

Chapter III

2020 State of the System

In this chapter, the reader will find:

- **An understanding** of the region's existing transportation network
- **Clarity** on existing transportation needs
- **Knowledge** of how this analysis feeds into development of goals, performance measures, and projectst

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State of Roads

The Danville MPO has an extensive roadway network of 845 linear miles that provides excess capacity for current travel demand. Approximately 47 percent (393 road miles) are within the City of Danville's municipal boundaries. The remaining network (452 road miles) are in the MPO portion of Pittsylvania County. As would be expected, the City maintains a denser system of streets than the County. City streets generally have lower travel speeds and are designed with more emphasis on access versus mobility.

Facilities

For a Metropolitan Planning Organization (MPO) of Danville's size and population, there is an abundance of highway capacity. While no interstates pass through the region – the closest being I-40 in North Carolina – an expressway and US routes serve the role of facilitating intercity travel. An extensive network of arterials and collectors serve the MPO, as well, connecting to local roads. **Figure 8** shows the National Highway system routes that pass through the MPO.

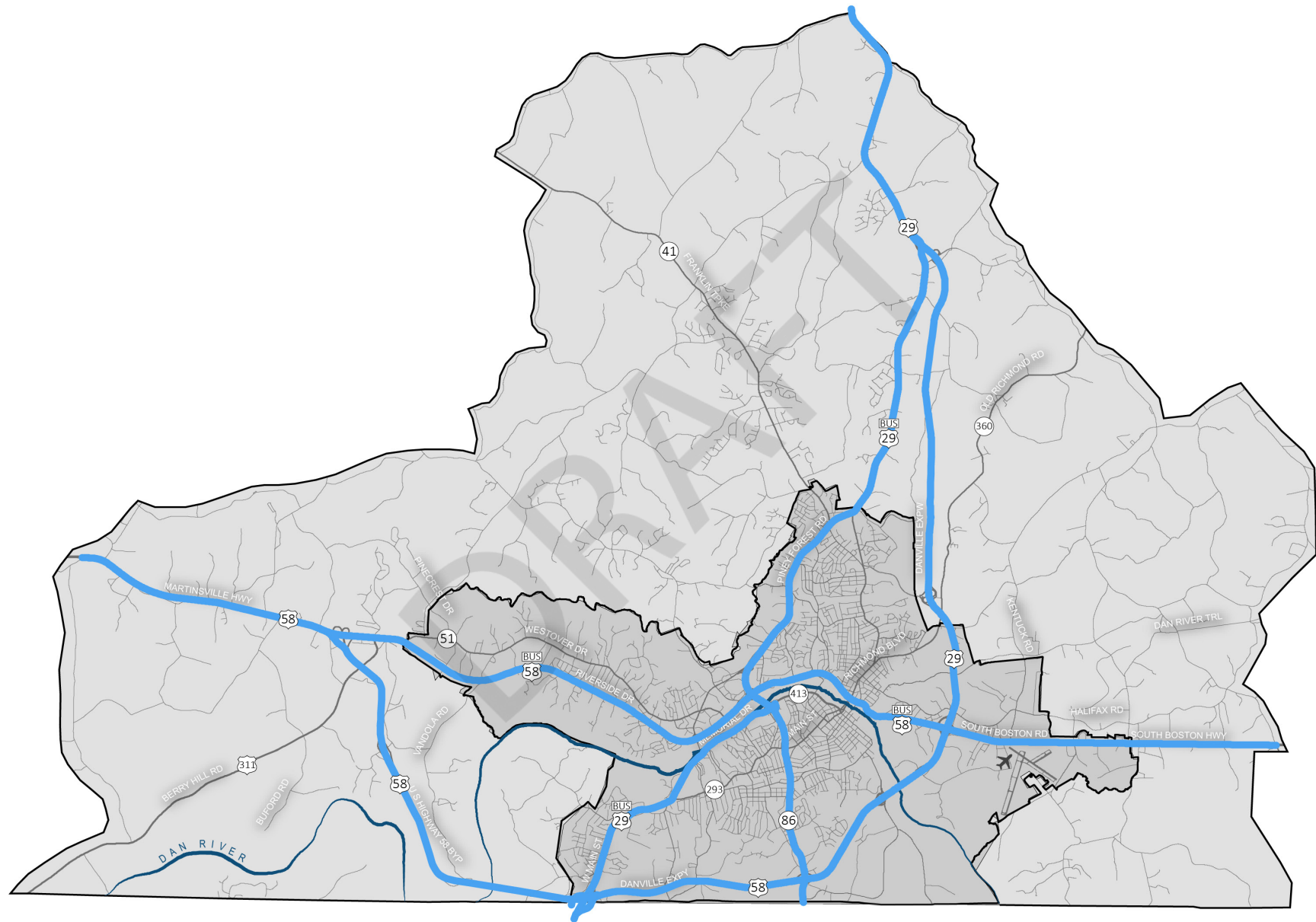
Expressway

The Danville Expressway creates a semi-circle that bypasses Danville's downtown area. Built at interstate standards, this facility diverts freight and other vehicular traffic from U.S. 29 Business, through the region and to industrial centers along the corridor. As a relatively new facility, completed in the early 2000s, it significantly relieved traffic volumes throughout the roadway network and resolved many of the region's capacity issues. The Expressway accounts for nearly 30 miles of the regional road network.

The construction of I-785 will have a significant impact on the area's transportation network. The new interstate will be built on the existing alignment of US 29 between the Danville Expressway and I-840, northeast of Greensboro. The new highway will facilitate interstate traffic between the two cities, including making commuting to Greensboro more viable than it currently is.



Figure 8 National Highway System Routes in the MPO.
Source: VDOT



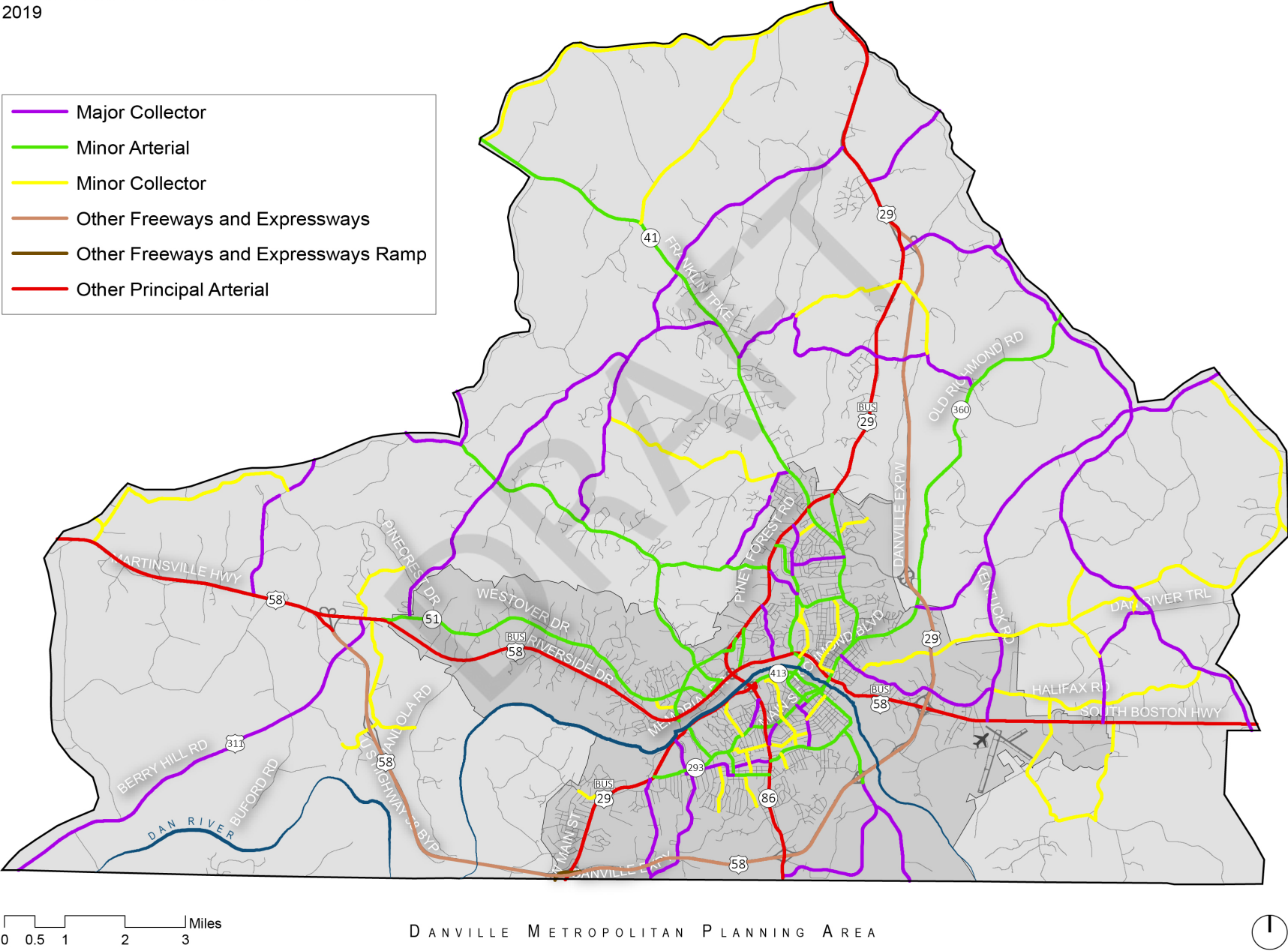
0 0.5 1 2 3 Miles

DANVILLE METROPOLITAN PLANNING AREA



Figure 9 VDOT Functional Classification
Source: VDOT

Functional Classification
2019



Arterials

Principal Arterials serve major activity centers in the Danville MPO, carrying intra- and inter-city travel. Three Corridors of Statewide Significance (CoSS) traverse the West Piedmont Region. The U.S. 29 (Seminole Corridor) and U.S. 58 (Southside Corridor) cross paths in the MPO. West of the Danville MPO, the U.S. 220 (North Carolina to West Virginia Corridor) is a critical linkage in the West Piedmont Region, as well. U.S. 86 (South Main Street) is another principal arterial, serving the southside of Danville proper. Principal Arterials account for over 70 miles of the regional road network within the MPO.

Within VDOT's Functional Classification system, Minor Arterials generally receive reduced funding support, even though these facilities still tend to carry relatively high traffic levels. In the Danville MPO, Minor Arterials serve activity and employment centers along the Franklin Turnpike, Mount Cross Road, Westover Drive, North Main Street, Goodyear Boulevard and other corridors. According to the Travel Demand Model, some of these facilities experience the greatest congestion, with travel volume nearing at capacity. Minor Arterials equate to nearly 80 miles of highways.

Collectors

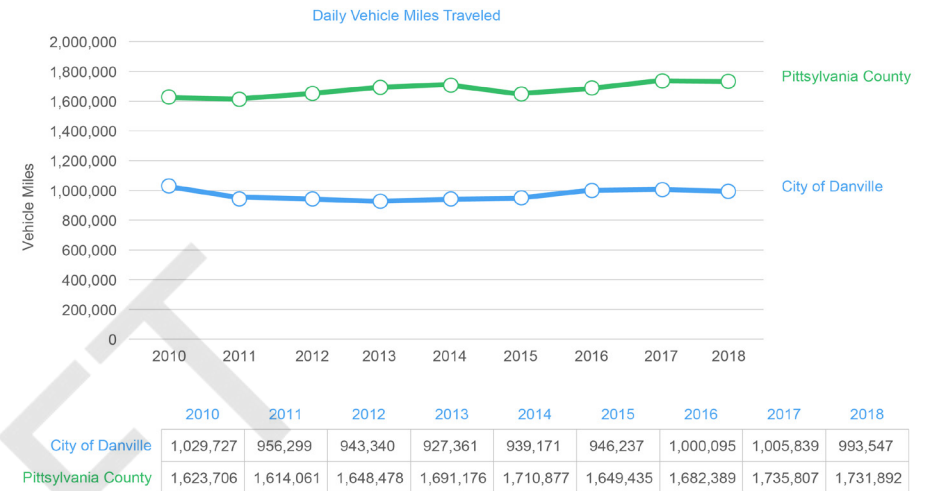
Minor and Major Collectors make up much of the MPO road network. Major Collectors include Holland Road, Gypsum Road, Goodyear Boulevard (south of the Expressway), Kentuck Road, Ringgold Church Road and other similar highways. There are 130 miles of Major Collectors in the Danville MPO. Minor Collectors include Wilkerson Road, Barker Road, Clarks Mill Road, Orphanage Road, E. Witt Road and others. Nearly 90 miles of Minor Collectors weave through the regional network.

Local Roads

Local roads generally account for the largest percentage of road miles, with 450 miles. LRTPs generally focus on regional networks, rather than local streets, though these facilities are important for providing access to the higher-order facilities.

Figure 10 VMT for 2010-2018

Source: VDOT



Traffic Volumes

In the Danville MPO, VDOT's travel data and daily vehicle miles traveled (VMT) statistics show that usage is steady. Both localities experienced a slight drop in VMT between 2017 and 2018, the most recent data available. **Figure 10** shows the VMT for each locality.

Figure 12 illustrates the average annual daily traffic (AADT) recorded for the MPO in 2017. Per their Functional Classification, Principal Arterials and the Expressway carry the most traffic. U.S. 29 Business still shows the highest AADT, despite the Expressway's design to divert traffic. Between the Franklin Turnpike and Dan River, 29 Business is the most traveled corridor, showing counts between 25,000 to 32,000 AADT. The east/west CoSS (U.S. 58) shows the second highest counts. U.S. 58 (South Boston Road) carries over 27,000 AADT, the second most traveled corridor. Counts on the western portion of U.S. 58 (Riverside Drive) are less than half (14,200 AADT) of the eastern counts. According to the travel data, most of the Expressway traffic occurs between South Boston Road and U.S. 86 (South Main Street), with just over 20,000 AADT, the third most traveled roadway. This distribution suggests that the Expressway is heavily used for east/west traffic, between U.S. 58 (South Boston

Road) and North Carolina, as opposed to strictly north/south traffic along the U.S. 29 corridor.

Congestion

Level of Service

Across the regional road network, VDOT's Level of Service (LOS) data suggests that traffic flow is well managed in the Danville MPO. In 2017, approximately 77% of regional road miles received a LOS A or B. The data indicates only a handful of segments with LOS D. This includes Mount Cross Road, between the City Limits and Mill Creek Road. A segment of Central Boulevard, between the Dan River and Piedmont Drive, shows a LOS D. Arnett Boulevard, between Riverside Drive and Wendell Scott Drive, also shows high-density flow. A segment of Clarks Mill Road appears as LOS E, but this is likely an error in the dataset, as there is no evidence of an unstable flow.

Figure 13 shows the LOS values for the regional network.

Volume to Capacity Ratios

Volume to Capacity Ratios (V/C) measures the vehicle volumes that a road segment experiences as a percentage of its vehicle volume capacity. **Figure 14** shows the V/C adjusted for peak hour volumes. The VDOT SPS data suggests that every road is currently under capacity, except for a small segment of Mount Cross Road at the City Limits. The vast majority of the region's roads have at least 50% of their capacity remaining. If AADT were to double on these segments, roadways would still retain under capacity. Portions of Franklin Turnpike and U.S. 29 Business are currently at nearly 80% capacity, though the model does not indicate significant increases in AADT by 2045.

Roadway Needs and Conclusions

Within the Danville MPO, data for the 845 linear road miles, described above, informs the following conclusions. These conclusions, in turn, help to define MPO Goals, Performance Measures and Targets, described in CHAPTER VI. The following also aids with the evaluation of roadway projects, performed in CHAPTER VII, as

projects prove to serve an existing and future need.

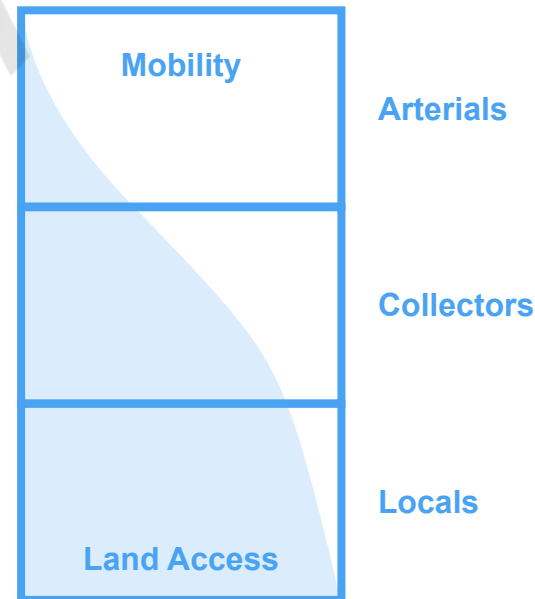
Excess Capacity

Every road segment in the MPO is under capacity, in some instances by a significant margin. As seen in Chapter V, there is no indication of significant increases in traffic volumes by 2045, according to the Travel Demand Model. Even if there were significant increases in AADT, which is not anticipated, existing facilities would likely remain under capacity. With lane miles going unused, the MPO could explore road projects that repurpose right-of-way for multi-use facilities, such as bike lanes, sidewalks or even transit lanes. These Road Diets could improve quality of life, stimulate reinvestment and serve the needs of those with limited mobility.

Steady Traffic Volumes

The VMT data shows steady traffic volumes over time. There are no dramatic changes in VMT that could indicate great need for additional lane miles.

Figure 11 Proportion of Service

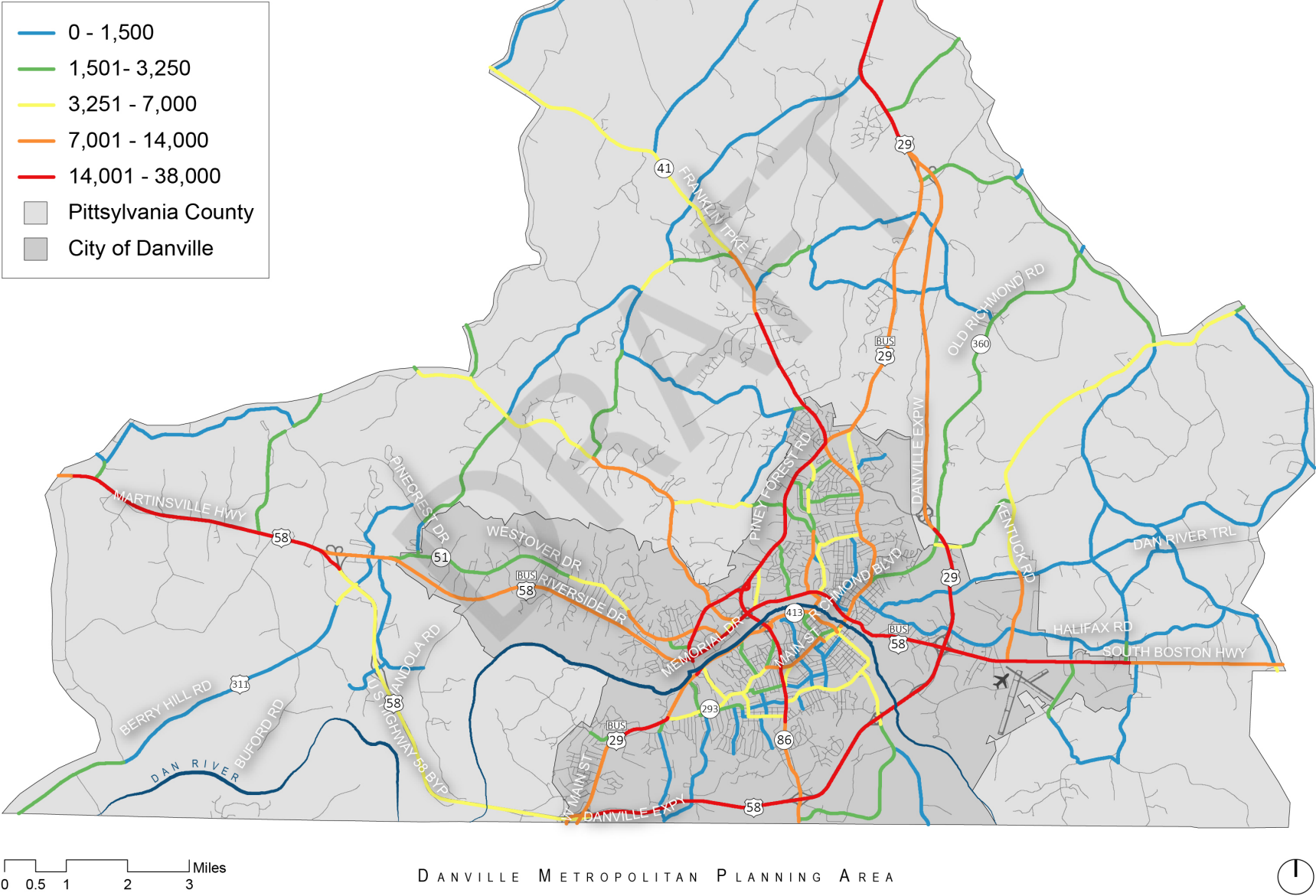


Reevaluation of 2040 Projects

Danville MPO's 2040 LRTP included several expensive capacity-building road projects. This included construction of new lane miles and parkways, especially in the western half of the MPO. Given the current condition of roadways, capacity should be less of an emphasis for project evaluation in the 2045 plan.

Figure 12 Annual Average Daily Traffic Counts
Source: VDOT

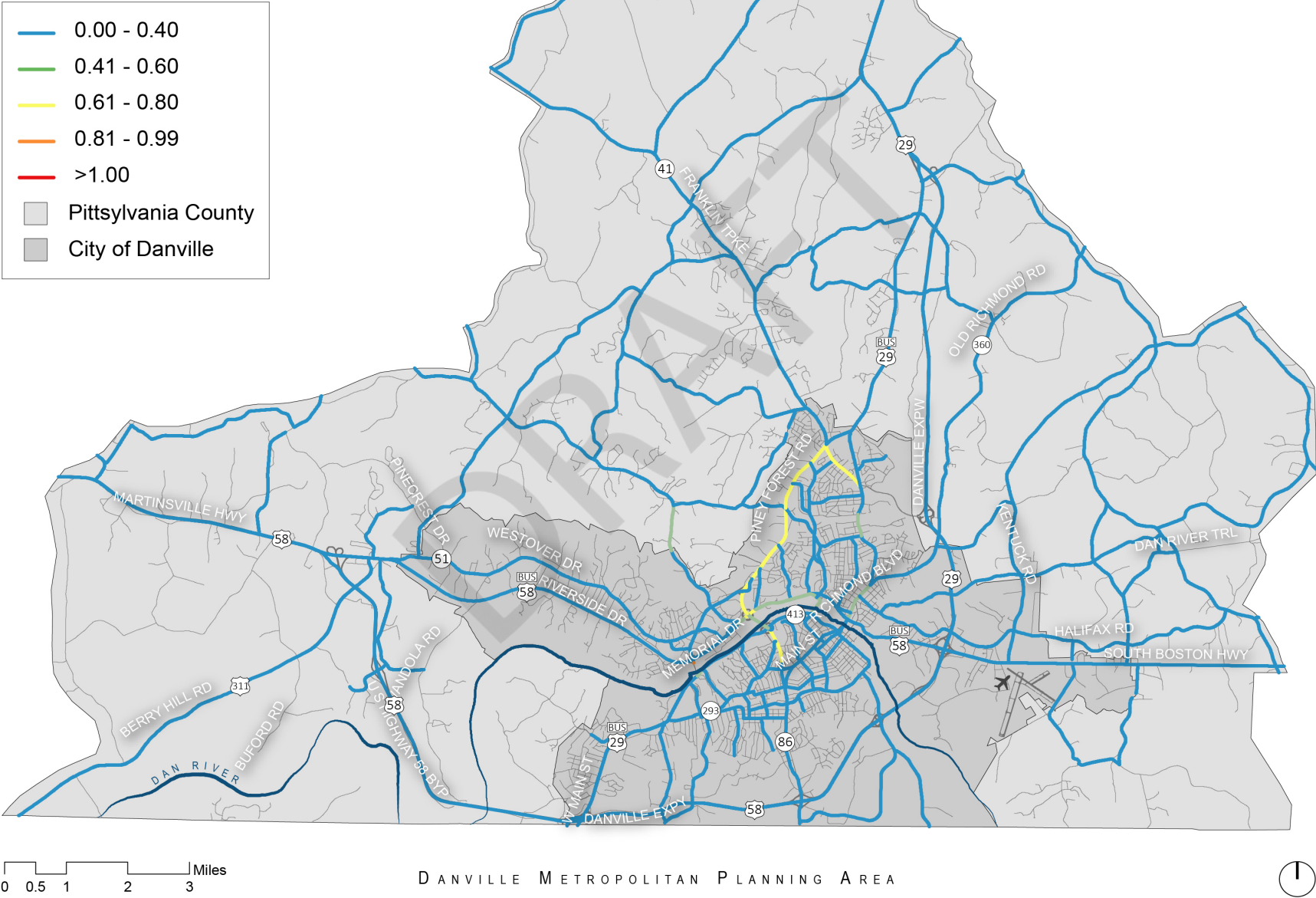
Vehicle Volumes
2017



Source: VDOT

Figure 14 V/C in 2017
Source: VDOT

Volume-to-Capacity
2017



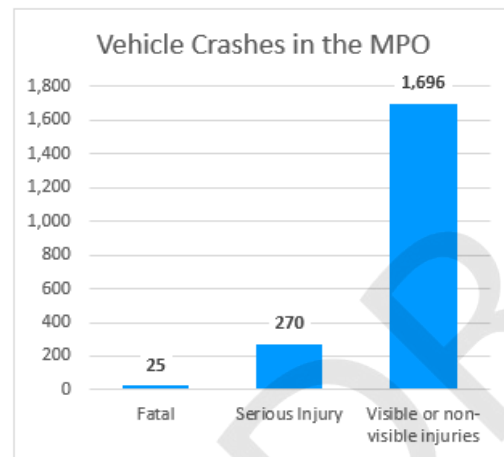
State of Roadway Safety

In the existing conditions evaluation, safety is the second element of the Danville MPO roadway network. While State of the Roads highlights travel, traffic flow and congestion, this section examines crash data. Since existing data does not indicate capacity issues, safety could receive greater emphasis for 2045 transportation projects.

Crashes Overview

Between 2014 and 2019 VDOT reported nearly 2,000 vehicular crashes in the MPO. **Figure 15** shows the number of crashes by severity. While there is no geographical pattern to the fatal collisions, all occurred on roads with posted speed limits of 40 miles per hour or higher. **Figure 16** illustrates MPO crash data by severity.

Figure 15 MPO Crashes
Source: VDOT Crash Analysis Tool



Potential for Safety Improvements (PSI)

A PSI score is the number of crashes minus the predicted number for that type of intersection/roadway and the given traffic volumes. It is a statewide catalog of crash hot spots calculated over a three-year period of crash data. PSI locations are more likely to receive funding for implementation and are emphasized in the Statewide Transportation Plan (VTrans). Given this importance, PSI locations should be a focus of LRTP assessments.

In the Danville MPO, VDOT designated 152 PSI locations, as seen



in **Figure 17**. Of these locations, 40 occur at intersections and 152 occur on road segments. The following is a selection of the top PSI locations, according to VDOT rankings. PSI locations are ranked, with the number representing the ranking within the Lynchburg District, which spans from Danville to Nelson County. PSI 4 would be the ranked fourth in the district, according to the number and severity of crashes.

Top Intersection Locations

All intersection PSI locations occur within the City of Danville and within the northern and western Planning Areas, as defined in the City's current Comprehensive Plan. *Refer to the Danville Comprehensive Plan for additional information on these areas.* Danville MPO's 2040 LRTP does not identify improvements at any of the top PSI locations.

The top five ranked PSI intersections in the Danville MPO are:

1. PSI 2 Piney Forest Road & Nelson Avenue/Nor-Dan Road
2. PSI 4 North Main Street & Franklin Turnpike/East Franklin Turnpike
3. PSI 6 Piedmont Drive & Westover Drive
4. PSI 10 Piedmont Drive & Mount Cross Road
5. PSI 11 Riverside Drive & Mount Cross Road

Top Road Segment Locations

As with intersections, all road segment PSI locations occur within the City of Danville. Of the top five sites, four occurred in the City's Planning Areas 2 or 11. One PSI segment, adjoining the Danville Regional Airport, is the only top PSI location, intersection or segment, that occurred on the eastern side of the City. *Refer to the Danville Comprehensive Plan for additional information on these areas.* Danville MPO's 2040 LRTP does not identify improvements at any of these PSI locations.

The top five ranked PSI road segments in the Danville MPO are:

6. PSI 4 Piedmont Drive from Westover Drive to Executive Drive/Sandy Court
7. PSI 9 Central Boulevard from 105' south of Parker Road to Parker Road
8. PSI 10 Riverside Drive from 290' southwest of Riverview Drive to 475' southwest of Westover Drive
9. PSI 13 South Boston Road from 330' west of Crestview Drive to 320' west of the Sleep Inn entrance
10. PSI 16 Riverside Drive from Piedmont Drive Northbound On-Ramp to 365' northeast of Park Avenue

Safety Needs and Conclusions

Current roadway data suggests that congestion and traffic flow are not threats to the MPO's regional network. In fact, every roadway is shown to be under capacity. Consequently, the 2045 LRTP may focus greater attention to safety issues in CHAPTER VI: Goals, Objectives and Targets. Currently, the primary safety needs and conclusions are listed below.

Unresolved Safety Hotspots

Currently, safety hotspots in the Danville MPO lack corresponding recommendations for reducing crash frequency and severity. In response, the 2045 LRTP process will include new project recommendations for the PSI intersections and road segments. Those projects are included in the Project Pool, seen in CHAPTER VII: Performance Based Planning Process.

Clustering of PSI Locations

Currently, all PSI locations are within the City of Danville, predominately in the northern and western Planning Areas. The 2040 LRTP tends to focus attention on capacity-building road projects in Pittsylvania County. The 2045 LRTP provides additional emphasis to the safety hotspots towards the center of the MPO.

Figure 16 Crashes from 2014 to 2018
Source: VDOT

Crashes
2014 - 2018

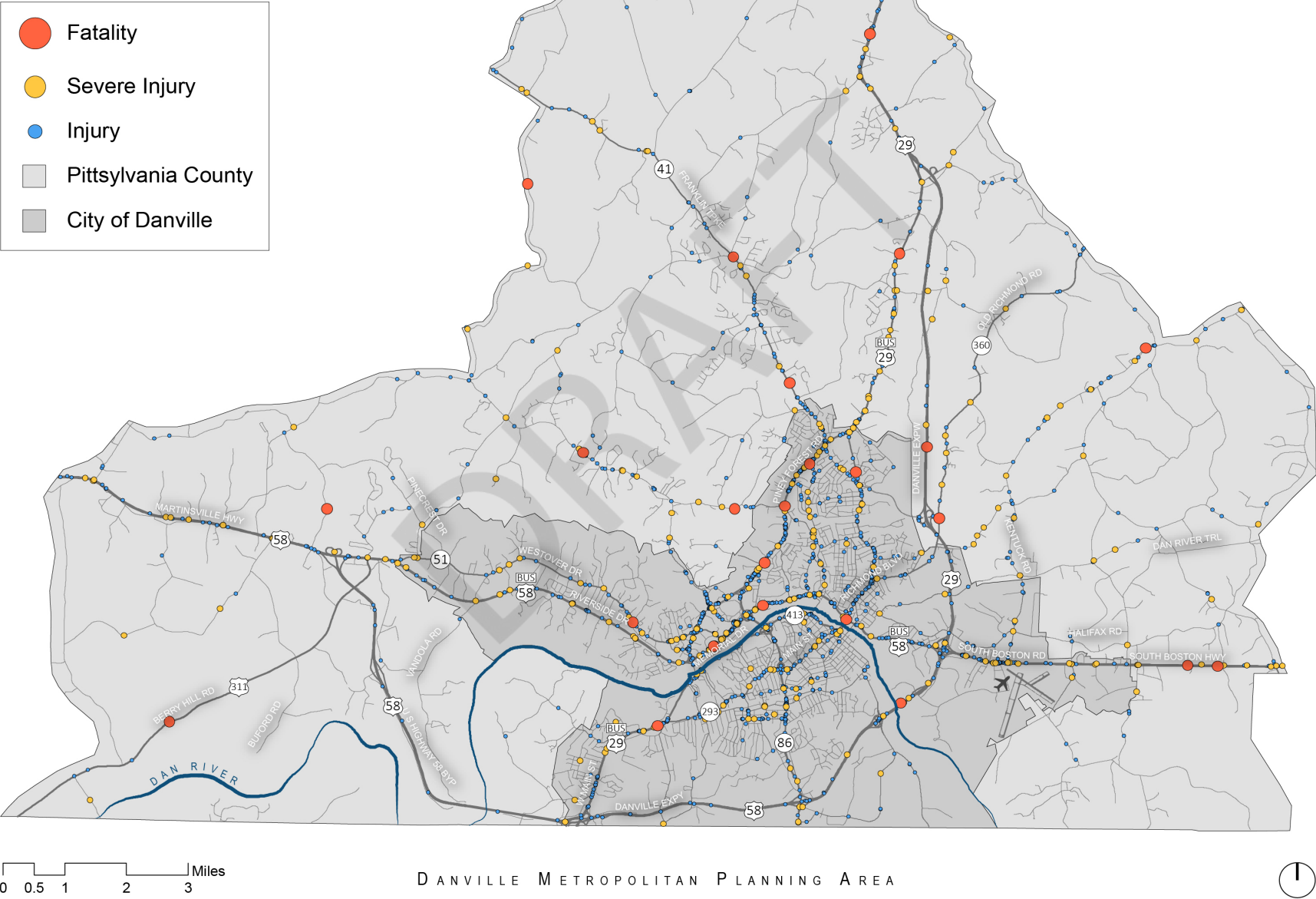
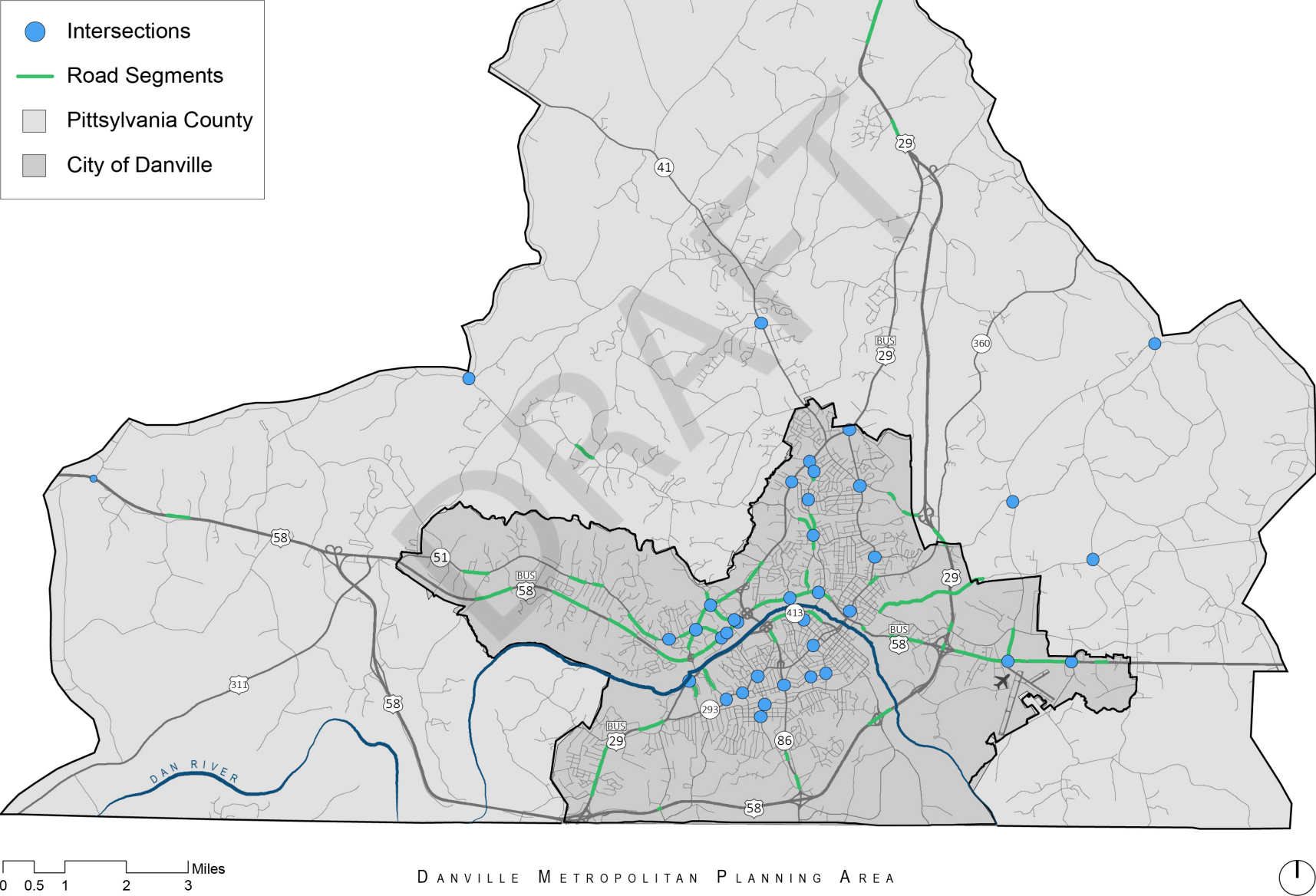


Figure 17 PSI Segments and Intersections from 2013 to 2017
Source: VDOT

Potential for Safety Improvements
Intersections and Road Segments
2014 - 2018



State of Bike & Pedestrian Infrastructure

While the Danville MPO has an extensive roadway network, bike and pedestrian facilities are relatively limited. There is one central gem to the system, the Riverwalk Trail, a mostly recreational facility that serves the Dan River Corridor.

Facilities

The four categories of bike and pedestrian infrastructure include on-road facilities (sidewalks, bike lanes, bike sharrows) and off-road facilities (trails). Most of these facilities are concentrated in the downtown area of Danville, mostly in the City's Planning Area 6 (River District), as defined in the Comprehensive Plan.

Sidewalks

The MPO transportation network includes over 100 miles of sidewalks with a variation of concrete, brick and river rock paving. There are only 28.5 miles of sidewalks within a quarter-mile radius of the area's public and private schools, while there are 159 miles of roads in the same area. Within walking distance to schools, there are only 9.2 miles of bike lanes. The 2045 LRTP Appendix__ includes a Safe Routes to School, Danville MPO Report. As part of the LRTP, the Report may also serve as a standalone document for improving pedestrian connections in these areas. VDOT's Safe Routes to School Program funds construction of new bike lanes and sidewalks around schools, to meet the deficiency of those facilities compared to auto-oriented infrastructure.

Bike Lanes

The MPO has nearly 23 miles of designated or separated bike lanes. These lanes tend to be in the same areas of sidewalks, in the downtown area of the City. Compared with the 845 linear miles of roadway, cyclists are significantly underserved in the region. Existing plans recommend nearly four miles of additional bike lanes.



Sharrows

Because of their lower relative costs, localities have used sharrows to address deficiencies in their bike lane networks. Sharrows have been proven to be far less effective than conventional bike lanes in increasing ridership and reducing collisions with cars. Due to their ineffectiveness, sharrows should be reserved for roads with very low vehicle volumes and speeds where more robust bike lane types are not feasible.

Trails

The Danville MPO includes two off-road trail facilities. The Dan River Trail is a mixed-use facility in the eastern edge of the MPO Boundaries. The most extensive trail network is the Riverwalk Trail, providing a mixed-use facility for the river corridor. Hidden Hollow Trail and Eagle Scout Trail are designated for off-road biking, specifically mountain biking.

Riverwalk Trail

The Riverwalk Trail occupies a central space in the MPO, both physically and historically. The trail meanders along the banks of the Dan River where the City's mills and factories sprouted up after the industrial revolution. As industry has departed from the city, the riverfront opened to new uses. The trail reconnects area residents to the riparian spine that spurred the city's growth.

The Riverwalk Trail includes 11.8 miles of paved trails along the Dan River in the center of the city. The trail connects Ballou Park in the West to Anglers Park in the East, largely following the north bank of the river. The City has planned for the construction of an additional 5.7 miles of the trail to connect fragmented parts on the north bank and to create new trails on the south bank of the river.

Danville Rides Bike Share

The bike sharing company Zagster offers a bike sharing service in Danville. The bikes are docked at 5 locations along the river in the central part of the city. The first hour of each bike share ride is free, making this a viable mode to travel along the riverfront area.

Safety

Between 2018 and 2019, there were 45 vehicular crashes that involved pedestrians and 7 crashes that involved cyclists in the MPO. **Figure 20** maps those crashes. Of the pedestrian crashes, one involved a fatal injury, 13 severe injuries and 31 injuries. 54% of the pedestrian injuries occurred on road segments with no sidewalks on the side of the road on which the accident occurred. Of the bike crashes, there was one fatal injury and 6 injuries. 67% of the bike crashes occurred where there was no bike lane present on either side of the road, including the fatal injury.

There are higher rates of bike or pedestrian crashes in block groups with higher proportions of minority populations than in the rest of the city. The relative abundance of safety issues could be explained by a lack of safe accommodations or relatively high reliance on bike and pedestrian mobility. Consequently, these areas should be considered for future studies to increase the safety for residents who choose to walk or bike to their destinations. The 2045 LRTP focuses on Title VI issues, to invest in projects that create safer environments to walk and cycle in these areas. **Figure 21** shows the occurrence of bike and pedestrian accidents overlaid on the distribution of the city's minority population.

Bike and Pedestrian Conclusions

Part of the eastern portion of the trail ends about a quarter of a mile from the runway of the Danville Regional Airport. Extending this portion of the trail could create bike/ped access to the airport and thereby increase the multimodal resilience of the MPO's transportation system. Additional improvements could be made to better connect the neighborhoods East and West of Ballou Park. These areas have inconsistent sidewalk coverage. Investments should be made to increase access to the trail in these neighborhoods by constructing more sidewalks in the area.

Figure 18 Bikes Lanes
Source: City of Danville

Bike Lane

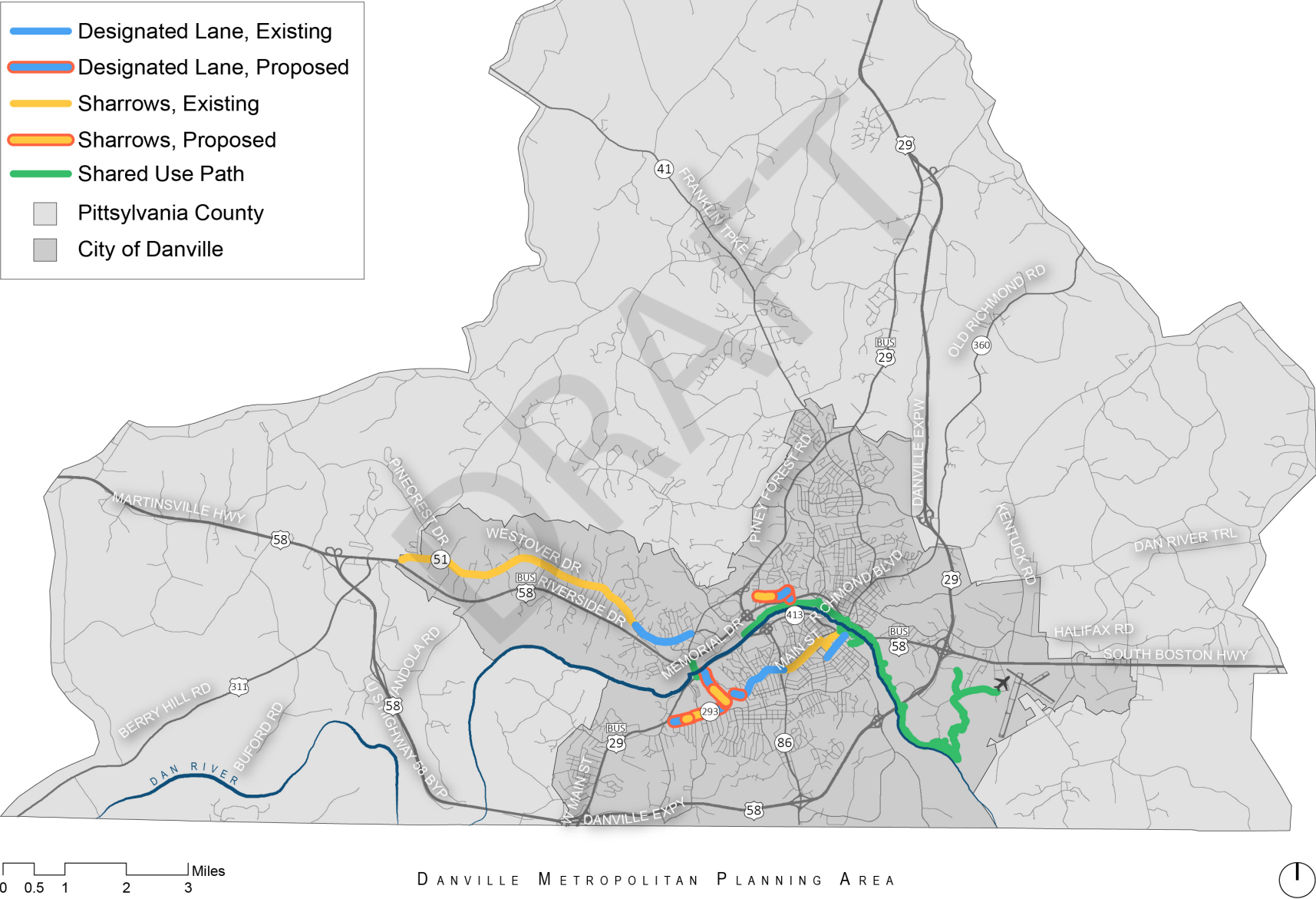


Figure 19 Trails
Source: City of Danville, Pittsylvania County

Trails

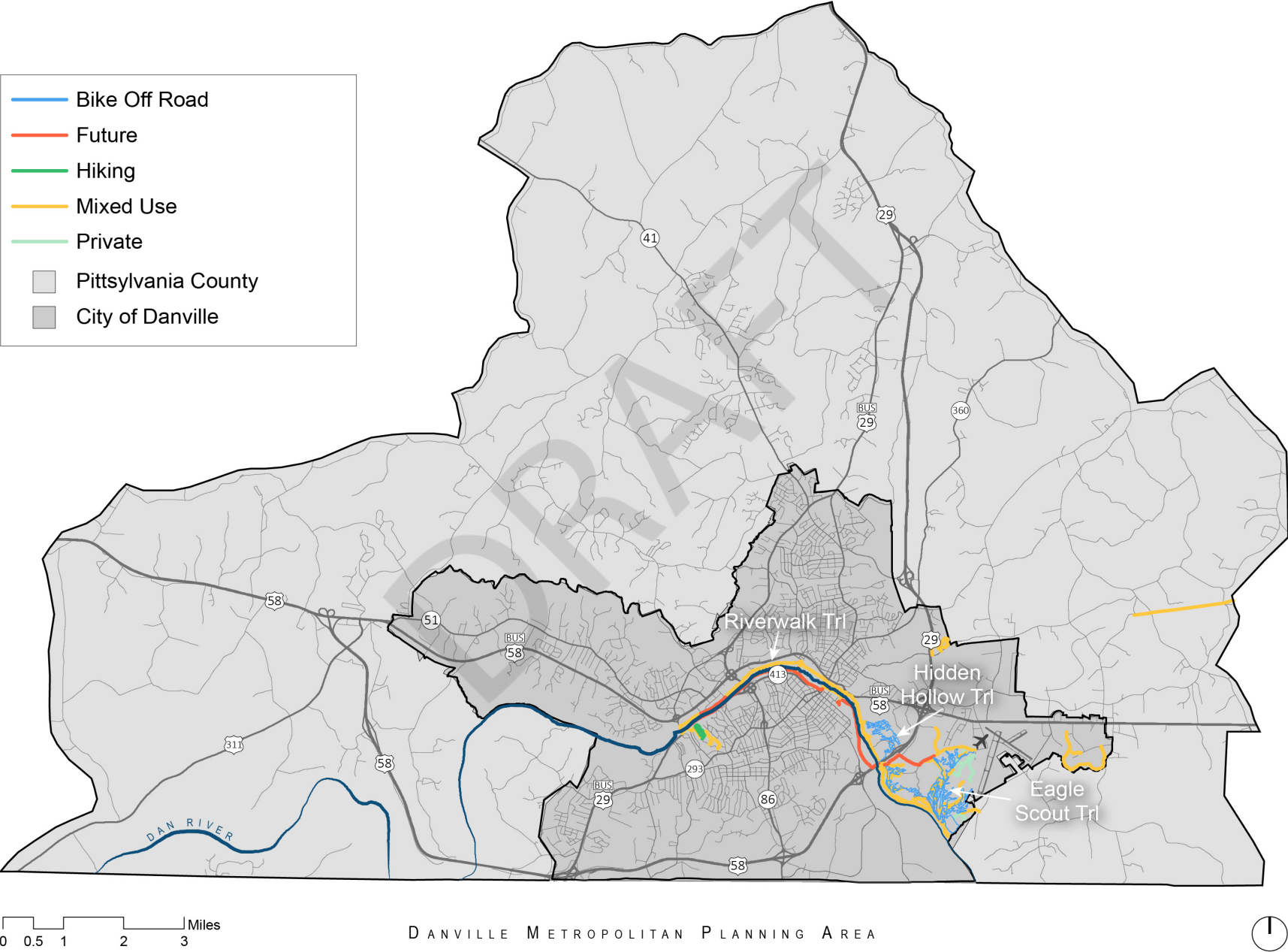


Figure 20 Bike and Pedestrian Crashes from 2013 to 2017
Source: VDOT

Bike or Pedestrian Crashes
2014 to 2018

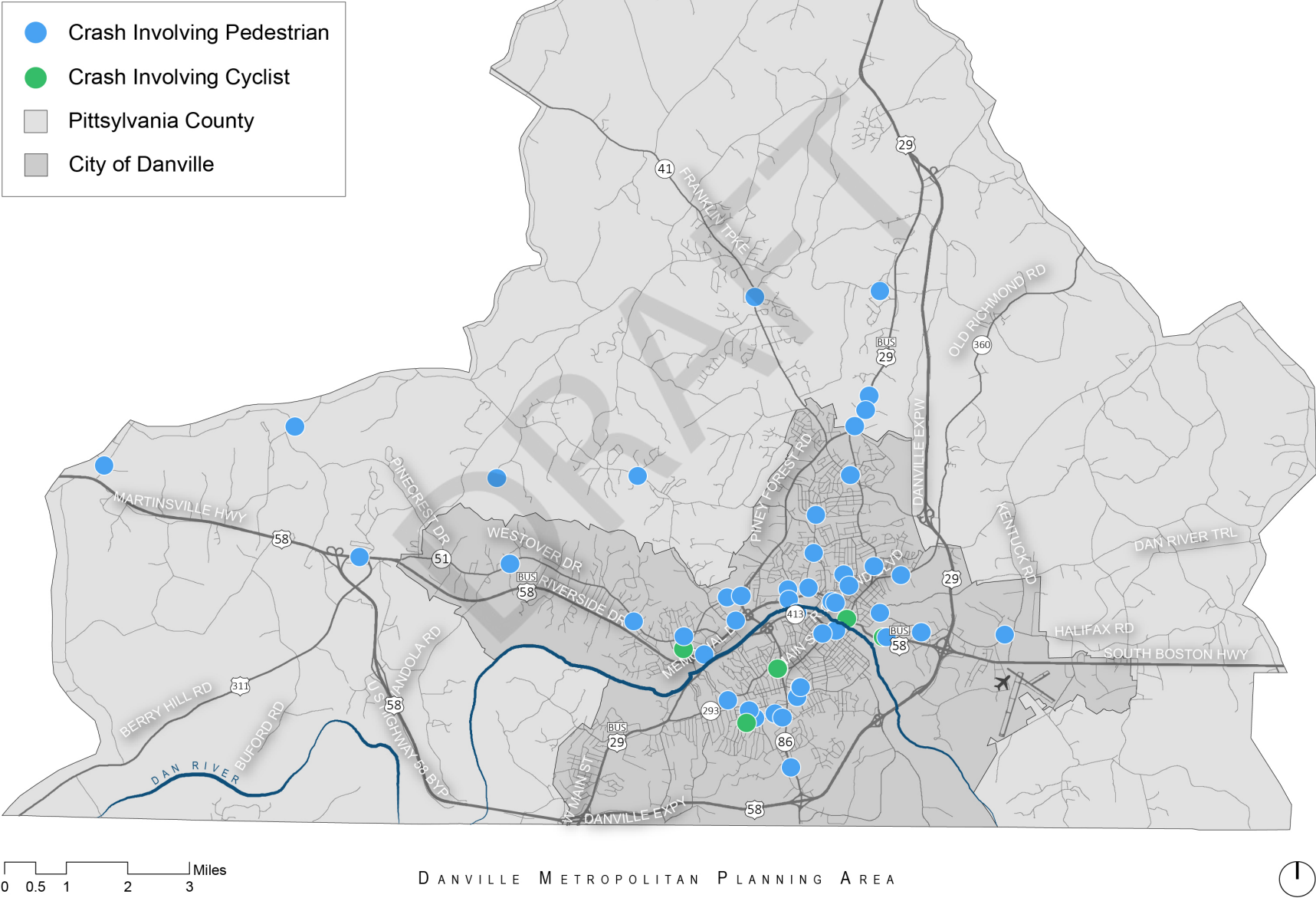
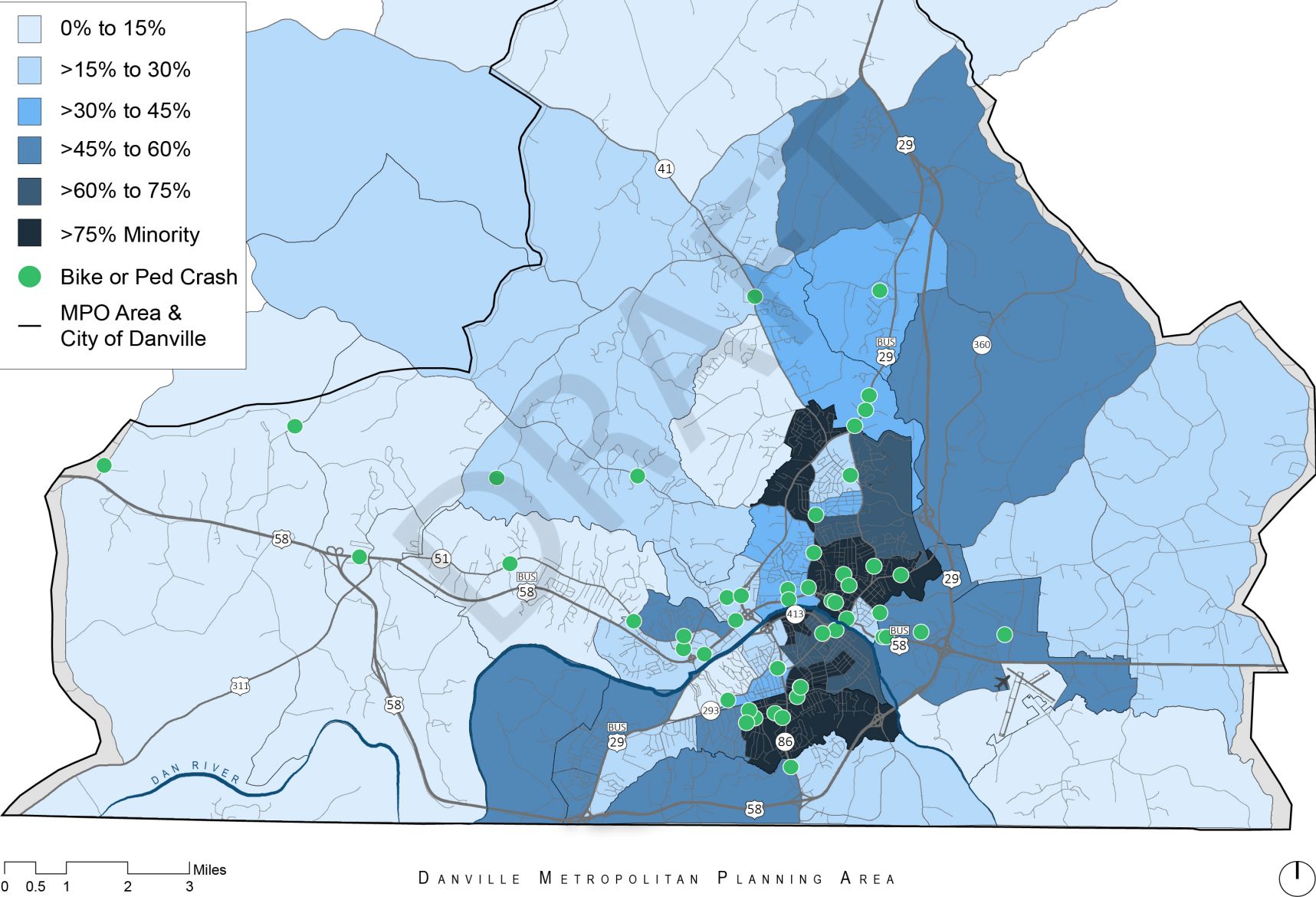


Figure 21 Bike and Pedestrian Crashes and Minority Population
Source: VDOT

Minority Population & Bike/Ped Crash



State of Transit

Danville Transit is the only transit provider in the Danville MPO. As a City Department, Danville Transit (DT) is under the city's transportation department, directed by a Transportation Advisory Committee (TAC) that consists of seven members, including the City Manager and a City Council Member. In 2015, the City and DRPT developed an updated Transit Development Plan (TDP), calling on KFH Group for consultant assistance. This six-year planning document is required in order to receive state transit funds. While the TDP is a short-range plan, focused on the subsequent six years, it is integrated into the MPO's 2045 Long Range Transportation Plan.

In the City's TDP, Danville states its overall transit mission:

1. To facilitate safe, reliable, convenient and economical operations that support economic development; and,
2. To provide reliable fixed route and demand responsive service that is safe and convenient which facilitates cost effective transportation access.

Transit Capital and Rolling Stock

The TDP provides a detailed inventory of existing capital assets and rolling stock. Capital includes buildings, the downtown transfer center, bus stops, loading areas and other physical improvements. DT's rolling stock consists of a twenty-eight-vehicle fleet.

Transit Capital

DT's central offices are in the Danville Regional Airport's Terminal Building. The administrative and maintenance areas are part of Danville's Public Works Complex, which is home to management offices, fuel and maintenance facilities, storage of the entire transit fleet and storage of the school system's buses.

In its downtown, along Spring Street, the City built a 2,000 square foot intermodal bus facility in 2017. Referred to as the "HUB," the transfer center connects the transit system routes and services. There are bus



bays, outdoor shelters, an indoor waiting area, restrooms, vending machines and an information office (2015 TDP). Across the street, the City built a 24-space parking area for the transfer center, which serves as the system's demand response loading area.

Finally, DT maintains bus stops throughout the City. Only twelve include passenger shelters that provide cover from the sun and inclement weather. The TDP recommends investments in bus stop amenities, such as shelters, benches, bicycle racks and trash receptacles. All newly improved stops must meet Americans with Disabilities Act Accessibility Guidelines (ADAAG).

Transit Fleet

In terms of rolling stock, the transit fleet includes twenty-one revenue and four non-revenue vehicles. There are two trolleybus vehicles, four maintenance vehicles, nine twenty-seat buses, two twenty-six-seat buses and five twenty-eight-seat businesses. In recent years, DT installed new fareboxes in its fleet.

Transit Services

DT provides a wide variety of services, including fixed-route, Handivan, Reserve-A-Ride, and Senior Transportation Services. Since Fiscal Year 2014, these services totaled 300,000 annual passengers. As demographic and economic conditions change, DT has evolved and adjusted its services to meet community needs.

Fixed-Route Service

DT operates eleven fixed-route transit lines, with the HUB as the central transfer location. These routes offer services during the week, with limited operations on Saturday. There is no Sunday or evening fixed-route service. Routes include:

- #1 North Main, #1 Kemper Road – DCC
- #2 Riverside
- #2 Third Avenue – NorDan
- #3 Danville Estates – NorDan
- #3 Edgewood – Stokesland

Figure 22 Danville Transit Total Ridership from 2014 to 2018

Source: Danville Transit

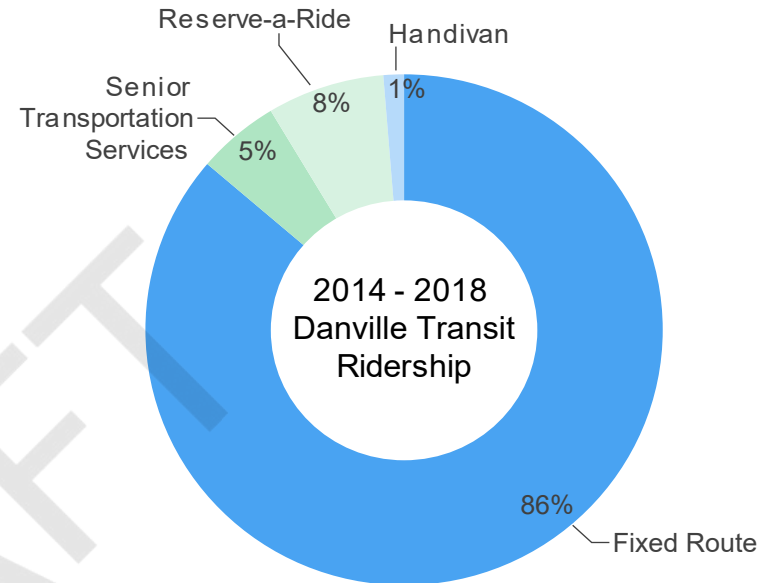
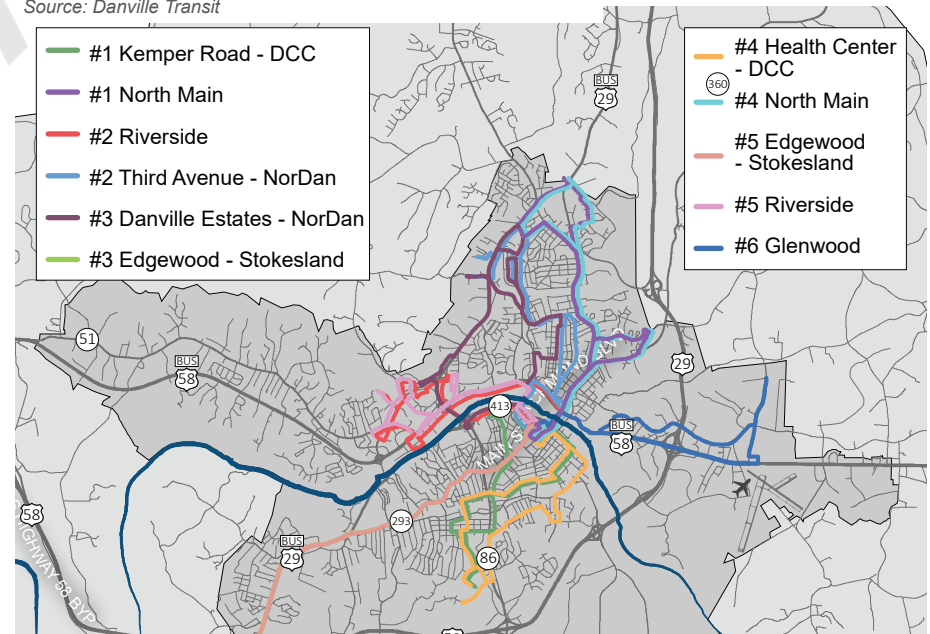


Figure 23 Danville Transit Bus Route Map

Source: Danville Transit



- #4 Health Center – DCC
- #4 North Main
- #5 Edgewood – Stokesland
- #5 Riverside
- #6 Glenwood

Additionally, Danville Transit has created two new routes to provide service in Pittsylvania and Halifax counties. One will run from Danville to Hurt, with stops in Chatham and Gretna. The second route will run along US 58, connecting large employers such as the Sentara Halifax Regional Hospital and the Southern Virginia Higher Education Center.

Reserve-A-Ride

In addition to fixed-routes, DT provides Reserve-a-Ride service that is available for use by all city residents. Reserve-a-Ride is designed to provide transportation options to Danville residents when fixed route service is not available and where fixed-route service is not available. Reserve-a-Ride takes riders to and from any location within the city limits of Danville, as well as the Cane Creek Centre Industrial Park. In 2001, this service was a response to the transitioning economy, providing flexibility to meet the new level of transit demand.

Handivan Service

Handivan is the third type of service offered by Danville Transit. Riders must be pre-qualified and unable to use fixed-route service. Advanced reservations are required the day before a trip. Handivan service is provided anywhere within the City limits.

Senior Transportation Service

DT operates the Senior Transportation Service, previously operated under Danville’s Park and Recreation Department. Parks and Recreation continues to manage the trip scheduling process and customer satisfaction phone line. Senior Transportation riders must be at least 60 years of age and a resident of Danville. The service provides trips to and from medical appointments, grocery shopping and other errands. An advanced reservation is required for this service. FTA’s New Freedom program, which is now part of FTA’s Section 5310 grant, funds the program.

Figure 24 2018 Fixed Route Ridership
Source: Danville Transit

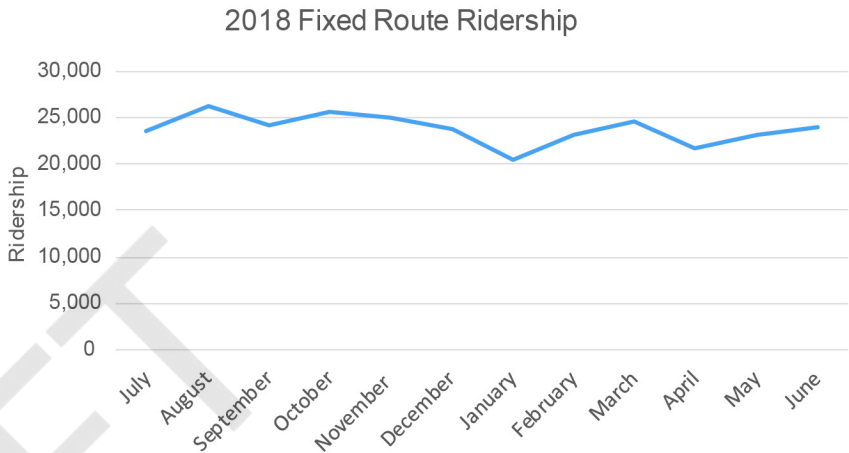
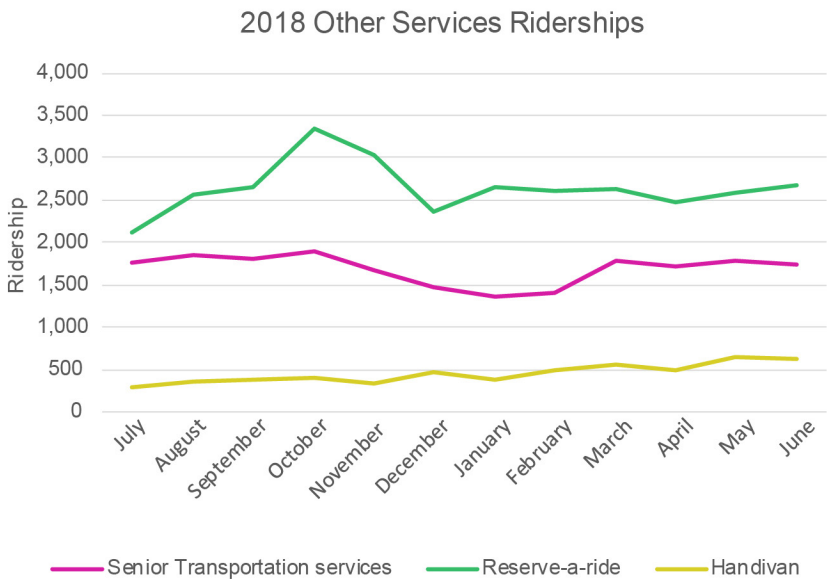


Figure 25 2018 Other Services Riderships
Source: Danville Transit



Needs and Conclusions

The Danville MPO faces several challenges that will increase the importance of transit as a viable travel option for residents. As the population continues to age, there will be more dependence on DT services. Yet, as the River District continues to grow, there may also be increased demand from younger riders.

Funding Challenges

Continued population declines resulted in the re-classification of the Danville service area from urbanized to non-urbanized. The re-classification is significant, as DT is no longer eligible for FTA's Section 5307 program, a larger funding source. Instead, the system will rely on Section 5311 non-urbanized program funds.

Staffing Challenges

Bus driver shortages present a major hurdle to expanding the service the of Danville Transit bus network. Key personnel at Danville Transit indicated that new routes have received funding but cannot begin service because the organization cannot find drivers.

Bus Stop Amenities

Most bus stops lack basic amenities. **Figure 28** shows the amenities that each bus stop currently has. Especially for choice riders, those amenities will be central to attracting new passengers. For those that depend on transit, shelters and other conveniences will serve those that are most vulnerable.

Demand response Challenges and Issues

The TDP indicated that ridership for demand response service, Reserve-A-Ride, continues to grow. Approximately 20% of the growth is due to the incorporation of the Senior Transportation Service program. This demand adds strain to the current level of resources.

Figure 26 early Fixed Route Ridership
Source: Danville Transit

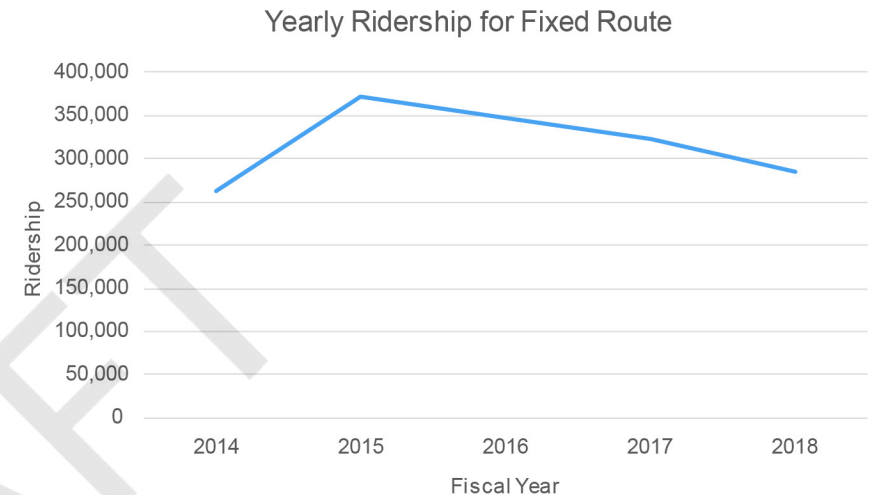
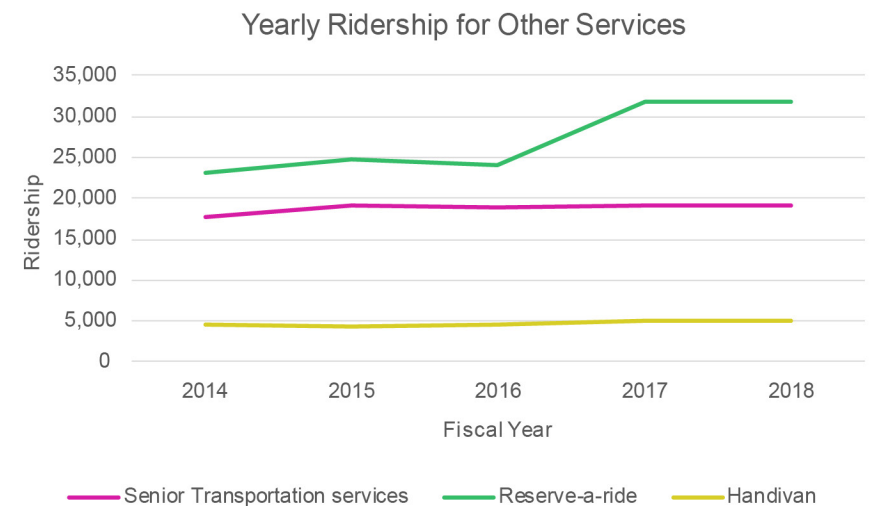


Figure 27 Yearly Other Services Riderships
Source: Danville Transit



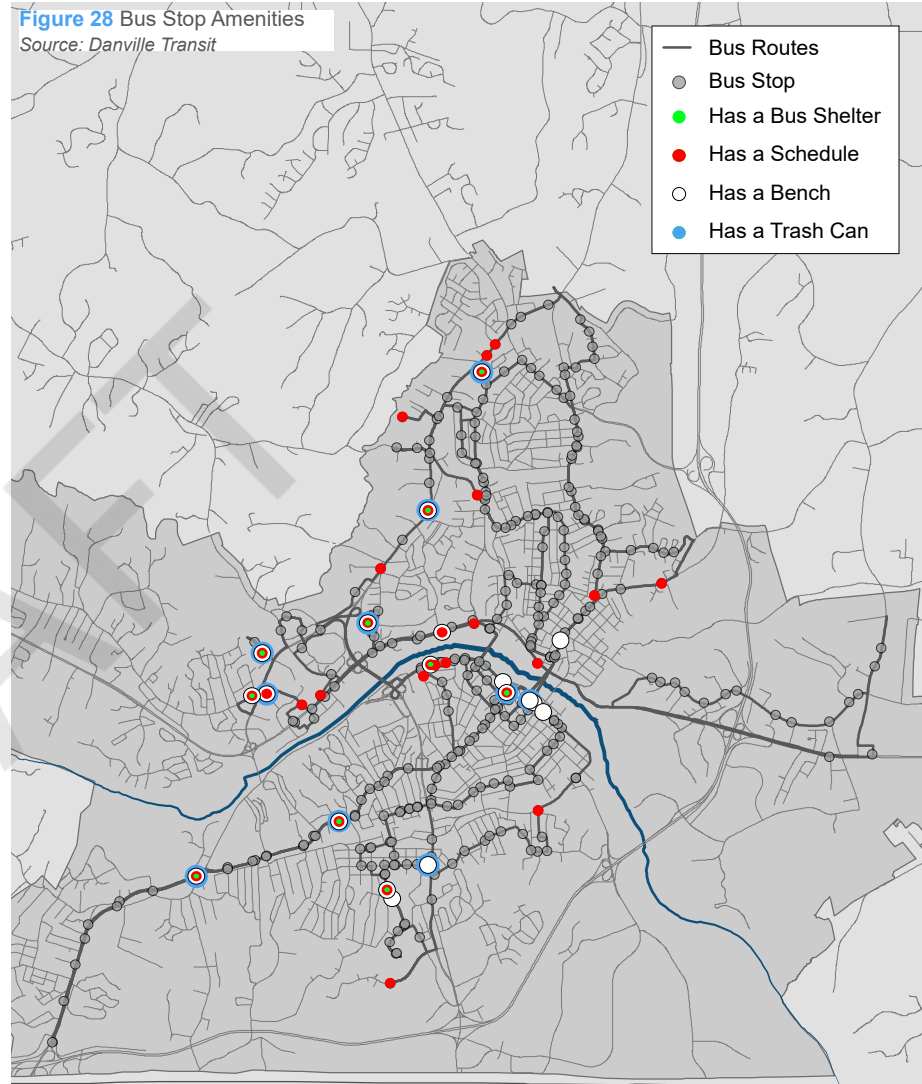
Vehicle Maintenance Issues

Vehicle maintenance is generally unreliable, due to limited staffing and facilities. There is no dedicated maintenance staff under the direction of transit services. Warranty work may be limited to areas, such as Roanoke, outside of the region. There are other environmental requirements that limit maintenance and repairs.

Specific Service Gap Challenges and Issues

There are no transit services in Pittsylvania County, despite an identified need. With no evening services, riders have limited travel options in PM hours. There is no fixed-route access to many critical destinations, especially employment and training centers.


The 2015 TDP provides a more thorough list of needs and recommendations, which is integrated into the LRTP process, where applicable.



 **6%**
of bus stops
have benches

 **3%**
of bus stops
have trash cans

 **3%**
of bus stops
have shelters

 **9%**
of bus stops
have schedules

State of Intercity Bus & Rail

Intercity travel options, aside from personal vehicles, are limited in the Danville area. There is one Amtrak line, the Crescent, that stops in Danville. The only intercity bus service, Greyhound, ceased service to Danville in 2016 due to low demand. The Danville Regional Airport is not equipped to fill this role, leaving the region only one option: Amtrak. With the morning train departing at approximately 4am and the evening train arriving after 11pm, few riders willingly choose this option.

Rail Infrastructure

Freight Rail

Norfolk Southern owns and operates the majority of railroads east of the Mississippi. The MPO area is situated in Norfolk Southern's Crescent Corridor, shown in **Figure 29**. The Crescent Corridor is a major intermodal freight corridor that connects New York with the Mississippi River at Memphis, Tennessee, and the Gulf Coast at New Orleans, Louisiana.

Passenger Rail

Danville is served by Amtrak's Crescent Line which runs through the Crescent Corridor along Norfolk Southern's rail lines, see **Figure 30**. The 2,500-mile Crescent Line spans eleven states, from New York to Louisiana. There are approximately 20 linear miles of passenger rail within the Danville MPO. The City of Danville owns and operates the historic Danville Southern Railway Passenger Depot, including the parking lot and platform. Constructed in 1899, the City relocated the building in 1915, due to a track expansion project.

In Fiscal Year 2017, there were 6,575 boardings and alightings at the Danville station, an 8.8% decrease from the 7,209 in 2016. This figure is consistent with DRPT's 2017 Virginia Statewide Rail Plan. The State predicted a ridership decline for Clifton Forge (East-West



Corridor), Danville (Seminole Corridor), and Petersburg (Washington, D.C. to North Carolina Corridor) as a result of projected negative population growth trends near these stations.

Bus Service

For three decades, Danville was part of the Greyhound Lines, Inc. service area. In recent years, the Transit Transfer Center HUB housed a bus ticket and package office. Greyhound's Richmond, Charlotte and Atlanta Routes providing twice daily service through Danville. In 2016, the bus company announced that it would end service to the region, due to low demand that resulted in operating costs exceeding revenue. Without the Danville service, the next closest Greyhound stop is in Greensboro, North Carolina.

DRPT is currently assessing the viability of expanding the Virginia Breeze bus service to include service in Danville. DRPT is considering adding two new routes. One route will run from Martinsville to Richmond, stopping in Danville and the other will run from Danville to Washington D.C. The new routes would open up inter-city travel to a number of destinations for Danville residents, including the state and national capitals.

Needs and Conclusions

Closure of the Greyhound service, coupled with one daily Amtrak round trip, isolates Danville for those without access to a vehicle. The expansion of the Virginia Breeze bus service could provide a viable alternative for inter-city for residents without vehicle access. The viability of the Crescent line to serve as an inter-city alternative remains doubtful, as DRPT anticipates that 2040 annual boardings and alightings will decline to 5,685, representing a 21.92% decrease from 2016. State rail officials predict a ridership decrease of -0.98% per year. DRPT also reported poor on-time performance of the Crescent Line service. The poor on-time performance creates a perception of unreliability, which likely depresses the demand for inter-city rail travel. To provide intercity services, there will need to be public investment in rail or bus service.

Figure 29 Amtrak Crescent Corridor
Source: Norfolk Southern



Figure 30 MPO Area Railroads
Source: Bureau of Transportation Statistics

Rail

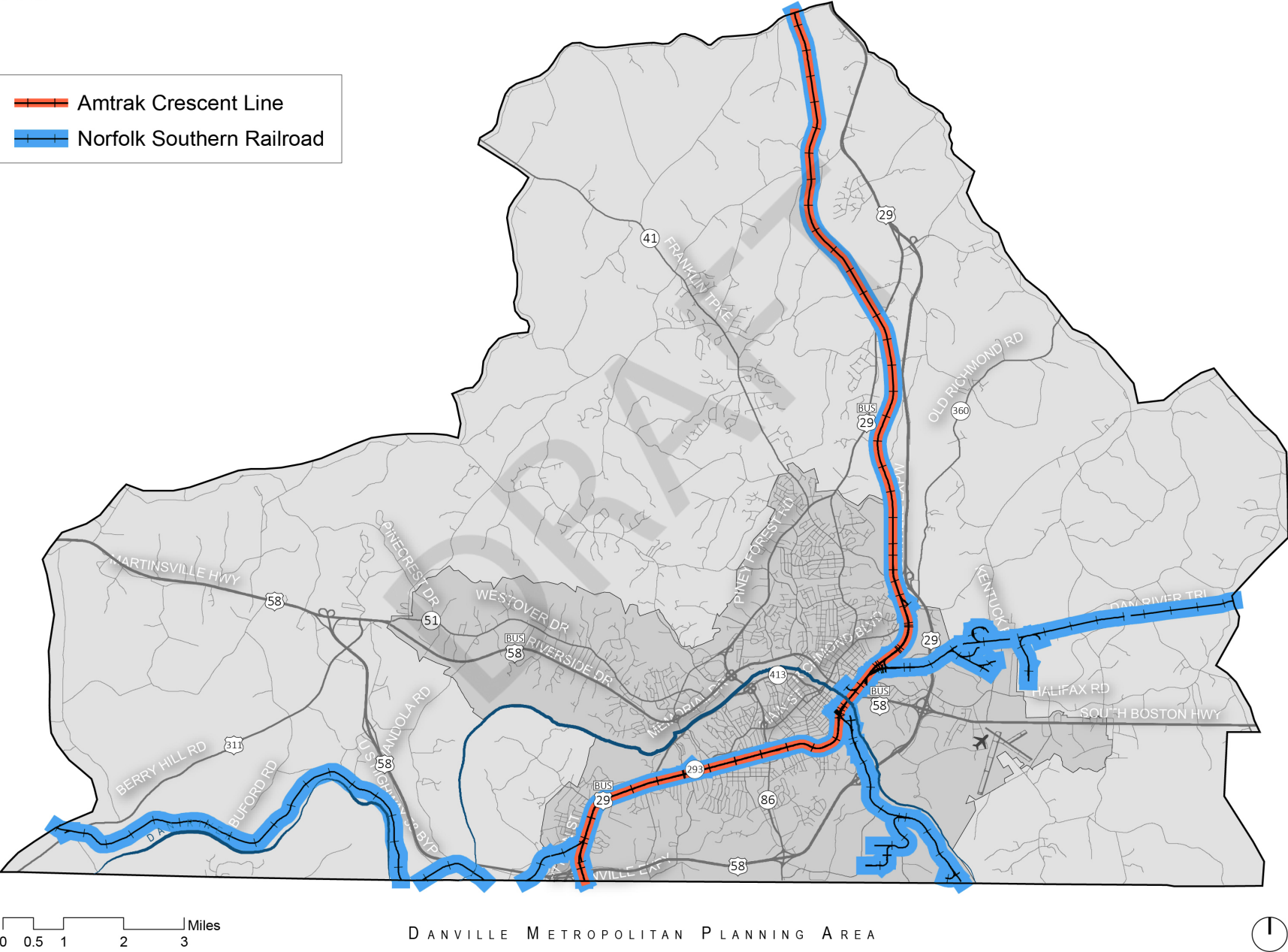
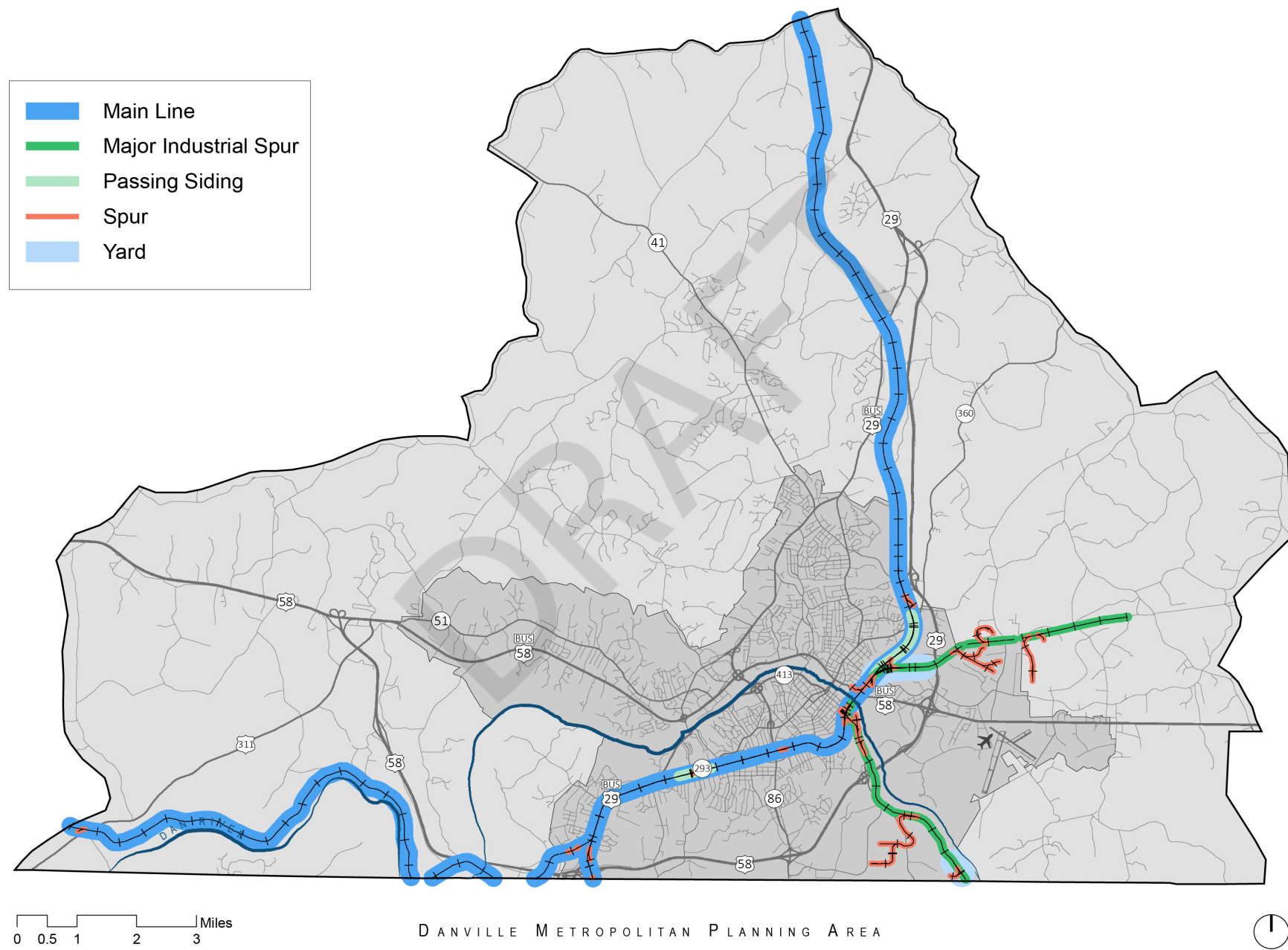


Figure 31 MPO Rail Facilities
Source: Bureau of Transportation Statistics



State of Air Service

The Danville MPO is home to the Danville Regional Airport (DAN). While most area residents travel to surrounding regions for air service, DAN is still a component of the MPO transportation network that is worth considering. This section provides an overview for the existing State of Air Service in the Danville MPO.

Existing Infrastructure

Danville Regional Airport first became operational in October 1937. It currently has two operating runways, runway 2/20 and 13/31. Runway 2/20 has the dimension of 5900 x 100 ft with a grooved asphalt surface in good condition. Runway 13/31 has the dimensions of 3910 x 100 ft with an asphalt surface in poor condition. The airport is only meant to be operational during daylight hours. The airport is publicly owned by the City of Danville. The FAA categorized the Danville airport as regional general aviation facility between 2017 – 2021 as part of the national part of integrated airport systems (NPIAS).

In January 2017, the City Council of Danville approved a \$3.1 million project to rebuild taxiway Alpha to narrow it to 35 ft. There are several airplanes based at the DAN, including: 31 single-engine airplanes, 3 multi-engine airplanes, and 2 jet airplanes. Approximately 50% of flights are for transient general aviation. Approximately 50% are local, general aviation and less than 1% are for military purposes. The fixed based operator is General Aviation Incorporated. They provide services to the aircraft that land at DAN and flight training for the surrounding community. The airport does not have a control tower. Instead the Airport uses a common traffic advisory frequency (CTAF).

Surrounding Air Service

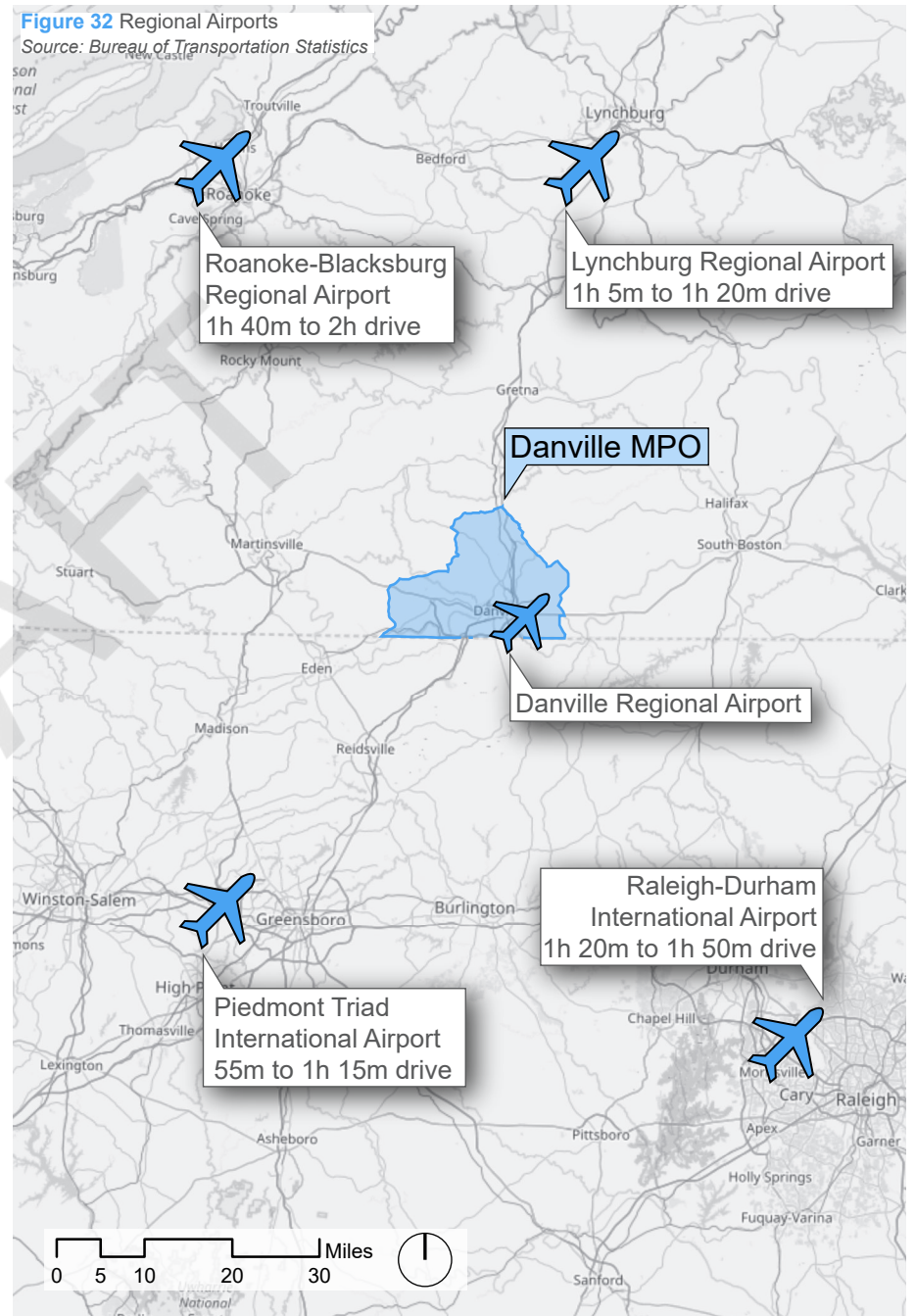
According to anecdotal knowledge with stakeholders, most Danville residents travel to surrounding regions for air service and travel needs. Piedmont Triad International Airport (PTI) is less than 60 miles from Danville, down the US 29 corridor. From Greensboro,



North Carolina, PTI offers direct flights to major US cities, ranging from Chicago and Dallas/Fort Worth to New York and Miami, as well as domestic destinations in between. Roanoke-Blacksburg Regional Airport (ROA) is just under 80-miles to the northwest of Danville, with approximately 40 scheduled flights per day. Carriers take travelers to eight major US cities, overlapping with PTI. The less frequently used airport is Lynchburg Regional Airport (LYH), which is 60 miles up the US 29 corridor from the Danville MPO. This airport provides approximately 12 scheduled flights per day. The largest airport in the larger Virginia/North Carolina regions is Charlotte Douglas International Airport (CLT), which is 140 Miles from Danville.

Averett University Flight School

Averett University operates an FAA-approved Part 141 flight school that offers a number of pilot licenses and certifications in addition to a Bachelor of Science in Aerospace Management. The flight school recently partnered with the Danville Regional Airport to augment its training services.



State of Bridges & Culverts

There are 97 bridges and 57 culverts within Danville MPO. The City encompasses 50 of those bridges. The oldest bridge, VA-293 N, dates to 1927 but was reconstructed in 2005. The majority of the bridges and culverts have a General Condition Rating of “Good”.

Bridges and Culvert Conclusions

The bridges and culverts in the Danville MPO are in relatively good condition, aside from a handful of structures that are highlighted above. The Main Street bridges over the Dan River are in poor condition but are closely monitored by the City of Danville. The main threat is an aging infrastructure over time. By the year 2045, many of the existing bridges and culverts will be reaching critical periods in their structural life-cycle. Given trends in public funds, there may be fewer resources for restoring, rehabilitating or rebuilding those structures.

Figure 33 Bridges and Culverts Condition Ratings
Source: VDOT

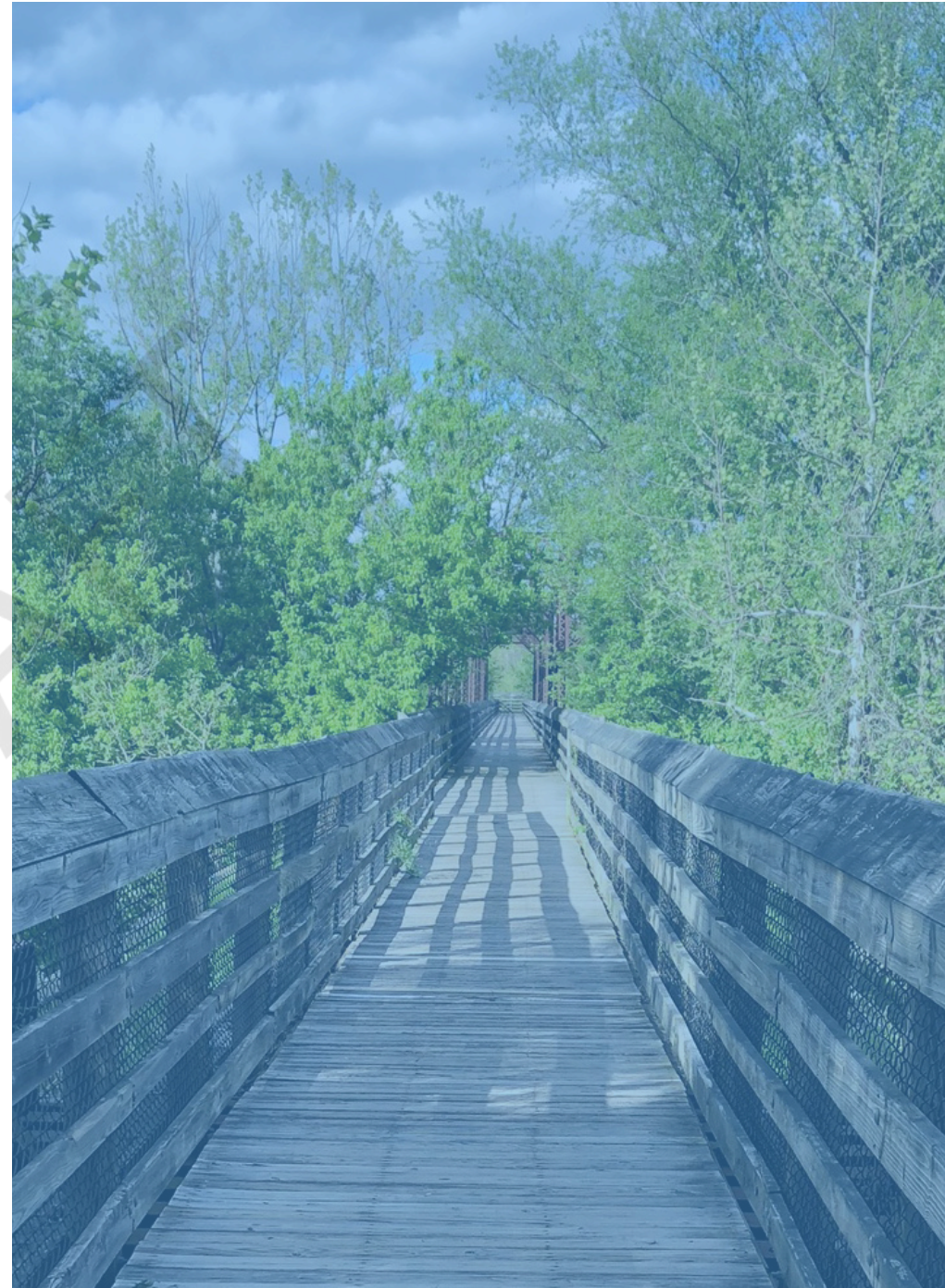
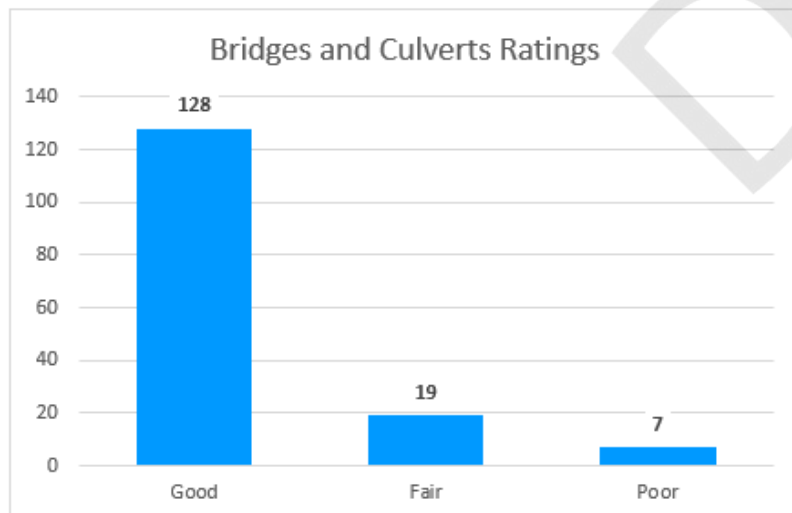


Figure 34 General Condition Rating
Source: VDOT

General Condition Rating

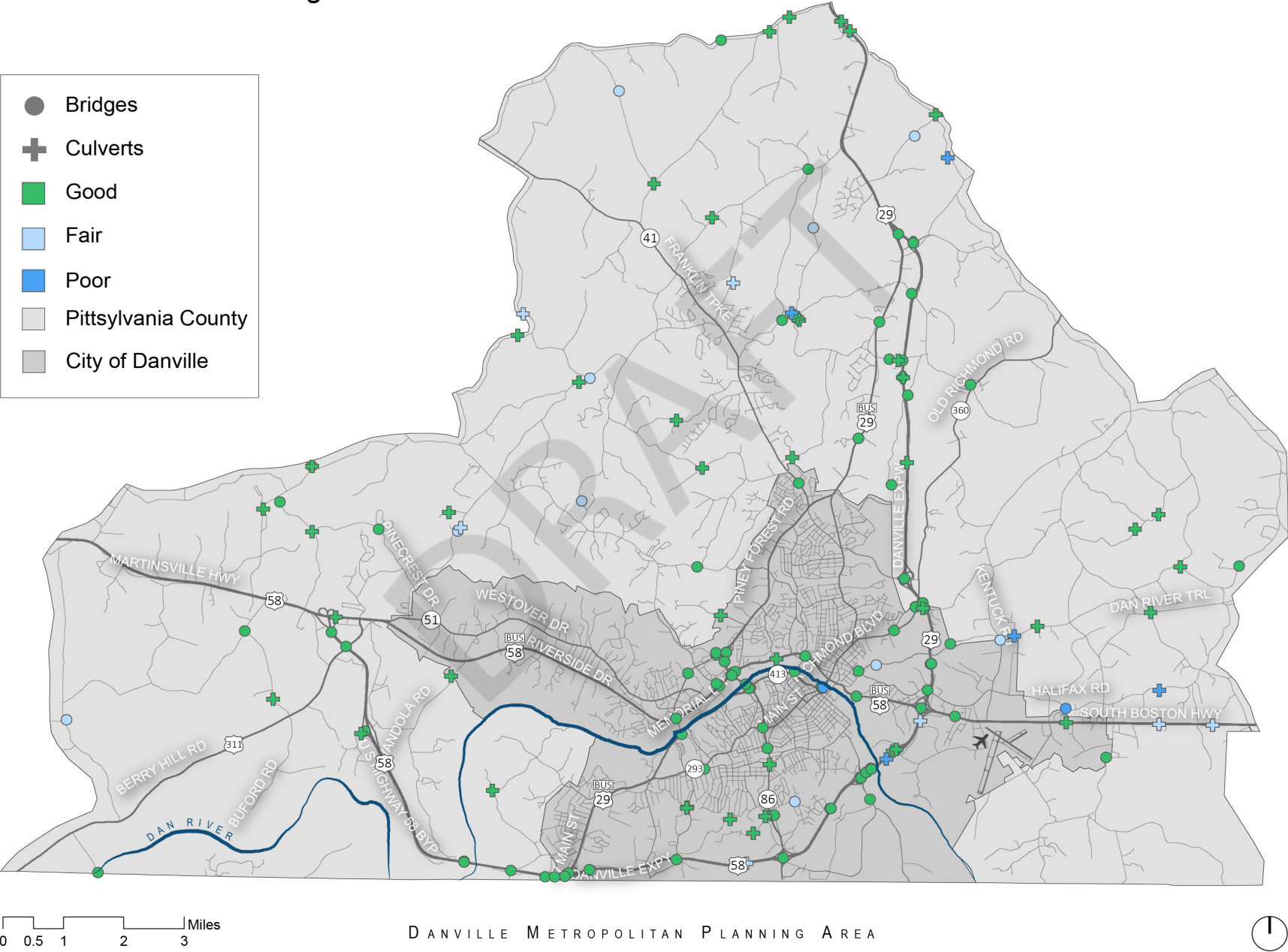
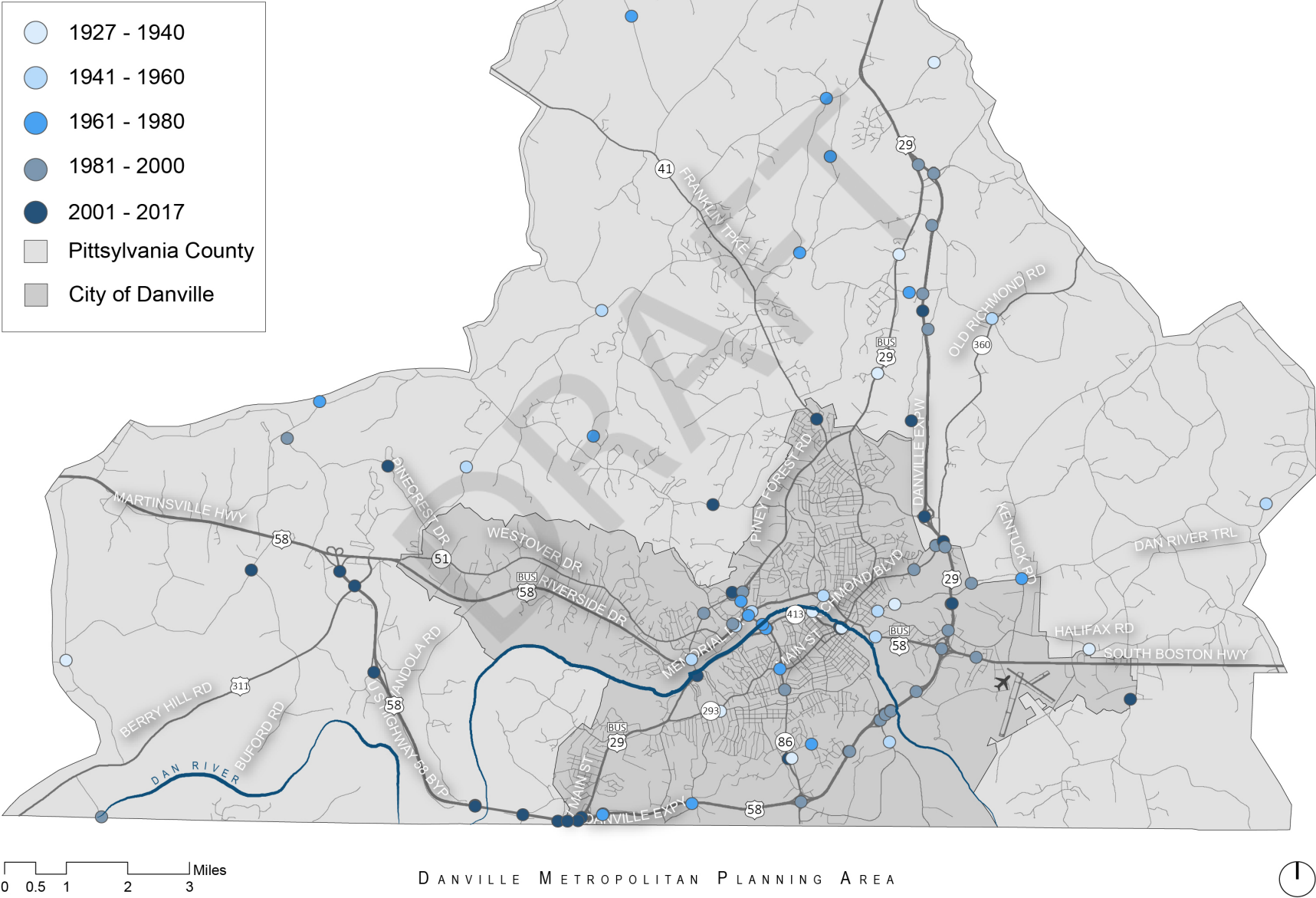


Figure 35 Year Built
Source: VDOT

Year Built



Needs & Conclusions

The State of the System chapter influences other elements of the 2045 LRTP. With a detailed understanding of existing conditions, the following conclusions help to develop subsequent chapters. Those conclusions include the following.

Chapter V: 2045 State of the System

The Travel Demand Model does not indicate increases in AADT for MPO roadways over the next twenty-five years. Given that existing traffic volumes utilize a fraction of existing capacity, the 2045 LRTP should focus less attention on new capacity-building projects.

CHAPTER VI: GOALS, OBJECTIVES AND TARGETS

2045 Performance Measures and Goals should highlight safety, as opposed to congestion. The Prioritization Tool, used to evaluate transportation projects, should also emphasize multi-modal travel options, such as bike, pedestrian, transit and intercity services.

CHAPTER VII: PERFORMANCE BASED PLANNING PROCESS

Given the excess capacity of existing and future roadway facilities, 2045 projects should include Road Diet strategies for introducing multi-modal travel options. Additionally, the top 5 PSI intersections and top 5 PSI road segments should be addressed in the Project Pool.

CHAPTER IX: 2045 TRANSPORTATION PROJECT LISTS

The final list of projects should reflect existing and future needs, as are defined in this chapter and within the 2045 State of the System.

