Multimodal Collaboration through Data Sharing

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Outline

- About the Lextran-Fayette Urban County Government… (and its transit authority)
- Challenges to Multimodal Planning in Lexington
- Transit Data Needs for Multimodal Planning
- Transit Route Facilities Inventory Project Goals and Timeline
- Project Status and Lessons Learned

Lexington-Fayette County

- The horse capital of the world.
- Population of about 310,000.
- One of the first urban growth boundaries in the United States.
  - Offers protection to horse farms
  - Increased density and efficiency of providing public services
- Consolidated city and county government.

“Consolidated” City and County Government

- Lexington Area Metropolitan Planning Organization (MPO) coordinates the transportation planning process for Fayette County and neighboring Jessamine County.

- Lexington Fayette Urban County Government (LFUCG)
  - Streets and Roads Division
  - Traffic Engineering Division
  - Planning, Preservation, and Development Division

- Transit Authority of LFUCG
  - 65 fixed-route buses, about 4 million unlinked trips per year
  - Complementary paratransit service and a rideshare program

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Challenges to Multimodal Planning in Lexington

- Although government is consolidated under LFUCG, Lextran operates as a quasi-governmental authority established in state law.
- Transportation planning, land-use planning, and engineering work well together in city government.
- Multimodal planning organized through the Lexington Area MPO.
- Lextran participated in collaborative efforts through membership on transportation planning committees.

Transit-Focused Data Needs for Multimodal Planning

- Lexington Area MPO for multimodal integration with sidewalk and cycling data
- Streets and Roads Division for resurfacing and maintenance of local roads
- Traffic Engineering Division for signal control
- Planning, Preservation, and Development Division for zoning and land-use analysis
- Kentucky Transportation Cabinet for state road maintenance and design

Data consistency across agencies is critical!

Transit Route Facilities Inventory

- Goal: To create a living database of bus stops and contextual data that is centrally housed and accessible to diverse users.
  - Across government agencies, both state and local
  - For various purposes—planning, customer-facing information, maintenance, analyses, and so forth

- WSP was tasked with creating an inventory of all bus stops in Lexington and to meet the data needs of outside government agencies.

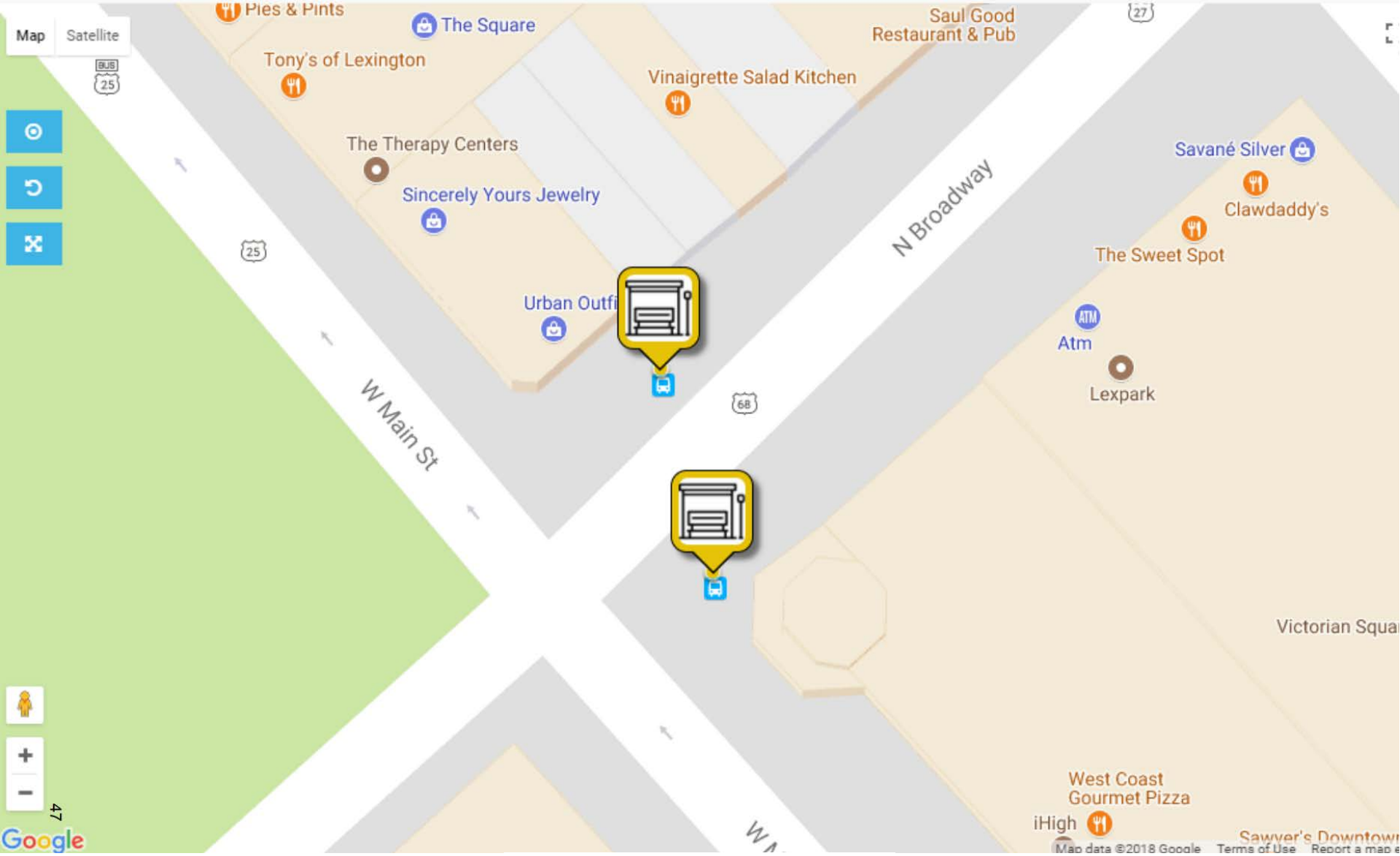
Project Timeline

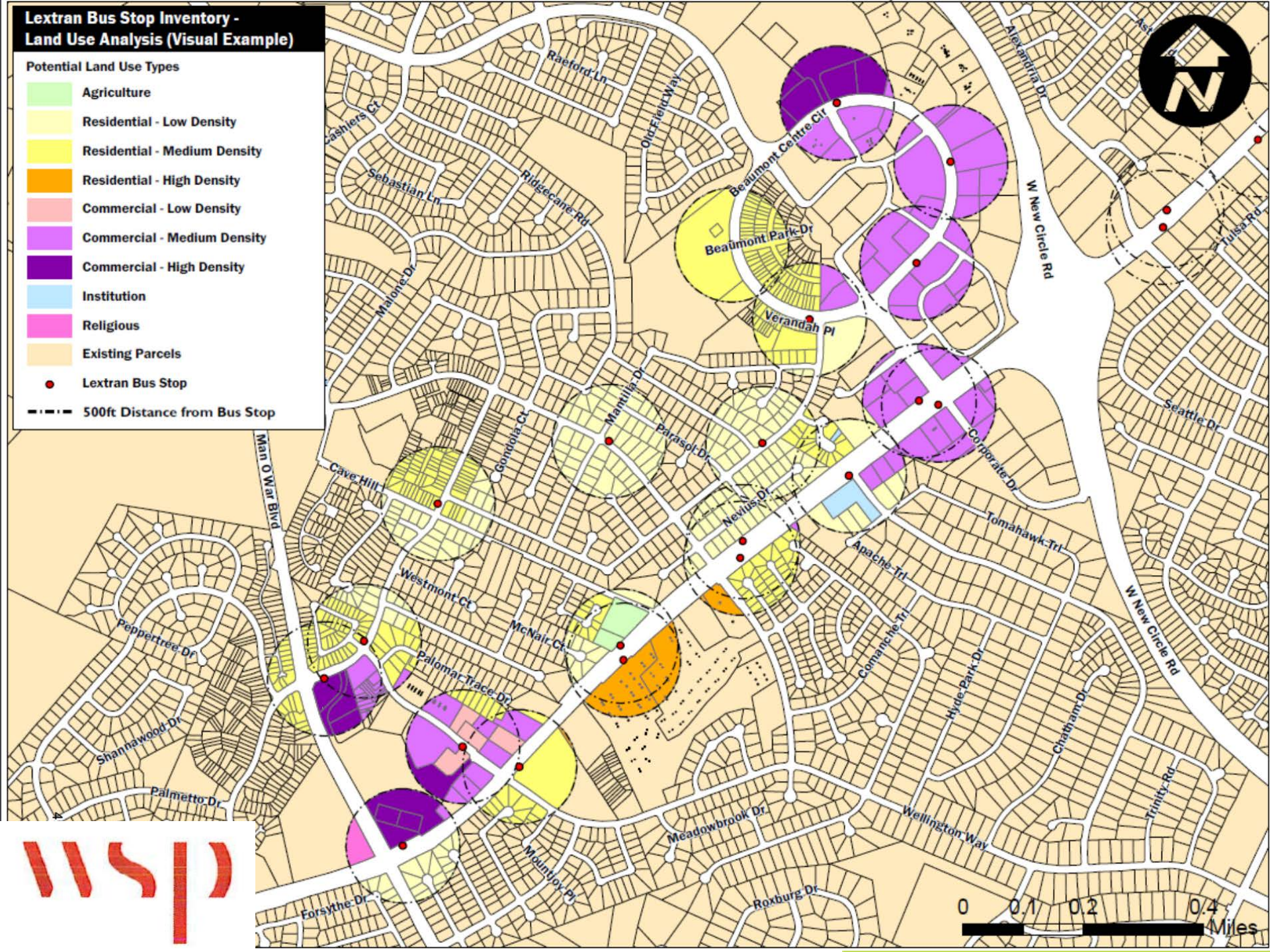
- Phase I: Project Planning
  - Who needs what data?
  - How can we support outside planning functions and meet our internal needs?
- Phase II: Data Collection
  - Finding the right blend of technology and planning expertise.
  - Quality controls amid service changes.
- Phase III: Technology Integration
  - Where does the data live?
  - Balancing security with access-how can we best communicate among data users?
- Phase IV: Long-Term Maintenance

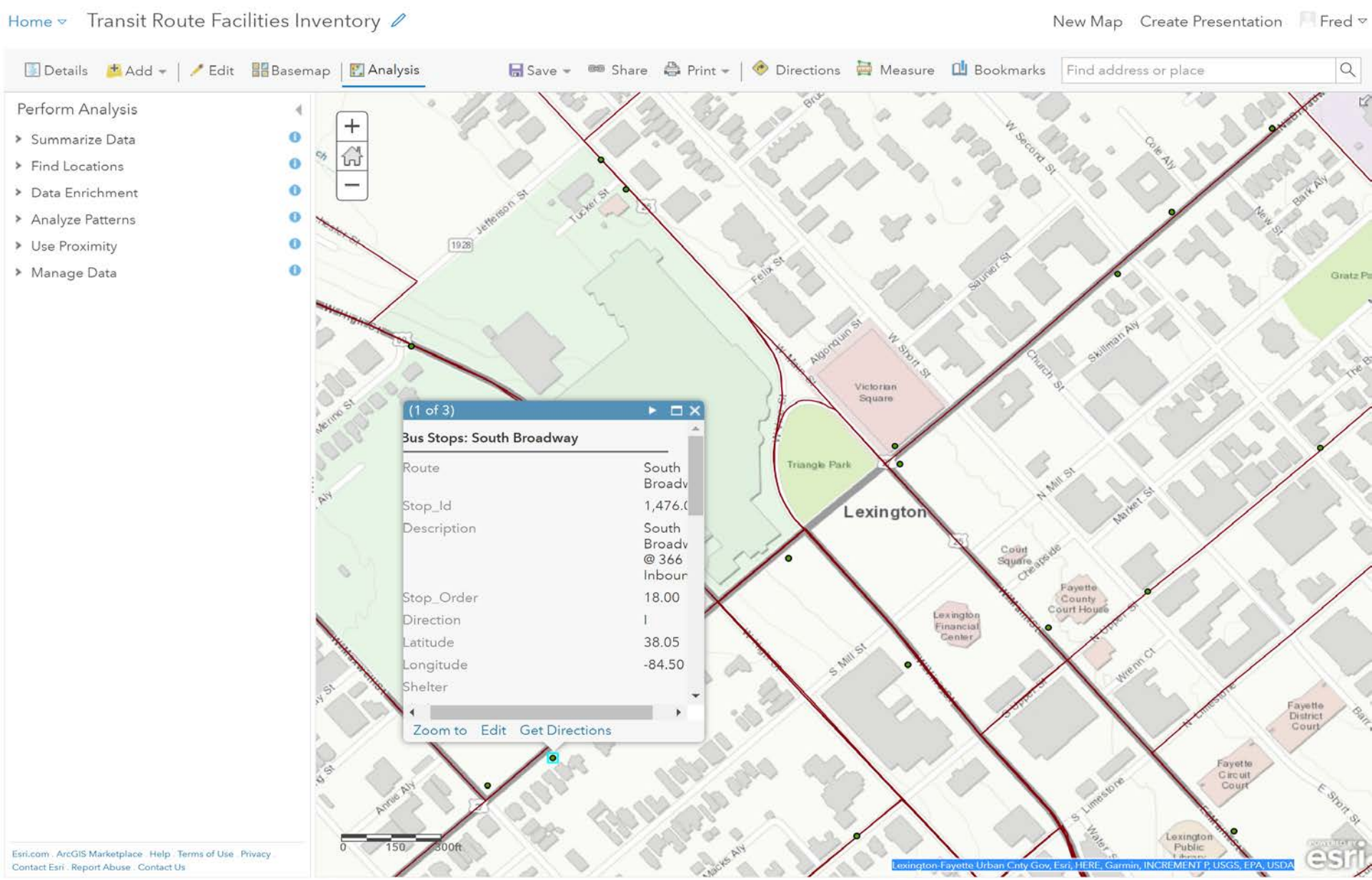
We are here

Data Collection

- WSP, Lextran, and the Lexington Area MPO collaborated to generate a list of needed data.
  - Latitude and longitude
  - Adherence to the Americans with Disabilities Act requirements
  - Evaluation of access to stops via sidewalks, bike lanes, crosswalks, etc.
  - Surrounding land-use analysis based on LFUCG zoning
  - Safety and security factors
  - Condition assessments for the Transit Asset Management rules
- WSP contracted Raxar Technologies to develop a mobile application that could meet the data needs.


Map
Satellite
Pies & Pints
The Square
Tony's of Lexington
Vinaigrette Salad Kitchen
Saul Good Restaurant & Pub
The Therapy Centers
Sincerely Yours Jewelry
Savané Silver
Clawdaddy's
The Sweet Spot
N Broadway
W Main St
Urban Outfi
Atm
Lexpark
Victorian Squa
West Coast Gourmet Pizza
iHigh
Google


Lextran Bus Stop Inventory -
Land Use Analysis (Visual Example)
Potential Land Use Types
Agriculture
Residential - Low Density
Residential - Medium Density
Residential - High Density
Commercial - Low Density
Commercial - Medium Density
Commercial - High Density
Institution
Religious
Existing Parcels
Lextran Bus Stop
500ft Distance from Bus Stop
Raeford Ln
Old Field Way
Cashiers Ct
Sebastian Ln
Ridgecane Rd
Malone Dr
Beaumont Centre Cir
Beaumont Park Dr
Verandah Pl
W New Circle Rd
Alexandria Dr
Tulsa Rd
Seattle Dr
Corporate Dr
Tomahawk Trl
Apache Trl
Comanche Trl
Hyde Park Dr
Chatham Dr
Trinity Rd
Wellington Way
Roxburg Dr
Meadowbrook Dr
Mountjoy Pl
Forsythe Dr
Mantilla Dr
Parasol Dr
Gondola Ct
Nevius Dr
Cave Hill
Man O War Blvd
Westmont Ct
McNair Ct
Palomar Trace Dr
Peppertree Dr
Shannawood Dr
Palmetto Dr
0
0.1
0.2
0.4
Miles


Home
Transit Route Facilities Inventory
New Map
Create Presentation
Fred
Details
Add
Edit
Basemap
Analysis
Save
Share
Print
Directions
Measure
Bookmarks
Find address or place
Perform Analysis
Summarize Data
Find Locations
Data Enrichment
Analyze Patterns
Use Proximity
Manage Data
(1 of 3)
Bus Stops: South Broadway
Route
South Broadv
Stop_Id
1,476.0
Description
South Broadv @ 366 Inbour
Stop_Order
18.00
Direction
I
Latitude
38.05
Longitude
-84.50
Shelter
Zoom to
Edit
Get Directions
Lexington
Victorian Square
Triangle Park
Jefferson St
Tucker St
W Second St
Cole Aly
Bank Aly
Felix St
Saunier St
Algonquin St
W Short St
Church St
Skillman Aly
N Mill St
Market St
Court Square
Cheapside
Fayette County Court House
Lexington Financial Center
S Mill St
Wrenn Ct
Fayette District Court
Fayette Circuit Court
S Limestone
E Short St
Lexington Public Library
Annex Aly
Macks Aly
0
150
300ft
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Next Steps

Phase III: Technology Integration
Phase IV: Long-Term Maintenance

- Starting point: ArcGIS Online shared data portal with LFUCG.
- Current data being maintained by Lextran on an as-needed basis.
- Development of seamless data hosting and access at a reasonable cost:
  - Generation of maintenance work orders
  - Real-time customer information
  - Integration of sidewalk, pedestrian movements, cycling, traffic, and other planning data.

Conclusion

- Partnering with a vendor to conduct an inventory of transit routes is a common project for transit agencies to undertake—doing so with a focus on data needs of partnering governmental agencies for multimodal planning.

- Sharing data is easy. Integrating data is hard.

- Technology that is flexible enough to handle a wide range of uses—internal maintenance work orders to external analyses—can be cost prohibitive for a smaller agency. Collaboration is key.