

# Emerging Trends in Smart Planning

Keith Cooke

# A Location Platform for Planning

Integrating GIS into the Planning Process

## Location Enablement

Discover, use, make, and share maps at work -- anywhere, anytime

## Constituent Engagement

Facilitate and manage communication with stakeholders

## Decision Support

Inform execs and management with maps and location intelligence

## Field Mobility

Get authoritative information into and out of the field

## Analytics

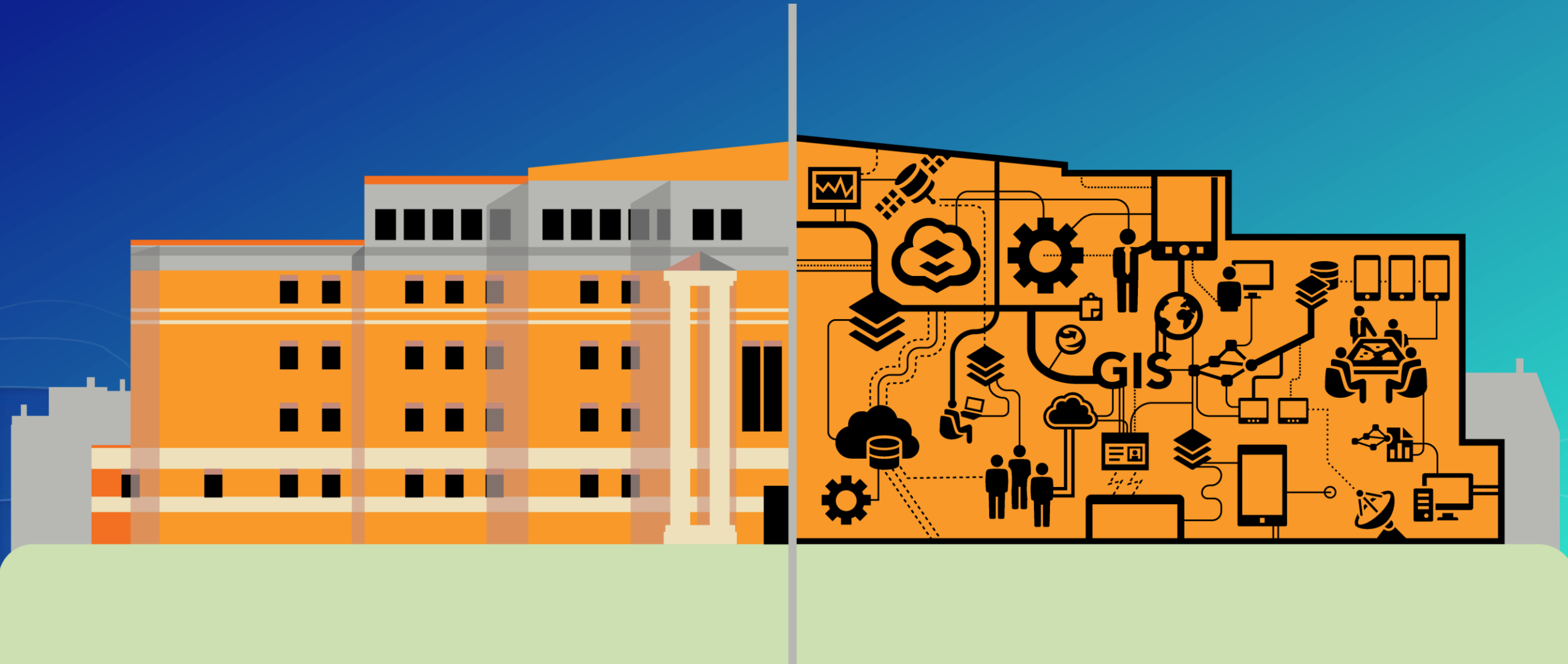
Describe, predict, and improve business performance

## Location Data Management

Collect and organize location data about your assets and resources

# GIS as a System of Record

Organizing and managing the geographic context of your assets and resources



# GIS is a System of Engagement

Empowering your planners and stakeholders to discover, create, and use maps.



any device, anywhere, anytime



# GIS is a System of Insight

Providing a “vocabulary” for examining how geography intersects with your business



## understanding *WHERE*

1. Understanding where things are (location maps).
2. Understanding where the variations and patterns in values are (comparative maps).
3. Understanding where and when things change.



## measuring *SIZE, SHAPE, AND DISTRIBUTION*

4. Calculating individual feature geometries.
5. Calculating geometries and distributions of feature collections.



## determining *HOW PLACES ARE RELATED*

6. Determining what is nearby or coincident.
7. Determining and summarizing what is within an area(s).
8. Determining what is closest.
9. Determining what is visible from a given location(s).
10. Determining overlapping relationships in space and time.



## finding *THE BEST LOCATIONS AND PATHS*

11. Finding the best locations that satisfy a set of criteria.
12. Finding the best allocation of resources to geographic areas.
13. Finding the best route, path, or flow along a network.
14. Finding the best route, path, or corridor across open terrain.
15. Finding the best supply locations given known demand and a travel network.



## detecting & quantifying *PATTERNS*

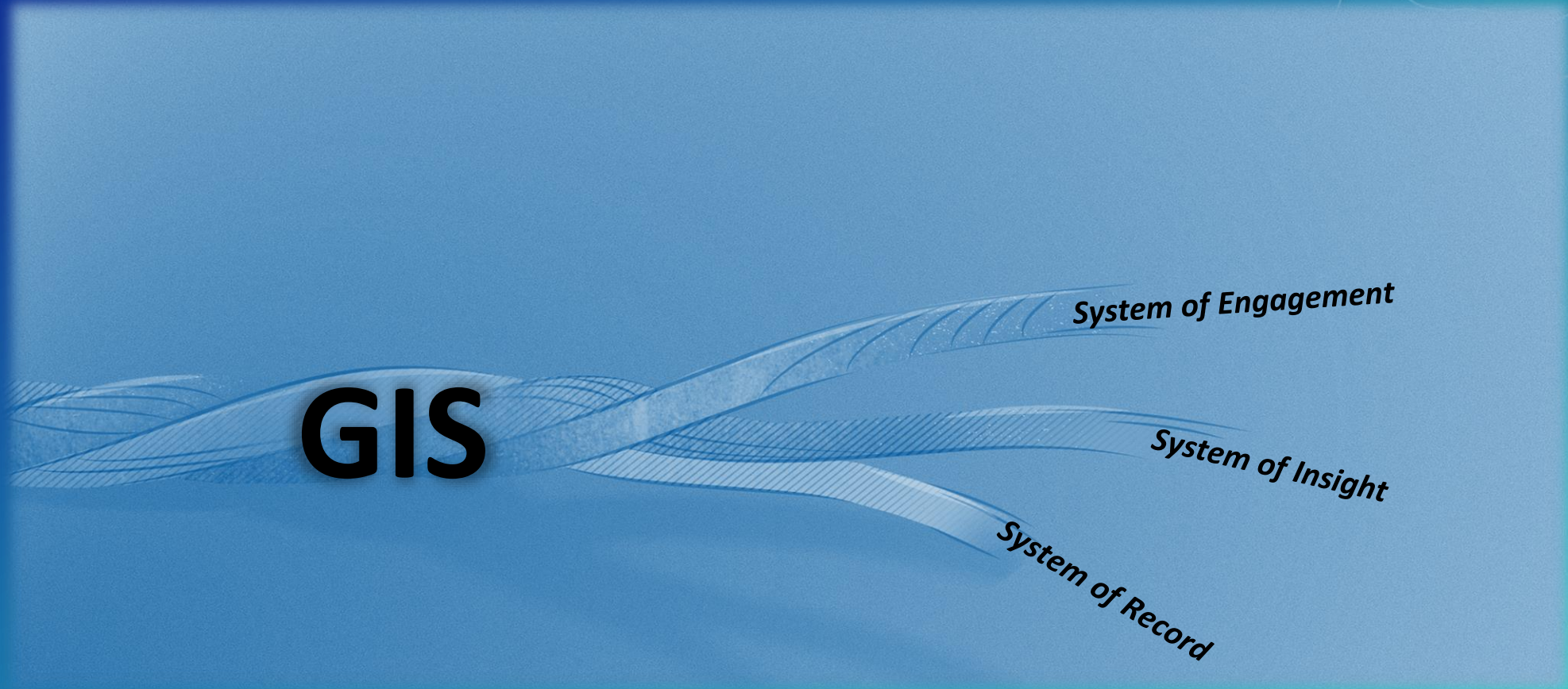
16. Where are the significant hot spots, anomalies, and outliers?
17. What are the local, regional, and global spatial trends?
18. Which features/pixels are similar, and how can they be grouped together?
19. Are spatial patterns changing over time?



## making *PREDICTIONS*

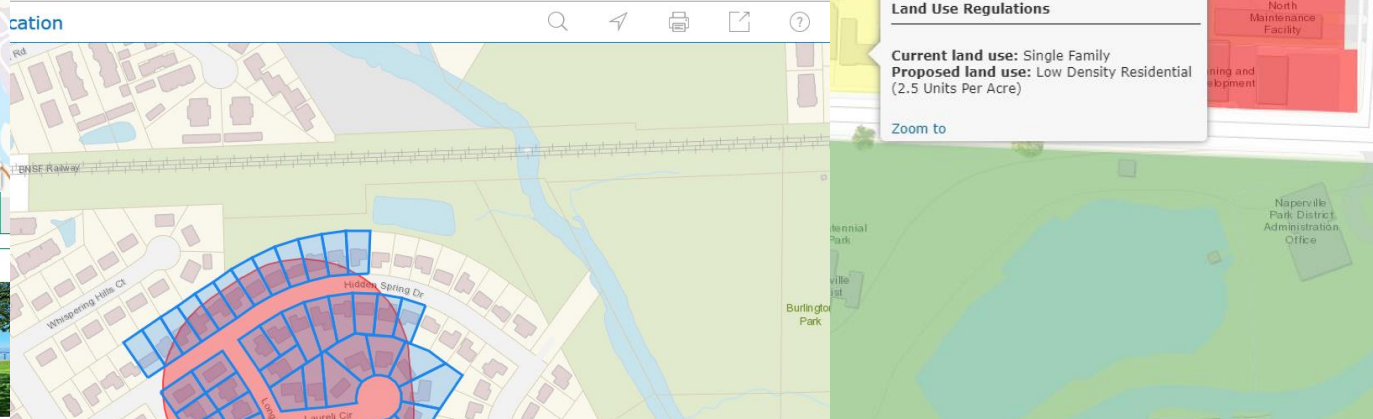
20. Given a success case, identifying, ranking, and predicting similar locations.
21. Finding the factors that explain observed spatial patterns and making predictions.
22. Interpolating a continuous surface and trends from discrete sample observations.
23. Predicting how and where objects spatially interact (attraction and decay).
24. Predicting how and where objects affect wave propagation.
25. Predicting where phenomena will move, flow, or spread.

# GIS Weaves Together Essential Systems Principles





## A screenshot of a map application interface. At the top left is a search bar with the placeholder text "Find address or place" and a magnifying glass icon. Below the search bar are three navigation controls: a plus sign for zoom in, a minus sign for zoom out, and a house icon for home. The map itself shows a street grid with yellow buildings and green trees. Labels on the map include "STEVENS ST" at the top, "S WEST ST" on the left, "W JEFFERSON AVE" in the center, and "S G ST" on the right. A scale bar is visible at the bottom right, showing a distance of 0 to 100 feet.



| 7/14/2009 - Carter Center | 7/14/2009 - Carter Center | 7/14/2009 - Carter Center | 7/14/2009 - Carter Center |
|---------------------------|---------------------------|---------------------------|---------------------------|
| 714404009                 | De Lacey Ronald           | 1129 Candlenut Dr         | Naperville IL 60540       |
| 714403008                 | Damore Phillip A          | 109 Longleaf Dr           | Naperville IL 60540       |
| 714403010                 | Green William F & Dawn    | 1201 Candlenut Dr         | Naperville IL 60540       |
| 714403002                 | Kubatzki Thomas G         | 112 Pepperidge Rd         | Naperville IL 60540       |
| 714205015                 | Belle S Richard & K A     | 1203 Hidden Spring Dr     | Naperville IL 60540       |
| 714205012                 | Morrison Neil M           | 1209 Hidden Springs       | Naperville IL 60540       |
| 714207015                 | Maiorano Carmen R & N M   | 1131 Laurel Cir           | Naperville IL 60540       |
| 714205021                 | Kapraun Dennis            | 1127 Hidden Spring Dr     | Naperville IL 60540       |
| 714205017                 | Qunell Lucille H          | 603 Rymer Way             | Louisville KY 40223       |
| 714207002                 | Marshall David & Kathleen | 1132 Hidden Springs       | Naperville IL 60540       |
| 714207014                 | Sprague Thomas & Mary     | 204 Longleaf Dr           | Naperville IL 60540       |
| 714206003                 | Livanos Maria T           | 207 Longleaf Dr           | Naperville IL 60540       |
| 714404012                 | O Neill John & Margaret   | 1117 Candlenut Dr         | Naperville IL 60540       |
| 714404007                 | Murashige Danl & Shu      | 100 Longleaf Dr           | Naperville IL 60540       |
| 714207005                 | Clarke Troy & Jean        | 1124 Hidden Spring Dr     | Naperville IL 60540       |
| 714207003                 | Szilagy Bernard & Renee   | 1130 Hidden Spring Dr     | Naperville IL 60540       |



# System of Engagement for Smart Planning

Survey123  
for ArcGIS

## Bike Corridors in Olympia

People have been asking for an easier way to get around Olympia by bike. In 2014, the City Council funded a Bike Corridor pilot project. We built it in 2016. Now we want to build more.

### 1. Enter Information

Email

Your email (optional)

GeoForm Link

Provide a link to your GeoForm if you would like to share.

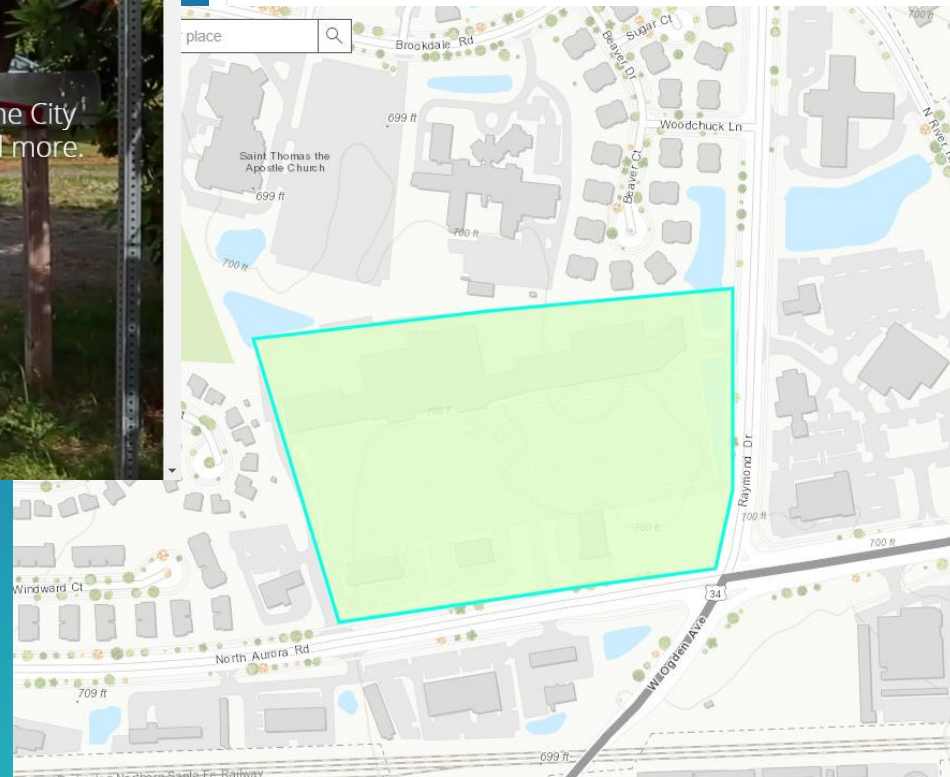
Rating (required)

Select...

How would you rate the usability of this app?

Comments

Please provide us with some feedback on what you like / don't like about this app.



< Land Use Cases: Riverbrook Sh... 12

### Land Use Cases: Riverbrook Shopping Center Redevelopment

|                  |  |
|------------------|--|
| Case Number      | 2017BZA014   |
| Case Name        | Riverbrook Shopping Center Redevelopment   |
| Case Description | Rezoning RSC from C-1 CU to Mixed Use Development to add 1 and 2-bedroom residential units above commercial sites. |
| Applicant Name   | Elion Musk   |
| Location         | 1523 N. Aurora Rd.   |
| Case Type        | Rezoning   |
| Case Status      | Board of Appeals Review  |
| Date Submitted   | April 19, 2017   |
| Hearing Date     | May 16, 2017   |
| Hearing Location | City Council Chambers - Naperville   |
| Last Update Date | April 28, 2017   |
| Popularity       | 12   |



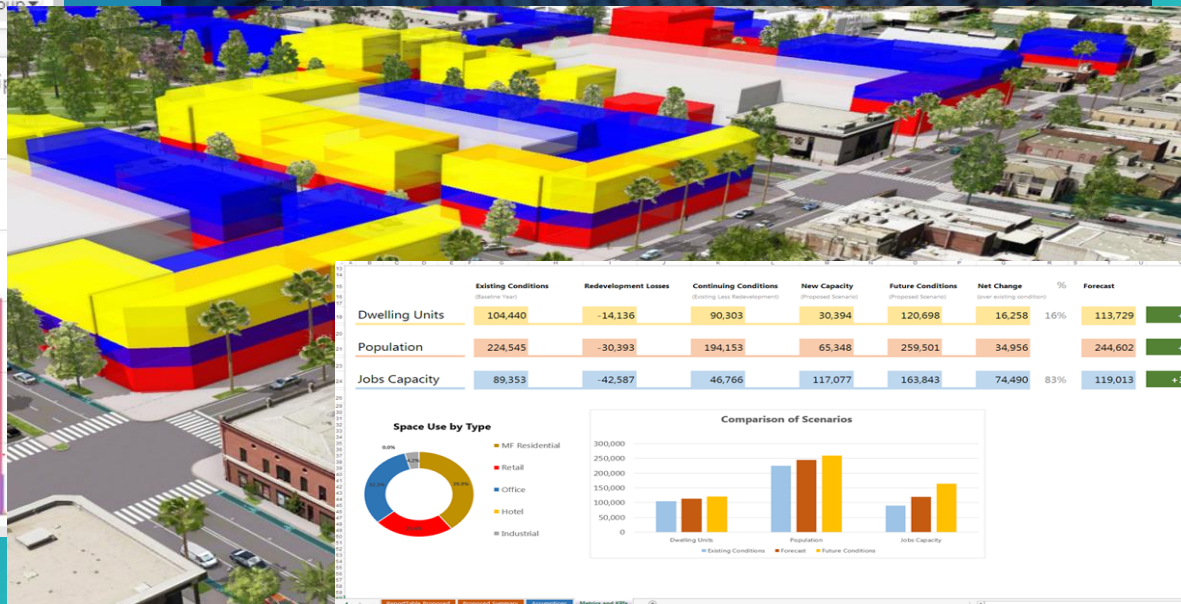
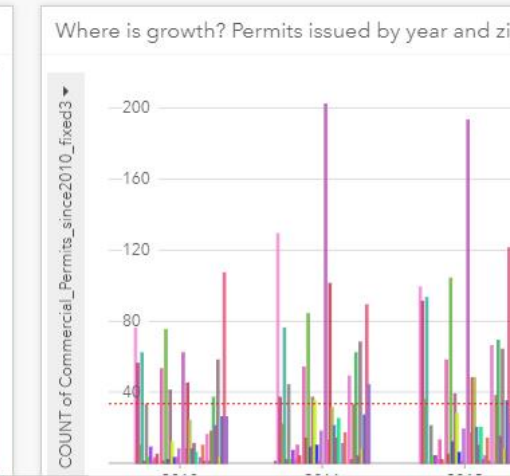
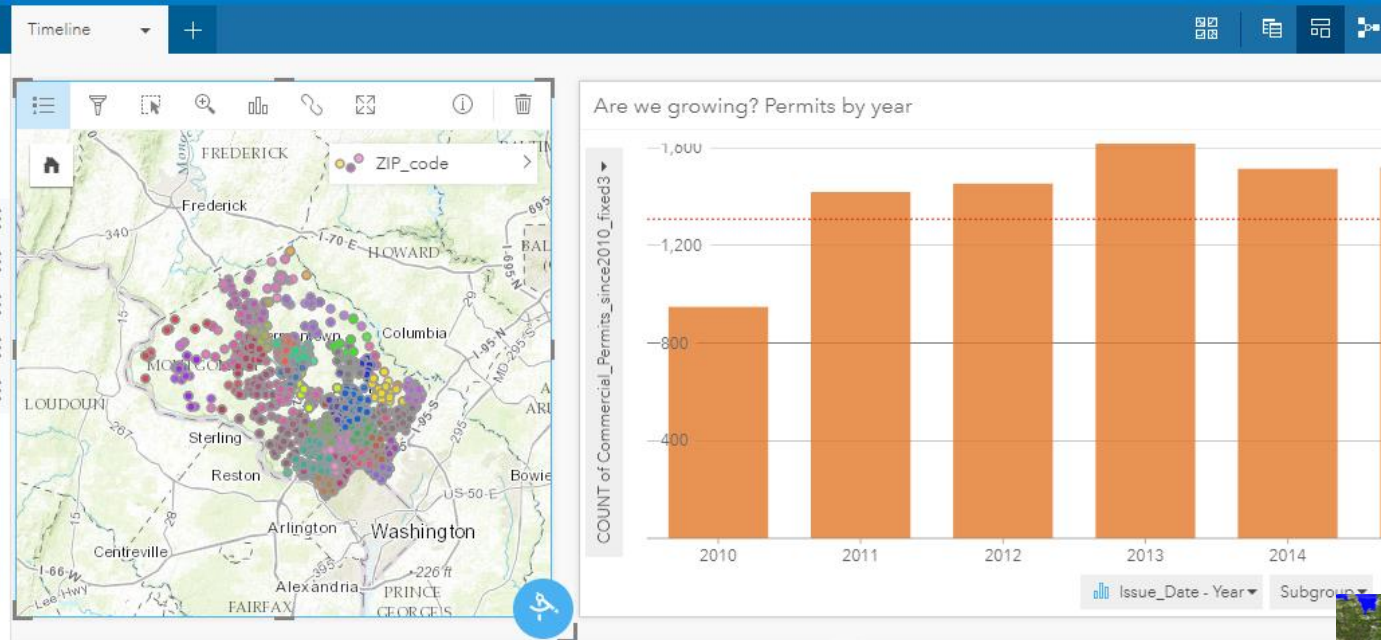
Name 100

Full Address 100

Phone Number 10



# System of Insight for Smart Planning



## HOUSING



\$7,146

Mortgage Payment & Basics



\$6,413

Average Rent

## KEY DEMOGRAPHIC FACTS



289,403

Population



\$50,777

Household Income



302,126

Daytime Population

## EMPLOYMENT



58%

White Collar



23%

Blue Collar



19%

Unemployment Rate

4.9%

Unemployment Rate

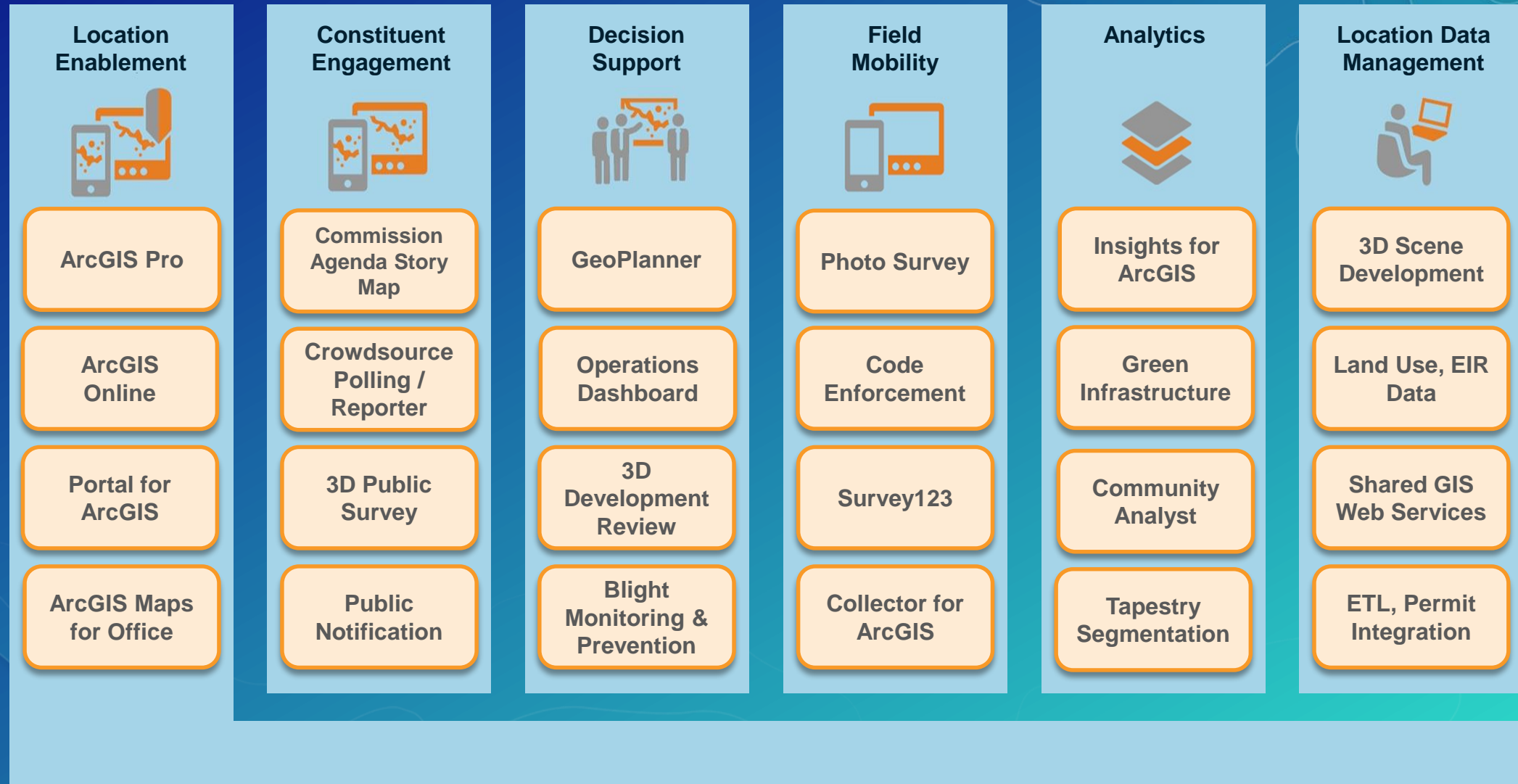


# Smart Planning Tools – The Road Ahead





# Essential Patterns of a Smart Planning Location Strategy



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**Download the Esri Events app and find your event**



**Select the session you attended**



**Scroll down to find the survey**



**Complete Answers and Select "Submit"**







esri

THE  
SCIENCE  
OF  
WHERE

**Keith Cooke**

**[kcooke@esri.com](mailto:kcooke@esri.com)**

**@RKeithCooke**

**205-215-2832**