

Political Partisanship and Transportation Reform

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PROBLEM, RESEARCH STRATEGY, AND FINDINGS Support for transportation policies and investments is increasingly shaped by partisan ideals. Less well documented is the role of partisanship relative to potential mediating factors like transportation-related values, beliefs about the possibility of change, self-interest, and knowledge. We surveyed a representative sample of 600 U.S. adults about these factors, their political ideology, and their willingness to change the automobile-oriented transportation status quo. We found considerable support for change but also deep partisan divides. In exploring the pathways between partisanship and policy preferences, we found that values and beliefs about change are both deeply partisan and closely associated with policy preferences. By contrast, the results were mixed for self-interest and transportation-related knowledge. Ultimately, we found that these four pathways explain much, but not all, of the partisanship in transportation policy preferences. Very conservative respondents opposed reform efforts above and beyond what we would expect from their values, beliefs, self-interest, and knowledge, indicating continuing salience of partisanship.

TAKEAWAY FOR PRACTICE Our results suggest that transportation reforms enjoy broad public support in urban areas with moderate and left-leaning populaces but may struggle to win approval at the regional, state, or federal level due to partisan geographic sorting. Some planners, policymakers, and advocates may choose to embrace partisanship, but doing so may exacerbate tensions and hamper progress. Others may prefer to tackle the pathways between partisanship and preferences without deepening partisan divides. For instance, practitioners may seek to increase support for reform by tackling widespread misunderstandings about induced demand or by installing pilot projects to help the public understand that it is possible to quickly and inexpensively change infrastructure and travel.

KEYWORDS

partisanship, political ideology, self-interest, transportation policy, values

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Transportation planners tend to agree that a future with more walking, biking, and transit use would be better for public health, the planet, and household and government finance than a future with more driving. Yet efforts to reshape the transportation system at the national and local levels have made frustratingly little progress in the United States. The vast majority of Americans drive for nearly every trip; congestion, crashes, and emissions are on the rise; and transit use and bike commuting are down (Governing, 2020; Maus, 2019; U.S. Census Bureau, 2018).

Previous research suggests that transportation policies and investments are increasingly shaped by partisan ideals (Freemark, 2011; Held, 2010; Nall, 2018), with support for the car-dominated status quo and backlash against alternatives split across partisan lines (Frick, 2013; Trapenberg Frick et al., 2015). These findings echo the narrative of an increasingly polarized planning environment in the United States (Foss, 2018a; Frick & Myers, 2018; Liao et al., 2020) where planners must navigate a partisan maze to advance local and regional transportation agendas (Higashide, 2019). More broadly, American society is also growing more polarized (Klein, 2020), with policy agendas mired in partisanship and policymakers unable to win support from those outside of their own party (Hacker & Pierson, 2019).

Although research repeatedly documents partisan divides in transportation policy preferences, few studies have investigated the potential role that mediating factors like societal values or knowledge may play. For instance, there is only suggestive evidence about the role of self-interest in shaping transportation policy preferences (Nall, 2018). Moreover, little is known about how partisanship relates to beliefs and knowledge about transportation. Evidence from other fields suggests that the effect of partisanship may be profound. For instance, Gadarian et al. (2021) found that partisanship is the “single most consistent factor” differentiating Americans’ beliefs, knowledge, attitudes, and policy preferences about the COVID-19 pandemic.

To fill this gap, we carefully examined four mediating pathways between partisanship and policy preferences. To do this, we surveyed a representative sample of U.S. adults about their political ideology and their support for four transportation reforms. After establishing that transportation policy preferences are indeed politically partisan, we explored four potential pathways between partisanship and policy preferences: 1) self-interest (proxied by personal travel behavior), 2) transportation-related values, 3) beliefs about the possibility of change, and 4) factual knowledge about transportation. For each pathway, we asked two questions: Does this factor vary by political orientation? Does this factor relate to transportation policy preferences? We note at the outset that this research was designed to explore associations, not reveal causality; self-interest, values, beliefs, and knowledge almost certainly interact with partisanship in complex and interdependent ways that are difficult to observe in cross-sectional data.

Following this introduction, we discuss existing research on the role of partisanship in transportation policy preferences, with an emphasis on what is known and unknown about the role of self-interest, values, beliefs about change, and knowledge. Next, we introduce our rich, disaggregate survey data and analytical approach. Our presentation of results includes both bivariate and multivariate results for each of the four pathways. We conclude with implications for planning, including how partisanship may shape policies at different scales, an increasing imperative to build coalitions to support progressive transportation agendas, and how planners may shape public knowledge or values to garner project support.

The Role of Partisanship in Transportation Policy

Although transportation issues enjoyed bipartisan support in the past, U.S. transportation policy is increasingly partisan (Nall, 2018). Both parties continue to support highway spending, but conservative voters (right of center) have diverged from their liberal (left of center) peers and now largely oppose spending gas tax revenues on transit and targeting transportation resources to the poor (Nall, 2018). In addition, several studies showed that Democratic voters are more supportive of increasing gas taxes to fund transportation, transit, and urban transportation projects (Manville, 2018; Nall, 2018; Nixon & Agrawal, 2019; Ray et al., 2020). Partisanship is now a stronger predictor of voter support for transportation policies than an individual’s education, race, or income (Nall, 2018; Nixon & Agrawal, 2019; Ray et al., 2020). For planners working to advance transportation agendas, partisanship has proven an increasingly thorny issue (Higashide, 2019), particularly as the U.S. population continues to sort by political ideology (e.g., Tam Cho et al., 2013), which has left many urban residents with transportation policy preferences that diverge sharply from those of surrounding suburban residents.

Self-Interest and Transportation Policy Preferences

It is unclear how self-interest interacts with partisanship and transportation policy preferences. On the one hand, Nall (2018) speculated that liberals may be more likely than conservatives to benefit from transit and other nonhighway transportation investments and thus may be more likely to support them. He noted, however, that there may be few differences in travel behavior by political ideology given the automobile-

oriented nature of much of the United States (Voulgaris et al., 2016). On the other hand, entrenched political polarization may outweigh self-interest, leading some voters to oppose policies that they would stand to benefit from personally. Outside of transportation, partisanship has been shown to cause individuals to interpret information through a lens of party commitment, thereby shifting some individuals away from policies they might otherwise support out of self-interest (Bolsen et al., 2014). It is unclear whether this “partisan-motivated reasoning” takes place in transportation policy, although it seems plausible given the limited salience of transportation policy issues (Branham, 2019; Hacker & Pierson, 2019).

Transportation Values

Political values—including the importance of equal opportunity, the role of government, and family values—differ across party identification, due in part to self-selection and in part to party influence and issue framing (Goren, 2005). Advocates occasionally draw on partisan ideals to promote transportation policy. For instance, the 2016 Republican (conservative) Party platform cited the value of fairness while proposing to phase out the federal transit program, arguing that it is unfair to divert funds from their original intended purpose (road construction; Republican Party, 2016). In characterizing transportation ideology in San Francisco (CA), Henderson (2013) showed that conservatives emphasize family values and the needs of small businesses in their efforts to promote automobility and ample parking. Similarly, Trapenberg Frick et al. (2015) found that conservative state legislatures often see planning efforts as a threat to individual freedoms. On the other side of the aisle, Manville and Cummins (2015) found that support for transit spending aligns closely with attitudes about broad social issues (Manville & Cummins, 2015).

What is less clear is whether partisanship shapes transportation-related values, like how to allocate road space or the relative value of recreational versus utilitarian trips. We also know very little about whether transportation-specific values like these are associated with support for transportation reform.

Belief That Change Is Possible

We turn next to beliefs about the *possibility* of change, which is distinct from the *desirability* of change. It is well known that people struggle to imagine dramatically different realities from the one they currently occupy (Kahneman, 2011). Suggestive evidence about the difficulty of imagining alternative futures comes from Henderson (2013), who studied parking reform efforts in San Francisco. He noted that support for reform was tepid even among likely allies because individuals had difficulty imagining San Francisco with fewer cars. Naturally, this difficulty diminishes support for change. To counteract this tendency, labor and community organizers spend considerable time and effort advancing alternative visions and identifying concrete steps toward realizing them (McAlevey & Ostertag, 2014).

Many beliefs about change may be relevant to transportation policy, but very little is known about them. Thirty years ago, many people were skeptical that travel behaviors could shift much in response to price changes or different built environments (Wachs, 1991). It remains to be seen whether that skepticism persists today. Similarly, it is unclear whether people believe large-scale infrastructure changes are achievable and whether the needs of drivers and other road users conflict. Even less is known about whether these beliefs are partisan or whether they meaningfully influence transportation policy.

The Politics of Knowledge

Polarization of transportation policy could be driven by political differences in knowledge about the transportation system, a concerning potential parallel to the broader proliferation of “fake news” and “alternative facts.” Beyond transportation, research suggests that knowledge filtered through a partisan lens powerfully shapes individual beliefs. Americans use party identification to form attitudes (Zaller, 1992) and interpret complex information (Lodge & Taber, 2013), a process amplified by the rise of ideologically

aligned media (Grossmann & Hopkins, 2016). To garner support for their priorities, political parties carefully construct policy frames, which powerfully influence public opinion (Slothuus & de Vreese, 2010).

In the realm of transportation, suggestive evidence indicates that knowledge may be somewhat partisan. For instance, 72% of Democrats say they believe transit investments would ease congestion, compared with 58% of Republicans (Jaffe, 2014). Similarly, Democratic and urban adults are more likely to believe that building vehicle lanes would ease congestion (Jaffe, 2014). More fundamental, little is known about the public’s knowledge of transportation issues, although some scholarship suggests that many Americans are woefully underinformed about transportation and embrace several enduring transportation myths (Black, 2001; Lane, 2019).

Data and Methods

We recruited 600 adults living in the United States to take an opt-in online survey using the survey platform Prolific (n.d.). We offered participants \$2.50 to complete the survey based on a \$15 hourly rate and a 10-min completion time (the median participant took 10.3 min to complete, with a mean of 12.3 min and standard deviation of 9.4). We used quotas to recruit a sample that is reflective of the U.S. population based on age, sex, and race. Before fielding our survey, we piloted the survey twice with 100 respondents each time.

Prior to fielding the final survey, we defined three criteria for excluding respondents: those who completed a prior pilot survey, completed the survey too fast (three standard deviations outside the mean), and refused to answer more than half of the demographic questions (all other questions were required). Based on these criteria, we excluded just one respondent who had completed a pilot version of our survey, leaving us with a usable sample of 599 U.S. adults.

Survey Demographics

The survey quotas were generally successful in recruiting a sample representative of the U.S. population by age, sex, and race. Compared with the general public, our sample is disproportionately liberal, highly educated, and non-Hispanic. We therefore weighted our sample on these characteristics, using data from the 2019 5-Year American Community Survey (U.S. Census Bureau, 2019) and the General Social Survey (General Social Survey, 2019). We estimated weights through iterative proportional fitting (Kalton & Flores-Cervantes, 2003; Table 1).

Table 1 Survey respondent demographics. (Table view)

Characteristic	Unweighted <i>N</i> = 599	Weighted <i>N</i> = 597	U.S. Census/ACS
Gender			
Female	50%	50%	51%
Male	49%	50%	49%
Other identity	1%	<1%	
Age			
18–24 years	11%	12%	12%
25–34 years	20%	18%	18%
35–44 years	20%	16%	16%
45–64 years	36%	33%	33%
65 and over	14%	20%	20%
Race/ethnicity			
Hispanic	6%	18%	18%
NH Asian	7%	6%	5%
NH Black	12%	14%	12%

Characteristic	Unweighted N= 599	Weighted N= 597	U.S. Census/ACS
NH other	2%	2%	1%
NH two or more races	3%	3%	2%
NH White	70%	58%	61%
Educational attainment			
Less than high school	1.0%	3.1%	12%
High school graduate	12%	17%	28%
Some college or 2-year degree	35%	51%	31%
Bachelor's/4-year degree	35%	21%	19%
Graduate degree	18%	9%	11%
Political identity			
Very liberal	20%	5%	5%
Liberal	23%	12%	12%
Moderately liberal	16%	11%	11%
Moderate	17%	38%	38%
Moderately conservative	9.2%	13%	13%
Conservative	10%	16%	16%
Very conservative	5%	4%	4%
Share of ZCTA workers commuting by car (mean)	85%	87%	87%
Population density of ZCTA (1,000/mi ²) (mean)	0.8	0.7	0.1
Household composition			
I live alone	23%	23%	28%
I live with family, a partner, or others	69%	68%	61%
I live with roommate(s), housemate(s), or in a dormitory	8%	9%	11%
Missing	<1%	<1%	
Traveler type			
Driver	59%	59%	82%
Long-distance trekker	18%	19%	4.0%
Multimodal	15%	15%	3.0%
Car-less/-free	8%	7%	11%
Minutes spent in congestion (mean)	16	16	16
Vehicles in household			
0	7%	7%	9%
1	42%	45%	33%
2	33%	32%	37%
3	13%	12%	15%
4	4%	3%	5%
5 or more	1%	1%	2%

Note: ACS = American Community Survey; NH = non-Hispanic; ZCTA = zip code tabulation area.

Survey Instrument

The survey instrument included 49 questions and was designed to measure 1) political ideology; 2) transportation policy preferences, values, beliefs, and knowledge; and 3) travel behavior (a proxy for self-interest). The [Technical Appendix](#) lists all survey questions.¹

Measuring Political Ideology

Although we have referred to partisanship thus far, we did not ask respondents about their party affiliation (Democrat, Republican, or other) because we worried that doing so would reduce survey completion. Instead, we asked about the related concept of ideological position using a 7-point Likert scale ranging from *very conservative* to *moderate* to *very liberal* (General Social Survey, 2019). Studies with both ideological position and partisan affiliation found that they tend to perform very similarly (e.g., Gadarian et al., 2021, called them “substantively identical” [p. 5]). For this reason, we use the terms interchangeably throughout.

Measuring Preferences, Values, Beliefs, and Knowledge

To measure transportation preferences, values, the belief that change is possible, and knowledge, we asked respondents to select between two conflicting statements (e.g., “Transportation policy should...make it easier for most people to drive for most trips” or “...try to shift more trips toward public transit, walking, and bicycling”). This binary approach differs from more familiar Likert scales, but research suggests that Likert scales unreliably measure the intensity of opinions (Dolnicar et al., 2011). Binary responses thus offer the same information (the direction of opinions) more clearly and quickly. Throughout the survey, we randomized question order and the order of the answers (i.e., so that not all of the progressive options were first).

We used the binary format to collect views on four transportation reforms: two about the goals of transportation, one about downtown parking, and one about mixing homes and businesses within neighborhoods. We present initial results for all four reforms and then focus on one (“Transportation policy should...”). We also asked about five transportation-related values, four beliefs about the possibility of change, and four transportation facts. Unlike values and beliefs, responses to the factual questions had a correct answer: the costs of building and maintaining the road system are not paid in full by gas taxes and other vehicle fees (Federal Highway Administration, 2020); adding road capacity does not reduce congestion in the long term (Downs, 2004; Noland, 2001); drivers respond to higher prices by adjusting when, where, and how much they drive (Wachs, 1991); and people driving and biking are equally likely to be making a trip to work (Federal Highway Administration, 2017). We also asked respondents to estimate the percentage of American households that have a car (91.4%, according to the latest data from the American Community Survey; U.S. Census Bureau, 2019).

Measuring Self-Interest

We asked respondents to characterize their travel patterns by indicating their car ownership, time spent in congestion, and traveler type (for more on this typology, see Ralph, 2017):

1. Driver: Used a car for nearly every trip and spent less than an hour a day traveling by car.
2. Long-distance trekker: Used a car for nearly every trip and spent more than an hour a day traveling by car.
3. Multimodal: Used a car for some trips but also regularly walked, biked, or rode transit.
4. Car-less/-free: Used a car rarely or never, and instead primarily walked, biked, or rode transit.

We used these travel behavior measures as proxies for self-interest, though we recognize their limitations. Though many drivers would likely prefer to maintain the auto-oriented status quo, some dissatisfied drivers may appreciate more options. Similarly, although many who walk, bike, and ride transit may prefer continuing investments in those modes, others may feel constrained and would prefer that driving be easier.

We also included a collective measure of self-interest: the share of workers who commute by automobile at the zip code tabulation area level (U.S. Census Bureau, 2019).

Finally, we used multivariate models to ask about personal and household characteristics, including race/ethnicity, gender identity, household income, and population density (derived from respondent zip code).

Analysis

To assess Americans' transportation policy preferences, we present a bivariate descriptive analysis of the role that partisanship plays in transportation policy preferences (Figure 1).

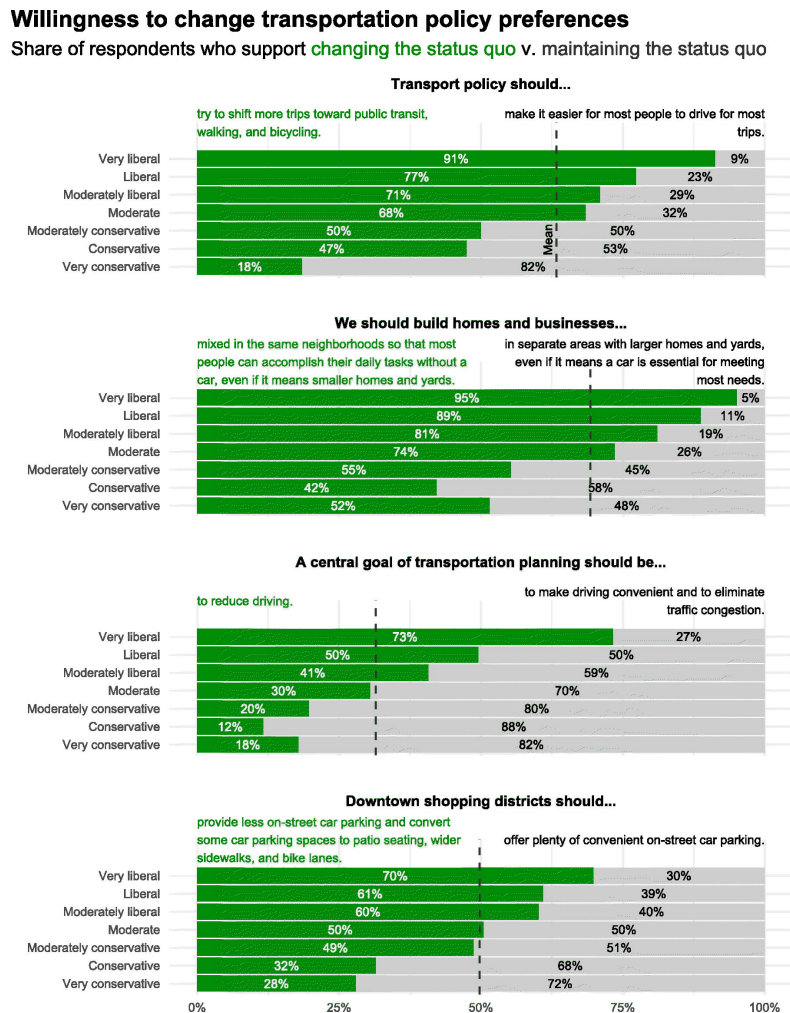


Figure 1. Willingness to change transportation policy preferences. Share of respondents who support changing the status quo versus maintaining the status quo. Note: Dashed line denotes overall support among U.S. adults (n = 597 survey respondents).

We used our rich, disaggregate data to explore four pathways between partisanship and policy preferences: self-interest, values, beliefs about change, and transportation knowledge. For each pathway, we first examined a) whether the pathway variables differ by partisanship and then b) whether the pathway variables are associated with transportation policy preferences (see Tables 2–5). Although the preceding analysis included four measures of transportation policy preferences, the detailed pathway analysis focused on a single outcome variable (“Transportation policy should...try to shift more trips toward public transit, walking, and bicycling”). For simplicity, we used collapsed categories of liberals (very liberal and liberal), moderates (moderately liberal, moderate, moderately conservative), and conservatives (very conservative and conservative) in the descriptive pathway analysis.

Table 2 Self-interest, partisanship, and association with support for transportation policy reform. (Table view)

	How do travel patterns vary by political orientation?			Willingness to change the status quo (%) by travel patterns
	Liberal <i>N</i> = 175 (%)	Moderate <i>N</i> = 227 (%)	Conservative <i>N</i> = 195 (%)	<i>N</i> = 597
Car available				
No	7	6	7	82
Yes	93	94	93	62
Traveler type				
Driver	55	59	64	60*
Long-distance trekker	23	19	15	60*
Multimodal	14	16	15	69*
Car-less/-free	9	6	6	86*
Minutes per day in congestion				
<5	27	30	39	66
5–15	42	29	42	58
>15	32	41	19	67
Share of ZCTA workers commuting by car				
<80%	17	11	12	80
80%–90%	40	45	29	71
>90%	43	43	59	53

Note: Italics indicate a nonstatistically significant chi-square test ($p > .05$). All comparisons are chi-square tests with Rao and Scott's second-order correction, except those indicated by *, which are pairwise z-tests with a Bonferroni correction ("driver" as common comparison). Willingness to change the status quo is the share who state that transportation policy should "try to shift more trips toward public transit, walking, and bicycling" rather than "make it easier for most people to drive for most trips."

Table 3 Values, partisanship, and association with support for transportation policy reform. (Table view)

	How do transportation-related values vary by political orientation?			Willingness to change the status quo (%) by values
	Liberal <i>N</i> = 175 (%)	Moderate <i>N</i> = 227 (%)	Conservative <i>N</i> = 195 (%)	<i>N</i> = 597
Government efforts to make driving safer and minimize environmental harms...				
should go further.	95	92	60	71
go too far.	5	9	40	30
The widespread growth in auto use during the last century was primarily...				
promoted by business groups and the government.	57	44	23	78
a natural evolution that reflected peoples' preferences.	43	56	77	53
Using money from gas taxes to pay for walking, biking, and transit is...				
fair.	86	75	59	74
unfair.	14	25	41	35

	How do transportation-related values vary by political orientation?			Willingness to change the status quo (%) by values
	Liberal <i>N</i> = 175 (%)	Moderate <i>N</i> = 227 (%)	Conservative <i>N</i> = 195 (%)	<i>N</i> = 597
Drivers have traditionally enjoyed a right to most roadway space...				
but drivers should share some space with people walking, biking, and taking transit.	82	72	60	74
and drivers should continue to enjoy that right.	18	28	40	38
Trips taken for recreation are...				
as important as trips for work.	73	71	81	64
less important than trips for work.	27	29	19	62

Note: Italics indicate a nonstatistically significant chi-square test ($p > .05$). All comparisons are chi-square tests with Rao and Scott's second-order correction. Willingness to change the status quo is the share who state that transportation policy should "try to shift more trips toward public transit, walking, and bicycling" rather than "make it easier for most people to drive for most trips."

Table 4 Beliefs about the possibility of change, partisanship, and association with support for transportation policy reform. (Table view)

	How do travel patterns vary by political orientation?			Willingness to change the status quo (%) by beliefs about change
	Liberal <i>N</i> = 175 (%)	Moderate <i>N</i> = 227 (%)	Conservative <i>N</i> = 195 (%)	<i>N</i> = 597
Other countries have dramatically reduced driving by investing heavily in walking, biking, and transit. Similar investments in the United States would likely...				
change how people get around.	77	73	41	76
not change how people get around.	23	27	59	41
The transportation system is well established. Dramatically changing it to meet different goals would be...				
possible.	81	67	58	75
nearly impossible.	19	33	42	39
For the most part, government actions tend to...				
achieve the desired effect.	32	40	30	58
be ineffective or counterproductive.	68	60	70	66
In most cases, the needs of drivers and the needs of people walking, biking, and riding transit...				
do not conflict. If one group wins, the other is not necessarily worse off.	64	67	64	66
conflict. If one group wins, the other loses.	36	33	36	59

Note: Italics indicate a nonstatistically significant chi-square test ($p > .05$). All comparisons are chi-square tests with Rao and Scott's second-order correction. Willingness to change the status quo is the share who state that

transportation policy should “try to shift more trips toward public transit, walking, and bicycling” rather than “make it easier for most people to drive for most trips.”

Table 5 Knowledge of transportation facts, partisanship, and association with support for transportation policy reform. (Table view)

	How does transportation knowledge vary by political orientation?			Willingness to change the status quo (%) by knowledge <i>N</i> = 597
	Liberal <i>N</i> = 175 (%)	Moderate <i>N</i> = 227 (%)	Conservative <i>N</i> = 195 (%)	
<hr/>				
Adding a new lane or two to a roadway...				
is unlikely to reduce congestion in the long term. [correct]	45	40	23	79
is likely to reduce congestion in the long term.	55	60	77	54
What percentage of American households have a car?				
Estimated >80% [correct]	34	34	51	56
Estimated 70%–80%	53	44	40	65
Estimated <70%	14	23	9	78
If you see someone riding a bicycle, they are...				
about as likely to be traveling to work as a person driving. [correct]	40	52	24	66
much less likely to be traveling to work than a person driving.	60	48	76	61
If the price of driving and parking increased, most people would...				
change where, when, and how much they drive. [correct]	50	62	43	63
not change their driving. They would simply pay the higher prices.	50	38	57	64
The costs of building and maintaining the road system are...				
not paid in full by gas taxes and other vehicle fees. [correct]	82	75	78	65
paid in full by gas taxes and other vehicle fees.	18	25	22	56

Note: Italics indicate a nonstatistically significant chi-square test ($p > .05$). All comparisons include Rao and Scott's second-order correction. Willingness to change the status quo is the share who state that transportation policy should “try to shift more trips toward public transit, walking, and bicycling” rather than “make it easier for most people to drive for most trips.”

Next, we estimated a series of logistic regression models, each with the same dependent variable (“Transportation policy should...try to shift more trips toward public transit, walking, and bicycling”). As we describe below, each model includes different explanatory variables to clarify the relative importance of the four pathways (Table 6).

Table 6 Willingness to change the transportation status quo. (Table view)

	Model 1 Partisanship	Model 2 +Covariates	Model 3 +Self- interest	Model 4 +Values	Model 5 +Beliefs	Model 6 +Knowledge	Model 7 Full model
Very liberal (ref: moderate)	4.89 ψ	4.66 ψ	4.27 ψ	3.07*	3.87*	3.77*	2.34
Liberal (ref: moderate)	2.05**	2.10**	2.22**	1.81	1.86	2.05**	1.85
Moderately liberal (ref: moderate)	1.59	1.58	1.52	1.55	1.36	1.47	1.25
Moderately conservative (ref: moderate)	0.45**	0.37*	0.35*	0.41**	0.49	0.40**	0.52
Conservative (ref: moderate)	0.34*	0.31 ψ	0.30 ψ	0.44**	0.42**	0.35*	0.59
Very conservative (ref: moderate)	0.08 ψ	0.07 ψ	0.07 ψ	0.09 ψ	0.07 ψ	0.07 ψ	0.09 ψ
Covariates		Not shown	Not shown	Not shown	Not shown	Not shown	Not shown
Self-interest: Trekker (ref: driver)			0.98				1.10
Self-interest: Car-less/-free (ref: driver)			3.66**				2.55
Self-interest: Multimodal (ref: driver)			2.69*				2.17
Values: Automobile growth was promoted				2.13*			1.79**
Values: Using gas taxes for non-auto modes is fair				2.56 ψ			1.84**
Beliefs: Changing infrastructure is possible					1.64**		1.33
Beliefs: Investments would change behavior					4.41 ψ		4.19 ψ
Knowledge: Induced demand						2.97 ψ	3.24 ψ
Intercept	1.89*	7.95	3.82	4.14	0.76	7.21	0.34
Observations	579	579	579	579	579	579	579
Log likelihood	-303.72	-290.82	-283.36	-276.45	-261.87	-279.71	-240.95
AIC	621.44	623.65	614.72	598.90	569.75	603.43	539.90
BIC	651.97	715.24	719.39	699.21	670.06	699.37	666.38
Pseudo R^2	0.24	0.29	0.32	0.35	0.40	0.34	0.47
McFadden pseudo R^2	0.15	0.19	0.21	0.23	0.27	0.22	0.33

Note: Coefficients shown as odds ratio. AIC = Akaike information criterion; BIC = Bayesian information criterion. ψ < .001; * p < .01; ** p < .05.

We preregistered our research design with the Open Science Foundation before fielding the survey (Ralph et al., 2020). The preregistration describes our survey, hypotheses, sampling design, and analysis plan. We emphasize that this approach illustrates associations but cannot clarify causality. We present weighted descriptive statistics but used the unweighted data for modeling.

Limitations

Our survey and sample are limited in a few ways. First, conservative respondents were undersampled, though we adjusted for this by weighting our sample to better reflect the general population. Location information about respondents is also limited because Prolific does not permit collecting location data below

the zip code level. We purposely did not provide a “neutral” option in our binary questions about transportation values, knowledge, and beliefs; this question structure may preclude accurate answers from those who truly had no opinion. Responses may not be internally reliable because people may state vague predispositions or on-the-spot answers rather than firmly held beliefs (Bartels, 2002), a risk particularly relevant for this survey because most people rarely think about transportation issues (Zaller, 1992). Finally, we note that we deployed the survey in the fall of 2020, during an election cycle and a global pandemic, which may have influenced responses.

Findings and Discussion

Partisan Transportation Policy Preferences

We found strong overall levels of support for some progressive urban and transportation planning concepts and principles, including mixed-use neighborhoods (69% support) and shifting trips to transit, walking, and biking (63% support). In contrast—and seemingly in conflict with those results—only a minority of respondents supported the idea that the central goal of transportation policy should be to reduce driving (32% support) rather than to make driving convenient. Respondents split evenly on whether downtown shopping districts should offer plentiful on-street car parking (51% support) or should convert parking to seating, sidewalks, and bike lanes (49% support).

For each of these four reforms, we found that support is strongly tied to political ideology. In each case, liberal respondents tended to favor policies that challenge the dominance of automobiles, whereas conservative respondents were more likely to support the status quo. [Figure 1](#) illustrates these findings across the seven-degree spectrum of political ideology.

Pathways Between Partisanship and Transportation Policy Preferences

We turn next to the four hypothesized pathways between partisanship and policy preferences (e.g., transportation policy should try to shift more trips toward public transit, walking, and bicycling).

Self-interest

[Table 2](#) reveals strong bivariate associations between policy preferences and most travel patterns and generally weak associations between travel and partisanship. Respondents were more likely to embrace a change to the transportation status quo if they did not own a car or if they primarily travel without a car (car-less/-free). However, car ownership did not vary by partisanship, and most Americans—regardless of political leanings—used a car for nearly all trips, as either a driver or a long-distance trekker. The pattern was similar for our measure of *collective* travel patterns. Respondents who lived in car-dependent zip codes (i.e., where >90% commute by car) were much less likely than their peers elsewhere to embrace transportation reform. Once more, however, we observed only minor differences in residential location by political orientation, with conservatives somewhat more likely to live in the most automobile-oriented areas ($p=0.09$). Thus, neither personal nor collective travel patterns explained the partisan nature of policy preferences. By contrast, time spent in congestion was associated with partisanship, with conservatives managing to avoid congestion to a greater degree than moderates and liberals. However, time spent in congestion had no clear association with willingness to change the status quo ([Table 2](#)).

Values

We found deep partisan divides with respect to transportation values, which were often also closely associated with transportation policy preferences ([Table 3](#)). Conservatives were eight times more likely than liberals (40% vs. 5%) to agree that government regulations “go too far.” Among those who held this view,

just 30% supported changing the status quo. By contrast, support for change was far higher (70%) among those who thought regulations should “go further.”

Asked about “the widespread growth in automobile use during the last century,” conservatives were more likely to point to its origin as “a natural evolution that reflected peoples’ preferences,” whereas liberals were more likely to view automobility as being “promoted by business groups and the government.” In turn, those who emphasized the role of government and business in expanding automobile use were more likely to embrace change than those who attributed it to personal preferences (78% vs. 53%).

Partisanship was also apparent in divergent views about sharing the road. A total of 82% of liberals said they believed drivers should share some road space with people walking, biking, and taking transit, compared with just 60% of conservatives. Once more, views on this matter were closely associated with policy preferences. Support for changing the status quo was nearly twice as high among those who believed drivers should share the road (74% vs. 38%).

Americans were similarly divided with respect to the fairness of using gas taxes to fund walking, biking, and transit. Conservatives were nearly three times as likely as liberals to see this practice as unfair (41% vs. 14%). In turn, views on fairness were closely tied to policy preferences; those who saw the practice as fair were twice as likely to believe that transportation policy should try to shift more trips toward public transit, walking, and bicycling.

There was just one exception to this pattern of partisan transportation values: Most Americans, regardless of political orientation, agreed that trips taken for recreation are just as important as trips to work. Moreover, unlike other transportation values, views on trip purposes were not closely associated with a willingness to change the transportation status quo.

Beliefs About Change

Overall, Americans were relatively optimistic about the possibility of change, but views remained starkly partisan (Table 4). Although most respondents said they believed it would be possible to dramatically change the transportation system to meet different goals, conservatives were more than twice as likely as liberals to have doubts (42% vs. 19%). Conservatives were also more skeptical that “investing heavily in walking, biking, and transit” would change the travel patterns of Americans (59% vs. 23%).

Beliefs about change were closely associated with preferences about the transportation status quo. People were more likely to embrace change if they believed it was possible to alter the transportation system to meet new goals (75%) or if they believed investing in new infrastructure would meaningfully shift behavior (76%). By contrast, relatively few skeptics embraced transportation reforms (39% and 41%, respectively).

Not all views about the possibility of change were partisan. Americans of all ideological stripes were sanguine about the conflicting needs of drivers and people walking, biking, and riding transit. Fully 64% of Americans said these needs do not conflict, agreeing that “if one group wins, the other is not necessarily worse off.” Americans of all political persuasions also shared a belief that government actions tend to be “ineffective and counterproductive.” Neither of these views was closely associated with a desire to change the transportation status quo.

Knowledge

Given the prevalence of partisan-motivated reasoning in other domains, we expected knowledge about transportation to differ by partisanship and for that knowledge to shape policy preferences. In general, we found strong support for the first hypothesis and mixed support for the second (Table 5).

Partisanship was very prominent in how people viewed induced demand (whether adding road capacity was likely to reduce congestion in the long term). Almost half (45%) of liberals knew congestion relief would be temporary, compared with just 24% of conservatives. Support for transportation policy reform also varied greatly between those who understood induced demand and those who did not: support for changing

the status quo was 25 percentage points higher among those who understood induced demand than among those who misunderstood it (79% vs. 54%).

Partisanship was also evident regarding the prevalence of household car availability, though to a lesser degree than induced demand. Conservatives were more likely to correctly intuit high rates of car availability than liberals (51% vs. 34% stated that >80% of households had access to a car). This understanding, in turn, was associated with a belief that transportation policy should try to shift more trips toward public transit, walking, and bicycling. Individuals who stated that a high percentage (>80%) of American households had access to a car were less likely to support transportation policy reform.

For two sets of transportation facts—trip purpose and responsiveness to prices changes—knowledge was partisan but not associated with a willingness to change the transportation status quo. Conservatives were less likely than liberals to know that bicyclists and drivers are about as likely to be traveling for work. Similarly, when it came to how drivers would respond to higher prices for parking and driving, conservatives were slightly more likely than liberals (57% vs. 50%) to say drivers would “simply pay higher prices.” Again, knowledge in these domains was not associated with a willingness to change the transportation status quo.

Liberals and conservatives were similarly knowledgeable about transportation funding; majorities from all political persuasions knew that gas taxes and other road fees do not fully cover the costs of building and maintaining the road system. Knowledge of transportation funding did not meaningfully increase the likelihood that a respondent would support transportation policy reform.

Combining Partisanship With Values, Beliefs About Change, Self-Interest, and Knowledge

We used a multivariate model to assess whether the pathways identified above persisted when accounting for partisanship and personal characteristics. The dependent variable in our model was willingness to change the status quo, defined as those who indicated “transportation policy should...try to shift more trips toward public transit, walking, and bicycling.”

Those who uphold the status quo indicated that “transportation policy should...make it easier for most people to drive for most trips”).

We present our results as a series of models building up to a full model that includes all four pathways and personal characteristics. [Table 6](#) summarizes the multivariate model results. Model 1 is a naive model with just one explanatory variable. Model 2 adds explanatory variables based on personal characteristics that do little to attenuate the association between political partisanship and transportation policy preferences. We omitted the covariates here in the interest of space, but the full model results are included in the [Technical Appendix](#).

We then separately tested the effect of the four pathways we identified. We selected explanatory variables with significant results in the descriptive pathway analysis. Model 3 tested the self-interest pathway by including the traveler type variables. Model 4 tested the values pathway by including two variables: “The rise of automobility was promoted by businesses and the government” and “Using gas tax revenue for non-automobile modes is fair.” Model 5 tested beliefs about change by including two variables: “It is possible to dramatically change the transportation system to meet new goals” and “Investments in walking, biking, and transit would change how people get around.” Model 6 tested the knowledge pathway with one variable: “Adding new lanes is unlikely to reduce congestion in the long term.”

Finally, we combined all four pathways in model 7. We present the results of multivariate logistic models as odds ratios, where values greater than 1 indicate a positive association between an independent variable and willingness to change to status quo. The model fit statistics provide strong evidence about the value of including all variables related to the four pathways.²

Each of the pathways was positively and significantly associated with supporting changes to the status quo, even when accounting for partisanship and personal characteristics ([Table 6](#), models 3 through 6). In

model 7, with all four pathways included, the effect of each pathway was understandably attenuated (particularly for self-interest). In this full model, we calculated average marginal effects (i.e., the percentage point change in support for changing the status quo while keeping all other variables at their pre-existing values for the sample). We found that the largest effects are associated with the (correct) belief that investments in walking, bicycling, and transit will change behavior. Everything else equal, respondents who held this view were 22 percentage points more likely to support shifting trips to walking, bicycling, and transit (78% compared with 55%). Knowledge of induced demand also had a large marginal effect: Those who understood the concept were 16 percentage points more likely to support transportation policy reform. Effects for the history of automobility and fairness of using gas tax revenue for non-auto modes were smaller, albeit still statistically significant, whereas neither the possibility of changing the transportation system nor self-interest retained significance.

Partisanship remained important—albeit somewhat attenuated—when we included coefficients for each pathway. With all four pathways included, only the coefficient for very conservative respondents remained strongly negatively associated with a willingness to change the status quo. The average marginal effect suggests that very conservative respondents were 41 percentage points less likely to support shifting trips to walking, bicycling, and transit compared with moderate respondents (our model predicted that 28% of very conservative respondents support changing the status quo, compared with 69% of moderate respondents). This result has two implications. First, much of the effect of partisanship can be explained by underlying differences in values, beliefs about change, and knowledge (but not self-interest). Second, partisanship appears to play an outsized role in the transportation policy preferences of very conservative respondents. They were much less likely than their otherwise similar peers to support a change to the status quo, even when accounting for their values, beliefs about change, and knowledge.

Implications for Partisanship in Planning

We conducted this research in a context of deepening partisanship and political polarization in the United States (Boxell et al., 2020) and a growing emphasis on the consequence of partisanship for planning (Foss, 2018a; Frick & Myers, 2018; Liao et al., 2020). Within this context, we found most respondents supported shifting trips to walking, biking, and transit and embraced the idea of mixing homes and businesses in the same neighborhood. By contrast, the public was evenly divided on repurposing downtown parking and was opposed to reducing driving. Underlying these aggregate results are deep partisan divides. Although many liberal and moderate respondents embrace changes to the transportation status quo, few conservatives do.

In exploring connections between partisanship and transportation policy preferences, we found that values and beliefs about change play important roles. With just one exception, all transportation-related values were deeply partisan and closely associated with policy preferences (even when controlling for partisanship, personal characteristics, and the other pathways). Similarly, two of the four beliefs about change were deeply partisan. Liberals and moderates were more likely to believe that changes to infrastructure and travel patterns are possible; in turn, those same respondents were much more likely to embrace changes to the status quo (by a 35 percentage point margin).

The results for two remaining pathways—self-interest and knowledge—were mixed. We found a strong link between travel behavior (a proxy for self-interest) and policy preferences: People who primarily traveled without a car and/or who did not own a car were more likely to embrace reform. However, these measures of self-interest did not vary by political ideology. Most Americans, regardless of their political leanings, use an automobile for most trips. The patterns for knowledge were nearly reversed. Four of the five measures of knowledge were partisan, with conservative respondents typically more likely to misunderstand foundational facts. However, just two of these facts were linked to policy preferences: the rate of U.S. car ownership and induced demand.

We found that the four pathways explain much, but not all, of the partisanship in transportation policy preferences. Our model revealed that very conservative respondents were much less likely than their otherwise similar peers to support changes to the status quo. In other words, even when we account for values, beliefs about change, self-interest, and knowledge, partisanship still profoundly shaped views on transportation policy for very conservative respondents.

What do these results imply for planners, policymakers, and advocates? First, increased geographic sorting along party lines means that transportation policies may enjoy relatively high public support at local levels where values, beliefs, and—most important—political ideologies are shared. Conflict may be more common at larger scales where diverse interests interact, such as regional planning with Democratic-leaning cities and Republican-oriented suburbs, or a liberal city in a conservative state. Higashide (2019) previously documented the challenges of advancing progressive transportation agendas within or across conservative political environments, suggesting that cities should advance independent transportation agendas to avoid being mired in state or regional politics. A key challenge to this approach is that local planners may still need to gain support at the state and federal levels to achieve their goals. For instance, local efforts to lower speed limits, introduce congestion pricing, and invest in transit all require state or federal support, which can be challenging in Republican-controlled states or when Republicans have more power in the federal government. The challenge of partisanship across geographic scales is evident when it comes to efforts to mitigate the effects of climate change. Policies that aim to decarbonize transportation are likely to be ineffective if enacted only at the local level, given the breadth and scale of the existing climate crisis. Federal efforts may also run explicitly counter to local transportation and climate efforts, such as the Trump administration rollback of federal fuel efficiency standards in 2020 (Davenport, 2020).

Some readers might interpret our results as evidence that planners, policymakers, and advocates should lean into the increasingly partisan nature of transportation planning and policy. After all, they may argue, conservatives already hold starkly different transportation-related values and outreach efforts are unlikely to sway them, particularly in the face of countervailing efforts by the Republican Party to frame transportation debates.

Although our research cannot resolve questions of political strategy, we must raise a note of caution. Transportation reform efforts, already mired in bureaucratic hurdles and local opposition, may become even more protracted if planners embrace partisanship. Due to the power of partisan-motivated reasoning and the growing prevalence of partisan framing (Slothuus & de Vreese, 2010), planners may find that partisans are working from an entirely separate set of transportation facts, which would make reaching consensus even more difficult.

By contrast, planners could work to address the relevant pathways between partisanship and preferences without furthering the partisan divide. For instance, planners may be able to shift beliefs about the possibility of change by illustrating examples of meaningful infrastructure changes and subsequent modifications in travel behavior. Such an approach addresses people's struggle to imagine an alternative future, particularly if it is a dramatic departure from the current reality or if they cannot recall an example elsewhere (Kahneman, 2011). For instance, many Americans know that Amsterdam (the Netherlands) is a bicycling nirvana, but few realize that this has not always been the case. New York City (NY), Seattle (WA), and Minneapolis (MN) can also provide examples of the possibility of change from investing in walking, biking, and transit. If they are familiar with success stories, Americans may more readily embrace change at home. This approach also speaks to the promise of tactical urbanism and pilot programs, which may help people experience an alternative to the automobile-oriented status quo. Of course, tactical urbanism has its own risks when engagement is inadequate and planners do not understand the unintended consequences for local communities (Thomas, 2020).

Another way to tackle the pathways without engaging in partisanship is to educate the public about induced demand. Although conservatives were indeed more likely to misunderstand the concept, many

moderate and liberal respondents did, too. In turn, support for changing the status quo was 25 percentage points lower among people who misunderstood this idea. Thus, planners may find it fruitful to disabuse the public of the notion that widening roads is an effective means of congestion relief.

Evidence from climate change planning suggests concrete tools for planners to effectively engage a hesitant—or even outright opposed—public and sway policy preferences: deploying positive messaging that focuses on local rather than global outcomes and applying active learning strategies during community engagement. Foss (2018b) explained that positive messaging motivates people more effectively than doomsday predictions because people are more likely to act when they believe they can engender positive, tangible differences. Messages should also be context specific so people clearly understand how they and their community may be affected by a policy proposal (Foss, 2018b). Engaging a wider public could also reduce the outsized influence of a small number of vocal opponents who dominate the participation process and thwart reform efforts. Coalition building and political organizing can also set the narratives about transportation policies to frame issues and sway public opinion (Slothuus & de Vreese, 2010).

Finally, we close with an important methodological note for accurately gauging public views. The patterns of political partisanship we identify here suggest that researchers and practitioners should consider broader attitudinal variables, including partisanship, when seeking to derive population-level inferences from surveys. This mirrors best-practice recommendations from the survey research field, which has found that survey weighting methods that incorporate political attitudes reduce bias more effectively than relying on demographics (Mercer et al., 2018).

Notes

1. Though we do not analyze it here, we also included a brief survey experiment about congestion and transportation finance.
2. For these criteria, a lower number indicates a better model fit. When we include the four variables, the Akaike information criterion went down slightly, whereas the Bayesian information criterion increased.

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Supplemental Material

Supplemental data for this article can be found on the [publisher's website](#).

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