



CHARGED³ Geospatial Environmental Scan[®]

USER GUIDE

A GEOGRAPHIC EXPLORATION
OF HEALTH RESOURCES FOR SC CHILDREN
AGES BIRTH-5

Developed by the
Institute for Families in Society
University of South Carolina
through a grant provided by the
Duke Endowment

November 2019



**Institute for Families
in Society**

*Improving Policy. Advancing Practice.
Strengthening Communities and Family Well-Being.*

CHARGED³ 
Children's Health & Resource Geographic
Exploration for Data-Driven Decisions

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USER GUIDE

University of South Carolina
Institute for Families in Society

November 2019

This user guide is a companion to the CHARGED³ Geospatial Environmental Scan[®]. This guide is designed to help users locate and use the different components of the Scan[®] and explore its interactive map layers.

The CHARGED³ Geospatial Environmental Scan[®]
was developed through a grant provided by the Duke Endowment.

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GETTING STARTED SUCCESSFULLY



1. Be sure that you have a current version of Adobe® Reader (a free download) installed on your computer. **You must have it to view the interactive maps** contained in the Scan®. The screenshots in this guide were made using Adobe® Acrobat Reader DC®, Continuous Release, Version 2019.012.20034 and Adobe® Acrobat Reader X, Version 10.0.0. Depending on the specific Adobe® product and version you are using, the Acrobat interface may look slightly different from the ones pictured, but the functions described are the same.



2. View the Scan® on a Windows® or Macintosh™ desktop or laptop, **NOT** a mobile device such as a tablet or smart phone.



3. Do **not** run the Scan® from a flash drive. If you open it in a web browser, please download and save the Scan® file to your computer, right-click on the downloaded file and open it using Adobe® Reader.



How the Adobe® interface looks in this guide may not exactly match what you see on your computer. Your view will depend on the specific Adobe® product or version of Adobe® Reader you are using.

Please contact your IT support if you have any technical issues viewing the Scan®.

NAVIGATING THE PDF

This section provides basic information you will need to know about Adobe® Reader in order to optimize your viewing of the Scan®.

Sizing, Zooming, and Panning the PDF

For the best view of the Scan®, use the maximum window size of Adobe® Reader (Figure 1), and click the “fit full page to window” icon (Figures 2a, 2b) to see the whole cover page. To zoom in or out of specific areas of the maps or tables, use the “-” or “+” icons (Figures 2a, 2b) found on the Adobe® Reader tool bar, or specify the zoom level (Figures 2a, 2b).

Zoomed in, you can use the “hand” tool (Figures 2a, 2b) to move around the map or table.

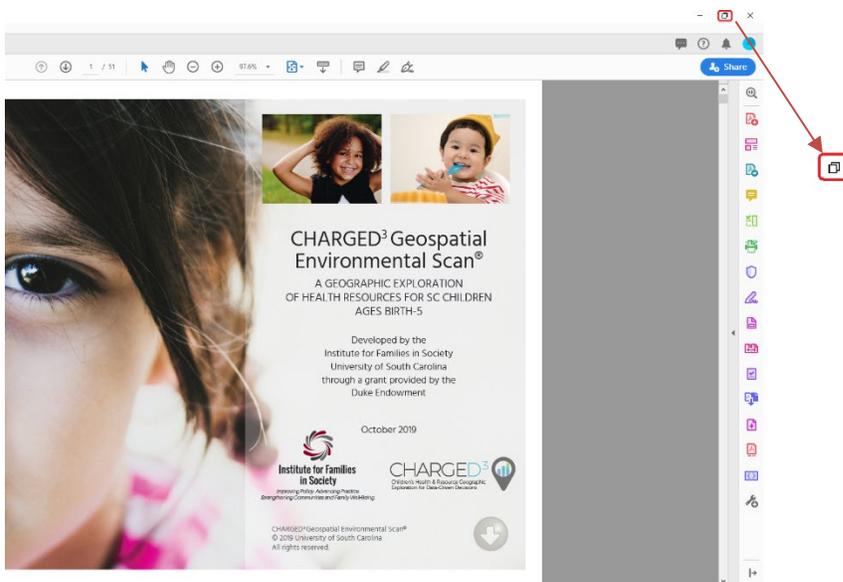


Figure 1: Maximize window size

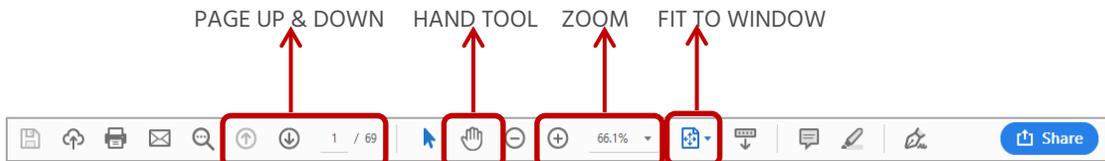


Figure 2a: Adobe® Reader DC tool bar (page up and down, hand, zoom, fit window)

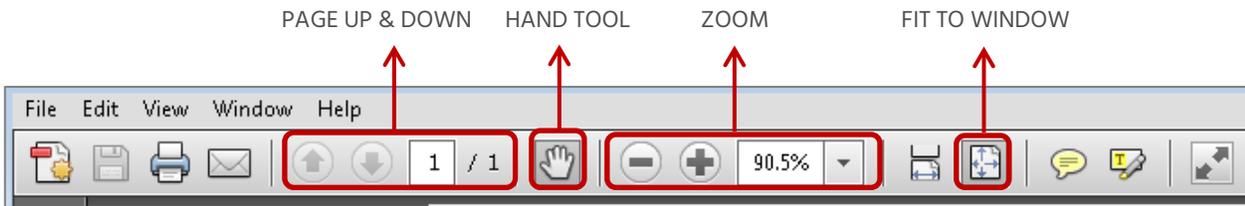
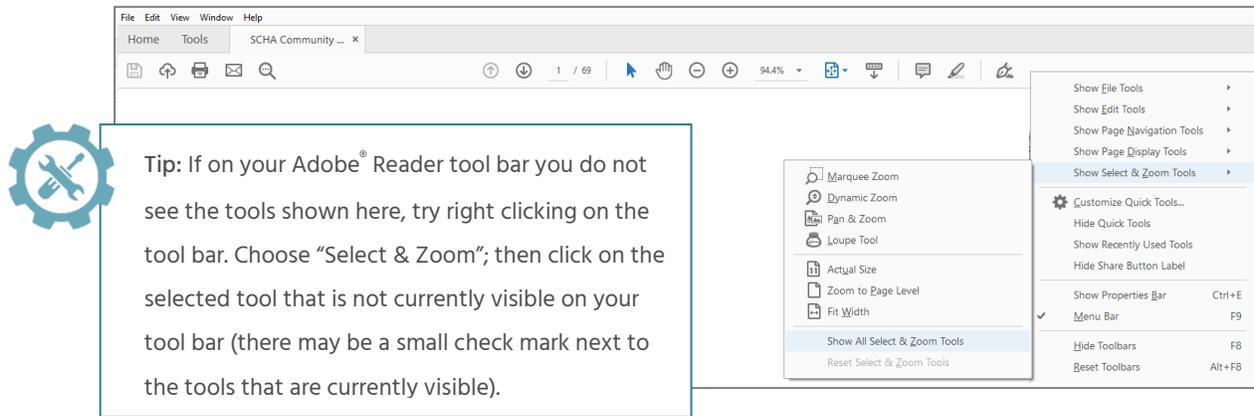


Figure 2b: Adobe® Reader X tool bar (page up and down, hand, zoom, fit window)



If the right-hand menu bar shown below is visible, you can click on the small arrowhead in the middle of the page next to the scroll bar to hide it (Figure 3).

Small arrowhead used to minimize right-hand menu bar

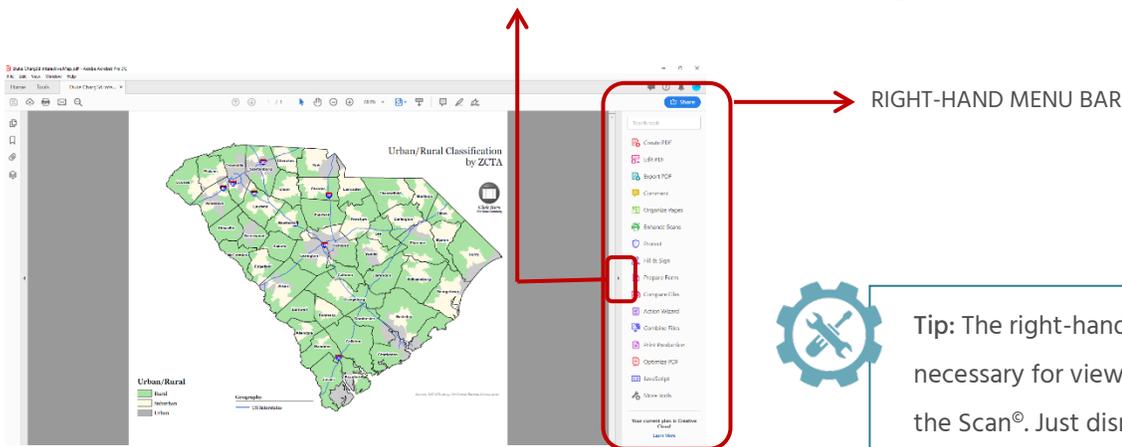


Figure 3: Minimizing the right-hand Menu bar

Moving from Page to Page

You can move from page to page within the Scan® exactly as you would any other PDF document.

To move through it, you can:

- use the Acrobat arrow tools to review the pages one-by-one (Figure 4);
- directly enter the page number you want to access (Figure 4);
- use the scroll bar to move the pages up and down (Figure 5);
- use the up and down arrows on your keyboard; or
- use your mouse wheel.

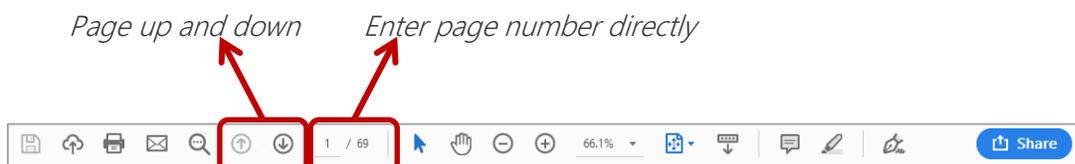


Figure 4: Adobe® Reader tool bar (page up and down and enter page number)

Using Hyperlinks in the PDF

You can also navigate using hyperlinks built into the Scan®.

- The button on the cover page takes you to the Table of Contents (Figure 5).

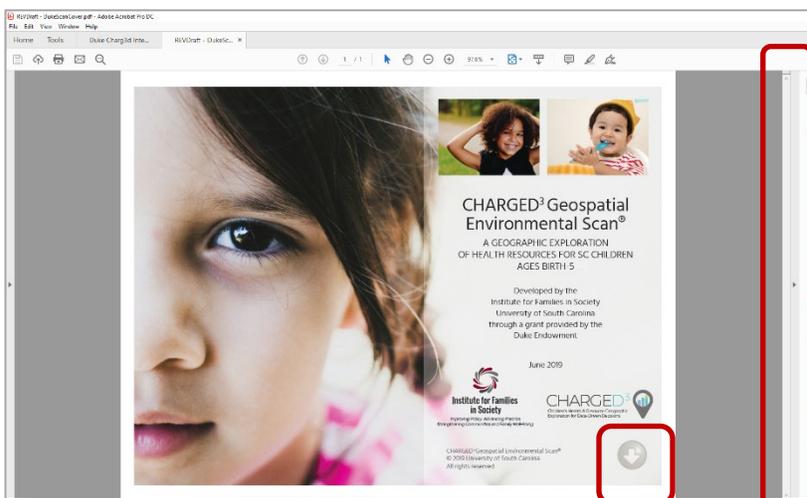


Figure 5: Cover page button and page scroll bar

- Each entry in the Table of Contents is a hyperlink that will take you directly to the referenced page.
- In the footer of every page, the Institute for Families in Society (IFS) logo (Figure 6) will take you back to the Table of Contents.

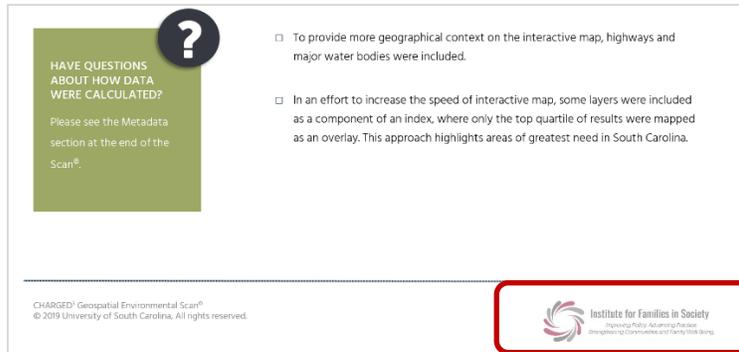


Figure 6: IFS logo

REVIEWING THE INTRODUCTORY PAGES

The Introductory Pages are an important source of information that you should review before using the Scan®. They include important details about the data usage and restrictions, details on what an environmental scan is and why it is useful, features within the Scan®, and information about the data used.

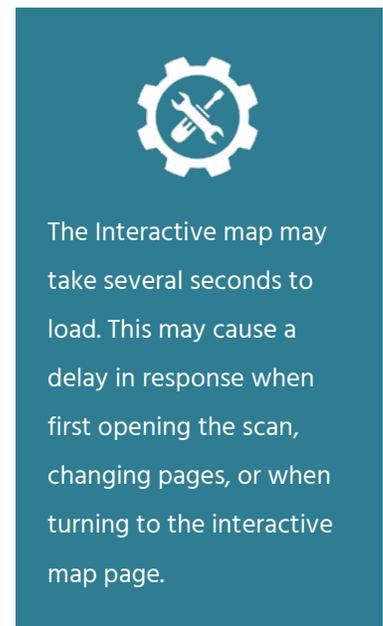
USING THE INTERACTIVE MAP

The SC map in the CHARGED³ Geospatial Environmental Scan® is interactive, allowing you to show or hide different information, depending on which layers you select. Because there is so much interactive content available for you to use, you may notice a delay in response when the Scan® PDF is first opened and loading.

The following sections walk you through how to use the map layers. To start, you need to make sure that the Layers panel is visible.

Opening the Layers Panel

The Layers panel is used to build the maps and add views of different point features and overlays. When opening the Scan®, what you see on the left will depend on your specific computer's settings. On the left, you may already see the Layers panel as shown here.



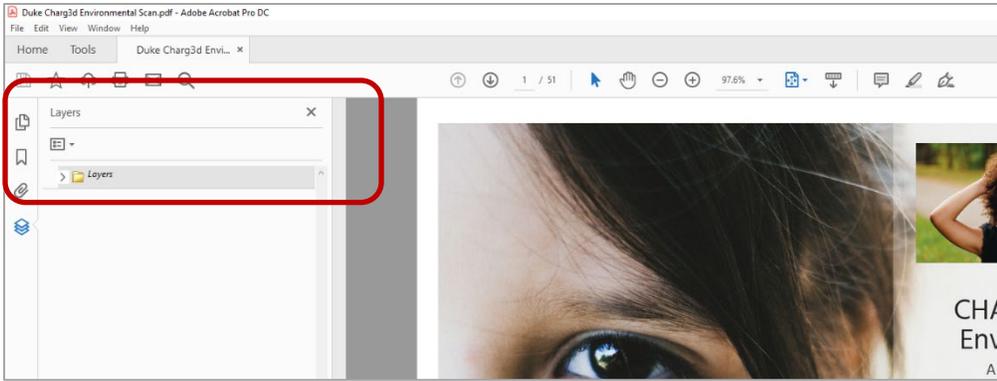


Figure 7: Default view with the “Layers” panel open

If the Layers panel is not visible, click the “View” menu item and put the cursor on “Show/Hide,” then “Navigation Panes,” and click Layers (Figure 8).

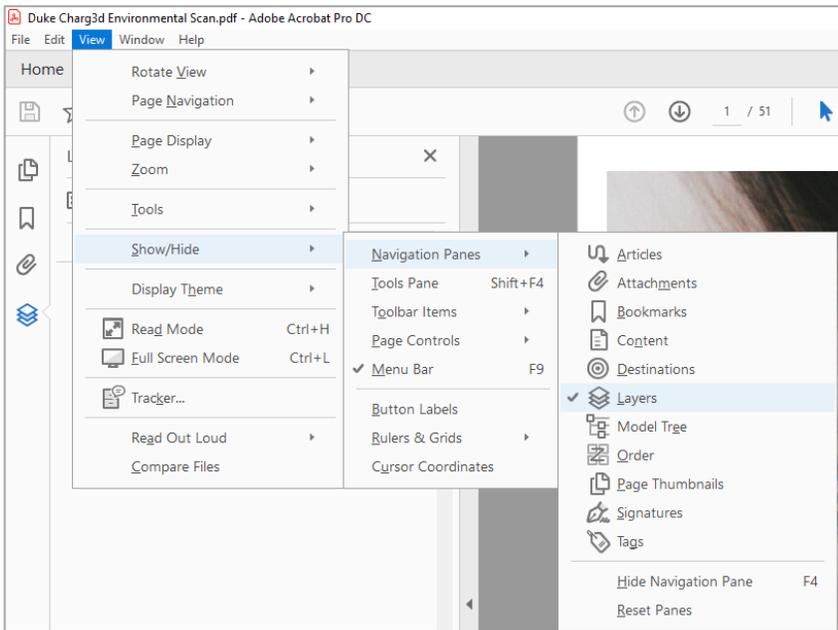


Figure 8: Show “Layers” panel



Tip: You will NOT be able to use the interactive features of the map without the Layers panel.

Please review Figures 7, 8, & 9 for help finding this panel. If this does not help, please contact your IT support for technical assistance.

If you have this view of the Navigation Pane (Figure 9), click the Layers Icon to open the Layers panel.

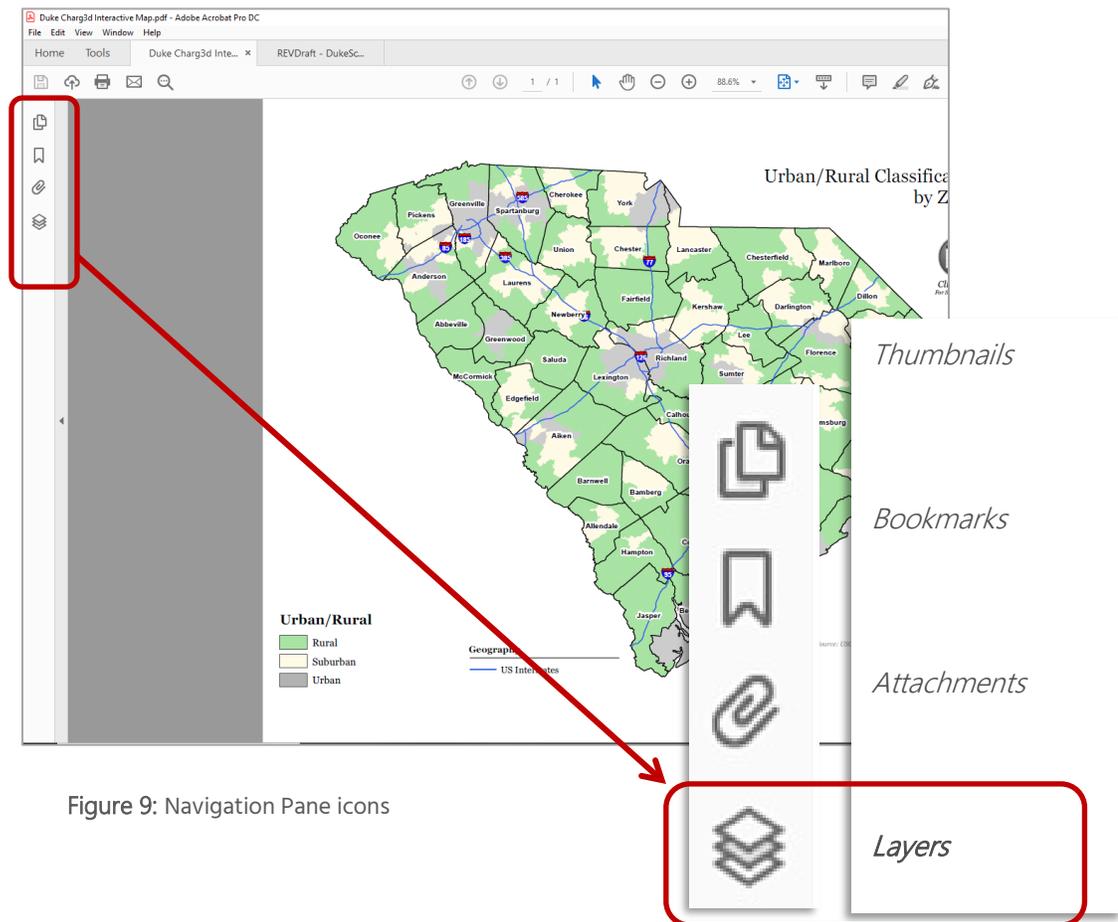


Figure 9: Navigation Pane icons

Tip: If you do not see the “Layers” icon or panel using the steps in Figures 8 & 9, check to make sure that you:

- have **not** opened this document inside of a web browser (e.g. Internet Explorer, Mozilla, Chrome, etc.);
- have saved this document to your computer; and/or
- have right-clicked on the saved copy of this file on your computer and chosen “Open with”>“Adobe® Reader.”



If you have done everything above and still do not see the “Layers” icon or panel, please contact your IT support for further technical assistance.

Expanding All Map Layers

Expanding all of the map layers allows you to see the data options available for mapping. To expand them, click the “Layer Options” button on the upper left of the Layers panel and then select “Expand All” (Figure 10). This will display the titles of all the layers inside the Layers panel. You can also click the plus (+) or minus (-) icons to the left of each folder in the Layers panel to expand or collapse any layer groupings. Due to the large number of layers and groupings in the map, you will need to scroll down (using the scroll bar to the right of the layers list) to see all of the available layers (Figure 11).

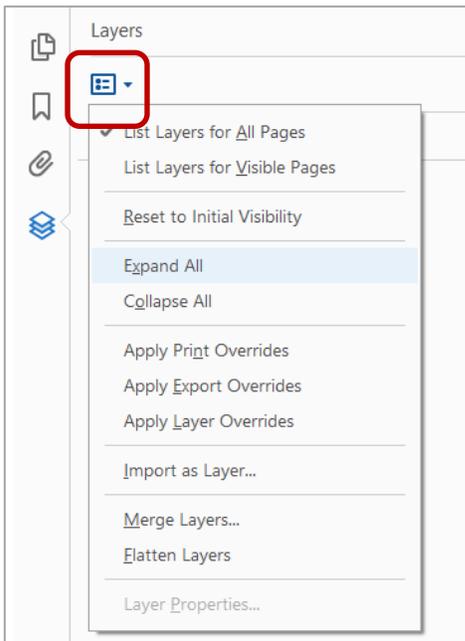
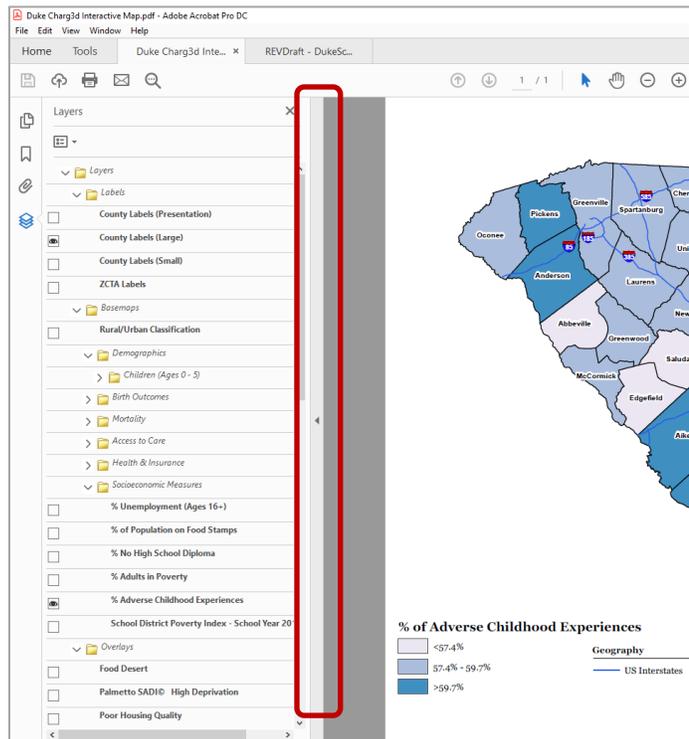


Figure 10: Using the “Layers Options” button and “Expand All”

Figure 11: Layers scroll bar



Using the Statewide Summary Button

On the interactive map, you can click on the table icon in the upper right-hand corner (Figure 12) to view the map-specific Statewide Summary Table. This table provides total counts and percentages/rates for South Carolina as a whole and for urban/suburban/rural areas. In turn, each measure on the Statewide Summary Table, when clicked, will take you back the interactive map, which then will display the specified measure.

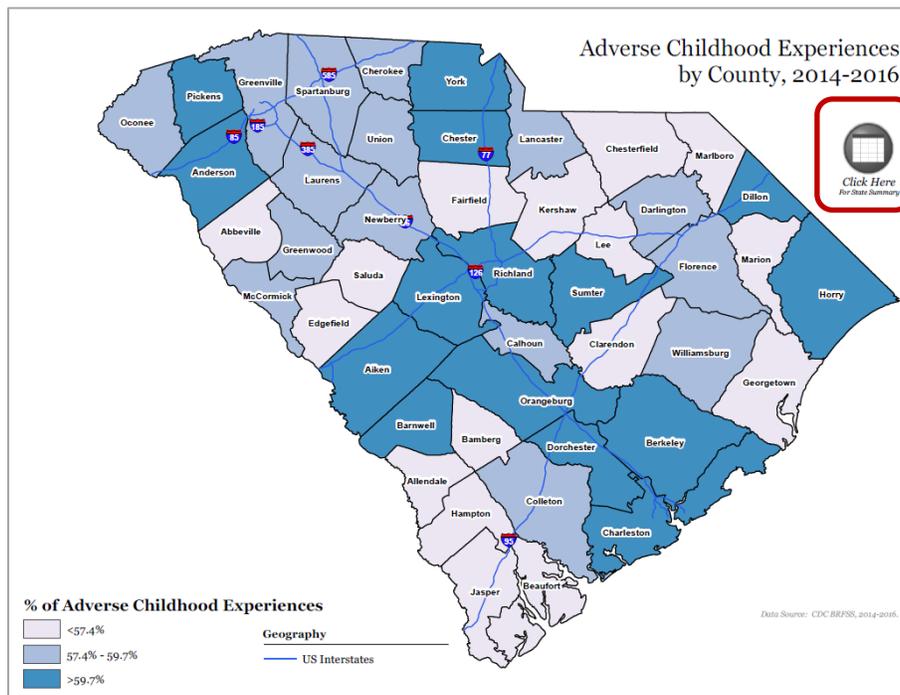


Figure 12: Statewide Summary Table Button in Interactive Map

Using the Map Layers

The default view of the expanded Layers panel in the map shows you that the following layers and map elements are visible (as indicated by the eye symbol) (Figure 13) (listed by order of appearance): “County Labels (Large)” (in the “Labels” folder), “% Adverse Childhood Experiences” (in the “Socioeconomic Measures” folder under “Basemaps”), and “County Boundaries” (in the “Boundaries” folder).

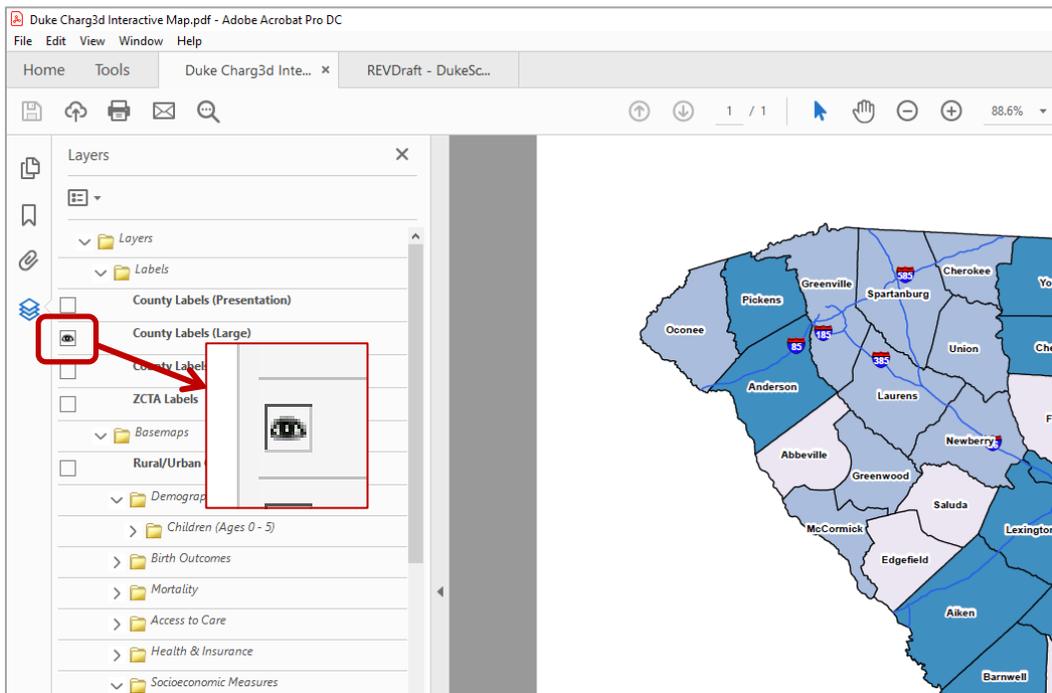


Figure 13: Visible layers (eye symbol)

With the Layers panel visible, you can click each layer’s eye symbol (to the left of the layer name) to turn it on or off. Click the plus (+) or minus (-) icons left of each folder to expand or collapse any layer groupings.

Dynamic Map Legend Elements

The map legend is dynamic and driven by the layers you turn on in the Layers panel. If you don’t see it in the legend, then it has not been selected as a visible layer.

Choosing Map Layers

How do you know which layers to choose? Which layers can be viewed simultaneously? Here are a few pointers to help you build useful maps.

Build From the Bottom Up

It is recommended that you build your map from the bottom up and limit your concurrent selections so that the map is easier to understand. *What do we mean by “building your map?”* It means that you can generate maps that display various data by selecting different elements from the Layers panel. See Figure 14 for a complete list of options available within these four groups of map data: **Basemaps, Overlays, Point Features, and Map Labels & Boundaries**. The following sections describe each of these groups in more detail.



Did You Know?

Basemaps include notes on statewide total populations, rates, and caveats specific to each measure. See the bottom right corner of the interactive map for each measure you select.

Basemaps

Basemaps are the foundation of the map you will build. Because each basemap fills the SC counties with solid colors, **only one basemap can be viewed at a time**. Basemaps are found in the Layers panel in the “Basemaps” folder. Within the “Basemaps” folder are different subfolders with basemaps grouped by data type. These subfolders include Demographics, Birth Outcomes, Mortality, Access to Care, Health & Insurance, and Socioeconomic Measures (Figure 15).

<ul style="list-style-type: none"> ▼ Basemaps <ul style="list-style-type: none"> Rural/Urban Classification ▼ Demographics <ul style="list-style-type: none"> ▼ Children (Ages 0 - 5) <ul style="list-style-type: none"> Black (Non-Hispanic) White (Non-Hispanic) Hispanic ▼ Birth Outcomes <ul style="list-style-type: none"> Low Birthweight Births to Mothers Age 15 - 19 ▼ Mortality <ul style="list-style-type: none"> Infant Mortality Child Mortality (Ages 1 - 5) ▼ Access to Care <ul style="list-style-type: none"> Provider to Child Ratio - Primary Care Provider to Child Ratio - Psychiatrists Drive Time (Minutes) to Nearest PCP 	<ul style="list-style-type: none"> ▼ Health Professional Shortage Areas <ul style="list-style-type: none"> Dental HPSAs Primary HPSAs Mental HPSAs Vehicles per 100 Persons in Occupied Households ▼ Health & Insurance <ul style="list-style-type: none"> % Uninsured % Public Insurance % Children (Ages 0 - 4) with Disabilities ▼ Socioeconomic Measures <ul style="list-style-type: none"> % Unemployment (Ages 16+) % of Population on Food Stamps % No High School Diploma % Adults in Poverty % Adverse Childhood Experiences School District Poverty Index - School Year 2017-18
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Figure 15:
Basemap subfolders and their contents

Figure 14

AVAILABLE MAP DATA





Did You Know?

ZIP Code Tabulation Areas (ZCTAs) are approximate area representations of U.S. Postal Service (USPS) five-digit ZIP Code service areas used by the Census Bureau to present statistical data from censuses and surveys (See Metadata for more details).

Each basemap you select will change the title, footnotes, and basemap legend (bottom left of map layout on the interactive map). If you select more than one basemap at the same time, only the top-most basemap in the Layers panel and its corresponding title and legend elements will be visible (Figure 16). You will see in Figure 17 that even though there are two basemaps selected, only the one closer to the top of the layers list is visible on the map.

Note that this basemap-specific symbolization is different from the overlays in the next section that you can turn off and on.

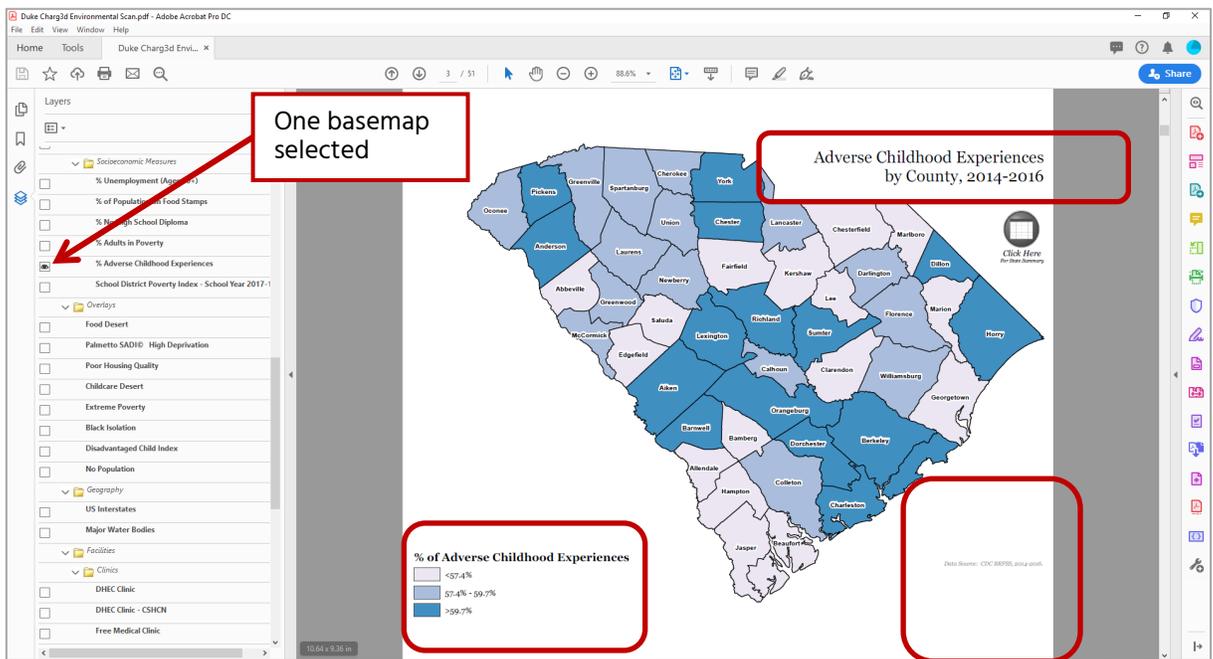


Figure 16: One basemap selected with corresponding title, footnotes, and basemap legend (bottom left of map layout)

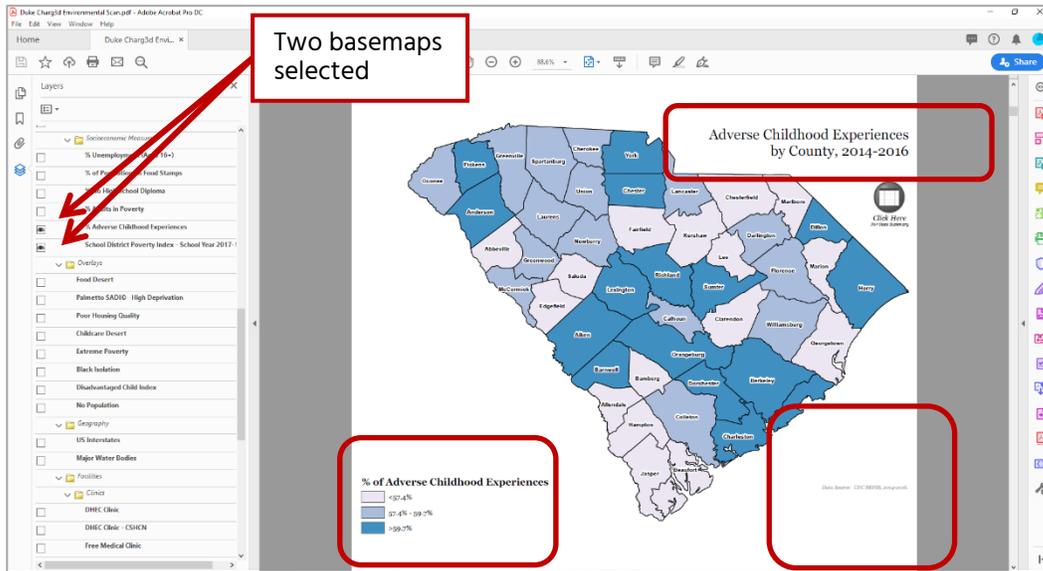


Figure 17: Two basemaps selected – only the topmost selection is visible

Overlays

Overlays can be viewed at the same time as basemaps. They will show up as stippled dots, stippled squares, or lines on top of the selected basemap (Figure 18). The size, shape, and color differences in the stipple patterns, as well as the direction the lines are drawn, indicate a different overlay measure. Please refer to the legend in order to identify each overlay by its designated pattern (some similar types of overlays use the same pattern).

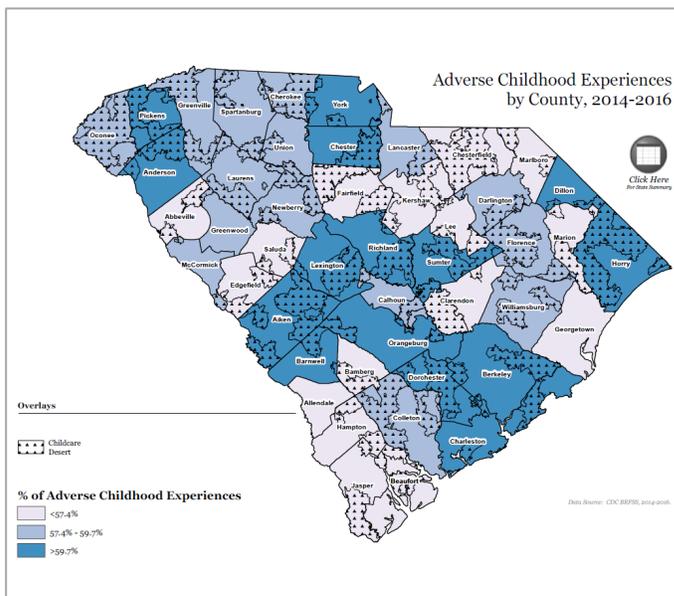


Figure 18: Overlay example

All of the available overlays are found in the “Overlays” folder (Figure 19). You can turn on multiple overlays as desired, but note that the more you turn on, the harder it becomes to see each overlay’s distinct pattern. On the other hand, if the distinct pattern of each overlay is not as important as whether a local area of interest is in any of these areas, then you may find it useful to have multiple overlays visible at the same time.

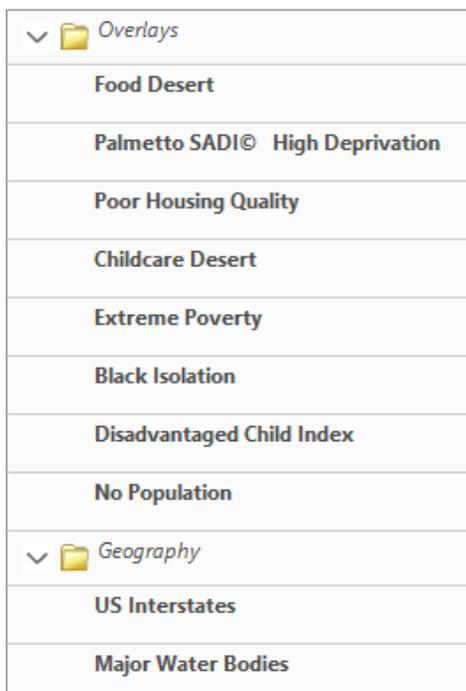


Figure 19: Overlay folders in the interactive map

Point Features

Point Features in this map show geographic locations for facilities of interest or provider counts by county. Point features come in different colors and shapes such as circles, stars, and squares. Point features can be viewed on top of basemaps and at the same time as overlays (Figure 20). They can be found in the “Facilities” folder in the Layers panel (Figure 21) in the following subfolders: Clinics, Early Childhood Programs & Agencies, Behavioral & Mental Health, and Providers & Hospitals.

Viewing all point features at the same time will cause some points to be hidden underneath others. This can make the map hard to interpret. Limit your selections so that the map is easier to understand.

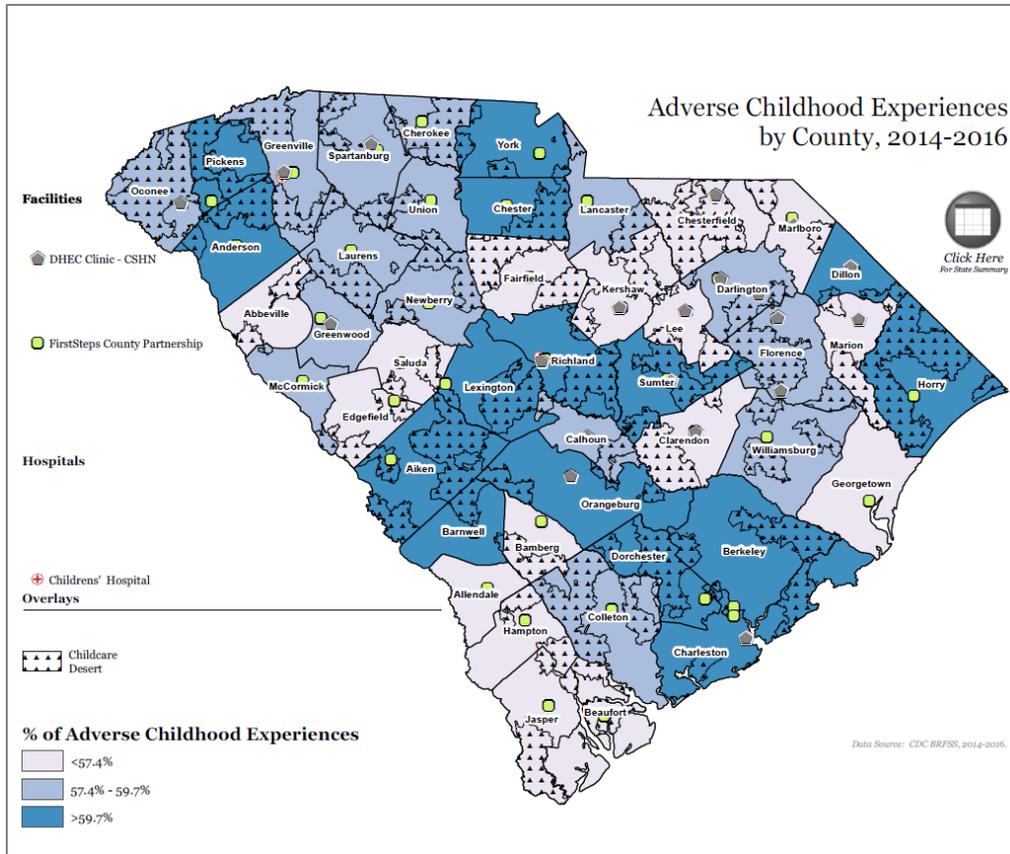


Figure 20: Point features with basemap and overlay

<ul style="list-style-type: none"> ▼ Facilities ▼ Clinics <ul style="list-style-type: none"> DHEC Clinic DHEC Clinic - CSHCN Free Medical Clinic FQHCs & RHCs ▼ Early Childhood Programs & Agencies <ul style="list-style-type: none"> BabyNet DDSN - Early Childhood Intervention FirstSteps County Partnership MIECHV Nurse Family Partnership DSS 	<ul style="list-style-type: none"> ▼ Behavioral & Mental Health DMH DMH CAF ▼ Providers & Hospitals <ul style="list-style-type: none"> PCMH Hospitals Childrens Hospitals Pediatric Psychiatrists LIPs
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Figure 21: Facilities folder and contents

Map Labels

Labels can be used with any combination of basemap, overlay, and/or point feature. There are four label options available in the “Labels” folder (Figure 22).



Figure 22: “Labels” folder and content

Three are county labels but at different sizes, and one contains ZCTA labels. The “County Labels (Large)” labels (Figure 23) are the standard county labels. These are easy to read on any basemap. The “County Labels (Small)” labels (Figure 24) are less visible but allow you to see any point features that may lie underneath the label. These labels are useful if you are viewing these maps on your desktop or laptop. The “County Labels (Presentation)” labels are very large and may be more useful when the maps are used in conjunction with a projector. Finally, the “ZCTA labels” are small and may be more useful when the map is zoomed in to view local phenomena.

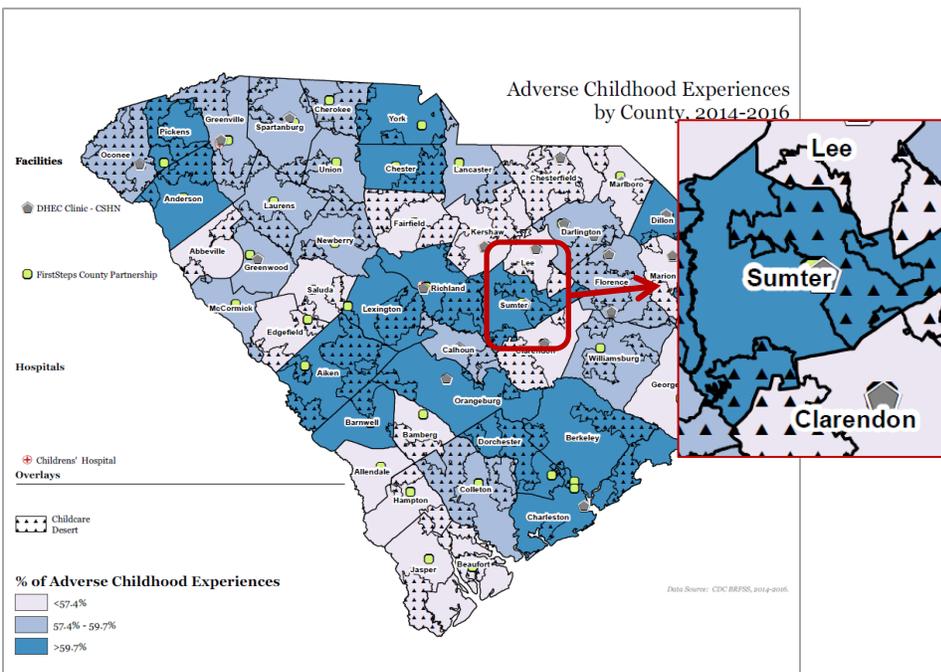


Figure 23: Large labels

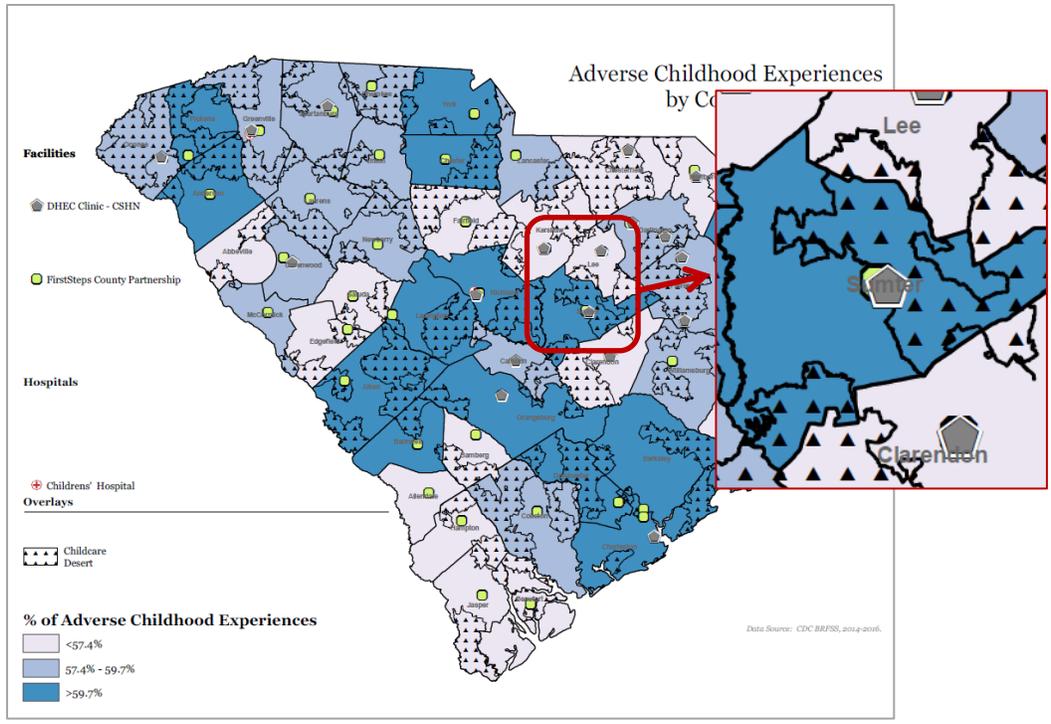


Figure 24: Small labels

Boundaries

In this map, there are two boundary options (“County”, and “ZCTA”), found in the “Boundaries” folder of the Layers panel (Figure 25). By default, the county boundaries layer will be visible. The ZCTA boundaries visually delineate the different ZCTA areas. Boundaries can be used with any combination of basemap, overlay, point feature, and/or label. Maps that show counts as opposed to rates or percentages have the boundaries permanently attached to the map, so those boundaries cannot be turned off.

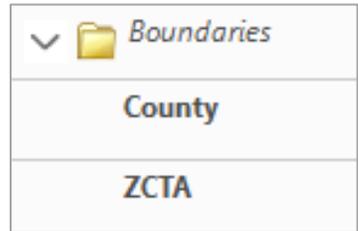


Figure 25: Boundaries folder and content

UNDERSTANDING THE GEOGRAPHY USED

In addition to knowing how interact with the map, it's important to understand the levels of geography used on the map.

Our goal is to provide the most reliable, meaningful data at the smallest geography possible without releasing any protected health information (PHI). For our maps, this requires that we protect individuals from being identified while still showing the geographic variations that can be useful in policy development and programming.

ZIP Code Tabulation Areas (ZCTAs) are approximate representations of U.S. Postal Service (USPS) five-digit ZIP Code service areas that the Census Bureau creates to present statistical data from censuses and surveys. Using ZCTA level data provides a good compromise between protecting health information, ensuring rates are reliable, and showing geographic variation at a finer level.

Be careful when comparing ZCTA level data to county level data. When interpreting data at county levels, it is important to remember that County data is an average of the entire County and not a true representation of any specific location within that County.

FINDING ZCTAS OF INTEREST

As you use the map, you may be interested in identifying specific ZCTAs. You will need to turn on the ZCTA Boundaries layer (see the "Boundaries" section on page 21) and use the "zoom" feature to zoom in to the area of interest. Working back and forth between the interactive map and the ZCTA Locator Maps, you should be able to identify the ZCTA (e.g. 29201 or 29073). Once you know the ZCTA, you can use both the ZCTA Information Table (page 10 of the Scan[®]) and the ZCTA Locator Information Table (page 30 of the Scan[®]).

There are 4 ZCTA Locator Maps which represent 4 general regions of South Carolina: Upstate, Midlands, PeeDee, and Low Country. These maps allow you to visually locate and identify ZCTAs. Make use of the "zoom" and "hand" tools to take a closer look at the ZCTA maps. Note: You can also turn on the "ZCTA Labels" on the interactive map to help identify specific ZCTAs.

To zoom in or out of specific areas of the maps or tables, use the "+" or "-" icons (Figures 26a, 26b) found on the Adobe[®] Reader tool bar or specify the zoom level.

Once zoomed in, you can use the "hand" tool (Figures 26a, 26b) to move around the map or table.

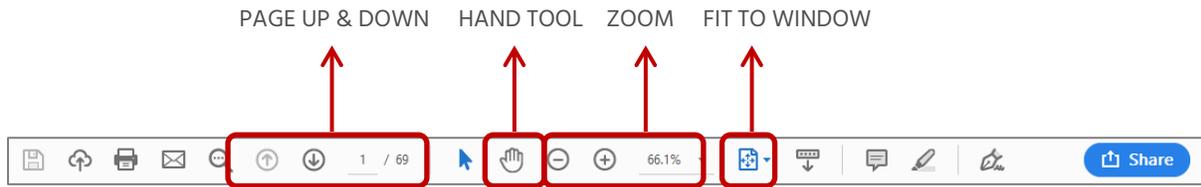


Figure 26a: Adobe Reader tool bar (page up and down, hand, and zoom)



Figure 26b: Adobe Reader X tool bar (page up and down, hand, and zoom)



Did You Know?

The **Metadata** tables provide data sources, definitions and calculation notes. It may be helpful to print out the Metadata tables so you can refer to them as you work with the interactive map.

REVIEWING THE TABLES AND METADATA

The tables supplied in the additional pages of the Scan[®] contain valuable information, including the summary of measures at the state level, a summary of select measures at the ZCTA level, and location information about each ZCTA.

The metadata at the end of the CHARGED³ Geospatial Environmental Scan[®] provides source information about all data elements as well as additional notes, definitions, and methodology on how the data were pulled.

FREQUENTLY ASKED QUESTIONS (FAQS)

1. *Where do I find the Layers panel to change the interactive map?*

Please refer to the "Opening the Layers Panel" section on page 7. Make sure you check out the tool tips as well. If you are still unable to find the Layers panel in your Adobe® Reader, please contact your IT support.

2. *How do I know what map layers to choose?*

This will depend on what you want to see. Let's walk through an example:

Say you are interested in knowing if there is any association between access to the nearest Primary Care Provider and childcare deserts in South Carolina. Use the interactive map and turn on the following layers. (See the final product in Figure 27.)

- In the "Basemaps" folder under the "Access to Care" folder:
Select "Drive Time (Minutes) to Nearest PCP"
- In the "Overlays" folder:
Select "Childcare Desert"
- Labels under the "County Labels" folder:
Select "Large"
- Boundaries under the "Boundaries" folder:
Select "County"

In Figure 27, you can see there are a several areas with greater distance to primary care providers that are also childcare deserts. Now you may want to know "Are there any resources to increase access to care in these areas?"; "Are these areas with less access in need of more services?"

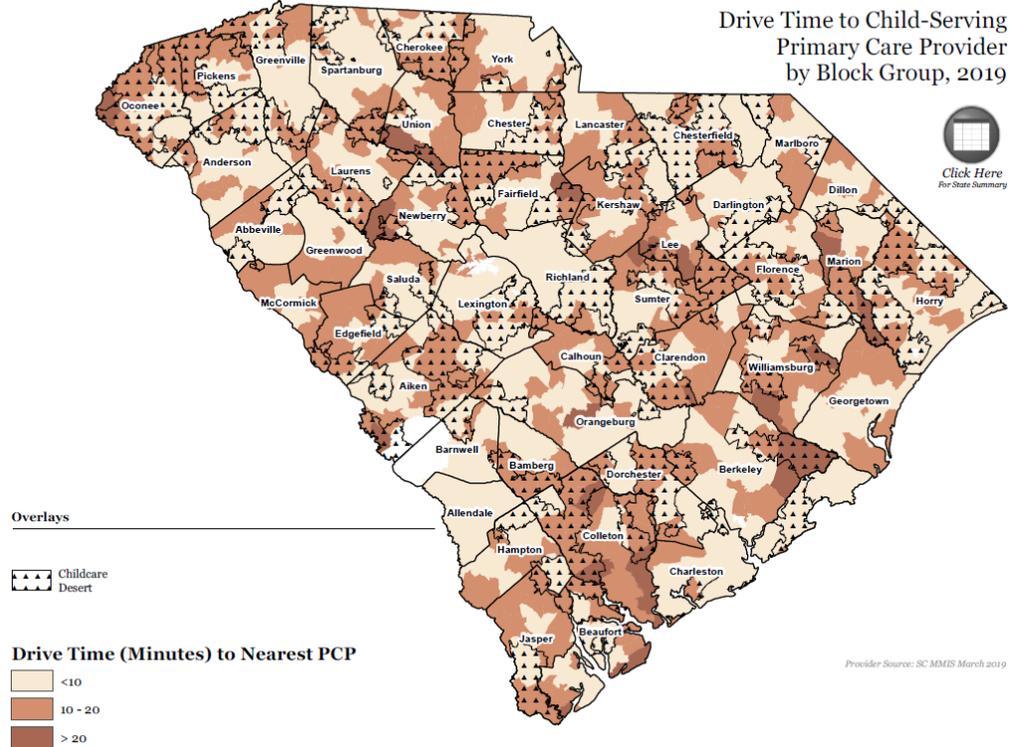


Figure 27: Example map with selected layers

Some of these questions require further investigation, while some can be answered by adding other layers to the map. To answer the question of whether there are any resources to increase access in areas with a greater distance to primary care providers, turn on “FQHCs & RHCs” and “Free Medical Clinic” in the “Facilities” folder under “Clinics” (Figure 28):

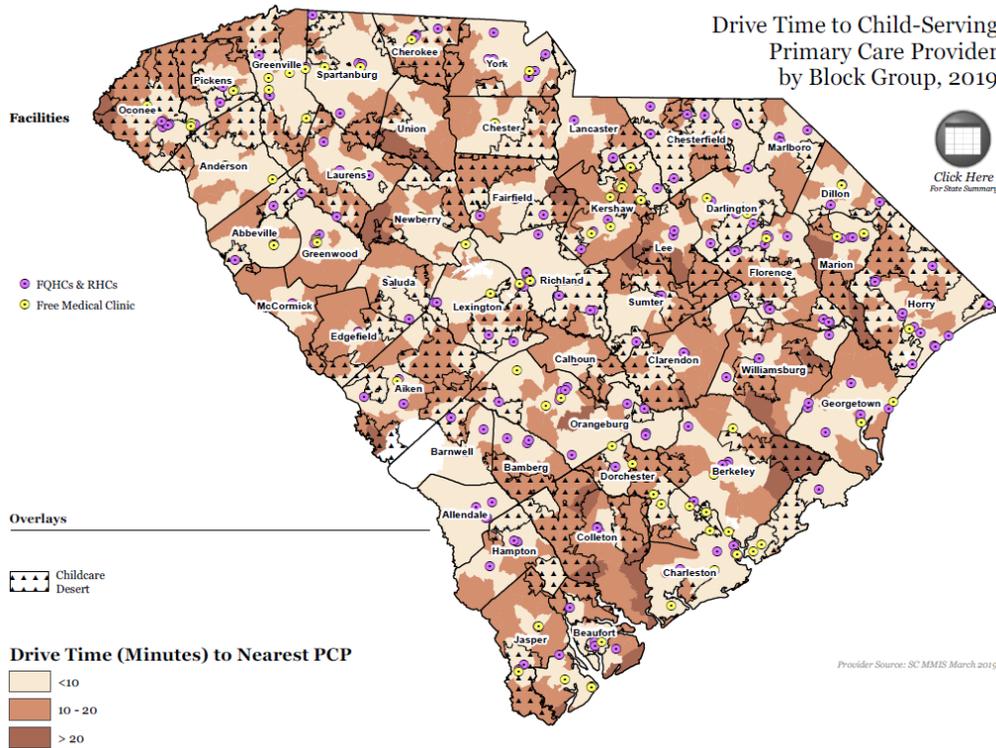


Figure 28: Example map with selected layers and added facility points

Turning on these facility point features may drive you to ask more questions. Try adding another overlay or point feature, or start fresh with a new basemap selection.

3. *Why did the layer I selected not show up on the map?*

Basemaps fully cover the map and have a solid fill color. If you select more than one basemap at a time, the one closest to the top of the Layers panel will be the only one visible. If you are having problems seeing layers that you selected, turn everything off and build your map again using the suggestions in the “Build from the Bottom Up” section on page 13.

4. *Why can I not see the facility I selected?*

Because the facilities are represented as points on a map and facilities tend to co-locate (i.e. be physically near each other), it may be hard to distinguish individual locations. Turn off all but one facility layer to see if it is easier to determine the location of the facility in which you are interested. Also, it may be helpful to either turn off the county labels or switch to the smaller county labels.

5. *The county labels are in my way; can I move them?*

You can't move them, but you can turn them off. If the county label is covering the location of a facility or the ZCTA you are interested in, you can turn the labels off or choose the smaller county label. See the “Map Labels & Boundaries” section on page 19 for more information.



Did You Know?

The **Environmental Scan** can show you where events are correlated. It does NOT allow you to determine whether one causes the other.