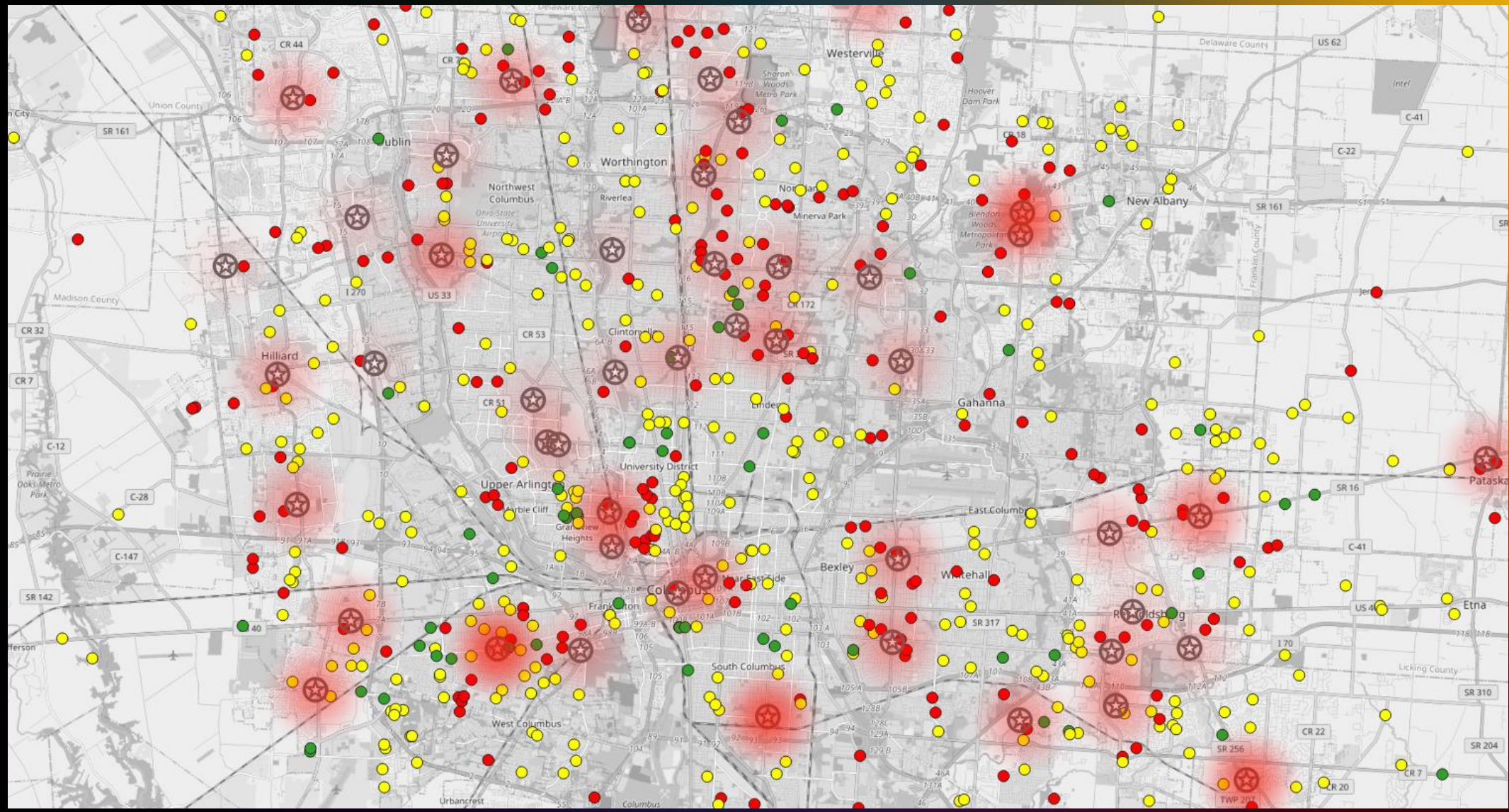

AWS
re:Invent
NOV. 28 – DEC. 2, 2022 | LAS VEGAS, NV

Site suitability analysis



FWM202

Site suitability analysis using Amazon Location Service

Parag Srivastava

Senior Solutions Architect
AWS

Dave Bianco

Senior Geospatial Architect
AWS

Agenda

- Locations for better engagement with customers
- Locations to help with workforce recruitment and retention
- Building solutions using Amazon Location Service and other AWS services

Importance of location

- Better access for customers
- Efficient commute to attract workforce
- Access to other facilities required for business operations

Close to highway

Close to airport

Close to suppliers

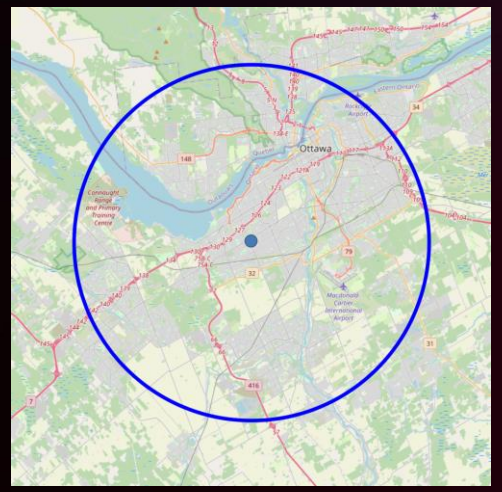
Solution complexities and limitations

- Access to high-quality data
  - Demographics, market analysis, topography, etc.
- Integrity and consistency of data
- Data licensing
- Integration with vendors
- Specialized geospatial skillset

Site selection

- Catchment area
  - Drive time/drive distance
  - Physical/political boundaries
- Weighted analysis
- Methodologies

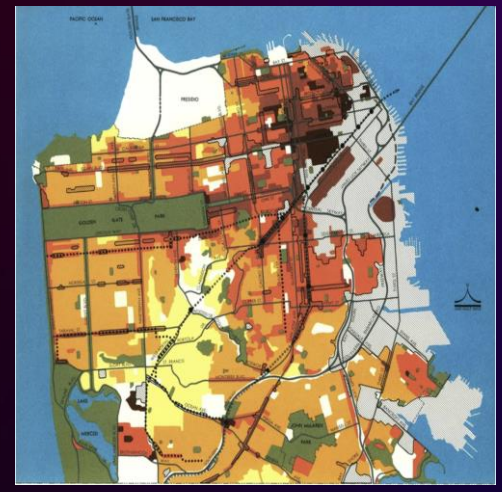
Radial distance



Drive distance

Drive time

Land use classification

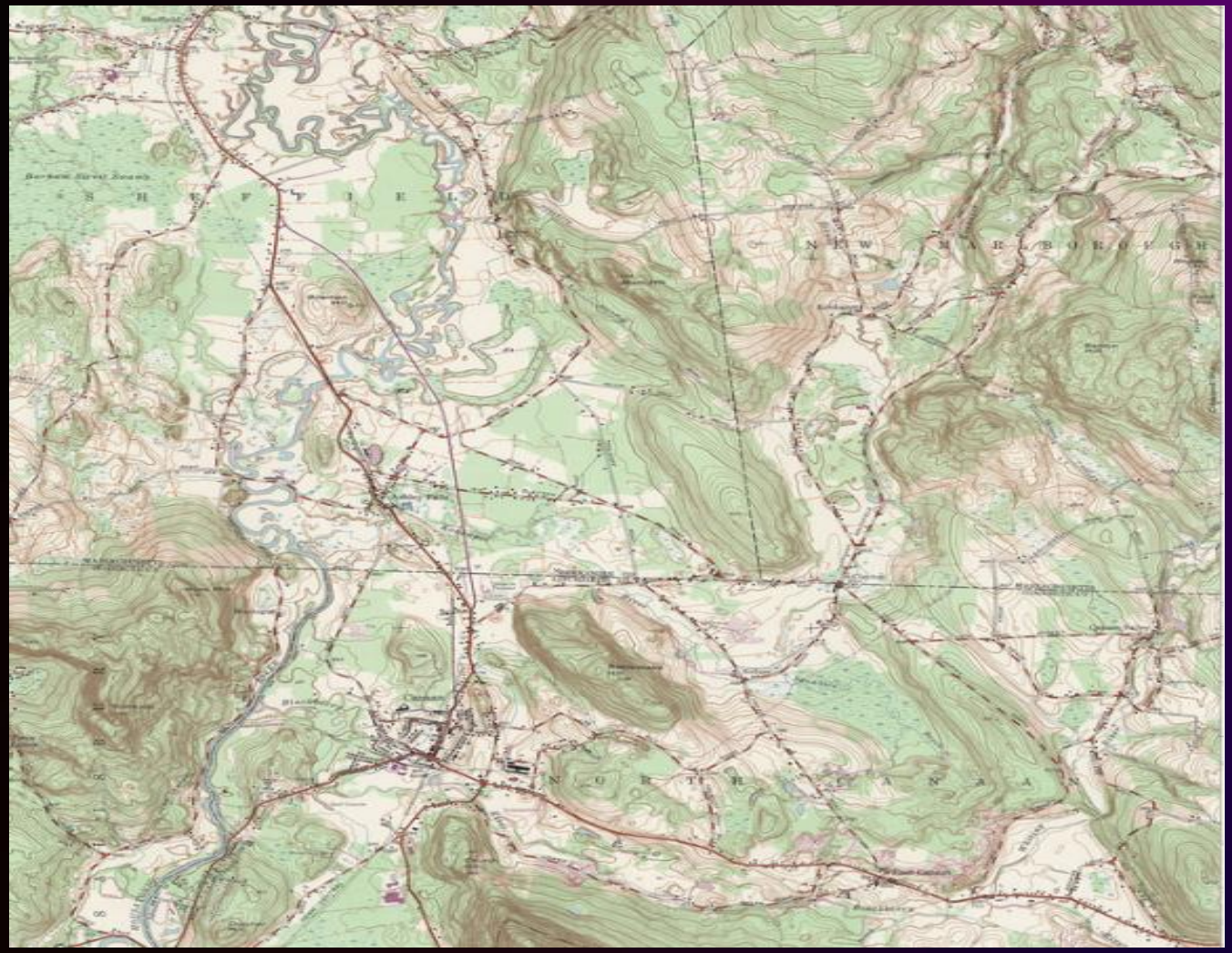


Site selection

- Determine new site locations
- Evaluate twin locations
- Sales forecasting

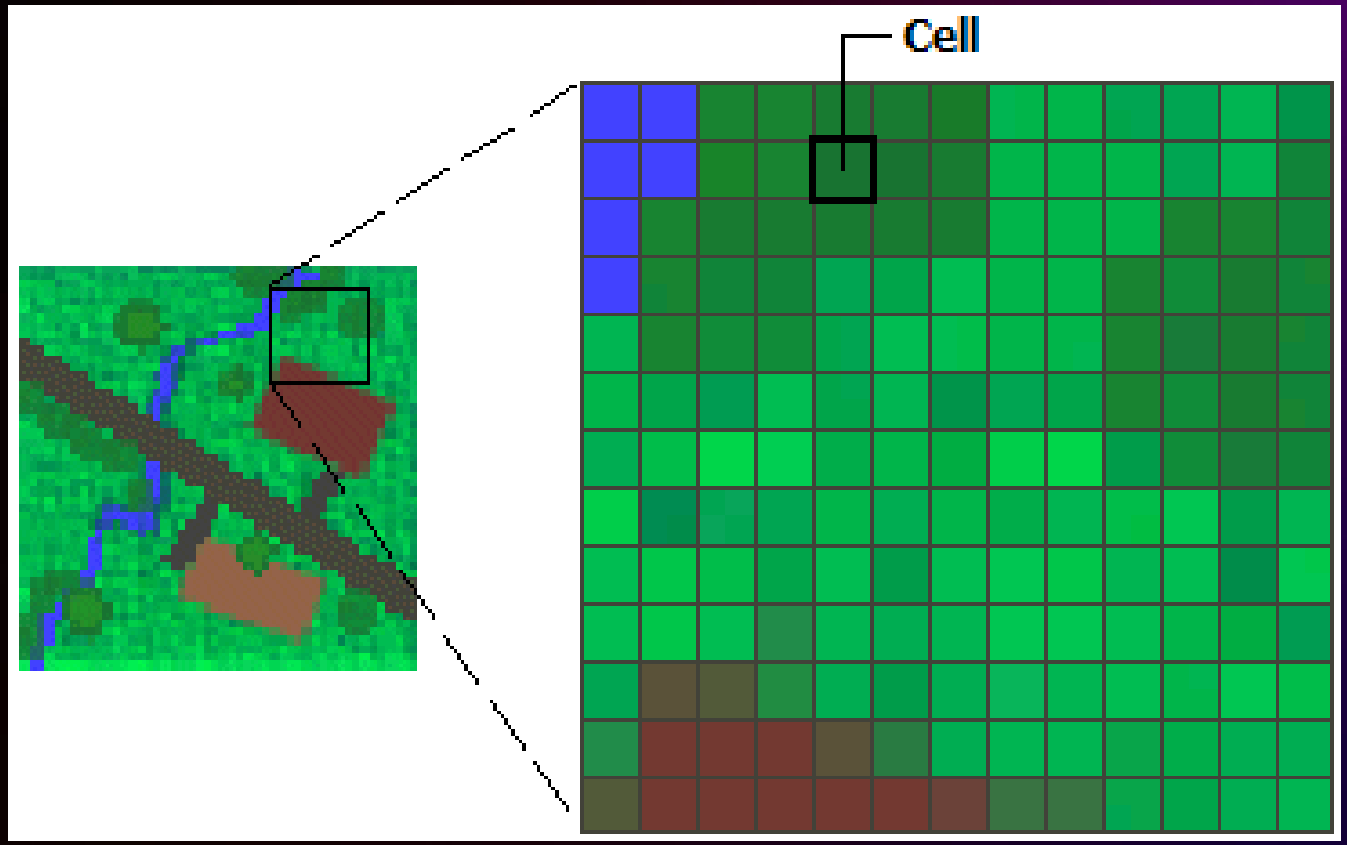
Data

- Demographics
- Non-quantifiable
- Market analysis
- Traffic/weather patterns
- Land use
- Topography/natural hazard



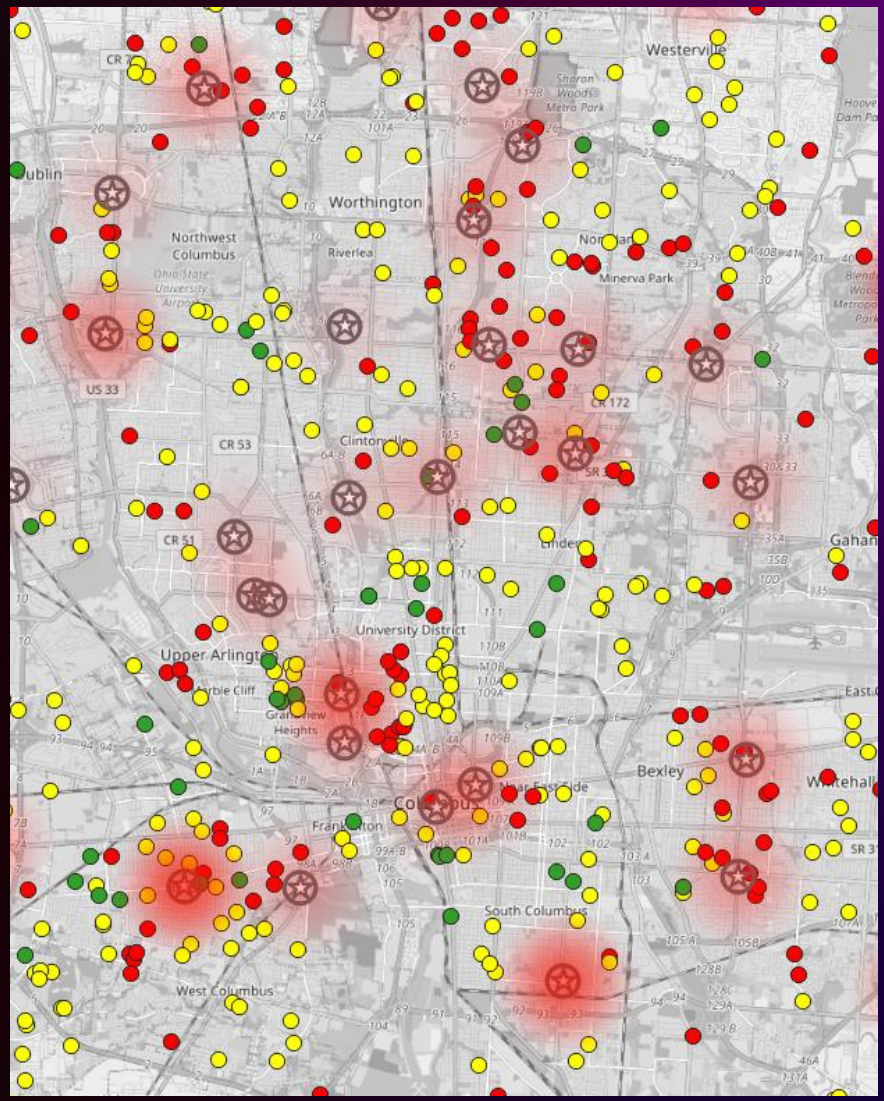
Data – Raster formats

- Uniform pixel sizes
- Continuous data
- Spatial analysis with complex datasets



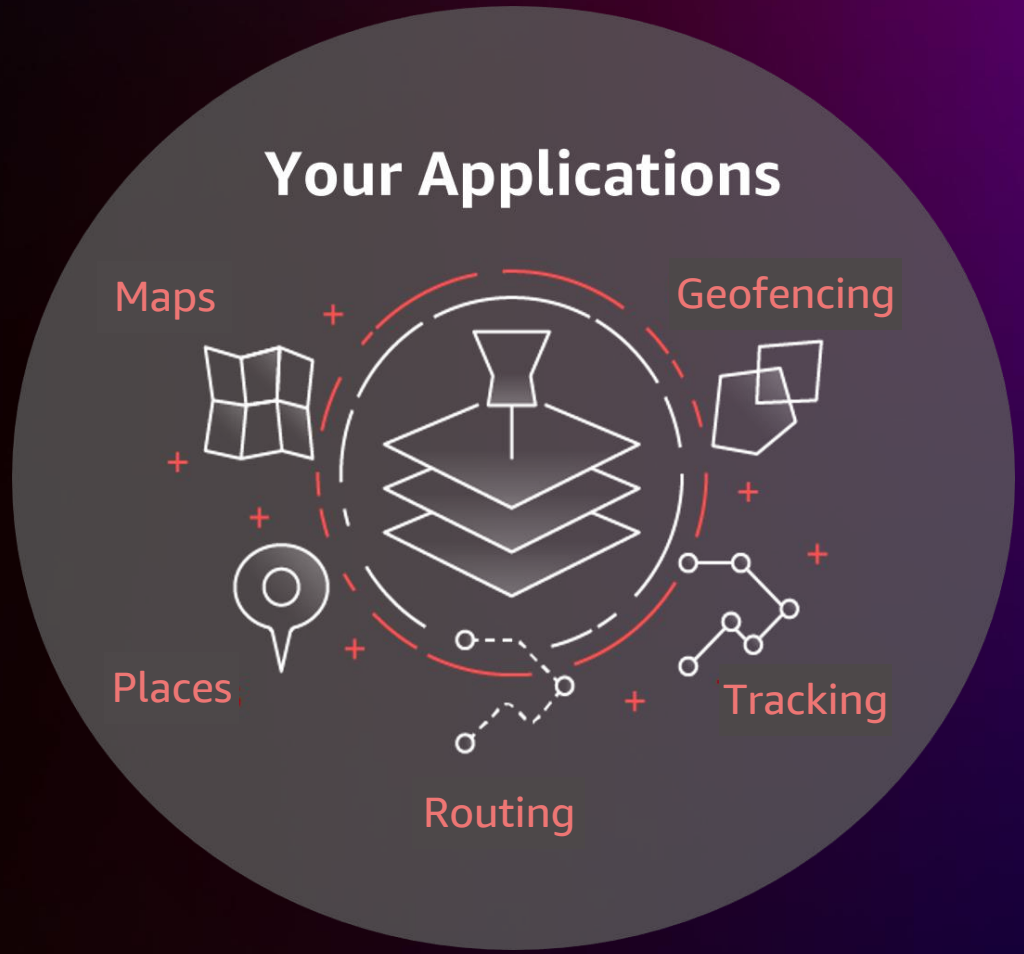
Solution requirements

- Customer and employee locations
- Demographic data (public, fee-based, or both)
- Geospatial database



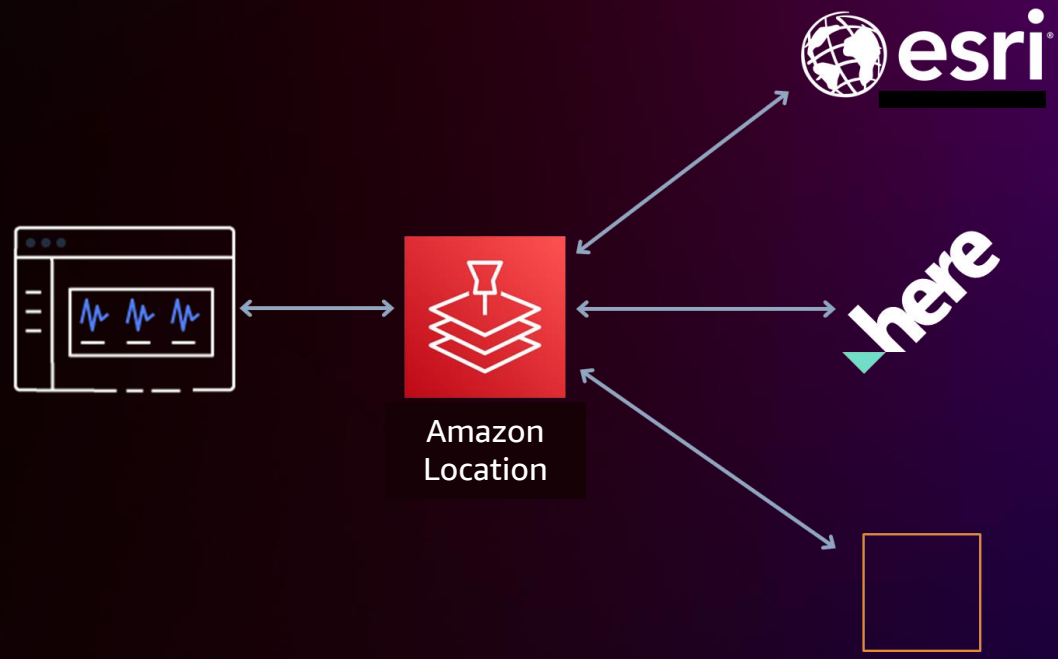
Amazon Location Service overview

- Easily integrate geospatial data into your applications
- Accelerate application development with integrations with AWS
- Protect user privacy, shield sensitive information, and reduce security risks
- Access cost-effective, high-quality geospatial data from trusted data providers



Amazon Location data providers

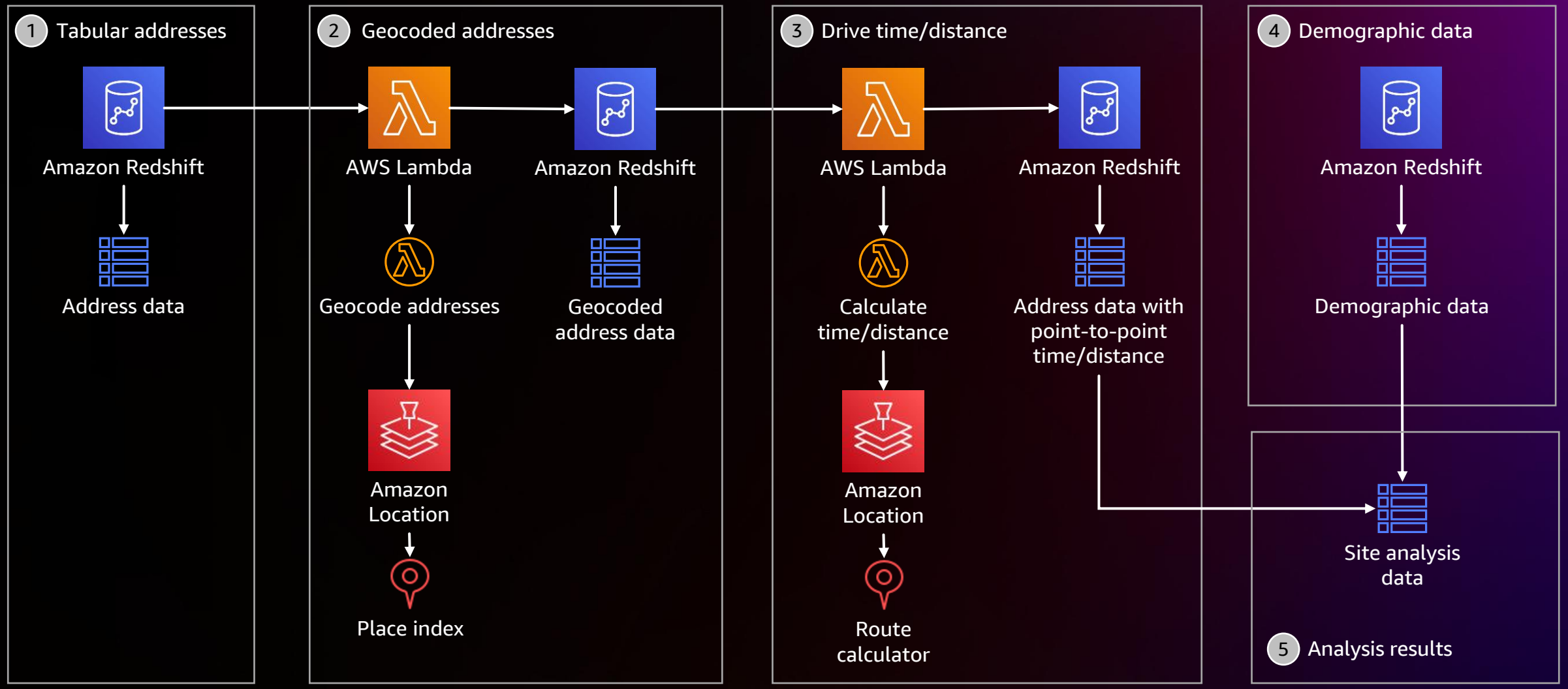
- Avoid implementing new credentials and onboarding vendors
- Simplified global coverage
- A single consistent API
- Only pay for what you use and no up-front commitment



Putting it together

- Data stores – Amazon Redshift, Amazon RDS, Amazon S3, Amazon Athena
  - Geospatial data storage
  - Geospatial query capabilities
- Data processing – AWS Lambda, AWS Step Functions
- Geospatial – Amazon Location
  - Geocode addresses
  - Calculate drive time and distance
    - Modes of transport including trucks
  - Visualization

Solution architecture



Other related use cases

- Inventory selection
  - What kinds of products and services are required by the customers?
- Non-retail facilities
  - What population subset needs to be served?
  - What skillset is required to serve that population?
- Store relocations
  - Which customers will be impacted?
  - How to suggest the best alternate location?
- Environmental
  - How to analyze flood/forest fires/weather patterns

Site suitability analysis using AWS services

- Geocode addresses
- Calculate drive time/drive distance
- Store geospatial datasets
- Perform geospatial queries

Thank you!

Parag Srivastava
LinkedIn: @paragsri

Dave Bianco
LinkedIn: @davidbianco

Please complete the session survey in the **mobile app**