



# Statewide Bicycle and Pedestrian Facilities Inventory Project

Statewide Bicycle and Pedestrian Advisory Committee  
Spring Meeting - May 16, 2017

# Overview

- initial effort to inventory / map bicycle and pedestrian facilities throughout the Commonwealth
- GIS-based (geodatabase / shapefile with attributes)
- baseline data / attributes
  - facilities type(s)
  - miles of facilities by type
  - geographic location
  - other attributes
- initial focus: on-street bicycle facilities

# Potential Data Application / Use

- baseline data - i.e., total miles of on-street facilities
- planning
- network analysis (connectivity, safety, accessibility, etc.)
- policy analysis
- performance measures
- mapping
- best practices
- SMART Scale support
- incorporation into VDOT roadway databases

VDOT DESIGNATED BICYCLE AND PEDESTRIAN ACCOMMODATIONS (February 2017)

<http://www.virginia.gov/programs/resources/bpaccommodationsdefined.pdf>

BICYCLE ACCOMMODATIONS
<i>FACILITIES</i>
Paving unpaved roads
Paving shoulders that have been striped and are at least 2 feet in width, preferably 4 feet in width
Paving wide outside lanes, at least 14 feet in width
Providing bicycle lanes, with at least a 4 foot width of rideable surface
Providing shared use paths 10 feet wide
Providing striping for bicycle lanes and shoulders
Maintenance activities that include widen shoulder
<i>DESIGN FEATURES</i>
Providing Sharrow (shared lane markings)
Providing signage indicating bicycle facilities/ Bicycle on Road, Bicycle Route, USBRs)
Installing Bicycle racks (fixed and bus racks) and lockers
Installing bicycle railings 54" high
Providing fencing on structures
Providing lighting along bicycle facilities.
Replacement of drainage grates with bicycle friendly grates and adjustment of grade for utility covers.
Removal of obstructions from bicycle facilities
Providing fencing on structures
Maintenance activities that include debris and snow removal from shoulders and bicycle facilities

PEDESTRIAN ACCOMMODATIONS
<i>FACILITIES</i>
Providing a paved shoulder a least 4 feet wide for occasional use in rural settings only
Providing asphalt or concrete sidewalks at least 5 feet in width
Providing shared use paths 10 feet wide
Providing curb cuts and ramps that meet ADA standards
Providing pedestrian refuge islands (6 feet wide min.) at intersections and roundabouts
Providing median island cut-throughs
Providing appropriately striped crosswalks
Providing pedestrian signals- walk/ don't walk, countdown, and/or push buttons
Providing "bulb-outs" at intersections and other traffic calming methods
Providing warning flashers at crosswalks or RRFBs
Providing Pedestrian Hybrid Beacons
<i>DESIGN FEATURES</i>
Providing signage (yield to pedestrian in crosswalk, pedestrian crossing warning signs, etc.)
Providing pedestrian railing 42" high
Providing pedestrian shelters (at transit stops, park and ride lots)
Providing fencing on structures
Providing lighting along pedestrian facilities
Removal of obstructions from sidewalks
Replacement of drainage grates with ADA acceptable grates and adjustment of grade for utility covers.
Maintenance activities that include debris and snow removal from sidewalks and shared use paths

# Mapping Feature Classes

## **Bicycle facilities**

- designated bicycle lanes
- paved shoulders
- wide outside lanes
- shared use paths

## **Pedestrian facilities**

- sidewalks

## **Other accommodations?**

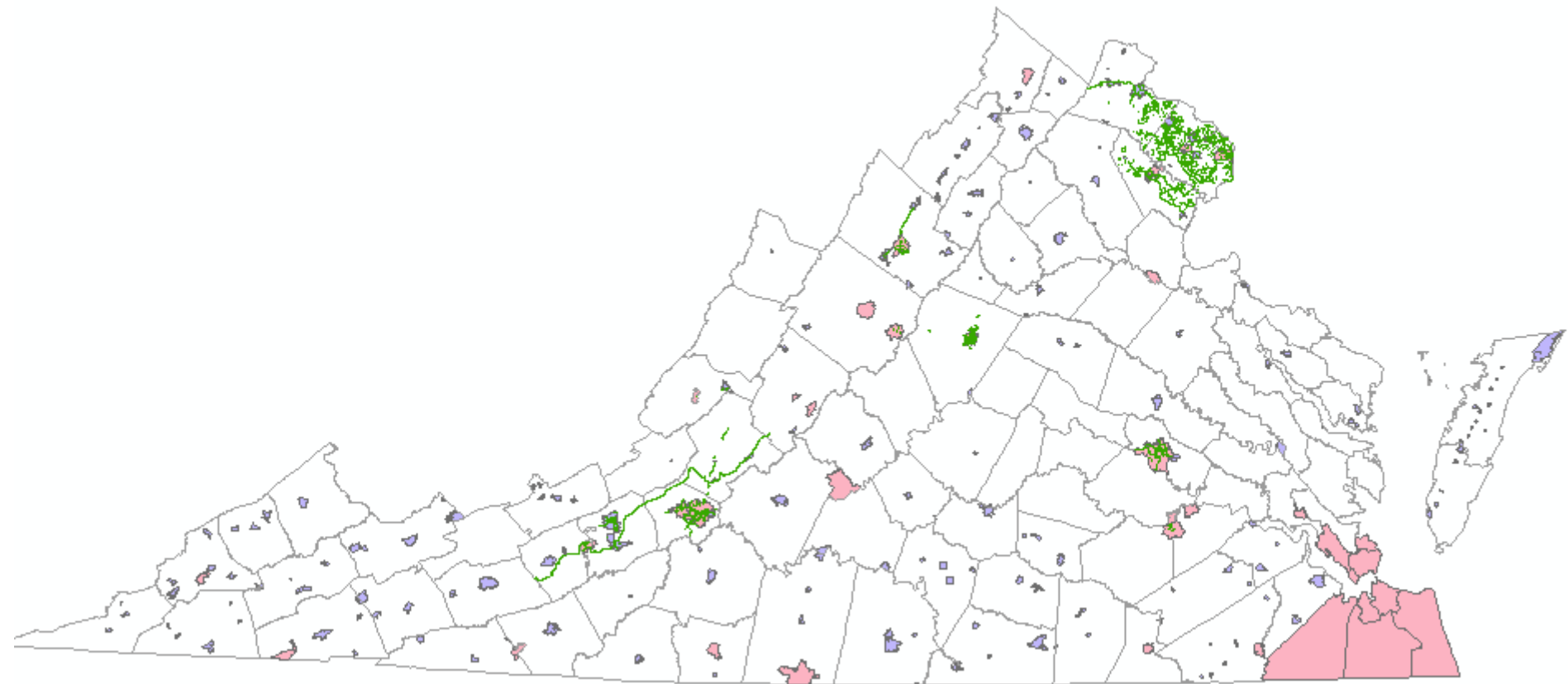
- shared roadways (with shared lane markings / sharrows)
- shared roadways
- signed bicycle routes
- other?

# Data Sources

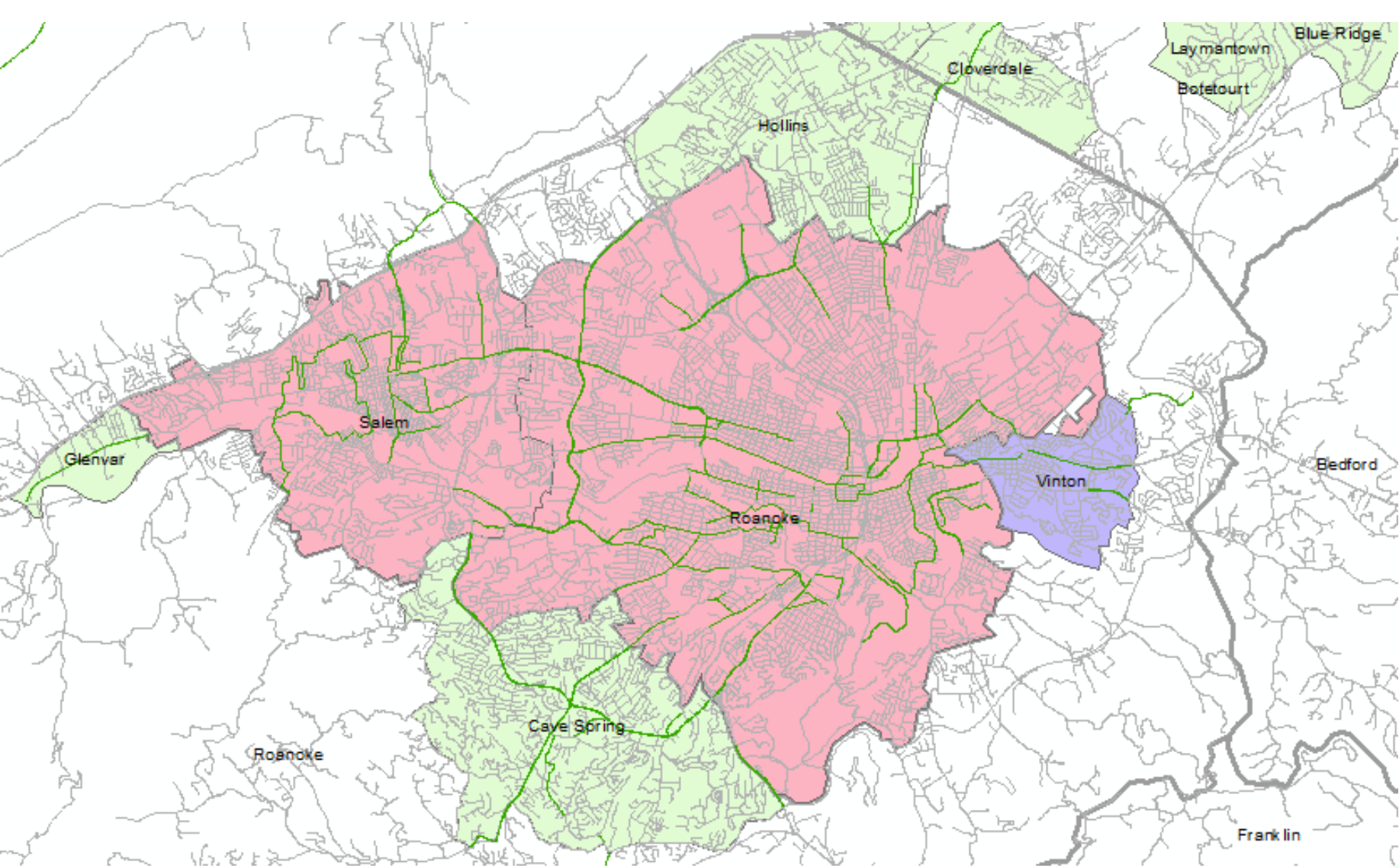
- Metropolitan Planning Organizations (MPOs)
- Planning District Commissions (PDCs)
- Task Order / On-call consultant (NOVA District)
- ArcGIS Online
- Google Maps
- fieldwork
- State Planning System (SPS)
- staff and stakeholder knowledge
- coordination with Virginia Department of Conservation and Recreation (DCR)

# Geographies Inventoried (as of May 2017)

- Charlottesville / Albemarle
- Harrisonburg / Rockingham
- New River Valley
- NOVA
- Richmond
- Roanoke Valley
- Tri-Cities / Crater PDC
- Staunton / Augusta / Waynesboro



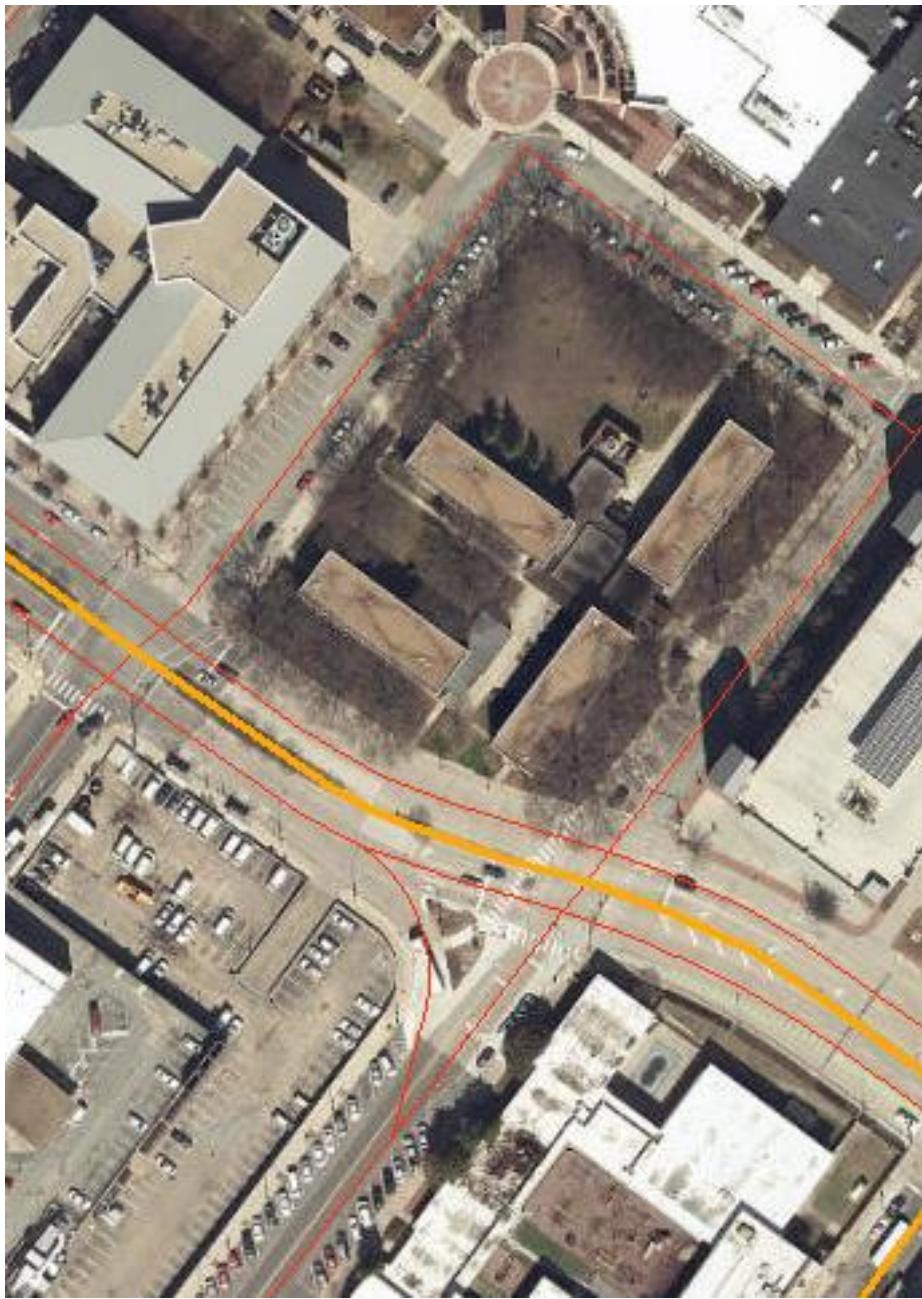




# Challenges

- data availability
- data inconsistencies
  - data sources
  - data formats
  - facilities and accommodations classifications
  - facilities segmentation
  - mapping
  - attributes
- ground truthing / verification
- update process





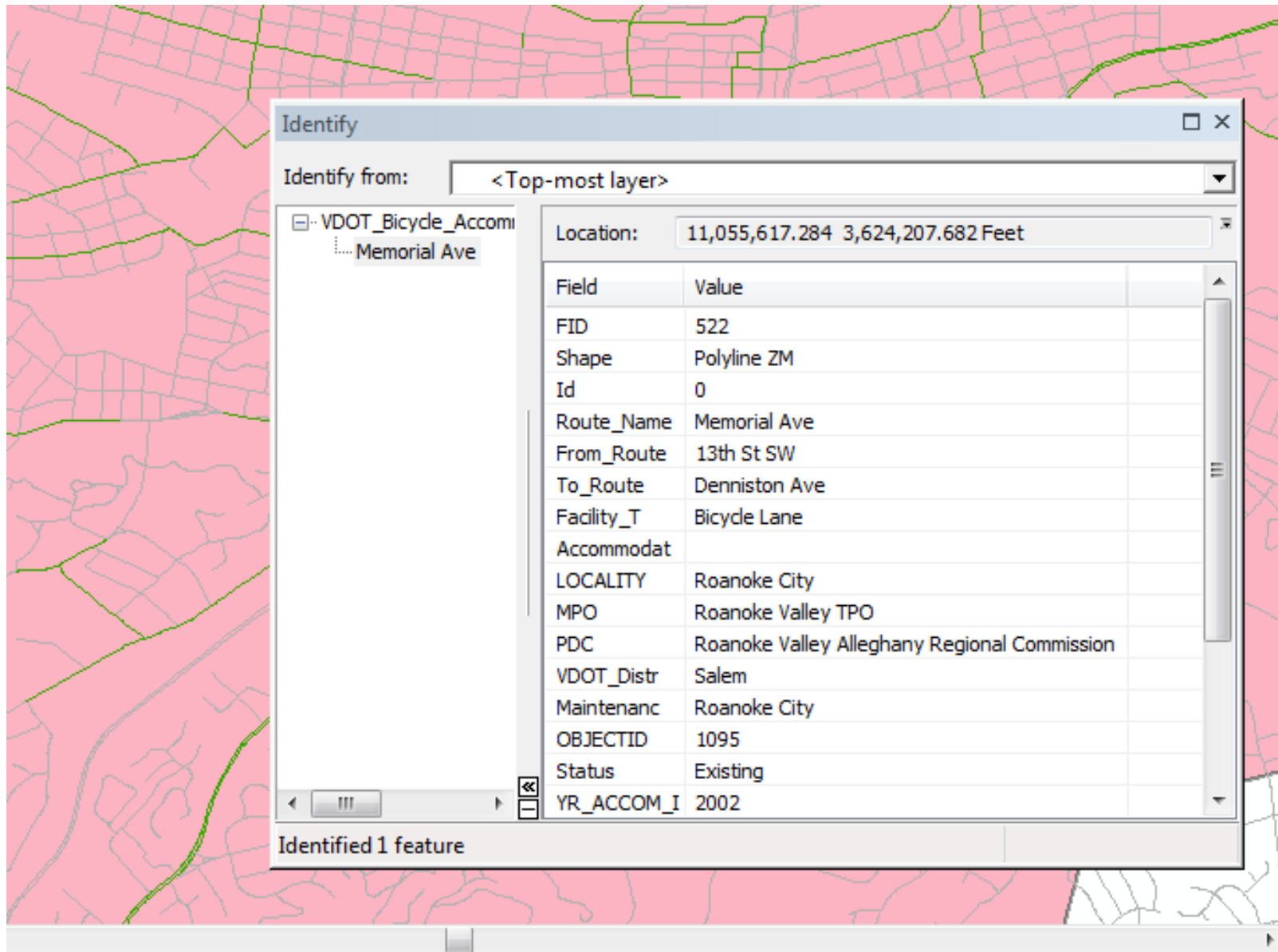






## VDOT\_Bicycle\_Accommodations\_Master\_Working\_Draft

FID	Shape *	Id	Route_Name	From_Route	To_Route	Facility_T	Accommodat	LOCALITY	MPO
461	Polyline ZM	0	Franklin Rd (US 220 Business)	Electric Rd (419)	Avenham Ave	Bicycle Lane		Roanoke City	Roanoke Valley TPO
489	Polyline ZM	0	Peters Creek Rd	Melrose Ave	Brandon Ave	Bicycle Lane		Roanoke City	Roanoke Valley TPO
507	Polyline ZM	0	Melrose Ave (US 460)	Overbrook St	Salem Turnpike	Bicycle Lane		Roanoke City	Roanoke Valley TPO
520	Polyline ZM	0	Mountain View Rd	Corporate Limit	Falling Creek Dr (1075	Bicycle Lane		Roanoke County	Roanoke Valley TPO
521	Polyline ZM	0	Hardy Rd	Nelson St	Wolf Creek	Bicycle Lane		Town of Vinton	Roanoke Valley TPO
522	Polyline ZM	0	Memorial Ave	13th St SW	Denniston Ave	Bicycle Lane		Roanoke City	Roanoke Valley TPO
523	Polyline ZM	0	Colonial Ave	26th St	Winding Way Rd	Bicycle Lane		Roanoke City	Roanoke Valley TPO
524	Polyline ZM	0	Shenandoah Ave	24th St	5th St	Bicycle Lane		Roanoke City	Roanoke Valley TPO
525	Polyline ZM	0	Gus Nicks Blvd	Corporate Limit	Orange Ave	Bicycle Lane		Roanoke City	Roanoke Valley TPO
607	Polyline ZM	0	Brandon Ave	Corporate Limit	Edgewood St	Bicycle Lane		Roanoke City	Roanoke Valley TPO
608	Polyline ZM	0	Brandon Ave	Edgewood St	Grandin Rd	Bicycle Lane		Roanoke City	Roanoke Valley TPO
632	Polyline ZM	0	13th St	Riverdale Rd	Jamison Ave	Bicycle Lane		Roanoke City	Roanoke Valley TPO
634	Polyline ZM	0	Pters Creek Rd	Melrose Ave (US 46	Cove Rd	Bicycle Lane		Roanoke City	Roanoke Valley TPO
660	Polyline ZM	0	Edgewood St	Brandon Ave	Brandon Ave	Bicycle Lane		Roanoke City	Roanoke Valley TPO
662	Polyline ZM	0	Boulevard St	Salem Ave	Patterson Ave	Bicycle Lane		Roanoke City	Roanoke Valley TPO
663	Polyline ZM	0	Patterson Ave	Boulevard St	20th St	Bicycle Lane		Roanoke City	Roanoke Valley TPO
664	Polyline ZM	0	Peters Creek Rd	Cove Rd	Frontage Rd	Bicycle Lane		Roanoke City	Roanoke Valley TPO
665	Polyline ZM	0	Hershberger Rd	Cove Rd	Ordway Rd	Bicycle Lane		Roanoke City	Roanoke Valley TPO
666	Polyline ZM	0	Hershberger Rd	Grandview	Williamson Rd	Bicycle Lane		Roanoke City	Roanoke Valley TPO
668	Polyline ZM	0	Franklin Rd	McClanahan St	Wiley Dr	Bicycle Lane		Roanoke City	Roanoke Valley TPO
669	Polyline ZM	0	Memorial Ave	Winborne St	Denniston Ave	Bicycle Lane		Roanoke City	Roanoke Valley TPO
685	Polyline ZM	0	JP Fishburn Parkway	Walnut Ave	Mill Mountain Spur	Bicycle Lane		Roanoke City	Roanoke Valley TPO
691	Polyline ZM	0	Franklin Rd	Brandon Ave	Penarth Rd	Bicycle Lane		Roanoke City	Roanoke Valley TPO
692	Polyline ZM	0	Franklin Rd	Brandon Ave	Penarth Rd	Bicycle Lane		Roanoke City	Roanoke Valley TPO
693	Polyline ZM	0	13th St	Wasena Terrace	Salem Ave	Bicycle Lane		Roanoke City	Roanoke Valley TPO
694	Polyline ZM	0	McClanahan St	Franklin Rd	Crystal Creek Dr	Bicycle Lane		Roanoke City	Roanoke Valley TPO
695	Polyline ZM	0	Broadway Ave	Franklin Rd	McClanahan St	Bicycle Lane		Roanoke City	Roanoke Valley TPO
705	Polyline ZM	0	Iron Bridge Rd			Bicycle Lane		Richmond City	Richmond Regional TPO
720	Polyline ZM	0	Hermitage Rd			Bicycle Lane		Richmond City	Richmond Regional TPO
784	Polyline ZM	0	2nd St			Bicycle Lane		Richmond City	Richmond Regional TPO
788	Polyline ZM	0	German School Rd			Bicycle Lane		Richmond City	Richmond Regional TPO
789	Polyline ZM	0	Hioaks Rd			Bicycle Lane		Richmond City	Richmond Regional TPO
791	Polyline ZM	0	Forest Hill Ave			Bicycle Lane		Richmond City	Richmond Regional TPO
793	Polyline ZM	0	Broad Rock Blvd			Bicycle Lane		Richmond City	Richmond Regional TPO
796	Polyline ZM	0	Lombardy St			Bicycle Lane		Richmond City	Richmond Regional TPO
797	Polyline ZM	0	Douglasdale Rd			Bicycle Lane		Richmond City	Richmond Regional TPO
833	Polyline ZM	0	Main St			Bicycle Lane	Wide Travel Lane	Waynesboro City	Staunton-Augusta-Waynesboro MPO
834	Polyline ZM	0	King Ave			Bicycle Lane		Waynesboro City	Staunton-Augusta-Waynesboro MPO
835	Polyline ZM	0	Main St			Bicycle Lane		Waynesboro City	Staunton-Augusta-Waynesboro MPO





# Next Steps

- follow up data requests for areas for which data have not been received
- edit mapping data received to date (consistency, accuracy, etc.)
- merge / compile existing data into single geodatabase or shapefile
- populate attribute fields
- distribute data to stakeholders for review
- edit mapping based on feedback
- establish update process

# Questions?

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