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Background and Methods

The LABarometer Mobility & Sustainability survey tracks environmental sustainability, transportation behavior, and climate vulnerability in Los Angeles County. It is inspired by countywide efforts to reduce automobile congestion, minimize environmental impacts, and increase resilience to climate change in the region.

The survey covers a variety of topics, including heat and pollution exposure, natural disaster preparedness, pro-environmental behavior, transportation sentiment, transportation access and behavior, and the steps Los Angeles County residents are taking to adapt to climate change.

This document tracks key outcomes of interest from Waves 1-4 of the Mobility & Sustainability survey. For an exhaustive list of variables included in the Mobility & Sustainability surveys, please refer to the Longitudinal File codebook.

Survey Methodology

All LABarometer surveys are fielded to the LABarometer Panel, a probability-based Internet panel of adults living in households throughout Los Angeles County. From 2019 to 2022, LABarometer survey waves comprise four surveys, fielded three to six months apart. The surveys cover the following topics: Livability, Mobility, Sustainability & Resilience, and Affordability & Prosperity.

In 2022, LABarometer moved to a biannual survey frequency and these four surveys were combined and reduced in size to two surveys, one on Livability & Affordability and one Mobility & Sustainability. The Mobility & Sustainability survey is fielded in January of each year and the Livability & Affordability Survey is fielded in July of each year. Field periods range from 8-12 weeks.

Following UAS protocols, all LABarometer surveys are fielded in English and in Spanish. To participate in a survey, panel members can use any computer, cell phone, or tablet with Internet access. The majority of panel members have their own internet access. Panel members who do not have access to internet are provided with an internet-enabled tablet to ensure their regular participation in our surveys.

Survey and Sample Information

A total of 1,207-1,499 Los Angeles County residents completed any given wave of the Mobility & Sustainability survey. Participants were recruited from the LABarometer Panel and survey participation rates ranged from 70% to 78%.

Details for each survey, including links to individual survey toplines, are provided in the informational table below. For waves 1 and 2, "M" is used to denote the Mobility survey module and "S" is used to denote the Sustainability survey module.
Variable names and question wording are not provided in this release. To see the questions used in any given survey, please refer to the associated survey codebook, questionnaire, or topline.

<table>
<thead>
<tr>
<th>Survey</th>
<th>UAS #</th>
<th>Sample Size</th>
<th>Completion Rate</th>
<th>Field Dates</th>
<th>Topline Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wave 1 (M)</td>
<td>UAS 219</td>
<td>1394</td>
<td>76%</td>
<td>Dec 11, 2019 – Feb 7, 2020</td>
<td>UAS 219 Topline</td>
</tr>
<tr>
<td>Wave 1 (S)</td>
<td>UAS 286</td>
<td>1421</td>
<td>75%</td>
<td>Jun 3, 2020 – July 13, 2020</td>
<td>UAS 286 Topline</td>
</tr>
<tr>
<td>Wave 2 (M)</td>
<td>UAS 379</td>
<td>1345</td>
<td>78%</td>
<td>Mar 2, 2021 – Apr 30, 2021</td>
<td>UAS 379 Topline</td>
</tr>
<tr>
<td>Wave 2 (S)</td>
<td>UAS 403</td>
<td>1256</td>
<td>74%</td>
<td>Jul 19, 2021 – Sep 5, 2021</td>
<td>UAS 403 Topline</td>
</tr>
<tr>
<td>Wave 3</td>
<td>UAS 510</td>
<td>1207</td>
<td>73%</td>
<td>Jan 27, 2023 – Mar 31, 2023</td>
<td>UAS 510 Topline</td>
</tr>
<tr>
<td>Wave 4</td>
<td>USC 595</td>
<td>1499</td>
<td>70%</td>
<td>Feb 21, 2024 – Apr 21, 2024</td>
<td>UAS 595 Topline</td>
</tr>
</tbody>
</table>

### Survey Weights

The method for creating sample weights for the tracking survey follows the general procedure for UAS surveys described in CESR’s online methodology documentation. Sample weights are constructed in two steps. First, we calculate a base weight that corrects for unequal probabilities of selection of different households into the UAS. Second, we generate post-stratification weights, which align sample distributions of key demographics, namely gender, race/ethnicity, age, education, and geographic location, with their population counterparts. Population benchmarks are derived from the Basic Monthly Current Population Survey (CPS). The provided sample weights bring the sample in line with the L.A. County adult population.

### About the Panel

The LABarometer Panel is a probability-based, Internet panel of approximately 2,100 adults living in households throughout Los Angeles County. It is a sub-panel of the Understanding America Study (UAS), a national Internet panel of 14,000 Americans maintained by the USC Dornsife Center for Economic and Social Research. Following UAS procedures, LABarometer panel members are recruited in batches and refreshed through address-based sampling using postal codes. Eligible individuals are all non-institutionalized adults aged 18 and older living in a contacted household in Los Angeles County.

### About LABarometer

LABarometer is a research center housed at the USC Dornsife Center for Economic and Social Research (CESR). We conduct basic and applied social science research on issues affecting Los Angeles County residents, with the aim of informing academic research, public discourse, and
policy. At the heart of our research is the LABarometer Panel, a probability-based Internet survey panel of approximately 2,100 adults randomly selected from households throughout Los Angeles County.

LABarometer surveys are fielded to the LABarometer Panel on a biannual basis to monitor social and economic conditions in Los Angeles County. These longitudinal surveys focus on four dimensions of individual and community well-being: livability, affordability, mobility, and sustainability. LABarometer surveys include questions about residents’ lives, their attitudes and behaviors, and the challenges they encounter in their communities, filling data gaps on topics ranging from housing insecurity and climate resilience, to transportation behavior and the economy.

**Survey Team**

**Kyla Thomas**, Ph.D., is the Director of LABarometer and a Sociologist at the USC Dornsife Center for Economic and Social Research.

**Marco Angrisani**, Ph.D., is the Survey Methodologist for LABarometer and a Senior Economist at the USC Dornsife Center for Economic and Social Research.

**Evan Sandlin**, Ph.D. is the Data Analyst for LABarometer and a Research Manager at the USC Dornsife Center for Economic and Social Research.

**Greg Steigerwald** is a Research Assistant for LABarometer and an M.P.A. Candidate at the USC Price School for Public Policy.

**Michele Warnock** is Center Assistant for the USC Dornsife Center for Economic and Social Research.

**Contact Us**

If you would like to learn more about LABarometer or have any specific questions about our report, please contact us at labarometer-l@mailist.usc.edu.
Report Highlights

Snapshot of L.A. County Residents

- Transportation behavior
  - 92% used a private vehicle in the last year
  - 24% used public transportation in the last year
  - 64% of bus riders, 41% of metro riders used it at least once a week

- Transportation perceptions
  - Private vehicle: 74% think it is safe, 76% think it is convenient
  - Bus: 21% think it is safe, 24% think it is convenient
  - Metro: 16% think it is safe, 29% think it is convenient

- Transportation access
  - Average number of vehicles per household: 1.9
  - 18% are likely to buy or lease a new vehicle in the next year

- Coolness and heat
  - 53% visited some place to cool down in the last year
  - 44% experienced symptoms of heat exposure in the last year

- Pollution
  - 19% stayed indoors due to poor air quality related to wildfires
  - 13% stayed indoors due to poor air quality unrelated to wildfires
  - 58% think the air quality in their neighborhood is safe

- Climate change attitudes
  - 69% believe climate change is a threat to the well-being of residents
  - 19% believe local government is doing enough to fight climate change

- Sustainable behavior
  - 13% have solar panels, 19% compost, 7% have an electric vehicle
  - 57% say their next car is likely to be a hybrid, electric, or hydrogen vehicle

- Natural disasters
  - 41% are at least moderately prepared for a natural disaster
  - 16% experienced psychological distress from a natural disaster in the last year

Notable Changes from Last Year (2023)

- Fewer residents stayed indoors due to air quality concerns
  - Reports of staying indoors due to air quality concerns related to wildfire decreased from 31% to 19%

- More residents engaged in sustainable behaviors
  - Reports of energy-efficient landscaping, well-insulated doors/windows, tankless water heaters, low-flow plumbing, composting, and EV ownership increased

- Fewer reports of negative impacts from a natural disaster
  - Reports of psychological distress from a disaster decreased from 26% to 16%
  - Reports of higher utility costs from a disaster decreased from 14% to 10%
Transportation Behavior

Private Vehicle Use in Last Year

<table>
<thead>
<tr>
<th></th>
<th>Dec 2019</th>
<th>Mar 2021</th>
<th>Feb 2023</th>
<th>Feb 2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent</td>
<td>89.0</td>
<td>93.7</td>
<td>91.4</td>
<td>92.2</td>
</tr>
</tbody>
</table>

Ride Hailing Use in Last Year

<table>
<thead>
<tr>
<th></th>
<th>Dec 2019</th>
<th>Mar 2021</th>
<th>Feb 2023</th>
<th>Feb 2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent</td>
<td>43.7</td>
<td>17.8</td>
<td>28.3</td>
<td>30.9</td>
</tr>
</tbody>
</table>
Use Metrolink/Amtrak/Dial-A-Ride at Least One Day A Week
Among Metrolink/Amtrak/Dial-A-Ride Users

Walk/Skateboard/Kick Scooter at Least One Day A Week
Among Walkers/Skateboarders/Kick Scooterers
Transportation Perceptions

Private Vehicle Safe

Bus Safe
Ride Hailing Convenient for Work/School

Metro Convenient for Work/School

Percent
Transportation Access

Vehicles Own or Lease

Mean # of Vehicles

Dec 2019 | Mar 2021 | Feb 2023 | Feb 2024
2.0 | 2.0 | 1.9 | 1.9

Enrolled in Commuter Benefit Program
Among those offered program by employer

Percent

Jun 2020 | Jul 2021 | Feb 2023 | Feb 2024
25.5 | 20.4 | 19.6 | 23.8
Coolness and Heat

Visited Some Place to Cool Down

<table>
<thead>
<tr>
<th>Year</th>
<th>Jun 2020</th>
<th>Jul 2021</th>
<th>Feb 2023</th>
<th>Feb 2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td>54.8</td>
<td>54.9</td>
<td>57.6</td>
<td>53.1</td>
</tr>
</tbody>
</table>

Visited Some Place to Warm Up

<table>
<thead>
<tr>
<th>Year</th>
<th>Jun 2020</th>
<th>Jul 2021</th>
<th>Feb 2023</th>
<th>Feb 2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>2020</td>
<td></td>
<td></td>
<td>22.2</td>
<td>21.6</td>
</tr>
</tbody>
</table>
 Experienced Symptoms Related to Heat Exposure

- Jun 2020: 52.9%
- Jul 2021: 51.0%
- Feb 2023: 39.1%
- Feb 2024: 43.9%

 Hospitalized Due to Heat

- Jun 2020: 0.2%
- Jul 2021: 0.0%

Legend:
- Jun 2020
- Jul 2021
- Feb 2023
- Feb 2024
Pollution

Agree Safe Air Quality in Home

<table>
<thead>
<tr>
<th></th>
<th>Jun 2020</th>
<th>Jul 2021</th>
<th>Feb 2023</th>
<th>Feb 2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>69.3</td>
<td>68.3</td>
<td>71.3</td>
<td>70.7</td>
</tr>
</tbody>
</table>

Agree Safe Air Quality in Neighborhood

<table>
<thead>
<tr>
<th></th>
<th>Jun 2020</th>
<th>Jul 2021</th>
<th>Feb 2023</th>
<th>Feb 2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neighborhood</td>
<td>59.1</td>
<td>55.5</td>
<td>61.7</td>
<td>57.8</td>
</tr>
</tbody>
</table>
Agree Safe Water for Drinking in Neighborhood

<table>
<thead>
<tr>
<th></th>
<th>Jun 2020</th>
<th>Jul 2021</th>
<th>Feb 2023</th>
<th>Feb 2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent</td>
<td>50.8</td>
<td>48.1</td>
<td>48.2</td>
<td>46.4</td>
</tr>
</tbody>
</table>

Agree Safe Air Quality at Work

<table>
<thead>
<tr>
<th></th>
<th>Jun 2020</th>
<th>Jul 2021</th>
<th>Feb 2023</th>
<th>Feb 2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent</td>
<td>58.2</td>
<td>65.1</td>
<td>61.3</td>
<td></td>
</tr>
</tbody>
</table>
Avoided Specific Places Due to Air Quality Concern

- June 2020: 10.6%
- July 2021: 13.0%
- February 2023: 7.6%
- February 2024: 5.1%
Climate Change Attitudes

Believe Climate Change is Threat to LA County Residents

Believe Local Government is Doing Enough
Believe Climate Change is Caused by Humans

Percent

<table>
<thead>
<tr>
<th>Month</th>
<th>Jun 2020</th>
<th>Jul 2021</th>
<th>Feb 2023</th>
<th>Feb 2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent</td>
<td>70.8</td>
<td>73.4</td>
<td>73.1</td>
<td>70.0</td>
</tr>
</tbody>
</table>
Sustainable Behavior

Home Has: Solar Panels

Home Has: Energy-Efficient Landscaping
Home Has: Energy-Efficient Appliances/Electronics

<table>
<thead>
<tr>
<th></th>
<th>Jun 2020</th>
<th>Jul 2021</th>
<th>Feb 2023</th>
<th>Feb 2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent</td>
<td>57.9</td>
<td>60.7</td>
<td>59.3</td>
<td>62.9</td>
</tr>
</tbody>
</table>

Home Has: Well-Insulated Windows/Doors

<table>
<thead>
<tr>
<th></th>
<th>Jun 2020</th>
<th>Jul 2021</th>
<th>Feb 2023</th>
<th>Feb 2024</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent</td>
<td>44.4</td>
<td>47.2</td>
<td>47.4</td>
<td>54.6</td>
</tr>
</tbody>
</table>
Home Has: Daylights

<table>
<thead>
<tr>
<th>Month</th>
<th>Jun 2020</th>
<th>Jul 2021</th>
<th>Feb 2023</th>
<th>Feb 2024</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>19.5</td>
<td>17.8</td>
<td>22.0</td>
<td>20.9</td>
</tr>
</tbody>
</table>

Home Has: LED or CFL Light Bulbs

<table>
<thead>
<tr>
<th>Month</th>
<th>Jun 2020</th>
<th>Jul 2021</th>
<th>Feb 2023</th>
<th>Feb 2024</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>74.3</td>
<td>71.4</td>
<td>78.7</td>
<td>73.4</td>
</tr>
</tbody>
</table>
How Often: Limit Use of Plastic

How Often: Limit Use of Food that Comes in Packaging

Percent

Jun 2020 | Jul 2021 | Feb 2023 | Feb 2024

31.0 | 31.2 | 29.3 | 34.3

20.9 | 25.3 | 26.4 | 24.8
How Often: Limit Food Waste

How Often: Limit Electricity Usage

Percent

Jun 2020  |  Jul 2021  |  Feb 2023  |  Feb 2024
-  56.5   |  55.4     |  52.6     |  55.2

Percent

Jun 2020  |  Jul 2021  |  Feb 2023  |  Feb 2024
-  46.1   |  44.0     |  47.5     |  41.6
Natural Disasters

At Least Moderately Prepared for Natural Disaster

Disaster Impact: Lost Income Due to Inability to Work
Psychological Distress due to Natural Disaster

Percent

28.1
25.9
15.9

Jun 2020 | Jul 2021 | Feb 2023 | Feb 2024