

WV Transportation Planning Conference

HEPMPO

Winchester Avenue Safety Corridor Study

June 3, 2026



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Meeting Agenda

- 1 Project Overview
- 2 Existing Conditions
- 3 Crash History
- 4 Corridor Site Visit
- 5 Corridor Concept Development
- 6 Costs and Funding Opportunities
- 7 Questions and Contact Information

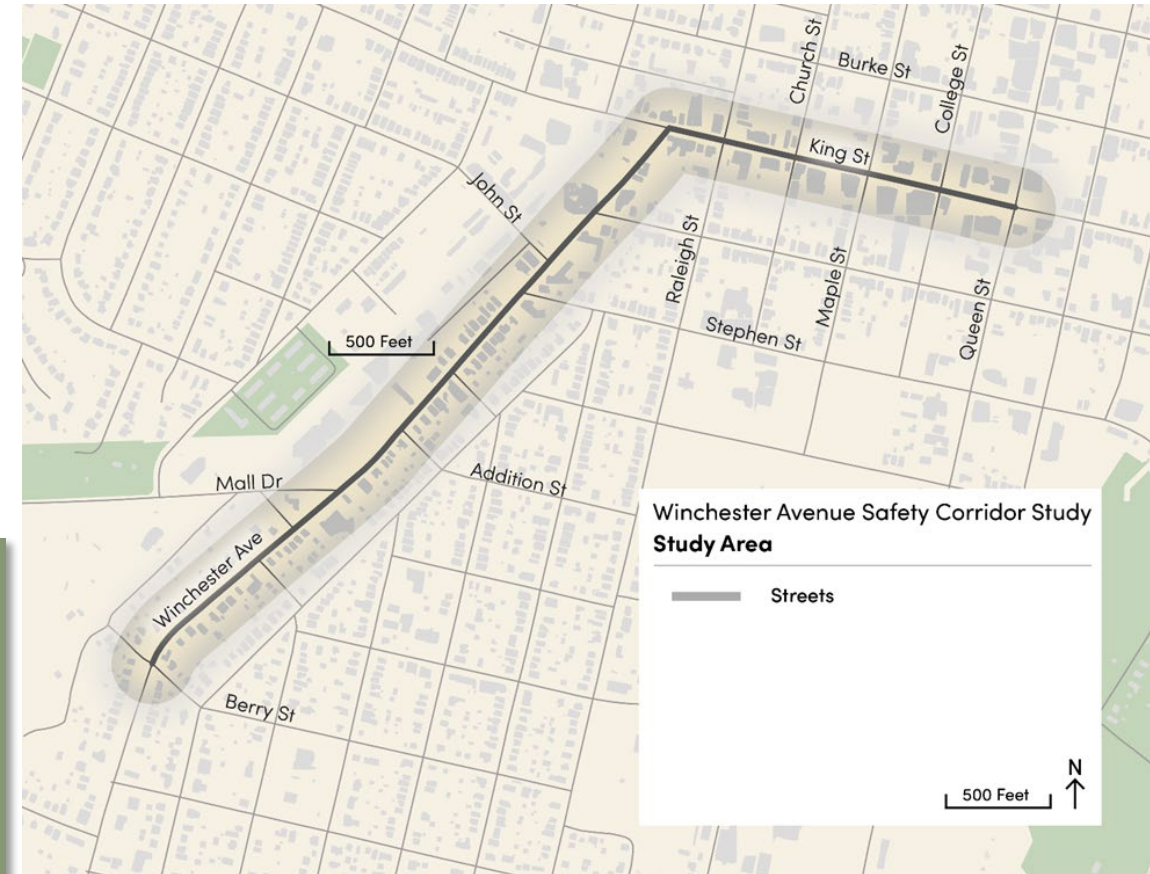
PROJECT OVERVIEW

Project Overview

- Builds upon the Martinsburg Gateway Vision Plan and the HEPMPO Regional Safety Action Plan
- Winchester Ave. Corridor Limits
 - King Street and Berry Street
 - Along King Street to South Queen Street
- Consider Priority Safety Countermeasures, Analyze Crash Data, and Assess impacts of Projects and Planned Developments

Goals:

- Conduct an on-site safety evaluation to assess existing conditions.
- Identify conceptual design renderings for safety improvements.
- Exploring innovative solutions aligned with the Safe System Approach.



Regional Safety Action Plan – Priority Corridor



Collision History (2018-2022)



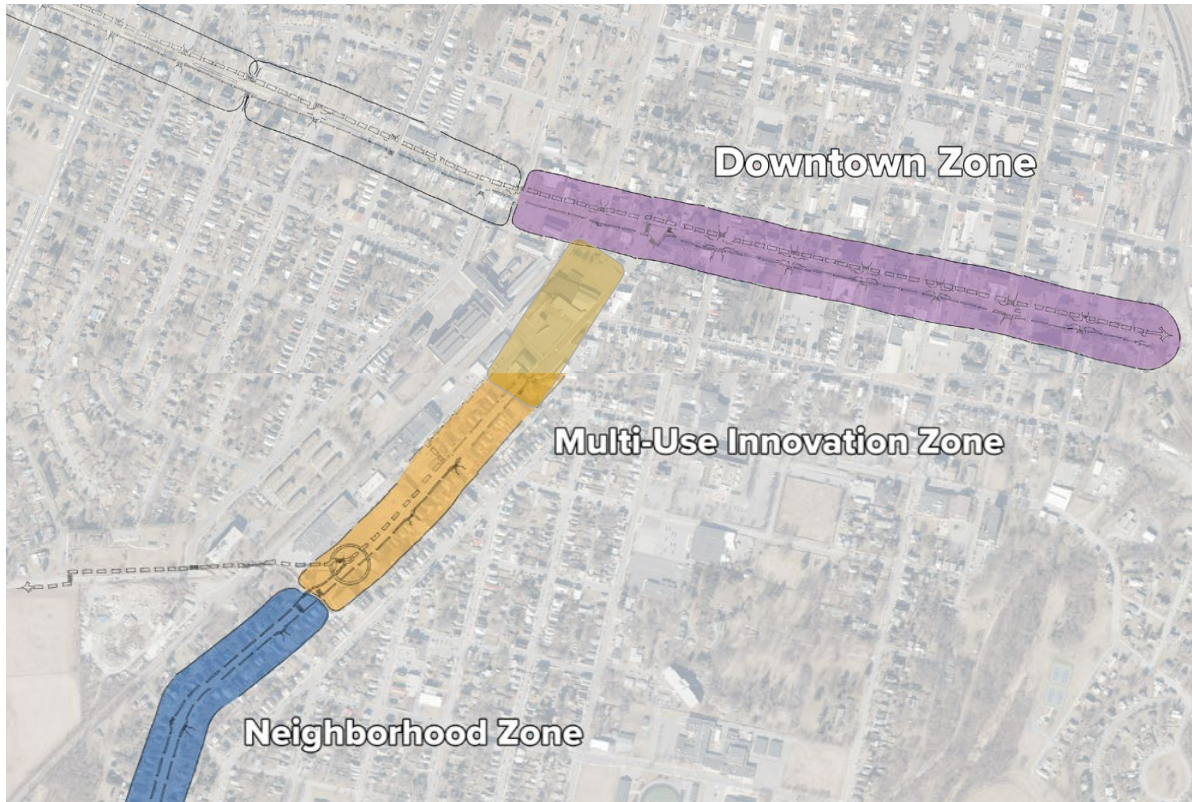
Notable Collision Patterns



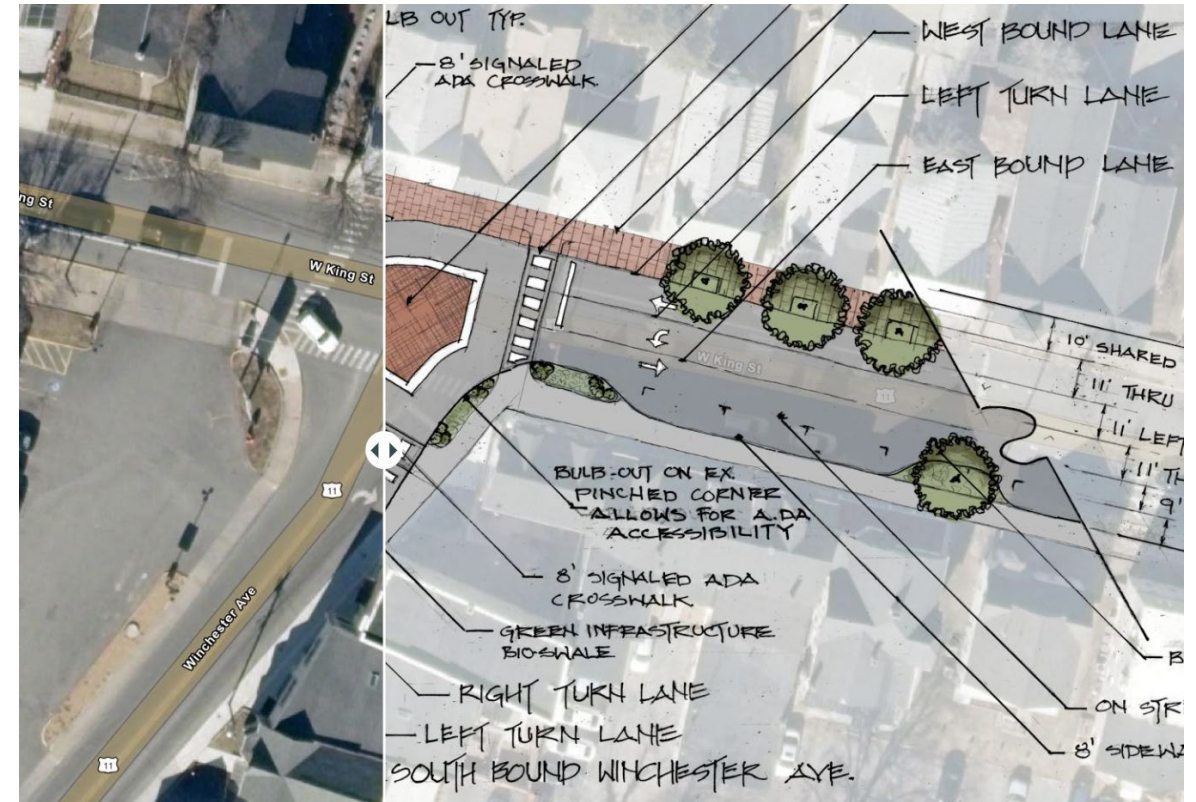
Planning References

- Existing Plus Committed Projects
 - B2016-04 Martinsburg Signal System
- Bike/Pedestrian
 - Designated VRU Corridor

Martinsburg Gateway Vision Plan



Three context zones within corridor



Example intersection recommendations at Winchester Ave & King St

Existing Conditions

Existing Conditions



Corridor Observations

- 2 travel lanes
- Left turn pockets at signals
- EPTA Service: Routes 14 and 10
- Sidewalk conditions: narrow, uneven, and deteriorating.
- Cars park on sidewalk.

Study Area Characteristics



Residential near Berry St



Residential and commercial near Addition St



Industrial / commercial near John St



Downtown main street near Church St (along King St)

Crash History

Existing Conditions Recap: Crashes 2019 - 2024

Crashes by Severity

Severity	Crashes
Fatal Injury	1
Serious Injury	1
Minor Injury	6
Possible Injury	26
No Apparent Injury	120

659 crashes per 100 MVMT –
more than 3x the 2023
statewide average



Existing Conditions Recap: VRU Crashes 2019 - 2024

Vulnerable Road User (VRU) Crashes by Severity

	Fatal Injury	Serious Injury	Minor Injury	Possible Injury	No Injury
Pedestrian	1	1	1	5	1
Bicyclist	-	-	-	2	-

- 100% of Killed or Severely Injured (KSI) crashes along corridor involved a VRU
- 7 crashes occurred between Stephen St and Raleigh St
 - #71 on the WV VRU High Injury Network (HIN)
 - Maple St to Queen St also on VRU HIN (#41)
- 4 crashes occurred at Winchester Ave & Addition St
 - WVDOT planning RRFB
 - City of Martinsburg - SS4A Planning Grant



Existing Conditions Recap: KSI Crashes 2019 - 2024

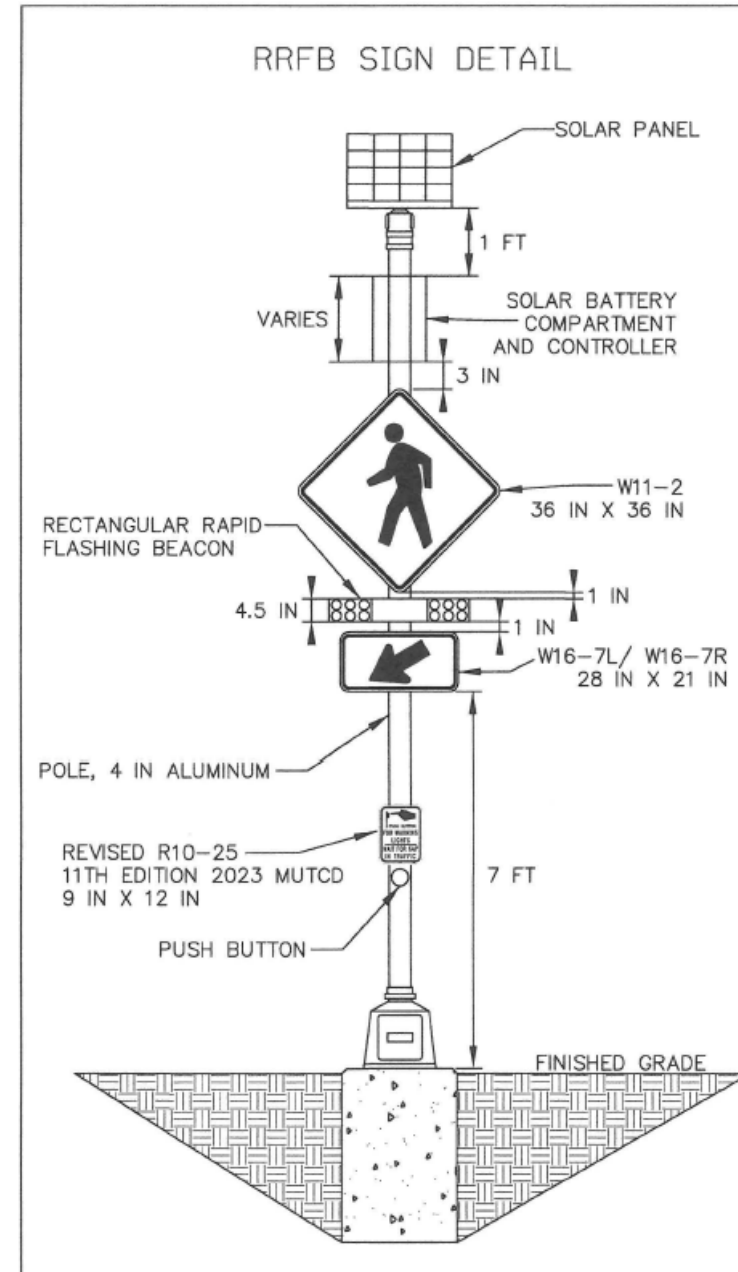
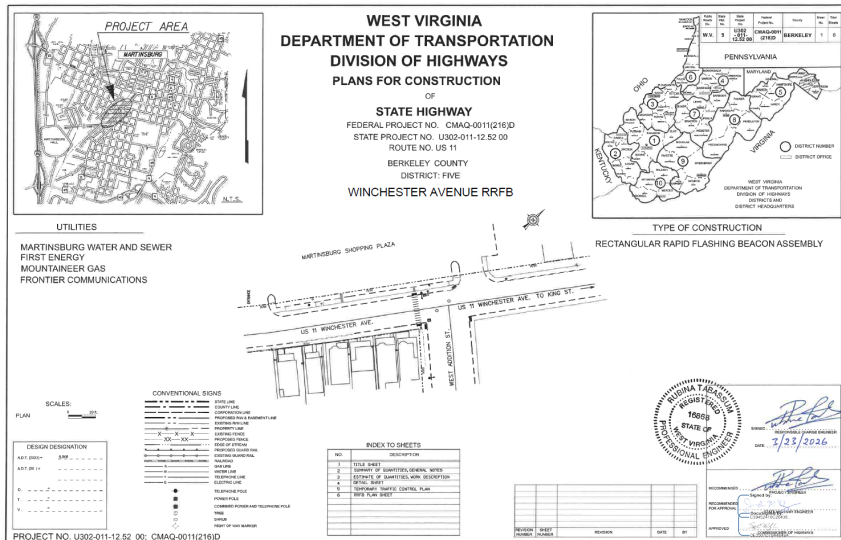
KSI Crash Locations and Details

Location	Location Type	Injury Type	VRU Involved?	Crash Notes
Winchester Ave & W King St	T Intersection / Signalized	Serious	Yes (Pedestrian)	Vehicle 1 turned right from King to Winchester into a pedestrian in the crosswalk. Wide receiving lane on Winchester increased pedestrian exposure and maintained vehicle speed. Dry conditions; daylight.
Winchester Ave & W Addition St	Offset Intersection / Side Street Stop Controlled	Fatal	Yes (Pedestrian)	Vehicle 1 was traveling south on Winchester and fatally struck a pedestrian (child) crossing the street toward shopping plaza. No lighting or marked crosswalk present. Dark-lighted, dry conditions.

- Pedestrians
- Deficient or absent pedestrian crossing facilities

Winchester Avenue RRFB

- Funded with HEPMPO sub-allocated Carbon Reduction Program (CRP) funding
- Letting date – 7/21/26



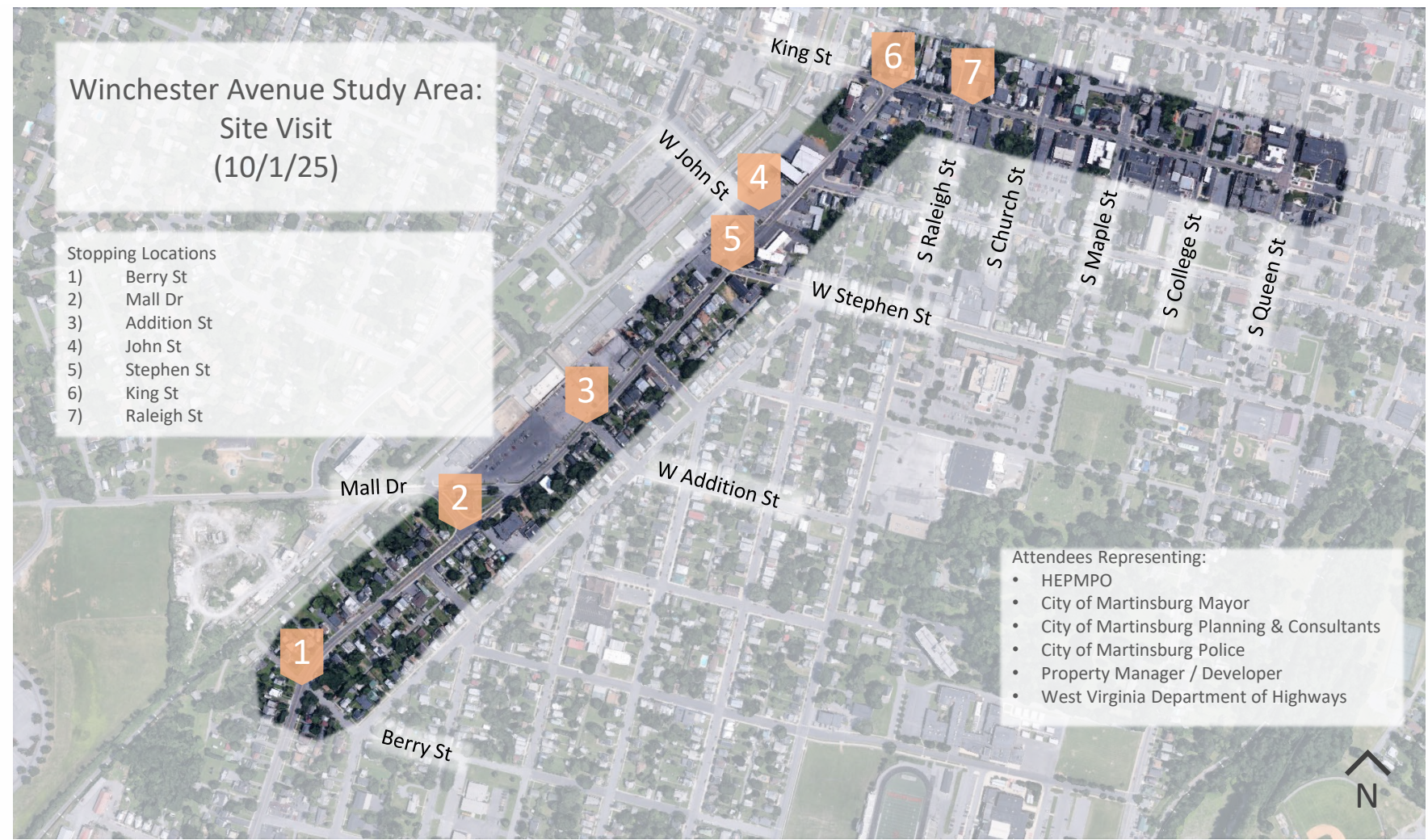
Future Conditions: Interwoven Lofts

- Substantial redevelopment near Winchester Ave. & King St.
- Conversion of textile factory to loft apartments
- 418 apartments (~53% complete)
- Three site parking lots with 600 spaces, with 50 entering / existing from Winchester Ave.
- Includes restaurant space as well.



Corridor Site Visit

Site Visit - Highlights



Site Visit - Key Observations

- Observed traffic volumes appeared higher than reported WVDOT counts
- Pedestrian infrastructure deficiencies in many locations, including narrow or obstructed sidewalks and missing crosswalks
- Pedestrian crossings often misaligned with where people desire to cross
- Large driveways interrupted pedestrian realm (e.g., tire shop at Winchester & John)
- Inadequate street lighting along the Winchester corridor
- Limited sight distance due to hills in some locations
- Observed near miss with vehicle and bike witnessed at Winchester & King
- Interwoven Development will increase foot traffic and demand for safe crossings

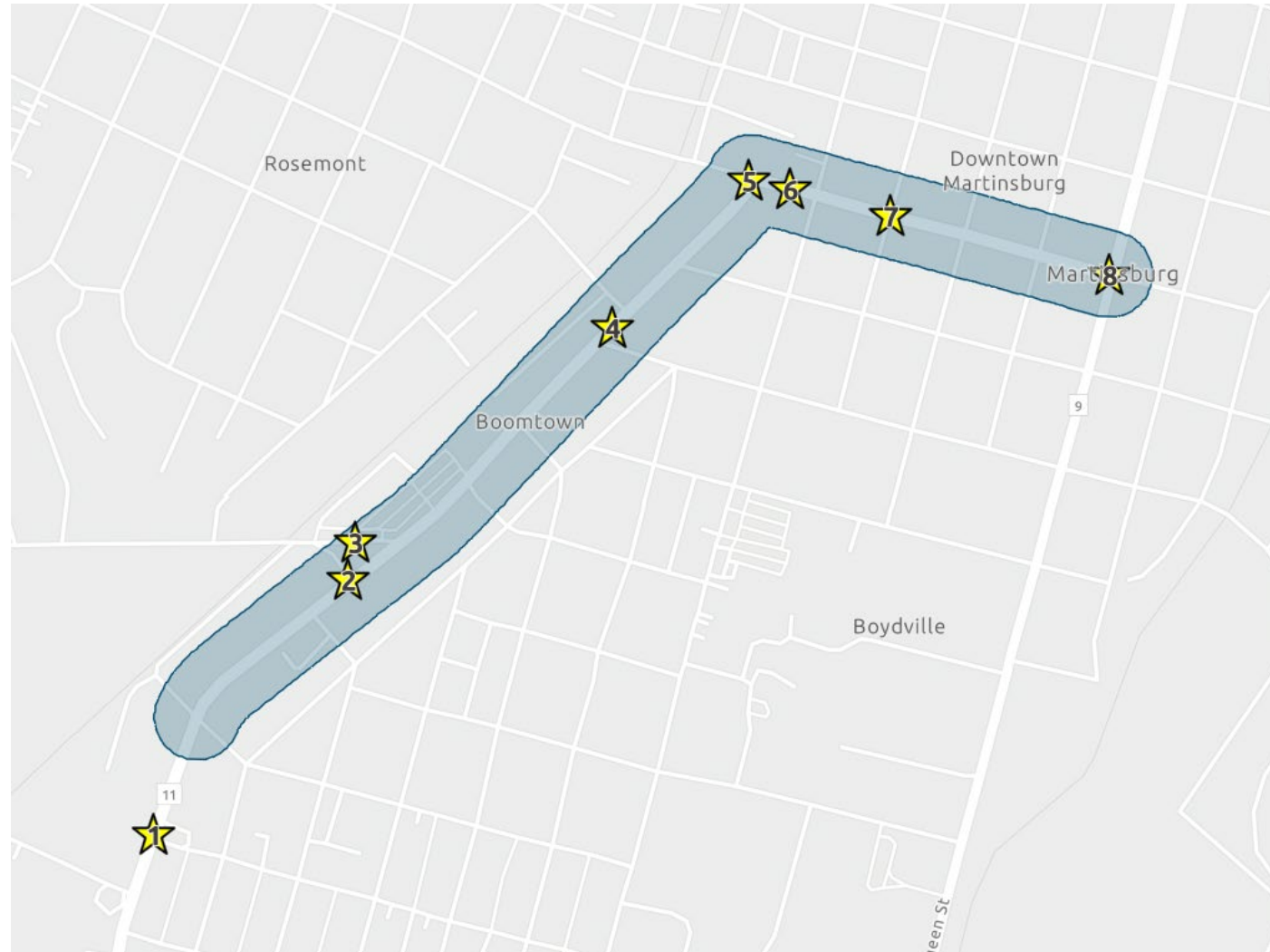


Corridor Concept Development

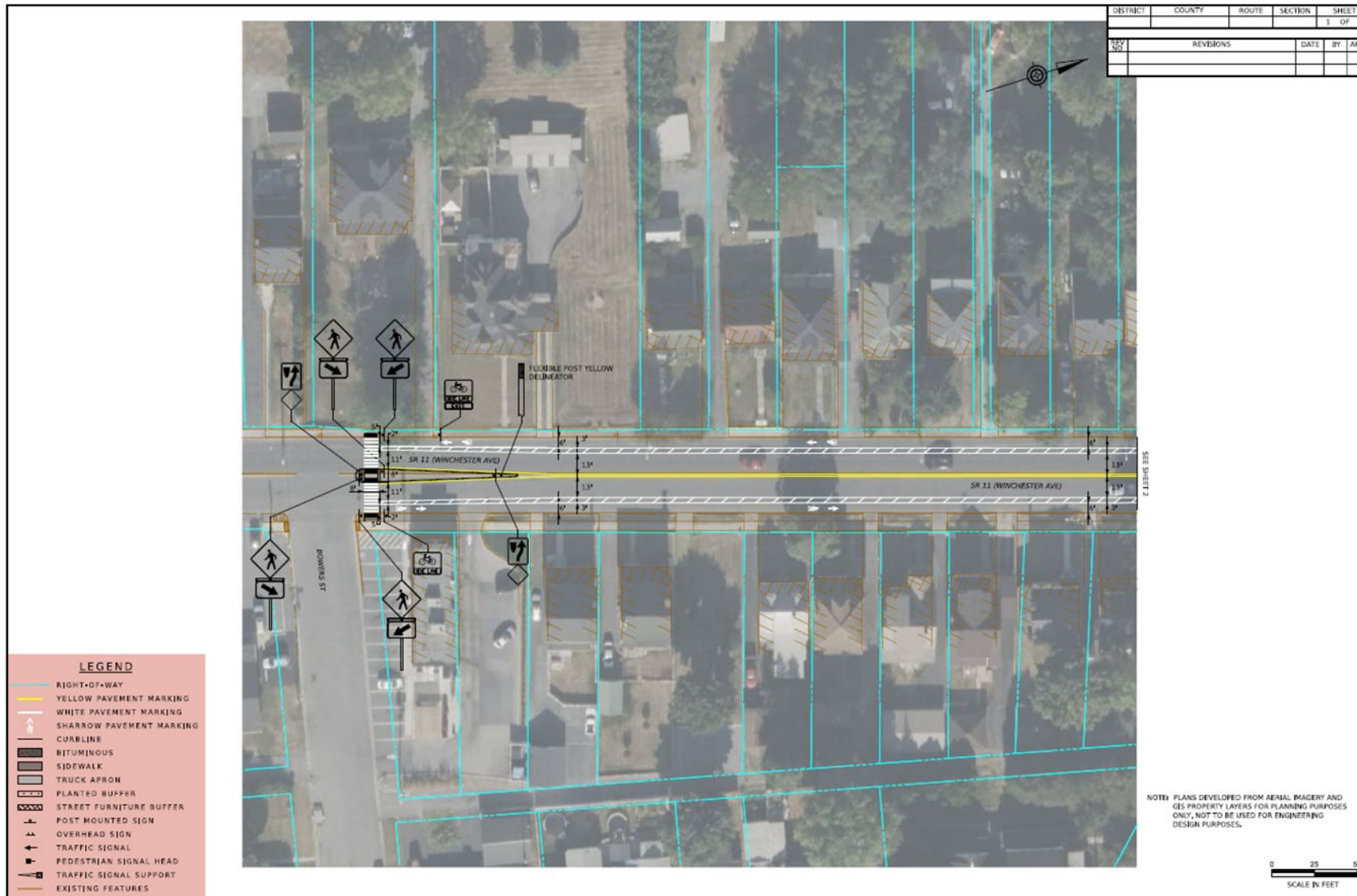
Corridor Recommendations

- Corridor-Wide Treatments
 - Relocate utility poles and streetscape elements
 - Restriping with high-visibility crosswalks
 - Add painted skip lines through minor streets to reinforce travel lane alignment
 - Install reflectorized backplates on all signal heads.
- Bicyclist Accommodations
 - Add 6' bicycle lanes w/ 3' buffers on both sides between Bowers / Berry Sts with bicycle lane signage and pavement markings
 - Install bicycle sharrows and signage to direct bicyclists to use multi-use path
- Curblin Reconstruction and Sidewalk/Multiuse Path Enhancements
 - Construct new curblin w/ 11' travel lanes (Berry – W. John Sts.)
 - Southern side – Construct 8-12' multi-use path (Berry St – Mall Dr)
 - Northern side – Construct 8-10' multi-use path (Mall Dr – Maiden Ave)
- Install ADA compliant curb ramps at all public streets, alleys and driveways

Location-Specific Recommendations



#1 Winchester Ave – North of Bowers St



- Gateway Island
 - High Visibility Crosswalk
 - Rectangular Rapid Flashing Beacon (RRFB)
 - ADA ramps
 - New signage markers
- 6' Bike lane with 3' Buffer and Bicycle Lane Pavement Markings
- 13' Travel Lanes with Buffered Bike Lane Delineating Travel Lane Edge Line

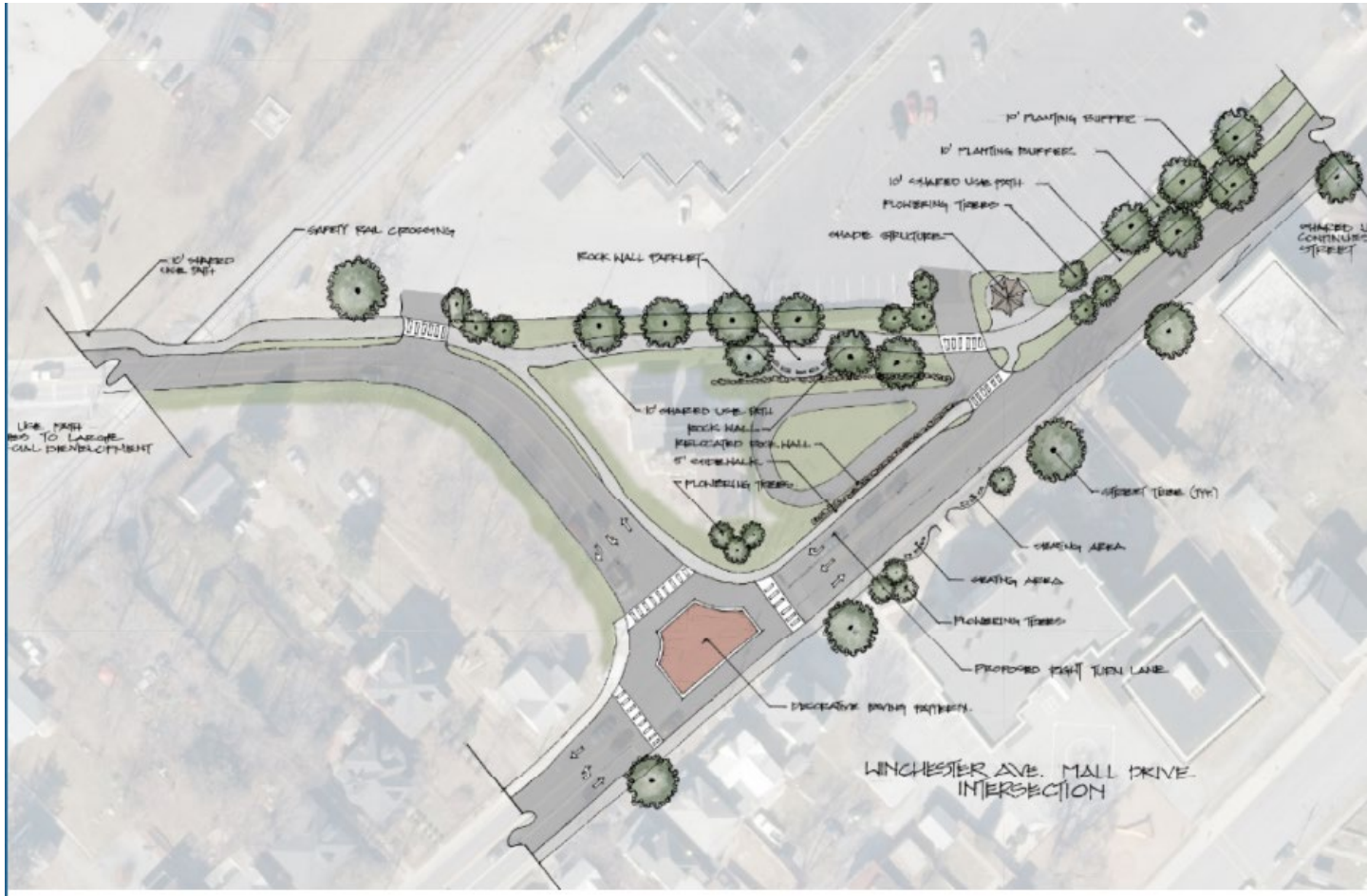
Notes:

- Eliminate Curbside Parking
- Maintain Existing Back of Sidewalk Walls
- Establish Traffic Calming In Tangent Section Prior to Curve

#2 Winchester Ave and Mall Drive



- Prohibit left turns to and from Buxton Street
- Relocate NE quadrant signal pole
Install overhead street name signs.
- Relocate pedestrian signal heads and push buttons
- Signalize the Winchester Avenue Elementary School driveway.
- Install a mast arm and two 3-section 12-inch signal heads.
- Install NO RIGHT TURN ON RED sign.
- Widen the school driveway to accommodate two-way traffic.
- Add stop bar and lane separation markings.
- Refresh lane markings and legends on all approaches.
- Add a dedicated westbound right-turn lane
- Close the Mall Drive connector and construct a 10-foot multi-use path from Osborne Way to Winchester Avenue.
- Install a midblock crosswalk across Mall Drive at Osborne Way.



Gateway Vision Plan

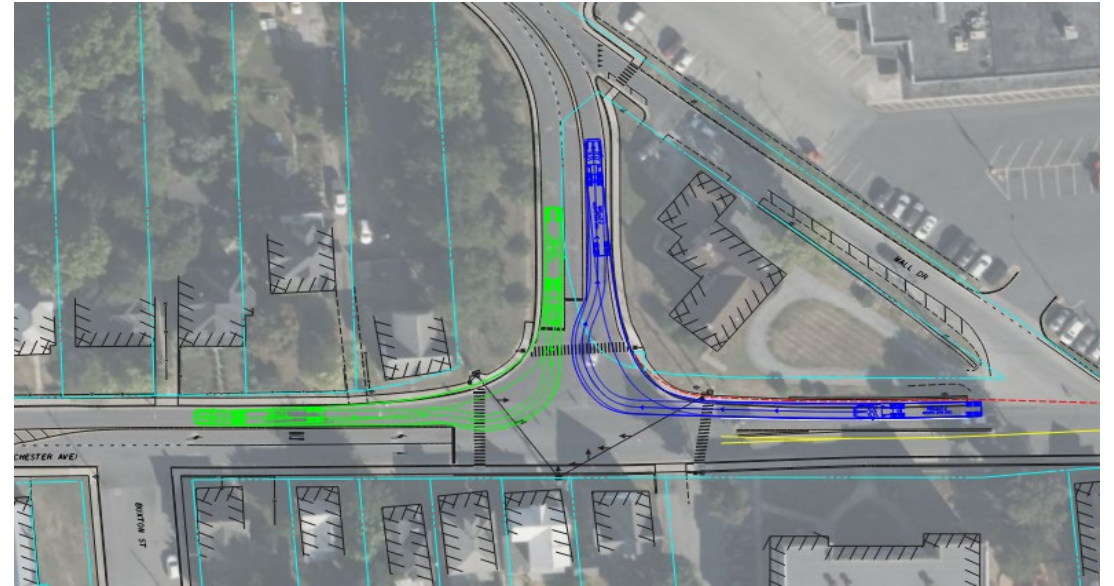
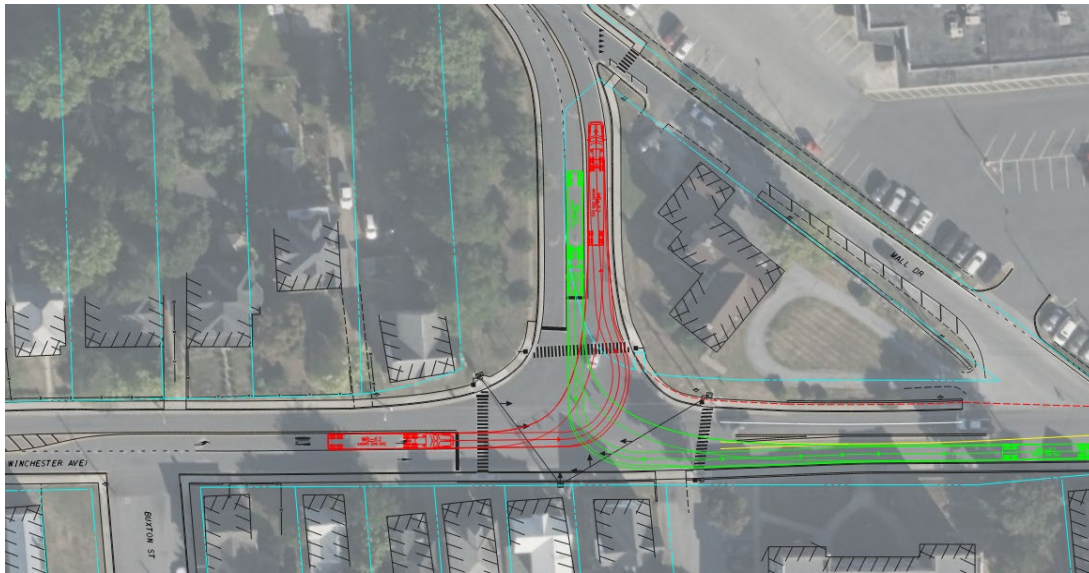
Winchester Ave and Mall Dr

Gateway Vision Plan

Shared Use Path/ Bicycle Route



Turning Analysis - Winchester Ave and Mall Dr



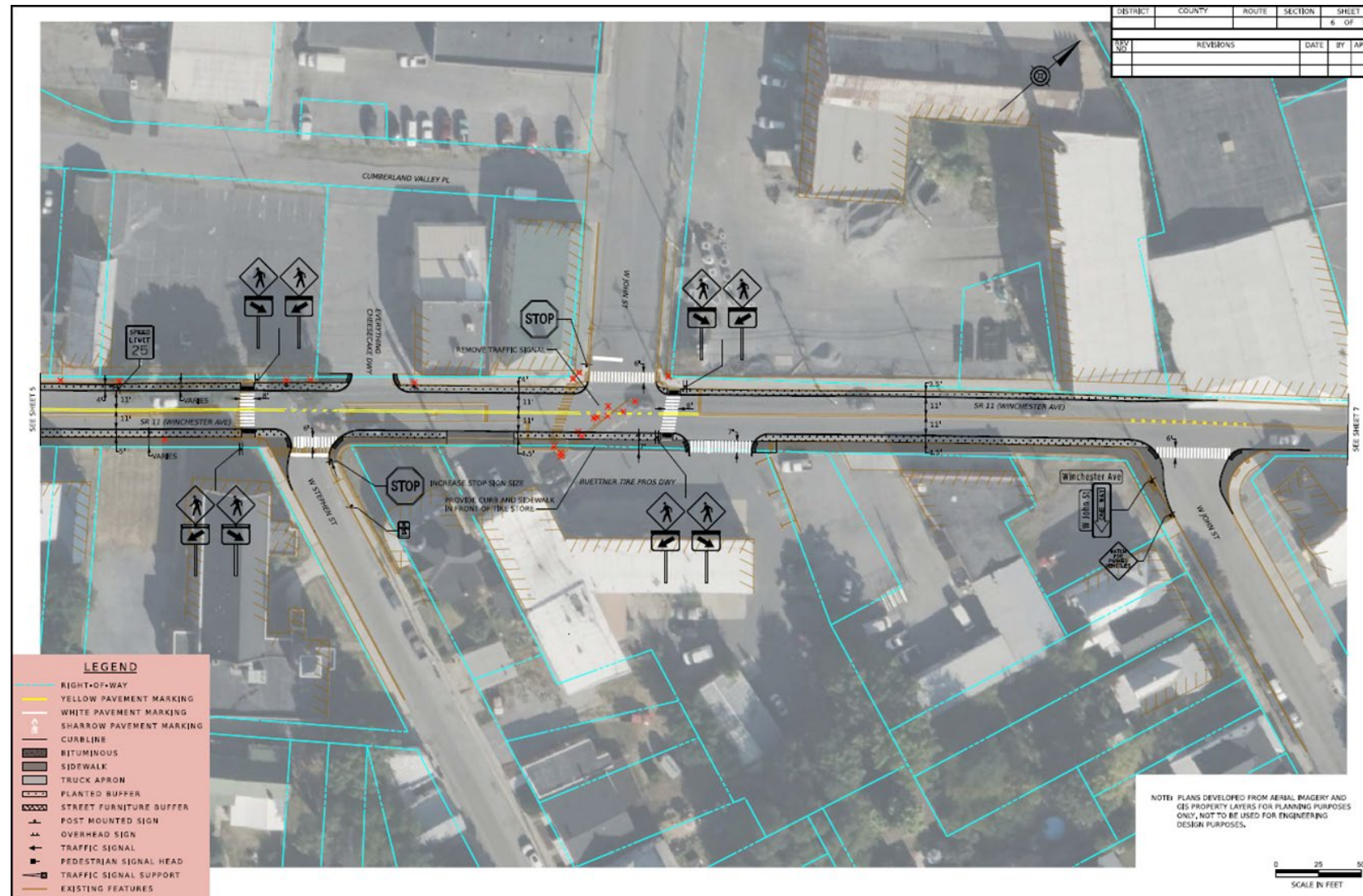
#3 Winchester Ave – Addition St and South St



- Rectangular Rapid Flashing Beacon (RRFB) installation planned for construction by WVDOT.
- Realign the shopping plaza driveway to align with W Addition Street.
- Install a painted buffer to prohibit parking within 20 ft of the stop bar.
- 5' Sidewalk and 3' Planted Buffer
- High Visibility Crosswalks and Stop Bars
- Relocate and Increase size of Stop Sign.
- Terminate Shared Use Path
- Relocate Shopping Center Driveway Opposite South St

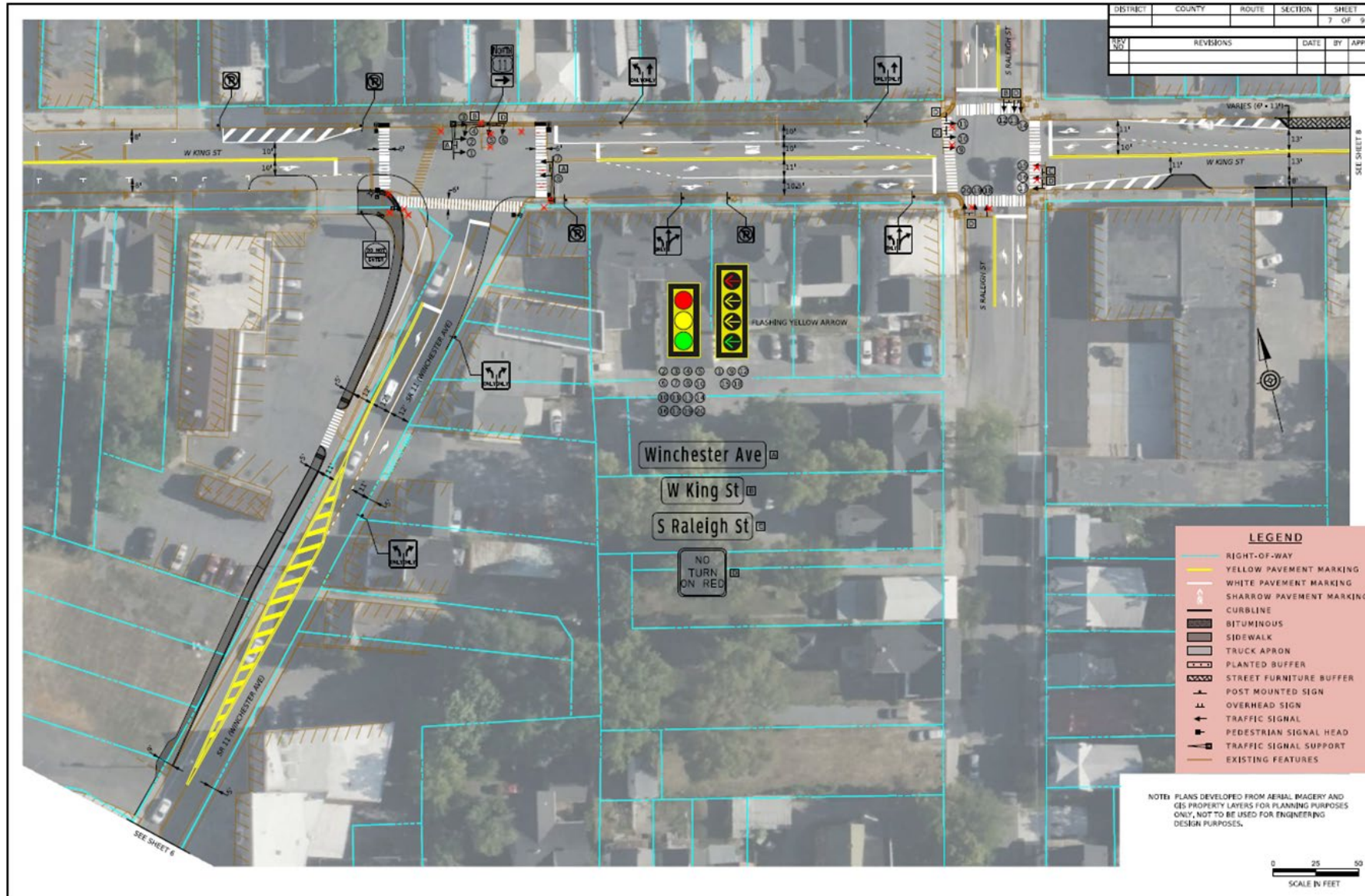


#4 Winchester Ave- Stephen St and John St



- Install RRFB, high-visibility crosswalk, and ADA ramps
- Construct an intersection bulb-out and realign the W Stephen Street approach.
- Relocate and increase stop sign size.
- Install NO PARKING sign approximately 20 feet from the stop bar.
- Convert the existing signalized intersection to a minor street stop-controlled intersection.
- Remove eastbound approach crosswalk and install an RRFB with high-visibility crosswalk
- Channelize the Buettner Tire Pros driveway
- Construct intersection bulb-outs to realign approach

#5 Winchester Ave - King St

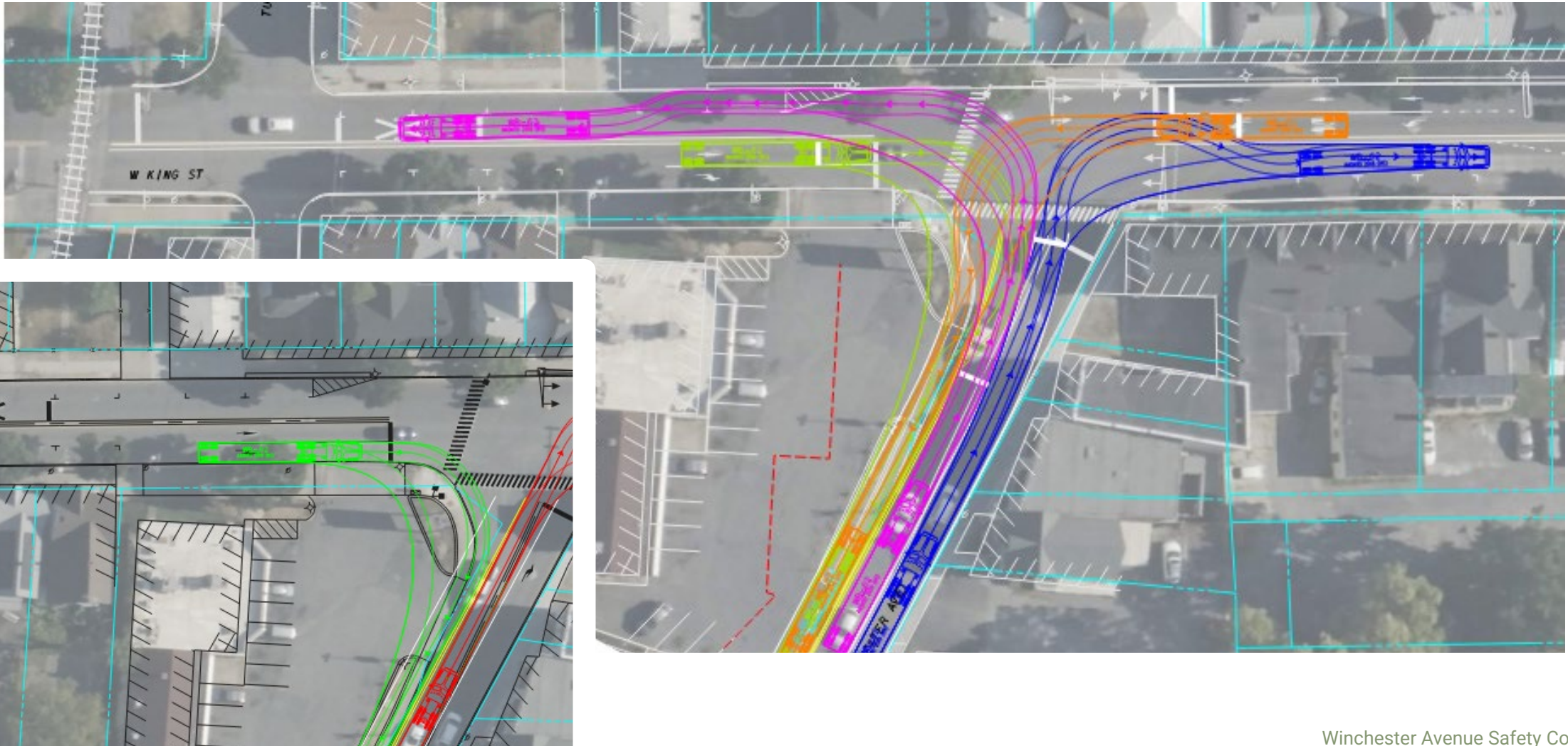


King Street

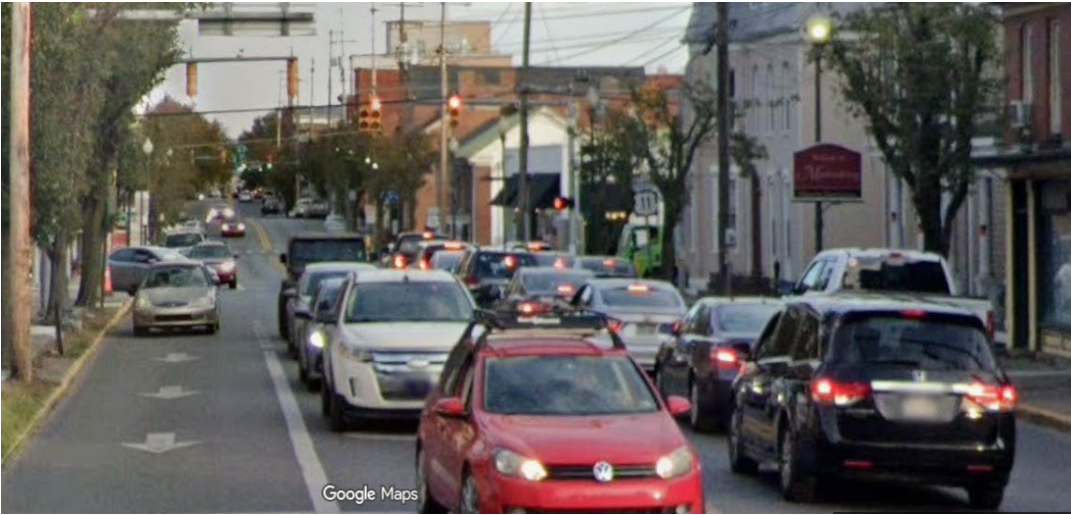
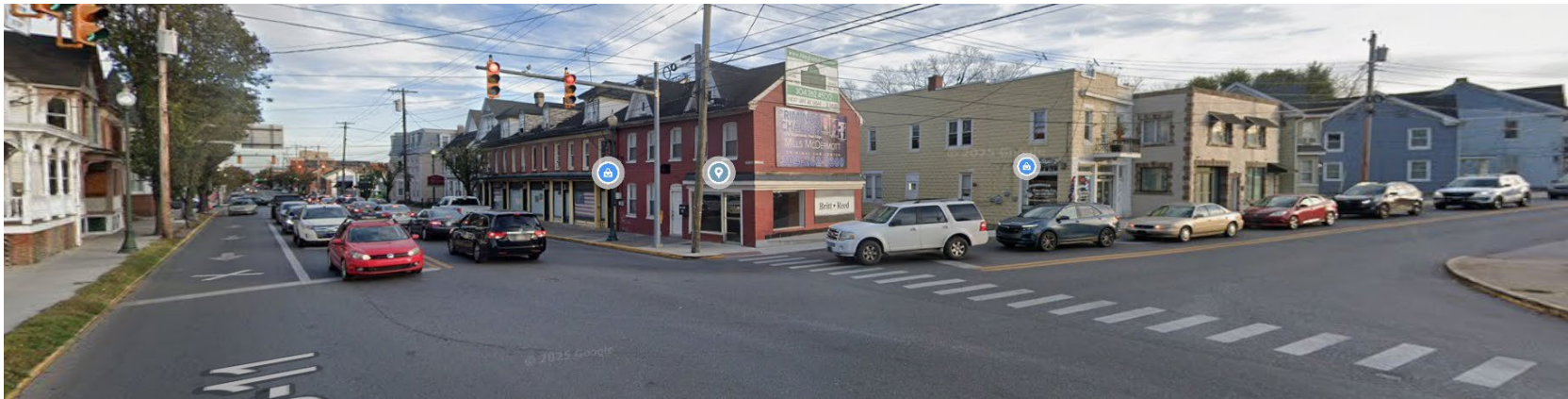
- Realign the northbound approach to include a designated left-turn lane and improve truck turning accommodations;
- Add lane designation signs and pavement legends.
- Improve truck turning movements, northbound and eastbound
- Refresh King Street pavement markings west of Winchester Avenue to the railroad tracks.
- Replace and relocate traffic signal supports/equipment and install
- Upgrade pedestrian features

Turning Analysis

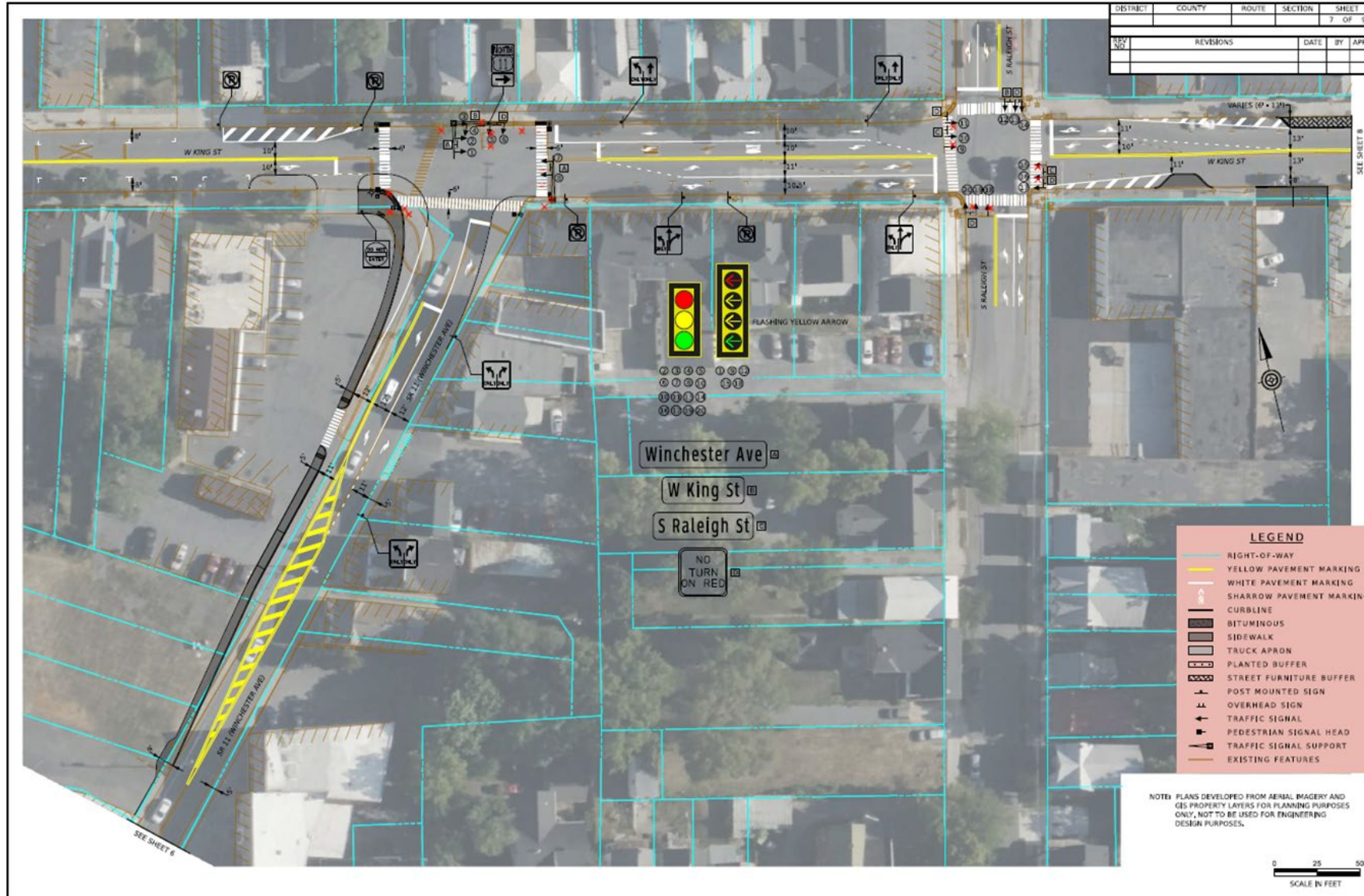
Winchester Ave and King St



King Street Intersection Traffic



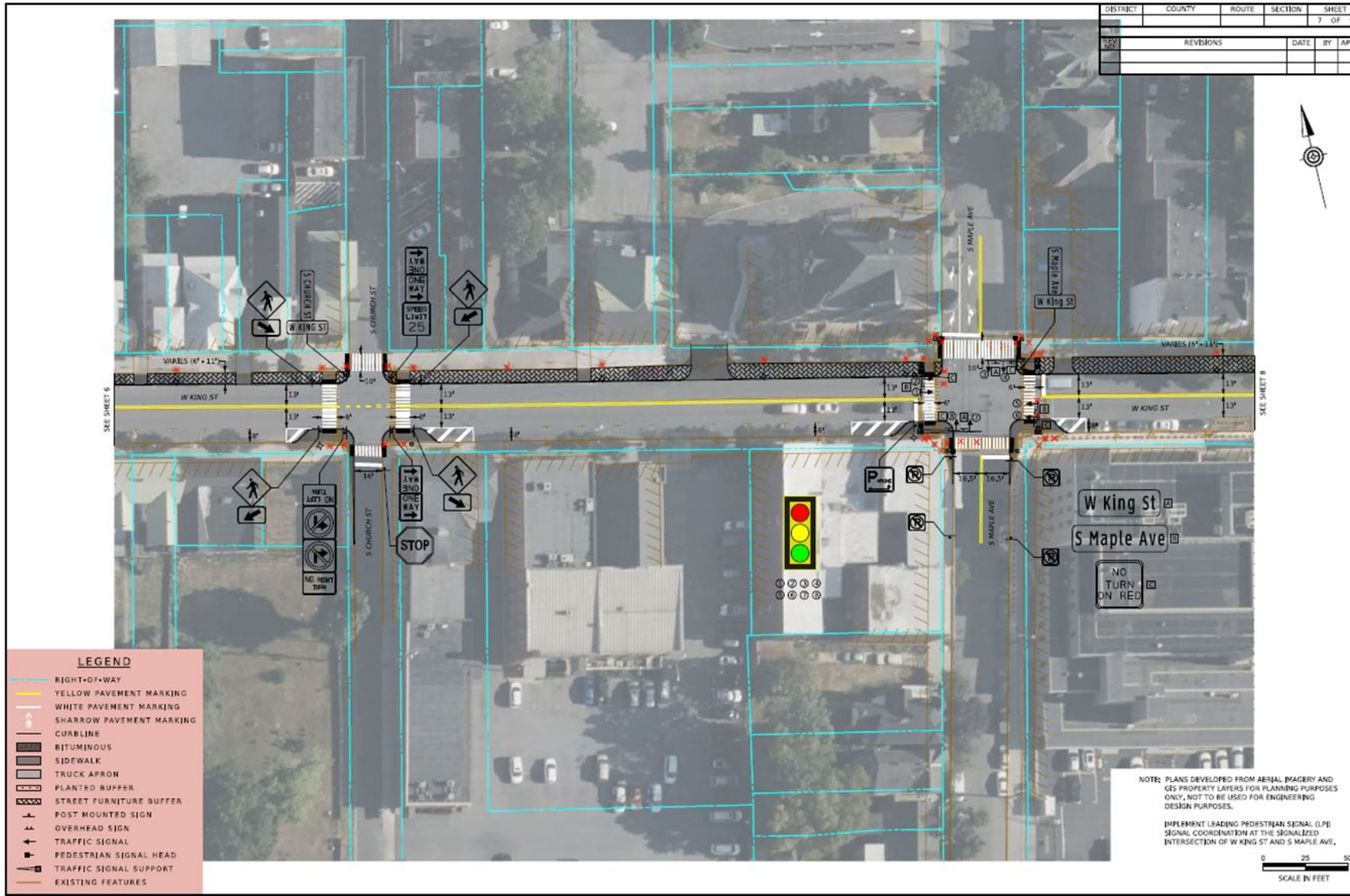
#6 Winchester Ave - King St and Raleigh St



Raleigh Street

- Extend left-turn lanes.
- Install roadside lane designation signs.
- Eliminate on-street parking on the southern side of King Street to provide additional left-turn lane storage
- Install protected-permissive flashing yellow arrows for all left-turn lane movements.
- Improve traffic signal coordination between the Winchester Avenue and S Raleigh Street signals to prevent gridlock and resolve midblock queuing of left-turning vehicles.
- Transition roadway cross section east of S Raleigh Street by striping lanes and bulb-outs

#7 King St – East of Raleigh St to Maple Ave



Reconfigure and Update Signals

- Flashing yellow arrow variable mode where turn bays exist
- Reflectorized backplates
- 12" signal heads for all approaches
- Overhead Street Name Signs
- Traffic signal coordination along corridor
- Widen driveway and reconstruct sidewalk
- Reconstruct the curbline
- Implement Leading Pedestrian Intervals (LPI)

Install Streetscape Elements

- Corner bulbouts
- Widened sidewalks
- Pedestrian crosswalk signs
- High visibility crosswalks

LEGEND

- RIGHT-OF-WAY
- YELLOW PAVEMENT MARKING
- WHITE PAVEMENT MARKING
- SHARROW PAVEMENT MARKING
- CURBLINE
- BITUMINOUS
- SIDEWALK
- TRUCK APRON
- PLANTED BUFFER
- STREET FURNITURE BUFFER
- POST MOUNTED SIGN
- OVERHEAD SIGN
- TRAFFIC SIGNAL
- PEDESTRIAN SIGNAL HEAD
- TRAFFIC SIGNAL SUPPORT
- EXISTING FEATURES

REVISIONS

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NOTES: PLANS DEVELOPED FROM AERIAL IMAGERY AND GIS PROPERTY LAYERS FOR PLANNING PURPOSES ONLY. NOT TO BE USED FOR ENGINEERING DESIGN PURPOSES.

SCALE: 1" = 25'

- Install high-visibility crosswalks.
- Relocate the west leg crosswalk along with associated pedestrian signal heads and push buttons.
- Adjust the King Street eastbound left-turn stop bar to match the revised lane configuration.
- Modify the thru/right-turn lane shift to accommodate the relocated left-turn lane.

Costs and Funding Opportunities

Planning-Level Cost Estimates

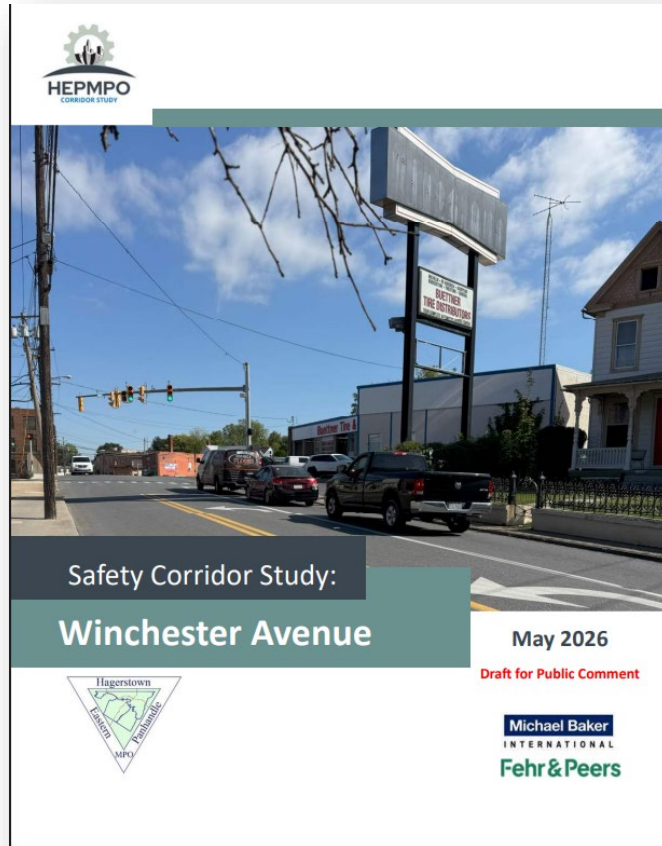
IMPROVEMENT/TREATMENT	CORRIDOR-WIDE COST	MALL DRIVE SIGNAL COST	JOHN STREET SIGNAL COST	KING STREET SIGNAL COST	RALEIGH STREET SIGNAL COST	MAPLE AVENUE SIGNAL COST	QUEEN STREET SIGNAL COST
Signs and Pavement Markings	\$219,600.00	-	-	-	-	-	-
RRFB	\$60,000.00	-	-	-	-	-	-
Inlets and Drainage	\$84,000.00	-	-	-	-	-	-
Excavation/Grading and Soil/Seed	\$972,000.00	-	-	-	-	-	-
Driveway reconstruction	\$100,000.00	-	-	-	-	-	-
Sidewalk and Curb	\$2,837,500.00	-	-	-	-	-	-
ADA Ramps	\$910,000.00	-	-	-	-	-	-
Traffic Signal Modification	-	\$150,000.00	\$10,000.00	\$220,000.00	\$37,000.00	\$250,000.00	\$48,000.00
Light Pole Relocation	\$140,000.00	-	-	-	-	-	-
Project Items (Equipment Package, Surveying, Schedule, Pollution Control, Etc.)	\$14,000.00	-	-	-	-	-	-
Utility Relocations	\$540,000.00	-	-	-	-	-	-
PERCENTAGE ITEMS							
Mobilization (4%)	\$177,084.00	\$6,000.00	\$400.00	\$8,800.00	\$1,480.00	\$10,000.00	\$1,920.00
Maintenance and Protection of Traffic (10%)	\$442,710.00	\$15,000.00	\$1,000.00	\$22,000.00	\$3,700.00	\$25,000.00	\$4,800.00
Contingencies (25%)	\$1,106,775.00	\$37,500.00	\$2,500.00	\$55,000.00	\$9,250.00	\$62,500.00	\$12,000.00
Inspection (12%)	\$531,252.00	\$18,000.00	\$1,200.00	\$26,400.00	\$4,440.00	\$30,000.00	\$5,760.00
Engineering (25%)	\$1,106,775.00	\$37,500.00	\$2,500.00	\$55,000.00	\$9,250.00	\$62,500.00	\$12,000.00
TOTAL	\$9,241,696.00	\$264,000.00	\$17,600.00	\$387,200.00	\$65,120.00	\$440,000.00	\$84,480.00
TOTAL (ROUNDED) - \$10,500,000							

Funding Opportunities

Program	Level	Best For
Surface Transportation Block Grant (STBG)	Federal / State	Roadway safety improvements
Highway Safety Improvement Program (HSIP)	Federal / State	Safety projects to achieve significant reductions in fatalities and serious injuries
Transportation Alternatives (TAP)	Federal / State	Sidewalks, bike lanes, shared-use paths
Congestion Mitigation and Air Quality (CMAQ)	Federal	Active transportation project and traffic flow improvements
Better Utilizing Investments to Leverage Development (BUILD)	Federal	Multimodal safety corridor projects
Safe Streets for All (SS4A)	Federal	Safety Planning, Demonstration and Implementation Grants to fund projects to prevent fatalities and serious injuries
Appalachian Regional Commission (ARC)	Federal / Regional	Economic development
Congressional Directed Spending Request (CDSR)	Federal	Highway and bridge construction, planning, design, and right-of-way acquisition

Questions and Contact Information

Questions?



Visit the HEPMPO Website @
www.hepmo.com

[Winchester Avenue Safety Corridor Study](#)

[Online Story Map](#)

Contact Information



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