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*Utah State University*

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LAND-USE ATTITUDES AND LOCAL ELECTION CHOICE:  
ESTIMATING EFFECTS OF LAND-USE ATTITUDES  
ON MUNICIPAL ELECTORAL CHOICE

by

Scott R. Dresher

A thesis submitted in partial fulfillment  
of the requirements for the degree

of

MASTER OF SCIENCE

in

Political Science

Approved:

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UTAH STATE UNIVERSITY  
Logan, Utah

2020

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## ABSTRACT

Land-Use Attitudes and Local Election Choice: Estimating Effects of

Land-Use Attitudes on Municipal Electoral Choices

by

Scott R. Dresher, Master of Science

Utah State University, 2020

Major Professor: Dr. Damon Cann

Department: Political Science

The purpose of the study was to predict voter behavior and how candidate land-use attitudes compare with party identification in influencing vote choice in a local election scenario. Data for the study was generated using a conjoint experiment embedded within a survey administered to multiple Utah State University freshman courses (N=379).

Respondent demographics, political ideology, land-use attitudes, and candidate choice are recorded through survey answers. Additional respondent treatment is provided through conjoint experimental design in differentiating order and levels of information. Using factor analysis, respondent answers to six land-use attitude questions generated a land-use factor score. Logistic regression analysis was employed to predict vote choice incorporating variables generated through respondent answers to surveys. Given the nature of conjoint experimental design, logistic regression analysis required two three-way interactions for accurate interpretation of coefficient results. Interactions by nature lead to non-intuitive regression results, so interpretations of significance are best visualized through graphical representation of predicted probabilities. Logistic regression

results suggest that when measured separately, candidate land-use attitudes and candidate party affiliation both represent strong and significant predictors of vote choice.

Conversely, when measured in tandem through interactions, results suggest that candidate party affiliation heavily outperforms candidate land-use attitudes. Within electoral circumstances, significance of candidate party affiliation and partisanship in general overwhelmingly influence vote choice. Predicted probabilities of vote choice associated with candidate land-use attitudes alone are promising and statistically significant.

However, additional study is warranted to increase understanding of how balancing issues that do not fit cleanly on a left-right partisan scale, such as local land-use authority, compare with the nature of increased partisan polarization.

(67 pages)

## PUBLIC ABSTRACT

Land-Use Attitudes and Local Election Choice: Estimating Effects of  
Land-Use Attitudes on Municipal Electoral Choices

Scott R. Dresher

Predicting voter behavior is a difficult task, however there are factors that suggest which candidates will be more successful. This study examined some factors that predict voter behavior in local elections and asks if local land-use authority can be a factor in predicting vote choice. Using survey responses collected from a sample of college students, answers suggest that some factors more strongly influence voter behavior than others. An analysis of survey results suggests that candidate party affiliation alone *or* candidate land-use attitudes alone are individually significant influences on voter decision making. However, combining effects of candidate party affiliation *and* candidate land-use attitudes strongly suggests that party affiliation and partisan influence far outweighs land-use in influencing voter decision making. Results of this study demonstrate that while local land-use authority is an issue that influences elections, it pales in comparison to the influence of party affiliation and voter partisan preferences. This discovery is important to understanding local electoral behavior, and how partisanship can be a dominant factor even in non-partisan elections.

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Scott R. Dresher

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## INTRODUCTION

Partisanship is a key consideration in determining vote choice, especially in situations where limited information is provided to decision making voters. Though issue importance can range from low to high and all points in between, partisanship remains the most influential of reasons for how individuals vote. The simple decisions made by voters that lead to a candidate's electoral success most often come from conclusions made through partisan identification. This is best summed up in the seminal discourse on underinformed voters and is increasingly true now (Converse 1964).

Heuristics such as partisanship serve as shortcuts for underinformed or overburdened voters that seek a more economical or easier answer to the voting dilemma. With so much evidence that partisanship serves as a stout voter motivation, what about instances where non-partisan elections are mandated by law or considered conventional such as those taking place in municipalities or localities? Where national politics tend to filter through a partisan lens, local elections and municipal politics tend to focus much more on daily life where and the how, what, and where of individuals daily interactions (Oliver 2012).

In the United States, municipalities keep charge over many issues that influence daily life, but the scope remains limited. These municipal governments have little direct influence on national economic issues or on national security, so those tend not to be considered as pressing to daily activities. These limitations to municipal government are similar to the limitations to federal power over municipalities, in that there isn't a federal standard for collecting garbage or how to go about regulating the size of curbs and gutters on street sides, but instead such decision making is rendered to local authorities. There

isn't necessarily a Republican or Democratic methodology for replacing streetlights or painting crosswalks, yet they remain daily reminders of government exercising authority in providing for the safety, security, and convenience of its populace.

It is with this largely unwritten division of authority over governmental actions that local governments have cultivated expertise and stewardship over land-use authority. While partisan divisions often dominate federal and state elections, local elections, either by design or simply out of a lack of necessity, do not often rely as strongly on partisanship to arrive at electoral decisions. The daily requirements of local government are numerous and vary from place to place, but don't always focus on commonly conceived federal issues so much as on issues of local need for example in maintaining roads and managing police, fire departments, and other emergency services.

But beyond the seemingly mundane tasks of keeping potholes filled and streetlights on, the authority to regulate land-use is decidedly important for local and municipal governments. Assigning how land is utilized within its own territorial boundaries is one of the significant strengths of local governance and a method that local authorities utilize to maintain quality of life for their citizens. The use of local authority in zoning, for instance, to produce preferred outcomes remain a primary purpose of local and municipal governments. Using the zoning authority alone leads to social, physical, and economic results that directly and indirectly effect individuals within the locality.

Decisions regarding how property is to be utilized, what can and cannot take place on the land, and how it will be made accessible to citizens have far reaching effects on familial, social, and economic realities of all individuals that reside therein. While one locality may prefer to promote growth and expansion, another locality may desire to

retain a certain small-town feel by regulating not only sizes and uses of subdivided property, but how road and utility access are developed in areas. From these locally influenced decisions, government has a strong grip on who, what, where, when, and how individuals can go about their daily lives. The tightness of this grip defines the liberty given citizens to adopt their own preferred use of property but can also lead to significant disagreements over political decision making. As disagreements over land-use policy and practice develop, these divisions can serve as important issues that supersede partisanship within local elections.

The purpose of this research is to address the question: how do candidate positions on land-use influence voter behavior? Additionally, how do candidate positions on land-use compare with partisan cues in influencing voter preferences? With population growing and available land is further regulated for specific functions within cities and counties, candidate positions on land-use are increasingly salient to local and municipal voters.

This work proceeds as follows: first, I discuss previous literature on heuristics and single-issue voting influencing candidate choice within elections; next, I profile the previous literature on alternative methods beyond partisanship for electoral decision making; third, I lay out and discuss the research and experimental design I employed for predicting candidate choice in a hypothetical local election; next, I discuss the findings of the experimental research and demonstrate how political preferences and land-use attitudes can influence voter decision making; finally, I conclude and lay out potential options for and implications of future research.

## LITERATURE REVIEW

Since land-use tends to be a heavily localized issue, this research focuses mainly around local elections. In selecting candidates for any election, a paramount issue to discuss is how heuristics such as candidate traits, party affiliation, and policy stances are used as shortcuts and mental processes with which complex information can be simplified to aid with decision making (Downs 1957). Humans are limited as “information processors” (Fiske and Taylor 1991) and in electoral circumstances make decisions using similarly low levels of information. The use of heuristics such as political ideology or party identification can serve to ease the burden of weighing additional information and coming to more efficient electoral decisions.

Lau and Redlawsk (2001) further explain the beneficial nature of heuristics in that individuals use “problem solving strategies” on a subconscious level to process information to create useful, familiar shortcuts in daily decision making and apply them similarly to electoral decisions. While having a fully informed voting populace may improve confidence in their decision making, it isn’t practical especially with information costs remaining high. Thus, heuristics such as candidate traits, party affiliations, and policy or issue assessment work as reasonable shortcuts for the voting public’s observed lack of preparation (Delli Carpini and Keeter 1996; Converse 1975; Rahn 1993; Kam 2005; Conroy-Krutz et al. 2016).

The heuristics individuals use in voting is numerous, so for sake of brevity and sensibility I highlight two: how candidate traits and partisan stances are used as shortcuts in weighing a candidate’s classifications. The first issue of electoral decision making stems from candidate identity and trait assessment. Candidate traits have often been

examined as minor factors in influencing voter participation and were largely “considered superficial, inappropriate, and less ‘rational’ than issue-based voting” (Funk 1996; see also: Campbell Gurin and Miller 1954; Campbell et al. 1960).

However, candidate traits do play an important role in voter decision making. Funk (1996) further develops her argument claiming that judgements of traits involve candidate “competence, integrity and warmth qualities” and that both competence and integrity ratings are integral predictors of candidate quality while warmth remains an important evaluator of people in general (see also: Funk 1997). Laustsen and Bor (2017) argue that candidate warmth-related traits are of the highest value when compared with others such as leadership, integrity, and competence. They conclude that success-minded candidates should focus on warmth versus perceptions of knowledge and expertise. Indeed, a candidate focused on exhibiting warmth and connectivity will be more successful than one who merely emphasizes experience and intelligence.

Notwithstanding, development of perceptions of warmth, intelligence, and experience are not the only candidate qualities valued by voters. Locality and identifiability have advantages for candidates in diverse electoral circumstances. Panagopoulos, Leighley, and Hamel (2017) find that local candidates benefit from socially constructed identity—a sense of belonging to a particular group—leading to beneficial voter bias by those who identify positively with the candidate. This in-group identification leads to modification of candidate goals and priorities to enhance the identifiability effects of in-group versus out-group association cues and maximizes the benefits of social identity (see also: Huddy et al. 2015).



The second defining heuristic I wish to profile in explaining candidate decision making is rooted in party identification and partisan lean. Roy and Alcantara (2014) examine the benefits of locality in candidates, finding that partisanship will often neutralize or negate positive effects of “friend and neighbor” identification. Regardless of the quality of the local candidate, partisanship remains a deciding factor over any social identification voters may develop with specific candidates (McAlister 2013). Party identification proves a stronger influence than previous positive personal interactions and relationships voters may have developed with a candidate.

Bonneau and Cann (2013) profile how partisan cues remain relevant even in non-partisan electoral circumstances. In profiling non-partisan statewide judicial elections, their findings suggest that partisan identification weighs heavily upon voter decision making, especially when limited information is available. This development significantly reduces confidence in non-partisan elections remaining insulated and immune to voter reversion to partisanship as a decision making structure. With partisan bias remaining a factor, the effectiveness of non-partisan elections in reducing “home team” preferences are justifiably questionable.

Kirkland and Coppock (2018) take a different approach in utilizing several survey experiments based on the presence or absence of partisan labels and find that individual respondents—when insulated from clear partisan cues—rely more on interpretation of candidate experience to arrive at their electoral decision. However, they observe that this reliance on candidate experience breaks down along partisan lines, revealing that Democratic leaning voters prefer candidates with notable public sector (i.e. government and non-profit) experience whereas Republican leaning voters lend support to candidates

with significant private sector (i.e. business and industry) experience. Thus, Kirkland and Coppock conclude that absent clear partisan cues, individuals form preferences based upon their own partisan lean and preferences for public or private sector experience.

But are traits or partisanship the ‘right’ heuristics for voting in all elections? Lau and Redlawsk (1997) maintain that ‘correct’ voting is less about any one specific decision and instead is “based on the values and beliefs of the individual voter.” Additionally, the authors suggest that voting ‘correctly’ genuinely occurs when choices made with low information are the same as those made under conditions of full information.

Summarizing candidate political beliefs assists the general public in their decision making. Poole and Rosenthal (1984) developed DW-NOMINATE scoring based on congressional voting trends. Their findings reflect that House and Senate candidates embrace extremes of constituent and special interest political polarization because “candidates in turn need people willing to contribute money and ring doorbells.” Competition for electoral success requires careful balance of extremism and moderation in both how candidates represent themselves in the words they speak and eventually in their voting record. Measurements of polarization are a powerful method in estimating both candidate and voter attitudes, but do not guarantee ‘correct’ voter decision making.

Another way to examine voter decision-making is to look at the motivations behind single-issue voting. Building on the work of Downs (1957) and V.O. Key (1966), Carmines and Stimson (1980) examine single issue-voting through a lens of hard and easy issue-based decision making. Hard-issue decisions are made through reliance on personal policy preferences using thought and reason to arrive at a calculated decision

whereas easy-issue decisions are reduced to “gut responses” relying much less on calculation and more upon reflex. This examination of hard and easy issue-voting gives one explanation as to why voters rely on the ease of partisanship versus the strain of reasoning in their electoral decision making (see also: Hawley 2012).

Cook, Jelen, and Wilcox (1994) examine how social issues such as abortion differ from economic issues in their influence on voter decision making. Within statewide elections, they find that candidate position on abortion can outweigh partisan or economic indicators in predicting vote choice. Further, the authors suggest that within statewide elections, voter choice may favor candidates that they perceive can exhibit stronger influence on social issues than on state or national economic concerns.

Expanding on the social issue of abortion, Abramowitz (1995) focuses on how social versus economic voting interacted with the 1992 presidential election. His findings indicate that within the 1992 presidential election, candidates’ abortion stances “had a much greater impact on the Republican party than on the Democratic party” and led to substantially higher numbers of defections from pro-choice Republicans, though most defectors cast ballots for third-party candidate Perot rather than shifting across parties to Clinton. Abortion has proven to be a social issue that can outweigh many economic or partisan concerns relative to predicting vote choice in both statewide and national elections.

Levels of information can also strongly influence the public’s willingness to vote. Goren (1997) finds that “policy attitudes become increasingly accessible at higher levels of expertise and therefore more predictive of the vote” so in essence the more sophisticated individuals become in regards to policy issues, the more likely they are to

participate in political processes. Nicholson, Pantoja, and Segura (2006) highlight how economic disparities between white, black, and Latino voters can lead to differences in information availability and vote choice among these communities.

Finally, Blankenship et. al (2018) classify issue voting in the 2016 national election into three types: group rights and social justice issues focusing on many liberal issues, economic issues that appeal to individual's experiences, and individual and national rights that often are associated with conservative issues. The prominence of these three issue areas is not all encompassing for all voters, but instead suggests that issue sets inform voting behavior.

Additionally, there are further methods for communities to benefit economically in considering candidate issue and policy positions. One economic effect resulting from this relationship is defined by Tiebout (1956) as consumer-voter behavior. He suggests that localities mold policy to reflect "preferences of the population more adequately than can be reflected at the national level." Tiebout's focus on the importance of local expenditures is an example of people voting with their pocketbooks and their choice of residency. As individuals' personal preferences align with localities laws and rules, tax revenues predictably increase and lead to a measure of support for the decision making of local governments (see also: Miller Tabb 1971).

In Paul Peterson's *City Limits* (1981), the author suggests that local governments are interdependent on the federal government in policy making. Because national economic conditions and objectives carry such weight, local political agendas must capitalize on maintaining or improving their own fiscal standing without straying too much from national economic perspectives. Peterson suggests that the direct influence of

economics outweigh political polarization or policy stances in local decision making and policy seeking, especially in cases of maintaining or expanding policy regarding land-use and taxation (see also: Basolo Huang 2001).

Gray and Lowery (1988) also contribute to urban-political literature in examining the role of interest groups in influencing local government. The authors suggest that the absolute power of interest groups—especially labor unions and pro-business interests—outweigh the relative power of local governments in influencing economic growth. However, the authors also suggest that “while interest groups certainly play some role in economic growth, they are not the sole or perhaps even the most important determinant” in establishing local government policy positions or land-use decision making. Having a local government that follows interest groups and local needs is a method of obtaining and maintaining electoral support.

Partisanship remains a reliable predictor for voting behavior, but can partisanship be relied upon within elections where partisanship isn’t a clean fit? Elections often occur that typically do not follow a strict partisan-lean model, such as in the case of judicial and local or municipal elections. So, within these less or non-partisan elections, what are some other factors that emerge as important? (Tausanovitch and Warshaw 2013, 2014). Can candidates land-use stances and philosophies be a similar predictor to partisanship in respondent vote choice?

Why then can land-use ideology can work as an indicator to predict vote choice? While federal and state-wide elections tend to draw partisan attention, local matters tend to escape much of the typical left-right identification of candidates. Nationwide and statewide elections tend to focus on issues that local elections do not. Local and

municipal elected officials tend not to delve into partisan issues, at least not on a scale that nationwide and statewide officials may focus on (Oliver 2012). One developing issue that local and municipal officials show stewardship over is land-use. From zoning to housing regulations to eminent domain and all points in between, local officials seem to focus more on regulating how, when, and where leadership within communities can employ government authority to enforce laws and regulations regarding land-use.

In summary, the existing literature on voter decision making is extensive, and relies heavily on combining numerous factors into easily digestible information. However, the amalgamation of information can also lead to a loss of nuance and distinction on important issues that influence individuals. Often voters will conflate unrelated issues or policies back to the overpowering influence of partisan polarization for few reasons other than easier decision making.

Multiple motivators beyond those listed here contribute to what predicts vote choice, but I am confident that the most convincing concepts focus on partisan and economic concerns. With vote choice—as with many aspects of life—the easiest path is often the easiest to explain. As the general public’s politics are increasingly defined by an oversimplified left-right partisan perspective, other factors such as economic concerns, single-issue salience, influence of special interests, importance of public health guidelines, and freedoms related to land-use regulation are outweighed by the perceived importance of belonging to the “winning side” due to increased polarization.

## HYPOTHESES

Given the many influences on voter preferences, why is it that people vote the way they vote? Should a candidate's partisan lean always be provided to voters or do other issues outplay the value of partisanship? Partisanship remains the king of heuristics. However, in the absence of clear partisan cues, can a candidate's land-use attitude or characteristics serve as a heuristic in vote choice? There is no clean alignment as far as land-use ideology with what we typically consider the left-right spectrum of partisanship. Land-use doesn't fit cleanly within the left-right spectrum, instead it transcends the typical partisan classification, falling to an individual's personal preferences. Some issues such as big versus small government preferences may align cleanly with liberal or conservative ideology, however concepts of land-use ideology are less likely to strictly identify with either a liberal or a conservative alignment, or in fact be interpreted as counterintuitive.

Cities possess vast amounts of authority when it comes to land-use regulation and designation of laws. Cities typically do not exercise authority over what are considered more partisan issues such as national security, abortion, and health care, among many others. Cities typically avoid pushing for strict partisan stances, but may push for specific land-use agendas, though these agendas vary greatly from locality to locality and representative to representative. These land-use principles still fail to align neatly with classic perceptions of left-right partisan agendas. Thus, typically conservative representatives may prefer smaller government, but exhibit a preference for a more aggressive use of local authority in preserving certain aspects of zoning laws in preventing high-density housing. Alternatively, more liberal party identifying candidates

who may prefer stronger government authority over social and fiscal programs exhibit a preference for less local exercise of authority over what individuals can do with their own property.

Beyond partisanship or land-use stances, what else can lead to electoral success for candidates? Good personalities and dynamic appearance. Race, age, gender, sexual orientation, religion, etc. of the candidate also contribute to electoral success. Voters that identify with candidates on multiple demographic levels also tend to support those candidates. Seemingly good qualifications such as education and previous professional experience also contribute. Previous elected or official capacities and activities in the community also may lead to electoral success. Additionally, popularity stemming from fame gained through acting on television or in movies, athletic prowess, and other sources of fame. Another contributing factor is conventional attractiveness. All these intangible sources of fame or appeal can contribute to favorability in an electoral sense, but the strongest factor remains partisan identification on the part of the voter.

Considering the relationship of partisanship and land-use attitudes not lining up cleanly with left-right ideologies, I propose that individuals exposed to either partisanship or land-use ideologies will recognize and favor candidates that identify best with their own ideologies. The way I propose to do this is relatively simple. I propose that four groups are given varying levels of information regarding two candidates, the first group given only simple biographical information, the second given candidate partisan information in addition to biographical information, the third given candidates land-use attitudes in addition to biographical information, and the fourth given land-use attitudes along with partisan information and biographical information.



In general terms, I aim to demonstrate that an increase in X is associated with an increase in Y when condition Z is met, but not when condition Z is absent (Brambor Clark Golder 2006). The proposed hypotheses for each of these groups are as follows:

Group 1 effectively serves as a control group for all hypotheses, with no exposure to the two candidates beyond revealing brief personal information (occupation, education, city council experience, name, gender), with no political lean or land-use preference revealed.

- H1 Alternative: Statistically significant effect measured as vote choice (Dependent Variable or DV) from exposure to simple personal information only (Independent Variable or IV).
- H1 Null: No statistically significant effect measured as vote choice (DV) from exposure to simple personal information only (IV).

Group 2 is exposed to candidate personal information (occupation, education, city council experience, name, gender) and political lean only. This group will effectively serve as a control group for effects of land-use attitudes.

- H2 Alternative: Statistically significant effect measured as vote choice (DV) from exposure to simple personal information and candidate party identification (IV).
- H2 Null: No statistically significant effect measured as vote choice (DV) from exposure to simple personal information and candidate partisan information (IV).

Group 3 is exposed to candidate personal information (occupation, education, city council experience, name, gender) and land-use attitudes only. This group will effectively serve as a control group for effects of political exposure.

- H3 Alternative: Statistically significant effect measured as vote choice (DV) from exposure to simple personal information and land-use attitude (IV).
- H3 Null: No statistically significant effect measured as vote choice (DV) from exposure to simple personal information and land-use attitude (IV).

Group 4 is a full-featured experimental group measuring the effect of exposure to candidate personal information (occupation, education, city council experience, name, gender), land-use attitudes, and political leanings.

- H4 Alternative: Statistically significant effect measured as vote choice (DV) from exposure to full personal, party identification, and land-use attitude (IV).
- H4 Null: No statistically significant effect measured as vote choice (DV) from exposure to full personal, party identification, and land-use attitude (IV).

## EXPERIMENTAL DESIGN

For this project, I employ a survey experiment in performing a pilot study for this conjoint experimental design. A conjoint experiment is used in this design to allow for variation in description of two candidates so that personal, political, and land-use descriptions be varied across several potential experiment forms. Conjoint experiments are particularly useful in isolating potential effects of varying information, and more on point with this experiment, strategically withholding information (Kirkland Coppock 2018).

One way to think of a conjoint model is as a method to compare the number and implications of potential outcomes. Some conjoint experiments use levels of variation in attributes and potential values that result in large numbers of potential outcomes, such as Ono and Burden's (2019) experimentation on voter choice that offered over nine million potential combinations of attributes, far more than their sample size could satisfy, and more than I employ here.

For purposes of this experiment, I attempt to minimize variation by featuring nine potential combinations (candidate personal identifiers featured no variation based on age, race, gender, job description, etc.) as attention focuses on determining how powerful the relationship is when measuring vote choice, party affiliation, and land-use preferences. This allows for a stricter focus on measuring differences between respondents' exposure to the varying levels of information inherent in the experimental design.

The survey sample population (N=379) originates from a major western U.S. university. For the survey, respondents are asked a number of standard demographic questions such as birth year, age, race, education levels, and religiosity. The survey was

administered in four entry-level undergraduate classes all associated with political science and / or economics. The sample has an average respondent age of 20.77 years, reported a race result of 84.9 % white, 51.5 % female gender, exhibited high religious activity, and bends more conservative than liberal with a mean party lean of 4.472 on a seven-point Likert Scale ranging from extremely liberal = 1 to moderate = 4 to extremely conservative = 7. The survey population is summarized in Table 1.1 as follows:

Table 1.1: Descriptive Statistics for 2020 Sample

Variable	Mean	Minimum	Maximum
Age	20.765	18	61
Gender			
Female (195)	0.515	--	--
Male (182)	0.480	--	--
Race			
White (322)	0.849	--	--
Black (2)	0.005	--	--
Hispanic (12)	0.031	--	--
Asian (5)	0.013	--	--
Native American (3)	0.008	--	--
Other / Mixed (35)	0.092	--	--
Party Ideology		(Extremely Liberal)	(Extremely Conservative)
Self-Rating (1–7)	4.472	1.000	7.000
Land Attitude Responses (1–5)		(Strong Agree)	(Strong Disagree)
Pig Farm	2.989	1.000	5.000
Limit Usage	2.546	1.000	5.000
Blight Cases	3.011	1.000	5.000
Lawn Maintenance	3.106	1.000	5.000
Kept Quaint	3.509	1.000	5.000
Property Freedom	2.578	1.000	5.000
Observations	379		

Additionally, respondents are asked their opinion on several land-use statements and scenarios in order to rate their level of support based on a five-point Likert Scale ranging from strongly agree = 1 to strongly disagree = 5 (a full listing of all demographic and attitude questions can be found in the Appendix of this document). This matrix of land-use questions is intended to generate a land-use factor score (Cann 2018). The purpose of the factor scoring is to formulate a combination of the six land-use questions into a single score allowing for comparison of multiple respondents' answers to questions and the strength of those opinions.

This sample is not largely representative of the general population of American voting public. The intent of this sample is to perform a pilot study for a later, larger, and more representative sample. However, I intend to demonstrate that this pilot study features strong internal validity and that in spite of its lack of size and statistical power, this study suggests that wider sampling can and should be done to increase the broader applications of the findings.

The main point of the survey experiment was to vary candidate description based on informing the respondent or 'voter' of the candidates by providing part or all of the biographies, party alignment, and land-use preferences. The experimental nature is introduced when information is varied through either providing limited, expanded, or full information to the respondents. There were nine respondent groups exposed to varying levels of information regarding this candidate choice experiment. Respondents are asked to make a choice between candidates based on their interpretation of information given.

For illustration purposes, the final page from form six (the first to utilize all available information given) is profiled below, with emphasis added to distinguish biographical (plain text) from *party alignment (italicized text)* and **land-use preferences (bold text)**. (An example of all nine forms is provided within the Appendix of this document).

The survey reads as follows:

Now we would like you to read the following description of two hypothetical candidates who could have appeared as candidates in a mayoral election. After you read about the candidates, we will ask you who you would have voted for if you had the choice in an election.

[Biographical] Dennis Adams is 45 years old. He graduated from college with a major in Finance. He has owned and operated a financial planning business for fifteen years. He has lived in our city for the past ten years and has served on the city council for the past six years. He volunteers each week at the community food bank. He and his family love the community and he is running to provide service to the city he loves.

[Party Alignment] *He has been a registered Democrat for over twenty years, and thinks Congress should enact gun control legislation and is pro-choice on abortion. He has indicated his support for a Medicare for All plan similar to the ones proposed by several of the 2020 Democratic presidential candidates.*

[Land-use Preference] **The city planning commission has recently endorsed a package of land-use ordinances that would remove limits on housing density in several parts of the community, roll-back ordinances limiting the use of vinyl siding, and generally give people more rights to do what they want on their own property. Dennis Adams supports this package of reforms as a good way to deal with growth.**

[Biographical] Aaron Benjamin is 52 years old. He trained in heating and cooling (HVAC) installation and has worked for Speedy Plumbing & Heating for twenty-six years where he is now a senior supervisor. He has lived in our city for the past thirty years and has served on the city council for the past two years. He helped organize a neighborhood watch program and continues to volunteer in that group. The Benjamin's have raised their children here and hope to give back to the community through serving. [Party Alignment] *He is a life-long Republican and supports second amendment rights as well as being pro-life on abortion. He thinks that the Affordable Care Act (also known as Obamacare) went too far and other market-based health care reforms are needed instead.*

[Land-use Preference] **Aaron Benjamin opposes the planning commission's proposed ordinances and prefers to keep limits on housing density in place as well as the city's rules promoting a particular look and feel for buildings. He thinks that these types of restrictions preserve the nature of the community as it grows.**

If you were voting in this mayoral election, would you vote for

- ☐ Dennis Adams, candidate A
- ☐ Aaron Benjamin, candidate B

Data gathered from the vote choice experiment requires that the information be varied in all of the following nine forms. Form one provides only biographical information for both hypothetical candidates Adams and Benjamin. Form two provides biographical information for both candidates with Adams as a Democrat, and Benjamin as a Republican, withholding land-use preferences for both candidates. Form three provides biographical information for both candidates but reverses party affiliation of candidates with Adams as a Republican, and Benjamin as a Democrat, withholding land-use preferences for both candidates. Form four provides biographical information for both candidates, withholds party affiliation information, and reveals Adams prefers weaker land-use authority and Benjamin prefers stronger land-use authority. Form five provides biographical information for both candidates, withholds party affiliation information, and reveals Adams prefers stronger land-use authority and Benjamin prefers weaker land-use authority. Form six (example above, *italic* and **bold** emphasis added) provides biographical information for both candidates, with Adams as a Democrat preferring weaker land-use authority and Benjamin as a Republican preferring stronger land-use authority. Form seven provides biographical information for both candidates, with Adams as a Republican preferring weaker land-use authority and Benjamin as a Democrat preferring stronger land-use authority. Form eight provides biographical information for both candidates, with Adams as a Democrat preferring stronger land-use authority and Benjamin as a Republican preferring weaker land-use authority. Form nine provides biographical information for both candidates, with Adams as a Republican preferring stronger land-use authority and Benjamin as a Democrat preferring weaker land-use authority.

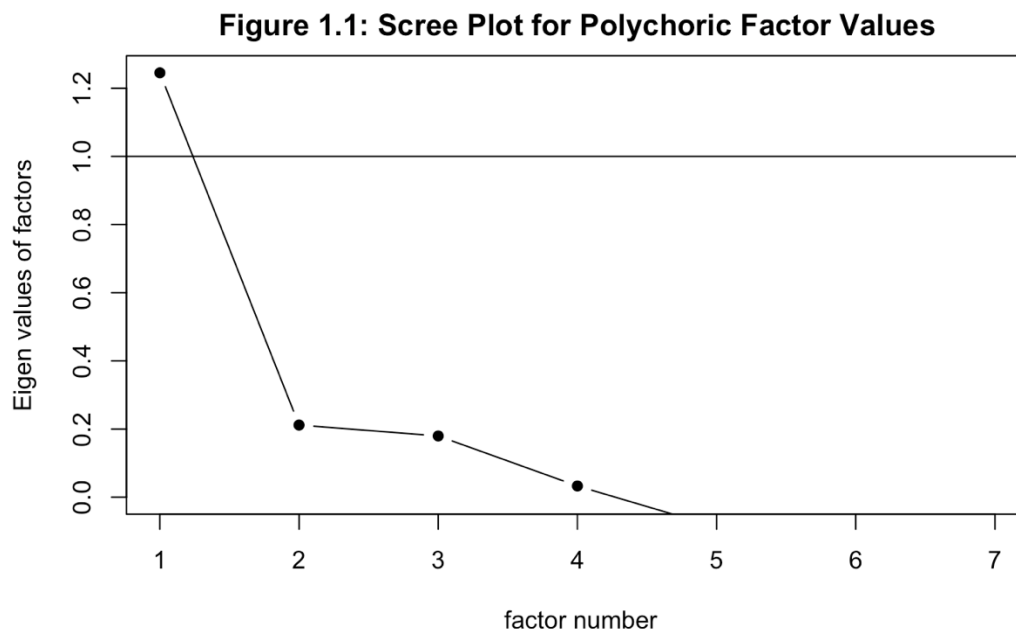
Respondent vote choice is conditional based upon the level of information provided to them via the specific survey form provided to them (from forms one through nine). The respondent's party identification is self-classified on a seven-point Likert Scale (ranging from Extremely Liberal = 1 to Moderate = 4 to Extremely Conservative = 7). The respondent's land-use ideology is similarly measured using a response matrix to six situational questions each measured on a five-point Likert Scale (ranging from Strongly Agree = 1 to Strongly Disagree = 5). The respondents' answers to the six-question matrix are processed using polychoric factor analysis that result in a factor score of approximately -2.3 to 2.3.

### **Explanation of Variables Used in Statistical Model**

The first variable created is the vote choice variable. The vote choice variable is the dependent variable and is dichotomous representing voter's choice between candidate Adams and candidate Benjamin, given the information provided to the respondent. The overall analysis design revolves around candidate choice. Using Logit regression, the model is used to predict how likely it is that a given respondent reacts to information provided. Within the dataset the vote choice variable represents candidate choice between candidates, either Adams, assigned a value of 1, and, Benjamin, assigned a value of 0.

In light of the results of the conjoint survey experiment, the first step in the analysis process is to accomplish a factor analysis of the land-use six-question matrix. This is done by generating a factor score from the six answers to the land-use opinion matrix. This land identification score comes from first generating a polychoric correlation matrix between the six questions in the survey. Using R-Studio software, survey data results are entered and a scoring matrix and scree plot results are produced. Again, the polychoric matrix score produced result in a factor score ranging from approximately -2.3 to 2.3. This factor score points to a single dimensional solution that suggests explanation of about 40% of the relationship among the six questions within the matrix.





The development of a polychoric factor score allows the creation of a single land-use attitude identifying or land-use ideology variable. The land-use ideology variable is a composite independent variable scaling from values of approximately -2.3 to 2.3 and is used to measure the respondent's opinion toward land-use issues. Each respondent is assigned a score resulting in the factor analysis, and this polychoric factor score then serves in place of the six-question matrix.

Additionally, within the dataset, the respondent party lean variable represents respondent party identification preferences. The respondent party lean independent variable is a self-assessment of the individual respondents' political ideology scaling from 1 to 7 with a 1 representing extremely liberal, a 4 representing moderate, and a 7 representing extremely conservative. The respondent party lean variable represents respondent party identification preferences and is used to predict vote choice within the model.

An additional variable I created is the candidate party affiliation variable. It serves as a shortcut to the survey form completed by the given respondent. It also represents a dummy variable for what information is provided within the specific survey forms 1 through 9 from -1 to 0 to 1 where -1 = Benjamin Democrat (Adams then is Republican), 0 = No party information given (neither candidate given a party description), and 1 = Adams Democrat (Benjamin then is Republican). In this instance, respondents that complete survey form 1, 4, or 5 receive no party information and are assigned a 0 for the candidate party affiliation variable. Consequently, respondents that complete survey form 3, 7, or 9 receive information indicating that candidate Adams is a Republican (Benjamin is a Democrat) and are assigned a -1 for the candidate party affiliation variable. Alternatively, respondents that complete survey form 2, 6, or 8 receive information indicating that candidate Adams is a Democrat (Benjamin is a Republican) and are assigned a 1 for the candidate party affiliation variable.

The final variable I created is the candidate land-use preference variable. It serves as a shortcut to the survey form completed by the given respondent. It also represents a dummy variable for what information is provided within the specific forms from -1 to 0 to 1 where -1 = Benjamin favors High government land-use authority (Adams then favors low government land-use authority), 0 = No land-use preferences given (neither candidate's land-use preferences revealed), and 1 = Adams favors High government land-use authority (Benjamin then favors low government land-use authority). In this instance, respondents that complete survey form 1, 2, or 3 receive no land-use preference information and are assigned a 0 for the candidate land-use preference variable. Consequently, respondents that complete survey form 4, 6, or 7 receive information

indicating that candidate Adams prefers ‘low’ government land-use authority (Benjamin prefers ‘high’ government land-use authority) and are assigned a -1 for the candidate land-use preference variable. Alternatively, respondents that complete survey form 5, 8, or 9 receive information indicating that candidate Adams prefers ‘high’ government land-use authority (Benjamin prefers ‘low’ government land-use authority) and are assigned a 1 for the candidate land-use preference variable.

## STATISTICAL MODELING AND ANALYSIS

Combination of these variables into a statistical model allows me to perform a logistic regression featuring two three-way interactions. The first three-way interaction occurs among the land-use ideology, candidate party affiliation, and candidate land-use preference variables. The second three-way interaction occurs among the respondent party lean, candidate party affiliation, and candidate land-use preference variables. The two separate three-way interaction allow for the measurement of the significance of the relationship among these several variables in predicting what most strongly influences candidate choice. The resulting values and coefficients are listed in the table of results below:

Table 2.1: Binomial Logistic Regression Results, Partisan and Land-use Attitudes

Independent Variable	Single IV (1)	Two-Way (2)	Three-Way (3)
Land ID Factor Score	0.00052 (0.14967)	0.19172 (0.19144)	0.13930 (0.19909)
Respondent Party Lean	-0.03743 (0.07697)	-0.06765 (0.11142)	-0.10506 (0.11565)
Candidate Party Affiliation Scale (Party3)	-0.60416 *** (0.14054)	5.26040 *** (0.71681)	5.41355 *** (0.74715)
Candidate Land-use Scale (Land3)	-0.21707 (0.13549)	-0.33417 * (0.16774)	-0.26151 (0.62439)
Land ID × Land3	---	-0.91431 *** (0.25003)	-1.01900 *** (0.26120)
Party Lean × Party3	---	-1.37825 *** (0.16519)	-1.41690 *** (0.17169)
Land ID × Party3	---	---	-0.50712 • (0.27585)
Party Lean × Land3	---	---	-0.01748 (0.13756)
Land3 × Party3	---	---	0.58217 (0.89207)
Land ID × Party3 × Land3	---	---	-0.56743 • (0.33751)
Party Lean × Party3 × Land3	---	---	-0.16086 (0.20187)
Intercept	0.55299 (0.36221)	1.06315 * (0.50470)	1.18995 * (0.52643)
Observations	379	379	379

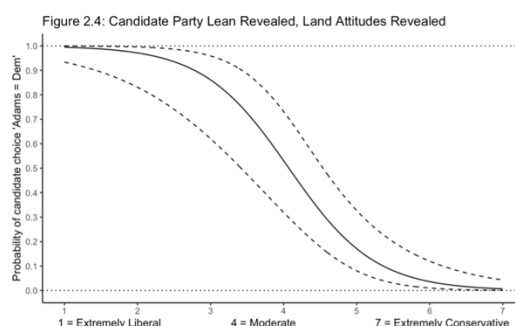
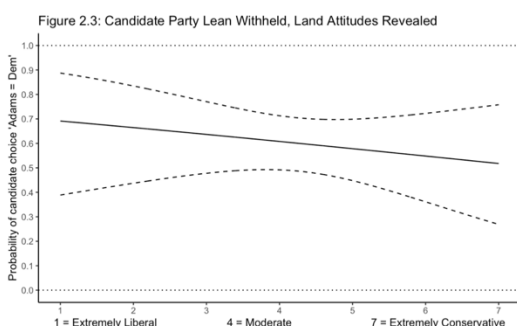
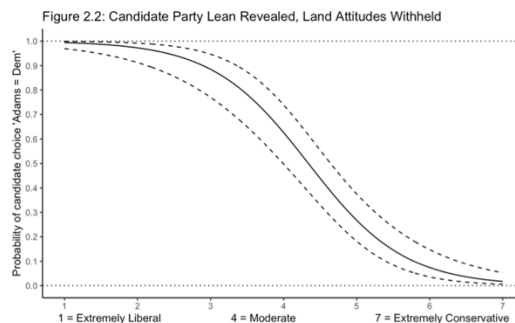
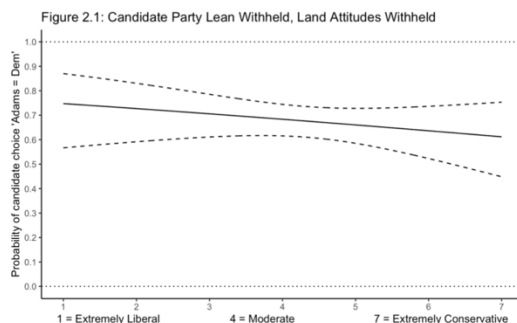
standard errors in parentheses

significance values: • p < 0.10, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001

Interactions among variables suggest a strong statistical relationship among certain interactions. However, due to the nature of interactions, interpretation based solely on stargazing at the significance of coefficients from statistical output can be deceptive and difficult to interpret (Ai and Norton 2003). From a cursory glance at Table 2.1, one can interpret that respondent party lean alone is significant. The interaction between land-use ideology and candidate land-use preference variables is significant ( $p < 0.001$ ), the interaction between respondent party lean and candidate party affiliation variables is significant ( $p < 0.001$ ), the interaction between candidate land-use preference and candidate party affiliation variables suggests significance ( $p < 0.10$ ) and finally the interaction among land-use ideology, candidate party affiliation, and candidate land-use preference variables suggests significance ( $p < 0.10$ ). However, the most reliable approach to interpretation of an interaction is achieved by graphing of results in illustrating significance (Mize 2019).

## **Graphing of Results**

For these illustrations, graphs were produced using R-Studio software allowing for graphical output of the different aspects of the predictive modeling. This was done in four groups that match up with the experimental design, where withholding and providing information regarding candidates is the determining factor for individual respondents' choices. This four-group design is done for each of the measures of respondent attitude, testing both the respondent party lean variable measuring direct self-assessment of partisan preferences and land-use ideology variable for the composite land-use attitude factor analysis scoring. The graphs are as follows, each including an interpretation of significance:

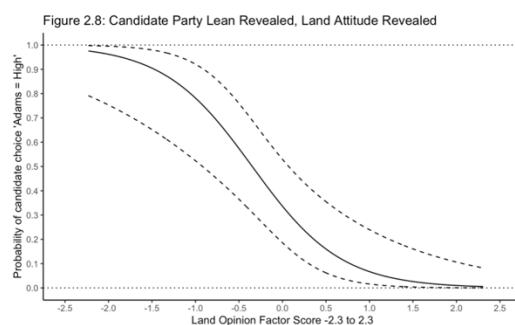
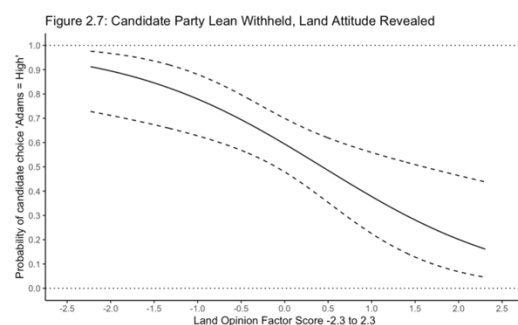
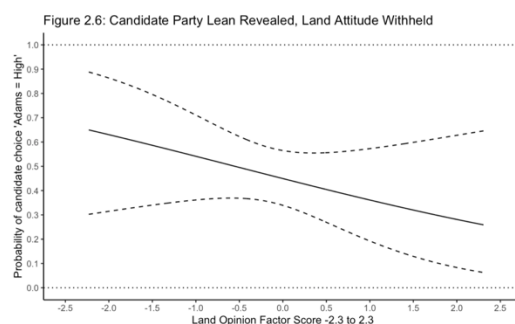
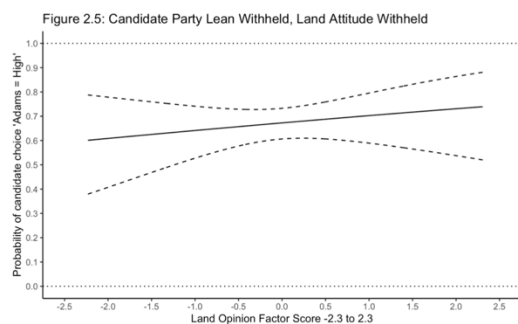


In Figure 2.1, both partisan lean and land-attitude of candidate are withheld. Here it is observed that there is very little movement in predicted probability of support based on the partisan lean of the respondent, rendering a non-significant result.

In Figure 2.2, candidate partisan lean is revealed, while land-use attitudes are withheld. Here it is observed that those self-reporting as extremely liberal have a much higher probability of voting for candidate Adams = Democrat, whereas those reporting a more conservative ideology exhibit a much lower probability of supporting Adams the Democratic candidate. This graph suggests a significant result.

In Figure 2.3, candidate partisan lean is withheld, while land-use attitudes are revealed. Here it is observed that there is very little movement in predicted probability of support based on the partisan lean of the respondent, suggesting a non-significant result.

In Figure 2.4, both candidate partisan lean and land-use attitudes are revealed. Here it is observed that those self-reporting as extremely liberal have a much higher probability of voting for candidate Adams = Democrat, whereas those reporting a more conservative ideology exhibit a much lower probability of supporting Adams the Democratic candidate. While the confidence intervals are somewhat wider than observed in Figure 2.2, likely due to the introduction of land-use attitudes, this still suggests a significant relationship.



In Figure 2.5, both partisan lean and land-attitude of candidate are withheld. Here it is observed that there is very little movement in predicted probability of support based on the land opinion factor score of the respondent, suggesting a non-significant result.

In Figure 2.6, candidate partisan lean is revealed, but candidate land-use attitude is withheld. Here it is observed that there is a stronger negative slope, but with wide confidence intervals, it still suggests a non-significant result.

In Figure 2.7, candidate partisan lean is withheld, while land-use attitudes are revealed. Here it is observed that those with a lower land-use factor score will be more likely to support candidate Adams who prefers a 'high' level of land-use authority, whereas respondents with a higher land-use factor score are less likely to support the 'high' level of candidate. This graph suggests a significant relationship.

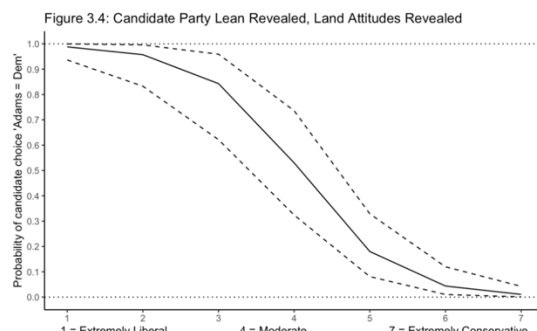
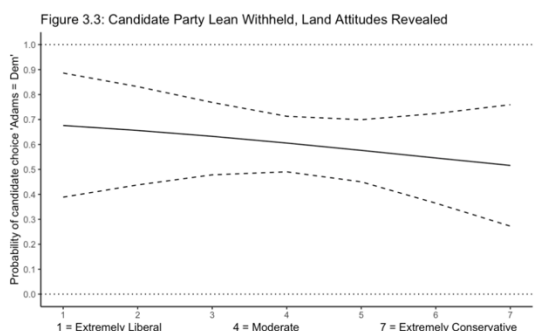
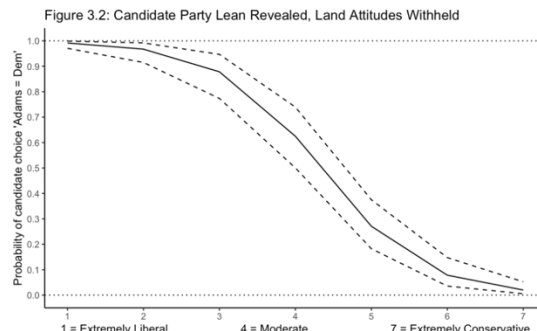
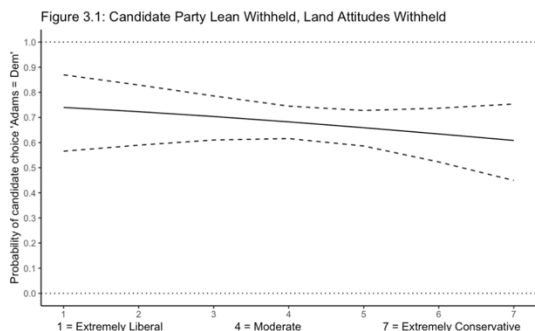
In Figure 2.8, both candidate partisan lean and land-use attitudes are revealed. Here it is observed that those with a lower land-use factor score will be more likely to support candidate Adams who prefers a 'high' level of land-use authority, whereas respondents with a higher land-use factor score are less likely to support the 'high' level of authority candidate. This graph suggests a significant relationship.



### **Replication of Coefficient Values as a Second Test of Significance**

A second method to interpret coefficient results from a three-way interaction is to replicate similar results from existing coefficients. This is done by taking the coefficients generated in the original logit regression using the full multiplicative three-way interactive model and generating a number (in this case 10,000 values) of simulated logit results in a multivariate normal distribution basing the mean as the coefficient values of the original model. Utilizing this replicated multivariate normal distribution, I then standardize the logged values of the 10,000 simulated values into probabilities.

Within the simulated values I then obtain the mean value in order to generate a fitted value line with graphing. Additionally, I use the 250<sup>th</sup> and 9,750<sup>th</sup> values to generate lower and upper confidence intervals (at the 95% level, 2.5% lower and 97.5% upper). Then, I plotted a representation of predicted values for political ideology around the 1 to 7-point scale, as well as a separate plot of the land-use ideology factor score generated earlier, one that scales from about -2.3 to 2.3 as x-axis variables. The graphs have a rougher appearance (for ease of calculation there are only seven data points along the x-axis) however, even with this rough appearance, the simulated output in Figures 3.1 through 3.8 strongly resemble and work to confirm the output of Figures 2.1 through 2.8.

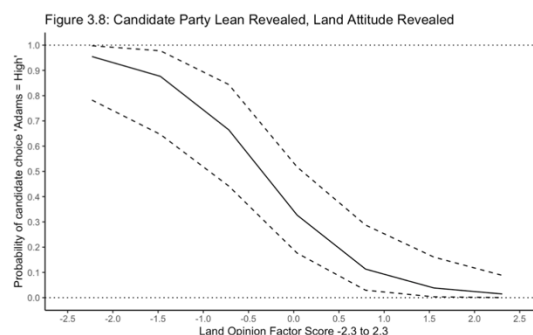
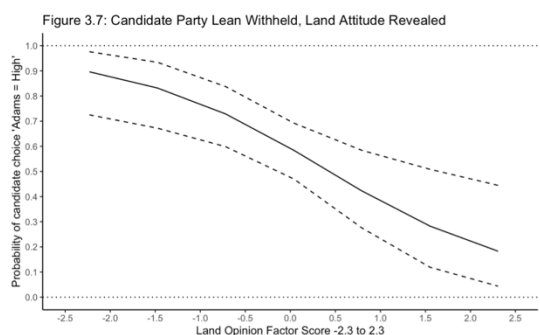
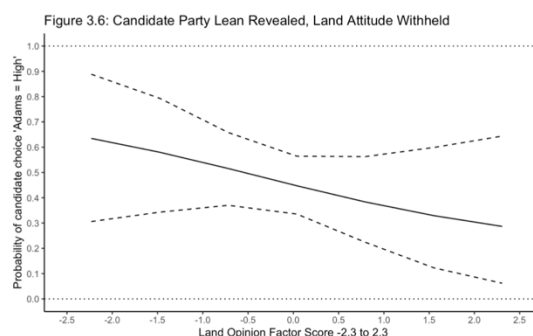
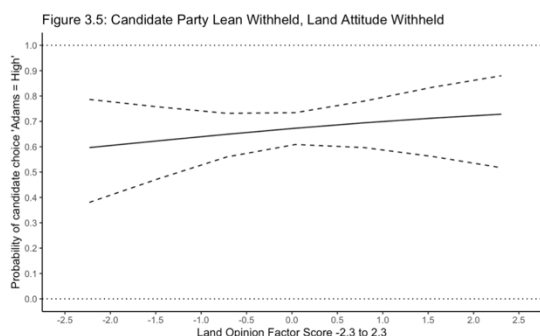


In Figure 3.1, both partisan lean and land-attitude of candidate are withheld. Here it is observed that there is very little movement in predicted probability of support based on the partisan lean of the respondent, suggesting a non-significant result.

In Figure 3.2, candidate partisan lean is revealed, while land-use attitudes are withheld. Here it is observed that those self-reporting as extremely liberal have a much higher probability of voting for candidate Adams = Democrat, whereas those reporting a more conservative ideology exhibit a much lower probability of supporting Adams the Democratic candidate. This graph suggests a significant relationship.

In Figure 3.3, candidate partisan lean is withheld, while land-use attitudes are revealed. Here it is observed that there is very little movement in predicted probability of support based on the partisan lean of the respondent, suggesting a non-significant result.

In Figure 3.4, both candidate partisan lean and land-use attitudes are revealed. Here it is observed that those self-reporting as extremely liberal have a much higher probability of voting for candidate Adams = Democrat, whereas those reporting a more conservative ideology exhibit a much lower probability of supporting Adams the Democratic candidate. While the confidence intervals are somewhat wider than observed in Figure 2.2, this still suggests a significant relationship.



In Figure 3.5, both partisan lean and land-attitude of candidate are withheld. Here it is observed that there is very little movement in predicted probability of support based on the land opinion factor score of the respondent, suggesting a non-significant result.

In Figure 3.6, candidate partisan lean is revealed, but candidate land-use attitude is withheld. Here it is observed that there is a stronger negative slope with an increase on the x-axis, but with wide confidence intervals, it still suggests a non-significant result.

In Figure 3.7, candidate partisan lean is withheld, while land-use attitudes are revealed. Here it is observed that those with a lower land-use factor score will be more likely to support candidate Adams who prefers a 'high' level of land-use authority, whereas respondents with a higher land-use factor score are less likely to support the 'high' government authority candidate. This graph suggests a significant relationship.

In Figure 3.8, both candidate partisan lean and land-use attitudes are revealed. Here it is observed that those with a lower land-use factor score will be more likely to support candidate Adams who prefers a 'high' level of land-use authority, whereas respondents with a higher land-use factor score are less likely to support the 'high' level of authority candidate. This graph suggests a significant relationship.

**Analysis of Simulated Graph Results: Measures of Difference**

The point of the simulated data is achieving an additional method for assessing statistical significance. With the creation of the multivariate normal distribution consisting of 10,000 simulated values derived from the coefficients from the original data (refer to Table 2.1) it allows for alternative measures of significance beyond the graphical representations shown in Figures 3.1 through 3.8. After converting these natural log coefficient values to probabilities, a comparison can be made between experimental groups to determine significance based on predicted value (mean of 10,000 values) as well as the upper (9,750<sup>th</sup>) and lower (250<sup>th</sup>) bounds along the non-linear predicted probability allowing for a determination of significance at the critical value of 0.05.

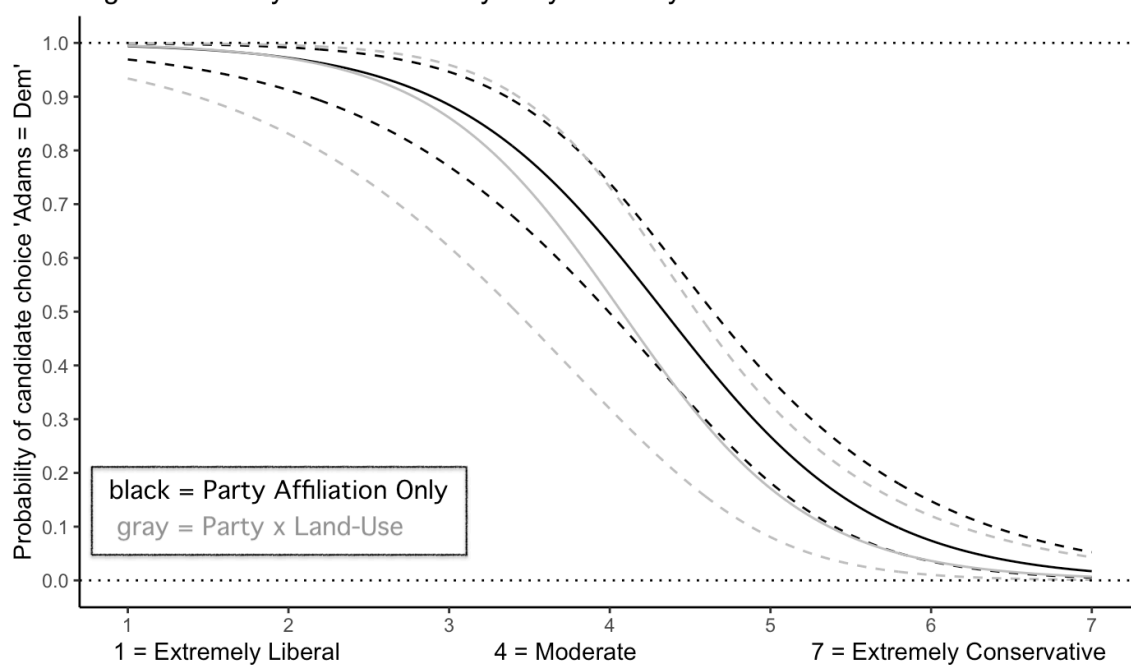
### **Significance of Difference: Respondent Partisan Identification on Candidate Choice**

The main goal of this research has been to measure the significance of land-use attitudes on candidate choice. For the first measure of significance we examine the effect that respondent partisan identification has on candidate choice. This is done by examining the probabilities of the groups exposed to partial and full information, and how those probabilities change based on the value of the x-axis variable. Looking closely at the graphical representation of significance, it is apparent that Figure 3.2 and Figure 3.4 are both significant, as the value changes in the x-axis, the probability follows in a significant manner. From Figures 3.2 and 3.4, there is clear difference in predicted probabilities between the minimum and maximum values along the x-axis representing respondent partisan identification (Karaca-Mandic Norton Dowd 2012).

The measurement of respondent partisan identification's effect on candidate choice has two influences I am interested in measuring: when candidate party affiliation is revealed; and, when candidate party affiliation and land-use attitudes are revealed. Figure 3.2 displays the predicted probability when candidate party affiliation is revealed, but land-use attitudes are not. Figure 3.4 displays the predicted probability when the candidate party affiliation and land-use attitudes are revealed.

The next step is determining if there is a difference between the predicted probabilities in these groups. The difference between Figure 3.2 and 3.4 are non-significant ( $p < 0.99$ ) as their predicted probabilities closely follow one another, suggesting that the influence of candidate party affiliation is changed very little by the interjection of land-use preference information. This relationship is illustrated well by Figure 4.1, in that the predicted probabilities for partial candidate information and full

Figure 4.1 Party Affiliation: Party Only vs. Party x Land-Use



information represent a near perfect match, with some lowering of the predicted probability likely introduced by the addition of candidate land-use information.

As respondent self-identification of partisan attitude increases, predicted probability of support for candidate Adams = Democrat decreases. Unsurprisingly, respondents who exhibit stronger liberal views and attitudes are more likely to support the candidate described as a Democrat, and similarly respondents who exhibit stronger conservative views will be less likely to support the Democrat candidate.

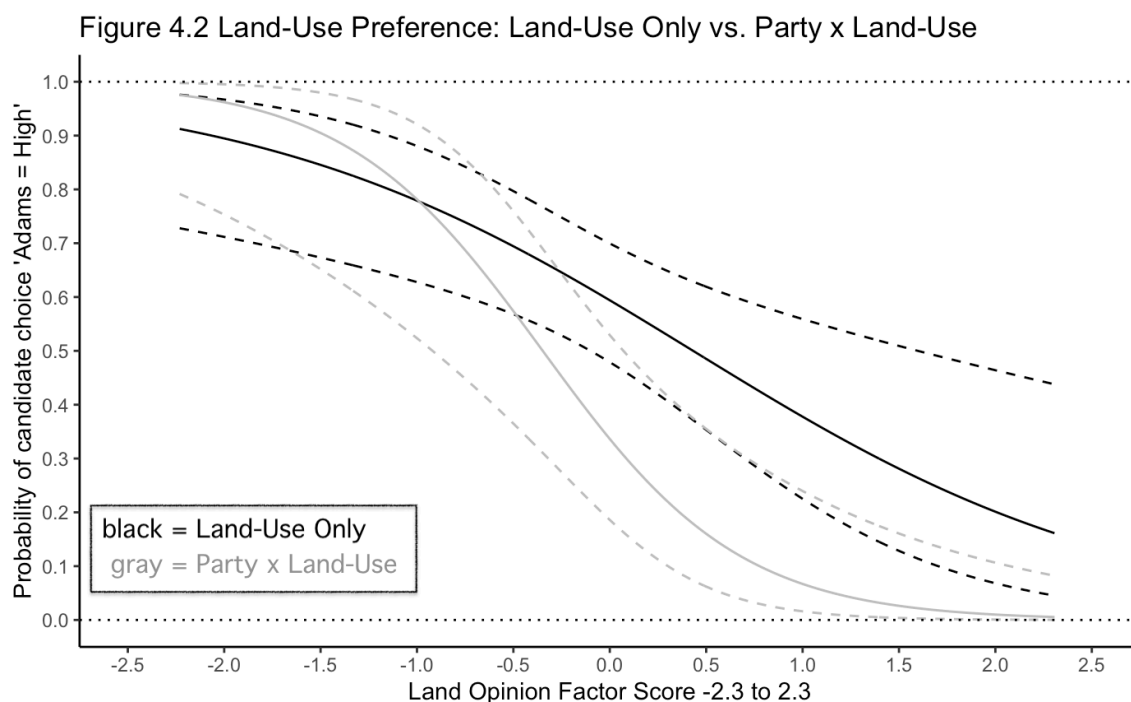
### **Significance of Difference: Respondent Land-Use Factor Score on Candidate Choice**

Now to examine the difference between respondent land-use attitudes. From a comparison of the graphs, the largest change in probabilities occurs in Figure 3.7 and Figure 3.8. The measurement of respondent land-use factor score on candidate choice has two influences I am interested in measuring: when candidate land-use attitudes are revealed, and when candidate party affiliation and land-use attitudes are revealed. From Figures 3.7 and 3.8, there is clear difference in predicted probabilities between the lowest and highest values of respondent land-use factor score.

The measurement of respondent land-use factor score's effect on candidate choice has two influences I am interested in measuring: when candidate land-use preferences are revealed; and, when candidate party affiliation and land-use attitudes are revealed. Figure 3.7 represents when respondents are exposed to candidate land-use information only, having party affiliation withheld. As values of the respondent land-use factor score increase along the x-axis, the predicted probability of supporting candidate Adams = high government authority decreases. Figure 3.8 represents when respondents are exposed to candidate land-use information and party affiliation. As values of respondent land-use factor score increase along the x-axis, the predicted probability of supporting candidate Adams = high government authority also decreases, though at a steeper and more pronounced rate than that of Figure 3.7.

The next step is determining if there is a difference between the predicted probabilities in these groups. The difference between Figure 3.7 and 3.8 are near-significant ( $p < 0.10$ ) as their predicted probabilities diverge with the interjection of candidate party affiliation. While not at the critical value of 0.05, the performance of

respondent land-use factor score is promising. In the end does not hold up against the influence of party affiliation. The underperformance of the candidate land-use attitude description alone leads to more tempered extremes in probabilities and wider confidence intervals as seen in Figure 3.7. The plotted predicted probability found in Figure 3.8 more closely resembles that of Figures 3.2 or 3.4 (see also Figure 4.1), suggesting that the influence of candidate party affiliation outweighs the influence of land-use preference information alone. A direct comparison however is not suggested, as the x-axis does not match in size or scale. This relationship between Figure 3.7 and 3.8 is illustrated well by Figure 4.2, in that the predicted probabilities for partial candidate information and full information suggest a stronger probability when party affiliation is introduced.





As respondent land-use factor score increases, predicted probability of support for candidate Adams = high government authority decreases. Respondents who exhibit a lower land-use factor score are more likely to support the candidate described as favoring high government authority, and similarly respondents who exhibit higher land-use factor score are less likely to support the candidate described as favoring high government authority.

The most significant result inferred from predicted probabilities depicted in Figure 4.2 is that revealing candidate party identification and partisanship in general far outweigh any effect that candidate land-use attitudes have on respondent vote choice. Stating that partisanship represents an easy out for individuals isn't a surprising revelation, in fact it is true to form given the narrative presented by previous literature.

Individuals presented with difficult decisions will more confidently select candidates that agree with their own partisan viewpoints. Individuals in this study relied more on party affiliation than on land-use attitudes when hard questions were asked about candidate choice. Does this same result carry through in the real world, far away from experimental control? It's difficult to predict as gray areas and indecision caused by individual internal conflict may occur but the data gathered presents a different picture.

### **Significance of Difference in Difference: Respondent Partisan Identification and Respondent Land-Use Factor Score**

There remains one more step of examination to determine significance of land-use attitudes as compared to party identification. This is done through comparing the previous two sections of findings from the respondent partisan identification groups and the respondent land-use factor score groups. The difference in the candidate partisan identification group between respondents exposed to candidate party affiliation information alone and full candidate information was non-significant ( $p < 0.99$ ). The difference in the candidate land-use attitude group between respondents exposed to candidate land-use preference only and full candidate information was near significant ( $p < 0.10$ ).

The last step then is to compare the difference between the predicted probabilities of the party affiliation group and the land-use attitudes groups. The difference between the party focused predicted probabilities in Figure 4.1 and the land-use focused predicted probabilities in Figure 4.2 results in another near-significant difference ( $p < 0.10$ ) which again is promising, but does not lead to classically statistically significant results.

## CONCLUSIONS AND RECOMMENDATIONS

This project expands upon the existing study of partisanship by examining the effects of the issue of land-use authority. The results suggest that candidate land-use stances, when measured against respondent's own land-use preferences, amount to a near-significant probability in voter behavior. This result is reason enough to exhibit an optimistic view that voters are capable of 'correct voting' based on their own revealed preferences (Lau and Redlawsk 1997). Partisanship remains a dominant predictor in voter response, but party ideology alone cannot be a substitute for all heuristics, especially in non-partisan electoral circumstances.

This paper contributes to the field of partisan study and land-use literature in a few ways. First, the predicted probabilities associated with the experimental design work to reinforce the widely accepted concept that partisanship is a strong and reliable predictor of voting outcomes. Partisanship and party affiliation remain a powerful heuristic for decision making, especially when limited information is consumed or provided to voters. Second, the measurements of significance suggest that absent partisan information, respondents can recognize and act 'correctly' when presented with candidate land-use stances and attitudes.

Overall, it is not surprising that extremes of partisan self-identification lead to higher probability of electoral support. What may be surprising is that isolating groups led to moderately strong evidence that land-use factor scoring, generated by way of the six-question matrix, suggest relatively strong predicted probabilities.

The overall lesson learned is that partisanship remains the strongest predictor of voter choice both in this experimental design and in real world circumstances. The

overwhelming difference in probabilities between the land-use attitude and party affiliation x land-use attitude groups reveals that individuals are more comfortable in decision making when partisanship is involved.

While this study features strong internal validity, it is difficult to declare it groundbreaking as the survey was performed under strongly controlled circumstances. In this way the project suggests weak external validity, but does offer some lessons to potential candidates and perspective voters. The overall generalizability of this study is hampered by real world conditions that make it difficult to separate candidates from partisan cues to the level approached by this study's experimental design. Additional weaknesses of this study include its small sample size and weak statistical power, but being a pilot study for further research, I am led to believe that under more regularized circumstances, a more significant result might be reached. As it stands now, this pilot study averages about 42 respondents per group, where traditional standards of statistical power suggest at least 200 respondents or a study of at least 1,800 respondents.

One suggestion to strengthen the reliability of this study might be revealed in obtaining a larger, more representative sample. In reality, this pilot study relied heavily on a convenience sample of largely college freshmen who may not have developed land-use attitudes beyond that exposure in their pre-college family situations. It is likely that more representative land-use attitudes are likely to be found among a somewhat older and more diverse sample population, one that is more experienced in the downfalls and delights of home ownership and navigating city and county ordinances.

Additionally, providing candidate descriptions with near-identical party identification traits revealed, but different land-use attitudes, may further isolate

partisanship's influence on vote choice. The existing design may have left some doubt in respondents in regards to their own conclusions on partisanship, so much so that their predicted probabilities were not as convincing as when partisanship was revealed. While adding near-identical party affiliation would complicate experimental design, it has potential to better isolate land-use as a stand-alone issue.

This study suggests mixed results as to the robustness of land-use attitudes as a reliable agent of voting behavior. Additional expanded study is warranted in defining how varying levels of information can better inform voters and might temper the partisanship and party identification dominant factors in voting behavior.

Additionally, since I was only interested in measuring the influence of partisanship and land-use attitudes, the conjoint experimental design employed in this study was fairly simple. Additional variation could be implemented by toggling candidate traits such as age, gender, racial identification, work and life experience, and frankly any number of other information that might be of interest. The conjoint experimental design a complex but valuable method to vary levels of information and gain a better insight into motivators for voter behavior.

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## APPENDIX

All survey forms 1–9 received the same two pages of demographic and attitudinal questions. Following the two pages of opening questions I include the candidate choice forms, marked at the top with [Form X]. Here is an example of those first two pages:

Thank you for participating in our study. Mark the check box associated with the answer you would like to give for each question

What is your gender?

- ☐ Male
- ☐ Female
- ☐ Non-binary
- ☐ Other

In what year were you born? (free response)

Year (\_\_\_\_\_)

What is your racial / ethnic group (check all that apply)?

- ☐ White
- ☐ Black
- ☐ Hispanic
- ☐ Asian
- ☐ Native American
- ☐ Other

What is the highest degree or level of education you have completed?

- ☐ Less than a High School degree
- ☐ High School
- ☐ Some College
- ☐ Bachelor's Degree
- ☐ Graduate Degree

How often do you attend religious services?

- ☐ Weekly
- ☐ 1–2 times each month
- ☐ A few times a year
- ☐ Never

When it comes to politics do you think of yourself as extremely liberal, liberal, slightly liberal, moderate or middle of the road, slightly conservative, conservative, extremely conservative?

- ☐ Extremely liberal
- ☐ Liberal
- ☐ Slightly liberal
- ☐ Moderate
- ☐ Slightly conservative
- ☐ Conservative
- ☐ Extremely conservative

Please tell us how much you agree or disagree with the following statements:

Statements:	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
I would be upset if my city allowed someone to operate a pig farm in my neighborhood	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
A city that wants to keep a small-town feel should be able to limit density of housing within its boundaries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Privately owned property that is not maintained and is a blight on the community should be condemned by the city	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
City laws that require citizens to keep lawns mowed and yards tidy are invasive	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cities should be able to enact laws that give their community unique and special character even if it restricts some choices of their citizens	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
People in my city should be able to do whatever they want with their own property	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**[Form 1]** Now we would like you to read the following description of two hypothetical candidates who could have appeared as candidates in a mayoral election. After you read about the candidates, we will ask you who you would have voted for if you had the choice in an election.

**Dennis Adams** is 45 years old. He graduated from college with a major in Finance. He has owned and operated a financial planning business for fifteen years. He has lived in our city for the past ten years and has served on the city council for the past six years. He volunteers each week at the community food bank. He and his family love the community and he is running to provide service to the city he loves.

**Aaron Benjamin** is 52 years old. He trained in heating and cooling (HVAC) installation and has worked for Speedy Plumbing & Heating for twenty-six years where he is now a senior supervisor. He has lived in our city for the past thirty years and has served on the city council for the past two years. He helped organize a neighborhood watch program and continues to volunteer in that group. The Benjamin's have raised their children here and hope to give back to the community through serving.

If you were voting in this mayoral election, would you vote for

- ☐ Dennis Adams
- ☐ Aaron Benjamin

As a mayoral candidate, how would you rate Dennis Adams

- ☐ Highly qualified
- ☐ Somewhat qualified
- ☐ No strong opinion
- ☐ Somewhat unqualified
- ☐ Poorly qualified
- ☐ Prefer not to answer

As a mayoral candidate, how would you rate Aaron Benjamin

- ☐ Highly qualified
- ☐ Somewhat qualified
- ☐ No strong opinion
- ☐ Somewhat unqualified
- ☐ Poorly qualified
- ☐ Prefer not to answer

**[Form 2]** Now we would like you to read the following description of two hypothetical candidates who could have appeared as candidates in a mayoral election. After you read about the candidates, we will ask you who you would have voted for if you had the choice in an election.

**Dennis Adams** is 45 years old. He graduated from college with a major in Finance. He has owned and operated a financial planning business for fifteen years. He has lived in our city for the past ten years and has served on the city council for the past six years. He volunteers each week at the community food bank. He and his family love the community and he is running to provide service to the city he loves. He has been a registered Democrat for over twenty years, and thinks Congress should enact gun control legislation and is pro-choice on abortion. He has indicated his support for a Medicare for All plan similar to the ones proposed by several of the 2020 Democratic presidential candidates.

**Aaron Benjamin** is 52 years old. He trained in heating and cooling (HVAC) installation and has worked for Speedy Plumbing & Heating for twenty-six years where he is now a senior supervisor. He has lived in our city for the past thirty years and has served on the city council for the past two years. He helped organize a neighborhood watch program and continues to volunteer in that group. The Benjamin's have raised their children here and hope to give back to the community through serving. He is a life-long Republican and supports second amendment rights as well as being pro-life on abortion. He thinks that the Affordable Care Act (also known as Obamacare) went too far and other market-based health care reforms are needed instead.

If you were voting in this mayoral election, would you vote for

- ☐ Dennis Adams
- ☐ Aaron Benjamin

As a mayoral candidate, how would you rate Dennis Adams

- ☐ Highly qualified
- ☐ Somewhat qualified
- ☐ No strong opinion
- ☐ Somewhat unqualified
- ☐ Poorly qualified
- ☐ Prefer not to answer

As a mayoral candidate, how would you rate Aaron Benjamin

- ☐ Highly qualified
- ☐ Somewhat qualified
- ☐ No strong opinion
- ☐ Somewhat unqualified
- ☐ Poorly qualified
- ☐ Prefer not to answer

**[Form 3]** Now we would like you to read the following description of two hypothetical candidates who could have appeared as candidates in a mayoral election. After you read about the candidates, we will ask you who you would have voted for if you had the choice in an election.

**Dennis Adams** is 45 years old. He graduated from college with a major in Finance. He has owned and operated a financial planning business for fifteen years. He has lived in our city for the past ten years and has served on the city council for the past six years. He volunteers each week at the community food bank. He and his family love the community and he is running to provide service to the city he loves. He is a life-long Republican and supports second amendment rights as well as being pro-life on abortion. He thinks that the Affordable Care Act (also known as Obamacare) went too far and other market-based health care reforms are needed instead.

**Aaron Benjamin** is 52 years old. He trained in heating and cooling (HVAC) installation and has worked for Speedy Plumbing & Heating for twenty-six years where he is now a senior supervisor. He has lived in our city for the past thirty years and has served on the city council for the past two years. He helped organize a neighborhood watch program and continues to volunteer in that group. The Benjamin's have raised their children here and hope to give back to the community through serving. He has been a registered Democrat for over twenty years, and thinks Congress should enact gun control legislation and is pro-choice on abortion. He has indicated his support for a Medicare for All plan similar to the ones proposed by several of the 2020 Democratic presidential candidates.

If you were voting in this mayoral election, would you vote for

- ☐ Dennis Adams
- ☐ Aaron Benjamin

As a mayoral candidate, how would you rate Dennis Adams

- ☐ Highly qualified
- ☐ Somewhat qualified
- ☐ No strong opinion
- ☐ Somewhat unqualified
- ☐ Poorly qualified
- ☐ Prefer not to answer

As a mayoral candidate, how would you rate Aaron Benjamin

- ☐ Highly qualified
- ☐ Somewhat qualified
- ☐ No strong opinion
- ☐ Somewhat unqualified
- ☐ Poorly qualified
- ☐ Prefer not to answer

**[Form 4]** Now we would like you to read the following description of two hypothetical candidates who could have appeared as candidates in a mayoral election. After you read about the candidates, we will ask you who you would have voted for if you had the choice in an election.

**Dennis Adams** is 45 years old. He graduated from college with a major in Finance. He has owned and operated a financial planning business for fifteen years. He has lived in our city for the past ten years and has served on the city council for the past six years. He volunteers each week at the community food bank. He and his family love the community and he is running to provide service to the city he loves. The city planning commission has recently endorsed a package of land-use ordinances that would remove limits on housing density in several parts of the community, roll-back ordinances limiting the use of vinyl siding, and generally give people more rights to do what they want on their own property. Dennis Adams supports this package of reforms as a good way to deal with growth.

**Aaron Benjamin** is 52 years old. He trained in heating and cooling (HVAC) installation and has worked for Speedy Plumbing & Heating for twenty-six years where he is now a senior supervisor. He has lived in our city for the past thirty years and has served on the city council for the past two years. He helped organize a neighborhood watch program and continues to volunteer in that group. The Benjamin's have raised their children here and hope to give back to the community through serving. Aaron Benjamin opposes the planning commission's proposed ordinances and prefers to keep limits on housing density in place as well as the city's rules promoting a particular look and feel for buildings. He thinks that these types of restrictions preserve the nature of the community as it grows.

If you were voting in this mayoral election, would you vote for

- ☐ Dennis Adams
- ☐ Aaron Benjamin

As a mayoral candidate, how would you rate Dennis Adams

- ☐ Highly qualified
- ☐ Somewhat qualified
- ☐ No strong opinion
- ☐ Somewhat unqualified
- ☐ Poorly qualified
- ☐ Prefer not to answer

As a mayoral candidate, how would you rate Aaron Benjamin

- ☐ Highly qualified
- ☐ Somewhat qualified
- ☐ No strong opinion
- ☐ Somewhat unqualified
- ☐ Poorly qualified
- ☐ Prefer not to answer

**[Form 5]** Now we would like you to read the following description of two hypothetical candidates who could have appeared as candidates in a mayoral election. After you read about the candidates, we will ask you who you would have voted for if you had the choice in an election.

**Aaron Benjamin** is 52 years old. He trained in heating and cooling (HVAC) installation and has worked for Speedy Plumbing & Heating for twenty-six years where he is now a senior supervisor. He has lived in our city for the past thirty years and has served on the city council for the past two years. He helped organize a neighborhood watch program and continues to volunteer in that group. The Benjamin's have raised their children here and hope to give back to the community through serving.

The city planning commission has recently endorsed a package of land-use ordinances that would remove limits on housing density in several parts of the community, roll-back ordinances limiting the use of vinyl siding, and generally give people more rights to do what they want on their own property. Aaron Benjamin supports this package of reforms as a good way to deal with growth.

**Dennis Adams** is 45 years old. He graduated from college with a major in Finance. He has owned and operated a financial planning business for fifteen years. He has lived in our city for the past ten years and has served on the city council for the past six years. He volunteers each week at the community food bank. He and his family love the community and he is running to provide service to the city he loves. Dennis Adams opposes the planning commission's proposed ordinances and prefers to keep limits on housing density in place as well as the city's rules promoting a particular look and feel for buildings. He thinks that these types of restrictions preserve the nature of the community as it grows.

If you were voting in this mayoral election, would you vote for

- ☐ Aaron Benjamin
- ☐ Dennis Adams

As a mayoral candidate, how would you rate Aaron Benjamin

- ☐ Highly qualified
- ☐ Somewhat qualified
- ☐ No strong opinion
- ☐ Somewhat unqualified
- ☐ Poorly qualified
- ☐ Prefer not to answer

As a mayoral candidate, how would you rate Dennis Adams

- ☐ Highly qualified
- ☐ Somewhat qualified
- ☐ No strong opinion
- ☐ Somewhat unqualified
- ☐ Poorly qualified
- ☐ Prefer not to answer

**[Form 6]** Now we would like you to read the following description of two hypothetical candidates who could have appeared as candidates in a mayoral election. After you read about the candidates, we will ask you who you would have voted for if you had the choice in an election.

**Dennis Adams** is 45 years old. He graduated from college with a major in Finance. He has owned and operated a financial planning business for fifteen years. He has lived in our city for the past ten years and has served on the city council for the past six years. He volunteers each week at the community food bank. He and his family love the community and he is running to provide service to the city he loves. He has been a registered Democrat for over twenty years, and thinks Congress should enact gun control legislation and is pro-choice on abortion. He has indicated his support for a Medicare for All plan similar to the ones proposed by several of the 2020 Democratic presidential candidates. The city planning commission has recently endorsed a package of land-use ordinances that would remove limits on housing density in several parts of the community, roll-back ordinances limiting the use of vinyl siding, and generally give people more rights to do what they want on their own property. Dennis Adams supports this package of reforms as a good way to deal with growth.

**Aaron Benjamin** is 52 years old. He trained in heating and cooling (HVAC) installation and has worked for Speedy Plumbing & Heating for twenty-six years where he is now a senior supervisor. He has lived in our city for the past thirty years and has served on the city council for the past two years. He helped organize a neighborhood watch program and continues to volunteer in that group. The Benjamin's have raised their children here and hope to give back to the community through serving. He is a life-long Republican and supports second amendment rights as well as being pro-life on abortion. He thinks that the Affordable Care Act (also known as Obamacare) went too far and other market-based health care reforms are needed instead. Aaron Benjamin opposes the planning commission's proposed ordinances and prefers to keep limits on housing density in place as well as the city's rules promoting a particular look and feel for buildings. He thinks that these types of restrictions preserve the nature of the community as it grows.

If you were voting in this mayoral election, would you vote for

- ☐ Dennis Adams
- ☐ Aaron Benjamin

As a mayoral candidate, how would you rate Dennis Adams

- ☐ Highly qualified
- ☐ Somewhat qualified
- ☐ No strong opinion
- ☐ Somewhat unqualified
- ☐ Poorly qualified
- ☐ Prefer not to answer

As a mayoral candidate, how would you rate Aaron Benjamin

- ☐ Highly qualified
- ☐ Somewhat qualified
- ☐ No strong opinion
- ☐ Somewhat unqualified
- ☐ Poorly qualified
- ☐ Prefer not to answer



**[Form 7]** Now we would like you to read the following description of two hypothetical candidates who could have appeared as candidates in a mayoral election. After you read about the candidates, we will ask you who you would have voted for if you had the choice in an election.

**Dennis Adams** is 45 years old. He graduated from college with a major in Finance. He has owned and operated a financial planning business for fifteen years. He has lived in our city for the past ten years and has served on the city council for the past six years. He volunteers each week at the community food bank. He and his family love the community and he is running to provide service to the city he loves. He is a life-long Republican and supports second amendment rights as well as being pro-life on abortion. He thinks that the Affordable Care Act (also known as Obamacare) went too far and other market-based health care reforms are needed instead. The city planning commission has recently endorsed a package of land-use ordinances that would remove limits on housing density in several parts of the community, roll-back ordinances limiting the use of vinyl siding, and generally give people more rights to do what they want on their own property. Dennis Adams supports this package of reforms as a good way to deal with growth.

**Aaron Benjamin** is 52 years old. He trained in heating and cooling (HVAC) installation and has worked for Speedy Plumbing & Heating for twenty-six years where he is now a senior supervisor. He has lived in our city for the past thirty years and has served on the city council for the past two years. He helped organize a neighborhood watch program and continues to volunteer in that group. The Benjamin's have raised their children here and hope to give back to the community through serving. He has been a registered Democrat for over twenty years, and thinks Congress should enact gun control legislation and is pro-choice on abortion. He has indicated his support for a Medicare for All plan similar to the ones proposed by several of the 2020 Democratic presidential candidates. Aaron Benjamin opposes the planning commission's proposed ordinances and prefers to keep limits on housing density in place as well as the city's rules promoting a particular look and feel for buildings. He thinks that these types of restrictions preserve the nature of the community as it grows.

If you were voting in this mayoral election, would you vote for

- ☐ Dennis Adams
- ☐ Aaron Benjamin

As a mayoral candidate, how would you rate Dennis Adams

- ☐ Highly qualified
- ☐ Somewhat qualified
- ☐ No strong opinion
- ☐ Somewhat unqualified
- ☐ Poorly qualified
- ☐ Prefer not to answer

As a mayoral candidate, how would you rate Aaron Benjamin

- ☐ Highly qualified
- ☐ Somewhat qualified
- ☐ No strong opinion
- ☐ Somewhat unqualified
- ☐ Poorly qualified
- ☐ Prefer not to answer

**[Form 8]** Now we would like you to read the following description of two hypothetical candidates who could have appeared as candidates in a mayoral election. After you read about the candidates, we will ask you who you would have voted for if you had the choice in an election.

**Aaron Benjamin** is 52 years old. He trained in heating and cooling (HVAC) installation and has worked for Speedy Plumbing & Heating for twenty-six years where he is now a senior supervisor. He has lived in our city for the past thirty years and has served on the city council for the past two years. He helped organize a neighborhood watch program and continues to volunteer in that group. The Benjamin's have raised their children here and hope to give back to the community through serving. He is a life-long Republican and supports second amendment rights as well as being pro-life on abortion. He thinks that the Affordable Care Act (also known as Obamacare) went too far and other market-based health care reforms are needed instead. The city planning commission has recently endorsed a package of land-use ordinances that would remove limits on housing density in several parts of the community, roll-back ordinances limiting the use of vinyl siding, and generally give people more rights to do what they want on their own property. Aaron Benjamin supports this package of reforms as a good way to deal with growth.

**Dennis Adams** is 45 years old. He graduated from college with a major in Finance. He has owned and operated a financial planning business for fifteen years. He has lived in our city for the past ten years and has served on the city council for the past six years. He volunteers each week at the community food bank. He and his family love the community and he is running to provide service to the city he loves. He has been a registered Democrat for over twenty years, and thinks Congress should enact gun control legislation and is pro-choice on abortion. He has indicated his support for a Medicare for All plan similar to the ones proposed by several of the 2020 Democratic presidential candidates. Dennis Adams opposes the planning commission's proposed ordinances and prefers to keep limits on housing density in place as well as the city's rules promoting a particular look and feel for buildings. He thinks that these types of restrictions preserve the nature of the community as it grows.

If you were voting in this mayoral election, would you vote for

- ☐ Aaron Benjamin
- ☐ Dennis Adams

As a mayoral candidate, how would you rate Aaron Benjamin

- ☐ Highly qualified
- ☐ Somewhat qualified
- ☐ No strong opinion
- ☐ Somewhat unqualified
- ☐ Poorly qualified
- ☐ Prefer not to answer

As a mayoral candidate, how would you rate Dennis Adams

- ☐ Highly qualified
- ☐ Somewhat qualified
- ☐ No strong opinion
- ☐ Somewhat unqualified
- ☐ Poorly qualified
- ☐ Prefer not to answer

**[Form 9]** Now we would like you to read the following description of two hypothetical candidates who could have appeared as candidates in a mayoral election. After you read about the candidates, we will ask you who you would have voted for if you had the choice in an election.

**Aaron Benjamin** is 52 years old. He trained in heating and cooling (HVAC) installation and has worked for Speedy Plumbing & Heating for twenty-six years where he is now a senior supervisor. He has lived in our city for the past thirty years and has served on the city council for the past two years. He helped organize a neighborhood watch program and continues to volunteer in that group. The Benjamin's have raised their children here and hope to give back to the community through serving. He has been a registered Democrat for over twenty years, and thinks Congress should enact gun control legislation and is pro-choice on abortion. He has indicated his support for a Medicare for All plan similar to the ones proposed by several of the 2020 Democratic presidential candidates. The city planning commission has recently endorsed a package of land-use ordinances that would remove limits on housing density in several parts of the community, roll-back ordinances limiting the use of vinyl siding, and generally give people more rights to do what they want on their own property. Aaron Benjamin supports this package of reforms as a good way to deal with growth.

**Dennis Adams** is 45 years old. He graduated from college with a major in Finance. He has owned and operated a financial planning business for fifteen years. He has lived in our city for the past ten years and has served on the city council for the past six years. He volunteers each week at the community food bank. He and his family love the community and he is running to provide service to the city he loves. He is a life-long Republican and supports second amendment rights as well as being pro-life on abortion. He thinks that the Affordable Care Act (also known as Obamacare) went too far and other market-based health care reforms are needed instead. Dennis Adams opposes the planning commission's proposed ordinances and prefers to keep limits on housing density in place as well as the city's rules promoting a particular look and feel for buildings. He thinks that these types of restrictions preserve the nature of the community as it grows.

If you were voting in this mayoral election, would you vote for

☐ Aaron Benjamin

☐ Dennis Adams

As a mayoral candidate, how would you rate Aaron Benjamin

☐ Highly qualified

☐ Somewhat qualified

☐ No strong opinion

☐ Somewhat unqualified

☐ Poorly qualified

☐ Prefer not to answer

As a mayoral candidate, how would you rate Dennis Adams

☐ Highly qualified

☐ Somewhat qualified

☐ No strong opinion

☐ Somewhat unqualified

☐ Poorly qualified

☐ Prefer not to answer

**Survey Introduction Script**

Also included is the script used to introduce the survey to respondents in a classroom setting. It reads as follows:

Hello, my name is [Scott Dresher], and I am a [Graduate Student at Utah State University in the Department of Political Science]. I am conducting research on factors people consider when voting in a mayoral election. I invite you to participate in this research because you are a potential voter in upcoming elections and your opinion and vote are important.

Your participation today is entirely voluntary. Participation in this research is straightforward; it includes completing a one-time survey that should take no longer than 10–15 minutes. The survey is designed to examine your attitudes toward a hypothetical mayoral election. There is no commitment beyond today's activities.

You can choose to be in the study or not. If you'd like to participate, preparations have been made to administer the survey to you here and now. Participation (or non-participation) in this study will not affect your grade in this class either way. Your identity as a participant will remain anonymous during and after this study.

Do you have any questions for me at this time?

[address questions as necessary]

Attached to the survey is a letter of information explaining in higher detail your commitment in participating in this research.

Thank you in advance for your participation,

[distribution of hand-written surveys]