Foxcroft Avenue

Pedestrian Road Safety Assessment

Martinsburg, WV

December 3-4, 2019

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Background

The purpose of this Road Safety Assessment (RSA) was to study and suggest methods to improve pedestrian safety on Foxcroft Avenue. The Federal Highways Administration (FHWA) supported the RSA through the Safe Transportation for Every Pedestrian (STEP) program. STEP is an innovation of the Every Day Counts (EDC) (Rounds 4 and 5) initiative. Foxcroft was selected per the request of the City of Martinsburg and in consultation with the Hagerstown/Eastern Panhandle Metropolitan Planning Organization (HEPMPO) and the West Virginia Department of Transportation (WVDOT).

Photo taken looking north on Foxcroft Avenue from the intersection with Apple Harvest Drive. Signs of typical highway commercial businesses can be seen along Foxcroft.

Local Context

Martinsburg is a city in Berkeley County in the Eastern Panhandle of West Virginia. The city has a population of 17,465 (U.S. Census Bureau 2018 pop. estimate) and is in the Hagerstown/Eastern Panhandle Metropolitan Planning Organization (HEPMPO) urbanized area. It is centered in the Eastern Panhandle of West Virginia, midway between Virginia and Maryland. The areas surrounding Martinsburg are largely rural. A CSX Railroad line runs through Martinsburg, and passenger service is provided on Amtrak's "Capitol Limited" line and Maryland Area Regional Commuter (MARC) trains, which run to and from Washington D.C.

Interstate 81 (I-81) runs through the western part of the city. I-81 is a major north-south route that runs along the Appalachian Mountains and provides access to a wide swath of the east coast from the Canadian border in New York to northeastern Tennessee. I-81 is heavily used by freight traffic. US 11 nearly parallels I-81 to the east, and runs through the city on W. King Street, Queen Street, and Winchester Avenue. US 11 is often used by vehicles trying to avoid traffic on I-81, and freight trucks often use Foxcroft Avenue. to access US 11 when there is a back-up on I-81.

The RSA study area is dominated by Foxcroft Avenue, which runs parallel to I-81 between Martinsburg's southernmost two interstate interchanges. The land use context includes several commercial shopping areas and auto-oriented businesses, connected by the parking and roadway infrastructure for those automobiles. The center of the corridor includes a ring road around what was formerly a mall, which is being redeveloped. A new Home2Suites hotel is under construction, and further redevelopment is expected.

The northern and southern sections of the road are owned by WVDOT, but the middle ring road is privately owned by the Paramount Development Corporation, requiring coordination to achieve consistency on the corridor. The Eastern Panhandle Transit Authority (EPTA) provides bus service along the corridor with two routes: 10 and 14. There are two bus stops on the corridor, EPTA Routes 10 and 14 stop at Walmart, and Route 10 also stops at Workforce Development. There is a transfer point between the two routes at the stop in front of Walmart, which serves around 75 riders per weekday.

The City, HEMPO, and state have adopted plans that include recommendations for pedestrian improvements. The Martinsburg Comprehensive Plan (2018) recommends promoting bicycle and pedestrian connections to key commercial areas, such as Foxcroft Avenue; integrating bicycle and pedestrian facilities into new and existing development; and supporting transit enhancements. The WV 45 Traffic Operations and Safety Study (2016) found high crash rates at WV 45 (Apple Harvest Drive) and Foxcroft Avenue and found that congestion at that intersection affected other intersections downstream. The study noted pedestrian traffic and the presence of pedestrian generators and recommended installing pedestrian countdown signal heads, marked crosswalks, and ADA ramps at the intersection and to install sidewalk between Foxcroft and Blue Ridge Community and Technical College.

HEMPO has adopted a Long Range Transportation Plan (2018) with a multimodal transportation goal to, "Encourage alternative modes of transportation through multimodal network improvements and innovative marketing strategies." HEPMPO also has an adopted an adopted Complete Streets Policy that supports these multimodal efforts and highlights the benefits of providing better bike, pedestrian, and transit connections to jobs, housing, and more through Complete Streets design.

RSA SITE LOCATIONS

The corridor reviewed for the RSA is Foxcroft Avenue. from King Street to West Virginia Highway 45 (Apple Harvest Drive). The corridor was initially broken into six segments for review, but this breakdown has been revised into three segments based on the surrounding land use context and roadway characteristics. The segments reviewed on Foxcroft Avenue are as follows:

- Segment 1: King Street to Ring Road
- Segment 2: Ring Road
- Segment 3: Ring Road to Apple Harvest Drive

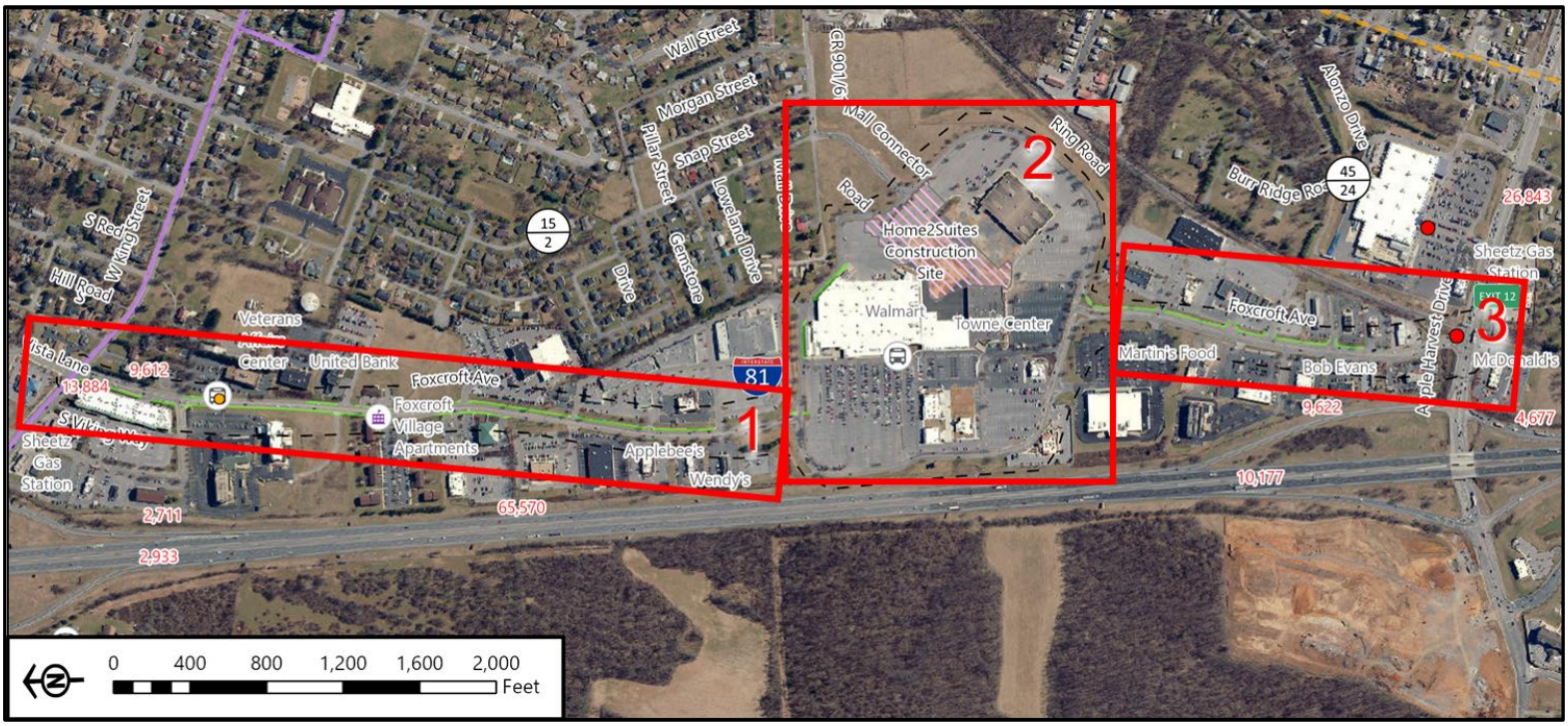


Figure 1 illustrates the general location of the corridors.

Figure 1. Aerial photo of general locations of the RSA corridors.

RSA PROCESS

RSA Team

Left: RSA team participants measure vehicle speeds on the northern end of the corridor.
Right: RSA team members use existing sidewalk to walk north on Foxcroft Avenue.

- Shane Farthing – City of Martinsburg Economic and Community Development
- Dana Keith – City of Martinsburg Planning
- Jeff Wilkerson – City of Martinsburg Public Works
- Lt. Scott Doyle – City of Martinsburg Police Department
- Kimberly Nelson – City of Martinsburg City Council; Ward 4
- Matthew Bland – EPTA
- Matt Mullenax – HEPMPO
- Kevin Donohue – HEPMPO
- Donna Hardy – WV Department of Highways Mobility and Safety
- Ken Clohan – WV Department of Highways District 5
- Brandi Krofcheck – WV Department of Highways Lighting/ITS
- Derrick Johnson – FHWA WV Division
- Joe Seymour – VHB
- Margaret Tartala – VHB

RSA Agenda

The RSA was conducted over a two-day period. The general activities conducted at the RSA are as follows:

Day 1: In the morning the RSA team conducted an RSA kick-off meeting and discussed crashes and overall conditions for each of the study area corridors. After the kick-off meeting, the RSA team conducted a site review to assess existing conditions along the corridor. Although gaps in the sidewalk made it difficult, the RSA team walked most of the corridor to observe conditions for pedestrians by driving to pre-determined spots and walking in either direction. The RSA team conducted a nighttime review of the corridor as well.

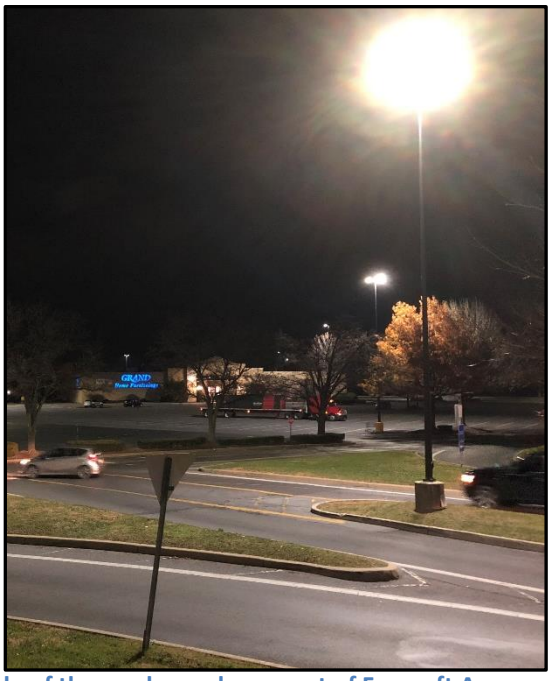
Day 2: The RSA team reconvened to discuss findings from day one and to discuss potential countermeasures. The team then documented its priority sites for countermeasures and preliminary recommendations. These discussions are reflected in this RSA report.

The report appendix includes the daily agendas for this RSA.

ASSESSMENT FINDINGS

Area-Wide Positive Features

The Foxcroft Avenue corridor has a basic sidewalk network, in that there is generally sidewalk along at least one side of the road. It is one of the major commercial corridors in the City with destinations that attract people. Destinations include restaurants, hotels, retail, and two major grocery stores in the city: Walmart and Martin's. There is on-going development on the corridor which presents opportunities to add sidewalk where there are currently gaps. EPTA provides two routes that run along the corridor, the 10 and 14, and a stop at Walmart serves as a transfer point between the two. There are existing light fixtures on the roadway for the entire corridor and existing poles at both major intersections that can have additional lighting mounted on them. There is a 60-84' Right of Way along the entire study corridor which provides space for any recommended improvements.



Left: There is a basic sidewalk network, with sidewalk on one side of the roadway along most of Foxcroft Ave. Right: There are light fixtures along the entire corridor, and they provide sufficient levels of pedestrian-focused illumination when functioning.

Reported Crashes

WVDOT provided detailed crash data for crashes that occurred between 2010 and 2018. There were two (2) reported crashes involving a pedestrian over the data period, they are detailed in the table below. The 2011 crash involved a pedestrian trying to cross Foxcroft Avenue who was hit by a vehicle turning right onto Foxcroft Avenue from Apple Harvest Drive. The vehicle had a green light, which means the pedestrian was crossing the road with traffic but without a pedestrian signal phase (there are no pedestrian facilities at this intersection). Both crashes occurred in dark conditions, which contributed to the drivers not seeing the pedestrians in the roadway. A third pedestrian crash occurred in fall 2019,

outside of the review period, in a parking lot to the east of the corridor. This crash was added to the field maps for context but was omitted from the analysis.

Table 1 - Summary of pedestrian crashes on Foxcroft Avenue, 2010 - 2018

Date	Severity	Crash Type	Traffic Control	Light Condition
10/21/2015	B: Evident Injury	Darting/Running	Unsignalized	Dark
3/20/2011	K: Fatal	Crossing Roadway	Signalized	Dark

Figure 2. Aerial photo of pedestrian crashes on the corridor. One occurred in the northern Foxcroft Avenue section at Viking Way, the other at the intersection with Apple Harvest Drive.

Area-Wide Issues

While there is a basic sidewalk network in place on Foxcroft Avenue, it is incomplete, and many of the existing sidewalks are missing curb ramps or not ADA compliant. There are few vacant lots on the corridor that would require sidewalk to be built and many gaps where there are established businesses. There are also no formal pedestrian crossings anywhere on the portion of the road owned by WVDOT. The high volume of traffic and number of lanes, particularly on the southern part of the corridor, add additional challenges for pedestrians crossing the road. There are a few crosswalks on the ring road, though some of the crosswalks lead to non-existent infrastructure (i.e. there is no sidewalk to cross to) or have faded markings.

The pedestrian facilities are particularly important along Foxcroft because they provide access to the many destinations on the corridor--not just to customers, but to employees who need to be able to safely get to work and may not have access to a car. Foxcroft's auto-oriented development can make destinations particularly difficult to access. In addition to a lack of transit stops on the southern end of

the corridor, there are no easy connections from Downtown or surrounding neighborhoods to Foxcroft Avenue. Additionally, the number of service jobs available on the corridor means employees that use transit may have early or late shifts and would therefore increase pedestrian traffic during dark hours.

There are light fixtures on the entire length of the corridor, but the lights on the WVDOT-owned sections were not on (as observed during the nighttime field visit). The City of Martinsburg is currently determining ownership of the lighting. Adequate lighting is vital to improving pedestrian safety on the corridor, especially considering previous pedestrian crashes on the corridor occurred in dark conditions.

Inconsistent speed limits and signage (i.e. STOP, Stop for Pedestrians, etc.) along the privately owned roadway sections creates confusion among users. Because the ring road in the middle section of the corridor is privately owned, addressing the issues on Foxcroft Avenue will require close coordination between WVDOT, the City, and Paramount Development Corporation.

Left: Gaps in the sidewalk network leave pedestrians walking in the grass on the side of the road. Even in locations where sidewalk is present on the other side of the road, a lack of formal crossings often prevents pedestrians from crossing to use it.
Right: This segment of Foxcroft Ave generally has a wide Right of Way which provides space for improvements.

Area-Wide Recommendations

Pedestrian safety improvements can be deployed through policy, programs, and specific projects. The following should be considered to improve pedestrian safety corridor-wide within three implementation timeframes: short-term (0-2 years), mid-term (2-5 years), and long-term (5+ years). The location and timeframe specific issues and recommendations are below:

Short-Term (0 to 2 years)

- The City of Martinsburg will approach Potomac Edison to identify the owner of the lighting currently on the southern section of Foxcroft Avenue.
- Discuss options for placing additional bus stops on Foxcroft with EPTA; the imminent Transit Development Plan update may provide an opportunity for the City and EPTA to discuss options.

- City of Martinsburg will meet with Paramount Development Corp. to review report recommendations and opportunities to coordinate City and private improvements to the corridor.
- WVDOT to review signage on the northern section of Foxcroft Avenue to ensure compliance with Manual on Uniform Traffic Control Devices (MUTCD).
- Coordinate with WVDOT to add LED lighting to the Foxcroft intersections with King Street and Apple Harvest Drive.
- City of Martinsburg, in coordination with WVDOT, to review Foxcroft Avenue streetscape within the Right of Way, in accordance with potential new development, tree canopy review, and the upcoming 5-year stormwater plan.
- Conduct a crosswalk placement study in order to identify the best locations on Foxcroft Avenue for formal pedestrian crossings.

Mid-Term (2 to 5 years)

- Evaluate the intersection of Foxcroft Avenue and King Street for potential pedestrian crossing improvements, such as pedestrian signal heads, high visibility crosswalks, connecting sidewalks and curb ramps, and pedestrian-focused lighting.
- Evaluate Foxcroft Avenue for potential locations to insert medians or pedestrian refuge islands in conjunction with mid-block crossings. These locations should be away from driveways and access points to avoid increasing pedestrian-vehicle conflict points.

Long-Term (5+ years)

- Study the existing ring road intersections for opportunities to improve the safety of the intersections for pedestrians and vehicles in coordination with private roadway owner.
- Upgrade curb ramps and sidewalk to be ADA compliant in conjunction with the next Foxcroft Avenue resurfacing project.

Segment 1: King Street to Ring Road

Overview

The RSA team reviewed an approximately 0.70 mile stretch of Foxcroft Avenue from King Street in the north to the ring road. This section of Foxcroft Avenue consists of mostly commercial development on both sides of the corridor, including: several restaurants, banks, three hotels, a car dealership, and smaller retail stores. There is also an apartment complex, Foxcroft Village Apartments, and institutional uses, such as a Veterans Affairs center and the Martinsburg Chamber of Commerce office. There is one bus stop on this segment, the EPTA Route 10 'Workforce Development' stop.

On this segment, Foxcroft Avenue is typically two lanes in each direction with a center turn lane. The turn lane has been striped the entire length of the segment, even when there are long stretches with no driveways to turn into. The speed limit is 25 MPH, though cars were recorded going 25-35 MPH during the field review--some of the highest speeds observed on the corridor. The 2017 Annual Average Daily Traffic (AADT) on this segment was 9,612 vehicles per day. The only signalized intersection is at Foxcroft Avenue and King Street, and there are no traffic controls on Foxcroft Avenue between King Street and the ring road. There is a sidewalk on the west side of the corridor but no bicycle infrastructure. The right-of-way is 60', with 40' of pavement, providing space for improvements.

The number of commercial destinations and presence of transit service indicate pedestrian activity, and observations during the field review verified this. Pedestrians were observed travelling along the corridor and crossing the roadway during both the daytime and nighttime field reviews. Several desire lines were also observed, including a particularly well tread one on the east side of Foxcroft Avenue near King Street, which also has a slope. The large number of commercial destinations means service workers who ride the bus and/or walk to get to work are forced to walk to work, at least partially, without a sidewalk.

Left: Facing north on Foxcroft Avenue towards King Street, showing that there is no sidewalk on the east side of the street and a slope up a retaining wall. There are no crosswalks or pedestrian signal heads at the intersection. Right: The intersection of Foxcroft and Viking Way, showing that the intersection is wide and at the top of a hill. The sidewalk on the east side ends at the EPTA Route 10 Workforce Development stop, but there is no marked crossing that allows pedestrians to cross the street and walk on the sidewalk on the west side of the road.

Positive Features

The RSA team considered several features of the segment and existing transportation infrastructure as helping to promote pedestrian safety. These features can be deployed on a larger scale to enhance safety. There is sidewalk present on at least one side of Foxcroft Avenue along most of the length of the segment and the western approach to Foxcroft Avenue at King Street has existing curb ramps. There is one vacant parcel on this segment. There is commercial development along both sides of the roadway, which attracts visitors to the area. EPTA route 10 provides transit service on the segment, with a stop at the Workforce Development center.

Issues

In general, this segment is uninviting to pedestrians due to lack of lighting, gaps in the sidewalk network, and lack of formal crossings. The following conditions were discussed by the RSA team as potentially affecting safety on this segment of Foxcroft Avenue:

- **Sidewalk Network:** There is an incomplete sidewalk network and grade challenges to adding sidewalk to existing gaps on the east side of Foxcroft Avenue in the future. There is no sidewalk connection from King Street to Delaware Avenue, forcing pedestrians travelling from Downtown to walk in the street or across private property.
- **Intersections:** There is no pedestrian signal phase or marked crosswalks at the King Street intersection. There are no other traffic-controlled intersections on this segment of Foxcroft Avenue that allow pedestrians to cross the road safely.
- **Lighting:** While there are existing light poles on this segment, the lighting is not currently functional. Because the lighting was not functional during the field review, it is unclear whether the existing lighting is enough to light the entire segment well.
- **Crossings:** There are no marked crosswalks on this segment to provide a formal pedestrian crossing. Existing unmarked crosswalks are not understood or acknowledged by drivers. Several sidewalks had missing or non-ADA compliant curb ramps.

Suggestions

The following measures may reduce the risk associated with the issues along the corridor:

Short-Term (0 to 2 years)

- Coordinate with WVDOT to add LED lighting to the intersection with King Street.
- Discuss adding a sidewalk connection along King Street from Foxcroft Avenue to Downtown with property owners.

Mid-Term (2 to 5 years)

- Evaluate the intersection with King Street for improvements, to include: pedestrian signal heads with tactile arrow pushbuttons, marked crosswalks, a pedestrian crossing phase with a lead pedestrian interval (LPI), and updated ADA curb ramps with detectable warnings. This evaluation could consider pedestrian counts to measure demand and additional sidewalk connections to increase connectivity to other areas of the City.
- Discuss the addition of a southbound bus stop on Route 10 at Foxcroft Village Apartments with EPTA and the apartment complex's owners. A bus stop at the apartment complex would provide

the only southbound transit service on the corridor to take people to destinations further south on Foxcroft Avenue, like Walmart.

- Approach Foxcroft Village Apartments owners about extending the sidewalk in front of the property to fill in the small existing gap in the network.

Segment 2: Ring Road

Overview

The RSA team reviewed approximately a mile of the ring road around Towne Center. This section of road encompasses a variety of commercial development in an area that used to be a shopping mall and is privately owned by Paramount Development Corp. Current stores include a Walmart, several chain restaurants, a Hobby Lobby, and a few smaller retail stores. A hotel is currently being constructed in the eastern section of the development, and there is space for future development. There is one bus stop on this segment of the corridor at the Walmart, which serves as a transfer point between EPTA Routes 10 and 14.

The ring road is typically one lane on the inside and two lanes on the outside. There are three points on the road where traffic can enter or exit. These intersections are a combination of stop-controlled lanes and free-flow lanes. The speed limit is generally 15 MPH, though there are some locations that are signed as 10 or 5 MPH. The volume on the road is not measured by WVDOT since it is privately owned. Sidewalk is only in front of the different commercial developments.

Walmart, which serves as one of the major grocery stores, and multiple restaurants are major draws in the City. This includes residents in nearby neighborhoods that come on foot and transit users, as well as typical vehicle traffic. Pedestrians were observed travelling along the road and crossing the roadway during the daytime field review. Several desire lines were also observed, especially between residential areas north and east of Towne Center and Walmart. There is also considerable non-motorized travel along Mall Connector Road, including pedestrians, people using wheelchairs, families with strollers, and bicyclists.

Left: A sidewalk missing a curb ramp behind the Walmart. The placement of containers and building make it difficult for drivers to see beyond the corner where pedestrians may be crossing to get to the stores on the hill. Right: A strong desire line from residential areas north and east of Towne Center towards the Walmart. The lines make it clear that pedestrians frequently cut through the gap in the guardrail or walk on the path outside the guardrail; pedestrians were observed here during the field review.

Positive Features

The RSA team considered several features of the segment and existing transportation infrastructure as positive or helpful for future development of pedestrian facilities. Like the rest of the corridor, major destinations bring many people to this segment. Transit service on this segment is highly used, and there is a quality transit shelter at the bus stop outside of Walmart. The lighting on this segment is functional and adequately lights the roadway. There is room along the ring road or through the development to add improvements to connect pedestrians from north to south Foxcroft Avenue and tie-in with existing pedestrian infrastructure.

Issues

In general, this segment is uninviting to pedestrians due to confusing signs, gaps in the sidewalk network, and lack of formal crossings. The following conditions were discussed by the RSA team as potentially affecting safety on the ring road:

- **Sidewalk Network:** There is no sidewalk or pedestrian connection through Towne Center except through parking lots. The only existing sidewalk is piecemeal, adjacent to the stores and restaurants on the segment. Several sidewalks have missing or non-ADA compliant curb ramps. In particular, the sidewalk along the Walmart garden center ramps up and down steeply and lacks curb ramps.
- **Intersections:** There are three traffic-controlled intersections on the ring road, at the northern and southern intersections with Foxcroft Avenue and at the intersection with Mall Connector Road. Only the intersection with Mall Connector Road is a three-way stop. The two intersections with Foxcroft Avenue both have free-flow lanes, meaning traffic is never stopped so pedestrians can cross and causing confusion for drivers about who has the right of way.
- **Crossings:** Existing crosswalks on this segment are faded, particularly at the intersections with Foxcroft Avenue. There are several crosswalks on the segment that do not connect to sidewalk on one side.
- **Lighting:** Existing lighting on this section works well, though lighting in the parking lots near new development are not functional. There is no lighting at the intersection with Mall Connector Road or at the northern intersection with Foxcroft Avenue. Several lights on the north side of the ring road are obstructed by nearby tree canopy.
- **Signs and Pavement Markings:** Signs are generally dated and not compliant with current Manual on Uniform Traffic Control Devices (MUTCD) regulations for height or retroreflectivity. The section of road on the north side of Walmart has posted speed limit signs at 5, 10, and 15 MPH. Confusing signs and pavement markings, like different speed limit signs in close proximity, exacerbate driver misbehavior, and city law enforcement have limited ability to correct. Additionally, the STOP sign at the Applebee's driveway have posters attached to them, obstructing drivers' vision, and the STOP and 'STOP HERE FOR PEDEDSTRIANS' signs near the Olive Garden are not MUTCD compliant and have a stop bar too close to the crosswalk.
- **Motorist Behavior:** A vehicle was observed passing in a left-turn lane at the southern end of the ring road. Higher vehicle speeds were observed on the segment, even though posted speed limits are 15 MPH. Cargo trucks drive through the segment and frequently drive up on the curb or off-road The light at the northern intersection of Foxcroft Avenue and the ring road was relocated to the south side of the intersection after being repeatedly knocked down by trucks travelling through the intersection.

- **Visibility:** There is poor visibility around the Walmart Garden Center due to the shape of the building and containers in the loading zone that further shorten drivers' sight distance and require pedestrians to step out into the road to see vehicles.

Suggestions

The following measures may reduce the risk associated with the issues along the corridor:

Short-Term (0 to 2 years)

- Evaluate the intersections of Foxcroft Avenue with the ring road for potential safety and operational improvements. The corridor has added a substantial amount of traffic since the mall was first built and the free flow lanes now present a bigger safety concern than any operational benefit they may provide. Improvements should provide alternatives to the existing free flow lanes and could also address slow vehicle movements and remove obstacles to freight vehicle movements.
- Include signage as part of an updated zoning ordinance, such as that businesses are required to maintain.
- Engage with Paramount Development Corp. to discuss existing safety concerns and sustainable uses for Towne Center. Potential topics for the discussion are:
    - A process for bringing signs and pavement markings into compliance with the MUTCD and City zoning ordinances and restriping faded markings.
    - Explore a speed study on the ring road to potentially post a consistent and safe speed limit throughout the entire corridor. Making the speed limit consistent could decrease driver confusion and the need for enforcement.
    - Provide pedestrian connections through Towne Center, in accordance with known future development, to provide pedestrians a safe path both within the center and between north and south Foxcroft Avenue. A path through the site is preferable to sidewalk along the ring road, to shorten distances for pedestrians.
    - Provide a space for pedestrians on Mall Connector Road. Pedestrians are already using Mall Connector Road and a walkway would be particularly useful for vulnerable pedestrians in wheelchairs and families with strollers to fill the gap in sidewalk between the sidewalk on Mall Drive and the ring road. A walkway could be achieved in the short-term with an alternate solution, like the installation of wheel stops, and in the long-term with a typical sidewalk.
    - Consider a midblock crossing across the ring road near the desire line behind Walmart (in the photo above) to connect pedestrians to the existing sidewalk. The crossing should include ADA compliant curb ramps and connecting sidewalk or an improved path, so it may involve a more involved study of the crossing.
    - Other safety issues mentioned in the section above.

Mid-Term (2 to 5 years)

- Propose a cost study to Paramount Development Corp. to evaluate the cost of acquiring the ring road.

Segment 3: Ring Road to Apple Harvest Drive

Overview

The RSA team reviewed an approximately 0.40 mile stretch of Foxcroft Avenue from the ring road south to Apple Harvest Drive. This section of Foxcroft Avenue consists of mostly commercial development on both sides of the corridor, including: several restaurants, a hotel, a Martin's grocery store, a gas station, and smaller retail stores. There is also a defunct theater that was bought by a church and which will soon be used as a place of worship, potentially increasing both vehicular and pedestrian traffic. There are no bus stops on this segment, though EPTA sometimes makes impromptu stops for riders who need to access locations along this segment.

On this segment, Foxcroft Avenue is typically two lanes in each direction with a center turn lane. The turn lane has been striped the entire length of the segment, widening the width of the roadway. The speed limit is 25 MPH, and drivers were observed travelling 25-30 MPH during the field review-- the number of vehicles turning into driveways slows speeds that might otherwise be higher. The 2017 AADT on this segment of the corridor was 19,705 vehicles per day. The only signalized intersection is at Foxcroft Avenue and Apple Harvest Drive, and there are no traffic controls on Foxcroft Avenue between Apple Harvest and the ring road. There is a sidewalk on most of the east side of the corridor but no bicycle infrastructure. The right-of-way is 84', with 60' of pavement, providing space for improvements on either side of the road.

The number of commercial destinations and presence of transit service indicate pedestrian activity, and observations during the field review verified this. Pedestrians were observed travelling along the corridor and crossing the roadway during both the daytime and nighttime field reviews. A desire line is clear between Apple Harvest Drive and where the sidewalk begins on Foxcroft Avenue and east from Apple Harvest Drive. The large number of commercial destinations means service workers who ride the bus and/or walk to get to work are forced to walk to work, at least partially, without a sidewalk.

Left: The southern end of the corridor is dark without functional lighting.
Right: The intersection of Foxcroft Ave and Apple Harvest Drive; it is a busy intersection with many turning movements, and there is no pedestrian signal phase or crosswalks.

Positive Features

The RSA team considered several features of the segment and existing transportation infrastructure as helping to promote pedestrian safety. There is sidewalk present on the east side of Foxcroft along most of the length of the segment, except between the Shell station and Apple Harvest Drive. There is commercial development along both sides of the roadway, which attracts visitors to the area.

Issues

In general, this segment is uninviting to pedestrians due to lack of lighting, gaps in the sidewalk network, and lack of formal crossings. The following conditions were discussed by the RSA team as potentially affecting safety on this segment of Foxcroft Avenue:

- **Sidewalk Network:** There is an incomplete sidewalk network with no sidewalk connection on the west side of the road or from the Shell gas station to Apple Harvest Drive, forcing pedestrians travelling from downtown to walk in the grass or street. There are no vacant parcels on this segment, so there are fewer opportunities to fill this gap. Some sidewalk is also in need of repair; the sidewalk in front of Arby's is buckled by tree roots.
- **Accessibility:** Most of the existing sidewalk has non-ADA compliant or missing curb ramps. The entryways to Martin's are too steep to be wheelchair accessible.
- **Intersections:** There is no pedestrian signal phase or marked crosswalks at the Apple Harvest Drive intersection. There is an on-going WVDOT project on Apple Harvest Drive that may address some of these issues, but the railroad crossing will make improvements more difficult. The railroad crossing is currently used as a crosswalk by pedestrians at the intersection but cannot be used as a formal crosswalk. There are no other traffic-controlled intersections on this segment of Foxcroft Avenue that allow pedestrians to cross the road safely.
- **Lighting:** While there are existing light poles on this segment, the lighting is not functional. Because the lighting was not functional during the field review, it is unclear whether the existing lighting is enough to light the entire segment well. Existing light fixtures also encroach on the sidewalk in this segment, narrowing the usable walkway.
- **Crossings:** There are no marked crosswalks on this segment to provide a formal pedestrian crossing. The speed and volume of vehicles and center turn lane make pedestrian crossings difficult and dangerous. Several sidewalks had missing or non-ADA compliant curb ramps.
- **Access Management:** The driveways on this segment are numerous and wide, making it difficult for pedestrians to cross. The high volume of traffic trying to turn into the many driveways and center turn-lane also create potential pedestrian-vehicle and vehicle-vehicle conflicts. Cars trying to enter the Dunkin Donuts drive-thru back up into Foxcroft Avenue during morning peak hours, causing vehicles to try to pull around waiting cars and impeding bus movement. The island in the Diamond King shopping center driveway impedes drivers and pedestrians and is not ADA compliant. Plantings around the Martin's driveway restrict drivers' vision when trying to exit.
- **Transit Service:** There are no fixed transit stops on this segment of the corridor, so bus operators often end up letting people off at various stops (Dunkin Donuts, Ruby Tuesday, etc.) Because the route is northbound, pedestrians must cross the road to access destinations on the west side of the road.

Suggestions

The following measures may reduce the risk associated with the issues along the corridor:

Short-Term (0 to 2 years)

- Trim vegetation near driveways to ensure drivers have a clear line of sight.
- Coordinate with WVDOT to add LED lighting to the intersection with Apple Harvest Drive after removing the tree on the northeast corner of the intersection.
- The WVDOT District 5 Traffic Engineer will discuss possible flow changes with Dunkin Donuts to keep vehicles from stopping in the travel lane when the drive-thru is full.
- Work with WVDOT to include pedestrian improvements into the intersection improvements for the WV 45 project. In addition to a pedestrian signal phase and crosswalks, this might include an extension of sidewalk from the intersection to the sidewalk in front of the Shell gas station, which would fill in the only existing gap on the east side of the road.
- Discuss the possibility of placing a permanent bus stop somewhere on this segment with EPTA. Evaluate access management strategies for this segment. Strategies might include closing some driveways for individual businesses to create a shared, signalized intersection or the addition of a center median.

Mid-Term (2 to 5 years)

- Consider the inclusion of a pedestrian crossing as part of the planned connector road between Towne Center and Winchester Avenue identified in the WV 45 Traffic Operations and Safety Study.

NEXT STEPS

The RSA team identified several short-term and mid-term improvements for pedestrian safety on Foxcroft Avenue. Some improvements will be quick fixes, like trimming branches and installing lighting at the intersections. Other improvements will require further study and coordination with other entities, including any improvements on the ring road and additional studies at intersections like King Street. This corridor is unique because of the combination of public and private ownership of the roadway. Quickly and effectively addressing the many safety concerns observed on the ring road, from irregular signage to intersection traffic controls, will need close, frequent coordination between Paramount, the City, and WVDOT. The Paramount Development Corp., WVDOT, the City of Martinsburg, and HEPMPO will be key partners in the implementation of all RSA recommendations.

The findings of the RSA should be revisited on a recurring basis. West Virginia DOT and HEMPO may choose to review the RSA report with the original RSA team on an annual basis, for up to five years. WVDOT and HEMPO may consider refreshing or revising the RSA process every 5 years. By developing performance measures for ongoing evaluation and review, WVDOT and HEMPO can track progress made at sites discussed by the RSA. Metrics can include the number of sites improved or feet of sidewalk installed.

In addition to traditional funding streams, there may be opportunities for funding small projects through the FHWA Accelerating Safety Activities Program (ASAP) grant. The grant provides up to $20,000 for safety efforts. One of the emphasis areas for the grant is Pedestrian and Bicycle Safety. Special consideration is also given for Every Day Counts (EDC) initiatives and promoting FHWA proven safety countermeasures at the local level, which would apply to most projects stemming from the above recommendations.

APPENDICES

RSA AGENDAS

LOCATION MAPS and CRASH TABLES

FHWA STEP Pedestrian Road Safety Assessment Agenda
December 3 & 4, 2019

Foxcroft Ave Corridor

Day 1: Berkeley County Development Authority, Suite 201, 300 Foxcroft Avenue, Martinsburg WV 25401

9:00–11:00 AM	RSA Kick-off Meeting • *Introduction of stakeholders and RSA team* • *Introduction to the RSA process* • *Pedestrian safety overview* • *Overview of study area and planned improvements*
11:00–12:00 PM	Initial Site Review (windshield tour)
12:00–1:00 PM	Lunch Break (location near corridor)
1:00 – 2:30 PM	Review countermeasures (presentation)
2:30 – 5:00 PM	Detailed Site Review (walking tour)
6:30 – 7:30 PM	Nighttime Field Review (optional)

**Note: Schedule and order on Day 2 subject to change based on progress from Day 1. Look for timing updates from the RSA facilitator and local host.*

Day 2: Room 105, Shepherd University-Martinsburg, 261 Aikens Center, Martinsburg WV 25404

9:00 – 10:30 AM	Continue detailed site review (if needed)
10:30 – 12:00 PM	Recap of field observations • *Summarize issues* • *Review needed inputs for report*
12:00–1:00 PM	Lunch Break (location near corridor)
1:00–5:00 PM	Team Discussion/Preliminary Findings • *Prioritize sites* • *Identify potential countermeasures* • *Discuss next steps*

All Crashes Along Corridor (2014-2018)

- EPTA Bus Stop
- School Bus Stop
- Bicycle - Existing
- Bicycle - Proposed
- RSA Study Area
- AADT 2017
- Land Development

- Most crashes along Foxcroft Ave w/o intersecting street (57)
- Apple Harvest Drive Intersection (26)
- Other locations
  - Mall Loop Road (5), Viking Way (2), King Street (2)

Pedestrian Crashes (2010-2019)

- Two reported crashes along corridor: K & B
- Crossing roadway (not yielding), run out into road
- Both crashes after 6PM (low light conditions
- Third crash (K) in parking lot (outside corridor)

Transit Stops – Avg Daily Activity

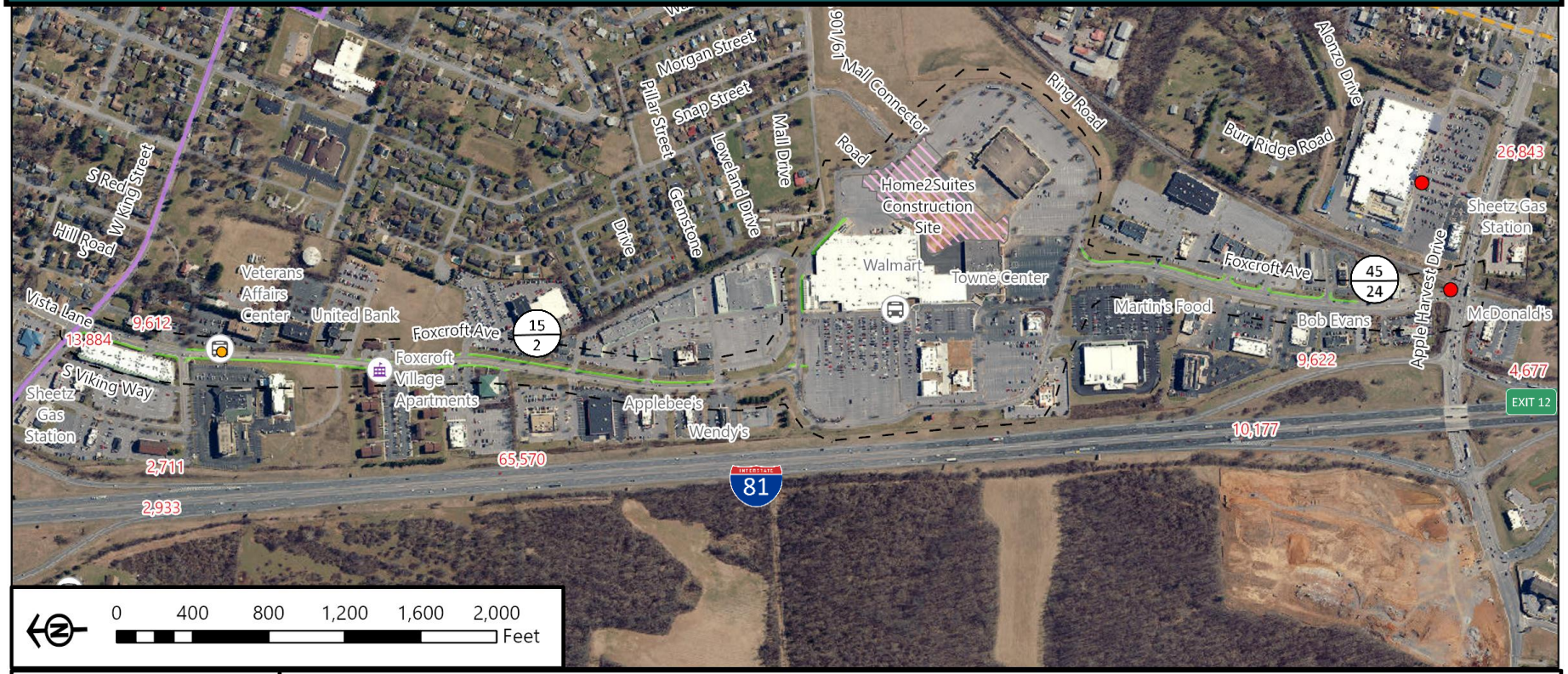
- Two EPTA stops along corridor
  - Workforce Development B/As: ~6 weekday, ~1 weekend
  - Walmart B/As: ~75 weekday, 14 weekend
- School Bus Stop
  - Foxcroft Village Apartments: >10 weekday

Other Corridor Attributes

- EPTA Bus Stop
- School Bus Stop
- Bicycle - Existing
- Bicycle - Proposed
- RSA Study Area
- Sidewalks
- AADT 2017
- Land Development

- **State** vs. **private** roads
- Signalized intersections
  - No pedestrian phase in signal plans
- Sidewalks along sections
- Other pedestrian facilities: crosswalks → confirm in field

Map Summary – *Foxcroft Ave, WV*



- Fatal Ped Crash
- Evident Injury Ped Crash
- EPTA Bus Stop
- School Bus Stop
- Bicycle - Existing
- Bicycle - Proposed
- RSA Study Area
- Sidewalks
- XXXX AADT 2017
- Land Development

Field Notes

Map Segments – *Foxcroft Ave, WV*

- Fatal Ped Crash
- Evident Injury Ped Crash
- EPTA Bus Stop
- School Bus Stop
- Bicycle - Existing
- Bicycle - Proposed
- RSA Study Area
- Sidewalks
- XXXX AADT 2017
- Land Development

Field Notes

Segment 1 – *W King St to United Bank*

- Fatal Ped Crash
- Evident Injury Ped Crash
- EPTA Bus Stop
- Bicycle - Existing
- RSA Study Area
- Sidewalks
- xxxx AADT 2017

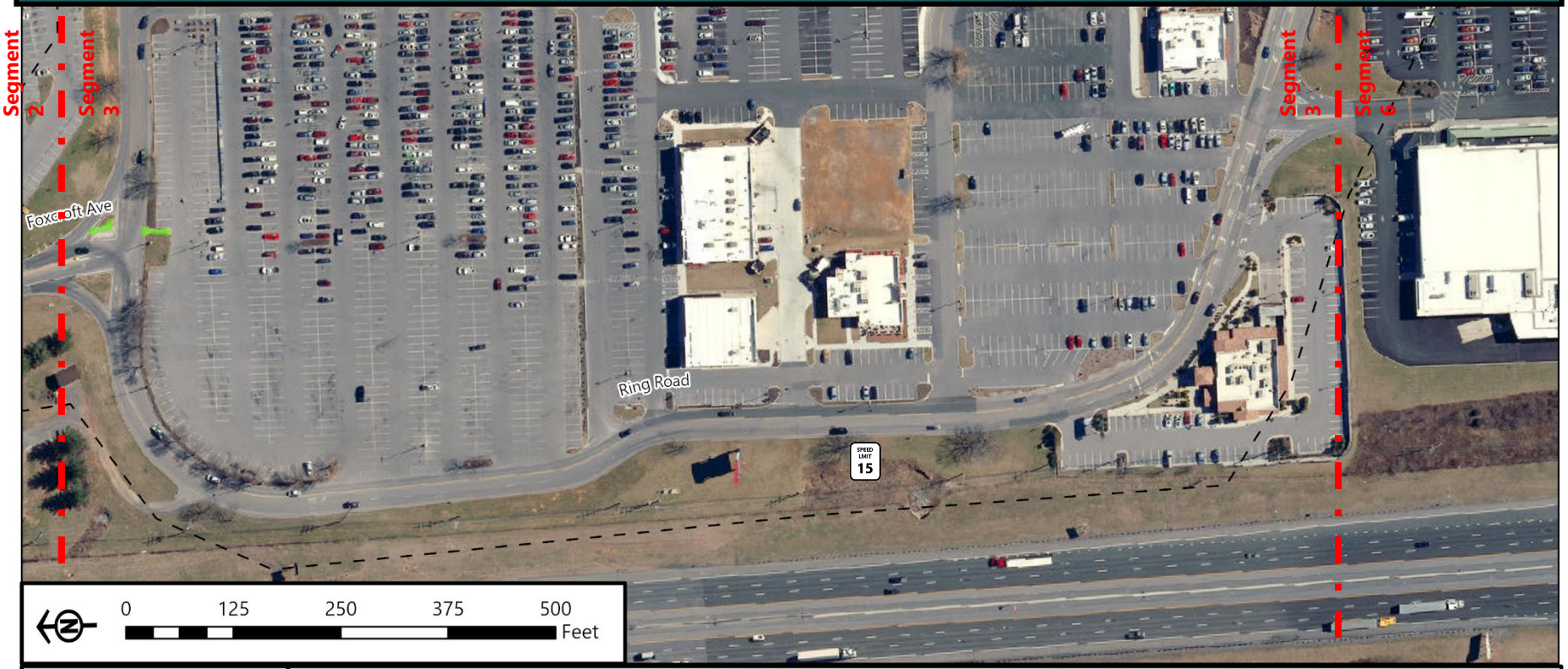
Field Notes

Segment 2 – *Foxcroft Village Apts to Wendy's*

- Fatal Ped Crash
- Evident Injury Ped Crash
- EPTA Bus Stop
- School Bus Stop
- RSA Study Area
- Sidewalks
- xxxx AADT 2017

Field Notes

Segment 3 – *West of Towne Center*



- Fatal Ped Crash
- Evident Injury Ped Crash
- EPTA Bus Stop
- RSA Study Area
- Sidewalks
- xxxx AADT 2017

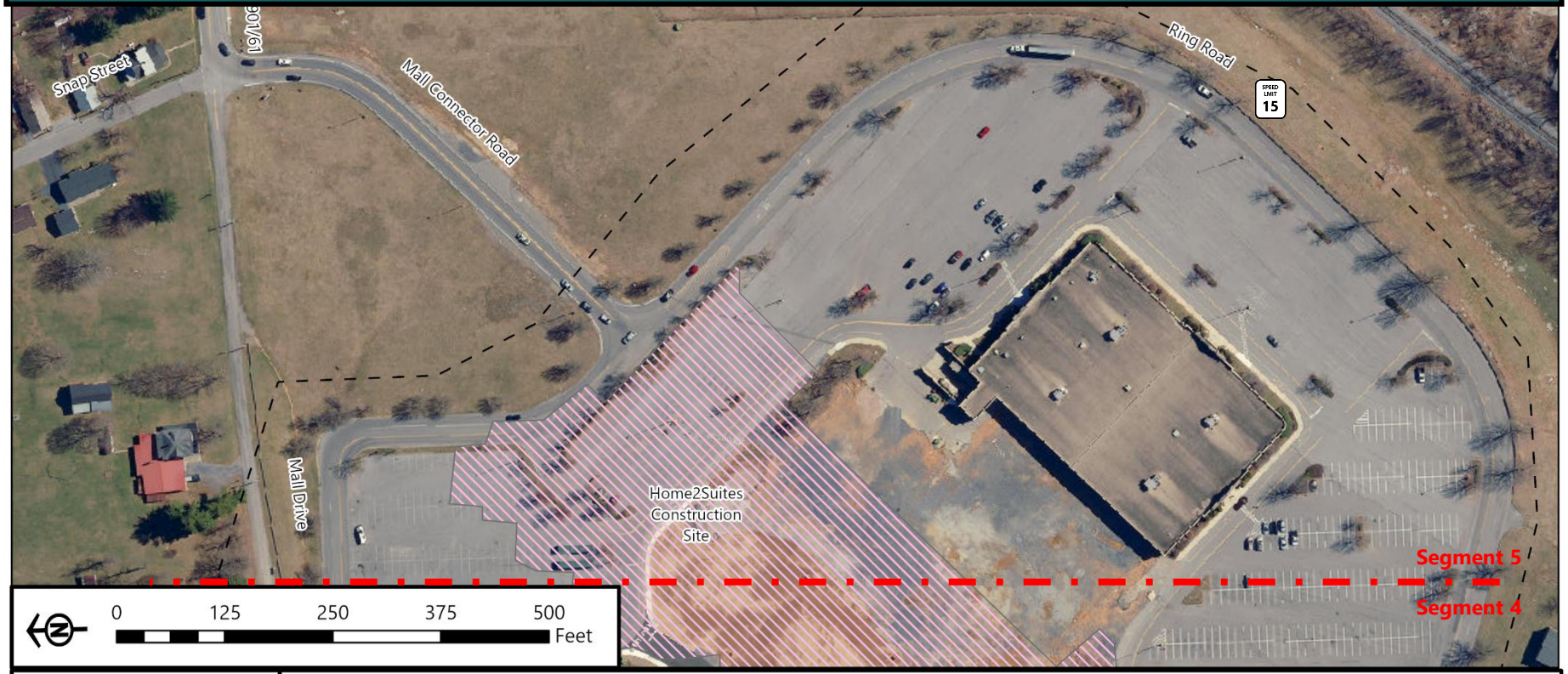
Field Notes

Segment 4 – *Middle of Towne Center*

- Fatal Ped Crash
- Evident Injury Ped Crash
- EPTA Bus Stop
- RSA Study Area
- Sidewalks
- XXXX AADT 2017
- Land Development

Field Notes

Segment 5 – *East of Towne Center*



- Fatal Ped Crash
- Evident Injury Ped Crash
- EPTA Bus Stop
- RSA Study Area
- Sidewalks
- xxxx AADT 2017
- Land Development

Field Notes

Segment 6 – *Ring Road to Bob Evans*

- Fatal Ped Crash
- Evident Injury Ped Crash
- EPTA Bus Stop
- RSA Study Area
- Sidewalks
- xxxx AADT 2017
- Land Development

Field Notes

Segment 7 – *Bob Evans to Apple Harvest Drive*

- Fatal Ped Crash
- Evident Injury Ped Crash
- EPTA Bus Stop
- RSA Study Area
- Sidewalks
- xxxx AADT 2017

Field Notes