Learn More About your Service Area: An Introduction to Community Analyst

Objective: A group of researchers are preparing a proposal to collaborate with community colleges in the University of Arkansas System to promote the integration of data science throughout existing curricula. To better understand the demographics in each area the researchers want to generate a demographic profile at 15-, 30-, and 45-minute driving distances for each community college campus. These data will help the researchers better understand the similarities and differences of the community college service areas. Special considerations: two of the area community colleges are multi-campus; one community college is in a metropolitan area while the others are in rural areas.

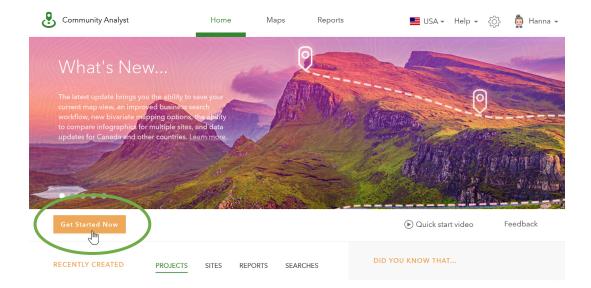
Technical Requirements: An ArcGIS Online (AGOL) user account that has been licensed with *Community Analyst* and has *Publisher* rights. An internet connection, a computer (with mouse and keyboard) with Google Chrome or Mozilla Firefox browser(s) installed.

Get Started!

1. Go to https://communityanalyst.arcgis.com

Scroll down and click the large, green **Sign In** button.

2. On the home page, click the Get Started Now button.



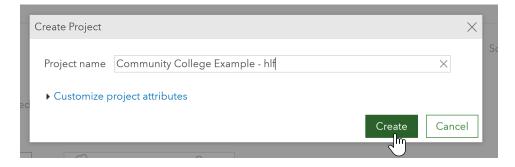
3. If this is your first time using the app, a window opens with information about projects in Business Analyst.

If necessary, read through the information and click **Next** until you reach the final window. In the final window, click **Get Started Without Importing**.

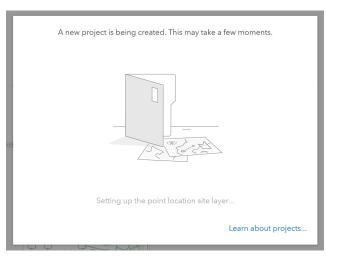
4. From the **Projects Page**, click the **Create Project** button.

On the Create Project dialog box, enter a name for your project.

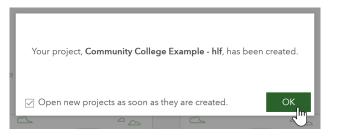
Click the **Create** button.



While the project is being created the below message box will appear.

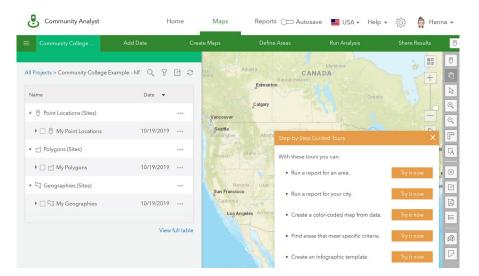


When the project is ready, a message box will confirm that has completed. Click the **Ok** button. Your project will open.



5. When your project opens it will look like the image below.

For now, we will close the Step-by-Step Guided Tour (Orange Box with Try it now buttons).



6. To get started we will import the locations of all the University of Arkansas System Community Colleges. We downloaded a list of these locations from the Institute for Education Science (IES) National Center for Education Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS). Some data cleanup was performed on the table to ready it for use in this project.

Α	В	D	E	F	G	Н	1	J
UnitID	Institution Name	Institution Alias Name	Street add	City	State	ZIP	Longitude	Latitude
106795	Cossatot Community College of the Universit	CCCUA	183 Colleg	De Queen	AR	71832	-94.3673	34.04339
107619	Phillips Community College of the University	PCCUA - Helena-West Helena	1000 Cam	Helena	AR	72342	-90.6169	34.54616
107619	Phillips Community College of the University	PCCUA - DeWitt	1210 Rice	DeWitt	AR	72042		
107619	Phillips Community College of the University	PCCUA - Stuttgart	2807 Hwy.	Stuttgart	AR	72160		
107743	University of Arkansas Community College Ri	UACCRM	1100 Colle	Mena	AR	71953	-94.2198	34.59145
106999	University of Arkansas Community College-Ba	UACCB	2005 Whit	Batesville	AR	72503	-91.6159	35.79292
107725	University of Arkansas Community College-He	UACCH	2500 S Ma	Hope	AR	71801	-93.5968	33.64167
107585	University of Arkansas Community College-M	UACCM	1537 Univ	Morrilton	AR	72110	-92.7285	35.17214
107664	University of Arkansas-Pulaski Technical Colle	UAPTC - North Little Rock	3000 W Sc	North Littl	AR	72118	-92.2992	34.78278
107664	University of Arkansas-Pulaski Technical Colle	UAPTC - Little Rock South	13000 Inte	Little Rock	AR	72210		
107664	University of Arkansas-Pulaski Technical Colle	UAPTC - Aerospace Technology Center	1600 West	North Littl	AR	72120		
107664	University of Arkansas-Pulaski Technical Colle	UAPTC - Business and Industry Center	3303 East	Little Rock	AR	72206		

Click the Add Data button located in the green ribbon above the map.

Select Import File from the options.

Community Analyst	Home	Maps	Reports 🕞 Autos	ave 📕 USA 🗸 H	Help 🖌 🔅 👰 Ha
E Community College	Add Data Cr	eate Maps	Define Areas	Run Analysis	Share Results
All Projects > Community Colle	Web Maps and Layers Add web maps and layers from ArcGIS.		of addresses from an Isheet or shapefile.	Custom Data Setup Configure your own c accessible through th	
Name Point Locations (Sites)	00000				
▶ □ [@] My Point Location:				8	
 Polygons (Sites) 	(P) Watch		Watch video		Watch video
▶ 🗌 🖄 My Polygons	e maar				New Yc
-			Denver		ois Onio Prinadelprita

7. Import File – Step 1: Click the **Browse** button; Navigate to the location where the excel file is stored that contains the data downloaded from IPEDS (ipeds uaccs.xlsx); Click the **Open** button to return to the Community Analyst screen.

Click the **Import** button.

ۏ File Upload			×		С	Community College	Add Data	
$\leftrightarrow \rightarrow \cdot \uparrow$	2019 > Demonstration2019	Search Demonstratio	on2019 🔎			Import File		
Organize · N	lew folder		· 🔳 🕜					
∧ ★ Quick ac	Name	Date modified	Туре		Selec	t a file to import.		CO.
bes 🖈	Esri_Tapestry_Segmentation_by_Zip_Look Explore Tapestry by ZIP Codes 2019 - Hel	10/17/2019 10:19 AM 10/19/2019 1:33 PM	PNG File Microsoft Word		ipeds	s uaccs.xlsx		78
🍋 Dov 🖈 🔃 Doc 🖈	Explore Tapestry by ZIP Codes 2019 - Hel ipeds uaccs.csv	10/19/2019 1:37 PM 10/19/2019 1:48 PM	Adobe Acrobat Microsoft Excel			[Browse Import	10
🔚 Pict 🖈	ipeds uaccs.xlsx	10/19/2019 4:28 PM	Microsoft Excel	1	mpor	t tips		
← Goc オ 2019 CAST_E	Marketing Exercise - Drive time populati	10/19/2019 8:08 PM	Microsoft Word		X	Excel and csv files		
🔑 Demor 🗸			>			File size: 1 MbStreet addresses		
	File name: ipeds uaccs.xlsx	 All Files (*.*) Open 	Cancel			Latitude / longitudeStandard geograph		

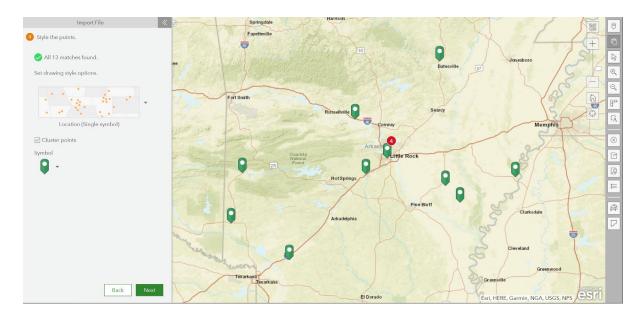
- 8. Import File Step 2: Select the radio button for **Points** and click the **Next** button.
- 9. Import File Step 3: In the first section, use the drop-down to select the field from the uploaded file that provides the **Address or Place**. In the ipeds uaccs.xlsx file the name of that field is **Street Address**. All other fields have matched automatically because the field names were the same.

Since our file has some locations without a latitude and longitude those will be mapped using the address information to geocode each location on import. If all of our locations had an associated latitude and longitude, we could leave the first section blank.

Click the **Next** button.

	Import Fil	e	«
3	Confirm the fields match t	he columns in your file.	
	Field	Column	
	Address or Place	Street address 🔻	
	City	City 👻	
	State	State 🔻	
	ZIP	ZIP 🔻	
	And / or		
	Field	Column	
	Latitude	Latitude 🔻	
	Longitude	Longitude 🔻	
	Reverse-geocode the co	pordinates. (j)	
	View data table		
		Back Next	

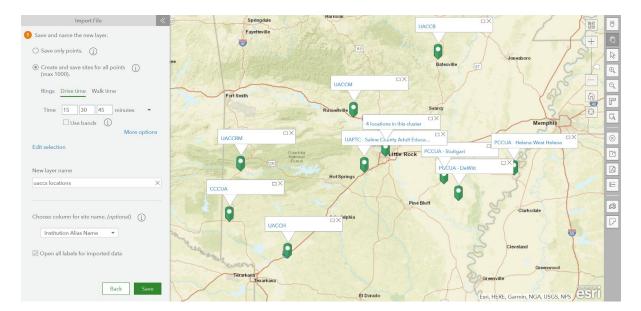
10. Import File – Step 4: The locations have now been added to the map. No changes are necessary on this step, click the **Next** button.



11. Import File – Step 5: Select the radio button for Create and save sites for all points;

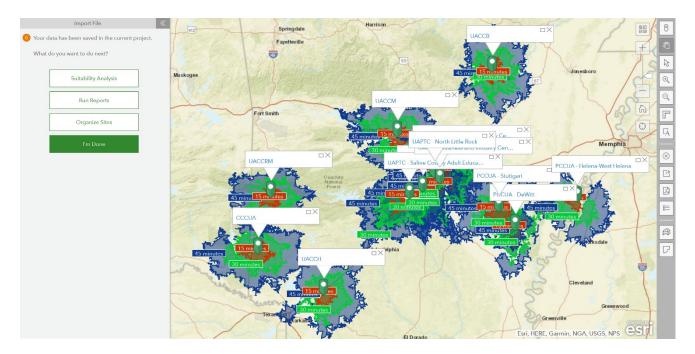
Click on **Drive time** to enter times for distances in driving minutes. Enter **15**, **30**, **and 45** into the boxes below. The unit of measure will remain minutes;

Enter a new layer name: **uaccs locations**; the column to be used for the site name will be **Institution Alias Name.** Finally, **Check the box** for Open all labels for imported data.



Click the **Save** button.

12. Import File – Step 6: The resulting map appears and will look like the one below.



Click on the button for **Run Reports.**

13. First, the team wants to review the demographics of each area.

Click on the **Comparison Reports** button in the green ribbon at the top.

Community Analysis
Home
May
Reports
Build Report

Community Callager
Rest Report
Rest Report
Comparison

Casted report

Lebet report
Lebet report
- Caste new report
+ Add valiables

Casted report

Lebet report
Lebet report
- Caste new report
+ Add valiables

Casted report
Ca

Then click on the Add Sites button in the middle of the screen.

14. The Add Sites dialog box will appear.

Click on the option at the top of the dialog box for **Currently on map.**

Check the box to the left of Name in the upper-right of the table. This will select all the sites that are currently on the map.

Click the **Apply** button.

cent Currently on map From projects Neighboring geographies	Statistical comparisons	
		C
Name Im	Description	
∑ 🙊 CCCUA	15, 30, 45 minutes	
☑ 🎕 PCCUA - DeWitt	15, 30, 45 minutes	
🖉 🔌 PCCUA - Helena-West Helena	15, 30, 45 minutes	
	15, 30, 45 minutes	
☑ UACCB	15, 30, 45 minutes	
Z Se UACCH	15, 30, 45 minutes	
☑ ❀ UACCM	15, 30, 45 minutes	
☑ ❀ UACCRM	15, 30, 45 minutes	
W UAPTC - Aerospace Technology Center	15, 30, 45 minutes	
A WAPTC - Business and Industry Center	15, 30, 45 minutes	
☑ 🕸 UAPTC - Little Rock South	15, 30, 45 minutes	

15. The comparison report will appear as a table, the default setting is to show the Population Comparison. We can easily see that within the 15-minute drive time area the populations in each service area vary quite a bit.

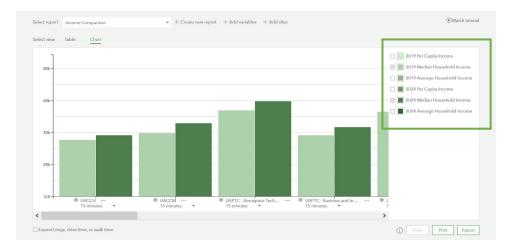
	Ru		arison Reports Build Rep				
ielect report Population C	Compar Chart	ison		Add variables + Add sites			€)Watch tutoria
Site		2019 Total Population	2019 Household Population	2019 Family Population	2024 Total Population	2024 Household Population	2024 Family Populat
UACCH 15 minutes	1	12,369	12,068	9,887	12,037	11,736	9,569
UACCM 15 minutes	••• 1	12,178	11,904	9,642	12,050	11,777	9,492
 UAPTC - Aerospac 15 minutes 	••• 9	92,449	91,351	70,313	93,747	92,649	70,847
 UAPTC - Business a 15 minutes 	••• 1	127,317	122,620	88,138	128,448	123,751	88,190
UAPTC - Little Rock 15 minutes	••• 5	93,027	92,401	75,574	97,751	97,125	79,075
UAPTC - North Littl 15 minutes	••• 5	94,630	92,639	66,612	95,726	93,735	66,816
 UAPTC - Saline Co 15 minutes 	••• ;	70,743	69,530	58,353	75,528	74,315	62,114
 CCCUA 15 minutes 	1	10,444	10,271	8,791	10,281	10,108	8,621
PCCUA - DeWitt 15 minutes	••• 2	4,335	4,181	3,363	4,218	4,064	3,252
PCCUA - Helena-W 15 minutes	1	13,002	12,756	10,312	12,166	11,920	9,587

16. From this screen we can do several things.

1) Change view other types of comparisons, such as the **Income Comparison**.

	Search by name	Q Date (Newest) 👻				
elect view	≠ Esri Comparison Reports						
Site	Population Comparison		Househol	ld In 2019 Average F	Household In 2024 Per Capit	a Income 2024 Median Ho	usehold In 2024 Average Houseł
UACCH 15 minute	Households Comparison			\$47,637	\$20,438	\$38,265	\$53,571
UACCM 15 minute	Income Comparison	Jm)		\$58,173	\$26,658	\$45,785	\$65,337
UAPTC - / 15 minute		0		\$72,869	\$35,609	\$59,580	\$83,333
UAPTC - E 15 minute	Geography Comparison	(l)		\$56,940	\$27,689	\$43,331	\$65,415
UAPTC - L 15 minute	ittle Rock *** \$26,295		\$52,928	\$68,538	\$30,290	\$58,737	\$78,760
UAPTC - 1 15 minute	North Littl \$29,362		\$43,986	\$66,201	\$33,580	\$50,504	\$75,483
UAPTC - 5 15 minute	Saline Co *** \$30,595 es 👻		\$60,918	\$79,226	\$34,362	\$66,951	\$88,826
CCCUA 15 minute	es • *** \$17,208		\$42,635	\$52,080	\$18,922	\$46,590	\$57,401
PCCUA - 15 minute	es + 523,678		\$34,465	\$56,618	\$27,052	\$38,699	\$64,550
15 minute	Helena-W *** \$16,229		\$25,096	\$41,614	\$18,744	\$27,961	\$47,755
C							>

2) Swap to a **Chart** view of the data. Note the ability to make variable visible by checking the boxes in the legend.

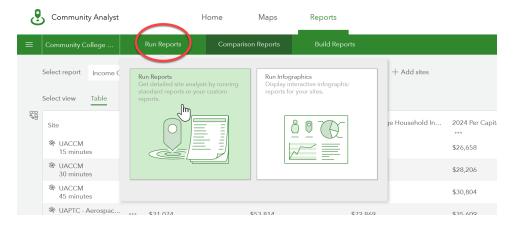


- Change the data selection from 15-minute drive time service area to 30-minue, or 45minue; or Expand all drive time service areas by checking the Expand rings, drive time, or walk time box in the lower left.
- 4) Data can also be exported to an Excel spreadsheet using the **Export** button.



17. Next, we will generate some infographics for each location and service area to create market profile summaries for each community college.

Click on the Run Reports button in the green ribbon and click on Run Reports.



18. The steps for Run Reports are denoted by orange circles with numbers in them.

Run Reports – Step 1: Will select all 13 sites that you have imported to report on. No changes are necessary if this information is correct.

Run Reports – Step 2: Change from the Classic reports option to the **Infographics** option. Scroll through the table of Esri infographics and check the box for **Demographic Profile**.

Run Reports – Step 3: When the box for Demographic Profile is checked a separate Demographic Profile is added for each community college. **Find UACCM and click the Run now text**.

Community Analyst	Home	Maps	Rep	orts					📕 USA 🗸 Help 🗸 🔅	👼 Hanna 🗸
E Community College Run Reports	Compa	arison Reports	Bui		orts					
Select sites to report on. Add Sites	Selected	sites <u>\13/</u> •								
Select infographics to run. Classic reports	Infograp	hics		Q	A	C	•	3 Run infographics.		
Name			Show	favorite	es			Selected infographics	Run now	\otimes
✓ Esri infographics						^		Demographic Profile		⊗ ^
At Risk Population			\Rightarrow	ß	1			UAPTC - Saline County Adult Education Center	Run now	\otimes
Commute Profile			Δ	ß	1			III UAPTC - Business and Industry Center	Run now	\otimes
Demographic Profile			\$	a	0			UAPTC - Aerospace Technology Center	Run now	\otimes
Demographic Summary			\$	ß	1			UAPTC - Little Rock South	Run now	8
Employment Overview			\$	Q	()			UAPTC - North Little Rock	Run now	\otimes
Executive Summary - Call Outs			\Rightarrow	Q	1			all UACCM	Run now	\otimes
Health Care			\$	Ø	1			IL UACCH	Run now	\otimes
Health Care and Insurance Statistics			\$	B	1			alt UACCB	Run now	\otimes
C Key Facts			\$	Q	(j)			LIL UACCRM	Run now	\otimes
Marketing Profile			\$	Q	1			ali PCCUA - Stuttgart	Run now	\otimes
Multi-area Comparison			\$	ð	1	~		IL PCCUA - DeWitt	Run now	⊗ ♥

19. After a moment, the infographic for the UACCM, 15-minute drive time service area is generated. The researchers find this information helpful but would like to see a side-by-side comparison of the 3 drive time service areas.



20. In the green ribbon across the top, click the drop-down arrow next to the text "15 minutes" and **click the toggle for Side by side comparison** to turn it on.



21. Scroll down through the infographic comparison to the section for **Key Facts**. Take note of the difference in population between the 15-minute drive service area and the 30-minute drive time service area.



22. In the green ribbon across the top, click the drop-down arrow next to the text "Demographic Profile" and **click on Target Market Summary** in the drop-down menu.

	Demographic Profile 🔻					:
	Search for infographics by name	Q, Di	ate (Newest)	-		
	Health Care			^	s footparts	
H	Executive Summary - Call Outs			ŝ	X	
	Tapestry Profile			+		
	Nearby Restaurants				3.	
	Multi-area Comparison				1 No	une ivie
	Property Details					Pergla-
	Employment Overview					
l	Office Market Profile					
	Health Care and Insurance Stati	stics		1	1 T	
l	Demographic Profile					
l	Commute Profile			esri	13- 1.4	
h	Target Market Summary	Make o	lefault 🔯	F	EDUCATION	
l	Population Trends			~		
		Create cust	tom infograp	hic	10%	ľ
	No High 42%	27%	19	%	No High School	3

Scroll down and review the population by age largest groups and consumer spending sections.

Target Market Summary 🔻		Se UACC			
	nutes 👐		inutes •••		5 minutes •••
7% 6 4 2 The largest group: 2019 Female Population Age 55-59 (Esri)	0 2 4 6 8% The smallest group: 2019 Male Population Age 85+ (Esri)	12% 8 4 The largest group: 2019 Male Population Age 20-24 (Esri)	0 4 8 12% The smallest group: 2019 Male Population Age 85+ (Esri)	8% 6 4 2 The largest group: 2019 Female Population Age 20-22 (Esri)	0 2 4 6 8% The smallest group: 2019 Male Population Age 85+ (Esri)
★ \$1,329 Travel € \$45	S32 Thestre/Operas/Concerts	★ \$1,586 Travel	S48 Thestre/Operas/Concerts	KJ th th th th th th th th th th	S52 Theatre/Operas/Concerts
\$45 Movies/Museums/Parks \$3 Online Games	 \$36 Sports Events \$69 Audo 	 \$64 Movies/Moseumo/Parks \$4 Online Games 	 \$44 Sports Events \$77 Audio 	 \$66 Movies/Museums/ Parks \$4 Online Games 	\$48 Sports Events \$81 Audio
12,178 Population	41.5 Median Age	131,041 Population	32.8 Median Age	269,575 Population	35.7 Median Age
2.4 Average Household Size	\$39,578 Median Household Income	2.5 Average Household Size	\$45,536 Median Household Income	2.5 Average Household Size	\$49,614 Median Household Income

23. In the green ribbon across the top, click on the pencil icon next to the text "UACCM".

The **Select Site** dialog box will appear. Click on the text **Currently on map** to display the list of sites that are currently on the map.

Click on CCCUA.

Select Site		\times
Recent Currently on map From projects		Q
Name	Description	
Seccua	15, 30, 45 minutes	^
☞ PCCUA - DeWitt	15, 30, 45 minutes	
🕸 PCCUA - Helena-West Helena	15, 30, 45 minutes	
PCCUA - Stuttgart	15. 30. 45 minutes	

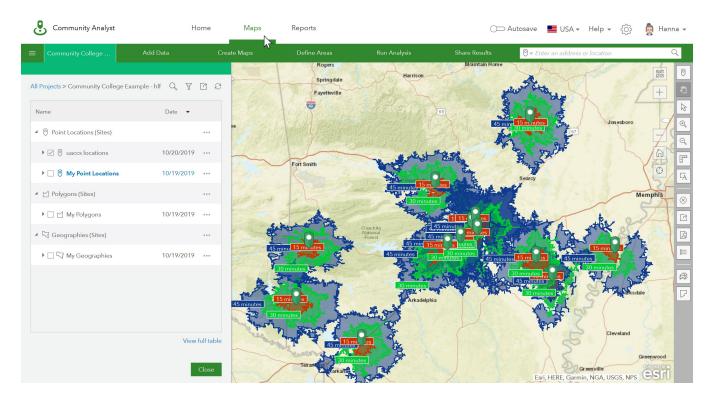
24. Compare the population by age largest groups and consumer spending sections to those from UACCM (screenshot on previous page).

15 m	inutes ••••	30 r	ninutes •••	45 minutes •••		
The largest group: 2019 Female Population Age 0-4 (Esri)	0 2 4 6 8% The smallest group: 2019 Male Population Age 85+ (Esri)	8% 6 4 2 The largest group: 2019 Male Population Age 5-9 (Esri)	0 2 4 6 8% The smallest group: 2019 Male Population Age 85+ (Esri)	6% 4 2 The largest group: 2019 Male Population Age 5-9 (Esri)	0 2 4 6% The smallest group: 2019 Male Population Age 85+ (Esri)	
 \$1,256 Travel \$53 Mores Manenal Parks \$3 Online Games 	S34 Tracerd/Operat/Generals S35 Sport Event Auto	 \$1,185 irred \$44 Maintofusered Parks \$3 Other Games 	San	st S1,185 irred S42 Monethancest Parks S3 Criter Genes	E \$29 Tearr/Operat/Concerts \$ \$32 Spark (week) \$ \$59 Addo	
10,444 Population 3.0 Average Household State	33.0 Median Age \$42,635 Median Negraduk	25,791 Population 2.8 Averge Averge	36.2 Median Age (\$38,872 Metian Hogandad	53,248 Population 2.6 Armstein Aussideat State	38.2 Median Ago \$36,756 Median Household Median Household	

25. Infographics may be **Exported** or printed using the tools in the green ribbon along the top. Infographics may be exported as PDFs.

Custom Infographics can also be generated that compare Consumer Spending habitats of specific interest. Additional comparison views can be done among multiple sites, instead of or in addition to distance-based service areas.

26. In the green ribbon across the top, **click the green X in the upper-left corn**er to close the Reports/Infographics screen.



At the top of the page click on Maps to return to the map view.

With these data the researchers can feel confident that they will identify key similarities and differences among these institutions that will help them to form their research objectives.