



**L2**

**BETTER DATA  
BETTER DECISIONS**

**DataMapping Training Manual**

**March 2022**

## **DataMapping 1.0**

DataMapping gives users the ability to make selections, do analysis, generate reports, purchase and export data. The tool includes unparalleled speed and the ability to load data back into the system to be matched based on name/address or with an L2 ID associated with it and so much more. DataMapping 1.0 offers improvements in performance and functionality. Below are just some of the highlights.

**Faster and Smarter:** The underlying data structure and technology for DataMapping1.0 is new, faster and smarter! Nationwide selections and updating of counts in the control area are now made for over a hundred million records in a quarter of a second (*it may take approximately a second for your map to be refreshed depending on your internet connection*). The system is also smarter with a great deal of additional data and functionality.

**Matching:** Upload a private list of name and address data along with other attributes and have those data matched to the L2 file automatically. Your matches, along with the other attributes, can be returned to you outside DataMapping and can also appear as a private branch in your account. This feature can be used to upload your private contributor, customer or volunteer lists and have them matched automatically to DataMapping. Note that any private data you upload to DataMapping 1.0 is completely private and secure, cannot be accessed by any other customers and will not be accessed or utilized by L2, Inc.

**Custom Branch Creation:** Using an L2 file (with an L2 ID) or a file with a state or county voter ID you can load data with tags from a walk, call, or any other kind of outreach program into the system to be matched and can then work with the data like any other DataMapping selection. These files can be uploaded along with private file attributes. For example, upload a file from your pollster containing L2 IDs along with response codes to survey questions, then, in DataMapping 1.0 select all those who responded as supporters and analyze their demographic characteristics.

**Complex Sample Creation:** Create complex weighted and clustered samples all on one screen where you are able to set specific percentages or raw totals of phone type as well as ethnicity, age, geography and much more. Clustered random samples can now be created with ease with downloadable statistical summaries.

**Customizable CSV Exports:** You now have the ability to specify the exact column set you would like to export and save that as a template for you and your

team. Such custom templates can be used not only for exports but also for custom reports.

**Customizable PDF Reports:** Generate detailed and customizable printable reports with any and all of L2's demographic, voter, consumer or other attributes for internal analysis or to provide to clients or prospects. The custom reports contain colorful bar and pie charts as well as tables and listings to present just the relevant data to your candidate or client.

**Spreadsheet Reports:** Create larger and more complex spreadsheets including multiple row types giving you the ability to analyze different area or district types side-by-side. For example, create a single spreadsheet where the rows are both counties and congressional districts (in separate sections) along with columns for party affiliation, gender, etc.

**Individual Search:** This incredibly fast lookup process makes it possible to search by name, address, email, voter ID, L2 ID, phone number, state voter ID, county voter ID and many other attributes previously unavailable.

**Display Social Media Data:** Zoom into a household and click on the triangular marker. The individuals residing in that household will be displayed in the right-hand control area. Click on the name of one of those individuals and a social media search will be run with the results, where available, appearing at the top of the control area.

**Vastly Expanded Area Coloring, Boundary Line Options and Masking Possibilities:** Color by area over dozens of boundary types previously unavailable or simply show those boundaries on the map. For the first time, boundary lines for even minor districts such as school board districts are available and kept updated with changes in the underlying data. Masking can now be done on all available boundary types.

**Dramatically More Voting History Available for Selection Purposes:** Users of DataMapping 1.0 now have access to a vastly increased number of minor elections for selection purposes.

**Manager Controls:** Users of customer accounts can now be given additional managerial controls including the ability to add new users, delete existing users, change user access levels, move one user's universe to the account of another user and manage resources in other ways.

## Improvements

Improvements designed to enhance your experience, make the application simpler, faster, and/or easier to use.

### **Streamlined User Interface**

A number of modifications were made to make the user interface more consistent and easier to use:

- **Popups/Wizards** - are more prevalent, leaving the right-hand side for manipulating the source set, filter, visualizations, and results.
- **Direct Manipulation** - where possible, common actions like selecting a field to use for dot visualization are now possible with a single click
- **Popups** have all been redesigned to improve workflow and be consistent with one another for better ease of use
- **Visualization Parameters** have all been consolidated at the top of the right-hand-side area to be found and manipulated quickly

### **Mapbox**

Integration with Mapbox maps brings a number of new features:

- **Map Styles:** pick a style to best match your taste and visualization
- **Rotation:** rotate the map by 90 degrees
- **Tilt:** tilt the map in increments of 15 degrees to create the best angle for your viewing

### **Map Search**

A search box is now provided to let users search the map (try a zip code (01772), town (Paris, TX), or destination (Gateway Arch)).

### **Automated Dot Sizing**

A mode for automating the size and transparency of the map dots based on the current zoom and results set size is now provided to help users view their data quicker and easier. Low numbers of results will produce bigger dots so that they may be found even when the map is zoomed out. Otherwise, the dot sizes are smaller and more transparent when the map is zoomed out to allow the underlying map to be viewed more easily.

### **Reset Menu**

A menu now allows you to reset all customizations within a map or by feature type (Filters, Colors, Cart, Charting, Worksheet Rows and Columns, and visualizations)

### **Identifier Searching**

You may now search for a single record by filtering on various identifier values.

### **Wildcard Searching**

String searching for name or address components can now contain wildcards (\* for multiple characters, ? for a single character.)

### **Image Composer**

An improved image composer mechanism removes the right-hand-side of the map and allows the user to select elements and positioning of a legend in order to create more customized visualizations.

### **Worksheets**

The mechanism for creating worksheets has been approved to allow for quick selection of both row and column values by field. New rows and columns to provide totals have been added with styling to make the aggregations apparent. The user may now simply flip the rows and columns from the popup.

### **Location Based Charting**

Charting based upon selected locations has been improved to allow for easier comparison across location and reporting dimensions in bar chart, pie chart, and table format.

### **Reporting Fields**

The user may now select which fields they would like in a voter report for more focused reporting and to reduce paper waste.

### **Individual Popup Reporting**

The reporting on a single individual by drilling down on a single map point and clicking on the voter's name now allows for dropping empty values and non-participatory elections for more streamlined reporting.

### **Colors**

Colors are now grouped and persistent. Modify the colors for income ranges in one application and that is how they will appear in all of your applications. Modify the colors for Yes/No/Unknown and that is how those values will appear in all fields that use that value set.

### **Export File Names**

File names are now based on names of the universe, type of export, and the export number and are therefore still unique, but easier to understand than the former GUID-based names.

### **Export Splitting**

Walking Lists and Phone Lists can now automatically be split by County or Precinct for easier distribution.

**Application Picker**

The application picker from the Login Screen or within the application now provides your most recent applications and organizes all of your applications by customer.

**Alerts**

Global alerts are now integrated into the application to allow L2DataMapping.com to reach all users with error, warning, and informational messages.

**Password Reset**

A "Forgot Password" mechanism is now available from the Logon screen to reset a forgotten password.

**Integrated Help**

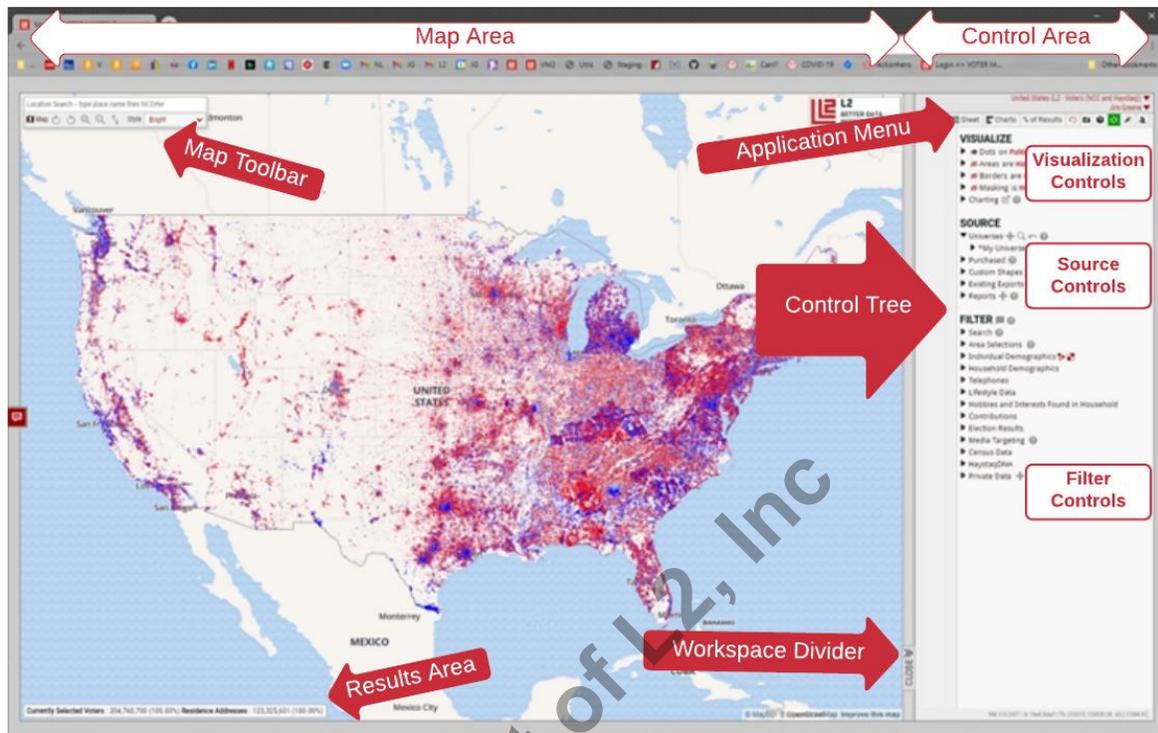
All help is now accessible via the single help popup mechanism which can also be opened in a new browser window to allow for side-by-side help.

**Improved Platform**

Many of the enhancements listed here are made possible due to an improved application platform that will let us roll out more updated features in the future. We are excited about the new opportunities.

Product of L2, Inc

## Application Workspace



The “**Application Workspace**” is divided into a “**Map Area**” to the left and a “**Control Area**” to the right separated by a “**workspace divider**” that you can drag to determine the width of the control area.

The “**Map Area**” displays the currently selected data over a map. A “**Map Toolbar**” in the upper left allows you to search for locations, rotate, zoom, tilt, and select the style of the displayed map. A “**Results Area**” in the lower left displays the number of “**individuals**” and “**residences**” currently selected

The “**Control Area**” has a fixed “**Application Menu Area**” on the top displaying the current data application and user as well as a set of buttons to perform global operations such as “**Resetting your Selections**”, launching the “**Shopping Cart**”, and opening “**Worksheets**” or “**Charts**”.

Below this is a scrollable space that contains a large “**Control Tree**” for manipulating the data you see, store, and download. The top three branches of the tree are always open as these form distinct control areas...

- **“Visualization Controls”** - These branches allow you to control the appearance of data on the map by allowing you to select how **“Dots”** appear representing residences, what **“Borders”** should be displayed, **“Coloring by Areas**, and if a **“Masking”** layer should be displayed.
- **“Source Controls”**
  - ” - These branches provide the ability to create and access your saved data: **“Universes”** of Individuals that are meaningful to you that can be downloaded or selected as a starting source for filtering, those individuals you have **“purchased”** that can be selected as a starting source for filtering , **“Exports”** of individuals that you have created and can download, **“Reports”** on selections of individuals that you have created and can download, and any custom **“Shapes”** you have created that can also be used as a starting source for filtering.
- **“Filter Controls”** - These branches allow you to filter records to exactly the set you desire based on setting restrictions on the values in specific **“fields”**, whether that is limiting the birthdates of Individuals to between 1/1/1970 and 12/31/1979, the Gender to "Female", the Income to between \$50,000 and \$100,000, or the County to just 3 specific counties. For our L2-Voter’s users, a **sophisticated selection mechanism exists to select who has or has not voted in specific elections**. Fields are organized into broader categories such as Area Selections and Individual Demographics to make it easier to navigate the entire set of fields.

## **Dots**



## **Dots Video**

**“Dots”** are the small square or triangular markers that appear on the map over each individual house or somewhere on the property associated with that house. Dots will appear as squares when zoomed out and as triangular markers when zoomed in.

When clicking on the triangular markers when you are zoomed in you will see information about individuals within that household appear in the right panel. Dot coloring is preset by L2 for your initial login. For Voter Data, standard coloring is based on party identification. In Auto Data the dots are colored based on *“auto owner”* and *“dealer or manufacturer”* and in Consumer Data they are colored based on estimated income. In Constituent Data the dots are colored based on *“broad ethnic groupings”*.

The coloring scheme for the dots is specified in the visualization branch at the top of the menu and it can be changed by clicking on one of the three-dot icons next to the selection branches.

Dot coloring can be changed to any variable in any application that has a color scale. For example, if you want to change the dot coloring of a map to *“age range”* go to the *“age”* branch and then go to *“age range based on birth year”* and click on the dots next to that specific selection (see below)



Additional dot coloring changes can be made by scrolling to the top of the menu bar under the word *“Visualize”*. Clicking on the *“eye”* icon will allow you to either hide or reveal the dots.

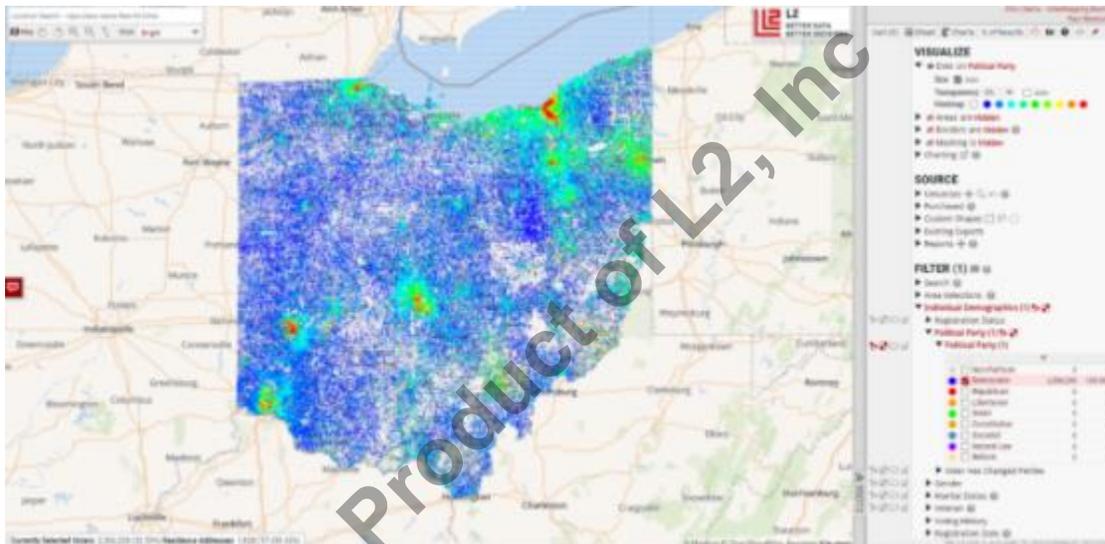
Other options are available under *“Visualize”* and in the drop down under *“Dots on Political Party”*. You may manually adjust the size of the dots or allow that size to be set automatically based on the zoom level. By selecting the percentage drop down next to *“Transparency”* you can make the dots more or less transparent, affecting your ability to see the details on the map beneath them.

### Dot Heatmaps

In the *“dots”* menu you are also able to analyze visually using the *“Heatmap”* functionality. A heat map uses colors ranging from cold (blues) to hot (reds) to display the concentration of individuals with certain characteristics. The warmer the color, the higher the concentration of individuals with that characteristic. In the example shown below, all Democrats have been selected in Ohio and then the Heatmap function has been activated. Notice that the bright red is found in the urban centers where there are

high concentrations of Democrats and the cooler blue and black areas are the parts of the state where there are relatively low concentrations of Democrats.

The same type of heatmap analysis can be performed for any other individual characteristic selection such as high net worth or high frequency voting. (Remember that heat mapping requires that you select a specific type of voter you want to analyze. You are asking the system to show the concentration of a specific type of voter as a percentage of all voters. If heat mapping is activated without making a filtering selection (e.g., *“Democrats”*) then all areas will simply appear red meaning that you are heat mapping the concentration of all voters against all voters which will always be 100% by definition and thus colored red.)



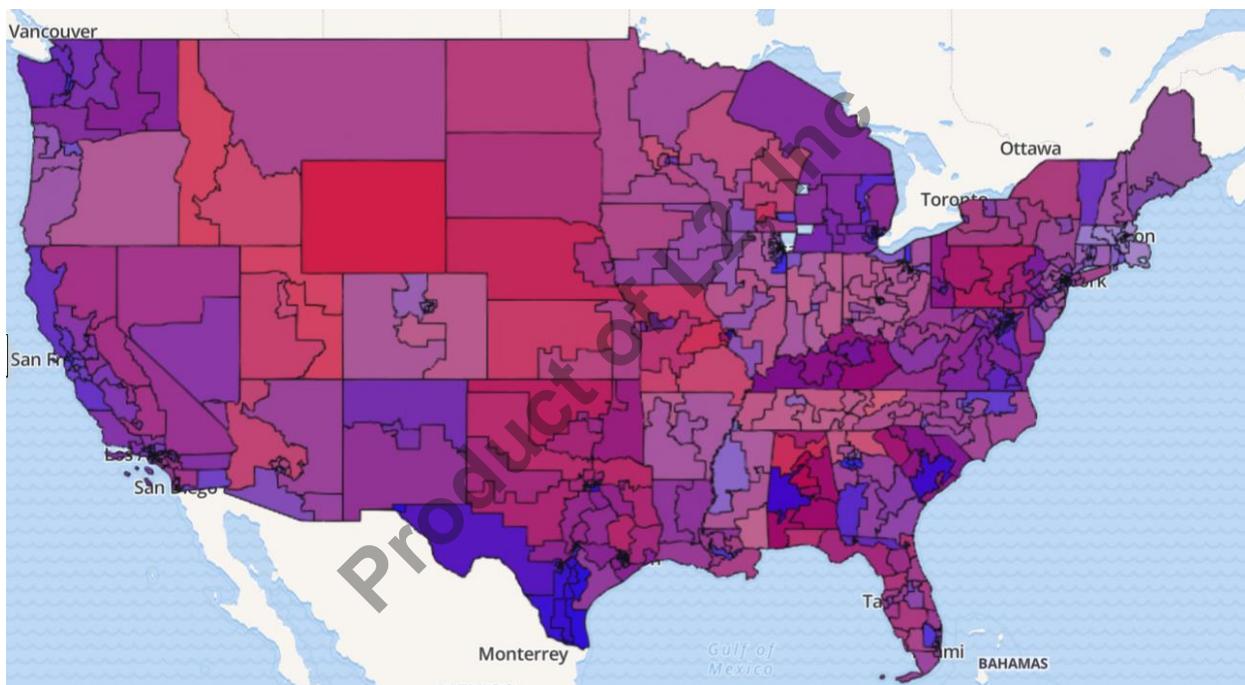
Notice the color scale that appears next to the *“Heatmap”* selection. Wherever you see a color range such as this, you are able to customize the colors in that range to suit your preferences by clicking on the color circle and selecting alternative colors.

## Area-Based Coloring



Area-based coloring is also available inside the platform. This area-based mapping allows you to select both the area that will be colored and the attribute by which you are coloring.

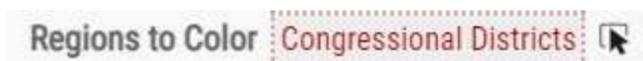
When opening any of L2's visualization platforms, area mapping is *"hidden"* by default. Activate it by clicking the *"eye"* icon. Select the region to color, the fill transparency and the thickness of the boundary lines. The system defaults to coloring areas by political party. Below is an example of the U.S. map colored by congressional districts to show whether each district is more Republican (shaded more toward red tones), more Democrat (shaded more toward blue tones) or somewhere in-between (shaded as purple or a combination of red and blue).



Area-based coloring can be performed with any attribute where you see a checkered box to the left of that attribute branch. Click the checkered box icon to change the coloring to that attribute.

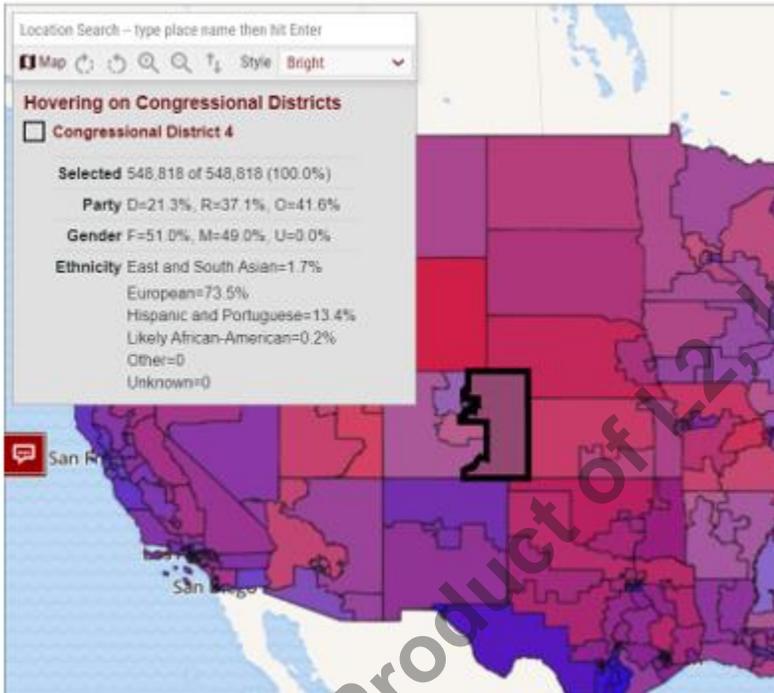
### Hovering on Areas

Notice the small box with the arrow to the right of the *"Regions to Color"*.



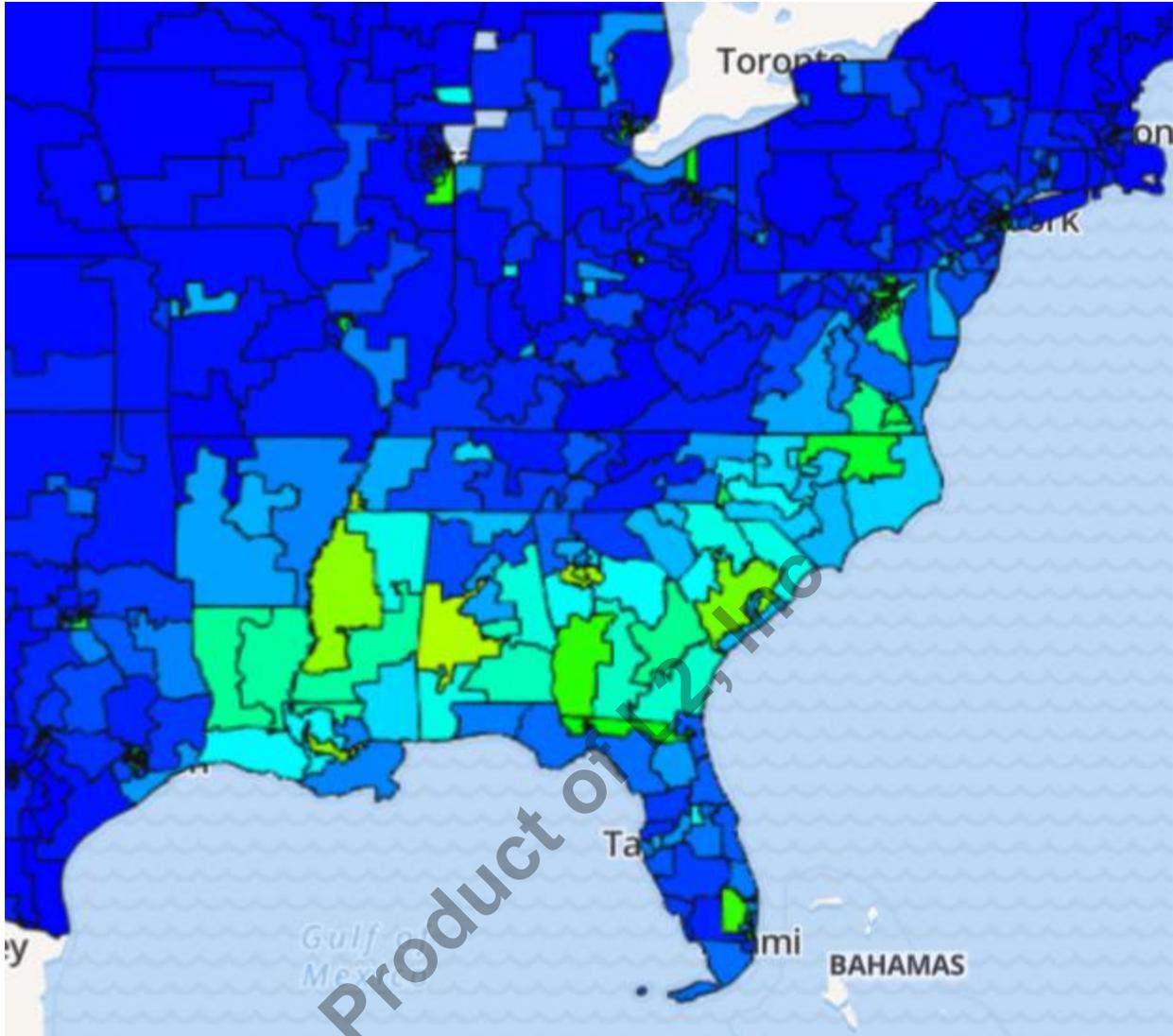
Clicking on the icon will activate the hovering informational box. When activated, try moving your cursor over one of the congressional districts seen on the map.

Immediately, a popup information box will appear providing you with basic information about that district which will also be highlighted on the map. Also note that the counts and percentages shown in the informational box are affected by the filtering selections currently in effect in the branches. For example, if you have selected only Republican women age 50 and older then the counts analyzed in the informational box will show the breakdowns in the area over which you are hovering only for those selected voters. See the example shown below when hovering over congressional district 4 in Colorado. To turn off this feature, simply click the icon a second time.



## Area Heatmaps

Heatmapping can also be performed by area in addition to being applied to dot coloring. As in the case of dot coloring, check the heatmap box then set your filters for the type of individuals you want to heatmap. The congressional districts will now be displayed with the warmest color showing the congressional districts with the highest percentages of the type of individual you have defined by your filtering selections. In the map shown below, the system is heatmapping on Likely African-American voters with the warmest colors appearing in an arc across the southeast.



## Borders



Borders or *“boundaries”* can be displayed over the map for all types of political districts and other geographies.

When opening any of L2’s visualization platforms, borders are *“hidden”* by default. Activate border visualization by clicking the *“eye”* icon to the left of that option. This will display a new menu allowing you to add the borders of your choosing. Click the *“+”* sign to add a new border, then click *“Click to Select”* and a new window called *“Pick a Region Border”* will appear.

Depending on the application and the data source type this will display all of the different available border/boundary fields. You may need to resize the box by pulling the lower right corner in order to display additional border selections.

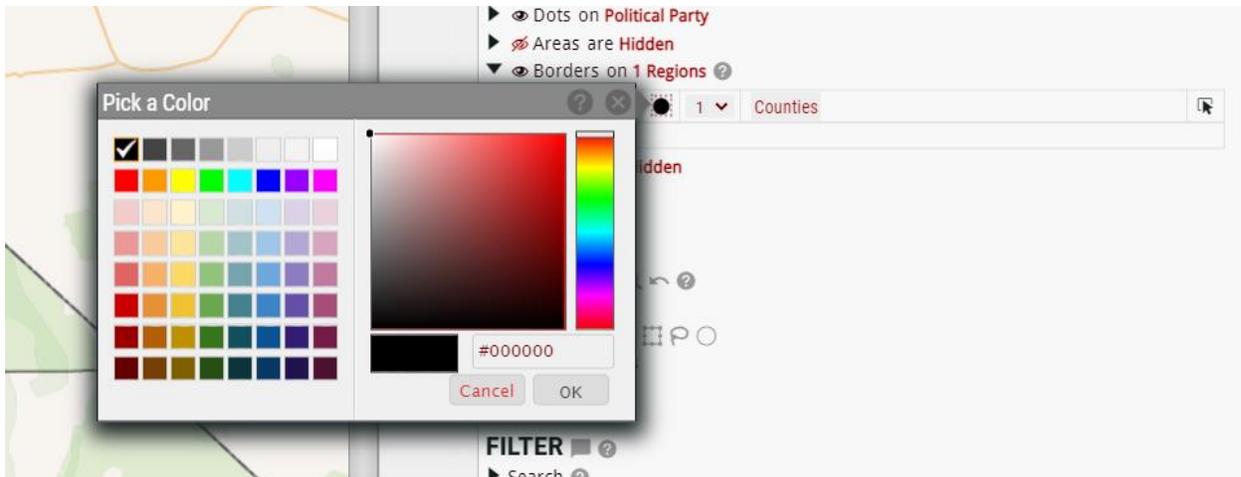


Once you have selected a border region type by clicking on the name, you will see it appear in the control box.



### Changing Border Color

To change the line coloring of the borders, click on the solid circle next to the border name and change the color to whatever you'd like.



### Setting Border Thickness

You can also change the thickness of a border by clicking on the numerical drop down next to the border area name (see below) between 1 (thinnest) to 4 (thickest).



### Displaying Additional Borders

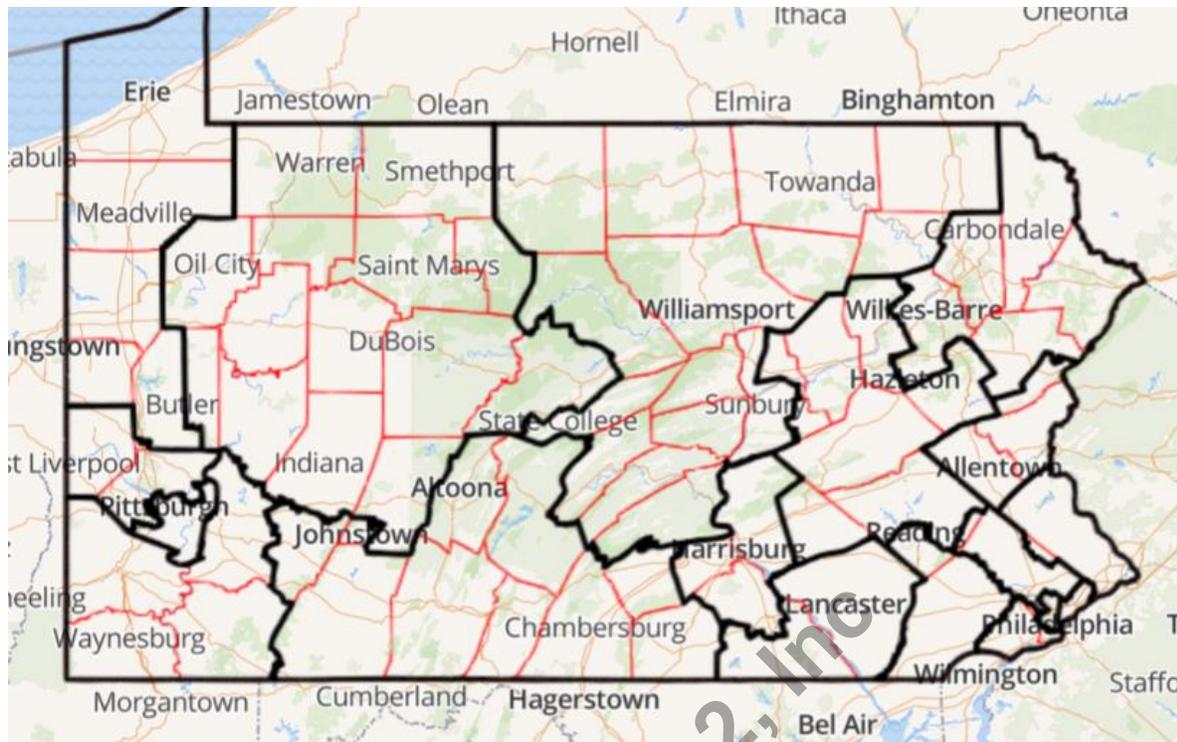
To display additional borders, click on the plus sign icon and repeat the process described above.

### Removing Borders

To remove existing borders simply click on the close icon at the beginning of the row with the name of the border you have selected in it.

### Working with Multiple Borders

If you are displaying more than one set of borders simultaneously, make sure to use different colors and perhaps line thicknesses for the districts to avoid confusion. Use the up or down arrows ( ) to move one set of borders to the top of multiple layers. Below is a map of Pennsylvania showing both congressional district lines (in heavy black) and county boundaries (in red). Note that dot coloring has been turned off so that the lines can more easily be seen.

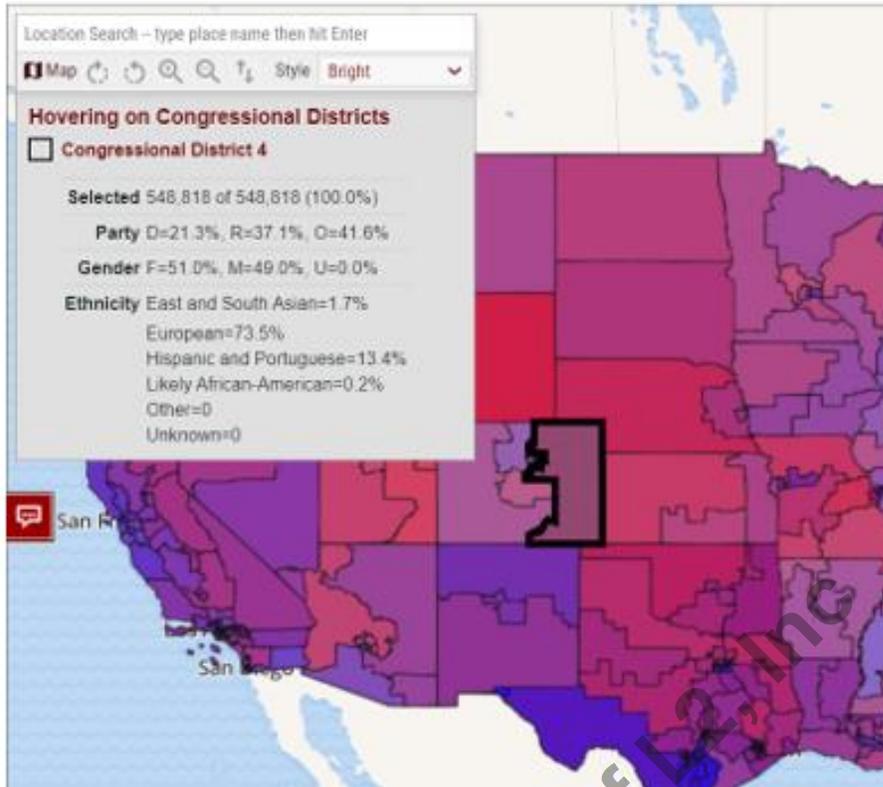


### Hovering with Borders

Finally, notice the small box with the arrow to the right of each of your border region selections.



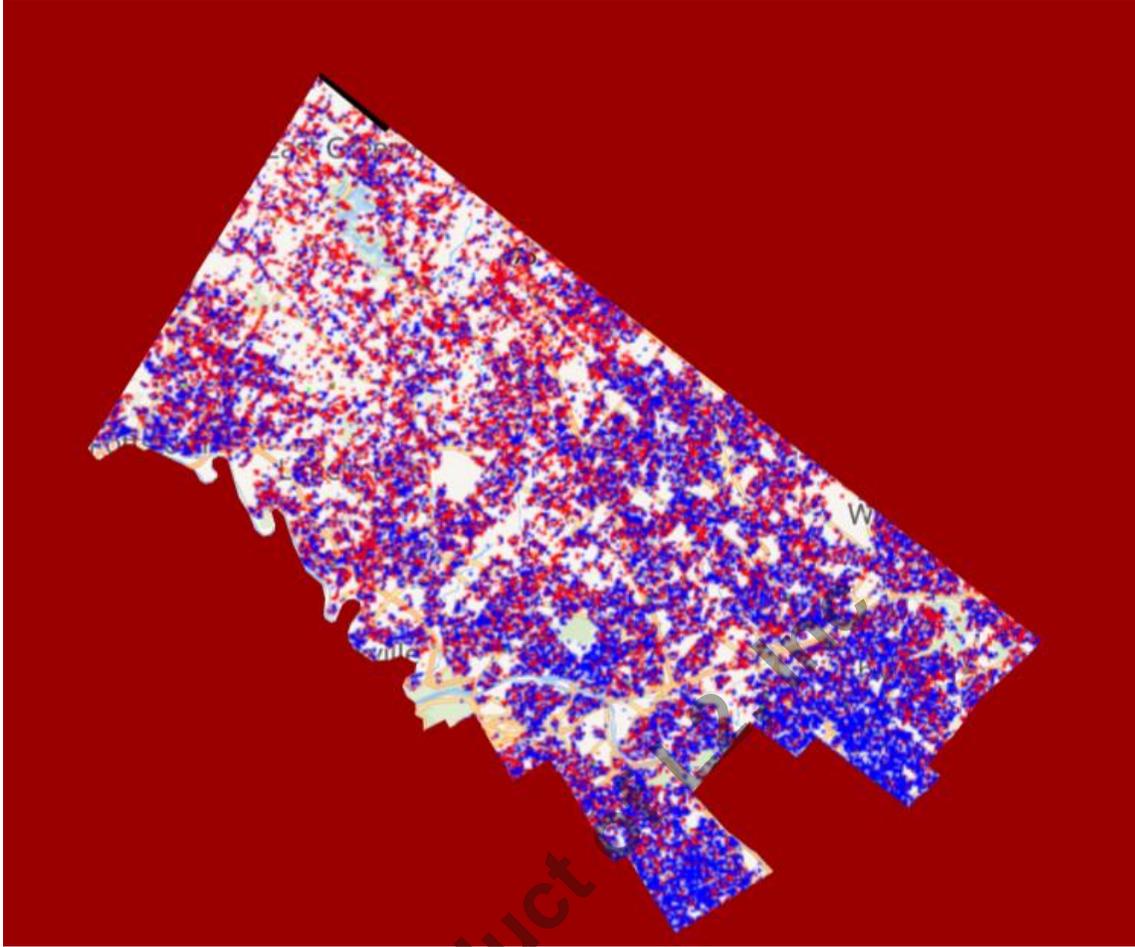
By clicking on the icon, you will activate the hovering information box. When activated, try moving your cursor over one of the congressional districts or counties seen on the map. Immediately, a popup information box will appear providing you with basic information about that district which will also be highlighted on the map. See the example shown below when hovering over congressional district 4 in Colorado. To turn off this feature, simply click the icon a second time.



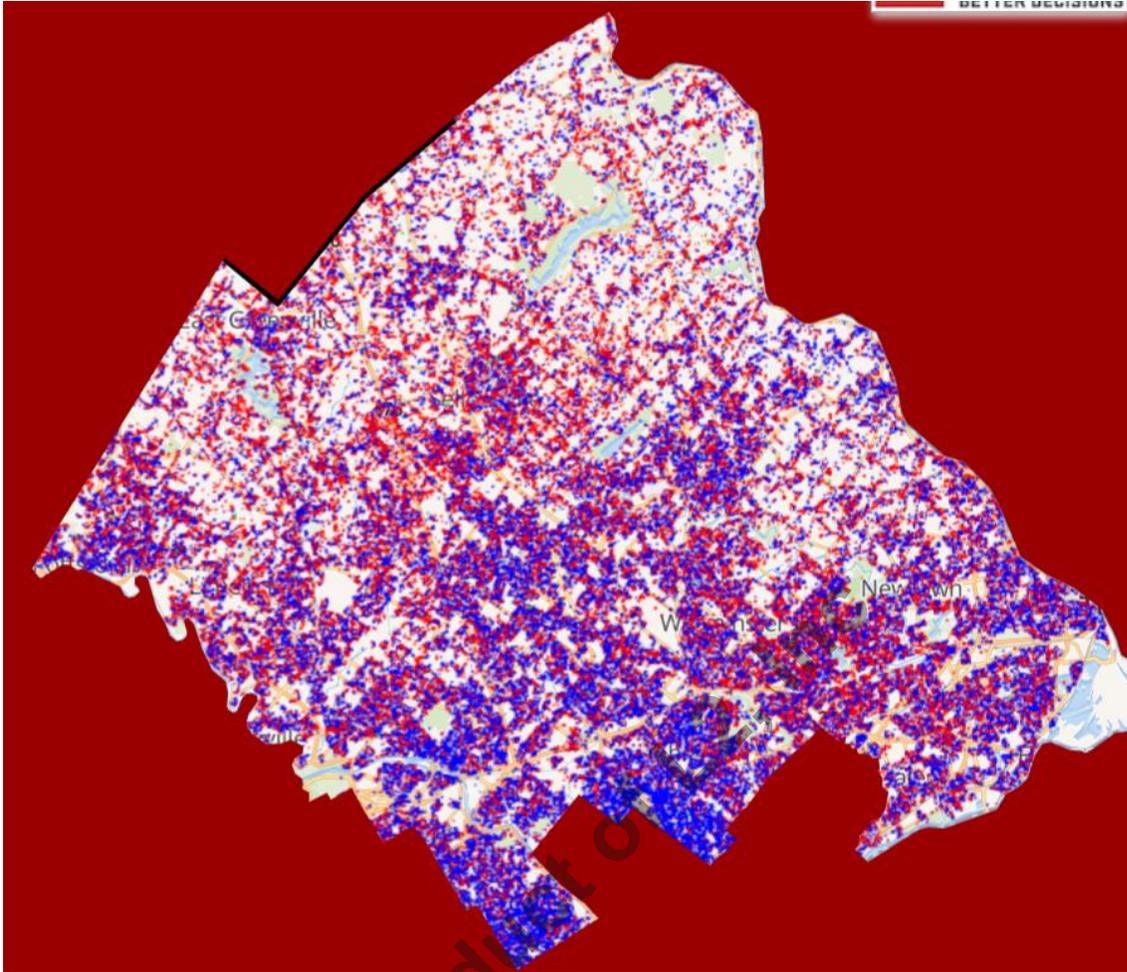
## Masking



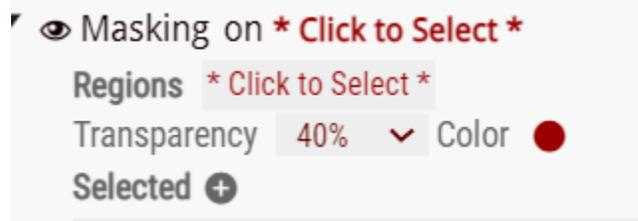
Masking is a technique for visually isolating a particular political or geographical area. Images created after masking can be used for presentations to allow viewers to focus on the chosen area and not be distracted by surrounding areas. Masking will hide all areas that you have not chosen. Below is an image of Montgomery County, PA, masked so that all surrounding areas cannot be seen:



Multiple areas of the same type can be simultaneously masked. Below, for example, is an image of Montgomery County and Bucks County simultaneously masked.



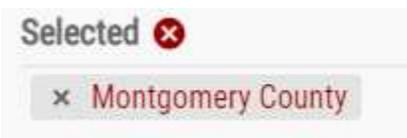
To initiate the masking function, activate it by clicking on the “eye” icon. The branch will expand to reveal the following options:



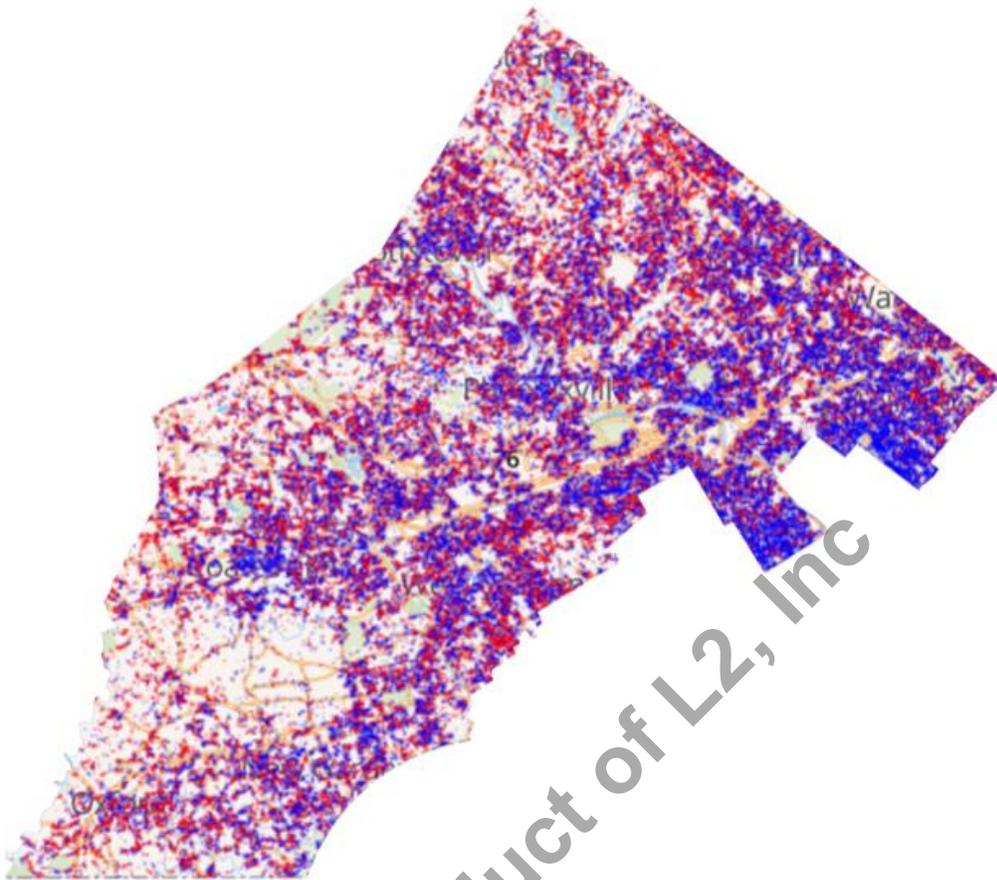
To the right of the word “Regions” click the “Click to Select” button and a popup will appear showing all regions that can be masked. Now click the type of region you wish to use as the basis for masking (e.g., counties, congressional districts, school districts, precincts, etc.) and that selection will appear in the branch:



Next, click the *“plus”* icon to the right of the word *“Selected”*. If you now hover with your cursor over the map, you will see an information box appear in the upper left corner that will identify the specific region over which you are hovering. When your cursor is correctly positioned over the region you want to isolate, click your left mouse button. Immediately, all surrounding regions will be masked leaving only the region you have selected unmasked. The region you have selected will also appear beneath the word *“Selected”*.



Additional areas can be added to your masked area by moving your cursor over additional regions and clicking on them to add them to your selection. To remove a region from your masking area, just click on the *“x”* to the left of that selection region. Clicking the *“x”* icon to the right of the word *“Selected”* or selecting a different region type to mask will clear all of your masking selections. Notice that there are controls allowing you to change the color of the masking and the transparency of the mask. Here, for example, is an image of the simultaneous masking of Montgomery and Chester Counties in Pennsylvania with a white mask and zero transparency:



## Creating a Universe



Creating a universe is the way to save a filtered selection you have made as a single grouping of individuals that can later be re-selected with a single click.

1. Make your selections by using the checkboxes next to the attributes you wish to use as filters. (See the section on Filters for more information.)
2. Under *“Source > Universes”* click on the *“plus”* icon.
3. Follow the prompts:
  - **Name:** Name your universe in a way that is recognizable and meaningful to you.

- **Description:** You may also provide a much lengthier written description of the universe.
- **Folder:** This option gives you the ability to place the universe you are creating into a specific folder. If you do not specify a folder, your universe will go into *“My Universes”*
- **Method:** The default for creating a universe will be *“Use currently selected filters”*. This will save your Universe based on the selections you currently have in effect. See more detailed instructions on *“Method”* below for additional universe creation options.

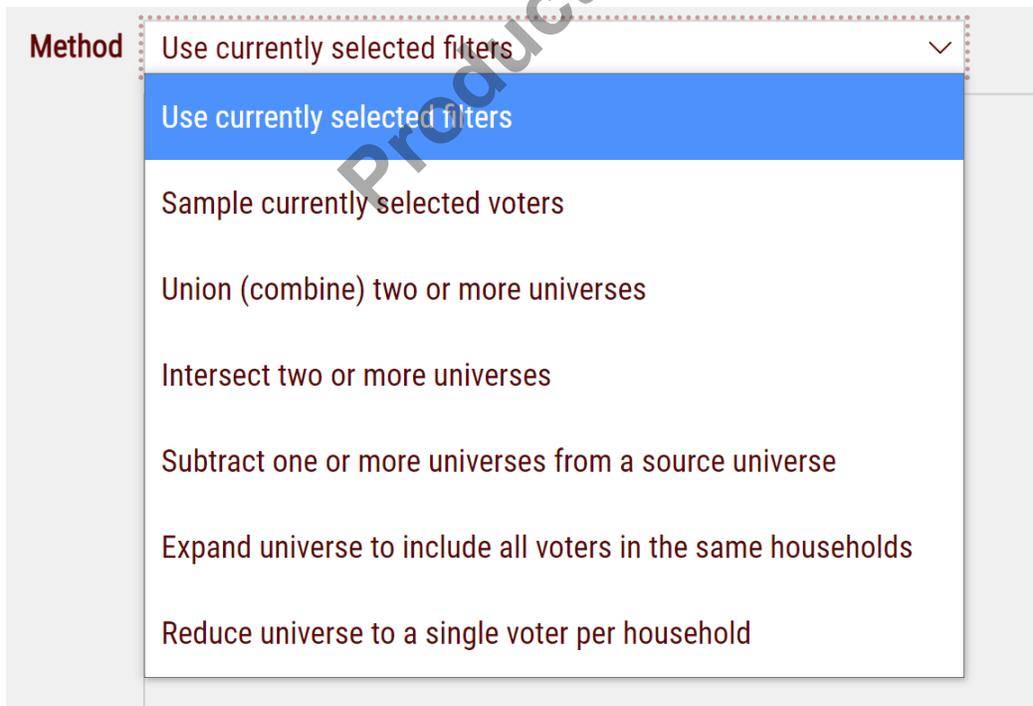
4. Click on the *“Create Universe”* button.



As the universe is generated you can choose to close the universe creation window or wait until the process has completed. Once the process has completed you can then recall or further work with your universe.

### ***“Methods”*** available for universe creation

There are multiple *“methods”* that may be utilized when creating new universes:



- **Use currently selected filters:** choosing this option will create your universe reflecting the filtering selection currently in effect
- **Sample currently selected voters:** choosing this option will allow you to create a randomly-selected universe from the individuals currently selected. For more information on creating random samples, see the instructions on *“Random Sample Creation”*.
- **Union (combine) two or more universes:** If you have previously created two or more universes, you may use this option to combine them into a single new universe with no duplicate records. Your previously-created universes will remain unchanged.
- **Intersect two or more universes:** If you have previously created two or more universes, you may use this option to create a new universe that contains only those individuals who are found in all of the other universes you specify.
- **Subtract one or more universes from a source universe:** If you have previously created two or more universes, you may use this option to create a new universe that is the result of omitting from one universe all records found in one or more other universes.
- **Expand universe to include all voters/consumers/constituents in the same households:** If you have previously created a universe that contains only some individuals within their households, you may use this option to create a new universe that adds all known family members to that universe you had originally created.
- **Reduce universe to a single voter/consumer/constituent per household:** If you have previously created a universe that includes multiple individuals within certain households, you may use this option to create a new universe that will randomly select only one individual from your universe to represent each household.

Search for:

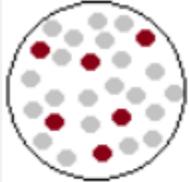
Contact

Compa

## Sampling Method of Creating a Universe

### Sample currently selected voters/constituents/consumers

**Sampling**  
Generate random or cluster samples from the currently selected filters maintaining ratios for primary characteristics such as Gender, Age, and Location. [Click here for more info](#) 



The sampling functionality allows users to generate random or cluster samples from currently selected filters or from an existing universe.

<b>Method</b>	Sample currently selected voters	
<b>Desired Size</b>	300000	of 7,711,777 (3.89%) (Maximum of 1,000,000)
<b>Households</b>	One person per household	
<b>Phone Type</b>	People with either a land line or cell phone	
<b>Phone confidence</b>	At least 2	
<b>Phone Priority</b>	No prioritization by phone confidence	
<b>Cell Phones</b>	No overall minimum	
<b>Cluster Fields</b>		

1. In the “*Desired Size*” box, enter the total number of records you hope to have in your completed random sample.
2. Choose “*one*” or “*more than one*” individual to be selected per household.
3. Select phone type including a landline, cell, either, individuals without any phones or anyone from the universe.
4. Select a telephone confidence score between 1 and 5, 1 being the highest level of confidence. Note that nearly all of L2’s telephone numbers are coded as 1 or 2. Lower confidence numbers are only used where no better numbers are available.

5. Select if you would like phone numbers to be prioritized by confidence code during the selection of the records for the sample. For example, a record with a telephone confidence code of 1 would be prioritized for selection over a record with a telephone confidence code of 2, etc.
6. Set a minimum percentage of cell phones in the sample. In the example below I have setup this sample to include a minimum of 30% cell phones:

Desired Size	<input type="text" value="30000"/>	of 7,711,777 (0.39%)	(Maximum of 1,000,000)
Households	One person per household <span>▼</span>		
Phone Type	People with either a land line or cell phone <span>▼</span>		
Phone confidence	At least 2 <span>▼</span>		
Phone Priority	Prioritize results by phone confidence <span>▼</span>		
Cell Phones	30% overall minimum <span>▼</span>		
Cluster Fields	<input type="text"/> <span>▼</span>		

7. If you wish to create a sample with specific quotas or “*clusters*”, use the “*Cluster Fields*” selections. You can create clusters on up to thirteen different attributes including district information and basic demographics. As few as one or as many as five criteria may be used simultaneously for clustering.

Below we use an example with L2-Voters

- Age Range Based on Birth Year
- Broad Ethnic Groupings
- Congressional District
- County
- Education
- Estimated Income Range
- Gender
- Marital Status
- Political Party

- Residence Household Party Composition
- State House District
- State Senate District
- Voting Frequency

From the dropdown menu, select your first or top-level clustering criterion. When your selection is made you will see that a second dropdown box appears allowing you to make a second-level selection should you wish to do so. You will also see a table appear. The table will show one row for each numbered cluster that your sample will contain.

In the example shown below, age ranges have been selected as the basis for clustering and you will note that the six possible age ranges have created six clusters. Based on an analysis of the individuals in your selection and the requested number of random sample records, the clusters have been pre-calculated based on the percentages of that type individual.

Cluster Fields: Age Range Based on Birth Year

Sizes: Default cluster sizes are based on the ratios from the current map filter applied to your desired sample size.  
**Warning:** Random Sampling does not guarantee your results will match these counts. [Click here for more info](#)

[Edit Custom Sizes](#)

#	Age Range Based on Birth Year	Desired Total
1	18 to 29	212,883
2	30 to 39	179,383
3	40 to 49	149,384
4	50 to 64	240,383
5	65 and over	217,283
6	Unknown	684

If you create a second level of clustering, the combination of the clusters will now appear in the table, again in their statistically-correct proportions. In the example shown below, a second clustering level based on gender has been added. Note how the total number of numbered clusters has doubled as each previous cluster is now separated by both age range and gender.

#	Age Range Based on Birth Year	Gender	Desired Total
1	18 to 29	Female	108,458
2	18 to 29	Male	102,458
3	30 to 39	Female	93,358
4	30 to 39	Male	85,658
5	40 to 49	Female	78,659
6	40 to 49	Male	70,859
7	50 to 64	Female	124,858
8	50 to 64	Male	115,158
9	65 and over	Female	118,358
10	65 and over	Male	99,058
11	Unknown	Female	1,659
12	Unknown	Male	1,459

Additional clustering levels can be added up to the maximum of thirteen. Note however, that as more and more clusters are requested, the available number of individuals meeting narrower and narrower criteria for a specific cluster may not be available to meet the desired total. Clicking on the edit custom sizes link

[Edit Custom Sizes](#)

at the top of the table will reveal a new popup window as shown below:

Cluster Sizes

Edit:  Totals  Percents

You have accounted for 1,000,000 of the 1,000,000 total desired records in the sample from the 21,009,698 total input records. Your selections have resulted in 12 clusters.

#	Age Range Based on Birth Year	Gender	Input Total	% of Input	Desired Total	% of Desired
1	18 to 29	Female	2,251,427	10.72%	108458	10.85%
2	18 to 29	Male	2,126,469	10.12%	102458	10.25%
3	30 to 39	Female	1,934,847	9.21%	93358	9.34%
4	30 to 39	Male	1,773,062	8.44%	85658	8.57%
5	40 to 49	Female	1,626,871	7.74%	78659	7.87%
6	40 to 49	Male	1,461,398	6.96%	70859	7.09%
7	50 to 64	Female	2,597,776	12.36%	124858	12.49%
8	50 to 64	Male	2,393,210	11.39%	115158	11.52%

DOWNLOAD CLUSTER SIZES OK CANCEL

This popup window will allow you manually to adjust the number of selected records in each cluster based either on the total number or the percentage of records. Note the option to switch from one to the other that appears in the upper left corner of the window. Also note that as you change cluster sizes, the information at the top of the window will tell you whether you are now hitting your total target number or if other clusters need to be adjusted. Finally, by clicking on the *“Download Cluster Sizes”* button at the bottom of the window, you can save a copy of the cluster spreadsheet for further analysis outside the system. Once the clusters are set to your satisfaction click on *“OK”* and the popup window will close, returning you to the previous window. Now simply click the *“Create Universe”* button and your sample will begin to generate. Once the sample has been created you will see it in your *“My Universes”* branch or the custom folder to which you assigned it.

**An important note regarding sampling.** L2 uses a mathematically-complex and statistically-correct method for creating your random sample. As a result, it is possible that the exact number of requested records may not generate due to an insufficient number of qualifying records being available and running the exact same sample a second time will yield different results and different records. The greater the number of clusters requested with narrower and narrower criteria may well result in the inability to find sufficient qualifying records to fill out that cluster.

## Random Sampling Mechanism

A random statistical sampling of the currently selected set of voters to create a new universe. The mechanism first attempts an optimistic pass based on a small random set relatively close to the desired size. If that does not produce a "good enough" result, a larger, but not necessarily exhaustive random set will be used.

### Random Sampling Design

- **Desired Size:** The maximum number of records you want returned
- **Households:** Whether to return only one or more than one Voter per Residence
- **Phone Type:** Whether or not returned Voters must have phone values and what type
- **Phone Confidence:** If phones are required, a minimal confidence level for returned records
- **Phone Priority:** Whether records with phone numbers are prioritized for return
- **Cell Phones:** A minimal percentage of returned records that should have cell phone numbers
- **Cluster Fields:** zero to five fields whose cross-product of values is used to create cluster "buckets"
- **Sizes:** The number of records per cluster bucket desired - initially this is populated with the relative proportions of records matching the Cluster Fields constraints. These may be edited, but must sum to the Desired Size

### Random Sampling Warning

The mechanism makes its best effort to fulfill your design, but there is no guarantee that the returned set will exactly match your counts. If your desired size is 10,000, a returned size of 9,989 might be very reasonable. Furthermore, because the initial set is generated randomly, running your design a second time could result in 9,995 or even 10,000 records being returned.

**Note:** There are several ways to get confusing results...

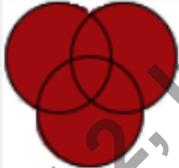
- It is possible to create a nonsensical design that cannot be derived. For instance, 250,000 male records in a state with only 300,000 total records
- The larger the number of clusters, the more likely you are to create tiny buckets that may have trouble being filled. For instance, a sample design of 10,000 records with clusters based on counties and income ranges in California creates roughly 750 buckets with many containing only a single record or no record at all. It is possible that a random set could have no matching records for these buckets.

- While the initial sizes are based on the actual distribution of values in the currently filtered set, these do not take into account the various phone/household criteria which could severely limit the number of actual match possibilities. For instance, an already small bucket may have few results if also limited to only one voter per residence AND must have a cell phone WITH highest confidence

## Union Method of Creating a Universe

### Combine two or more universes

**Union**  
Check the boxes of all universes you want to combine into a single new universe. There will be no duplicate records in your new universe.



The *“Union”* or merge functionality allows users to combine two or more universes and remove all duplicate records automatically. Some users might know this as an *“or”* function since you are creating a new universe that contains any individual who is in universe *“A”* OR universe *“B”* OR universe *“C”* etc.

How to combine universes:

1. Once the initial universes you wish to combine have been created, click on the plus sign icon under *“Universes”* to create a new universe.
2. Go through the process of adding a name and description/folder if desired for this new universe.
3. Under *“Method”* select *“Union (combine) two or more universes”*. A list of all of your available universes will now appear in the box below. Check the boxes for all universes you want to combine when creating your new universe.
4. Click on the *“Create Universe”* button

## CREATE UNIVERSE

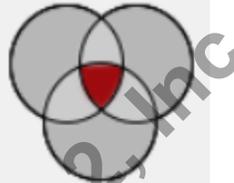
5. A new universe will be created that combines without overlap the selected universes.

### Intersect Method of Creating a Universe

#### Intersect two or more universe

##### Intersection

Check the boxes for multiple universes. Your new universe will consist of only the people who are found in ALL of the checked universes.



The intersection method allows you to create a new universe that contains only those individual records each of which is found in all of the universes you specify. This functionality is most helpful when trying to find those individuals who overlap between two complex (multiple selection) based universes.

1. Once the initial universes you wish to intersect have been created click on the plus sign icon under **“Universes”** to create a new universe.
2. Go through the process of adding a name and description/folder if desired for this new universe.
3. Under **“Method”** select **“Intersect two or more universes”**. Instantly a list of all of your universes will appear in the box below. Check the boxes for all universes you will be analyzing to find the intersection for your new universe. You must select at least two universes to find an **“intersection”**.
4. Click on the **“Create Universe”** button

## CREATE UNIVERSE

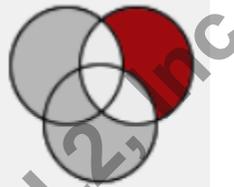
5. A new universe will be created that includes only those records that were common to all of the universes you specified. If there were no records found in more than one of the universes you specified, your new universe will have zero records.

### Subtract Method of Creating a Universe

#### Subtract one or more universes from a source universe

##### Subtract

Start by checking the *circle* for the universe from which you want to subtract other universes. Next, check as many other universe *boxes* as you wish. All of the people in these additional universes will be removed from your first universe.



1. The subtract method makes it possible to remove all records found in universe **"B"** from universe **"A"**.
2. Once the initial universes you are going to be working with have been created click on the plus sign icon under **"Universes"** to create a new universe.
3. Go through the process of adding a name and description/folder if desired for this new universe.
4. Under **"Method"** select **"Subtract one or more universes from a source universe"** and you will see a list of your available universes in the box below:

**+ New Universe**

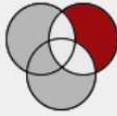
**Name** Franklin Omitting Columbus

**Description**

**Folder** \*My Universes

**Method** Subtract one or more universes from a source universe

**Subtract**  
Start by checking the *circle* for the universe from which you want to subtract other universes. Next, check as many other universe *boxes* as you wish. All of the voters in these additional universes will be removed from your first universe.



	Name	Description	Folder	ID	Count
<input type="radio"/>	Columbus City		*My Universes	1a03001YJ	548,570
<input type="radio"/>	Franklin County		*My Universes	1a03001YI	834,329

6. Within this pop-up window You must now select the initial or source universe from which you will be subtracting the records found in other universes in order to create your new universe. Identify this initial universe by clicking on the circle icon next to the name of the universe. In this example we are going to create a new universe that is the result of subtracting from the Franklin County universe (the 'initial' universe) any records found in the city of Columbus universe. You'll see below we have selected Franklin County first using the circle selection indicating that Franklin County is the initial universe followed by checking the box next to the Columbus City universe which instructs the system to remove all records found in the latter from the former.

**+ New Universe**

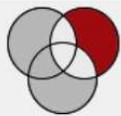
**Name** Franklin Omitting Columbus

**Description**

**Folder** \*My Universes

**Method** Subtract one or more universes from a source universe

**Subtract**  
Start by checking the *circle* for the universe from which you want to subtract other universes. Next, check as many other universe *boxes* as you wish. All of the voters in these additional universes will be removed from your first universe.



	Name	Description	Folder	ID	Count
<input checked="" type="radio"/>	Columbus City		*My Universes	1a03001YJ	548,570
<input type="radio"/>	Franklin County		*My Universes	1a03001YI	834,329

6. Click on the **"Create Universe"** button



7. A new universe will be created that includes all individuals living in Franklin County omitting those who live within the boundaries of the City of Columbus.

**Subtract all households found in one universe from another universe**

If preparing multiple mailing universes to different groups of individuals, you may find that two universes contain some of the same households. To avoid mailing to the same household twice, you may wish to subtract all the households from one universe that are already included in another universe. This cannot be done by simply removing one universe from the other using the subtraction method since that only eliminates the overlap of individuals and not of households.

Imagine that one of your mailing universes targets female voters having certain characteristics and a second mailing universe targets only male voters having other characteristics. Many of the same households will appear in both universes. You could simply merge the two universes together and create mailing labels from that merged universe. In doing so, each household will automatically be represented just once. However, perhaps you are planning to do a different mailing to each universe. You have a targeted message for females and a different targeted message for males. You want to prioritize the female targeting so that if a household contains both a targeted female and a targeted male, you want only the targeted female to receive the mailing. How would you accomplish this?

Use the following steps to remove household overlap between these two universes.

1. Start with the female universe and use the Expand method described below to create a new universe from it. To avoid confusion, name this new universe ***Female Target-Expanded***. The Female Target-Expanded universe will contain all of your targeted females along with all other individuals residing in the household of any of the original targeted females. This will include other non-targeted females plus any and all males.
2. Next, use the Subtract method of creating a new universe you will name ***Male Target Omitting Female Target Households***. Your starting universe (i.e., the one from which you want to subtract another universe) will be your targeted male universe and you will check the circle for that universe. You will then check the box for the Female Target-Expanded universe to remove it from your targeted male universe. Since the Female Target-Expanded universe will now, by definition, include any targeted males who happen to live in the same household as a targeted female, removing that expanded universe from the targeted male universe will result in a new universe (i.e., Male Target Omitting Female Target Households) that has no household overlap with the targeted female universe.
3. After you have created the new Male Target Omitting Female Target Households universe, use it to create your mailing list and create a separate mailing list from the original targeted female universe. To avoid confusion, you

should delete the *“Female Target-Expanded”* universe now that it has served its purpose.

## **Expanding Method of Creating a Universe**

### **Include all voters/constituents/consumers in the same household**

#### **Expand**

Check the box for the universe you want to expand. Your new universe will contain all the people in this checked universe plus any and all other people living in the same household with them.



The *“Expand universe”* function allows you to create a new universe that takes each individual in a starting universe and then *“adds”* all remaining individuals in that household who had not been included in the original universe, thus *“expanding”* it. For example, if you have a selection of *“veterans”* you can use this function to expand the universe to all individuals living in a *“veteran household”*.

1. Once the universe you wish to expand have been created click on the plus sign icon under *“Universes”* to create a new universe.
2. Go through the process of adding a name and description/folder if desired for this new universe.
3. Under *“Method”* select *“Expanding universe to all voters/constituents/consumers in the same household”*. Immediately, all of your available universes will appear in the box beneath.
4. Click the circle button next to the universe you wish to expand.
5. Click on the *“Create Universe”* button

**CREATE UNIVERSE**

6. A new universe will be created that now includes all individuals in each household that is represented by at least one individual in the universe you were expanding.

## Reduction Method of Creating a Universe

### Include a single voter/constituent/consumer per household

#### Reduce

Check the box for the universe you want to reduce. Your new universe will consist of just one person per residence household (that person being chosen at random).



The “*single voter per household*” function allows you to reduce a universe from multiple individuals in a household to one per household with the selection made at random from among the originally selected records.

1. Once the universe you wish to reduce to one individual per household is created click on the plus sign icon under “*universes*” to create a new universe.
2. Go through the process of adding a name and description/folder if desired for this new universe.
3. Under “*Method*” select “*reduce universe to a single voter/constituent/consumer per household*”.
4. Click on the circle button next to the universe you wish to reduce.
5. Click on the “*Create Universe*” button

CREATE UNIVERSE

6. A new universe will be created that now reduces the original universe to one individual per household. If your original universe had both Susan and Thomas Smith at 123 Main Street, your newly-created universe will have only Susan Smith or only Thomas Smith.

## Deleting a Universe

1. Click on the universe name
2. When the “*Universe Details*” window pops up click on the trashcan icon

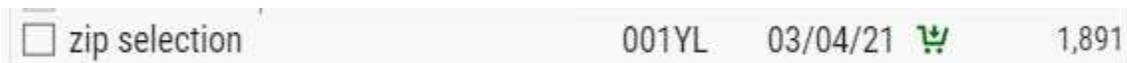
## Purchasing Data

### Important Notes:

- You may only download records which you have purchased. However, at no charge, you may download the LALIDs for any universe and all analyses including spreadsheets and reports generated from the system are free.
- Payment for records can be made instantly via credit card or, if you have made prior arrangements with L2, your purchases can simply be billed and paid for at a later date.
- If you have already purchased a portion of a universe, you will only pay for those remaining records for which you haven't yet paid.
- Once a record is purchased the record remains unlocked for one year for download in any format and those purchased records will be updated throughout the year during which you "own" them. At the end of a year, the record re-locks and must be repurchased if you wish to have another year of access. Note that this will result in some universes having a combination of records that "re-lock" at different times. If you purchase only the currently unpurchased records in a universe, the next day, other records in that universe may expire and you will need to repurchase them to have access to all records. Record unlocking is done on an individual record basis.
- Any record you purchase and download is yours to use forever.
- If you purchase multiple universes with overlapping records, you will only be charged once per unique record.

### Adding Universes to the Shopping Cart

Once you have created a universe you will see a shopping cart icon to the right of the universe name. Clicking on the shopping cart icon will place all non-purchased records from that universe in the shopping cart. A second click will remove those records.



At the top of the side panel, you'll now see that items are in your cart and ready for purchase.



### Using the shopping Cart

Clicking on the "Cart" link will open a popup window where your purchase can be completed after entering your credit card information. If you have a billing relationship with L2, your personal billing information will appear instead.

Shopping Cart Checkout

Universe	# To Purchase	Price
zip selection ID: 1a03001YL <a href="#">Show Composition</a>	1,885 of 1,891	\$47.13

Subtotal	\$0.00
Tax	\$4.76
Total	\$51.89

Enter Billing Information

Credit Card

Expiration

CVV

Memo

**CANCEL** **PURCHASE**

*\*Any credits will be applied at checkout*

After clicking the **“Purchase”** button, the system will display the following message, and give you the option to either download or email the invoice to you.

**Thank you for your Order!**

Order #1a03001YM  
 Invoice #VM-1a03-001YM  
 of 1,885 records  
 has been processed for **\$51.89**

Your invoice is now available

**DOWNLOAD INVOICE** **EMAIL INVOICE**

Note that if you attempt to download a universe, not all records of which you have purchased, you will be notified of such and allowed to download only those records you own or be given the opportunity to purchase the remaining records. Following the successful purchase of the records in your universe, the shopping cart icon next to the universe name will be grayed out.

## Viewing Purchased Records

The *“Purchased”* branch within the Source section of the menu shows users those records that have already been purchased by you or another user who is part of your customer account. Purchased records remain unlocked in your account for all users for one year with updates. The records may be downloaded in any format multiple times.

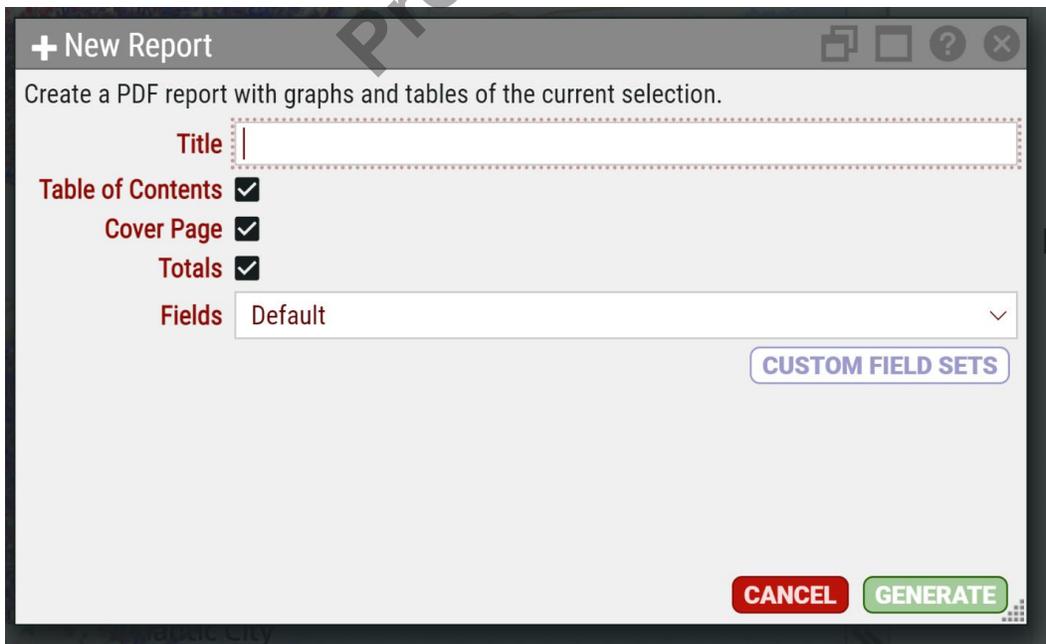
## Reports

Users are able to create custom PDF format reports that can be downloaded and printed based on the filters which are currently applied or by selecting a universe previously created.

- To create a new report, click on the plus icon in the Reports section. The *“New Report”* popup window will appear.
- Once the window opens you must enter a *“Title”* for the report and then choose to include or exclude an L2 branded *“Table of Contents”* and *“Cover Page”*. You can exclude those selections by unchecking the boxes next to each selection. Totals provide a total count for all individuals being analyzed in a particular demographic or area category in the report.
- The *“Fields”* selection box allows the user to create a standard default report or create a customized report. The default report will include a standard set of demographic, consumer and other fields depending on the data source.

If you wish to create a customized report:

1. Click on the *“Custom Field Sets”*



**+ New Report**

Create a PDF report with graphs and tables of the current selection.

Title

Table of Contents

Cover Page

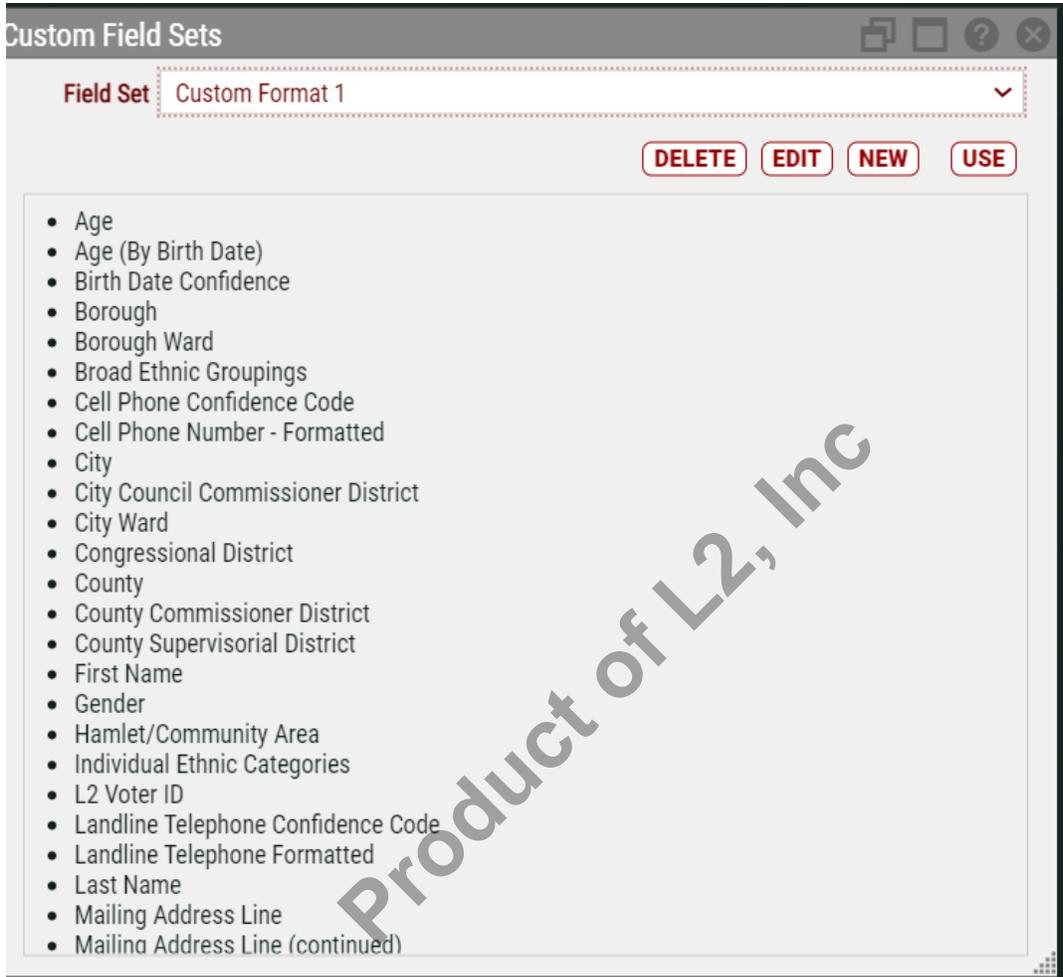
Totals

Fields

**CUSTOM FIELD SETS**

**CANCEL** **GENERATE**

- When the Custom Field Set popup window appears, enter a name for your custom field selection. Once saved, you can use this selection set again in different states and in exports as well as reports.



- Click the "Edit" button and the window will allow you to select the specific data fields you wish to include in your custom report.



- Once you have made your selections, click the **“Save”** button. Then, on the next window, click the **“Use”** button in order to utilize the new custom format. When you are ready to generate your report, click the green **“Generate”** button.

## Custom Shapes

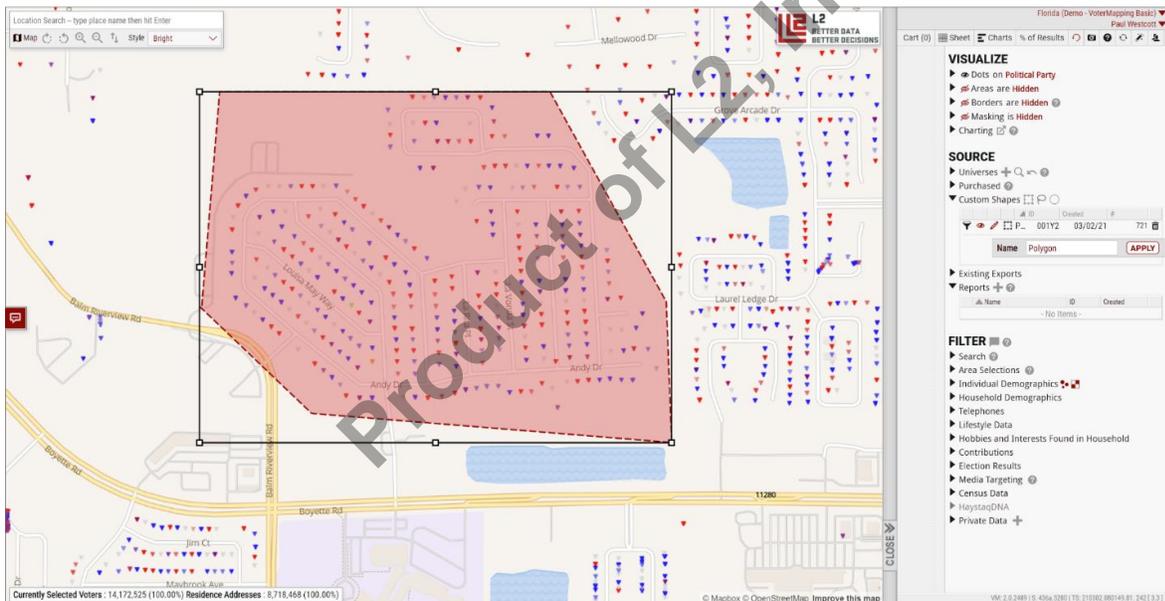
The custom shapes tool makes it possible for users to define custom areas on the map that can then be used for selection and universe creation. The area definitions can be polygons, circles or free-hand drawing with the lasso tool. These custom shapes simply define an area, in the same way any other boundary (e.g., a zip code boundary) defines a geographical area.

The process of creating your custom shape does not, by itself, select the individuals within that shape. Rather, a second process of creating a universe using the custom shape along with other filtering selections must be performed.

## Creating Shapes

### Polygon Tool

1. Select the polygon shape icon in the shapes menu.
2. After activating the polygon selection, move your cursor over the map and left click to set the starting point. Move your cursor to the next corner point you want to create and click again. When you create your last corner point, double click and you will see a popup window asking you to give the polygon a name. Enter a name and click okay. Your polygon will appear on the map as a shaded area with a bounding box drawn around it. Also note that the number of currently-selected individuals inside your polygon will be shown in the Custom Shapes branch.



3. You may reposition your polygon by holding down the left mouse button to grab the polygon and then moving it to a different location. By touching the edge or a corner of the bounding box you can rotate the polygon or stretch it in one direction. Note that the count of individuals identified as being within your polygon will automatically update as you move it or change its shape. The polygon shape can be edited by altering the position of corner points and new corner points can be created from any midpoint.
4. Double-click inside the polygon and you can switch from the bounding frame control (i.e., the square or rectangle surrounding your polygon) to the actual polygon shape control with no bounding box. After activating the actual polygon

shape control, note that each original corner point is identified with a circle “O” icon. Halfway between each two corner points you will see midpoints identified with a small red solid dot ●.

5. Hovering with your cursor directly over a corner point will change the cursor to a symbol with four arrows pointing in different directions:



Hold the left mouse button down when the cursor changes to this symbol then pull the corner point to reshape the polygon. Releasing the left mouse button will leave the polygon corner in its new position. Hovering over the midpoint identified with a red dot will change the cursor to an arrow with a “+”



sign Hold the left mouse button down and move the cursor and a new corner point will be created in that location. Expanding the size of your screen may make it easier to see both the corner points and the midpoints.

### Lasso Tool

1. Select the lasso icon in the Custom Shapes heading the Source section of the right-hand control panel.
2. Move your cursor over the map and press the left mouse button to set your starting point. Hold the left mouse button down while you draw your lasso around the area you want to define. When you release the left mouse button the shape you are drawing will be completed back to the starting point and a popup window will prompt you to give the universe a name to complete the shape creation. You may change your shape using the same technique described for polygons.

### Circle Tool

1. Select the circle icon in the shapes menu.
2. Move your cursor over the map and press the left mouse button at the point you choose as the center of your circle. Hold down that button and ‘pull’ the edge of your circle outward. You will see the circle grow in size. When you release the left mouse button the circle will be complete and you will see a popup box to give it a name. The circle can be moved and its size can be changed as per the instructions shown above for polygons.
3. In addition, an exact radius for your circle can be set by information into the box appearing beneath your shape’s name in the Custom Shapes branch and then clicking the “Apply” button. Your exact radius can be specified in the box that appears beneath the specified shape in the Custom Shapes branch. After setting the radius, click the “Apply” button to change the radius of the circle.




 My Circle
 001YS 03/04/21 339 

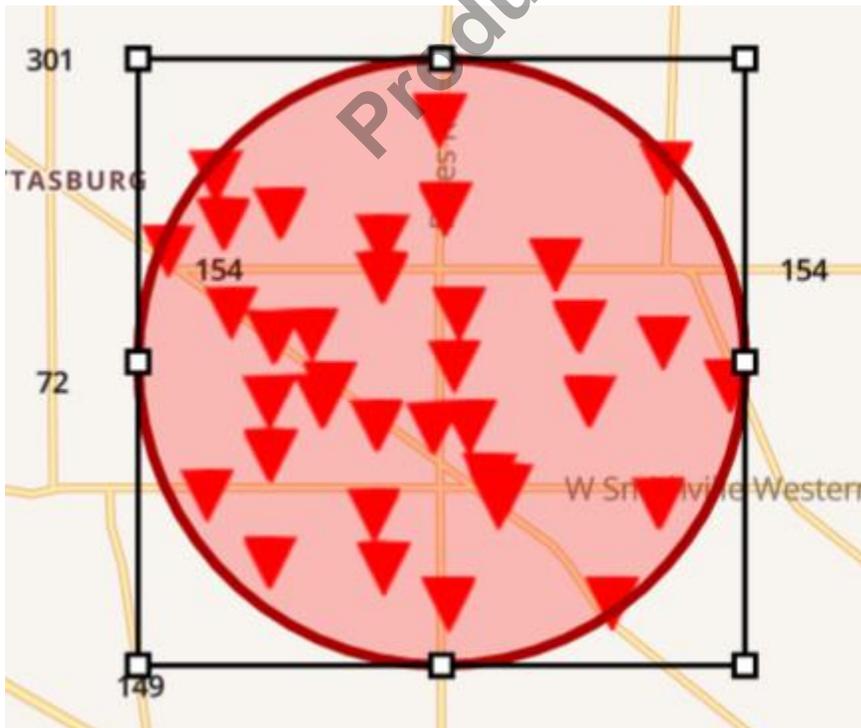
Name	My Circle	<b>APPLY</b>
Radius	7304.07 feet	▼

### Utilizing Custom Shapes to Make Selections

Custom shapes, once created, can be made visible or hidden by clicking on the “eye” icon to the left of the shape’s name. When a shape is visible on the map, clicking on it will activate it, allowing you to move it or change its shape. If you wish to use the custom shape to make a selection of individuals, you must click the funnel icon to the left of the name of the custom shape. This will add the shape as a defining “filtering” selection just like any other branch selection. Notice that the total count of selected individuals appearing at the bottom of the map will now reflect ONLY those individuals found inside the custom shape you have activated. If you wish to view on the map only the individuals inside the custom shape, click the box that appears just above your custom shape name to filter shapes visually.

Filter by Shapes Visually

Once the filter has been activated you may combine your shape selection with any other filter and then create a universe from the combination of those filters. For example, you might select only male Republicans found within your custom shape.



**Warning:** Custom shapes allow you to select all individuals who are found in homes with addresses that fall within the shape. Remember, however, that the latitude/longitude defining the position of each marker on the map may not be accurate despite L2's ongoing efforts to continue to refine them and improve their accuracy. There will be cases where the lat/long (i.e., geocode) calculated for a particular address is wrong and the marker on the map is therefore in the wrong location. This will result in some individuals being selected within your custom shape who actually live elsewhere or individuals who live far away being incorrectly identified as living within the area defined by your custom shape. Geocoding is never 100% accurate so please take care to check your selection in other ways (e.g., by city or zip code) to make sure that these incorrect 'outliers' are excluded from any universe you download and use after having created it using this method.

## Existing Exports

Users can see all existing exports they have created in various formats. Each export is identified as to type by the icon that appears to the left of its name and a key to these icons appears just under the branch name. To download one of these previously-created exports, simply click on the name of the file and the download will begin. Existing exports can also be deleted from your system when no longer needed by clicking on the trash can icon to the right of the existing universe name.

## Filter Records

Filtering or selecting records in DataMapping is as simple as checking a box next to the attribute you wish to use as a filter. Typically, you should start the filtering process by clearing all selections since the system will remember your previous settings from your last session and return the user to those settings. Clearing all selections can be done by

clicking the *“reset”* button  at the top of the side control area and then choosing the option to reset *“all”*. Note that by using the reset button you can also perform limited resets such as returning color schemes to their defaults or collapsing the tree structure. If you have reset all selections, the system will return to the default settings and no filters will be set.

Data that may be the basis for filtering are divided into different category branches such as *“Area Selections”*, *“Individual Demographics”*, *“Household Demographics”* etc. Clicking on one of these branches will cause that branch to expand and reveal subcategory branches nested within. Any branch name preceded by an arrow pointer is

an expandable branch with additional options available. After finding the filter branch you wish to use for selection purposes, check the appropriate box inside that branch or set other controls such as date or other range selections to make your selection. The selection will occur almost instantaneously and be displayed on the map.

If you wish to broaden your selection, a second box within that same branch can be checked. For example, you may have started by selecting all Democrats in a state by checking the box for *“Democratic”* within the *“Political Party”* branch. You may then decide that you want to expand that selection by adding all Independents or members of some minor party. Clicking on a second or third option within the same branch will add the individuals falling into those options. So, if both the *“Democratic”* and the *“Non-Partisan”* selection boxes are checked, you will see the numbers increase and the map change. Note that your selection count for both individuals and households appear at the bottom of the map.

If you wish to narrow your selection, you may do so by selecting any other attribute in a different branch. For example, you may wish to select both Democrats and Non-Partisans but only those who are male. Opening the gender branch and selecting *“M”* for male will instantly cause your selection to shrink as reflected on both the map and the counts appearing at the bottom of the map.

In summary, remember that making selections within a single branch broadens a selection whereas making selections in multiple branches narrows the selection.

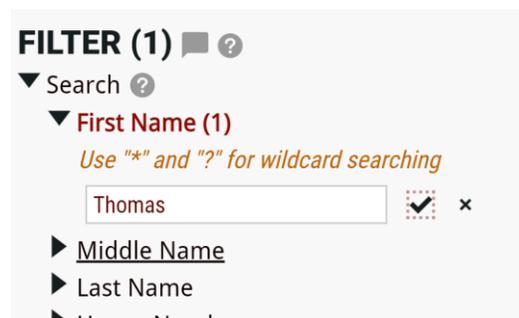
## Search

Use the search functionality to find individuals using a very specific set of criteria.

For example, under *“First Name”* you can enter a full name and click on the *“check”* icon next to the field and a search will immediately begin.

## **Wildcard Searches**

You can also use *“\*”* and *“?”* in the search term in order to find names with certain letter combinations.



- A “\*” inserted in the name will substitute for any combination of letters (zero or more) embedded in the name at that location. For example, selecting the last name “*Thom\*son*” will find all individuals with surnames beginning with “*Thom*” and ending with “*son*”. This would include, for example, “*Thompson*”, “*Thomason*” and “*Thomson*”.
- A “?” will substitute for exactly one character and multiple question marks can be used together. So, for example, “*Thom?son*” would find “*Thompson*” but not “*Thomson*”. “*M??Cleary*” would find “*MacClearly*” but not “*McCleary*”. Similarly, “*Thom?*” would find “*Thoms*” but not “*Thomas*”. “*Thom\**” would find “*Thom*”, “*Thoms*”, “*Thomas*”, “*Thompson*” etc.

### Identifier Searches

Under the “*Identifier*” section there is a dropdown allowing you to search by a specific set of fields including some that are specific to the L2 database with which you are working. The L2 ID, Residence Family ID, Mailing Family ID are all specific L2 identifiers. County/state voter IDs are specific to voter/constituent databases and email addresses are searchable. Remember that searches based on email addresses are limited by the particular email matches available in L2’s database. Many individuals will have multiple email addresses that may not match the one owned by L2.

### Image Composer

This functionality allows users to take a high-resolution screenshot of the map view they are currently using. Click on the camera icon on top of the right-hand menu and the right-hand panel will disappear providing you with a clean visual layout allowing you to capture the map in a screen shot.

The **Image Composer Tool** helps you to create a custom visual layout of your map along with a detailed legend. To capture this image in a file L2 suggests:

### Save as a PDF

#### Windows 10

Users of Microsoft Windows 10 can save a web page to a PDF file easily by choosing **Microsoft Print to PDF** as your printer when printing from your browser. You can also capture an image by pushing the Windows key, shift, S and you can screen grab a portion of the screen and it will save into Microsoft photos.

## Windows 7, 8, 9

Users of older versions of Microsoft Window can have the same functionality of saving a web page to a PDF file by installing the free version of [doPDF](#)

## OS X

Macintosh can save web pages to a PDF file by choosing Save as PDF as their printer.

## Save as an Image

### Chrome, Firefox, Internet Explorer, Opera

An alternative you may consider for these browsers is the [FireShot](#) extension which you can install. The free version allows you to save a browser page as a PDF or PNG image.

## OS X

[Paparazzi](#) is a free utility that you can install to take screenshots of webpages.

## Political Party

Political party registration rules and the availability of those data vary from state-to-state. Most states register their voters along with a choice of political party. In some of those states, voters can initially register as “*unaffiliated*” voters. They are then free to vote in either the next Democratic or Republican primary. Once having made that choice, their party affiliation is then determined by that choice and they are recorded officially as members of one party or the other (see e.g. New Jersey). In some states, voters can vote in primaries and remain officially registered as “*unaffiliated*” but they can only vote on non-partisan ballot issues or races. In other cases, they can choose to vote in one (but not both) of the partisan primaries and both have their choice remain secret and remain unaffiliated. Other states do register voters by party affiliation but do not report that information in their voter file. Finally, some states have a completely open process, allowing voters to choose a partisan primary ballot in one primary election and then the opposing party primary ballot in a later election without ever tracking or providing that information to others (see e.g., Vermont).

Given the wide variety of approaches to the recording of party affiliation in each state, L2 responds in various ways. In some states, such as California, party affiliation is fixed and recorded in the state voter file. In those states, L2 reports the affiliation just as it appears in the state file. In other states where party affiliation does not appear in the state file but the state reports a history of partisan primary participation (e.g., Illinois and Texas), that primary partisanship is used to assign likely party affiliation to each voter who participates. Some states provide this information for every partisan primary. In other states (e.g., Washington State and Michigan) the only time that information is recorded is in the case of participation in presidential primaries. (Note that presidential caucuses are always run by the parties themselves and the information regarding which

voters participate in those caucuses is tightly controlled by each party and treated as a party asset. Access to those files is generally unavailable except to party insiders and approved candidates for whom the party will provide mailing and telemarketing services but who will still not receive the actual lists.)

In cases where party registration is not reported, L2 takes the best available public information to determine likely party affiliation and then supplements that with statistical modeling based on factors such as race, income, education and place of residence. Other information such as political contributions to partisan candidates can also be used and, finally, a very small number of voters in those states who are elected officials can be correctly identified based on published information. The statistical modeling is done for us by academics and it is a modified Bayesian analysis that takes into consideration all of the commercial data points we have available in our files along with known vote percentages for the two candidates in presidential elections county-by-county. This is an iterative process and once a model has been created, an experimental presidential 'election' is run based on the model and the results are compared to the actual results for the most recent presidential election in that county. The model is then adjusted and another experimental election is run in an iterative process that continues to refine the model.

The following is a listing by state of the techniques L2 uses for identifying voters by party.

**Alabama:** provides no party-related information in its state voter file and L2's assignment of party affiliation is based entirely on analytics and the use of commercial data plus a limited amount of information from partisan political contributions and status as a partisan elected official. Race is self-reported in the state and plays a major role in party modeling.

**Alaska:** voters register by party and that choice is reported in the state voter file.

**Arizona:** voters register by party and that choice is reported in the state voter file.

**Arkansas:** voters register by party and that choice is reported in the state voter file.

**California:** voters register by party and that choice is reported in the state voter file.

**Colorado:** voters register by party and that choice is reported in the state voter file.

**Connecticut:** voters register by party and that choice is reported in the state voter file.

**Delaware:** voters register by party and that choice is reported in the state voter file.

**District of Columbia:** voters register by party and that choice is reported in the state voter file.

**Florida:** voters register by party and that choice is reported in the state voter file.

**Georgia:** voters do not register by party. However, when those voters participate in a partisan primary, that ballot choice is recorded and reported on the state voter file. In the absence of stronger indications (e.g., partisan political contributions or identification due to the holding of partisan public office) the most recent partisan primary ballot is

used. This information is supplemented through the use of modeling analytics. Self-reported race plays a major role in that modeling.

**Hawaii:** provides no party-related information in its state voter file and L2's assignment of party affiliation is based entirely on analytics and the use of commercial data plus a limited amount of information from partisan political contributions and status as a partisan elected official.

**Idaho:** voters register by party and that choice is reported in the state voter file.

**Illinois:** voters do not register by party. However, when those voters participate in a partisan primary, that ballot choice is recorded and reported on the state voter file. In the absence of stronger indications (e.g., partisan political contributions or identification due to the holding of partisan public office) the most recent even-year partisan primary ballot is used. In the absence of any even year partisan primary participation, the most recent odd-year local partisan primary is used. This information is supplemented through the use of modeling analytics. Likely race in major urban areas plays a major role in that modeling.

**Indiana:** voters do not register by party. However, when those voters participate in a partisan primary, that ballot choice is recorded and reported on the state voter file. In the absence of stronger indications (e.g., partisan political contributions or identification due to the holding of partisan public office) the most recent even-year partisan primary ballot is used. In the absence of any even year partisan primary participation, the most recent odd-year local partisan primary is used. This information is supplemented through the use of modeling analytics. Likely race in major urban areas plays a major role in that modeling.

**Iowa:** voters register by party and that choice is reported in the state voter file.

**Kansas:** voters register by party and that choice is reported in the state voter file.

**Kentucky:** voters register by party and that choice is reported in the state voter file.

**Louisiana:** voters register by party and that choice is reported in the state voter file.

**Maine:** voters register by party and that choice is reported in the state voter file.

**Maryland:** voters register by party and that choice is reported in the state voter file.

**Massachusetts:** voters register by party and that choice is reported in the state voter file.

**Michigan:** voters do not register by party. However, when those voters participate in a partisan presidential primary, that ballot choice is recorded and reported on the state voter file. In the absence of stronger indications (e.g., partisan political contributions or identification due to the holding of partisan public office) the most recent presidential primary ballot is used. This information is supplemented through the use of modeling analytics. Likely race in major urban areas plays a major role in that modeling.

**Minnesota:** provides no party-related information in its state voter file and L2's assignment of party affiliation is based entirely on analytics and the use of commercial data plus a limited amount of information from partisan political contributions and status as a partisan elected official.

**Mississippi:** voters do not register by party. However, when those voters participate in a partisan primary, that ballot choice is recorded and reported on the state voter file. In the absence of stronger indications (e.g., partisan political contributions or identification due to the holding of partisan public office) the most recent even-year partisan primary ballot is used. In the absence of any even year partisan primary participation, the most

recent odd-year local partisan primary is used. This information is supplemented through the use of modeling analytics. Self-reported race plays a major role in that modeling.

**Missouri:** provides no party-related information in its state voter file and L2's assignment of party affiliation is based entirely on analytics and the use of commercial data plus a limited amount of information from partisan political contributions and status as a partisan elected official.

**Montana:** provides no party-related information in its state voter file and L2's assignment of party affiliation is based entirely on analytics and the use of commercial data plus a limited amount of information from partisan political contributions and status as a partisan elected official.

**Nebraska:** voters register by party and that choice is reported in the state voter file.

**Nevada:** voters register by party and that choice is reported in the state voter file.

**New Hampshire:** voters register by party and that choice is reported in the state voter file.

**New Jersey:** voters register by party and that choice is reported in the state voter file.

**New Mexico:** voters register by party and that choice is reported in the state voter file.

**New York:** voters register by party and that choice is reported in the state voter file.

**North Carolina:** voters register by party and that choice is reported in the state voter file.

**North Dakota:** provides no party-related information in its state voter file and L2's assignment of party affiliation is based entirely on analytics and the use of commercial data plus a limited amount of information from partisan political contributions and status as a partisan elected official.

**Ohio:** voters do not register by party. The state supplies a party affiliation field in its file but does so based on a partisan-primary rule that it applies to the file. The rule is simply to identify parties based on the most recent partisan primary participation. Unfortunately, the state does not apply its own rule correctly. L2 utilizes the actual partisan primary choices to correct the mistakes in the state coding. This technique is then supplemented through the use of modeling analytics. Likely race in major urban areas plays a major role in that supplementary modeling.

**Oklahoma:** voters register by party and that choice is reported in the state voter file.

**Oregon:** voters register by party and that choice is reported in the state voter file.

**Pennsylvania:** voters register by party and that choice is reported in the state voter file.

**Rhode Island:** voters register by party and that choice is reported in the state voter file.

**South Carolina:** voters do not register by party. However, when those voters participate in a partisan primary, that ballot choice is recorded and reported on the state voter file. In the absence of stronger indications (e.g., partisan political contributions or identification due to the holding of partisan public office) the most recent even-year partisan primary ballot is used. In the absence of any even year partisan primary participation, the most recent odd-year local partisan primary is used. This information is supplemented through the use of modeling analytics. Likely race in major urban areas plays a major role in that modeling. South Carolina also has a large number of partisan local primaries which are so identified and which are used for party assignment.

**South Dakota:** voters register by party and that choice is reported in the state voter file.

**Tennessee:** voters do not register by party. However, when those voters participate in a partisan primary, that ballot choice is recorded and reported on the state voter file. In the absence of stronger indications (e.g., partisan political contributions or identification due to the holding of partisan public office) the most recent even-year partisan primary ballot is used. In the absence of any even-year partisan primary participation, the most recent odd-year local partisan primary is used. This information is supplemented through the use of modeling analytics. Likely race in major urban areas plays a major role in that modeling.

**Texas:** voters do not register by party. However, when those voters participate in a partisan primary, that ballot choice is recorded and reported on the state voter file. In the absence of stronger indications (e.g., partisan political contributions or identification due to the holding of partisan public office) the most recent even-year partisan primary ballot is used. Texas reports participation in presidential preference primaries in which large percentages vote, particularly in the Republican races. In the absence of any even-year partisan primary participation, the most recent odd-year local partisan primary is used. This information is supplemented through the use of modeling analytics. Likely race in major urban areas plays a major role in that modeling.

**Utah:** voters register by party and that choice is reported in the state voter file.

**Vermont:** provides no party-related information in its state voter file and L2's assignment of party affiliation is based entirely on analytics and the use of commercial data plus a limited amount of information from partisan political contributions and status as a partisan elected official.

**Virginia:** voters do not register by party. However, when those voters participate in a partisan primary, that ballot choice is recorded and reported on the state voter file. In the absence of stronger indications (e.g., partisan political contributions or identification due to the holding of partisan public office) the most recent primary ballot is used. This information is supplemented through the use of modeling analytics.

Self-reported race plays a major role in that modeling. Virginia has high participation rates in both even and odd-year partisan primaries.

**Washington:** voters do not register by party. However, when those voters participate in a partisan presidential primary, that ballot choice is recorded and reported on the state voter file. That information is not found in the state voter file and must be gathered at the county level within a few months following each presidential primary before it is purged by the counties. In the absence of stronger indications (e.g., partisan political contributions or identification due to the holding of partisan public office) the most recent presidential primary ballot is used. This information is supplemented through the use of modeling analytics. Likely race in major urban areas plays a major role in that modeling.

**West Virginia:** voters register by party and that choice is reported in the state voter file.

**Wisconsin:** provides no party-related information in its state voter file and L2's assignment of party affiliation is based entirely on analytics and the use of commercial data plus a limited amount of information from partisan political contributions and status as a partisan elected official.

**Wyoming:** voters register by party and that choice is reported in the state voter file.

## Area Selections

Depending on the data set with which you're working, the area selections vary although some remain standard across voter/consumer/auto/constituent databases. Note that in the branch structure of the system, clicking on a sub-branch will open branches beneath it. As the tree expands, some information may be difficult to see on the right side. If that is the case, pull the edge of the side panel to the left to expand it and reveal more of the tree structure.

Some of the most widely seen area selections include:

- **Federal and State Districts:** This menu will include all of the current United States Congressional Districts, State Senate Districts, State House Districts, State Legislative Districts. Also included will be the *"old"* districts showing the most recent previous areas.
- **County:** Counties are selectable and within those branches you will find *"County Commissioner Districts"* and *"Precinct/Voting Districts"*.
- **Zip Code:** All zip codes are selectable.
- **Municipality:** This branch will vary greatly depending on the state and will include information for *"City"*, *"Town District"*, *"Village/Hamlet"* and *"Borough"* among others. In many applications there will also be some jurisdictions including City Council, City Ward and Aldermanic districts found within the particular municipal branch.
- **Miscellaneous Districts:** This branch includes all minor districts and varies greatly from state-to-state. Examples include school districts, judicial districts and water districts.

## Contributions

These data are broken into two separate categories including the commercially available donor information and data from the Federal Election Commission (FEC).

The commercially-available donor data are available as a flag for individuals living in households of at least one donor for each category listed. The data are household-based and do not necessarily identify individuals who have these donation patterns. Data is updated on a quarterly basis and while there is no way to identify an exact year or amount given, we know a donation(s) has occurred in the past 24 months and in almost all cases requires more than one household contribution in that time to remain as flagged as a donor.

The Federal Election commission data comes directly from the Federal Election Commission (FEC) and are individual data, not household-level data. This data is for analysis purposes only. FEC rules prohibit use of this data for fundraising. Users of this data acknowledge the limitations and restrictions.

**IMPORTANT NOTE:** When using any of the FEC selections remember to deselect “unknowns”

- **Number of Donations:** Set a specific numerical value for the number of contributions given by an individual.
- **Total Donations Amount:** Set a specific dollar amount range for total contributions from an individual.
- **Last Donation Date:** Set a specific date range for when an individual last donated.
- **Average Donation:** Set a specific dollar amount range for the average contribution size from an individual.
- **Average Donation Range:** Select from a preset dollar amount range based on the average contribution amount.
- **Federal Donor Ideology:** Select FEC donors based on political ideology including conservative, liberal, other and unknown.
- **Primary Recipients of Contributions:** This is an extensive list of all of the Federal candidates and organizations that were the primary recipients of contributions. Primary recipient is defined based on the highest dollar value aggregate contribution given by the individual. For example, if someone donates \$50 to “Candidate A” and \$500 to “Organization B”, “Organization B” would be the “primary recipient”.

## **Election Results**

These selections make it possible for users to look at specific election results data based on percentage turnout on the county and precinct level. In the example below we are looking at the 2018 midterm results by County based on overall voter turnout. The selections made are for those counties where voter turnout was 61% or higher. In order to see the specific counties that match these selections, simply go up to “**Area Selections > County**”.

Contributions

- ▼ Election Results (1)
  - ▼ 2018 Midterm County Results (1)
    - ▼ General Election (1)
      - ▼ Registered Voters % Turnout (1)
 

<input type="checkbox"/>	50%	0	0%
<input type="checkbox"/>	52%	0	0%
<input type="checkbox"/>	55%	0	0%
<input type="checkbox"/>	56%	0	0%
<input type="checkbox"/>	58%	0	0%
<input type="checkbox"/>	59%	0	0%
<input checked="" type="checkbox"/>	61%	456,839	20.407%
<input checked="" type="checkbox"/>	62%	785,110	35.070%
<input checked="" type="checkbox"/>	64%	317,960	14.203%
<input checked="" type="checkbox"/>	65%	226,347	10.111%
<input checked="" type="checkbox"/>	66%	354,984	15.857%
<input checked="" type="checkbox"/>	69%	97,442	4.353%

        - ▶ Democrats % Turnout
        - ▶ Republicans % Turnout
        - ▶ Independents and Others % Turnout
        - ▶ Primary Election
        - ▶ 2018 Midterm Precinct Results
        - ▶ 2016 Presidential County Results
        - ▶ 2016 Presidential Precinct Results

## Ethnicity

Ethnic analysis is a complex art relying on our in-house databases of both surnames and given names. Our surname table currently contains nearly 300,000 unique surnames while our given name table numbers approximately 10,000. Each of these tables continues to be supplemented and refined over time. Our analysis begins with a close look at the given name. A great many given names have strong ethnic affiliations and can provide clues to ethnicity even when, as in the case of marriage or adoption, surnames might have changed. Following an analysis of the given name we check to see if the surname finds a match in our tables.

Finally, the combination of the given and surnames is analyzed to check for the 'overlap groups', that is, those ethnic groups that tend to share common surnames. After taking these three analyses into consideration a final 'best guess' as to ethnicity is determined and assigned.

### **African American Coding**

The assignment of African- American identification is more complex and problematic. In some states, African American ethnicity is self-reported and certain. In all other states, a complex name and census analysis is conducted to produce a 'best guess' as to whether the individual in question is African-American.

## Hobbies and Interests Found in Household

L2's national consumer file is built from multiple commercially available credit bureau sources with a large amount of the data coming from individual and household known purchase history, self-reported survey information, and online registrations. The largest percentages of our household hobby and interest data come from credit and debit card purchase history data.

The data collected is available as a flag for individuals living in households for each category listed. Data is updated on a quarterly basis and while there is no way to identify an exact year, number of purchases or amount spent, we know those transactions occurred in the past 24 months. Remember that these are household rather than individual characterizations. For example, selecting all individuals in all households that show an interest in "*smoking*" does not mean that every individual in that household smokes.

## Marital Status

Marital status is a modeled field calculated from the genders, ages and numbers of individuals within a household based on available data. "*Non-traditional*" Refers to individuals who are likely married but do not share the same last name.

## Media Targeting

Specific media areas include:

- **Designated Market Areas (DMA):** DMA areas come from Nielsen and define broadcast market areas.
- **Ampersand Calculated Areas and Ampersand Outer Areas:** Are a proprietary set of boundary data provided by cable companies themselves and aggregated by Ampersand Media.

Ampersand (formerly NCC) is a data-driven TV advertising sales and technology company. & Reaches 85 million households, providing viewership insights and planning on 40 million households in every DMA, across more than 150 networks in all dayparts. For more information and assistance using the Ampersand zones please contact Tim Kay at [Tim.Kay@ampersand.tv](mailto:Tim.Kay@ampersand.tv) or call 301-941-1643