (2008) found that the use of vote centers increased turnout among “unengaged” or less frequent voters. More recently, in a study of five hundred counties over nine election cycles Giammo and Brox (2010) reported that early voting produces only minimal short term gains in voter turnout.

With regard to administrative costs of convenience voting, the literature is sparser. In their review of existing studies, Gronke, et al (2008) report that much of what is known exists outside academic journals in financial reports of election administrators. They cite an example from the Washington Secretary of State indicating that vote by mail reduces administrative costs over precinct voting from $8.10 per voter to $2.87. Overall, however, they conclude: “No academic studies that we are aware of have taken up the question of the costs of elections” (pp. 448-449). More recently, Hill (2011) has examined voting costs in California, finding that early voting increases election costs.

The checkered data regarding turnout and the lack of data on cost make it practical to reject calls to forsake early voting through vote centers as a failed convenience voting experiment. The policy conclusions on convenience voting offered in the literature range from pessimism (e.g., Karp and Banducci (2000) declare voting only by mail not to be a panacea) to condemnation. Berinsky (2005) argues that convenience voting reforms predominantly benefit the politically engaged. Finding no increase in turnout from early vote measures, Giammo and Brox (2010) conclude counties should devote their resources to expanding election day access instead.

Ambivalence among the academic literature over the efficacy and social value of convenience voting (particularly, early voting and vote centers) has spread to policy community. While some areas have embraced convenience measures, others have rejected them and sought to retrench existing programs. Larimer County in Colorado became the first jurisdiction to use vote centers in 2003 and has been followed by Adams and Arapahoe. After the introduction of vote centers in the three Indiana counties for the general election in 2008, the legislature voted in 2011 to allow all counties to consolidate precincts. The use of vote centers has been proposed and is under consideration in Travis County, Texas and elsewhere.
3. Is convenience voting really convenient?

Our concern with these pessimistic policy conclusions about early voting stems from the observation that the way it is typically measured in academic research, i.e. its statutory availability, may not truly capture the convenience of voting. While we acknowledge the well-known and inherent difficulties of measurement particularly of institutional features, there is tremendous variation in the ease and convenience of early voting among the jurisdictions that allow it. The confounding factor in the analysis of early voting is the location of the polling place. Early voting typically requires voters to travel to the seat of county government from their homes. Two innovations in polling locations enhance the appeal of early voting by providing more geographic opportunities. Satellite voting locations typically consist of a few polling stations located around the county where voters can submit ballots prior to Election Day. Vote centers, or super-precincts, replace traditional precincts altogether (both prior to and on Election Day) combining them into a smaller number of large centers, any of which a voter can choose.

Satellite locations and vote centers are similar in that both allow early in-person voting in locations other than the county seat. However, vote centers offer greater convenience for three reasons. First, vote centers offer clarity and eliminate potential confusion over polling locations as they replace precincts entirely, while satellite locations only operate early. Second, voters may choose any vote center in the county while individual satellite locations only have ballots for citizens from specified subdivisions (e.g., townships or contiguous precincts). Third, vote centers typically have more equipment and staff than satellite locations, reducing the time costs of voting.

The added flexibility of these arrangements reduces the effort and cost associated with voting. In particular, the addition of potential voting locations can reduce travel time. For example, prior to 2008, the main voting center in Lake County, Indiana required many early voters to travel as much as 45 minutes one way to cast a ballot. Also, counties requiring early voters to visit one central location see more congestion and delays with increased early voter turnout. In the 2008 election, Indiana counties that did not have vote centers reported significant wait times for early voters, as high as several hours in Marion and Hamilton counties (Kelly, 2008).

How might the use of vote centers affect the size and composition of the electorate? Regardless of the decision-making model one adopts to explain voter behavior, participating in elections requires voters to have information about polling locations, access to the polls, and time to reach them. By replacing the numerous traditional precincts with a few high profile locations which any voter can utilize, vote centers provide clarity for voters and expanded access to the polls. Through early voting, vote centers reduce congestion lowering the time required to vote. If these convenience factors matter to the electorate, we should expect greater turnout by groups who traditionally do not vote when vote centers are in use, as the marginal increases in convenience make voting more attractive. Moreover, we should expect that these voters should make use of convenience features like early voting. Hence, we suggest three hypotheses:

Hypothesis 1: More votes will be cast early in vote center counties than in traditional precinct counties.
Hypothesis 2: Vote center counties will have higher voter turnout than traditional precinct counties.
Hypothesis 3: Vote center counties will draw greater numbers of new and formerly infrequent voters than traditional counties.

4. Analyzing the data from Indiana

To test these hypotheses, we consider a controlled comparison of data from six Indiana counties from the 2004 and 2008 general elections. Three of these counties (Cass, Tippecanoe, and Wayne) were selected by the Secretary of State to use vote centers in 2008 while the rest of the state used traditional precincts; all 92 counties allowed early voting. The comparison of turnout changes in these counties offers us something close to a natural experiment; changes in the competitiveness and effort in statewide elections are constant across vote center and non-vote center counties.
While this comparison does offer something close to a natural experiment in that statewide election characteristics are constant between the two groups, the selection of the treatment (in this case, which counties used vote centers) was not random. A 2006 Indiana law allowed Secretary of State Todd Rokita to select three counties to participate in a vote center pilot program for the 2007 municipal and 2008 primary and general elections. Only two counties, Tippecanoe and Wayne, applied to participate and they were selected on the basis of an application that detailed their logistical plans for implementing the centers.\textsuperscript{1} Cass County was later added after submitting such an application as well.

Although the program was not designed to change the size or composition of the electorate and none of these counties was identified as interested in generating greater turnout, any assessment of its results must account for the potential of selection bias. If covariates of turnout or any election specific turnout effects are correlated with the selection of vote center counties, the results of a turnout analysis will be biased. To counter potential bias, we select control counties using nearest neighbor matching based on a propensity score model. The model generates the scores based on demographic and socioeconomic characteristics associated with voter turnout (population, median household income, and percent of those above age 25 with college degrees) as well as predictors of an "Obama effect" (percent of population non-white, percent of population ages 18 to 24, and the percent of the 2004 votes cast for John Kerry).\textsuperscript{2} The three counties selected for comparison are Blackford, Delaware, and Grant. Their initial similarities with the vote center counties are noted in Table 1. We note also that our main findings are actually stronger when compared to the entire state of Indiana rather than just the three comparison counties.

| TABLE 1. Demographic comparisons of vote center (VC) and control (C) counties |
|-----------------|----------------|-------|----------------|----------------|----------------|----------------|
| Cass (VC)       | 39,123          | $39,593          | 8.7          | 3.4          | 29.7          | 7.1          |
| Blackford (C)   | 13,599          | $36,551          | 7.4          | 1.7          | 34.6          | 6.7          |
| Tippecanoe (VC)| 164,237         | $40,036          | 25.4         | 9.6         | 39.3         | 18.1         |
| Delaware (C)    | 117,797         | $35,843          | 19.8         | 9.3         | 42.0         | 10.8         |
| Wayne (VC)      | 67,795          | $36,145          | 9.2          | 7.4          | 38.1          | 8.0          |
| Grant (C)       | 70,798          | $37,195          | 12.4         | 9.9          | 30.3          | 8.0          |

Because vote centers have only been used in one presidential election in Indiana (and only since 2003 in the US overall), we are prevented from using a randomized large-N design that covers several many cycles. However, our data allows us unique perspective on who is voting. For each county, we construct measures of the voting tendencies of those participating in the 2008 election by aggregating individual level voting data. Our data include the complete Indiana voting histories of the voters in the 2008 general election for all six counties, enabling us to categorize those who voted by the frequency of their participation.\textsuperscript{3}

Additionally, within the Tippecanoe County data, we are able to distinguish between early and regular voters, allowing us to test more refined hypotheses about the effects convenience voting on turnout composition. Obviously, we would prefer to have similar data on the vote histories of early voters in each of our six counties including the non-vote center counties for comparison. However, such data were not available from these counties. Under ideal circumstances, we would prefer to combine individual vote history data with socioeconomic characteristics of the vote in order to engage in an individual level analysis. But, this data does not exist for the entire electorate. Nonetheless, the data allow us to make a contribution to the timely and important discussion about voting methods.

\textsuperscript{1} These applications are available at http://www.in.gov/sos/elections/3574.htm (as accessed December 1, 2011).

\textsuperscript{2} The data used to estimate this model are drawn from the US Census and the Indiana Secretary of State's reported election results.

\textsuperscript{3} To test the contention that the unique combination of early voting and vote centers produces these results, it would be preferable to have data on vote center and non-vote center counties both with and without early voting. In practice, this is impossible as no vote center counties operate without early voting.
5. Findings

Testing the first hypothesis, that vote centers will facilitate more early voting, is relatively straightforward. Table 2 compares the proportion of votes cast early between the two county groups (vote center counties and control counties) in the 2008 general election. On average, the percent of votes cast early in vote center counties was 33.9 percentage points higher than the control counties. This difference is not only statistically significant but also substantively large, demonstrating the appeal of the vote center model to voters. Because all six counties allowed no-excuse, early, in-person voting, this demonstrates that the actual convenience of early voting varies dramatically with the method of implementation, in this case vote centers. The question then is whether this enhanced convenience actually increases voter turnout.

We utilize a double difference method to assess the impact of vote centers on turnout. Following Giammo and Brox (2010), we compare across our county groups the changes in turnout between the 2004 and 2008 elections. We find that the Indiana vote center counties enjoyed larger gains in turnout than the control counties. In Table 3, we compare the gains in turnout of registered voters from 2004 to 2008. The increase in turnout for vote center counties was 9.3 percentage points higher for the vote center counties than for the control counties; this difference was statistically significant. In Table 4, we compare the gains in turnout measured as percentage of the voting age population. This increase in turnout was for vote center counties was 5.1 percentage points higher for the vote center counties than for the control counties; this difference was statistically significant. As the broad national political context and the socio-economic characteristics of the two county groups are constant in this comparison, this suggests that vote centers have a positive effect on voter turnout. This finding is consistent with Stein and Vonnahme (2008) regarding the impact of vote centers on turnout and with Oliver’s (1996) finding that liberalization of absentee rules along with other facts can also increase turnout.

Assessing the substantive importance of these differences of this size is not necessarily straightforward. In the model of turnout estimated by Giammo and Brox (2010), a change of roughly 2.5 percentage points constitutes one standard deviation. Using this metric, vote center counties saw increases in registered voter turnout greater than control counties by nearly four standard deviations. The increases in turnout of voting age population were greater for vote center counties by roughly two standard deviations.

### Table 2: Early voting in control and vote center counties, 2008

<table>
<thead>
<tr>
<th>Vote center county</th>
<th>Proportion of votes cast early</th>
<th>Control county</th>
<th>Proportion of votes cast early</th>
<th>Difference (VC - C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cass</td>
<td>0.500</td>
<td>Blackford</td>
<td>0.216</td>
<td>0.284</td>
</tr>
<tr>
<td>Tippecanoe</td>
<td>0.497</td>
<td>Delaware</td>
<td>0.148</td>
<td>0.349</td>
</tr>
<tr>
<td>Wayne</td>
<td>0.599</td>
<td>Grant</td>
<td>0.215</td>
<td>0.384</td>
</tr>
<tr>
<td>Difference of group means</td>
<td></td>
<td></td>
<td></td>
<td>0.339***</td>
</tr>
</tbody>
</table>

* *** p<.01, t = 8.42, df = 4

### Table 3: Change in turnout of registered voters from 2004 to 2008

<table>
<thead>
<tr>
<th>Vote center county</th>
<th>Percentage gain</th>
<th>Control county</th>
<th>Percentage gain</th>
<th>Difference (VC - C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cass</td>
<td>0.150</td>
<td>Blackford</td>
<td>0.004</td>
<td>0.146</td>
</tr>
<tr>
<td>Tippecanoe</td>
<td>0.011</td>
<td>Delaware</td>
<td>0.003</td>
<td>0.008</td>
</tr>
<tr>
<td>Wayne</td>
<td>0.099</td>
<td>Grant</td>
<td>-0.027</td>
<td>0.125</td>
</tr>
<tr>
<td>Difference of group means</td>
<td></td>
<td></td>
<td></td>
<td>0.093*</td>
</tr>
</tbody>
</table>

* p<.1, t = 2.23, df = 4, one-tailed

### Table 4: Change in turnout of voting age population from 2004 to 2008

<table>
<thead>
<tr>
<th>Vote center county</th>
<th>Percentage gain</th>
<th>Control county</th>
<th>Percentage gain</th>
<th>Difference (VC - C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cass</td>
<td>0.063</td>
<td>Blackford</td>
<td>0.016</td>
<td>0.047</td>
</tr>
<tr>
<td>Tippecanoe</td>
<td>0.099</td>
<td>Delaware</td>
<td>0.032</td>
<td>0.067</td>
</tr>
<tr>
<td>Wayne</td>
<td>0.025</td>
<td>Grant</td>
<td>-0.013</td>
<td>0.038</td>
</tr>
<tr>
<td>Difference of group means</td>
<td></td>
<td></td>
<td></td>
<td>0.051*</td>
</tr>
</tbody>
</table>

* p<.1, t = 2.20, df = 4, one-tailed

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4 This gap widens when we compare the voter center counties to all of the other counties in Indiana.