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October 1, 2026 Project# 30915

To: Daniel G. Reese
GIS, Planning & Zoning Director
Luzerne County

From: Nikhil Menon, PhD, and Jeff Riegner

RE: US 11 (Wyoming Ave), Kingston, Pennsylvania - Road Safety Audit

ROAD SAFETY AUDIT

Kittelson and Associates, Inc. (Kittelson) prepared this memorandum to document the Road Safety Audit (RSA) performed on US 11 (Wyoming Ave) between Segment 0560/0561 Offset 0000 and Segment 0600/0601 Offset 0848 in Kingston, Luzerne County, Pennsylvania. The segment was selected because it was identified as a Tier 1 High Injury Network segment in the 2026 Luzerne County Safety Action Plan. The goal of conducting the RSA was to examine the existing segment conditions, identify potential road safety issues along the segment and associated intersections for all road users, and to propose mitigation measures to address the safety issues identified. Figure 1 shows US 11 Segment 0560 to 0600.

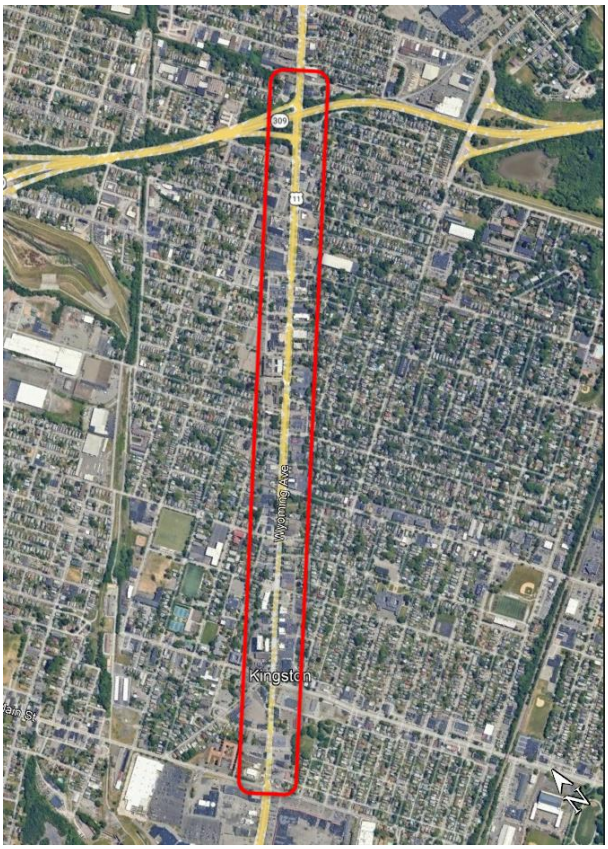


Figure 1. US 11 Segment 0560/0561 Offset 0000 and Segment 0600/0601 Offset 0848

Existing Roadway Conditions

Table 1 summarizes the primary transportation facilities at the study segment and intersection. US 11 Segment 0560/0561 Offset 0000 to Segment 0600/0601 Offset 0848 spans from Northampton St to Virginia Terrace (approximately 1.58 miles). It is a multilane highway with 2 lanes in the northbound direction, 2 lanes in the southbound direction, and center left turn lanes throughout the segment. There is an unstriped shoulder that is intermittently used for parking on both sides. **Figure 2**, **Figure 3**, **Figure 4**, **Figure 5**, and **Figure 6** illustrate typical views of the segment as well as the intersection.

Table 1. Existing Transportation Facilities and Roadway Designations

Roadway	Classification	Number of Lanes	Speed Limit (mph)	Median	AADT	Sidewalks	Bicycle Lanes
US 11, Segment 0560/0561 Offset 0000 **to** US 11, Segment 0600/0601 Offset 0848	Principal Arterial	2 (SB) 2 (NB)	35	No	24,704	Yes	No



Figure 2. US 11 at Northampton St, looking North **Screenshot from Google Street View**

Total pavement width was calculated to be 57 feet. There are 16 unsignalized intersections, 12 signalized intersections, and over 50 uncontrolled driveways along the study segment.

A ten-year analysis of crash data shows that there have been 374 total crashes between 2015 and 2024, including 4 fatal crashes. More details on the crash data analysis are in the subsequent section.

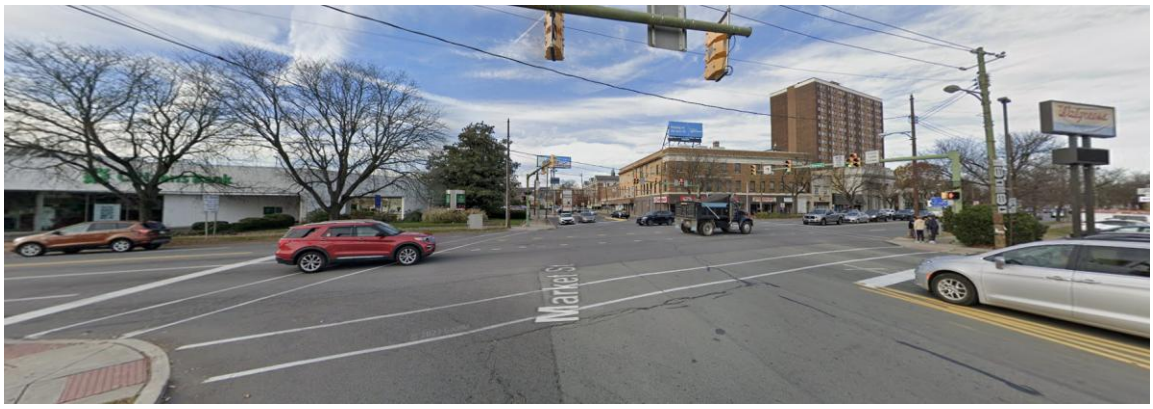


Figure 3. On Market St, looking West at the intersection with US 11 Screenshot from Google Street View



Figure 4. US 11, looking North at the intersection with Pierce St Screenshot from Google Street View

A ten-year analysis of crash data shows that there have been 26 crashes at or near the intersection of US 11 and Pierce St and 30 crashes at or near the intersection of US 11 and Market St between 2015 and 2024. More details on the crash data analysis are in the subsequent section.



Figure 5. US 11 near Price St, looking North Screenshot from Google Street View



Figure 6. US 11 near East Vaughn St, looking North **Screenshot from Google Street View**

Road Safety Audit Team

The Road Safety Audit (RSA) team was instituted and included the following individuals:

1. Daniel Reese, Luzerne County
2. Robert Manzella Luzerne County
3. Sondra Riviello, Borough of Kingston
4. Adam Gober, Borough of Kingston
5. Richard Kotchik, Kingston Police
6. George Lear, PennDOT District 4
7. Emma Pugh, PennDOT District 4
8. Jamie Goetz, PennDOT District 4
9. Joseph Talutto, PennDOT District 4
10. Steven Fisher, PennDOT District 4
11. Nikhil Menon, Kittelson & Associates, Inc.
12. Jeff Riegner, Kittelson & Associates, Inc.
13. Tim Duong, Kittelson & Associates, Inc.

The RSA involved one in-person meeting: this meeting was held on June 23, 2026. The purpose of the meeting was to discuss the crash data trends and existing segment and intersection conditions and conduct a field visit to collect observations along the study segment.

Historical Crash Review (2015-2024)

The study team obtained and analyzed the most recent ten years of complete crash data available for US 11 Segment 0560/0561 Offset 0000 to Segment 0600/0601 Offset 0848 from PennDOT's PCIT database. The crash data used was from January 1, 2015, to December 31, 2024.

There were 374 reported crashes in this period: Four (4) fatal crashes, nine (9) suspected serious crashes, eighty-four (84) suspected minor crashes, fifty (50) possible injury crashes, forty-three (43)

unknown severity crashes, seven (7) unknown if injured, and one hundred and seventy-seven (177) property damage only crashes. **Attachment A** includes the crash summary and resumes.

The Kittelson team considered crash patterns and trends in the corridor-wide data by evaluating the following:

SEVERITY CRASH COUNT

Figure 7 summarizes the number of reported crashes by severity along the study segment.

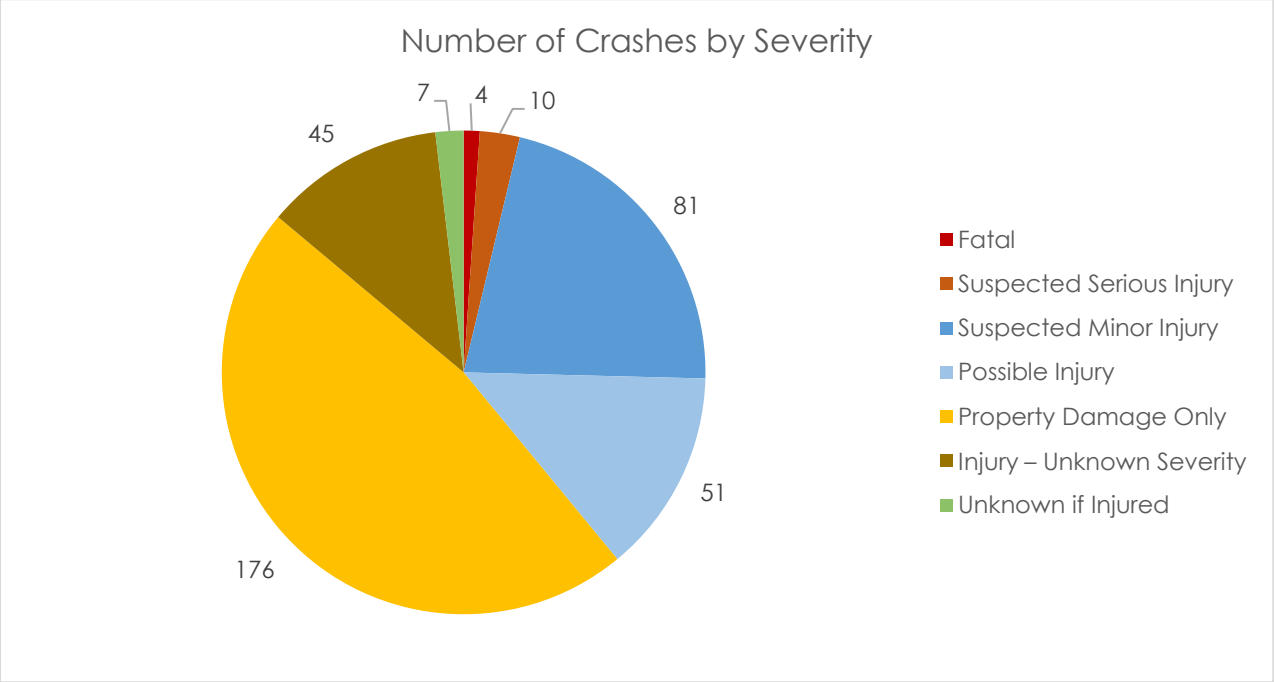


Figure 7. Crash Severity, January 2015 to December 2024

Data Source: Pennsylvania Department of Transportation.

- Property damage only crashes were the single largest severity type (176/374 = 47%).
- 50% of crashes resulted in some type of injury (suspected serious injury, suspected minor, possible injury, or injury with unknown severity).
- Four crashes resulted in fatalities – two angle, one non-motorist, and one rear-end crash.

CRASH TYPE

Figure 8 identifies the types of reported crashes along the US 11 segment.

- Angle (51%) and rear-end (22%) represent the largest proportion of crash types along the segment.
- Crashes with pedestrians (10%) were the third most prominent crash type.

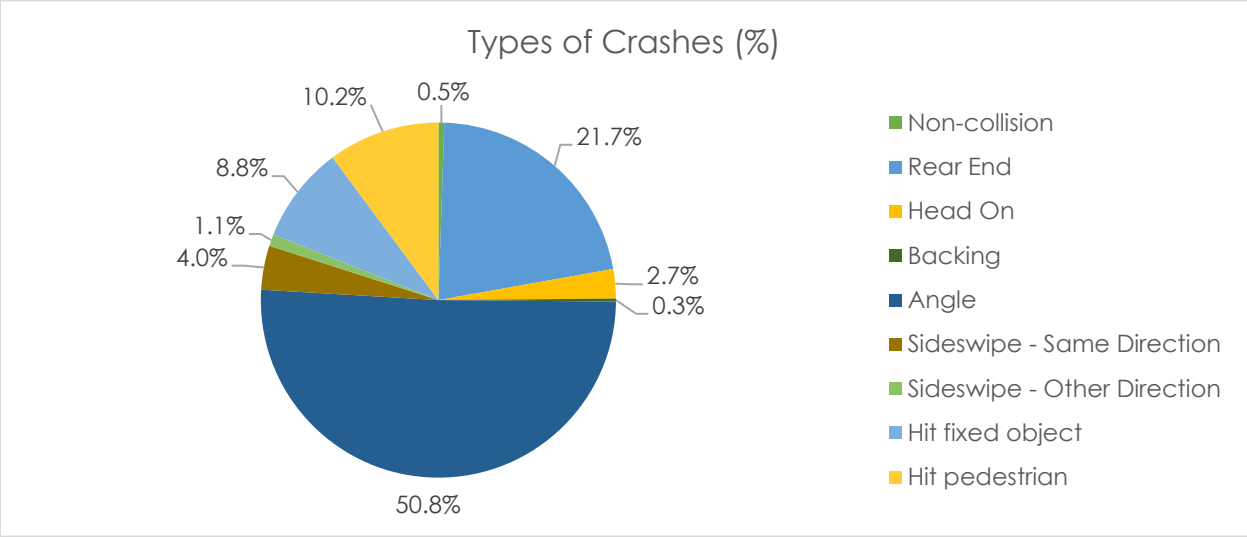


Figure 8. Vehicle Crash Types, January 2015 to December 2024

Data Source: Pennsylvania Department of Transportation.

LIGHTING

Figure 9 displays the number of crashes along the study segment by reported lighting condition.

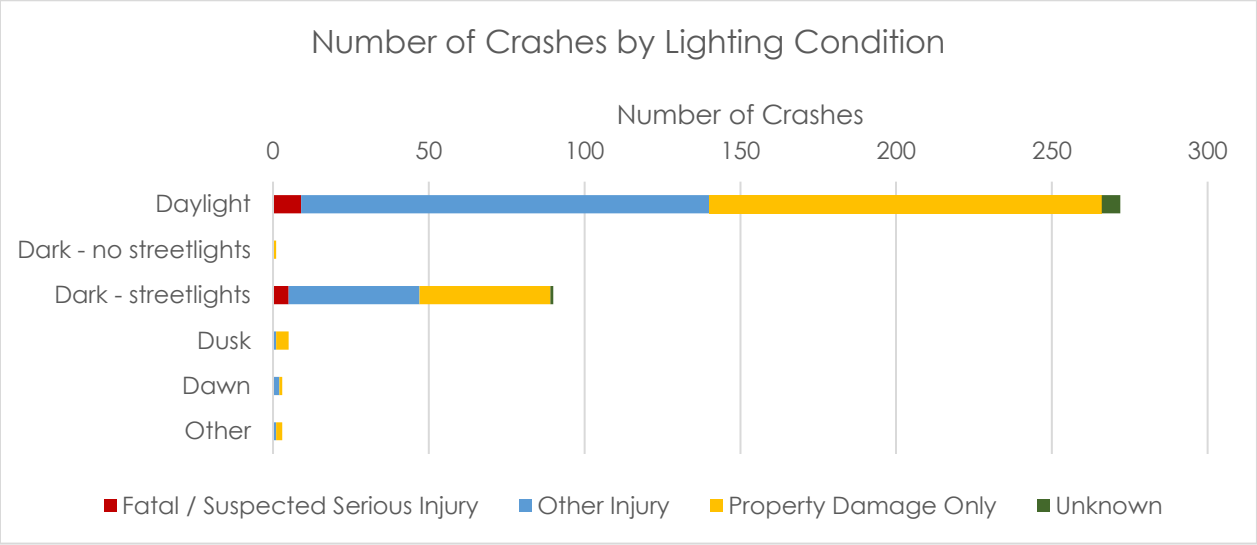


Figure 9. Reported Crashes by Lighting, January 2015 to December 2024

Data Source: Pennsylvania Department of Transportation.

- 272 crashes (73%) occurred under daylight conditions.
- 90 crashes (24%) occurred under dark, street-light conditions.

WEATHER CONDITIONS

Figure 10 provides the study segment crash counts by reported weather conditions.

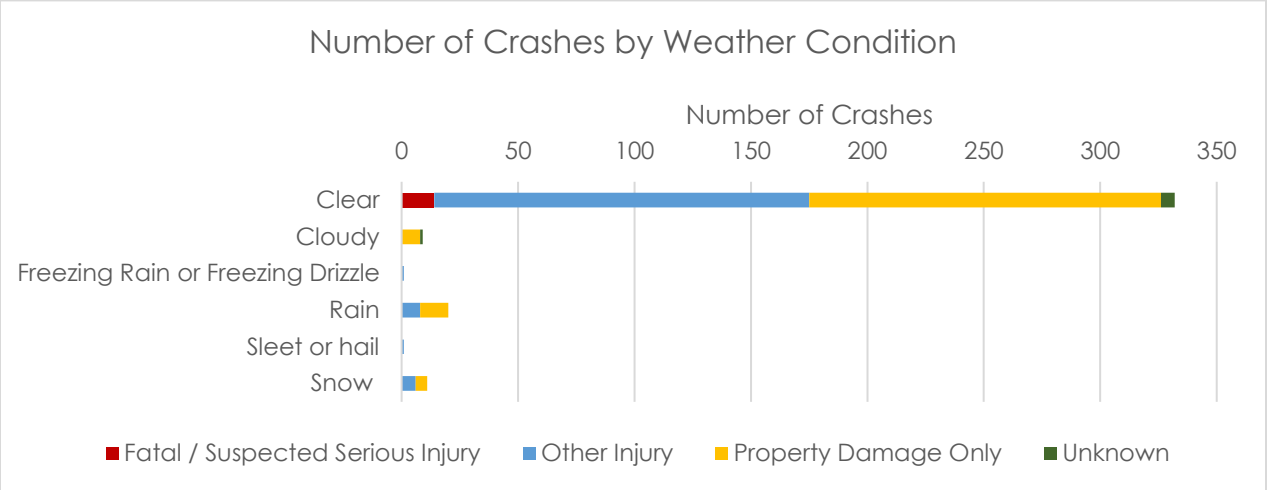


Figure 10. Reported Crashes by Weather Condition, January 2015 to December 2024

Data Source: Pennsylvania Department of Transportation.

- The majority of crashes (89%) occurred during clear conditions. Rain and snow were contributing factors in a minority of crashes.

TEMPORAL PATTERNS FOR CRASHES

Figure 11 summarizes the study intersection crash count by year.

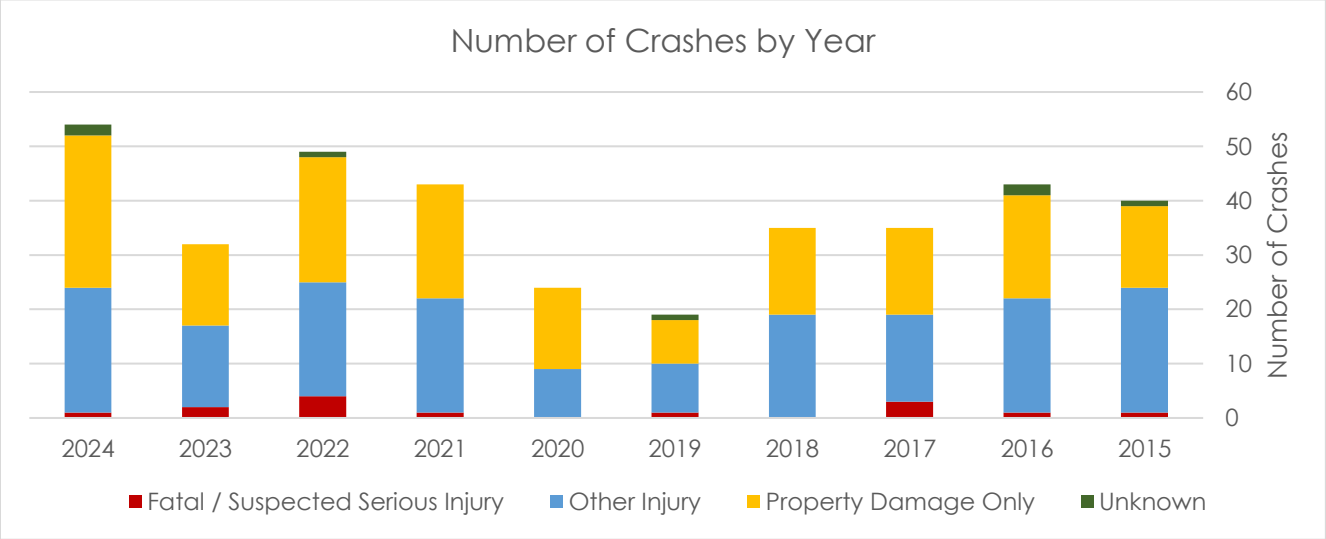


Figure 11. Reported Crashes by Year, January 2015 to December 2024

Data Source: Pennsylvania Department of Transportation.

- Crashes reached a low of 19 in 2019 and have largely increased since 2020 reaching a maximum of 54 in 2024.
- There are no discernible trends regarding the proportion of severe crashes. 2022 had the most FSSI crashes (4) while 2017 had the highest proportion (9%) of severe crashes.

Figure 12 summarizes the crash counts by day of the week along the study segment.

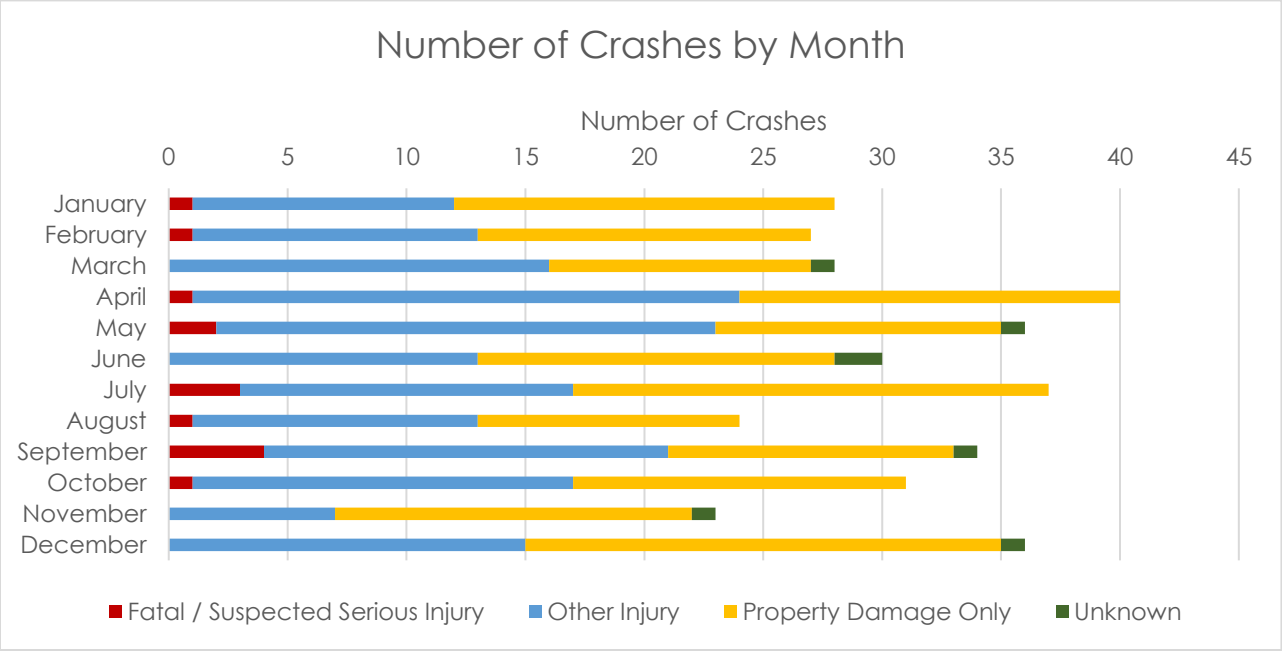


Figure 12. Reported Crashes by Month through the Year

Data Source: Pennsylvania Department of Transportation.

- April, May, July, September, and December have higher numbers of crashes than the other months. There does not appear to be a trend of crashes by month.

Figure 13 summarizes the crash counts by day of the week along the study segment.

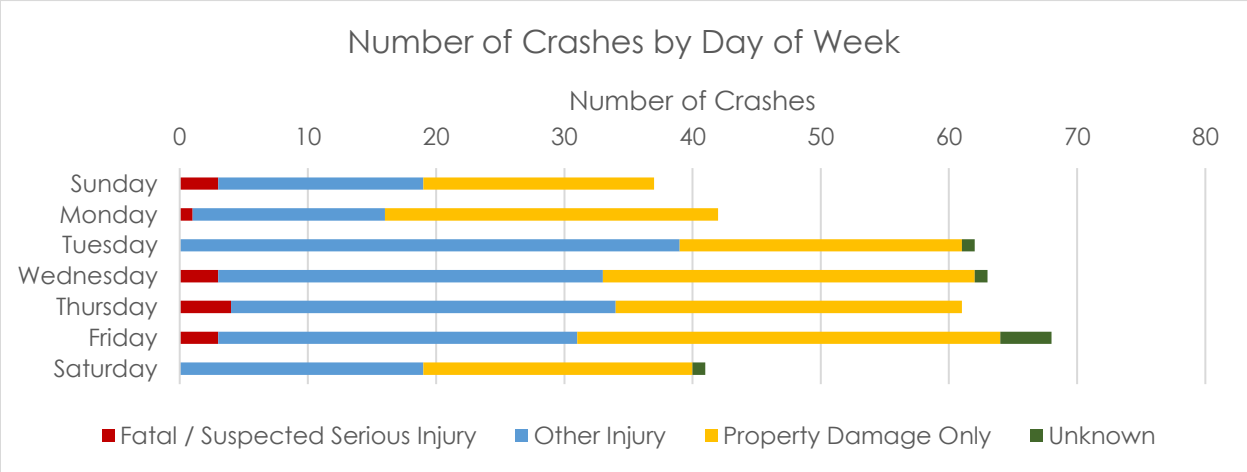


Figure 13. Reported Crashes by Day of the Week, January 2015 to December 2024

Data Source: Pennsylvania Department of Transportation.

- Tuesday, Wednesday, Thursday, and Friday have the highest number of crashes, with over 60 crashes across each day.
- Even though fewer crashes were observed during the weekends, the proportion of most severe crashes were highest on Sundays
- Weekdays had a higher crash rate than the weekend, with an average crash rate of 59.2 crashes during the week compared to the weekend rate of 39 crashes.

Figure 14 summarizes the study segment crash counts by time of day.

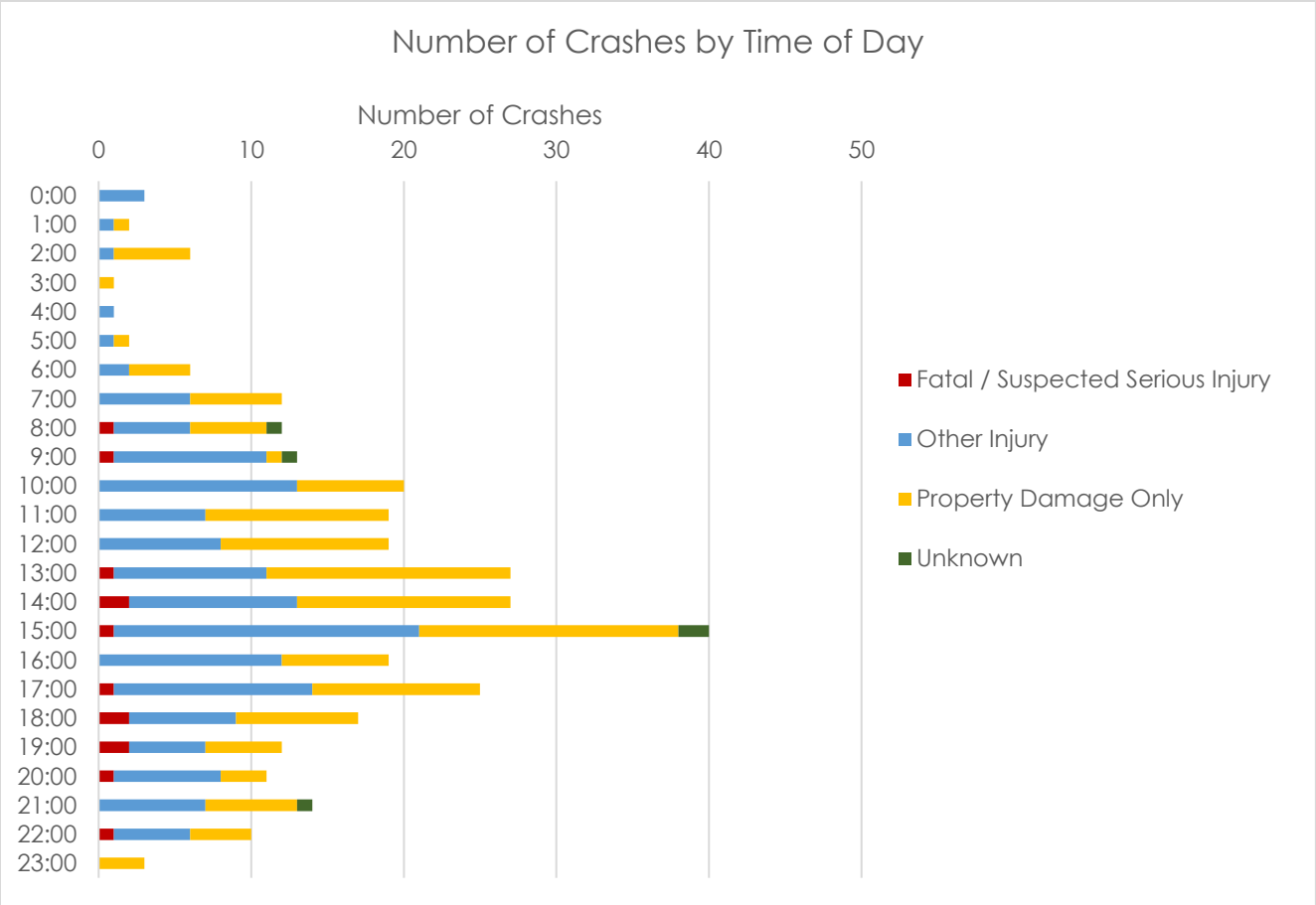


Figure 14. Reported Crashes by Time of Day, January 2015 to December 2024

Data Source: Pennsylvania Department of Transportation.

- Forty crashes were observed during the 3 PM hour, the most prominent time for crashes.
- During the 7 AM-10 AM period, there were 57 crashes.
- During the 3 PM-6 PM period, there were 101 crashes.
- Highest proportion of severe crashes were observed at 6 PM and 7 PM – perhaps due to changing lighting conditions.

Field Review

A field visit/review was conducted on June 23, 2026, between 9 AM and 12 PM, at the study segment to document existing roadway characteristics and operational conditions. The qualitative field review included an assessment of current traffic characteristics, site characteristics and roadway geometry, land use, and network connectivity.

Prior to conducting the field visit, the study team reviewed the crash history (discussed in the previous section) as well as roadway characteristics through Google Earth. They did a walk-along of the study segment and intersection, took photographs and notes of the items listed

above, and engaged in a discussion on-site. Key findings and potential crash risk factors are described in the following sub-section.

In summary, the field review was conducted during daytime conditions and included a walk-along review of the US 11/Wyoming Avenue corridor, with focused observations at major intersections, unsignalized side-street connections, pedestrian crossing locations, commercial driveways, and locations with visible pavement marking or sight distance concerns. The team used the crash history discussion earlier to focus observations on conditions that could contribute to angle, rear-end, pedestrian, and turning-related crashes.

Field Review Observations

The RSA team observed several roadway, operational, and behavioral conditions during the field review that may contribute to crash risk along the corridor.

- The RSA team observed wide outside lanes with little distinction between the travel lane and shoulder area. In several locations, vegetation encroached into the shoulder area and affected visibility of roadway features. These conditions may reduce roadway definition for drivers and contribute to higher operating speeds.



Figure 15. Wide Outside Lane and Unmarked Shoulder along US 11(Wyoming Ave) near E Walnut St

- While the posted speed limit is 35 mph, multiple vehicles appeared to be traveling substantially faster than adjacent traffic and the posted speed limit.

- Despite being observed during the morning peak period, portions of Wyoming Avenue near Walnut Street appeared to have excess roadway capacity relative to observed traffic demand. This may contribute to higher operating speeds and create opportunities to evaluate alternative roadway configurations in the future.
- Driver behavior at Wyoming Ave and Market St was very non-compliant. Drivers proceeding to cross on a red light were observed. Measured on an aerial map, the intersection is approximately 140 ft wide along Wyoming Ave and 100 ft along Market St.



Figure 16. Vegetation and signage obscuring traffic signal visibility for vehicles entering Wyoming Ave from PA 309



Figure 17. Limited visibility for drivers entering Wyoming Ave at the uncontrolled intersection

- The RSA team observed several pedestrians activating the pedestrian push button at Market Street but ultimately crossing against the signal indication after waiting for a period of time.



Figure 18. Pedestrian crossing against the walk signal indication

- Several pedestrians were observed crossing mid-block between Hoyt Street and Market Street despite the presence of signalized crossings nearby.
- The offset intersection patterns along Wyoming Ave and the significant lengths between signalized crossings (an average of 800 ft) seem to contribute to pedestrians crossing mid-block at unsignalized crossings.
- A bicyclist was observed traveling northbound within the southbound travel lanes.
- There are no countdowns on the pedestrian signals north of Market St.



Figure 19. Parking within the intersection at US 11 and Dorrance St



Figure 20. Intersection of US 11 and Sharpe At with indirect pedestrian crossing



Figure 21. Older Traffic Signal at Wyoming Ave

- Several signalized intersections appear to utilize older signal equipment which in some cases displayed two signs at the same (STOP and WALK) as well as pedestrian infrastructure that may warrant evaluation for modernization to meet current standards.



Figure 22. Malfunctioning Signal Equipment



Figure 23. Driveway to US 11 near Northampton St. The No Left Turn sign was installed after a fatal crash in 2022

- Participants noted that commercial trucks serving L&W Supply have been observed backing across Wyoming Avenue, temporarily blocking travel lanes and disrupting traffic operations.
- The corridor contains numerous uncontrolled commercial and residential driveways, creating frequent conflict points between through traffic and turning vehicles.

Key Safety Concerns from the Field Review

Team members discussed the observations from the field review. Based on the field observations, crash history review, and discussion with participating agencies, the RSA team identified the following primary safety concerns along the US 11 corridor.

- **Excessive vehicle speeds.** The RSA team observed multiple instances of vehicles appearing to speed well over the posted speed limit (35 mph) in both directions. The corridor is relatively flat and consists of wide travel lanes over much of its length, which may contribute to higher operating speeds. Higher speeds increase stopping distances, reduce driver reaction time, and increase crash severity, particularly for pedestrians and turning vehicles. Police Chief Kotchik noted limited speed enforcement capabilities due to equipment constraints.
- **Poor lane guidance.** The RSA team observed faded pavement markings, limited lane delineation, and areas where the distinction between travel lanes and shoulder space was unclear. Particular concern was noted at the northbound lane shift near Market Street, where observed vehicle paths did not consistently follow the intended alignment. These conditions may reduce driver expectancy and increase the potential for erratic lane positioning, sideswipe crashes, and turning conflicts.



Figure 24. Faded Pavement/Crosswalk Markings

- **Pedestrian crossings.** The RSA team observed numerous pedestrians crossing mid-block between signalized intersections. Existing signalized crossings are spaced relatively far apart, averaging approximately 800 feet, which may encourage pedestrians to seek more direct crossing opportunities. Additionally, some pedestrian signal equipment

appeared to be malfunctioning or outdated. These conditions may increase pedestrian exposure to traffic and contribute to conflicts outside designated crossing locations.

- **Uncontrolled driveways.** The corridor contains numerous commercial and residential driveways with frequent turning activity. These access points create potential conflict locations between through vehicles, entering vehicles, and exiting vehicles. Their density along the corridor may contribute to unexpected vehicle maneuvers and increase the potential for angle and rear-end crashes.
- **Offset and unsignalized intersections.** Several unsignalized side streets intersect Wyoming Avenue between major signalized intersections. Many of these intersections are offset from one another and are located between signalized crossings. These conditions create multiple decision points for drivers, pedestrians, and bicyclists, and may contribute to turning conflicts, crossing maneuvers, and driver expectancy issues.

Nighttime Safety Assessment

A desktop nighttime safety assessment was conducted along the study corridor based on a nighttime drive by video provided to the Kittelson team by Luzerne County staff. While a majority of crashes along the corridor occurred during daylight conditions, approximately one-quarter of all reported crashes occurred under dark conditions with street lighting present. Therefore, nighttime roadway visibility remains an important safety consideration.

Overall, the nighttime review did not identify operational issues substantially different from those observed during the daytime field review. Instead, the review reinforced several existing corridor concerns related to roadway visibility, lane guidance, and intersection recognition.

Based on the nighttime video review, the below observations and safety concerns are noted:

- Vegetation partially obscures the visibility of at least one traffic signal head (at Bennett St) in the southbound direction. Reduced signal conspicuity may affect driver recognition of the upcoming intersection, particularly under nighttime conditions. Similar vegetation-related visibility concerns were identified during the daytime review, suggesting that corridor-wide vegetation management could improve visibility of traffic control devices under both daytime and nighttime conditions.
- The nighttime review also highlighted the limited visibility of several uncontrolled driveways and access points along the corridor. During dark conditions, these locations may be less conspicuous to drivers, pedestrians, and bicyclists, particularly where lighting levels are inconsistent or where driveway entrances are not clearly delineated. Given the large number of commercial and residential driveways along the corridor, maintaining adequate sight distance and access visibility remains an important safety consideration.
- Pavement markings appeared difficult to distinguish in several locations during nighttime conditions. This observation is consistent with the daytime finding regarding poor lane guidance and limited roadway delineation.
- Lighting levels appeared to vary throughout the corridor, with the southern portion generally exhibiting greater illumination than the northern portion. Future evaluations may be warranted to determine whether lighting levels are adequate at key pedestrian crossing locations and intersections.

- Lastly, observed vehicle volumes were substantially less than during the daytime hours, and no obvious operational concerns associated with vehicle speed were identifiable from the video review.

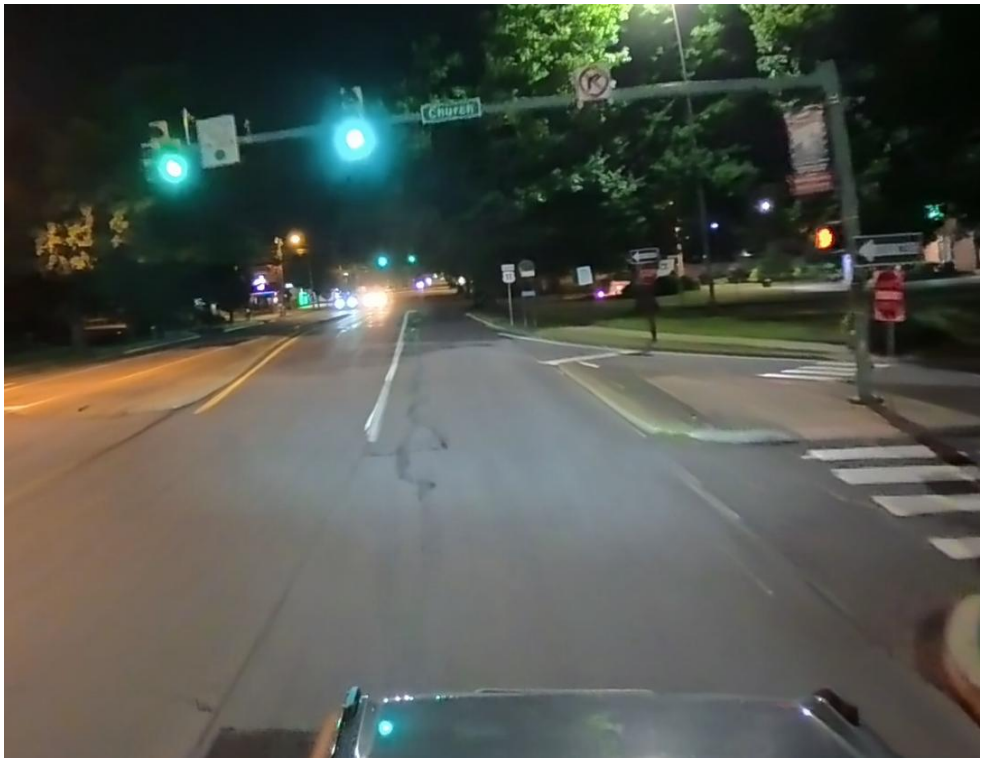


Figure 25. Vegetation partially obscuring traffic signal at Bennett St

Several nighttime observations reinforce recommendations identified elsewhere in this RSA, including vegetation management, improved lane delineation and pavement markings, maintenance of traffic control devices, and intersection sight-distance improvements.

Proposed Mitigation Measures

Using the findings from the existing conditions analyses and collaboration with the RSA team, a series of mitigation measures were developed to address safety along the US 11 segment. These measures have been grouped into timeframes: near-term (less than 2 years), mid-term (2-5 years), and long-term (5+ years). Qualitative costs are graphically represented with $ symbols for each potential mitigation, in parenthesis.

- $ - Low cost (less than $50k)
- $$ - Medium cost ($50-100k)
- $$$ - High cost (more than $100k)

Based on the key findings and observations, the RSA team came up with the following mitigation measures for the segment (see Table 2):

Table 2. Summary of Mitigation Measures along Wyoming Ave, Kingston Post-RSA

Safety Concern	Near-Term (0–2 Years)	Mid-Term (2–5 Years)	Long-Term (5+ Years)
Excessive Vehicle Speeds	• Review signal timing along the corridor to balance progression and operating speeds ($) • Explore speed feedback signs for US 11 – by time of day/season/vehicle type ($$)	• Coordinate with PA State Police to conduct targeted speed enforcement ($$)	• Consider a road diet on Wyoming Avenue following a traffic analysis ($$$)
Poor Lane Guidance / Driver Expectancy	• Conduct a corridor-wide review of signing and pavement markings to identify locations requiring refreshment, replacement, or enhanced delineation. ($) • Trim vegetation to improve roadway definition and visibility ($) • Install STOP bars where appropriate at unsignalized intersections and access points ($) • Evaluate and enforce parking restrictions near intersections to improve sight distance for drivers, pedestrians, and bicyclists ($)	• Add lane edge lines to define travel lanes, parking lanes, and shoulders; when doing so, consider narrowing lanes slightly to help manage speeds ($) • Evaluate lighting levels at high-volume pedestrian crossings and consider pedestrian-scale lighting enhancements where appropriate. ($$)	• Consider a road diet on Wyoming Avenue following a traffic analysis ($$$)
Pedestrian Crossings	• Ensure all pedestrian signals are functioning and maintained ($$) • Prioritize high-visibility crosswalk markings at Market Street, Hoyt Street, Northampton Street, and other locations with documented pedestrian activity ($$) • Install quick-build curb extensions at crossings using paint and flex posts, perhaps as an interim measure ($)	• Install crosswalks where pedestrian ramps already exist (e.g., John St, Chester St) ($$$) • Upgrade pedestrian countdown signal heads and accessible push buttons[1] ($$) • Consider leading pedestrian intervals (LPIs) at signalized intersections ($$) • Install curb extensions at crossings using concrete ($$)	• Investigate mid-block pedestrian crossing opportunities near offset intersections[2] ($$$)

[1] For instance, upgrade signal push buttons at Northampton St, Wyoming Ave, Hoyt St, etc.

[2] For instance, at Price St and Vaughn St

Safety Concern	Near-Term (0–2 Years)	Mid-Term (2–5 Years)	Long-Term (5+ Years)
Signal Operations / Compliance	• Install backplates with retroreflective borders on signal heads ($) • Change protected-permitted left-turn phases to protected-only phasing, where appropriate ($)	• Evaluate *No Turn on Red* restrictions at locations with documented pedestrian activity or turning conflicts ($) • Evaluate red-light-running frequency and crash history near school zone to determine whether increased enforcement would be appropriate ($$$)	• Develop a corridor-wide signal modernization plan prioritizing older signalized intersections and pedestrian equipment. ($$$)
Uncontrolled Driveways / Access Conflicts	• Improve sight distance through vegetation management, parking restrictions, and sight-triangle improvements[3] ($$) • Discuss operational changes with L&W Supply to reduce truck-related disruptions (if persistent) on Wyoming Ave ($)	• Evaluate a continuous median at Walnut Street (if a signal is not warranted) and close conflicting driveway access points ($$$)	—
Offset / Unsignalized Intersections	• Install STOP bars where appropriate at side streets and unsignalized approaches ($) • Improve sight distance through vegetation management, parking restrictions, and sight-triangle improvements ($$)	• Conduct a traffic study to determine whether a signal at Wyoming Avenue and E. Walnut Street is warranted ($$) • Conduct a corridor access management study to identify opportunities for driveway consolidation, access spacing improvements, and conflict reduction. ($$) • Evaluate a continuous median at Walnut Street (if a signal is not warranted) and close conflicting driveway access points ($$$)	• Investigate pedestrian crossing opportunities associated with offset intersection patterns ($$$)

[3] For instance, Reynolds St at Wyoming Ave