

TRANSPORT FINDINGS

Public Support for Transport Reform: Does it Matter if we 'Reduce Driving' or 'Shift Trips'?

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Findings

Does what the public says they want in terms of transport policy depend on how we ask? In other words, are transportation policy preferences subject to framing effects? We surveyed 600 adults in the United States and asked them two questions about the goals of transportation. We find large framing effects (~34 percentage points) that were remarkably consistent across population groups. Framing effects could spell the difference between defeat and victory in a referendum; “shifting trips” garners 63% public support, while “reduce driving” earns just 34%. Advocates should keep framing in mind when proposing ideas.

1. Questions

Support for policy proposals can be profoundly shaped by how the proposals are framed (Chong and Druckman 2007). Framing effects have been observed across many policy domains including multifamily zoning (Demsas 2021), fuel economy (Long et al. 2021) and public safety (Pickett, Ivanov, and Wozniak 2020).

In this paper we ask three questions: 1) are Americans susceptible to framing effects with respect to transportation policy; 2) does the magnitude of the framing effect vary for different groups; and 3) is the framing effect substantively meaningful?

We hypothesize that loss aversion—the idea that losses are felt more strongly than gains—applies to transportation policy preferences (Kahneman and Tversky 2012). We suspect that there will be less support for reducing driving (a loss) than for shifting trips to other modes (a gain). We hypothesize that the framing effect is large and thus important to those drafting referendums or developing advocacy campaigns.

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2. Methods

Data for this study come from a survey of U.S. adults conducted in October 2020. We recruited 600 participants using the firm Prolific (www.prolific.co), a respected source (Palan and Schitter 2018). Participants earned \$2.50 for completing the ten-minute survey. We used quotas to recruit a sample that reflects the U.S. population based on age, sex, and race, and then weighted the sample by political orientation, educational achievement, and ethnicity. Weighting was done using an iterative proportional fitting process (Kalton and Flores-Cervantes 2003) with data from the 2019 5-Year American Community Survey (US Census Bureau 2019) and the General Social Survey (General Social Survey 2018). [Table 1](#) shows the unweighted and weighted sample, along with reference data from the U.S. Census.

For this study, we compare responses to two questions from a larger survey (Klein et al. 2021). These questions were formatted as binary responses where respondents had to select between two conflicting statements. This question format offers the same information as more familiar Likert scales (i.e., the direction of opinions), is simpler and quicker to administer (Dolnicar, Grün, and Leisch 2011), and highlights the trade-offs in transportation decision making.

We focus on two survey questions (below) that ask about the broad aims of transportation policy and planning. Both questions include an option to make driving easier or more convenient, but Q1 frames the alternative as a gain (“try to shift more trips toward public transit, walking, and bicycling.”), while Q2 frames it as a loss (“to reduce driving.”).

Q1. Transportation policy should...

- a. make it easier for most people to drive for most trips.
- b. try to shift more trips toward public transit, walking, and bicycling.

Q2. A central goal of transportation planning should be...

- a. to make driving convenient and to eliminate traffic congestion.
- b. to reduce driving.

In developing these questions, we had to trade off precision with the risk of detection; ideally the questions would be identical (except for the alternatives), but this would increase the risk that respondents would recognize the similarity and alter their responses for consistency. To minimize this risk, we altered the question wording and asked these questions along with 15 similarly-structured questions (Full survey available here: <https://osf.io/yx7aj/>). To minimize ordering effects, we randomized question and answer order.

We classify respondents into mutually distinct categories: those who consistently support reform, those who consistently oppose reform, and those who are susceptible to framing effects (i.e., shifted their answer). We assessed whether the framing effect varies for sub-groups using a chi-squared test with

Table 1. Survey respondent demographics

Characteristic	Unweighted	Weighted	U.S. Census /
	N = 599	N = 597	ACS
Gender			
Female	50%	50%	51%
Male	49%	50%	49%
Other identity	1%	<1%	
Age			
18 to 24 years	11%	12%	12%
25 to 34 years	20%	18%	18%
35 to 44 years	20%	16%	16%
45 to 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%
NH White	70%	58%	61%
Educational attainment			
Less than high school	1%	3%	12%
High school graduate	12%	17%	28%
Some college or two-year degree	35%	51%	31%
Bachelor's/four-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%	13%	13%
Conservative	10%	16%	16%
Very conservative	5%	4%	4%
Share of ZCTA workers commuting by car			
Least auto-oriented (<80%)	18%	13%	15%
Auto-oriented (80-90%)	37%	38%	30%
Most auto-oriented (>90%)	45%	49%	55%
Traveler type			
Driver (Primarily use a car, <60 min/day)	59%	59%	82%
Long-Distance Trekker (Primarily use a car, >60 min/day)	18%	19%	4%
Multimodal (Use a mix of modes)	15%	15%	3%
Car-less/free (Primarily travel without a car)	8%	7%	11%
Household vehicles			
Zero cars in household	7%	7%	9%
Fewer than one car per adult	31%	32%	35%
One or more cars per adult	61%	61%	56%

Note: NH = Non-Hispanic, ACS = American Community Survey

Table 2. Are Americans subject to framing effects? Comparing support for shifting trips and reducing driving.

		Transportation policy should: <u>Shift trips</u>	
		Agree	Disagree
A central goal of transportation planning should be to: <u>Reduce driving</u>	Agree	Agree with both: 29%	Inconsistent: 3%
	Disagree	Susceptible to framing: 34%	Disagree with both: 34%

Rao & Scott adjustment. Finally, to determine whether the framing effect is substantively meaningful, we compared support for “shifting trips” and “reducing driving” for the entire sample and eight sub-groups (gender, age, race/ethnicity, education, political orientation, share of workers who commute by automobile (US Census Bureau 2019), number of cars per adult in the household, and traveler type (see Ralph 2016). In calculating population estimates, we use weighted data, calculate Wald-type intervals for population-level proportions, and graph the associated error bars.

3. Findings

A third of respondents (34%) were subject to framing effects. That is, they preferred to shift trips, but not reduce driving (Table 2). Most of the remaining respondents consistently supported or opposed transportation reform regardless of how the question was framed (29 and 34% respectively). A very small number ($n = 15$ or 3% of respondents) were inconsistent; they preferred to reduce driving but not shift trips.

Figure 1 shows the magnitude of the framing effect for eight sub-groups. Because the sample sizes are relatively small for some groups, the error bars for the population estimate are rather wide. Only one group had a framing effect that differed significantly from the overall sample value of 34%; Very Conservative respondents were less susceptible to framing effects than their peers.

Finally, the framing effect is large and substantively meaningful; in a public referendum it would make the difference between electoral victory and defeat. Figure 2 illustrates how overall support for each frame varies by personal characteristics. “Shift trips” polled at 63% and enjoyed majority support among nearly every sub-group. The only exceptions were political Conservatives and those with less than a high school degree. In fact, shifting trips achieved *supermajority* support (>66%) for many sub-groups including Moderates and Liberals, people ages 25 to 44, people of color, those who lack a car, and those who frequently walk, bike, or ride transit (Multimodal and Car-less/free).

By contrast, “reduce driving” polled at just 34% and achieved majority support for just one group: “Very Liberal” respondents who represent just 5% of the U.S. population (General Social Survey 2018). Finally, “reduce driving” failed

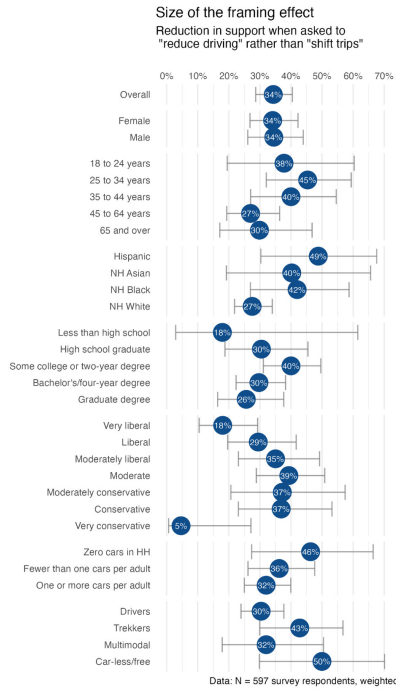


Figure 1. Who is more susceptible to framing effects?

Note: Error bars reflect 95% confidence intervals.

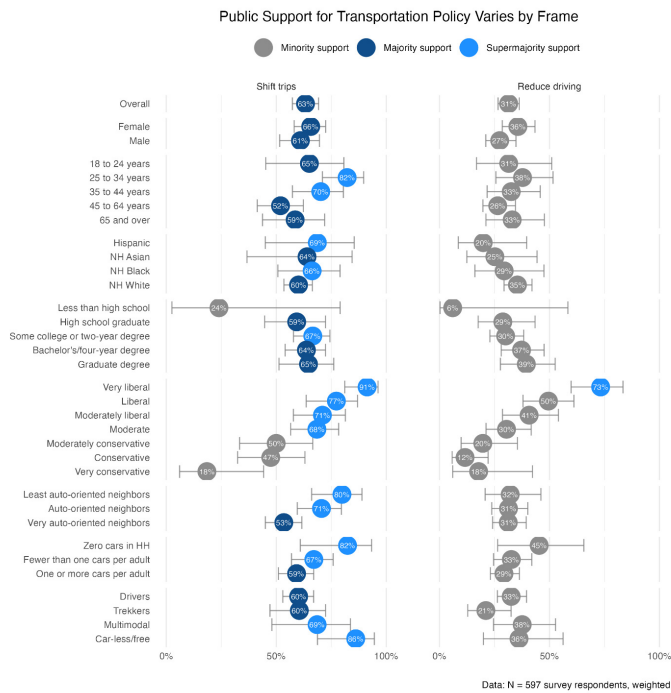


Figure 2. Public support for Transportation Policy Varies by Frame

Note: Error bars reflect 95% confidence intervals.

to garner majority support even among those who do not own a car, travel primarily without one, and live in the least auto-oriented neighborhoods, further illustrating its unpopularity.

In sum, Americans are susceptible to framing about transportation; what they prefer depends on how we ask them. The framing effect investigated here is large (34%), stable, and meaningful; in a referendum, framing could make the difference between victory and defeat.

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