Fehr & Peers

Lewis Avenue Bicycle and Pedestrian Improvements

Existing Conditions Memorandum

Prepared for:
City of Rockville

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1. Project Background

The Lewis Avenue Bicycle and Pedestrian Improvements project focuses on improving walking, rolling, and riding along an approximately 1.3-mile corridor in the Twinbrook neighborhood approaching the Twinbrook Metro Station in Rockville, Maryland. The study evaluates opportunities to enhance multimodal safety, accessibility, and comfort for pedestrians and bicyclists while supporting lower-stress bicycle travel within the surrounding community.

The project includes an evaluation of separated bicycle facilities along Lewis Avenue between Rockland Avenue and Halpine Road, as well as traffic calming measures, pedestrian improvements, and shared bicycle lane treatments along Lewis Avenue between Edmonston Drive and Rockland Avenue and along Ardennes Avenue between Halpine Road and Holland Road. Potential traffic calming measures to be considered as part of the study include curb extensions, speed humps, enhanced signage, pavement markings, and other strategies intended to manage vehicle speeds and improve safety for all roadway users.

Providing bicycle facilities along these streets will increase the visibility of bicycle routes to the community and provide an extension of the Bethesda Trolley Trail along a lower-stress alternative to Rockville Pike (MD 355).

The study area, displayed in Figure 1, includes:

- Lewis Avenue between Edmonston Drive and Halpine Road
- Halpine Road between Lewis Avenue and Ardennes Avenue
- Ardennes Avenue between Halpine Road and Holland Road

This report summarizes existing conditions within the study area and includes a review of relevant policies, plans, and proposed projects that may affect the corridor. The report also includes a safety analysis based on historical crash data and near-miss data to identify existing safety concerns and operational challenges. To better understand roadway usage and multimodal activity within the corridor, the report documents multimodal turning movement counts, land use characteristics, and roadway features throughout the study area.

Based on the findings of the existing conditions analysis, the report identifies key challenges and provides recommendations focused on improving pedestrian and bicycle safety, comfort, accessibility, and connectivity along Lewis Avenue, Halpine Road, and Ardennes Avenue.

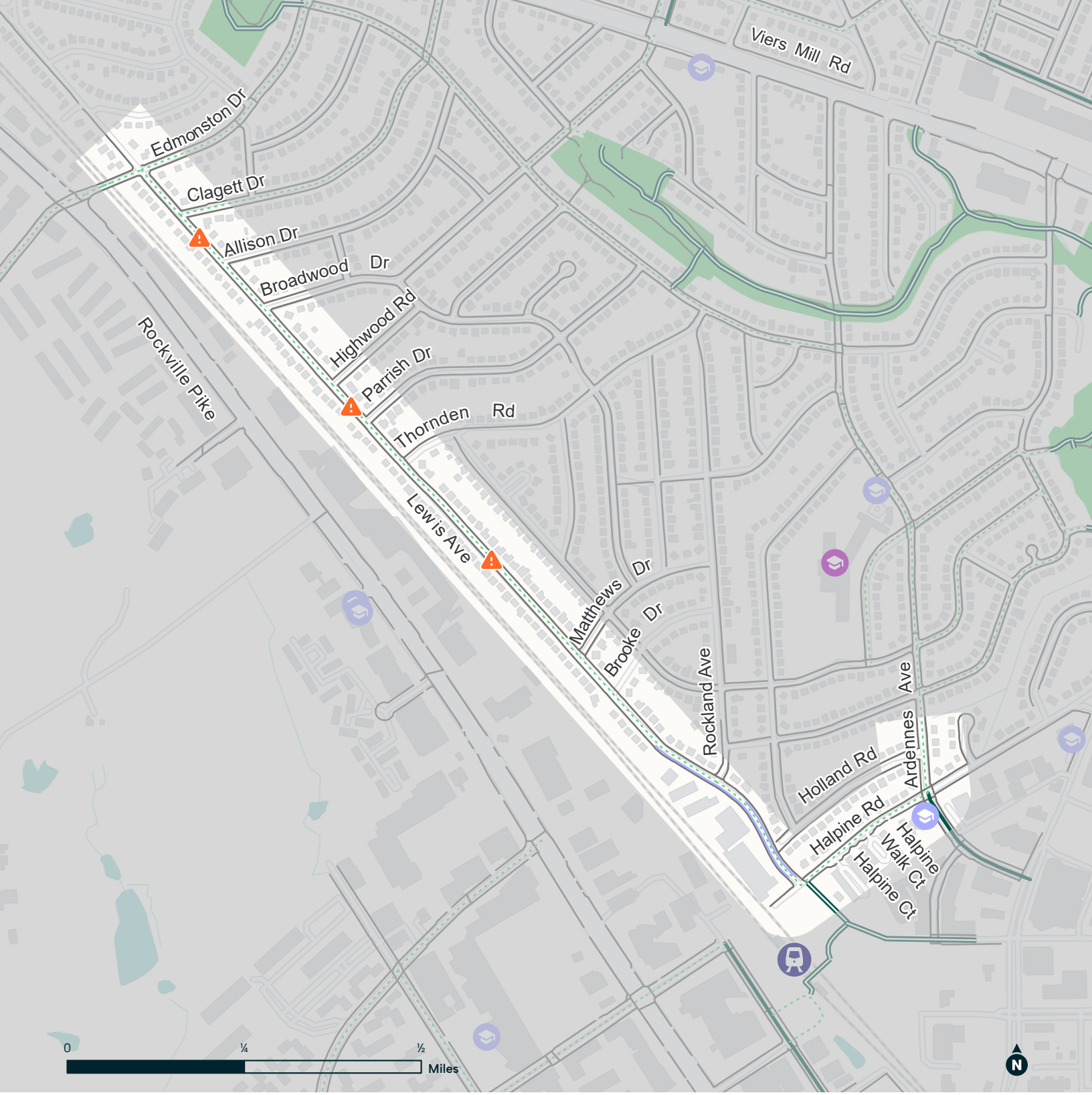

FIGURE 1

Lewis Avenue Study Area

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2. Relevant Plans, Policies, and Projects

2.1 Guiding Plans and Policies

2.1.1 City of Rockville Vision Zero Action Plan (2020)

The Vision Zero Action Plan introduces the City of Rockville's Vision Zero framework to eliminate traffic fatalities and severe injuries by 2030. The plan commits to implement proactive, citywide measures that ensure fairness and equality, while prioritizing the safety of vulnerable road users. It establishes 30 specific, measurable actions that will be taken to help the City achieve its Vision Zero goal, divided into engineering, education, enforcement, and policy strategies.

Relevance to this Study

This study supports the plan's goal of reducing traffic fatalities and serious injuries by advancing several related Action Items. Relevant action items include evaluating crossings and unsignalized intersections to identify and improve high-risk locations and expanding safe bicycle facilities to create a safer, more connected network, using the Rockville Bikeway Master Plan as a guide.

2.1.2 City of Rockville Bikeway Master Plan (2017)

The Rockville Bicycle Master Plan identifies a citywide network of existing and proposed bicycle facilities intended to improve safety, connectivity, and access for bicyclists of all ages and abilities throughout Rockville. The plan identifies 41 miles of proposed bicycle facilities. It also establishes several crosstown bicycle routes, lists locations for spot treatments, and recommends supporting policies and practices.

Relevance to this Study

The plan identifies the sections of Lewis Avenue and Halpine Road within the study area as signed shared roadways and recommends extending the existing bike lane on Ardennes Avenue north from Halpine Road to Vandergrift Avenue. These segments are identified as part of two north/south crosstown bicycle routes.

2.2 Ongoing Projects and Studies

2.2.1 Twinbrook Pedestrian and Bicycle Bridge Project (ongoing)

The Twinbrook Pedestrian and Bicycle Bridge Study will evaluate four alternatives intended to improve pedestrian and bicycle connectivity across the railroad corridor near the Twinbrook Metro Station. It is scheduled to be completed in summer of 2027. Three of the alternatives propose a location for a new bridge connection, while the fourth proposes pedestrian and bicyclist improvements to the existing station tunnel connection.

Relevance to this Study

For the purposes of this study, a future connection near the parking garage at Halpine Road and Chapman Avenue is assumed. This will inform consideration of future bicycle and pedestrian access patterns within the study area and develop a design that complements those patterns.

2.2.2 Twinbrook Metrorail Station West Side Transit Facilities Reconfiguration (ongoing)

The Twinbrook Quarter redevelopment is a mixed-use redevelopment project located on the west side of the Twinbrook Metro Station. The project includes residential, commercial, public space, and transportation improvements intended to support transit-oriented development and improve multimodal connectivity within the Twinbrook area. Transportation improvements include relocating bus loops, replacing the Kiss & Ride lot with a curbside pickup/drop-off, and removing the surface parking lot.

Relevance to this Study

The redevelopment is directly adjacent to the Lewis Avenue study area and will influence future travel patterns, pedestrian activity, bicycle demand, and roadway operations throughout the surrounding Twinbrook neighborhood. During the public review period for this project, 38 comments requested improved pedestrian and bicycle connectivity and safety. While most of these comments addressed access at the station, improving the surrounding network will support these goals.

2.2.3 Rollins Avenue Complete Street Study (ongoing)

This Complete Streets feasibility study focuses on Rollins Avenue between the western terminus near Evelyn Drive and Rockville Pike in the Twinbrook area. It will be completed in June 2026, and improvements will be implemented as budget and capacity allow. The study evaluates recommendations for Rollins Avenue to support multimodal transportation, including sign and signal modifications, shared lane markings, lane narrowing, speed humps, additional crosswalks, pedestrian refuge islands, and curb extensions. The project also emphasizes improving access to nearby residential neighborhoods, parks, schools, and the Twinbrook Metro Station.

Relevance to this Study

This feasibility study and the present project both support pedestrian and bicycle connectivity within the Twinbrook neighborhood. The eastern extent of the Rollins Avenue corridor is approximately one-half mile from the Lewis Avenue study area, connected via Twinbrook Parkway and Ardennes Avenue, making the two projects part of the same multimodal network. Recommendations for Rollins Avenue, particularly those with strong public support, may also be applicable within the Lewis Avenue study area.

3. Data Collection

3.1 Crash Data

Crash data was analyzed for a five-year period from April 1, 2021 through March 31, 2026. All crashes occurring along the study corridor during this period were included in the analysis.

Crash data was obtained from the Maryland Crash Data Dashboard, which compiles police-reported crash records submitted to the Maryland Department of State Police through the Automated Crash Reporting System (ACRS). Because the State of Maryland updated its crash reporting requirements in 2024 to better align with National Highway Traffic Safety Administration (NHTSA) uniform crash criteria guidelines, crash data are maintained in two separate dashboards: one for 2019-2023 data and another for 2024-present data. Data was downloaded from both dashboards to cover the full study period.

Six crashes were removed from the dataset following a quality control review. Five of these crashes were assigned the exact same latitude and longitude, placing them just north of the intersection of Ardennes Avenue and Holland Road. However, the crash descriptions and road names corresponded to different locations throughout Rockville, indicating that the reported coordinates were erroneous. One additional crash was geolocated just west of Lewis Avenue between Brooke Drive and Rockland Ave but had a description indicating that it occurred at a parking lot about two miles north of that point.

3.2 Near-Miss Data

Near-miss analysis was conducted at two study intersections. Twenty-four hours of near-miss data were collected on Tuesday, April 21, 2026, to evaluate vehicle-to-vehicle, vehicle-to-pedestrian, and vehicle-to-bicycle conflicts. Near-miss data was collected at:

- Lewis Avenue and Edmonston Drive intersection, located at the northern limit of the project area.
- Ardennes Avenue and Halpine Road intersection, located at the eastern limit of the project area.

3.3 Intersection Multimodal Turning Movement Counts

To understand the roadway users within the study area, multimodal turning movement counts were collected at major intersections throughout the corridor on Tuesday, April 21, 2026. Counts were conducted during the weekday AM peak period from 6:00 AM to 9:00 AM and the PM peak period from 4:00 PM to 7:00 PM. Data collection included classified vehicle, pedestrian, and bicycle movements at the following intersections:

- Lewis Avenue and Halpine Road
- Lewis Avenue and Rockland Avenue
- Lewis Avenue and Brooke Drive
- Lewis Avenue and Matthews Drive
- Lewis Avenue and Thornden Road
- Lewis Avenue and Parrish Drive
- Lewis Avenue and Highwood Road
- Lewis Avenue and Broadwood Drive
- Lewis Avenue and Allison Drive
- Lewis Avenue and Clagett Drive
- Lewis Avenue and Edmonston Drive
- Halpine Road and Ardennes Avenue

3.4 Segment Speed and Volume Data

Vehicle speed is a key factor affecting safety for all roadway users, particularly pedestrians and bicyclists. Bidirectional speed and traffic volume data were collected over a two-day period on Tuesday, April 21, 2026, and Wednesday, April 22, 2026, at the following location:

- Lewis Avenue between Thornden Road and Matthews Drive

3.5 Land Use and Roadway Features

A site visit was conducted on Monday, April 27, 2026, from 1:00 PM to 3:00 PM to document existing roadway, parking, and multimodal conditions along the corridor. The field review evaluated on-street parking utilization, pedestrian and bicycle facilities, and potential physical constraints, including utilities and landscaping, that may influence future roadway modifications. The site visit also included inventories of ADA accommodations, pedestrian facilities, traffic control devices, and pavement markings throughout the study area.

4. Safety Analysis

4.1 Crash Analysis

4.1.1 Crashes Within the Study Area

There were 32 crashes on the corridor between April 1, 2021, and March 31, 2026. Of those, 2 were injury crashes, while the remaining 30 resulted in property damage only. The two injury crashes occurred at the intersection of Lewis Avenue and Edmonston Drive: one pedestrian-involved crash and one angle collision. Crashes on the corridor are displayed by mode and severity in Figure 3. Though some crashes overlap on the map, Figure 7 documents crash counts by intersection and segment.

Over the study corridor, the predominant crash types were rear-end crashes, same-direction sideswipes, and angle crashes, as shown in Figure 2.

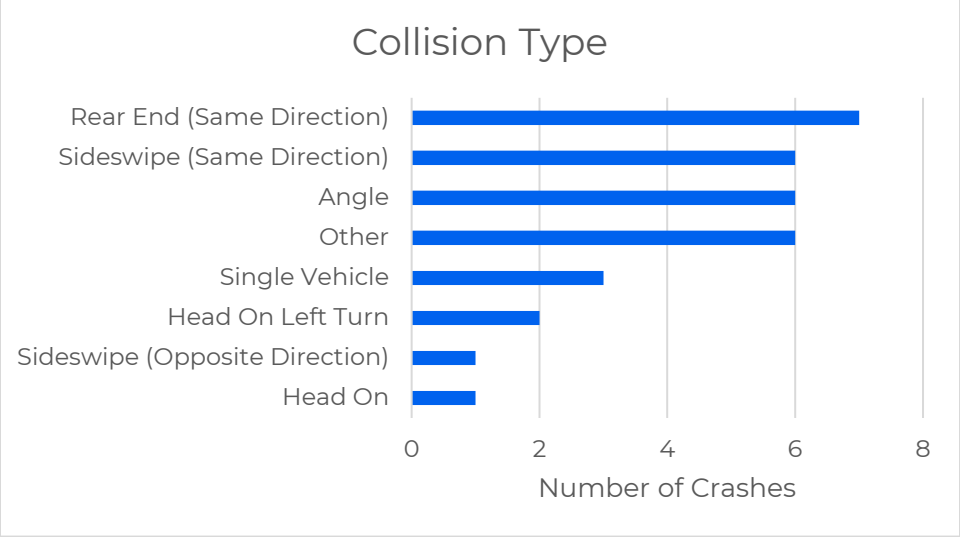

Figure 2. Collision types for corridor crashes from April 2021 through March 2026

Of the 32 reported crashes on the corridor, 15 occurred when a motor vehicle struck a parked vehicle, while 14 were collisions between two motor vehicles in transport, as shown in Figure 4. "First harmful event" refers to the first point of impact: a parked car, a moving vehicle, a pedestrian, or a fixed object. Crashes involving parked vehicles most commonly occurred along roadway segments and were typically reported as rear-end, same-direction sideswipe, or “other” crashes. Crashes between two motor vehicles in transport were equally likely to occur at intersections and along roadway segments and were most frequently angle crashes.

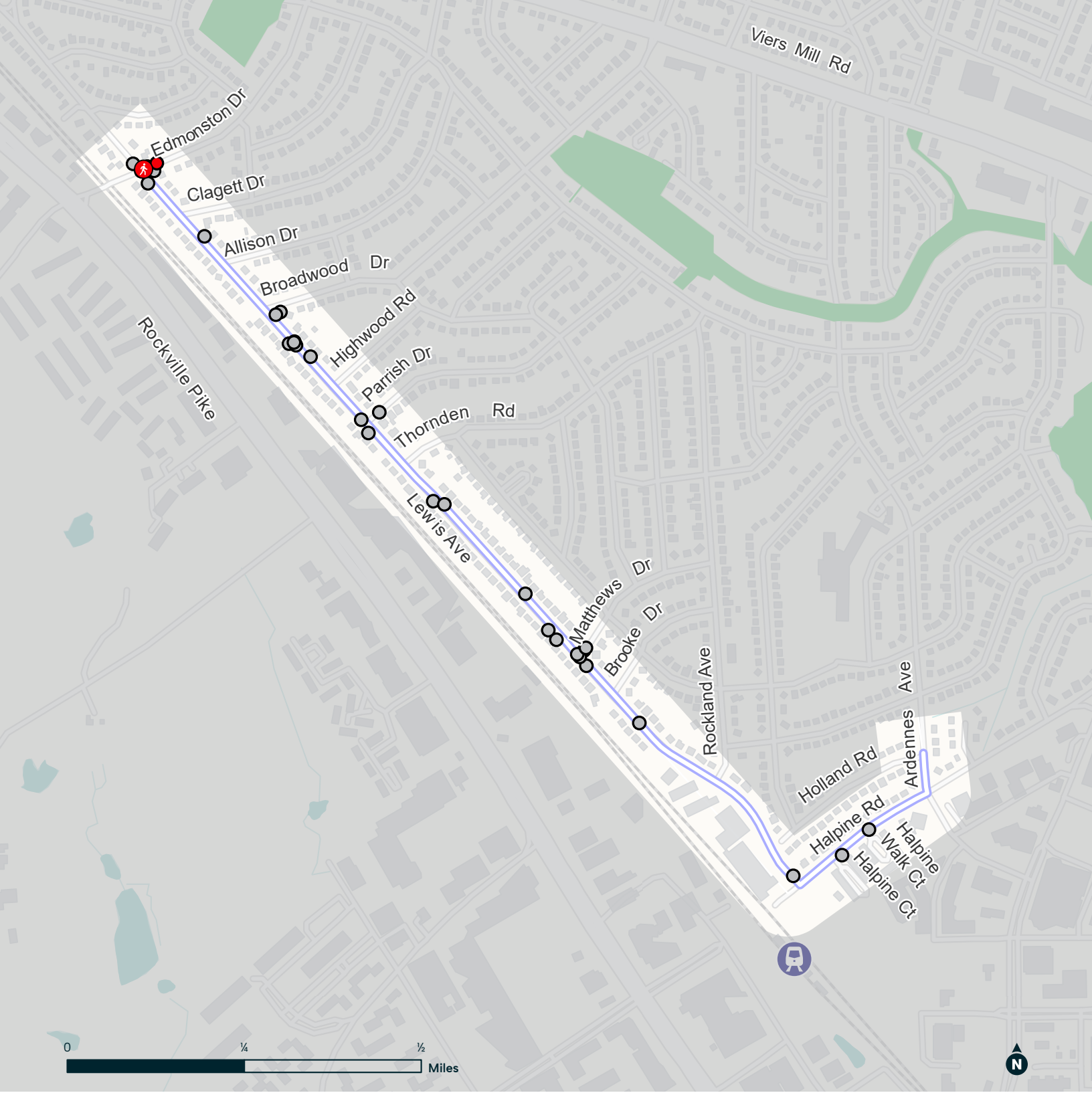

FIGURE 3

Crashes by Mode and Severity

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One pedestrian injury occurred during this period on Tuesday, March 18, 2025, at 11:30 AM, when a large vehicle struck a pedestrian at the intersection of Lewis Avenue and Edmonston Drive. Two fixed-object crashes occurred during this period: one involved a motor vehicle striking a lighting fixture, while the other involved a vehicle striking an unspecified fixed object. Figure 6 maps the spatial distribution of crashes by first harmful event, illustrating where along the corridor each crash type is concentrated.

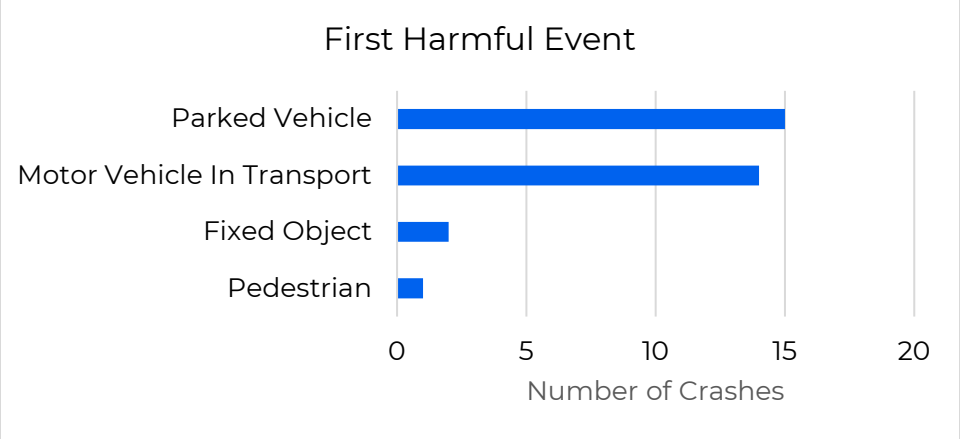

Figure 4. First harmful event in corridor crashes from April 2021 through March 2026

The lighting conditions during each crash on the corridor are shown in Figure 5. Eighteen crashes occurred during daylight conditions, while 12 crashes occurred in low-light conditions, including dusk, dark, and dawn. Finally, two crashes occurred under unknown lighting conditions.

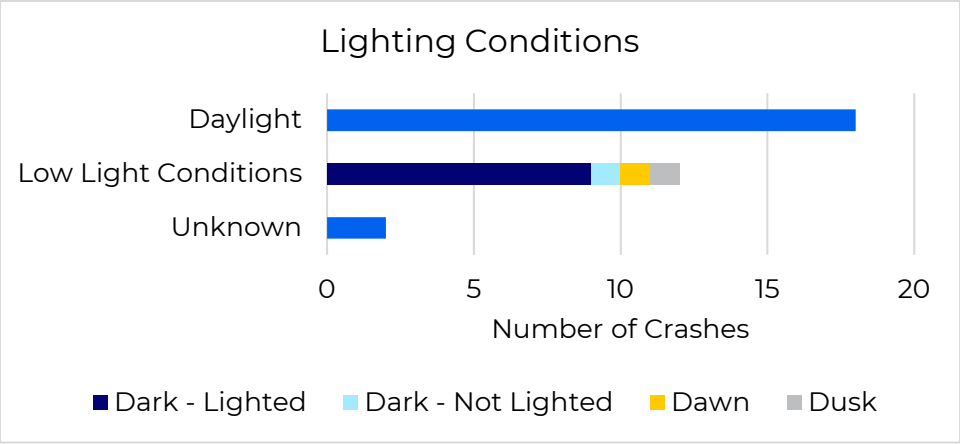

Figure 5. Lighting conditions of corridor crashes from April 2021 to March 2026

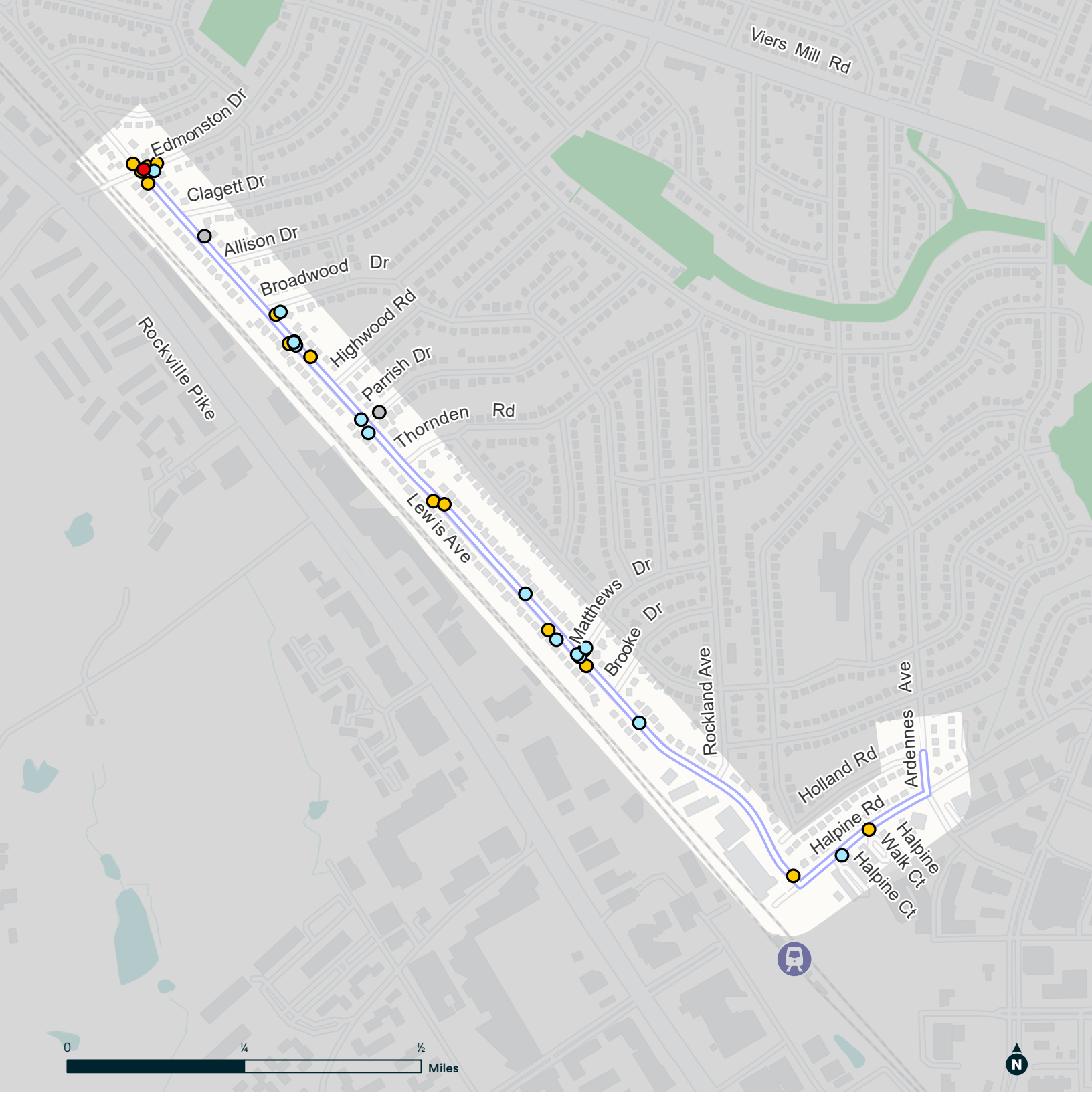

FIGURE 6

Crashes by First Harmful Event

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4.1.2 High-Crash Intersections and Segments

Figure 7 displays crashes by segment and intersection along the study corridor to highlight locations with higher crash frequencies. Locations are arranged beginning at the northernmost intersection and progressing south along Lewis Avenue to Halpine Road, then east along Halpine Road, and finally north along Ardennes Avenue. Additional information on crash patterns is provided in the following sections for locations with five or more reported crashes.

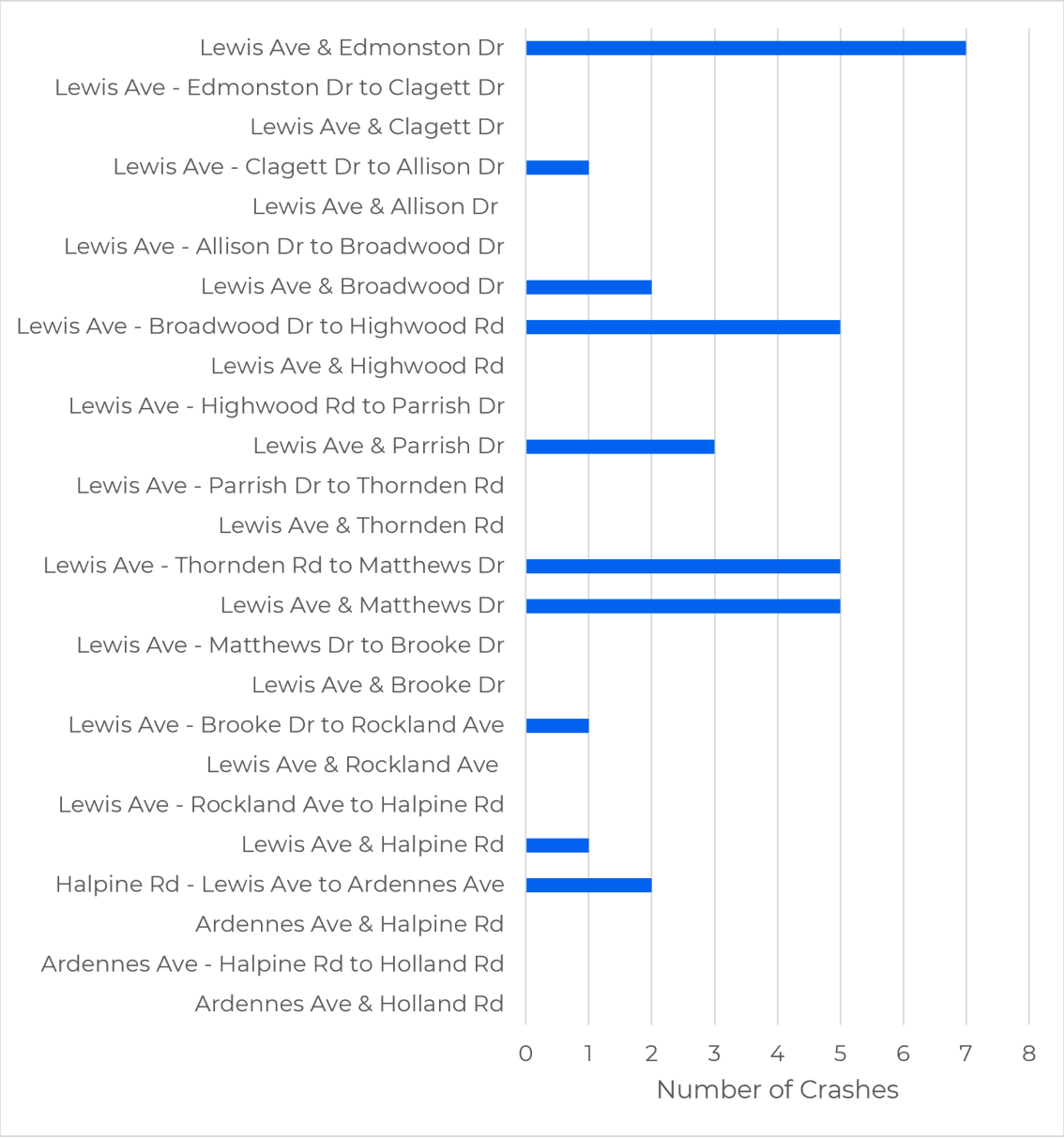

Figure 7. Corridor crashes by segment or intersection

4.1.2.1 Lewis Avenue and Edmonston Drive

Lewis Avenue and Edmonston Drive experienced seven reported crashes during the study period, the highest concentration along the corridor. This was also the site of the only pedestrian crash on the corridor, in which a pedestrian was struck in the roadway by a large vehicle, resulting in an injury.

The majority of crashes were angle collisions (five), along with one head-on left-turn crash and the pedestrian crash. Two crashes resulted in injuries, including the pedestrian crash and one angle collision, while the remaining five crashes resulted in property damage only. The crashes at this location predominantly occurred in daylight. The prevalence of angle crashes at this location may suggest conflicts associated with turning movements.

In November 2023, the city constructed a pedestrian refuge, upgraded the crosswalk to be high-visibility, and added a “don’t block the box” pavement marking. However, four of the seven recorded crashes at this location, including both severe crashes, occurred in 2025. This pattern suggests that contributing factors may still be present at this location.

4.1.2.2 Lewis Avenue from Broadwood Drive to Highwood Road

Five crashes were reported along Lewis Avenue between Broadwood Drive and Highwood Road during the study period. All five crashes resulted in property damage only.

Three of these five crashes occurred when a moving vehicle struck a parked vehicle. The other two crashes were between motor vehicles in transport; one was a sideswipe and the other was reported as “other”. Lighting conditions varied and included two crashes in daylight, one at dawn, and two in dark conditions.

4.1.2.3 Lewis Avenue from Thornden Road to Matthews Drive

Five crashes were reported along Lewis Avenue between Thornden Road and Matthews Drive during the study period, all of which resulted in property damage only. Two crashes involved sideswipes with parked vehicles, both of which occurred during daylight conditions. The remaining three crashes were rear-end collisions involving motor vehicles in transport, all of which occurred during low-light conditions, including dusk or dark, lighted conditions.

4.1.2.4 Lewis Avenue and Matthews Drive

Five crashes were reported at the intersection of Lewis Avenue and Matthews Drive during the study period, all of which resulted in property damage only. There was a large proportion of parked vehicle-related crashes at this location, with four of the five crashes involving parked vehicles. These crashes involving parked vehicles were classified as rear-end or sideswipe collisions. The remaining crash involved a sideswipe collision between two moving vehicles. Two crashes occurred under dark, lighted conditions, one during daylight, and two reported under unknown lighting conditions.

4.2 Near-Miss Analysis

4.2.1 Key Terminology

The following terms are used throughout the near-miss analysis figures and summaries.

Post-Encroachment Time (PET) is the amount of time between one road user leaving a potential conflict point, and another road user entering that same point. This measures how close the two users came to colliding, where the lower the value, the closer to a crash; zero seconds of PET would indicate that a crash occurred.

Observed Conflicts indicate the number of actual near-miss events observed in the 24-hour period.

Expected Conflicts estimate the number of pedestrian and bicycle conflicts that would typically be anticipated at an intersection based on observed roadway user activity. Quality Counts develops these values using regression analysis that relates pedestrian, bicycle, and vehicle volumes to observed conflicts at similar intersection types within the database of all near-miss analyses they have conducted.

The O/E Ratio provides the total Observed Conflicts divided by the Expected Conflicts for a given approach or intersection.

The Absolute Percentile places the number of conflicts at each intersection/leg/movement within all other near-miss counts in Quality Counts' historical database, regardless of size or geometry. Each intersection and leg are given a "Conflicts per Hour" value based on the number of conflicts that occur between 7am and 7pm. That number is then percentile ranked within the Conflicts per Hour values from the historical dataset.

4.2.2 Lewis Avenue and Edmonston Drive

Near-miss data for this two-way stop-controlled intersection is broken down by vehicle-to-vehicle conflicts, pedestrian conflict, and bicycle conflicts. Observed and expected values are reported for each approach for vehicle-vehicle and pedestrian-vehicle conflicts, and at the intersection level for bicycle-vehicle conflicts.

4.2.2.1 Vehicular Conflicts

As indicated in Figure 8, overall left-turn conflicts at the intersection are generally consistent with expected conditions, indicating that the total number of left-turn-related near-misses is average compared with similar intersections. However, the northbound left-turn versus eastbound through movement is a notable concern, with 53 observed conflicts compared to 30 expected conflicts. This issue may be related to driver expectancy associated with the intersection traffic control along the Lewis Avenue corridor. Throughout much of the corridor, Lewis Avenue operates under uncontrolled or all-way stop-controlled conditions. At the Edmonston Drive intersection, however, Lewis Avenue is stop-controlled while Edmonston Drive operates as a free-flow movement. Drivers traveling northbound on Lewis Avenue may expect eastbound traffic on Edmonston Drive to stop, similar to side street traffic at other intersections along the corridor.

Average through vehicle speeds associated with the conflicts ranged from approximately 21 to 28 mph. The highest average speed was associated with the westbound left (WBL) turns versus eastbound through (EBT) movements (28 mph). Although this movement experienced few conflicts, the higher speed may contribute to less comfortable and potentially less safe conditions for vulnerable road users.

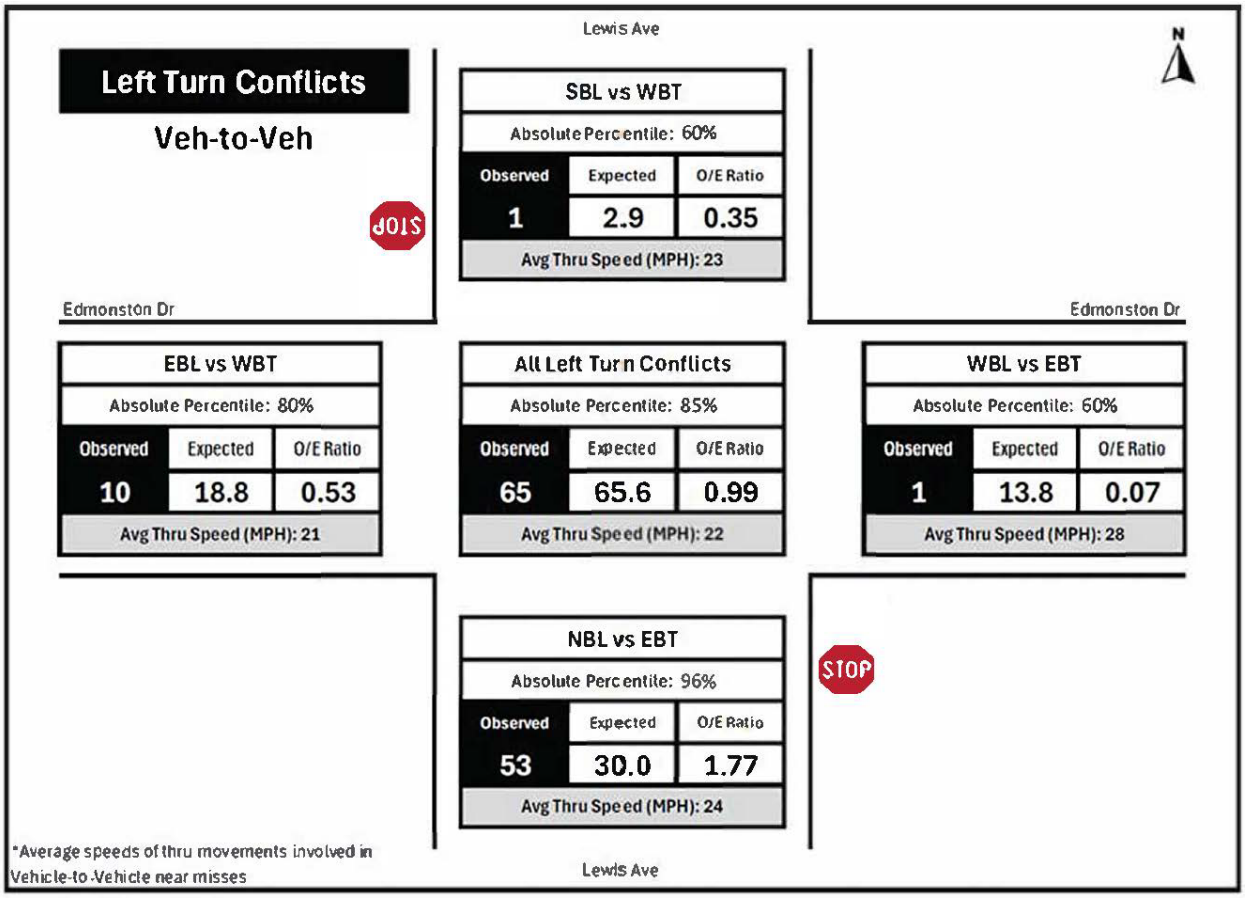

Figure 8. Near-miss data summary for vehicle-to-vehicle conflicts at Lewis Avenue and Edmonston Drive

EBL: eastbound left
WBL: westbound left
SBL: southbound left
NBL: northbound left
EBT: eastbound through
WBT: westbound through

4.2.2.2 Vulnerable Roadway User Conflicts

As indicated by the intersection diagram in Figure 9, the observed pedestrian and bicyclist conflicts for all approaches of Lewis Avenue and Edmonston Drive exceed the expected values based on the stop control type and the volumes. The intersection recorded 53 observed pedestrian conflicts compared to 32.6 expected conflicts and 18 observed bicycle conflicts compared to 2.6 expected conflicts.

The east leg of the intersection is the primary pedestrian conflict concern and includes a pedestrian refuge island. Figure 10 shows an example of a near-miss occurring at the east leg of the intersection. The detailed analysis identified several pedestrians crossing outside of the marked crosswalks. During discussions with Quality Counts, the team noted that many of the conflicts occurring near the center

of the intersection, outside of the crosswalks, were primarily associated with the east leg crossing activity, which may help explain the elevated number of near-misses observed at this location.

Additional treatments to improve pedestrian and bicyclist safety are warranted at this intersection, particularly because vehicle speeds on all approaches are high enough to exceed human body tolerance thresholds and result in vulnerable road user fatalities or serious injuries.

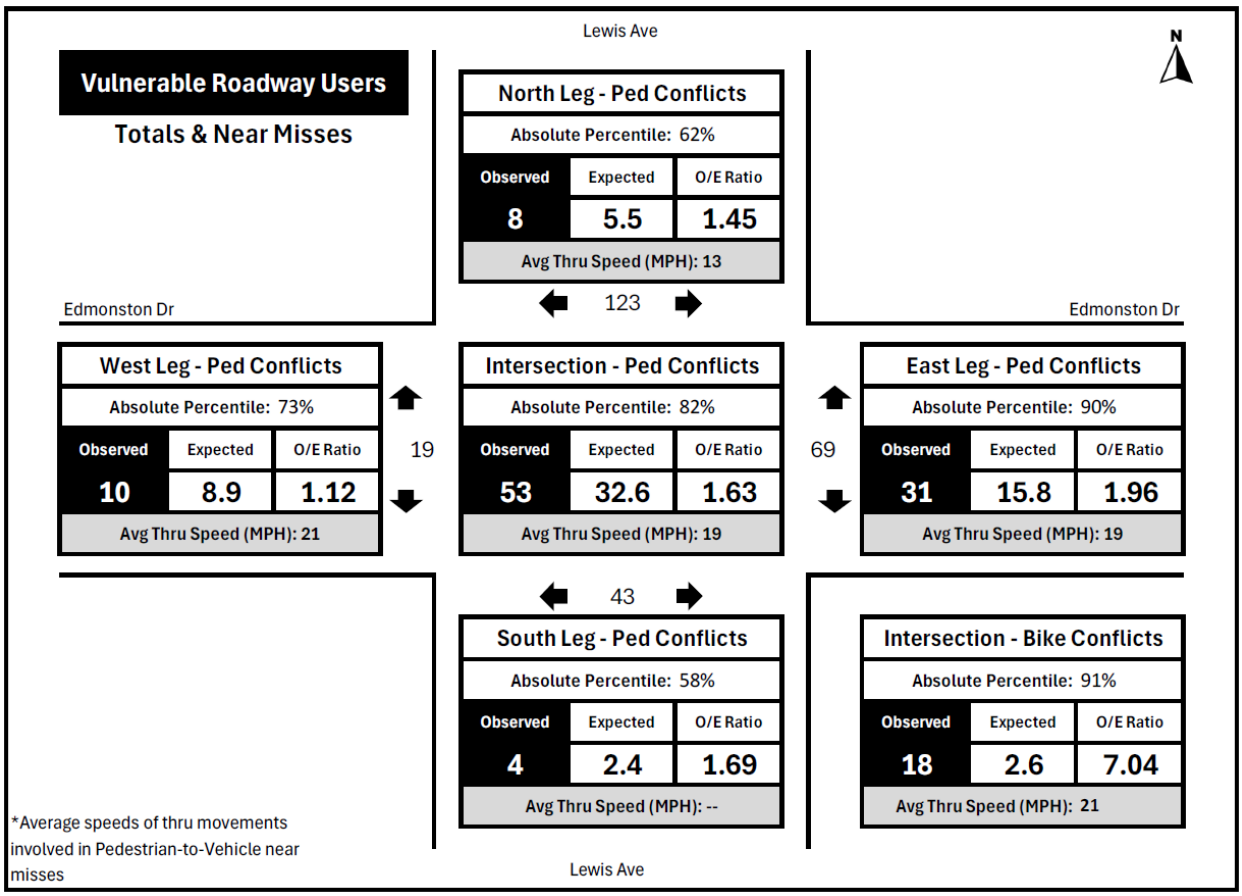

Figure 9. Near-miss data summary for bicyclists and pedestrians at Lewis Avenue and Edmonston Drive

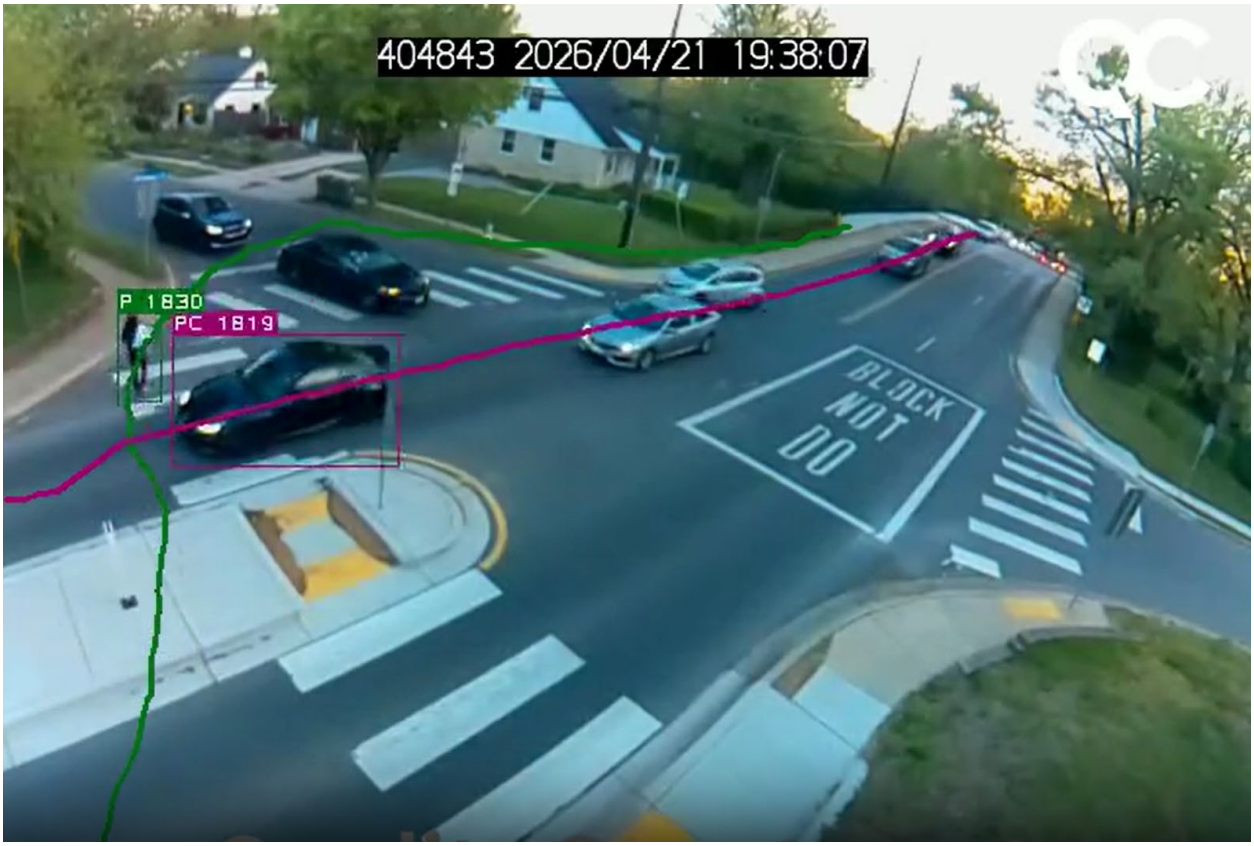

Figure 10. Image captured from video recording of a near-miss on the east leg of Lewis Avenue and Edmonston Drive

4.2.3 Ardennes Avenue and Halpine Road

Near-miss data for this four-way stop-controlled intersection is broken down by vehicle-to-pedestrian and vehicle-bicycle conflicts.

Zero vehicle-vehicle conflicts were observed at this intersection.

4.2.3.1 Vulnerable Roadway User Conflicts

There were nine near-miss conflicts between vehicles and pedestrians. Seven of these occurred on the north leg, while one occurred on the west and south legs, as shown in Figure 11. There were four total bike conflicts, with two occurring on the west leg of the intersection, and one each on the north and south legs. This is a low stress intersection with all-way stop control, posted speeds of 25 MPH, crosswalks on all four legs, minimal crossing distances, and a dedicated bike lane on the north side of Ardennes. While near-miss conflicts did occur, the average vehicle thru speed was

11-12 MPH and there were higher post encroachment times, meaning roadway users did not come very close to colliding.

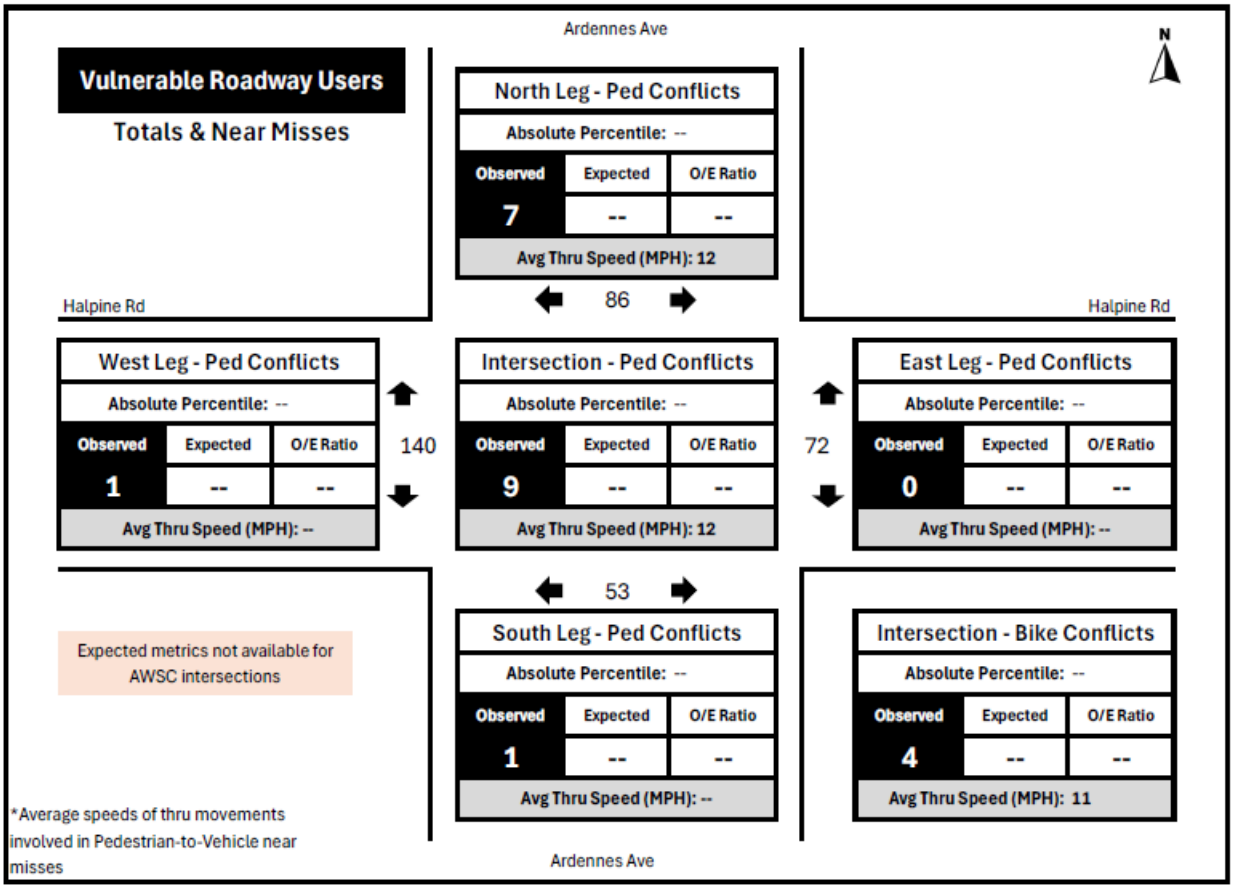

Figure 11. Near-miss data summary for bicyclists and pedestrians at Ardennes Avenue and Halpine Road

5. Land Use and Roadway Facilities

Land use within the project area is predominantly residential, consisting primarily of single-family detached homes with some multifamily residential developments located near the Twinbrook Metro Station. Additional land uses within the study area include a church along Halpine Road and a mix of commercial, industrial, office, restaurant, and service-oriented uses along Lewis Avenue near the Twinbrook Metro Station.

Key observations from the field review are summarized below for each roadway within the project area.

5.1 Lewis Avenue

Lewis Avenue is predominantly a residential roadway serving single-family homes, with limited mixed commercial and industrial uses near the Twinbrook Metro Station. The roadway consists of one travel lane in each direction with curb and gutter, sidewalks, and on-street parking on both sides. Parking utilization varies throughout the corridor, with the highest parking occupancy observed between Matthews Drive and Thornden Road. Metered parking along Lewis Avenue between Halpine Road and Rockland Avenue is lightly utilized, with occupancy rates well below 50 percent.

Field observations also identified speeding concerns along several downhill segments, limited sight distance at select intersections, and frequent residential driveways that may create conflicts for bicyclists. The corridor is a signed bicycle route. The following sections summarize roadway features along Lewis Avenue.

5.1.1 Intersection with Halpine Road

Figure 12. Pedestrian facilities and shared use path at the Lewis Avenue and Halpine Road intersection (left, looking south) and crosswalk connection to mixed-use development (right, looking west)

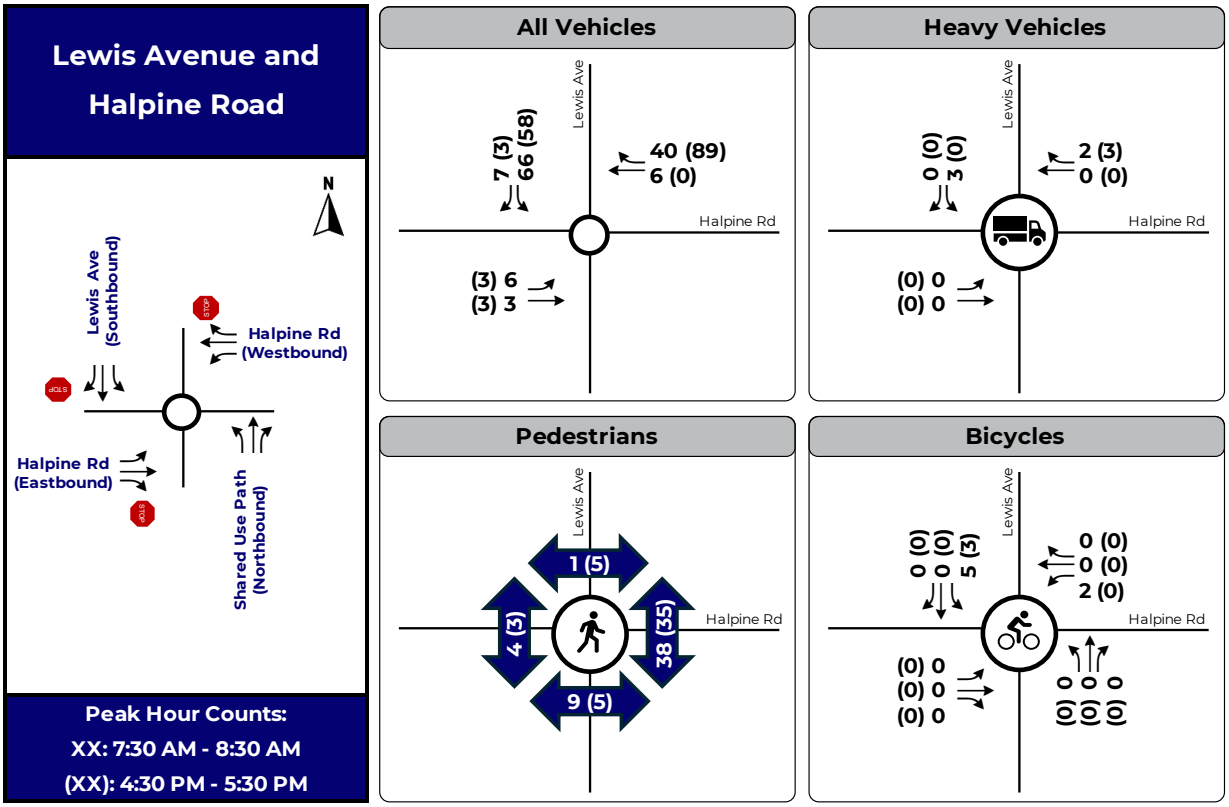

Figure 13. Peak Hour Multimodal Turning Movement Counts: Lewis Avenue and Halpine Road

Table 1. Intersection Features: Lewis Avenue and Halpine Road

Intersection Feature	Description
Traffic Control Devices	• All-way stop-controlled intersection • T-intersection with two-lane approaches and no dedicated turn lanes. A shared use path provides pedestrian and bicycle access on the south leg.
Land-Use	• Metro parking lot south of the intersection • Mixed-use development containing a bakery, office uses, and industrial developments on the northwest corner • Single-family residential uses on the northeast corner
Crosswalks	• Marked crosswalks with perpendicular bar markings on all three intersection approaches • Existing crosswalk and stop line pavement markings exhibit fading and wear • Pedestrian activity is concentrated on the east leg crossing of Lewis Avenue, which reflects the connection to the shared use path providing access to the Twinbrook Metro Station
Curb Ramps	• Curb ramps with directional warning surface at all marked crosswalks • Curb ramp openings aligned with the curb line
Bike Facilities	• Shared Use Path in the south leg of the intersection • Lewis Avenue is a Signed Shared Roadway • The east leg of Halpine Road is part of a Signed Shared Roadway
Transit Facilities	• No bus stops, although Halpine Avenue is a Ride On Route • Metro connection south of the intersection

5.1.2 Segment between Halpine Road and Rockland Avenue

Figure 14. Metered parking spaces on Lewis Avenue between Halpine Road and Rockland Avenue (left, looking south) and signs (right, looking north)

Figure 15. Mixed-use developments along Lewis Avenue between Halpine Road and Rockland Avenue (looking west)

Table 2. Segment Features: Lewis Avenue between Halpine Road and Rockland Avenue

Segment Feature	Description
Traffic Control Devices	• One travel lane in each direction separated by a marked centerline • 25 mph posted speed limit • Northbound STOP AHEAD (W3-1) sign in advance of the Rockland Avenue intersection
Land-Use	• Mixed-use developments containing a bakery, office uses, industrial uses, and loading-related activity near the Halpine Road intersection. Frequent truck traffic and larger vehicle operations • Frequent driveways, potential conflicts
Sidewalks	• Continuous sidewalks on both sides of Lewis Avenue • No accessibility issues associated with landscaping, streetscape features, or utility poles
Bike facilities	• Signed Shared Roadway
Parking	• Metered parking on both sides of the roadway • Northbound metered parking terminates immediately south of Rockland Avenue, where single-family residential frontage and permit parking (8:00 AM to 5:00 PM, Monday through Friday) begin • Southbound metered parking (6:00 AM to 6:00 PM, Monday through Friday) begins north of Rockland Avenue • Low metered parking utilization, with approximately 5% occupancy
Transit	• Not part of a transit route

5.1.3 Intersection with Rockland Avenue

Figure 16. Lewis Avenue and Rockland Avenue intersection (left, looking south; right, looking north)

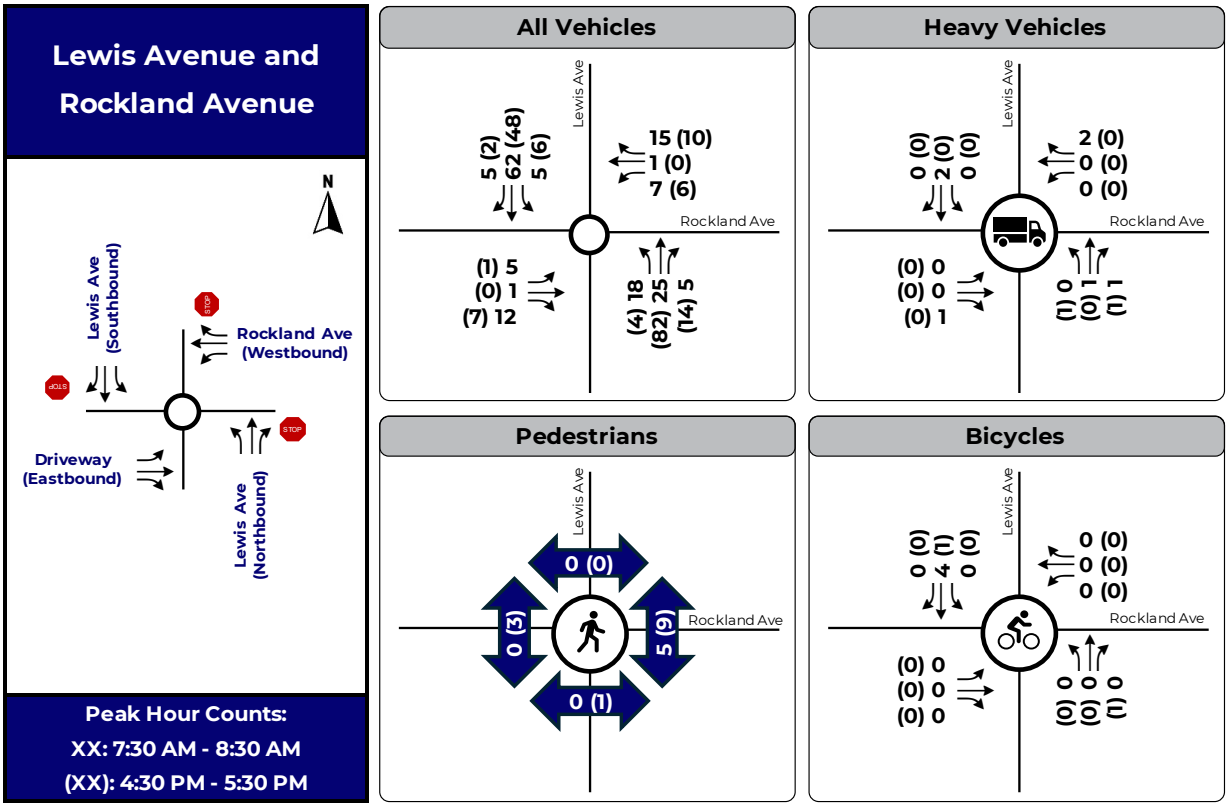

Figure 17. Peak Hour Multimodal Turning Movement Counts: Lewis Avenue and Rockland Avenue

Table 3. Intersection Features: Lewis Avenue and Rockland Avenue

Intersection Feature	Description
Traffic Control Devices	• All-way stop-controlled intersection • T-intersection with two-lane approaches and no dedicated turn lanes. A driveway is present on the east side of the intersection and is represented as the eastbound approach in Figure 16
Land-Use	• Mixed-use development containing office uses and industrial developments on the west side • Single-family residential uses on the east side
Crosswalks	• Marked crosswalks with perpendicular bar markings on the south and east legs
Curb Ramps	• Curb ramps with directional warning surface at all marked crosswalks • Curb ramp openings aligned with the curb line
Bike Facilities	• Lewis Avenue is a Signed Shared Roadway
Transit Facilities	• No transit facilities

5.1.4 Segment between Rockland Avenue and Brooke Drive

Figure 18. Industrial land use and signs along Lewis Avenue between Rockland Avenue and Brooke Drive (left, looking west; middle, looking north; right, looking south)

Table 4. Segment Features: Lewis Avenue between Rockland Avenue and Brooke Drive

Segment Feature	Description
Traffic Control Devices	• One travel lane in each direction separated by a marked centerline • 25 mph posted speed limit • Northbound No Trucks (R5-2) sign just north of the of the Rockland Avenue intersection • Northbound Bike Route (D11-1) sign just north of the of the Rockland Avenue intersection • Southbound Speed Limit (R2-1) sign with Photo Enforced (R10-19aP) plaque in advance of the Rockland Avenue intersection • Southbound STOP AHEAD (W3-1) sign in advance of the Rockland Avenue intersection
Land-Use	• Mostly single-family residential uses • Mixed-use developments containing office uses, industrial uses, and loading-related activity near the Rockland Avenue intersection. Frequent truck traffic and larger vehicle operations • Frequent driveways, potential conflicts
Sidewalks	• Continuous sidewalks on both sides of Lewis Avenue • No accessibility issues associated with landscaping, streetscape features, or utility poles
Bike facilities	• Signed Shared Roadway
Parking	• Northbound permit parking (8:00 AM to 5:00 PM, Monday through Friday) • Southbound metered parking extends from Rockland Avenue to approximately 350 feet north of Rockland Avenue, where single-family residential frontage and permit parking (8:00 AM to 5:00 PM, Monday through Friday) begin • Low metered parking utilization, with approximately 10% occupancy
Transit	• Not part of a transit route

5.1.5 Intersection with Brooke Drive

Figure 19. Lewis Avenue and Brooke Drive intersection with overgrown vegetation (looking north)

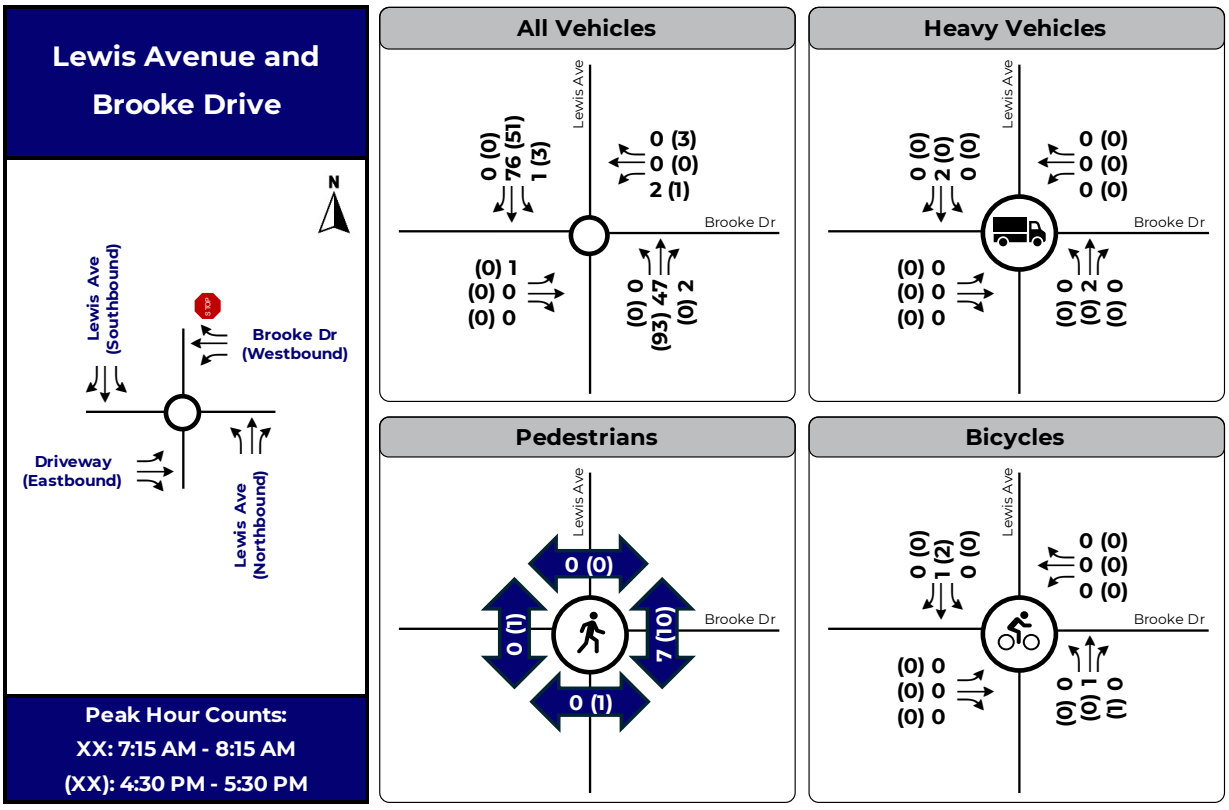

Figure 20. Peak Hour Multimodal Turning Movement Counts: Lewis Avenue and Brooke Drive

Table 5. Intersection Features: Lewis Avenue and Brooke Drive

Intersection Feature	Description
Traffic Control Devices	• Two-way stop-controlled intersection • T-intersection with two-lane approaches and no dedicated turn lanes. A driveway is present on the east side of the intersection and is represented as the eastbound approach in Figure 19
Land-Use	• Single-family residential uses
Crosswalks	• Marked crosswalk with transverse markings on the east leg • Overgrown vegetation on the north side
Curb Ramps	• Curb ramps with directional warning surface at the marked crosswalk • Curb ramp openings aligned with the curb line
Bike Facilities	• Lewis Avenue is a Signed Shared Roadway
Transit Facilities	• No transit facilities

5.1.6 Segment between Brooke Drive and Matthews Drive

Figure 21. Lewis Avenue between Brooke Drive and Matthews Drive (left, looking north; right, looking south)

Table 6. Segment Features: Lewis Avenue between Brooke Drive and Matthews Drive

Segment Feature	Description
Traffic Control Devices	• One travel lane in each direction separated by a marked centerline • 25 mph posted speed limit • Southbound Bike Route (D11-1) sign just south of the Matthews Road intersection
Land-Use	• Single-family residential uses • Frequent driveways, potential conflicts
Sidewalks	• Continuous sidewalks on both sides of Lewis Avenue • No accessibility issues associated with landscaping, streetscape features, or utility poles
Bike facilities	• Signed Shared Roadway
Parking	• Northbound and southbound permit parking (8:00 AM to 5:00 PM, Monday through Friday) • Low parking utilization, with less than 5% occupancy
Transit	• Not part of a transit route

5.1.7 Intersection with Matthews Drive

Figure 22. Lewis Avenue and Matthews Drive intersection (left, looking south; right, looking north)

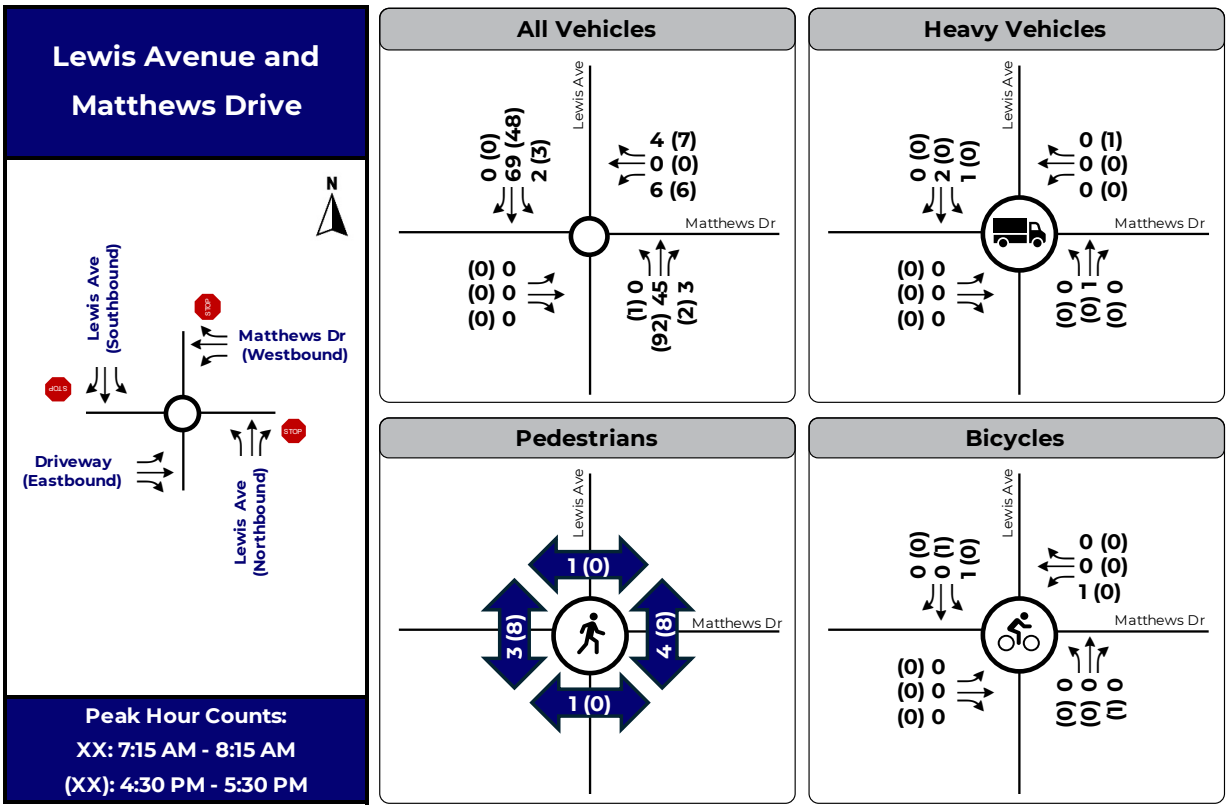

Figure 23. Peak Hour Multimodal Turning Movement Counts: Lewis Avenue and Matthews Drive

Table 7. Intersection Features: Lewis Avenue and Matthews Drive

Intersection Feature	Description
Traffic Control Devices	• All-way stop-controlled intersection • T-intersection with two-lane approaches and no dedicated turn lanes. A driveway is present on the east side of the intersection and is represented as the eastbound approach in Figure 22 • Sight distance concerns and reports of drivers failing to stop
Land-Use	• Single-family residential uses
Crosswalks	• Marked crosswalk with transverse markings on the east leg
Curb Ramps	• Curb ramps with directional warning surface at the marked crosswalk • Curb ramp openings aligned with the curb line
Bike Facilities	• Lewis Avenue is a Signed Shared Roadway
Transit Facilities	• No transit facilities

5.1.8 Segment between Matthews Drive and Thornden Road

Figure 24. Signs and speed hump on Lewis Avenue between Matthews Drive and Thornden Road (looking north)

Figure 25. Heavy vehicle presence on Lewis Avenue between Matthews Drive and Thornden Road (looking north)

Table 8. Segment Features: Lewis Avenue between Matthews Drive and Thornden Road

Segment Feature	Description
Traffic Control Devices	• One travel lane in each direction, no marked centerline • 25 mph posted speed limit. • Northbound 85th percentile speed is 28 mph; highest observed speeds are between 41 and 45 mph (0.1% of drivers) • Southbound 85th percentile speed is 27 mph; highest observed speeds are between 36 and 40 mph (0.6% of drivers) • Northbound Speed Limit (R2-1) sign with Photo Enforced (R10-19aP) plaque just north of the Matthews Drive intersection • Southbound Speed Limit (R2-1) sign with Photo Enforced (R10-19aP) plaque just south of the Thornden Road intersection • Southbound Bike Route (D11-1) sign just south of the Thornden Road intersection • Speed hump present • Northbound "Bumps" sign in advance of speed hump is not MUTCD compliant • The northbound and southbound BUMP (W8-1) signs are not appropriately used. The BUMP sign should be installed in advance of a sharp rise in the roadway profile. The SPEED HUMP (W17-1) sign should instead be used in advance of a vertical roadway deflection intended to reduce vehicle speeds, which is the road feature present along this segment of Lewis Avenue.
Land-Use	• Single-family residential uses • Frequent driveways, potential conflicts
Sidewalks	• Continuous sidewalks on both sides of Lewis Avenue • No accessibility issues associated with landscaping, streetscape features, or utility poles
Bike facilities	• Signed Shared Roadway
Parking	• Northbound and southbound on-street parking (no posted signs) • Approximately 60% parking occupancy
Transit	• Not part of a transit route

5.1.9 Intersection with Thornden Road

Figure 26. Lewis Avenue and Thornden Road intersection (left: looking north; right: looking south)

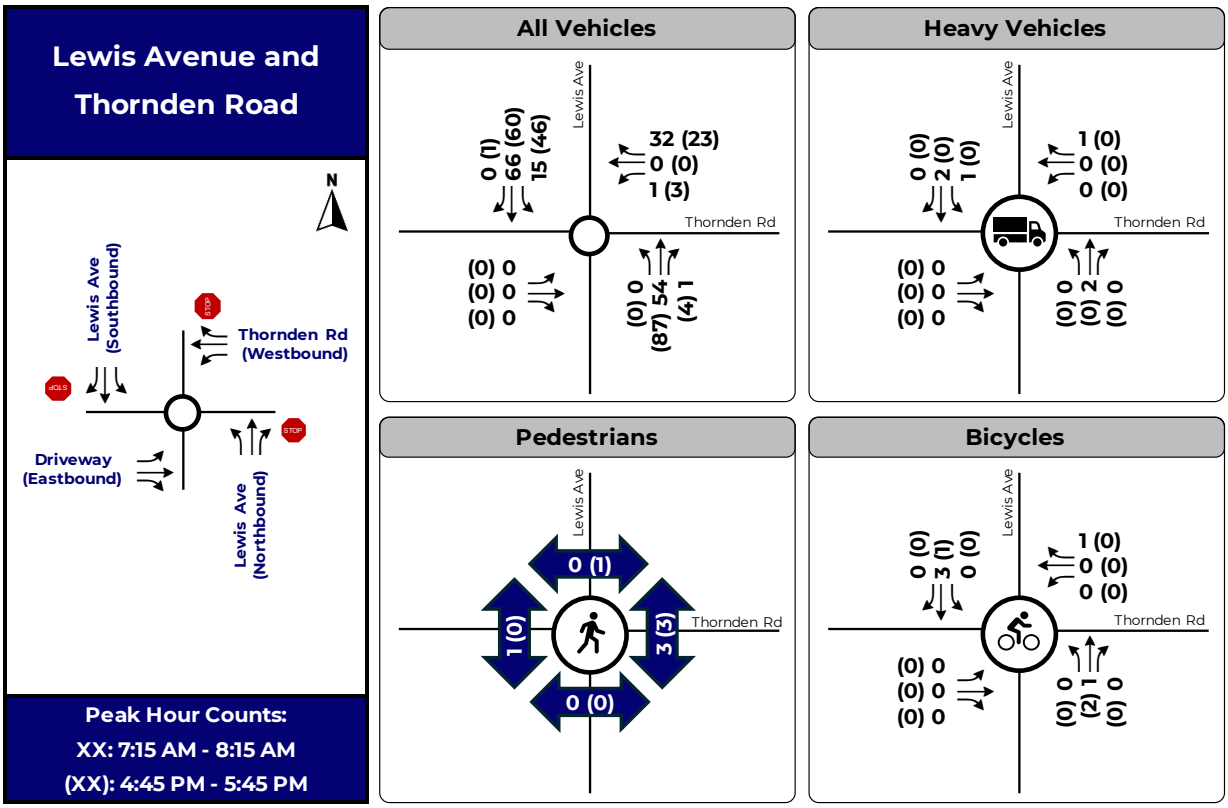

Figure 27. Peak Hour Multimodal Turning Movement Counts: Lewis Avenue and Thornden Rd

Table 9. Intersection Features: Lewis Avenue and Thornden Rd

Intersection Feature	Description
Traffic Control Devices	• All-way stop-controlled intersection • T-intersection with two-lane approaches and no dedicated turn lanes. A driveway is present on the east side of the intersection and is represented as the eastbound approach in Figure 26 • Sight distance concerns and reports of drivers failing to stop • Bike Route (D11-1) sign on Lewis Avenue (northeast corner of the intersection)
Land-Use	• Single-family residential uses
Crosswalks	• Marked crosswalk with transverse markings on the east leg
Curb Ramps	• Curb ramps with directional warning surface at the marked crosswalk • Curb ramp openings aligned with the curb line
Bike Facilities	• Lewis Avenue is a Signed Shared Roadway
Transit Facilities	• No transit facilities

5.1.10 Segment between Thornden Road and Parrish Drive

Figure 28. Lewis Avenue between Thornden Road and Parrish Drive (left, looking north; right, looking south)

Table 10. Segment Features: Lewis Avenue between Thornden Road and Parrish Drive

Segment Feature	Description
Traffic Control Devices	• One travel lane in each direction, no marked centerline • 25 mph posted speed limit • Residents noted that vehicles frequently travel at high speeds in this area, particularly southbound traffic traveling downhill from Parrish Drive toward Thornden Road. The resident also mentioned that drivers often fail to stop at the STOP sign at Thornden Road. Several children live in the area, raising additional safety concerns. Rolling grades and downhill conditions contribute to speeding concerns. • Northbound Speed Limit (R2-1) sign with Photo Enforced (R10-19aP) plaque near Thornden Road • Northbound Bike Route (D11-1) sign near Thornden Road
Land-Use	• Single-family residential uses. Frequent driveways, potential conflicts
Sidewalks	• Continuous sidewalks on both sides of Lewis Avenue • No accessibility issues associated with landscaping, streetscape features, or utility poles
Bike facilities	• Signed Shared Roadway
Parking	• Northbound and southbound on-street parking (no posted signs) • Low parking utilization, with approximately 5% occupancy
Transit	• Not part of a transit route

5.1.11 Intersection with Parrish Drive

Figure 29. Lewis Avenue and Parrish Drive intersection (left: looking south; right: looking north)

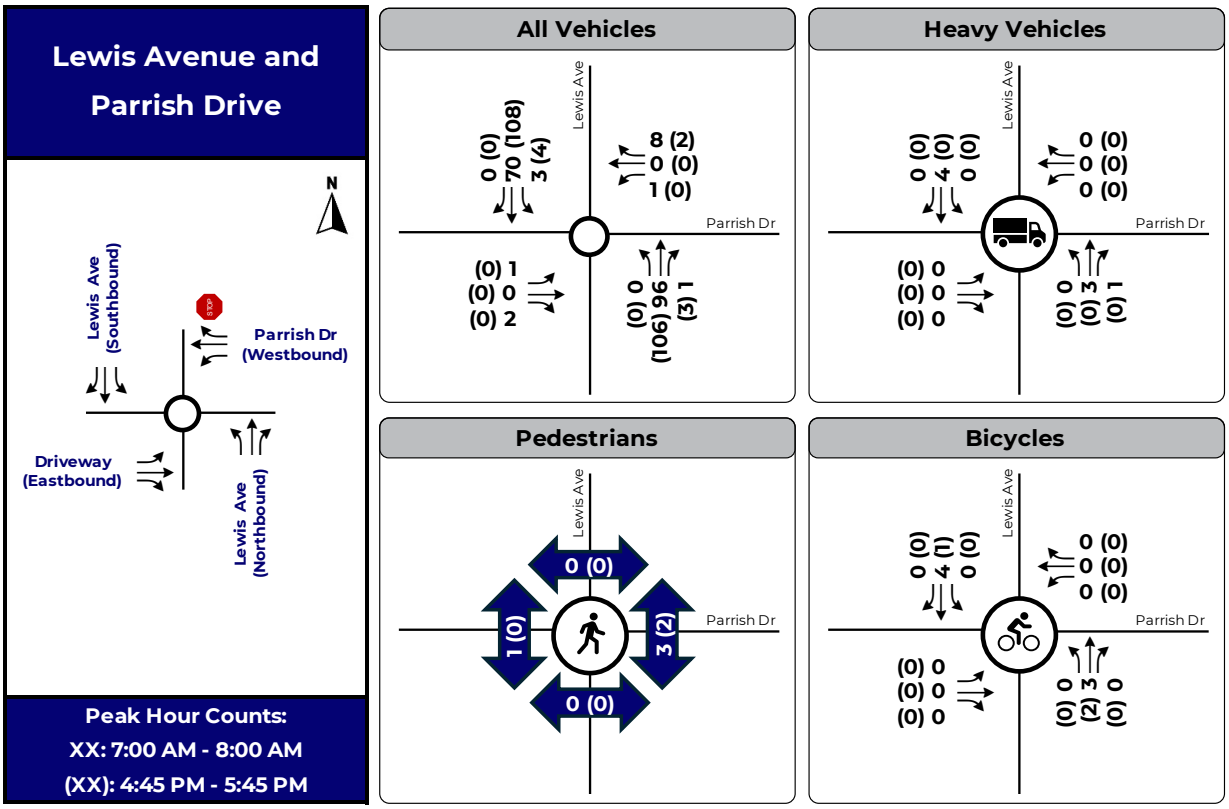

Figure 30. Peak Hour Multimodal Turning Movement Counts: Lewis Avenue and Parrish Drive

Table 11. Intersection Features: Lewis Avenue and Parrish Drive

Intersection Feature	Description
Traffic Control Devices	• Two-way stop-controlled intersection • T-intersection with two-lane approaches and no dedicated turn lanes. A driveway is present on the east side of the intersection and is represented as the eastbound approach in Figure 29 • Limited sight distance
Land-Use	• Single-family residential uses
Crosswalks	• Marked crosswalk with transverse markings on the east leg • Existing crosswalk pavement markings exhibit fading and wear
Curb Ramps	• Curb ramps with directional warning surface at the marked crosswalk • Curb ramp openings aligned with the curb line
Bike Facilities	• Lewis Avenue is a Signed Shared Roadway
Transit Facilities	• No transit facilities

5.1.12 Segment between Parrish Drive and Highwood Road

Figure 31. Lewis Avenue between Parrish Drive and Highwood Road (left: looking north; right: looking south)

Table 12. Segment Features: Lewis Avenue between Parrish Drive and Highwood Road

Segment Feature	Description
Traffic Control Devices	• One travel lane in each direction, no marked centerline • 25 mph posted speed limit. • The southbound STOP AHEAD (W3-1) sign in advance of the Thornden Road intersection may create confusion for drivers because it is located within the influence area of the Parrish Drive intersection, where the southbound approach operates under free-flow conditions (uncontrolled). • Speed hump present • The northbound and southbound BUMP (W8-1) signs are not appropriately used. The BUMP sign should be installed in advance of a sharp rise in the roadway profile. The SPEED HUMP (W17-1) sign should instead be used in advance of a vertical roadway deflection intended to reduce vehicle speeds, which is the road feature present along this segment of Lewis Avenue.
Land-Use	• Single-family residential uses. Frequent driveways, potential conflicts
Sidewalks	• Continuous sidewalks on both sides of Lewis Avenue • No accessibility issues associated with landscaping, streetscape features, or utility poles
Bike facilities	• Signed Shared Roadway
Parking	• Northbound and southbound on-street parking (no posted signs) • Low parking utilization, with less than 5% occupancy
Transit	• Not part of a transit route

5.1.13 Intersection with Highwood Road

Figure 32. Lewis Avenue and Highwood Road intersection (looking north)

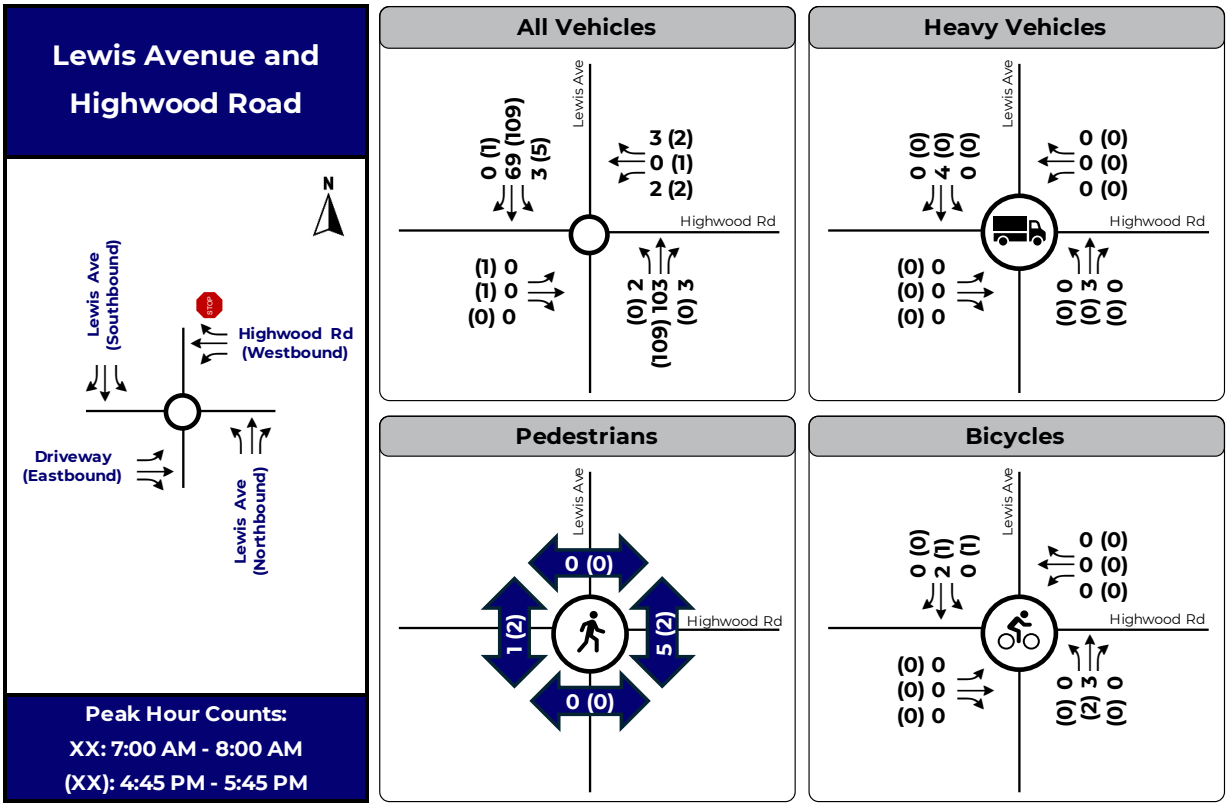

Figure 33. Peak Hour Multimodal Turning Movement Counts: Lewis Avenue and Highwood Road

Table 13. Intersection Features: Lewis Avenue and Highwood Road

Intersection Feature	Description
Traffic Control Devices	• Two-way stop-controlled intersection • T-intersection with two-lane approaches and no dedicated turn lanes. A driveway is present on the east side of the intersection and is represented as the eastbound approach in Figure 32
Land-Use	• Single-family residential uses
Crosswalks	• Marked crosswalk with transverse markings on the east leg
Curb Ramps	• Curb ramps with directional warning surface at the marked crosswalk • Curb ramp openings aligned with the curb line
Bike Facilities	• Lewis Avenue is a Signed Shared Roadway
Transit Facilities	• No transit facilities

5.1.14 Segment between Highwood Road and Broadwood Drive

Figure 34. Lewis Avenue between Highwood Road and Broadwood Drive (looking south)

Table 14. Segment Features: Lewis Avenue between Highwood Road and Broadwood Drive

Segment Feature	Description
Traffic Control Devices	• One travel lane in each direction, no marked centerline • 25 mph posted speed limit. • Southbound Speed Limit (R2-1) sign with Photo Enforced (R10-19aP) plaque just south of the Broadwood Drive intersection
Land-Use	• Single-family residential uses • Frequent driveways, potential conflicts
Sidewalks	• Continuous sidewalks on both sides of Lewis Avenue • No accessibility issues associated with landscaping, streetscape features, or utility poles
Bike facilities	• Signed Shared Roadway
Parking	• Northbound and southbound on-street parking (no posted signs) • Approximately 30% parking occupancy
Transit	• Not part of a transit route

5.1.15 Intersection with Broadwood Drive

Figure 35. Lewis Avenue and Broadwood Drive intersection (left: looking south; right: looking north)

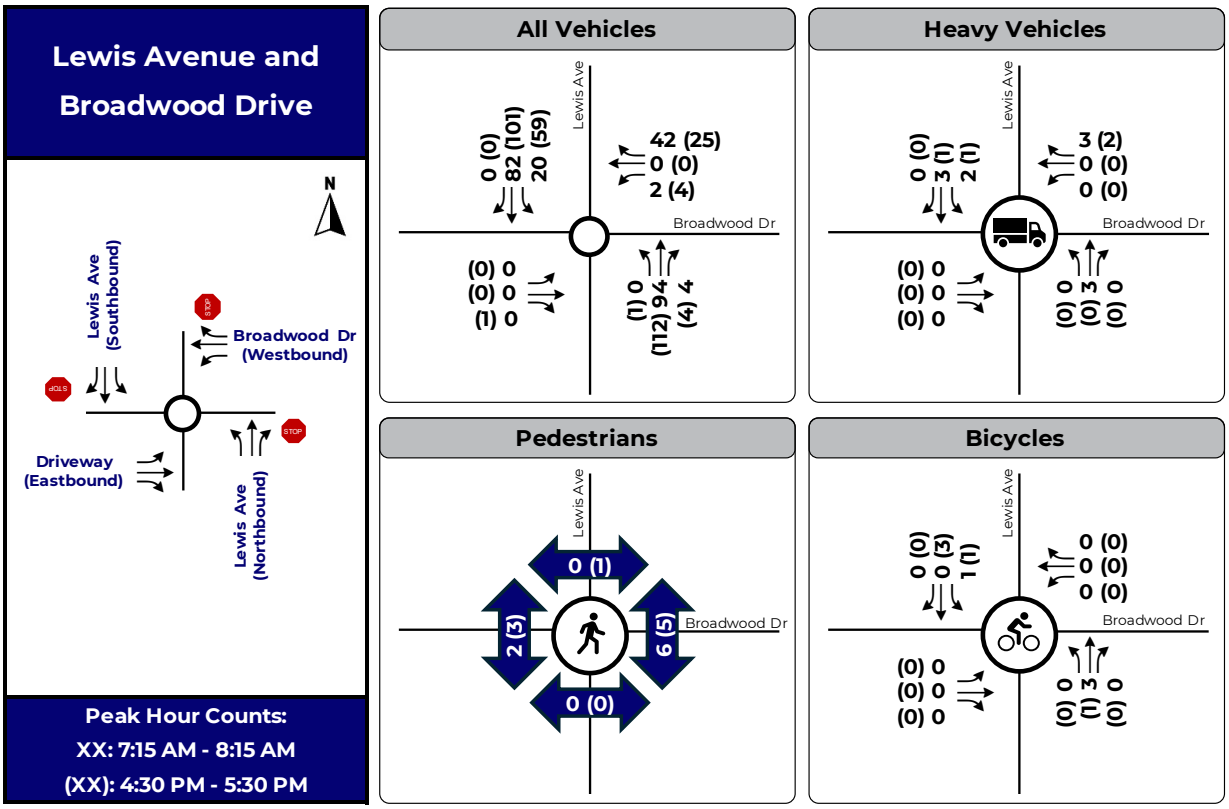

Figure 36. Peak Hour Multimodal Turning Movement Counts: Lewis Avenue and Broadwood Drive

Table 15. Intersection Features: Lewis Avenue and Broadwood Drive

Intersection Feature	Description
Traffic Control Devices	• All-way stop-controlled intersection • T-intersection with two-lane approaches and no dedicated turn lanes. A driveway is present on the east side of the intersection and is represented as the eastbound approach in Figure 35 • Bike Route (D11-1) sign on Lewis Avenue (northeast corner of the intersection) • No Trucks (R5-2) sign on Lewis Avenue (northeast corner of the intersection)
Land-Use	• Single-family residential uses
Crosswalks	• Marked crosswalks with transverse markings on the north and east legs • Existing crosswalk and stop line pavement markings exhibit fading and wear
Curb Ramps	• Curb ramps with directional warning surface at the marked crosswalk • Curb ramp openings aligned with the curb line
Bike Facilities	• Lewis Avenue is a Signed Shared Roadway
Transit Facilities	• Broadwood Drive is a Ride On Route, with bus stops located on both sides of the road

5.1.16 Segment between Broadwood Drive and Allison Drive

Figure 37. Lewis Avenue between Broadwood Drive and Allison Drive (left: looking south; middle and right: looking north)

Table 16. Segment Features: Lewis Avenue between Broadwood Drive and Allison Drive

Segment Feature	Description
Traffic Control Devices	• One travel lane in each direction, no marked centerline • 25 mph posted speed limit • Northbound No Trucks (R5-2) sign just north of the of the Broadwood Drive intersection • Northbound Bike Route (D11-1) sign just north of the of the Broadwood Drive intersection
Land-Use	• Single-family residential uses • Frequent driveways, potential conflicts
Sidewalks	• Continuous sidewalks on both sides of Lewis Avenue • Accessibility issues associated with parked car on a driveway blocking the sidewalk (Figure 36)
Bike facilities	• Signed Shared Roadway
Parking	• Northbound and southbound on-street parking (no posted signs) • Low parking utilization, approximately 5% occupancy
Transit	• Ride On Route

5.1.17 Intersection with Allison Drive

Figure 38. Lewis Avenue and Allison Drive intersection missing STOP line and heavy vehicle activity (looking north)

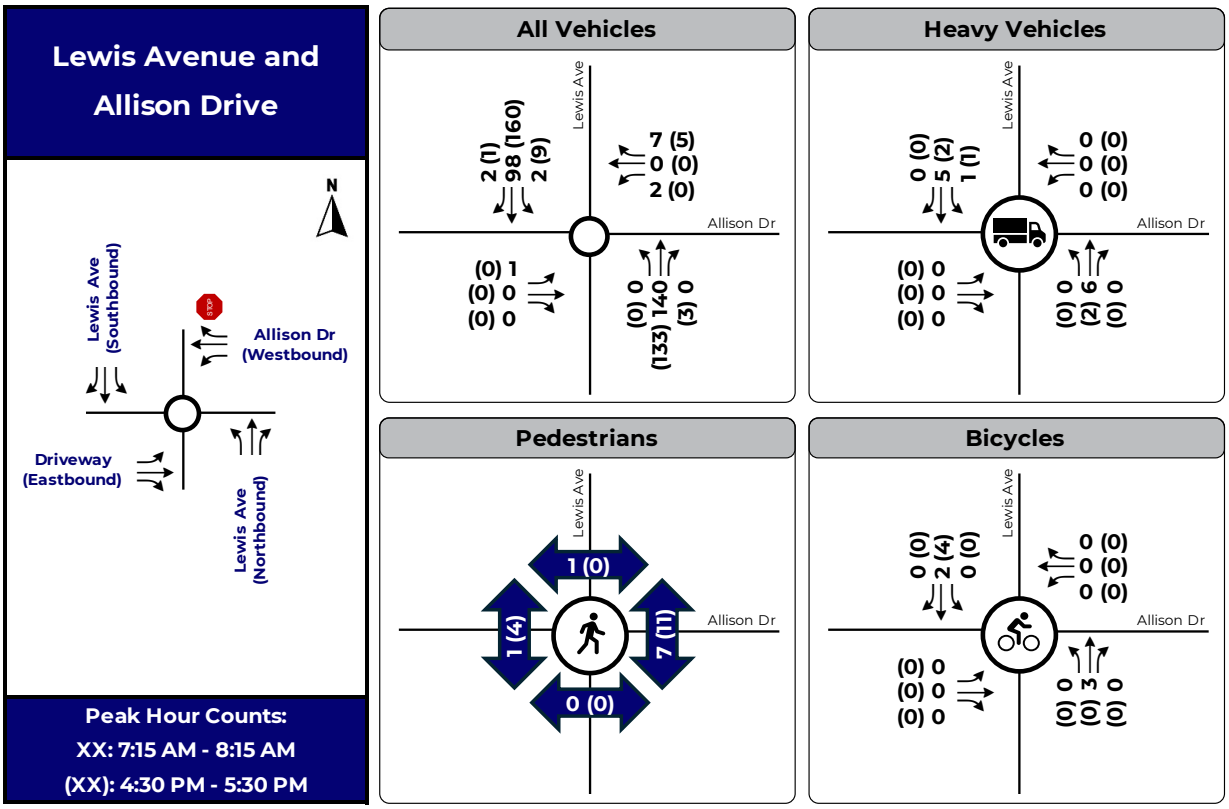

Figure 39. Peak Hour Multimodal Turning Movement Counts: Lewis Avenue and Allison Drive

Table 17. Intersection Features: Lewis Avenue and Allison Drive

Intersection Feature	Description
Traffic Control Devices	• Two-way stop-controlled intersection • No STOP line at the stop-controlled approach • T-intersection with two-lane approaches and no dedicated turn lanes. A driveway is present on the east side of the intersection and is represented as the eastbound approach in Figure 38
Land-Use	• Single-family residential uses
Crosswalks	• No marked crosswalks
Curb Ramps	• Curb ramps with directional warning surface on the east leg • Curb ramp openings aligned with the curb line
Bike Facilities	• Lewis Avenue is a Signed Shared Roadway
Transit Facilities	• Lewis Avenue is a Ride On Route, with bus stops located on both sides of the road

5.1.18 Segment between Allison Drive and Clagett Drive

Figure 40: Speed hump on Lewis Avenue between Allison Drive and Clagett Drive

Table 18. Segment Features: Lewis Avenue between Allison Drive and Clagett Drive

Segment Feature	Description
Traffic Control Devices	• One travel lane in each direction, no marked centerline • 25 mph posted speed limit • Northbound Bike Route (D11-1) sign at the of the Clagett Drive intersection • Southbound Speed Limit (R2-1) sign at the of the Clagett Drive intersection • Speed hump present • The northbound and southbound BUMP (W8-1) signs are not appropriately used. The BUMP sign should be installed in advance of a sharp rise in the roadway profile. The SPEED HUMP (W17-1) sign should instead be used in advance of a vertical roadway deflection intended to reduce vehicle speeds, which is the road feature present along this segment of Lewis Avenue.
Land-Use	• Single-family residential uses. Frequent driveways, potential conflicts
Sidewalks	• Continuous sidewalks on both sides of Lewis Avenue • No accessibility issues associated with landscaping, streetscape features, or utility poles
Bike facilities	• Signed Shared Roadway
Parking	• Northbound and southbound on-street parking (no posted signs) • Low parking utilization, with less than 5% occupancy
Transit	• Ride On Route

5.1.19 Intersection with Clagett Drive

Figure 41. Lewis Avenue and Clagett Drive intersection (looking north)

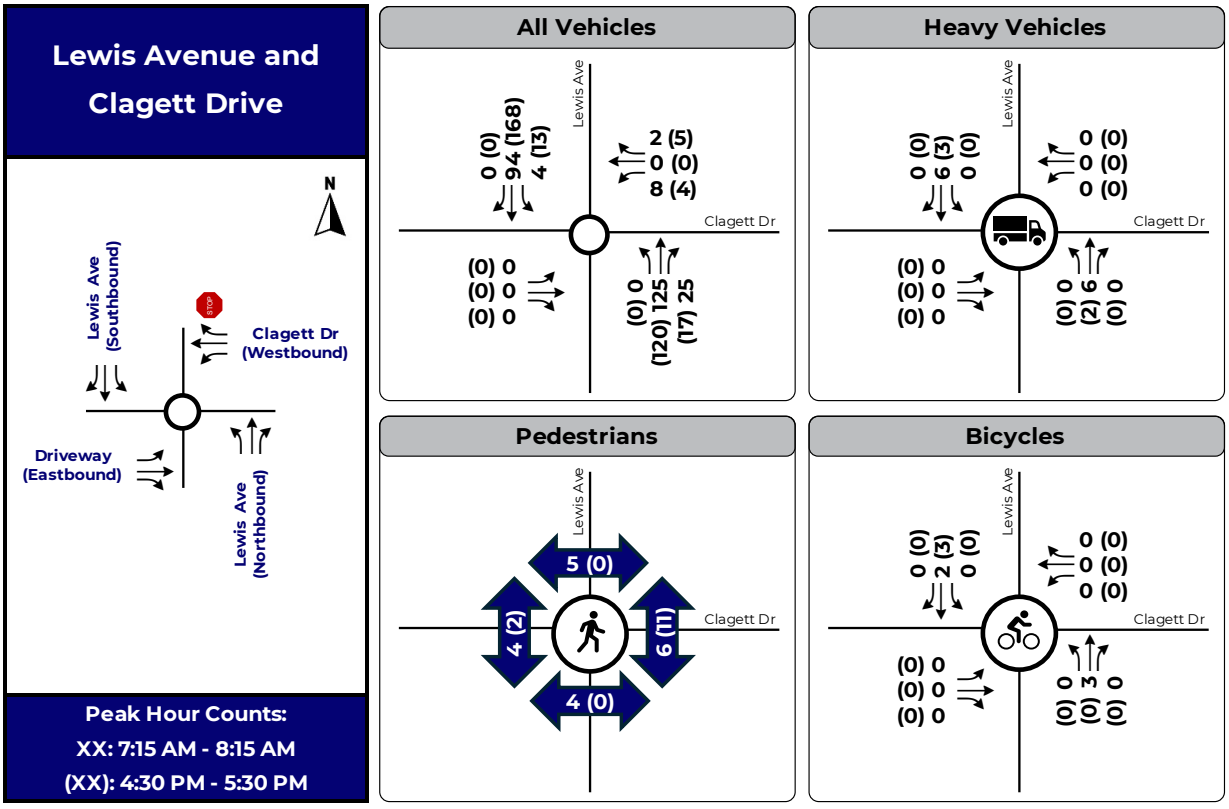

Figure 42. Peak Hour Multimodal Turning Movement Counts: Lewis Avenue and Clagett Drive

Table 19. Intersection Features: Lewis Avenue and Clagett Drive

Intersection Feature	Description
Traffic Control Devices	• Two-way stop-controlled intersection • T-intersection with two-lane approaches and no dedicated turn lanes. A driveway is present on the east side of the intersection and is represented as the eastbound approach in Figure 41 • Bike Route (D11-1) signs on both approaches of Lewis Avenue • Bike Route (D11-1) sign on Clagett Drive
Land-Use	• Single-family residential uses
Crosswalks	• Marked crosswalks with transverse markings on the east leg • Existing crosswalk and stop line pavement markings exhibit fading and wear
Curb Ramps	• Curb ramps with directional warning surface at the marked crosswalk • Curb ramp openings aligned with the curb line
Bike Facilities	• Lewis Avenue is a Signed Shared Roadway • Clagett Drive is a Signed Shared Roadway
Transit Facilities	• No bus stops, although Lewis Avenue is a Ride On Route

5.1.20 Segment between Clagett Drive and Edmonston Drive

Figure 43. Bus stop and signs along Lewis Avenue between Clagett Drive and Edmonston Drive (left: looking north; right: looking south)

Table 20. Segment Features: Lewis Avenue between Clagett Drive and Edmonston Drive

Segment Feature	Description
Traffic Control Devices	• One travel lane in each direction, no marked centerline • 25 mph posted speed limit • Southbound "Bumps" sign with Advisory Speed (W13-1P) plaque near the Clagett Drive intersection is not MUTCD compliant • Southbound Bike Route (D11-1) sign at the of the Clagett Drive intersection
Land-Use	• Single-family residential uses • Frequent driveways, potential conflicts
Sidewalks	• Continuous sidewalks on both sides of Lewis Avenue • No accessibility issues associated with landscaping, streetscape features, or utility poles
Bike facilities	• Signed Shared Roadway
Parking	• Northbound on-street parking (no posted signs) • Southbound permit parking (24 hours, Monday through Friday) • Approximately 30% parking occupancy
Transit	• Ride On Route

5.1.21 Intersection with Edmonston Drive

Figure 44. Lewis Avenue and Edmonston Drive intersection (looking north)

Figure 45. Lewis Avenue and Edmonston Drive intersection (left: looking east; right: looking west)

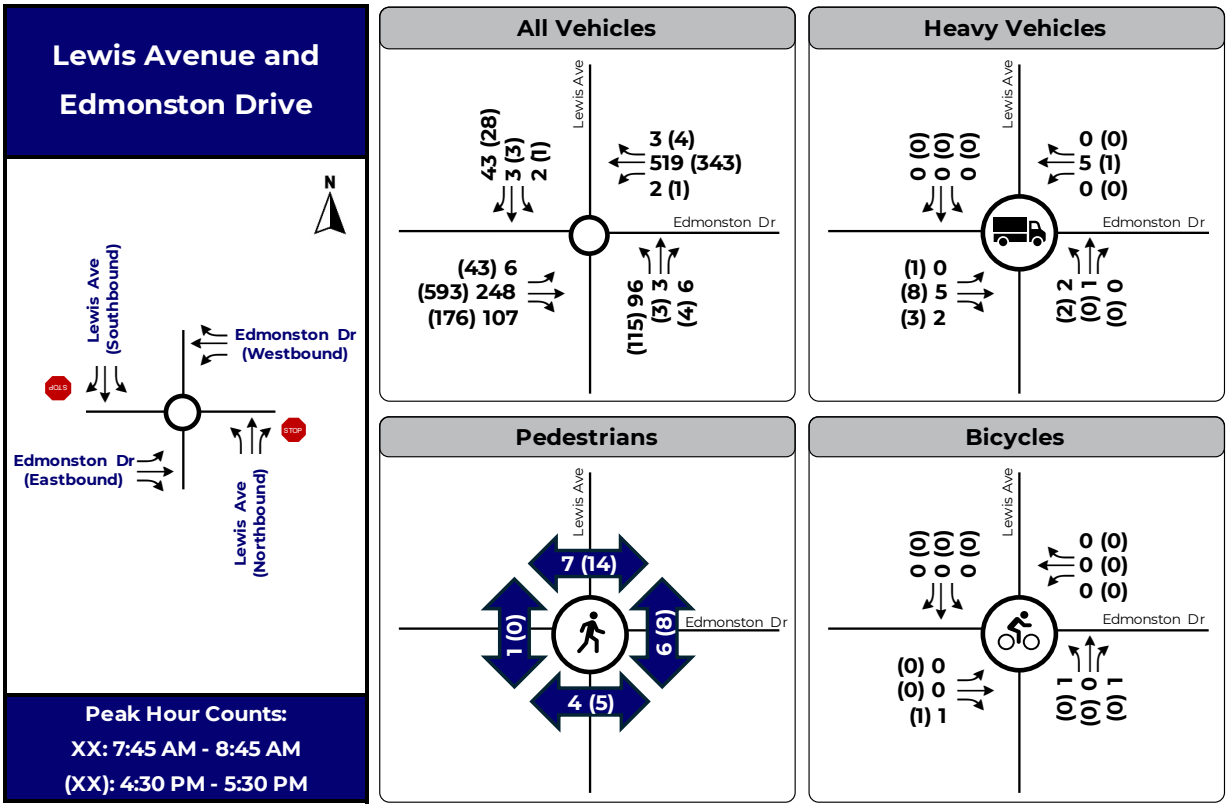

Figure 46. Peak Hour Multimodal Turning Movement Counts: Lewis Avenue and Edmonston Drive

Table 21. Intersection Features: Lewis Avenue and Edmonston Drive

Intersection Feature	Description
Traffic Control Devices	• Two-way stop-controlled intersection • All Lewis Avenue intersection approaches consist of two-lane roadways with no dedicated turn lanes • The west leg of Edmonston Drive has one eastbound lane and two westbound lanes; the east leg consists of a two-lane roadway. There are no dedicated turn lanes on Edmonston Drive. • No Trucks (R5-2) sign on Lewis Avenue (southwest corner) • CROSS TRAFFIC DOES NOT STOP (W4-4P) plaque on both Lewis Avenue stop-controlled approaches • Bike Route (D11-1) sign on Edmonston Drive (southeast corner) • No Left Turn from 7AM-9AM, 4PM-6PM, MON-FRI (R3-2h) on eastbound Edmonston Drive • Pedestrian refuge island on the east leg of the intersection includes Pedestrian Crossing (W11-2) signs with diagonal downward-pointing arrow (W16-7P) plaques; In-Street Pedestrian Crossing (R1-6a) sign; Keep Right (R4-7) signs with Object Markers (OM1-3) • DO NOT BLOCK INTERSECTION (Option B) marking and DO NOT BLOCK INTERSECTION (R10-7) sign
Land-Use	• Single-family residential uses • Large truck activity and proximity to MD 355 and Veirs Mill Road
Crosswalks	• Marked crosswalks with longitudinal bars on the north, south, and east legs • Pedestrian refuge island on the east leg • Existing crosswalk and stop line pavement markings exhibit fading and wear
Curb Ramps	• Curb ramps with directional warning surface at all marked crosswalks, including the pedestrian refuge island • Curb ramp openings aligned with the curb line
Bike Facilities	• Edmonston Drive is a Signed Shared Roadway • The south leg of Lewis Avenue is a Signed Shared Roadway
Transit Facilities	• The south leg of Lewis Avenue is part of a Ride On Route, with bus stops located on both sides of the road • No bus stops on Edmonston Drive, although the west leg is part of a Ride On Route

5.2 Halpine Road

Halpine Road land uses are mostly residential, including multifamily housing near the Metro station. The roadway consists of one travel lane in each direction with curb and gutter, sidewalks, and on-street parking on both sides of the roadway. Parking

utilization was relatively high near the Metro, and field observations indicated vehicle speeds slightly above the posted 25 mph speed limit. The corridor is a bicycle route and includes numerous residential driveways that may create potential conflicts for bicyclists.

5.2.1 Segment between Lewis Avenue and Ardennes Avenue

Figure 47: Halpine Road between Lewis Avenue and Ardennes Avenue (left: looking east; right: looking west)

Figure 48: Halpine Road approaching Ardennes Avenue (looking east)

Table 22. Segment Features: Halpine Road between Lewis Avenue and Ardennes Avenue

Segment Feature	Description
Traffic Control Devices	• One travel lane in each direction, no marked centerline • 25 mph posted speed limit • Eastbound Speed Limit (R2-1) sign near the driveway to 5916-5944 Halpine Road • Eastbound and Westbound Bike Route (D11-1) signs near the Ardennes Avenue intersection • Westbound Bike Route (D11-1) sign near the Lewis Avenue intersection • Westbound STOP AHEAD (W3-1) sign in advance of the Lewis Avenue intersection
Land-Use	• Mostly single-family residential uses • Multifamily housing at Halpine Walk Ct • Church near the Ardennes Avenue intersection • Frequent driveways, potential conflicts
Sidewalks	• Continuous sidewalks on both sides of Halpine Road • No accessibility issues associated with landscaping, streetscape features, or utility poles • Trash cans placed in the travel lane create an obstruction
Bike facilities	• Signed Shared Roadway
Parking	• Eastbound and northbound permit parking (8:00 AM to 5:00 PM, Monday through Friday) • Approximately 70% parking occupancy, mainly between the Twinbrook Metro station and Halpine Walk Ct
Transit	• Ride On Route

5.3 Ardennes Avenue

Ardennes Avenue land uses are predominantly residential and consist mainly of single-family detached homes. The roadway consists of one travel lane in each direction with curb and gutter, sidewalks, and on-street parking on both sides of the street. Parking occupancy during the field review was moderate and observed vehicle speeds appeared to exceed the posted 25 mph speed limit. The corridor also functions as a bicycle route.

5.3.1 Intersection with Halpine Road

Figure 49. South leg of the Ardennes Avenue and Halpine Road (left: looking south; right, looking east)

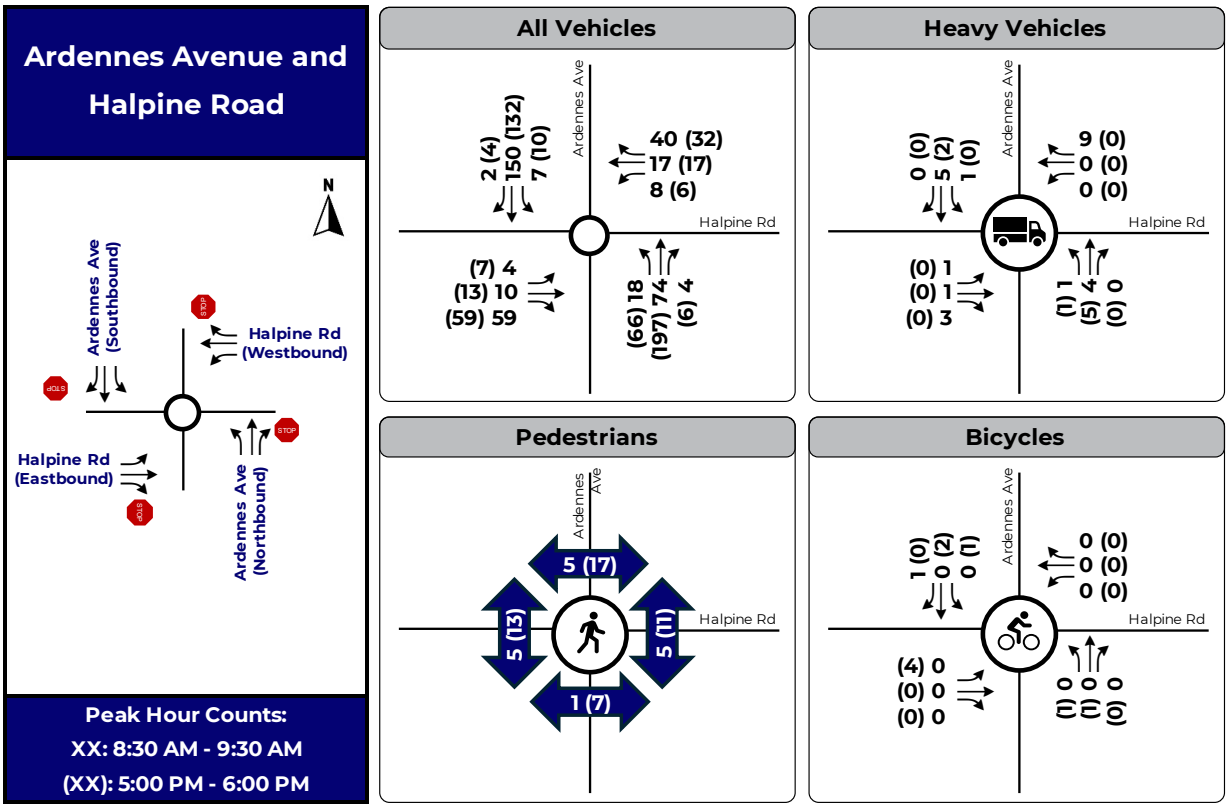

Figure 50. Peak Hour Multimodal Turning Movement Counts: Ardennes Avenue and Halpine Road

Figure 51. Ardennes Avenue and Halpine Road intersection (left: looking north; right: looking east)

Table 23. Intersection Features: Ardennes Avenue and Halpine Road

Intersection Feature	Description
Traffic Control Devices	• All-way stop-controlled intersection • All intersection approaches consist of two-lane roadways with no dedicated turn lanes • Bike Route (D11-1) signs on both approaches of Ardennes Avenue • Bike Route (D11-1) sign on west leg of Halpine Road • No Trucks (R5-2) sign on Ardennes Avenue (northeast corner) • No Trucks (R5-2) sign on Halpine Road (southeast corner)
Land-Use	• Single-family residential uses on the northeast and northwest corners • Multifamily development on the southeast corner • Church on the southwest corner
Crosswalks	• Marked crosswalk with transverse markings on all four intersection approaches
Curb Ramps	• Curb ramps with directional warning surface at all marked crosswalks • Curb ramp openings aligned with the curb line
Bike Facilities	• Bike lanes on both sides of the road in the south leg of Ardennes Avenue • The north leg of Ardennes Avenue is part of a Signed Shared Roadway • The west leg of Halpine Road is part of a Signed Shared Roadway
Transit Facilities	• Ardennes Avenue is a Ride On Route, with bus stops located on both sides of the road • No bus stops on Halpine Road, although the west leg is part of a Ride On Route

5.3.2 Segment between Halpine Road and Holland Road

Figure 52: Ardennes Avenue between Halpine Road and Holland Road (looking north)

Table 24. Segment Features: Ardennes Avenue between Halpine Road and Holland Road

Segment Feature	Description
Traffic Control Devices	• One travel lane in each direction, no marked centerline • 25 mph posted speed limit • Northbound Speed Limit (R2-1) sign at the Holland Road intersection • Southbound Bike Route (D11-1) sign near the Halpine Road intersection
Land-Use	• Single-family residential uses • Frequent driveways, potential conflicts
Sidewalks	• Continuous sidewalks on both sides of Ardennes Avenue • No accessibility issues associated with landscaping, streetscape features, or utility poles
Bike facilities	• Signed Shared Roadway
Parking	• Eastbound and northbound permit parking (8:00 AM to 5:00 PM, Monday through Friday). On-street parking is delineated with pavement markings. • Approximately 30% parking occupancy
Transit	• Ride On Route

5.3.3 Intersection with Holland Road

Figure 53. Ardennes Avenue and Holland Road intersection (looking north)

Table 25. Intersection Features: Ardennes Avenue and Holland Road

Intersection Feature	Description
Traffic Control Devices	• Two-way stop-controlled intersection • All intersection approaches consist of two-lane roadways with no dedicated turn lanes
Land-Use	• Single-family residential uses
Crosswalks	• No marked crosswalks • The sidewalk on the major leg of the intersection is an accessible pedestrian path with a buffer from intersection and curb
Curb Ramps	• Curb ramps with directional warning surface at the west leg of the intersection • Curb ramp openings aligned with the curb line
Bike Facilities	• Ardennes Avenue is a Signed Shared Roadway
Transit Facilities	• No bus stops on Ardennes Avenue, although it is part of a Ride On Route

6. Corridor Context

The Lewis Avenue corridor serves residential neighborhoods, transit users, and nearby commercial and mixed-use destinations near the Twinbrook Metro Station. Existing conditions analysis identified concerns related to vehicle speed, driver expectancy, pedestrian crossings, and bicycle comfort. Planned redevelopment and transit improvements in the area are expected to increase future pedestrian and bicycle activity throughout the corridor.

6.1 Vehicular Speeds

Vehicle speed is an important factor influencing both safety and comfort for pedestrians and bicyclists. Speed data was collected on Lewis Avenue between Thornden Road and Matthews Drive over a two-day period to better understand existing operating conditions. The data indicates that vehicle speeds are generally consistent with the posted 25 mph speed limit, with 85th-percentile speeds of 28 mph northbound and 27 mph southbound.

While the collected speed data indicates relatively low operating speeds, field observations and conversations with residents identified concerns related to speeding at several specific locations along the corridor, particularly on downhill segments. Because speed data was collected at only one location, the measurements may not fully capture operating conditions at these areas of concern.

The proposed project improvements are intended to support a more comfortable multimodal environment by reinforcing appropriate vehicle speeds and reducing conflicts between roadway users. By enhancing the comfort and safety of walking and bicycling, the project improvements may increase pedestrian and bicycle activity along the study corridor.

6.2 Preliminary Recommendations

In addition to vehicle speed, the comfort of pedestrians and bicyclists is influenced by roadway characteristics such as crossing distances, visibility, and the presence or absence of dedicated bicycle facilities. Table 26 summarizes the primary corridor concerns identified during the existing conditions analysis and potential high-level improvement strategies for future consideration.

Table 26. Key corridor observations and proposed high-level strategies

Corridor Concern	Key Observations	Potential High-Level Strategies
Driver Expectancy and Traffic Control	Inconsistent stop-control conditions may contribute to driver confusion and turning conflicts	Intersection traffic control evaluation, enhanced warning signage, operational improvements
Vehicle Speed	Downhill roadway segments may reduce safety and comfort for vulnerable roadway users	Traffic calming and other speed management strategies
Pedestrian Crossings	Near-miss analysis showed pedestrians crossing outside marked crosswalks at Lewis Avenue and Edmonston Drive	Crossing enhancements, additional or relocated crosswalks, pedestrian refuge improvements
Bicycle Comfort	Shared roadway conditions, heavy vehicle activity, and driveway density may create lower comfort conditions for bicyclists	Separated bicycle facilities, shared lane improvements, bicycle wayfinding, access management
Visibility and Sight Distance	Vegetation, parked vehicles, and hidden traffic control devices may limit visibility at some intersections	Vegetation management, parking adjustments, improved sign placement
Metered Parking	Parking utilization is generally low to moderate near the Metro station area and may provide flexibility for roadway reallocation	Parking reconfiguration, multimodal space reallocation
Future Multimodal Demand	Nearby redevelopment and transit projects are expected to increase walking and bicycling activity	Improved connectivity to transit, enhanced pedestrian and bicycle network continuity