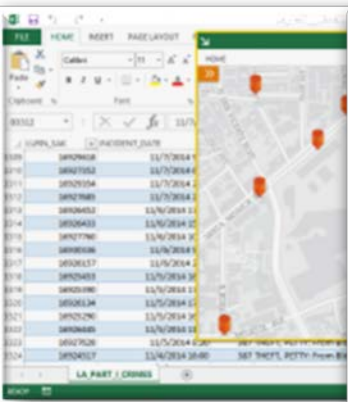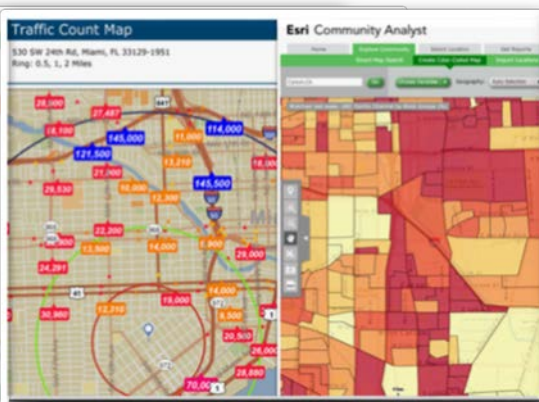# Beyond ArcGIS Desktop: ESRI Tools for Planners
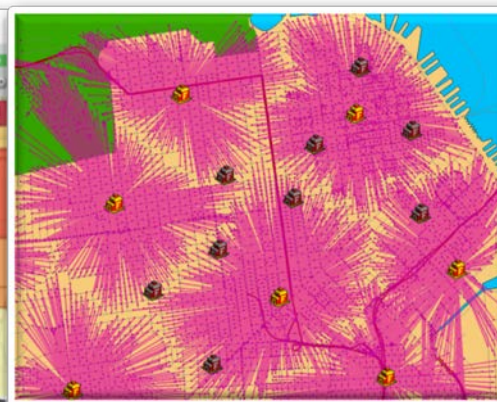
Palak Matta & Patricia Carbajales-Dale

Clemson Center for Geospatial Technologies
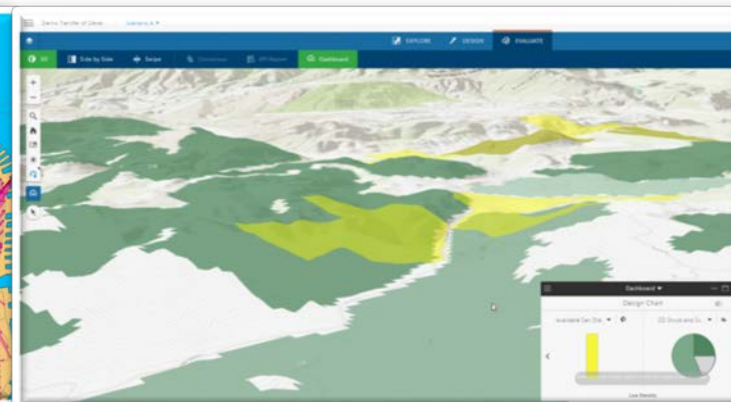
April 2017

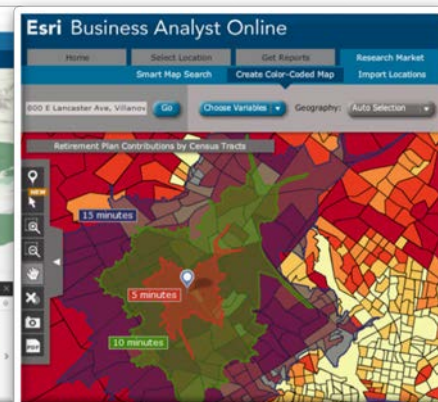Maps for Office   Community Analyst   Network Analyst   Geoplanner   Business Analyst

Agenda

- Overview of Esri Tools for Planning:
  - Business Analyst and Business Analyst Online
  - Community Analyst
  - Network Analyst
  - ArcGIS Online
    - Field Data Collection: Collector, Survey123
    - ArcGIS Maps for Office
    - Geoplanner
- Clemson Center for Geospatial Technologies
- Data in BA and CA
- BAO hands-on exercise
- BA hands-on exercise
- Network Analyst hands-on exercise

Business Analyst and Business Analyst Online

Perform detailed analysis with demographic, consumer spending, market segmentation, and business data.

- Where to locate a business?

- Determine best areas to find new customers and their profiles

- Optimize sales and operational territories

Two flavors:

- ArcGIS desktop extension

- Online web app: https://bao.arcgis.com/esriBAO/
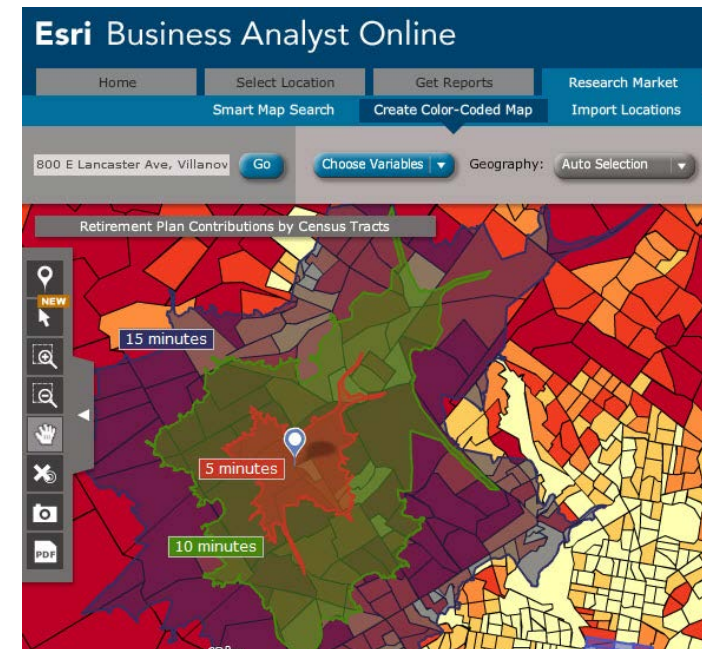
Community Analyst

- **Allocate** scarce community resources more effectively:
  - Comparison reports to allocate resources for greatest community impact
  - Find areas with greatest need – Smart Map Search wizard
  - Allocate grant funding based on population need
  - Understand trends using past data and future projections

- **Communicate** important information to policy makers and constituents

- **Improve** community outreach.

Examples:
  - Who will be affected by a new policy decision in Pickens County and how it will be affected?
  - Where should be build a new park, train station or health clinic?
  - Which community project should be the top priority at the City of Clemson?
  - Where are the high risk populations in the Upstate of South Carolina?

A note about Community Analyst vs Business Analyst Online - Community Analyst and Business Analyst Online are very similar in terms of features and data. The data and features in the two products are organized a bit differently to better serve the different audiences and intended analysis goals of the products. **Business Analyst Online** is intended for **commercial audiences focused primarily on site selection**, whereas **Community** Analyst is focused on **policy issues** and enabling understanding of communities from a "**social issues**" perspective.
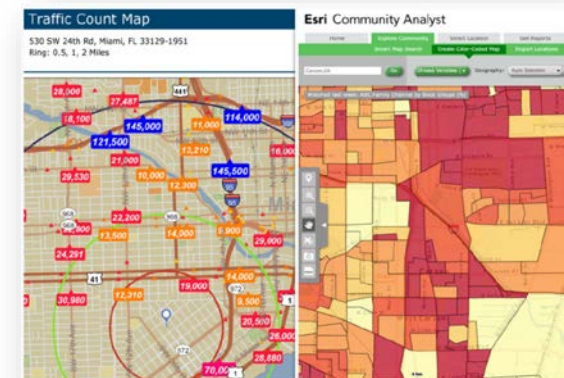
Network Analyst

Analyzes the way "goods" can be transported along network lines to calculate:

- What is the "shortest" path among a set of features?
- What is the best route for a fleet of vehicles? Quickest, shortest, most scenic…
- What is the closest hospital to a neighborhood after a tornado?
- Allocation: how efficient is the distribution of my hospitals or schools?
- Location-Allocation: what is the best location at Clemson to put a new fire station?
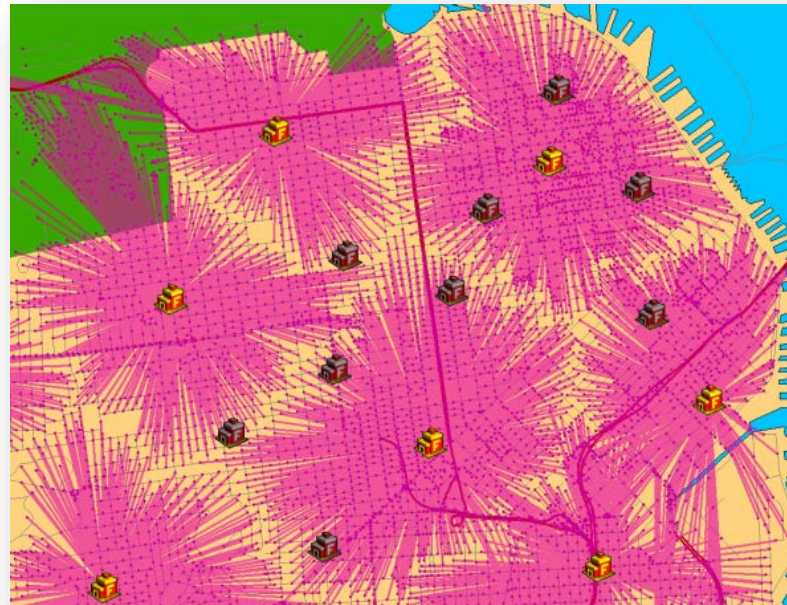
ArcGIS Online: Crowdsourcing, communicating & sharing

arcgis.com

- **Sharing** your thesis, **collaborating**: bit.ly/cucampus

- **Crowdsourcing**: ask the community for input
  - Mapping the Tiger Spirit – arcg.is/tigerspirit

- **Story Telling** with maps
  - Global climate
  - Your own portfolio
  - GIS for Public Health: class project
  - Historic Mapping in 3D
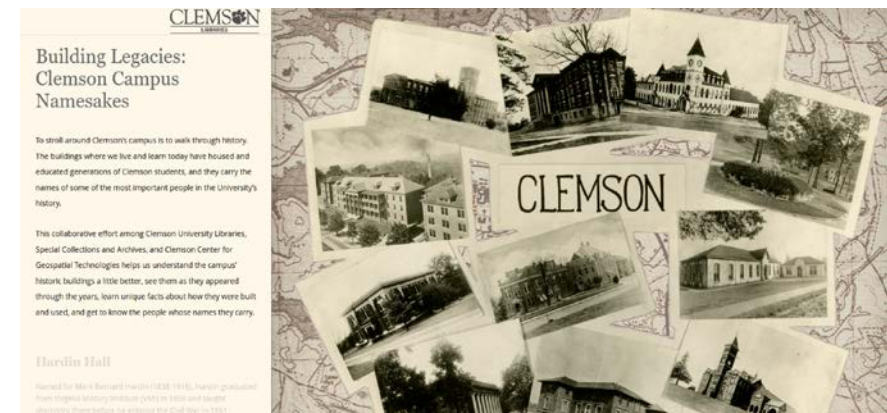
Field Data Collection – Collector, Survey 123
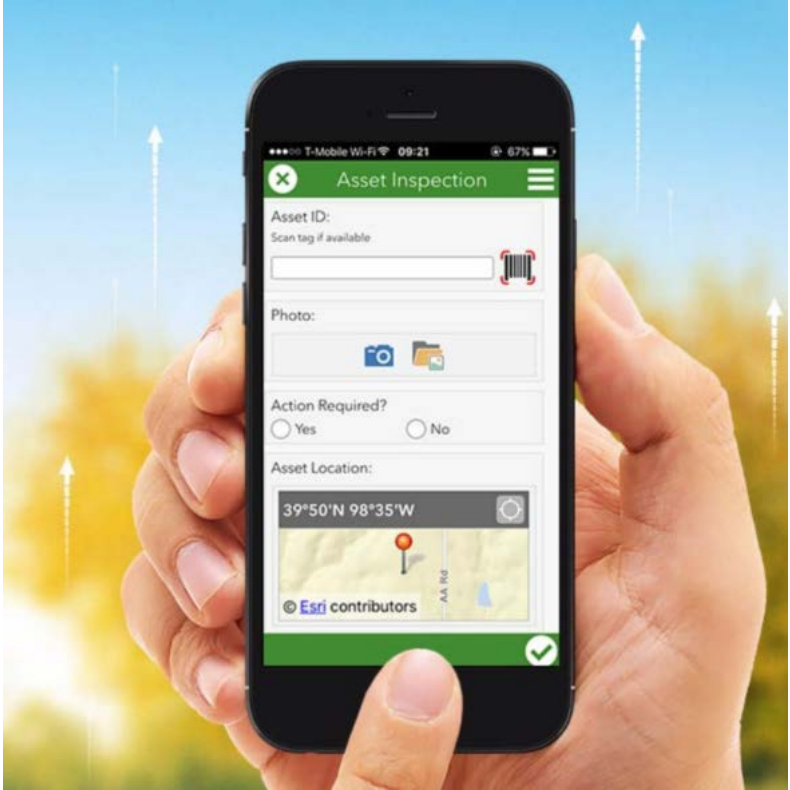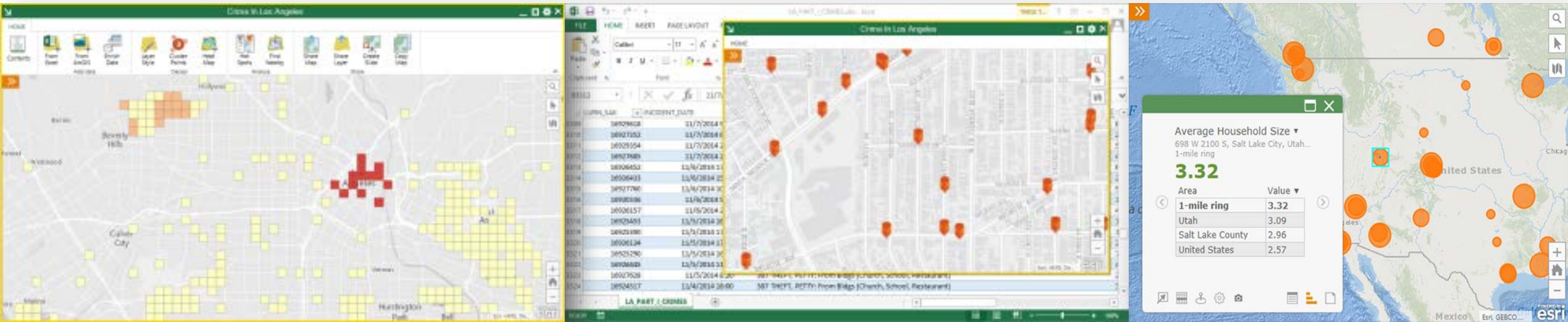
Collector for ArcGIS

Survey123

bit.ly/clemsonsafety

ArcGIS Maps for Office

Excel and PowerPoint extension

- Map your Excel spreadsheet and create an interactive map
- Add dynamic maps to Powerpoint
- Add ArcGIS demographics data to your spreadsheet
- Explore using on the fly infographics
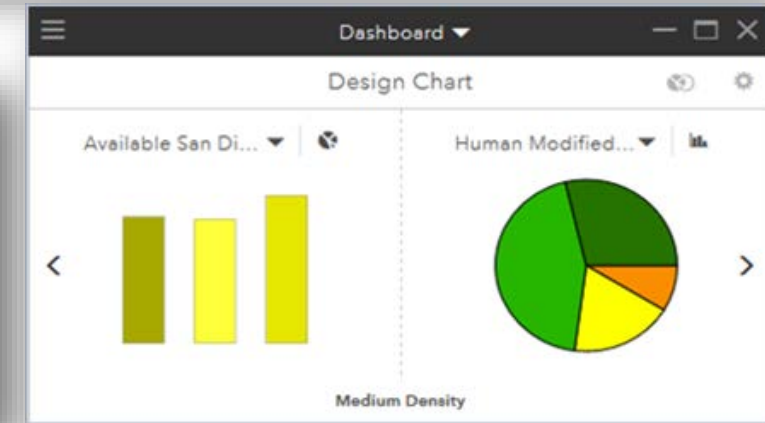
Geoplanner

- Collaborative web app to design and test planning scenarios in 2D and 3D. Includes:
  - Real-time interactive dashboards
  - Sketching environment
  - Evaluation tools
- Topics:
  - Land use
  - Economic development
  - Resource allocation
  - Key Performance Indicators for plan's impact
  - Model shadows

http://geoplanner.arcgis.com/
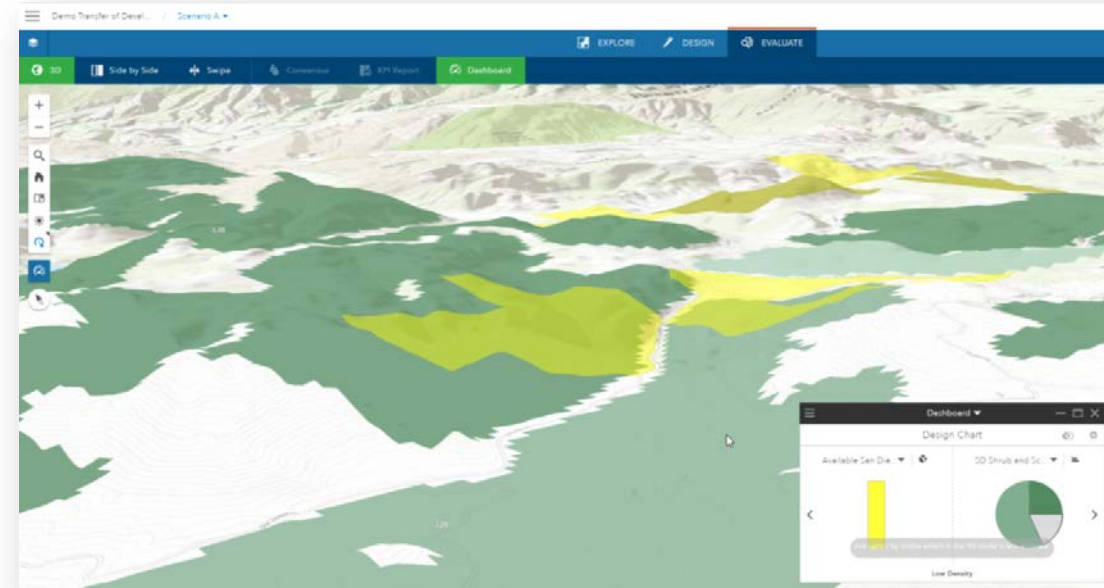
Clemson Center for Geospatial Technologies

Clemsongis.org

Mission: to support students, faculty and staff on GIS

- Free hands-on workshops
- Free one-on-one consultation
- GIS software licensing management for Clemson
- GIS classes
- GIS workshop series – Certificate of Attendance
- CyberGIS
- Geo-Ambassador Program
- Clemson Mappers
- Sandbox
- GIS Day!!

Data in Business Analyst & Community Analyst
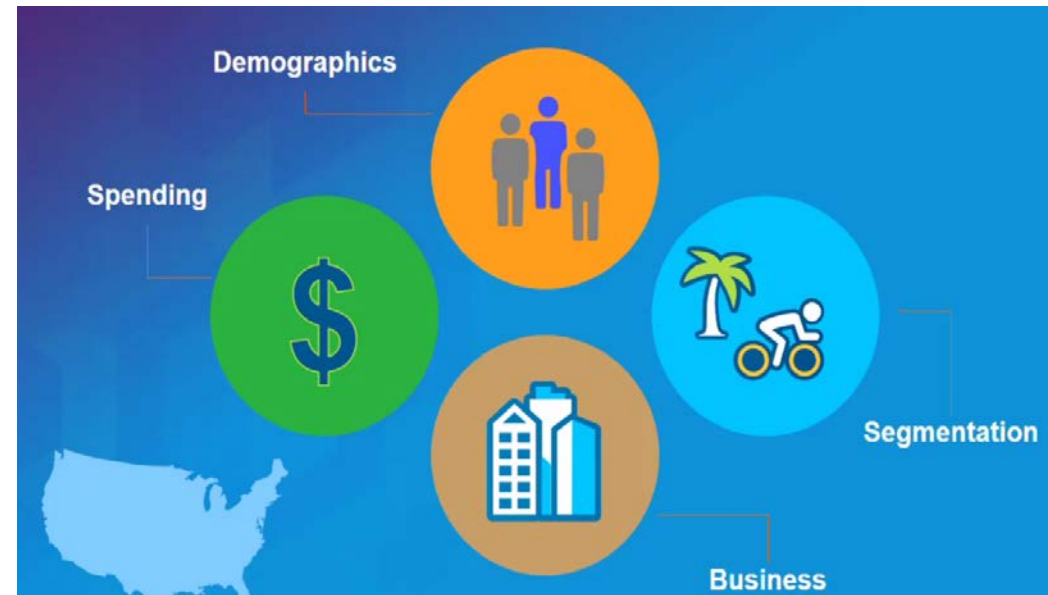
- 137 countries (http://www.esri.com/data/esri_data/explore-data)
- US (http://doc.arcgis.com/en/esri-demographics/)
  - **Demographics**
    - Esri Updated Demographics (public & private data)
    - American Community Survey (ACS)
    - Census
  - **Spending**
    - Consumer Spending – Bureau of Labor Statistics
    - Market Potential (behavioral data)
    - Retail MarketPlace (supply and demand, identify gaps)
  - **Tapestry Segmentation** (http://www.esri.com/data/esri_data/ziptapestry)
  - **Business**
    - Business Locations
    - Business Summary
    - Major Shopping Centers
    - Traffic Counts

Business Analyst Online: https://bao.arcgis.com/esriBAO/

Where to locate a business? – new tapas bar in downtown Clemson!!

Rank	Sites	5 minutes	Final Score		Consumed wine in last 30 days at restaurant			Dating Services			Entertainment/Recreation		
					value	score	weighted score	value	score	weighted score	value	score	weighted score
1	Tapas Bar Option 1	5 minutes	0.76		42	0.29	0.10	$191	1.00	0.33	$422,478	1.00	0.33
2	262 Old Greenville Hwy, Clemson, South Carolina, 29631	5 minutes	0.33		122	1.00	0.33	$17	0.00	0.00	$38,608	0.00	0.00
3	214 Strawberry Ln, Clemson, South Carolina, 29631	5 minutes	0.25		10	0.00	0.00	$82	0.37	0.12	$181,135	0.37	0.12

Understanding credit usage (http://www.esri.com/software/arcgis/arcgisonline/credits)

| Demographics & Lifestyle Maps	
Business Search	10 credits per 1,000 records
Demographic Maps and Layers	10 credits per 1,000 map requests (pan, zoom, and identify)
Data Enrichment	10 credits per 1,000 data variables (attributes)
Infographics	10 credits per 1,000 views
Reports	10 credits per report

Business Analyst

- Business Analyst Extension

- Business Analyst Data

Advantages over BAO:

• No credits required

• Unlimited geocoding and reports

• Control over creating a legend and layout view

• Data from reports can be GIS data ready to be used in ArcMap.
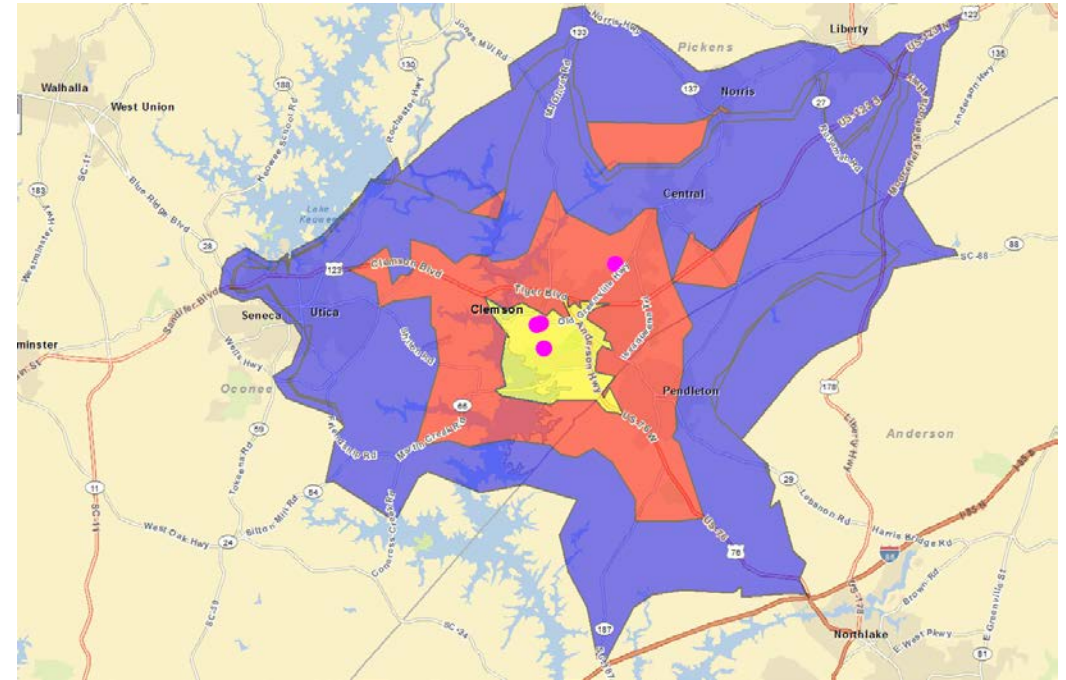
Exercise: Accessibility to electrical charging stations in the Clemson Area