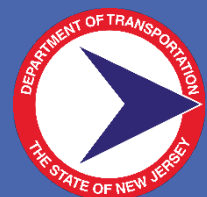




Road Safety Audit

UNIONTOWN ROAD (ROUTE 519),
STRYKERS ROAD TO NJ ROUTE 57
(MP 28.71-29.93)

Greenwich and Lopatcong Townships, Warren County



March 2023
Issued November 2023

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Executive Summary

This document is the draft report of the Road Safety Audit (RSA) conducted along Uniontown Road (CR 519) from Strykers Road to NJ 57, in Greenwich and Lopatcong Townships, Warren County. An RSA is an effective way of identifying crash-causing trends and appropriate countermeasures utilizing a nontraditional approach that promotes transportation safety while maintaining mobility.

The aforementioned roadway section was identified on NJDOT's Network Screening list. According to the NJDOT crash database, there were 39 crashes from 2018 to 2020 along the study area section of Uniontown Road. There were no pedestrian or bicyclist crashes from 2016 to 2020 within the project limits. Of note, truck traffic has recently increased due to a new warehouse on Strykers Road that opened in 2019.

The hybrid RSA was conducted on Tuesday, October 4, and Wednesday, October 5, 2022. The pre-audit meeting was conducted online via Microsoft Teams on Tuesday and the field visit and post-audit were conducted on Wednesday. Representatives from Warren County, NJDOT, FHWA, NJTPA, and Avenues in Motion TMA were in attendance during one or both days.

The RSA site and crash history are described in Sections II and III of this report, respectively. Section II also identifies previous and on-going studies conducted by the agency representatives. Corridor-wide and site-specific issues and recommendations, organized by location, are discussed in Section V. These recommendations addressed pedestrian safety by investigating curb extensions at intersections, repairing sidewalks, and ensuring ADA compliance. Additionally, many suggestions were made to upgrade traffic signals, improve, and simplify signage, and improve lighting.

The recommendations contained herein were developed collaboratively with the roadway owner and local stakeholders from the RSA Team (members listed in Appendix A). The study partners have expressed interest in implementing many of the recommendations as time and funds allow. Many of the maintenance items, which are typically low cost, can be addressed without additional engineering.

Please note this RSA report does not constitute an engineering report. The agency responsible for design and construction should consult a licensed professional engineer in preparing the design and construction documents, to implement any of the safety countermeasures mentioned in this report.

I. Introduction

A. Site Selection

This section of Uniontown Road was identified on NJDOT’s Network Screening lists, as shown below. The current Network Screening list rankings are based on 2014-2016 vehicular and 2012-2016 pedestrian crash data, unless noted otherwise. Rankings shown are within Warren County only.

Table 1 – County Ranking (Corridor)

| Location | Ped Corridor | Regional Corridor |
|--------------|---------------------|-------------------|
| Uniontown Rd | #4 (MP 28.82-29.92) | - |

Table 2 – County Ranking (Intersection)

| Location | Intersections | Pedestrian Intersections |
|------------------------|---------------|--------------------------|
| Strykers Rd (MP 28.71) | #1 | - |
| Dumont Rd (MP 28.77) | #11 | - |

B. What is a Road Safety Audit (RSA)?

An RSA is a formal safety performance examination of an existing or future road or intersection by a multi-disciplinary audit team. It qualitatively estimates and reports on existing and potential road safety issues, as well as identifies opportunities for improvements in safety for all road users. RSAs can be used on any size project, from minor maintenance to mega-projects, and can be conducted on facilities with a history of crashes, or during the design phase of a new roadway or planned upgrade. RSAs consider all road users, account for human factors and road user capabilities, are documented in a formal report, and require a formal response from the road owner. RSAs focus on evaluating the safety of both pedestrians and bicyclists, which may include looking beyond the roadway to include other paths, connections, and generators.

RSAs are conducted to generate improvement recommendations and countermeasures for roadway segments demonstrating a history of, or potential for, a high frequency of crashes, or an identifiable pattern of crash types. Recommendations range from low-cost, quick-turnaround safety improvements to more complex strategies. Implementation of improvement strategies identified through this process may be eligible for Local Federal Aid Safety Funds. Because the RSA process is adaptable to local needs and conditions, recommendations can be implemented incrementally as time and resources permit. The RSA process, one of FHWA’s proven safety countermeasures, is shown below.



C. The RSA Event

This hybrid RSA was conducted on Tuesday, October 4, and Wednesday, October 5, 2022. The pre-audit meeting was conducted online via Microsoft Teams on Tuesday and the field visit and post-audit were conducted on Wednesday. Representatives from Warren County, NJDOT, FHWA, NJTPA, and Avenues in Motion TMA were in attendance during one or both days. A list of team members can be found in Appendix A. Other organizations that the RSA Team identified that may have an interest in the project area include local businesses.

II. Corridor Description and Analysis

A. Study Location and Other Studies

The study area consists of approximately 1.2 miles of Uniontown Road (MP 28.71-29.93). The adjacent land use along the corridor is a mix of commercial, residential, and wooded or farm properties. The historic Morris Canal Greenway Incline Plane 9W is located near Overlook Drive. The following sections provide additional information.

B. Roadway and Intersection Characteristics

Uniontown Road is an undivided urban minor arterial, with 2 travel lanes and narrow shoulders, with some exceptions near the northern and southern limits. The posted speed is 50 mph. There are 2 signalized and 2 unsignalized intersections. There is also a Norfolk Southern rail overpass south of NJ 57 that has 10 foot clearance.

C. Existing Bicycle/Pedestrian Accommodations

Sidewalk is provided along Uniontown Road southbound beginning at Dumont Road and extending south of the project limits. Some locations do not have ADA-compliant curb ramps. Marked crosswalks consist of double lines at Dumont Road. Sidewalk and crosswalk conditions vary from newly installed to needing maintenance. There are no bicycle lanes or other bicycling infrastructure identified along the corridor.

D. Traffic Volumes

The 2018 Annual Daily Traffic (ADT) along Uniontown Road north and south of the study area is about 5,895 and 11,495 vehicles per day, respectively. Manual turning movement counts were also collected in 2019 and 2021 as part of the Strykers Road Warehouse Traffic Impact Study (TIS) and post development analysis, respectively. The TIS indicated that the warehouse, which is a U.S. Postal Service distribution facility, was fully operational on or about October 11, 2021. This data indicates an average of 4% total trucks in 2019 and 7% in 2021 at the Uniontown Road and Stryker Road intersection.

Warren County conducted traffic counts in during the last week of November and first week of December 2022 (subsequent to the RSA) that showed approximately 30% heavy trucks during peak hours. Note that this data collection coincides with the holiday season and truck traffic increases during this time. A copy of available data is provided in Appendix E.

E. Transit Service

NJ Transit bus service is not provided along Uniontown Road. There is limited bus service available on Route 22 to/from Easton, PA. Warren County provides weekday shuttle service between Phillipsburg

and Washington that utilizes Uniontown Road.

F. Community Profile

The American Community Survey (ACS) estimate, which updates the 2010 Census population and income characteristics, was used to identify minority and low-income populations surrounding the project limits. The latest ACS for this study area is a five-year estimate from 2016 through 2020. A summary of the demographics is listed below. Bold denotes that the percentage is above the Warren County average.

Table 3 – Study Area Demographics

| Characteristic | Study Area | County Average |
|----------------------------------|------------|----------------|
| Demographic Index | 17% | - |
| Race/Ethnicity | - | - |
| <i>White</i> | 80% | 81% |
| <i>Hispanic/Latino</i> | 8% | 10% |
| <i>Black or African American</i> | 6% | 5% |
| <i>Asian American</i> | 4% | 3% |
| <i>American Indian/Alaskan</i> | 0% | 0.1% |
| <i>Other¹</i> | 1% | 2% |
| People over age 64 | 22% | 18% |
| People under age 18 | 18% | 20% |
| Low Income | 9% | 7% |
| Limited English Proficiency | 4% | 4% |
| Persons with a Disability | 12% | 12% |
| Use Public Transportation | 1% | 1% |
| Walk/Bike to Work | 1% | 1% |
| Homes with No Vehicle Available | 6% | 4% |

The Demographic Index in the study area is below 50%, which is the underserved community cutoff. Therefore, this area may not be within a historically underserved community.

G. Land Use

The area surrounding Uniontown Road is commercial, residential, and wooded or farm properties. The historic Morris Canal Greenway Incline Plane 9W is located near Overlook Drive. The Warren County Library, Southwest Branch is immediately south of Strykers Road. The recently developed 511,200 square foot Strykers Road Warehouse (a/k/a STC Warehouse) is located approximately 0.3 miles north of Uniontown Road. Additional features are shown on the project area map in Appendix B.

III. Crash Findings

The analysis used in the RSA was based on reportable crashes found in the NJDOT crash database resulting in a fatality, injury and/or property damage. Corridor-wide crash characteristics and overrepresentations were compared to the 2020 statewide average for the state road system (excludes toll roads and

¹ Percentages may not equal 100% due to rounding. Other includes individuals who identified themselves as 'Native Hawaiian or Pacific Islander', 'Some Other Race Alone' or 'Two or More Races'

interstates) as further detailed below. All crashes were plotted onto collision diagrams, which can be found in Appendix C.

According to the NJDOT crash database, there were 39 crashes from 2018 to 2020 along the study area section of Uniontown Road. There were no pedestrian or bicyclist crashes from 2016 to 2020 within the project limits. The total number of crashes used for the RSA was 39.

A. Temporal Trends

Total crashes varied from the Statewide average in May and November (higher) and August through October (lower). In general, crashes were highest on Wednesdays. Note that due to the low crash frequency, this information may be statistically insignificant.

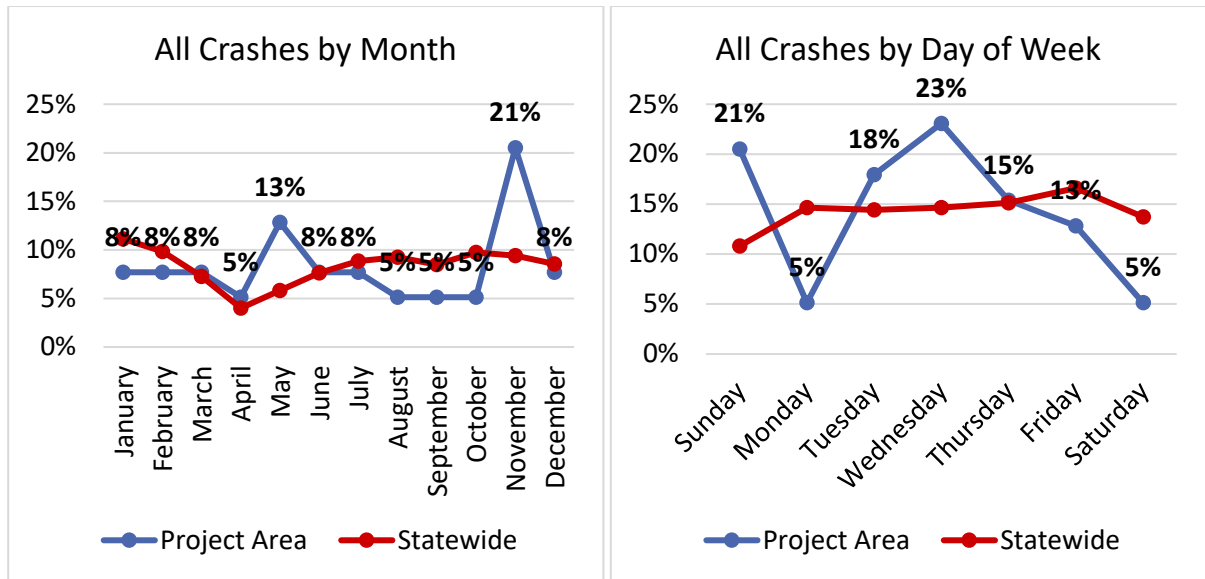


Figure 1 – Total Crashes by Month and Day of Week

B. Collision Types

Overrepresented crash types included, rear end, head on, fixed and non-fixed object. Same direction rear end crashes were the predominant crash type (41% of total).

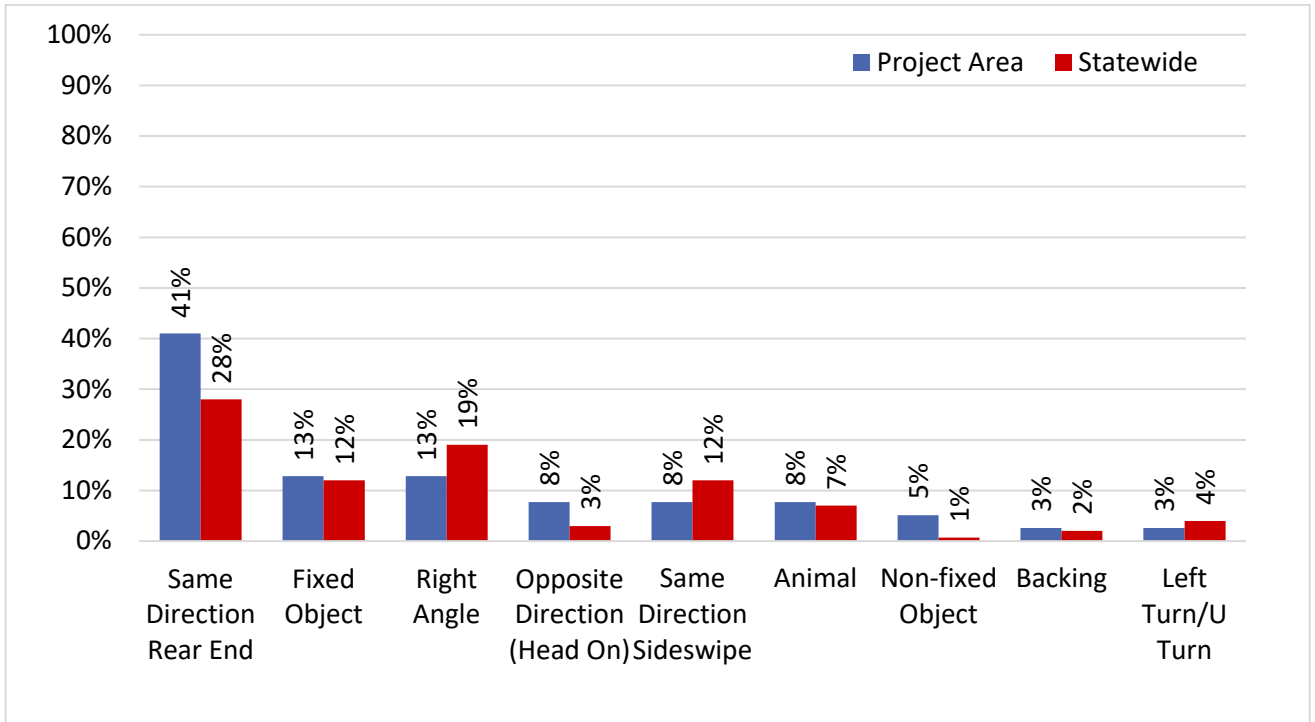


Figure 2 – Crash Type Breakdown

C. Severity

No fatal vehicular crashes were identified in the studied time period.

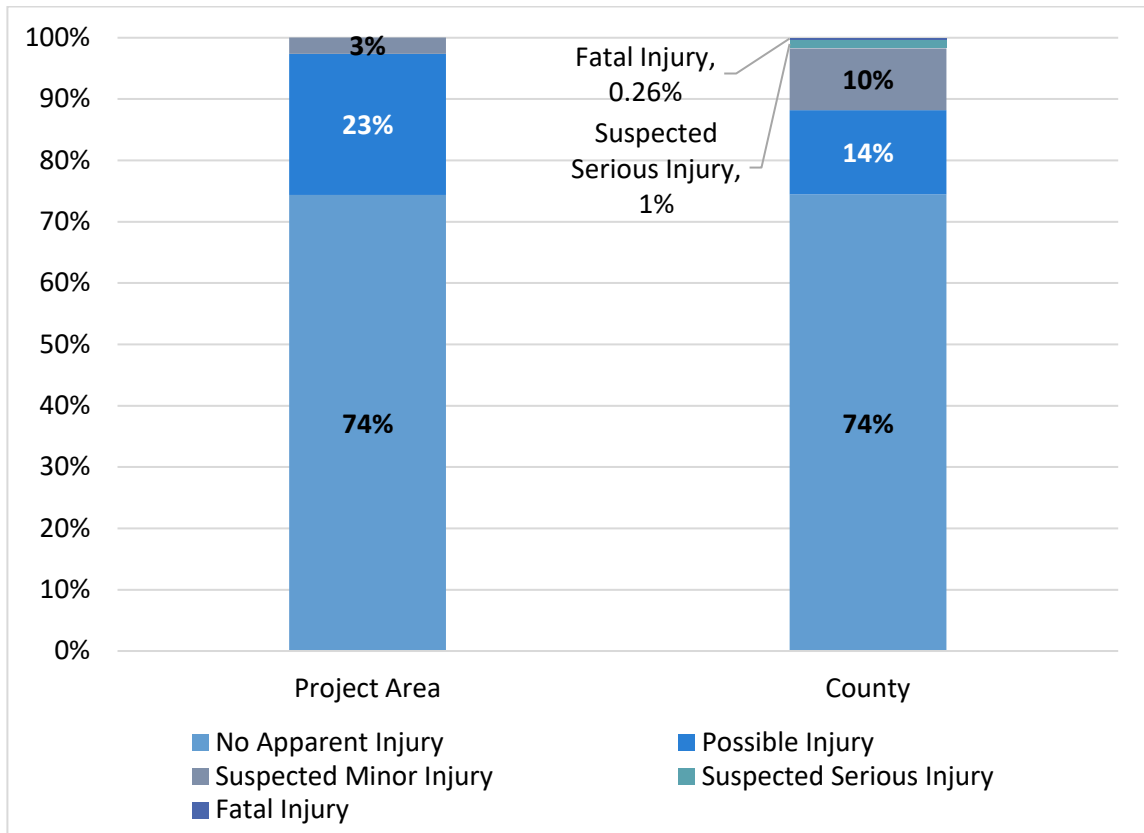


Figure 3 – Severity (All Crashes)

D. Roadway Surface & Light Condition

Overrepresented conditions included nighttime (28%) and wet surface (18%). All other conditions are similar to or underrepresented compared to the state road system.

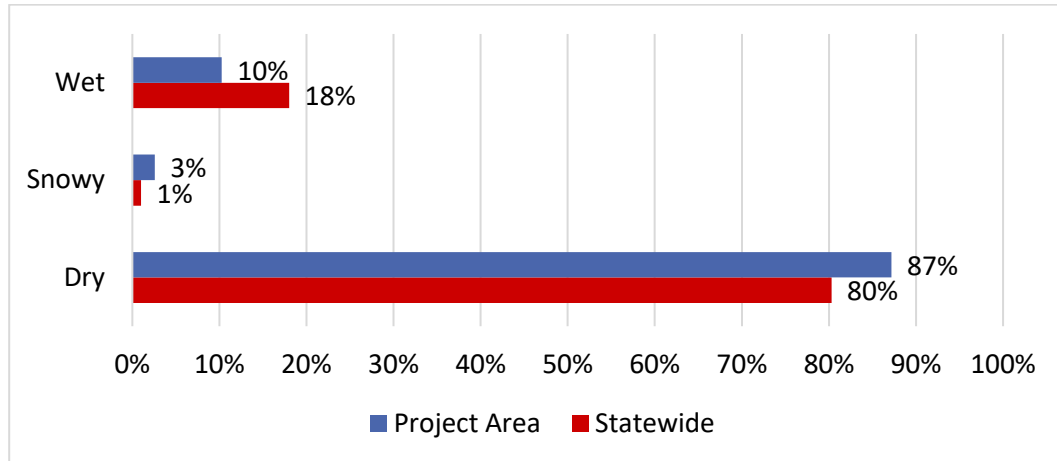


Figure 4 – Surface Conditions (All Crashes)

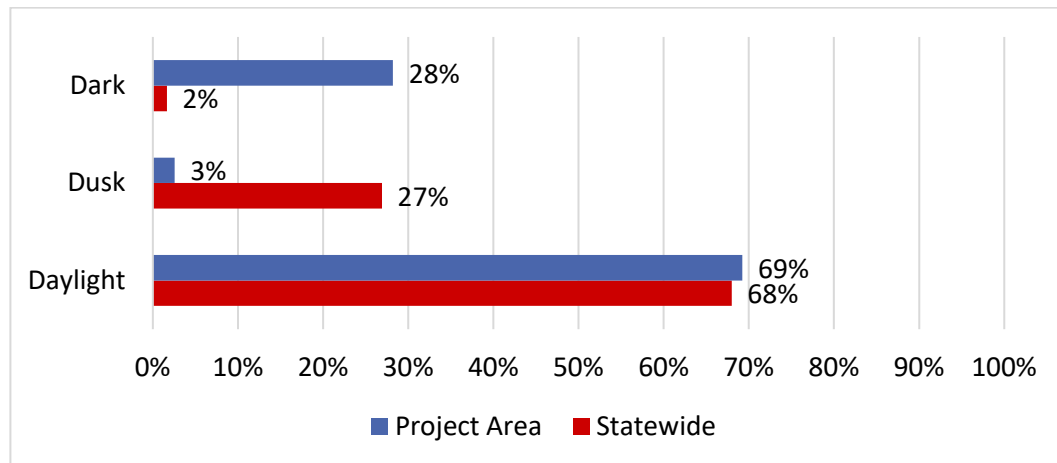


Figure 5 – Light Conditions (All Crashes)

E. Location

Twenty-eight percent (28%) occurred at signalized intersections and 15% occurred at unsignalized intersections. In comparison, 14% and 23% of crashes on all county roads occur at signalized and unsignalized intersections, respectively.

IV. Identified Issues & Observations

This section summarizes the common corridor-wide safety issues identified during the RSA and are not all inclusive. They are categorized into operations (including visibility) and maintenance issues, and pedestrian and bicyclist issues. Additional site-specific issues and photographs are in Appendix F.

A. Pedestrian/Bicyclist

| | |
|---|--|
|  | <p><u>Observation / Photo Location</u></p> <p>No curb ramp, detectable warning surface or crosswalk</p> <p><i>Uniontown Road and Strykers Road</i></p> |
|  | <p>No trail crosswalk for pedestrians to cross Uniontown Road</p> <p><i>Uniontown Road near the Morris Canal Trail</i></p> |
|  | <p>Ponding near detectable warning surface</p> <p>Uniontown Road near the Library</p> |

B. Operations, Visibility, and Maintenance

| | |
|---|--|
|  | <p><u>Observation / Photo Location</u></p> <p>Radius for this turn is not big enough for trucks</p> <p><i>Uniontown Road and Strykers Road</i></p> |
|  | <p>Low culvert sign may be confusing drivers and truckers; supplemental instructions not provided</p> <p><i>Uniontown Road and NJ Route 57</i></p> |
|  | <p>Low clearance tunnel for trucks and oversized vehicles.</p> <p><i>Uniontown Road at Norfolk Southern Rail Overpass</i></p> |

The RSA Team observed numerous truck turns at Uniontown Road intersections with Strykers Road and NJ 57. It was evident that turning radii were not suitable for larger vehicles. The Team also observed one truck perform a K-turn at the rail overpass due to the low clearance. Additional information provided by the Team is noted below.

- There is an increase in truck traffic during the holiday season and more pedestrian traffic in the summer and during nice weather
- There may be confusion/perception issue with the signal at Dumont Road being in close proximity to Stryker Road

V. Findings and Recommendations

This section summarizes the site-specific and corridor-wide safety issues, potential strategies, and recommendations to improve the same. The safety benefit, time frame, cost, and jurisdiction are listed alongside each recommendation. Ratings used in the tables are described as follows. N/A indicates safety benefit not determined. Recommendations in ***bold italics*** are FHWA Proven Safety Countermeasures.

| Symbol | Meaning | Definition |
|--------|--|---|
| N/A | Not available | Safety benefit not determined |
| ✓ | Low safety benefit potential | May reduce total crashes by 1-25% ² |
| ✓✓ | Low to moderate safety benefit potential | May reduce total crashes by 26-49% ² |
| ✓✓✓ | Moderate safety benefit potential | May reduce total crashes by 50-74% ² |
| ✓✓✓✓ | High safety benefit potential | May reduce total crashes by 75+% ² |
| \$ | Low cost | Could be accomplished through maintenance |
| \$\$ | Medium cost | May require some engineering or design and funding may be readily available |
| \$\$\$ | High cost | Longer term; may require full engineering, ROW acquisition and new funding |
| ☉ | Short term | Could be accomplished within 1 year |
| 🕒 | Medium term | Could be accomplished in 1 to 3 years; may require some engineering and analysis |
| 🕒 | Long term | Could be accomplished in 3 years or more; may require full engineering and analysis |

A. Recommendations

The following represents the specific findings and recommendations made by the RSA team. All recommendations and designs should be thoroughly evaluated with due diligence and designed as appropriate by the roadway owner and/or a professional engineer for conformance to all applicable codes, standards, and best practices.

Table 4 – Corridor-Wide Recommendations

| No. | Recommendation | Safety Benefit | Cost | Time Frame | Jurisdiction |
|-------------------|--|------------------|--------|------------|-----------------------------|
| Operations | | | | | |
| 1 | Consider upgrading all ramps for ADA compliance | ✓✓✓ ³ | \$\$\$ | 🕒 | County |
| 2 | Consider corridor-wide signal upgrades (8" to 12" signal heads, install <i>backplates with retroreflective border</i> , evaluate clearance intervals, update to countdown pedestrian signal heads, replace push buttons for ADA compliance, signal timings, lighting, etc.) | ✓✓ | \$\$\$ | 🕒 | County/ NJDOT (NJ 57) |
| 3 | Consider providing a wider outside shoulder | N/A | \$\$ | 🕒 | County |

² Based on existing Crash Modification Factors (CMFs), the Highway Safety Manual (HSM), FHWA Proven Safety Countermeasures and current research, where applicable. All safety benefits are approximate.

³ CMF/quantitative data not available for this type of roadway or treatment. Therefore, perceived safety benefit of the same was estimated relative to other similar treatments.

| No. | Recommendation | Safety Benefit | Cost | Time Frame | Jurisdiction |
|---------------------------|--|-----------------|------|------------|----------------|
| 4 | Consider updating signage to ensure it is consistent throughout corridor (with attention to the height restriction warning signs and providing directions to alternate routes) | ✓ | \$ | ☉ | County |
| 5 | Consider conducting a lighting analysis for the corridor | ✓✓✓ | \$\$ | ☉ | County |
| 6 | Investigate turning radius from side streets onto roadway (trucks often use multiple lanes to turn) | N/A | \$\$ | ☉ | County |
| Bicycle/Pedestrian | | | | | |
| 7 | Inspect, repair and construct sidewalk in compliance with ADA as needed, including driveway aprons; complete missing connections | ✓✓✓ | \$\$ | ☉ | County/ Twp |
| 8 | Examine inlets and install bicycle-safe grates | ✓ ⁴ | \$\$ | ☉ | County |
| 9 | Examine crosswalks status: check placement, alignment, and markings | ✓✓ | \$ | ☉ | County |
| 10 | Consider providing high-visibility crosswalk markings for all intersections throughout corridor | ✓✓ | \$ | ☉ | County |
| Maintenance | | | | | |
| 11 | Inspect existing striping for wear and restripe accordingly; add RPMs where appropriate | ✓✓ | \$ | ☉ | County |
| 12 | Inspect and replace missing, faded, damaged or incorrect/outdated signage as needed (i.e., signs mounted below 7-ft, on non-breakaway posts or back-to-back signs that obscure shapes) | ✓ | \$ | ☉ | County/ Twp |
| 13 | Inspect drainage facilities; ensure they are free of debris | ✓ ⁴ | \$\$ | ☉ | County |
| Education | | | | | |
| 14 | Consider periodic sidewalk, crosswalk, multimodal, truck education campaigns and code enforcement | ✓ ⁴ | \$ | ☉ | Twp/ County |
| Other | | | | | |
| 15 | Investigate adding Centerline Rumble Stripes (CLRS) | ✓✓✓ | \$\$ | ☉ | County |
| 16 | Consider a 40 mph speed limit within the project limits (Appropriate Speed Limits for All Road Users) | ✓✓ ⁴ | \$\$ | ☉ | County |

The following site-specific recommendations are in addition to the corridor-wide improvements, except if noted otherwise. While the library parking lot is outside the project limits, it was noted during the RSA that vehicles use the parking lot/driveway to make U-turns. In addition, since the NJ 57 and Uniontown Road intersection is under NJDOT jurisdiction, recommendations are limited to those pertaining to the rail overpass/tunnel. Attendees also discussed that completing the

⁴ CMF/quantitative data not available for this type of roadway or treatment. Therefore, perceived safety benefit of the same was estimated relative to other similar treatments.

interchange from NJ 57 westbound to US 22 southbound to accommodate through truck traffic would help divert this traffic from Uniontown Road.

Table 5 – Site-Specific Recommendations

| No. | Recommendation | Safety Benefit | Cost | Time Frame | Jurisdiction |
|----------------------------|---|------------------|--------|------------|------------------|
| Library Parking Lot | | | | | |
| 17 | Consider adding a No U-Turn Sign in the Library parking lot | N/A | \$ | ☉ | County |
| Strykers Rd | | | | | |
| 18 | Consider corridor-wide recommendations 1, 5, 7, regarding ADA compliance, sidewalk, and crosswalks | ✓✓✓ ⁶ | \$\$\$ | ☉ | County |
| 19 | Consider corridor-wide recommendation 10 regarding installing a crosswalk | ✓✓ | \$ | ☉ | County |
| 20 | Investigate converting intersection to roundabout | ✓✓✓✓ | \$\$\$ | ☉ | County |
| 21 | Investigate signalizing the intersection as noted in the warehouse Traffic Impact Study | ✓✓ | \$\$\$ | ☉ | County |
| 22 | Consider relocating Dumont Road to align with Strykers Road | ✓ ⁶ | \$\$\$ | ☉ | County |
| 23 | Investigate connecting Strykers Road directly to U.S. 22 and closing Uniontown Road intersection ⁵ | N/A | \$\$\$ | ☉ | County/ NJDOT |
| 24 | Consider changing Strykers Road alignment and curve radius ⁶ | N/A | \$\$ | ☉ | County |
| 25 | Investigate intersection sight distance (deli sign/billboard may be an obstruction) | ✓✓ | \$ | ☉ | County |
| 26 | Consider standard or oversized Stop Ahead warning signs | ✓ | \$ | ☉ | County |
| 27 | Consider flashing advanced warning signs for the stop sign on Strykers Road | ✓✓ | \$ | ☉ | County |
| 28 | Consider corridor-wide recommendation 4 and 12 regarding signs | ✓ | \$ | ☉ | County |
| 29 | Consider installing overheight vehicle detection system (OVDS) NB directing vehicles to Stryker Road (activates flashing warning signs) | N/A | \$\$ | ☉ | County |
| Dumont Road | | | | | |
| 30 | Consider corridor-wide recommendations 1, 2, 5, 7, and 10 regarding ADA compliance, sidewalk, and crosswalks | ✓✓✓ ⁷ | \$\$\$ | ☉ | County |
| 31 | Consider corridor-wide recommendation 4 and 12 regarding signs | ✓ | \$ | ☉ | County |

⁵ See Sketch A in Appendix D.

⁶ See Sketch B and C in Appendix D.

⁷ CMF/quantitative data not available for this type of roadway or treatment. Therefore, perceived safety benefit of the same was estimated relative to other similar treatments.

| No. | Recommendation | Safety Benefit | Cost | Time Frame | Jurisdiction |
|--------------------------------------|---|----------------|--------|------------|------------------|
| 32 | Consider relocating Strykers Road to align with Dumont Road | ✓ ⁸ | \$\$\$ | ● | County |
| Morris Canal Trail | | | | | |
| 33 | Consider corridor-wide recommendations 5 and 10 regarding crosswalks ⁹ | ✓✓✓ | \$\$ | ● | County |
| 34 | Consider repairing and/or replacing the bridge (Uniontown Road over Lopatcong Creek) | N/A | \$\$\$ | ● | County |
| 35 | Consider providing Rectangular Rapid Flashing Beacon (RRFB) for pedestrian crossing | ✓✓ | \$ | ● | County |
| Overlook Drive | | | | | |
| 36 | Consider corridor-wide recommendation 11 regarding traffic markings | ✓✓ | \$ | ● | County |
| South of Rail Overpass/Tunnel | | | | | |
| 37 | Consider installing a supplemental OVDS NB directing vehicles to turn around | N/A | \$\$\$ | ● | County |
| 38 | Consider providing space for trucks to turn around | N/A | \$\$ | ● | County |
| 39 | Consider corridor-wide recommendations 5 regarding lighting | ✓✓✓ | \$\$ | ● | County |
| 40 | Increase the size of the tunnel openings for larger vehicles | N/A | \$\$\$ | ● | Rail/ County |
| 41 | Consider corridor-wide recommendation 4 and 12 regarding signs | ✓ | \$ | ● | County |
| 42 | Consider adding a parabolic mirror for the horse farm entrance to see southbound traffic | ✓ | \$ | ● | County |
| 43 | Investigate prohibiting left turns into the horse farm driveway from the SB direction | ✓✓✓ | \$ | ● | County |
| North of Rail Overpass/Tunnel | | | | | |
| 44 | Consider collecting count data at the bridge (both sides) to determine the number of turn arounds and/or heavy trucks | N/A | \$ | ● | County |
| 45 | Consider corridor-wide recommendation 4 and 12 regarding signs | ✓ | \$ | ● | County |
| 46 | Consider adding space for trucks to turn | N/A | \$\$ | ● | County |
| NJ Route 57 | | | | | |
| 47 | Consider installing OVDS and additional signs directing vehicles not to turn onto Uniontown Road SB | N/A | \$\$ | ● | NJDOT/ County |

⁸ CMF/quantitative data not available for this type of roadway or treatment. Therefore, perceived safety benefit of the same was estimated relative to other similar treatments.

⁹ Warren County received a Technical Assistance Program (TAP) grant to improve the Morris Canal Greenway.

B. Road Owner Response

An important part of the RSA process is the road owner's response: an acknowledgment of the audit's findings and recommendations, and their planned follow-up. In responding to the RSA's findings, the road owner must bear in mind all the competing objectives involved when implementing the recommendations, and foremost among them is available resources. Because the audit process generated a long and wide-ranging list of improvements, the road owner is expected to implement these recommended improvements as time and funds allow in coordination with other projects and priorities. Warren County's response is provided in Appendix H.

C. Recommendation Visualizations

Examples of some of the site-specific and corridor-wide safety recommendations identified in Tables 4 and 5 are shown below and are based on current practices and standards. Descriptions and images of each treatment are from the *2017 NJ Complete Street Design Guide (CSDG)*, including sources contained therein, FHWA publications, and other sources. These examples are meant to be generic and for informational purposes only.

1. Pedestrian Facilities

ADA standards specify a minimum 5-foot clear path width to accommodate two wheelchairs passing each other. In addition to providing a more accessible facility, this minimum width also creates a more comfortable environment for pedestrians to walk side-by-side and pass each other. Sidewalk width should support the surrounding street context, land uses, as well as current and future pedestrian demand.

The design of driveways should provide a continuous and level pedestrian path across the vehicular zone, encouraging drivers to stop for pedestrians on the sidewalk. Driveways should not be designed where the sidewalk is interrupted by the driveway.

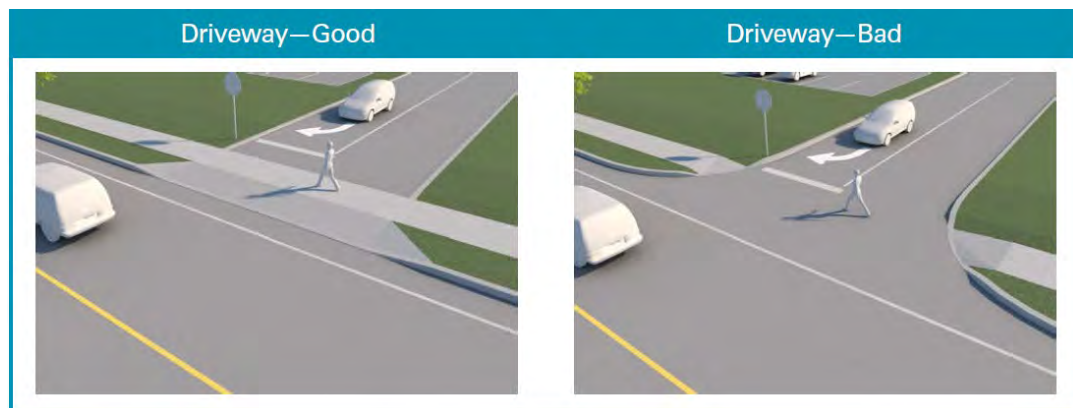


Figure 6 – Sidewalk and Driveways (Source: CSDG)

Crosswalk visibility enhancements, a FHWA Proven Safety Countermeasure, help make crosswalks and the pedestrians, bicyclists, wheelchair and other mobility device users, and transit users using them more visible to drivers. These include high-visibility crosswalks, lighting, and signing and pavement markings. These enhancements can also assist users in deciding where to cross.

To enhance pedestrian conspicuity and increase driver awareness at uncontrolled, marked crosswalks, transportation agencies can install a pedestrian actuated Rectangular Rapid Flashing

Beacon (RRFB) to accompany a pedestrian warning sign. RRFBs consist of two, rectangular-shaped yellow indications, each with a light-emitting diode (LED)-array-based light source.¹ RRFBs flash with an alternating high frequency when activated to enhance conspicuity of pedestrians at the crossing to drivers. RRFBs can also accompany school or trail crossing warning signs.



Figure 7 – RRFB at Trail Crossing (Source: Carmanah)

2. Overheight Vehicle Detection System

An overheight detection system (OVDS) monitors a vehicle's height and gives drivers and traffic officials advanced warning if the vehicle exceeds the maximum height for an approaching overhead structure. The system can help prevent high-value assets such as bridges and tunnels from being struck by overheight vehicles. When the system is triggered, it can activate warning devices to flash or blink. Blank-out signs and sirens can also be integrated. An example of the OVDS is shown in the figure below. Note that the system can be located farther away from the approaching obstruction; the figure is for illustration purposes only.

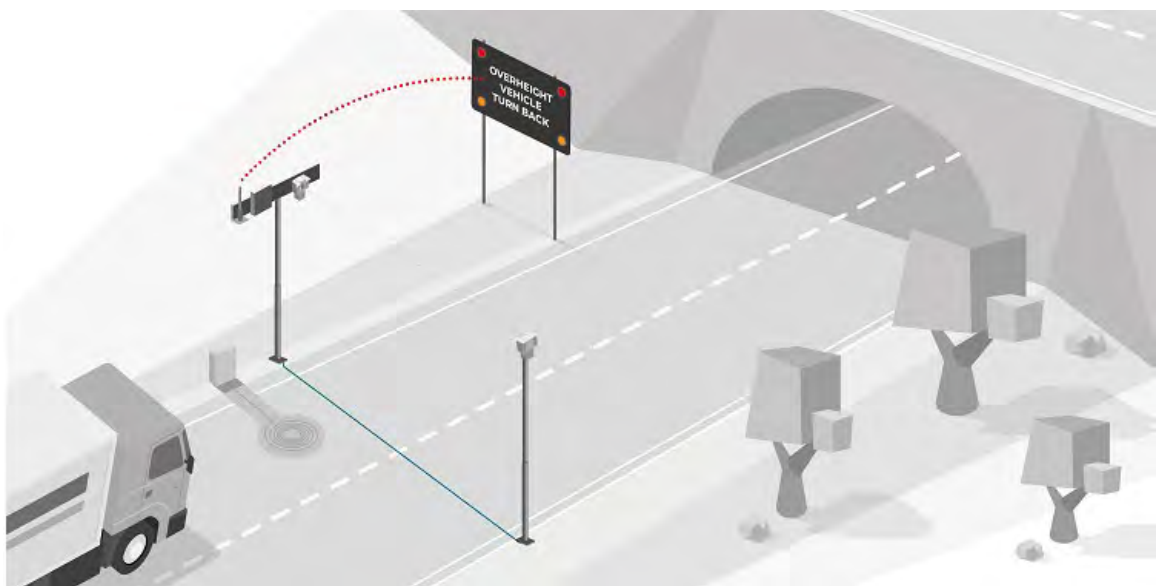


Figure 8 – OVDS Example (Source: SWARCO)

3. Roundabout

A modern roundabout design, which was recommended at the Uniontown Road and Stryker Road intersection, should create conditions that reduce vehicle speed and provide a consistent speed into, through, and out of the roundabout. Lower speeds reduce crash frequency and severity for all roadway users, allow safer and easier merging of traffic, provide more reaction time for drivers, and make the facility more accessible for novice users.



Figure 9 – Single Lane Roundabout Example (Source: CSDG)

VI. Conclusions

The Uniontown Road RSA was conducted to identify safety issues and corresponding countermeasures that compromise the multimodal nature of this roadway. The team identified a long list of issues from the field visit, as well as many practical short-, mid-, and long-term improvements during the post-audit.

The recommendations documented in this report are designed to improve safety for all road users. Some of the strategies identified can be implemented through routine maintenance; however, all will be constrained by available time and budgetary priorities. The audit process and the resulting final document highlight the safety issues and present the needed improvements by location, organized for systematic implementation by the roadway owner.

It is important to note that when it comes to improving safety, engineering strategies alone only go so far – especially in areas undergoing redevelopment. Education, with support from a targeted enforcement campaign, is an effective approach for addressing driver and pedestrian behaviors that lead to crashes. Employing a multipronged approach is an effective course of action to advance the goal of improved safety on the corridor and the Towards Zero Deaths vision.

A. RSA TEAM

Audit Team

| Name | Agency | Day 1 | Day 2 |
|---------------------|---|-------|-------|
| Joe DSouza | Warren County Engineer's Office | X | X |
| Dave Dech | Warren County Planning Department | X | X |
| Linda Read | Warren County Engineer's Office | X | X |
| Emily Hammer | Warren County DPW | X | |
| John P. Tate, Sr. | Warren County DPW | X | X |
| Jason Sarnoski | Warren County Board of County Commissioners | X | |
| Ryan Conklin | Warren County Planning Department | X | X |
| Caleb Decin | Warren County DPW | | X |
| Laura Cerutti | Avenues in Motion | X | X |
| Zil Patel | NJDOT | X | X |
| Christopher Yandoli | NJDOT – Office of Community and Constituent Relations | X | |
| Yosy Cosme | NJDOT – Bureau of Safety, Bicycle and Pedestrian Programs | X | X |
| Keith Hamas | NJTPA | X | X |
| Christine Mittman | NJTPA | X | |
| Andy Kaplan | NJTPA | X | X |
| Sascha Frimpong | NJTPA | X | |
| Patricia Newton | NJTPA | X | |
| Aimee Jefferson | NJTPA | X | |
| Julia Steponanko | Greenman-Pedersen, Inc. | X | X |
| John Thieke | Greenman-Pedersen, Inc. | X | X |
| Alicia Ulmes | Greenman-Pedersen, Inc. | X | X |
| Rachel Haberman | Greenman-Pedersen, Inc. | X | X |



B. AREA MAP

AREA MAP



MATCH LINE

AREA MAP

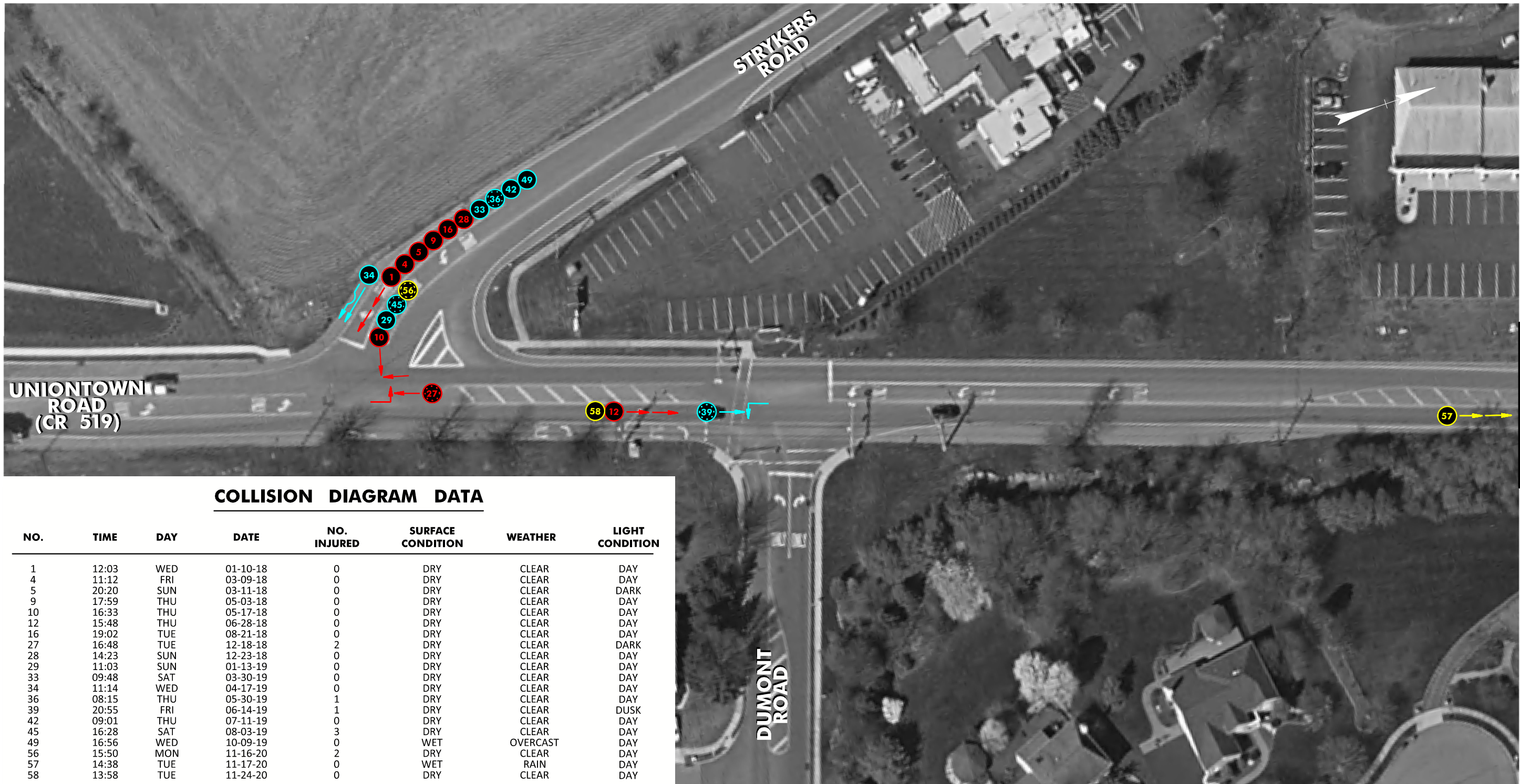


MATCH LINE



C.VEHICULAR CRASH DIAGRAMS

FILE: \\NJ-Isis\vidal\20210815_HSP_Planet Development and Support\Cad\Hwy\Crash_Diagrams\Warren_County_Veh_Sheet_Ldgn DATE: 8/20/22 TIME: 4:10:13 PM GREENMAN-PEDERSEN, INC.



MATCH LINE A
SEE SHEET NO. 2 OF 8

COLLISION DIAGRAM DATA

| NO. | TIME | DAY | DATE | NO. INJURED | SURFACE CONDITION | WEATHER | LIGHT CONDITION |
|-----|-------|-----|----------|-------------|-------------------|----------|-----------------|
| 1 | 12:03 | WED | 01-10-18 | 0 | DRY | CLEAR | DAY |
| 4 | 11:12 | FRI | 03-09-18 | 0 | DRY | CLEAR | DAY |
| 5 | 20:20 | SUN | 03-11-18 | 0 | DRY | CLEAR | DARK |
| 9 | 17:59 | THU | 05-03-18 | 0 | DRY | CLEAR | DAY |
| 10 | 16:33 | THU | 05-17-18 | 0 | DRY | CLEAR | DAY |
| 12 | 15:48 | THU | 06-28-18 | 0 | DRY | CLEAR | DAY |
| 16 | 19:02 | TUE | 08-21-18 | 0 | DRY | CLEAR | DAY |
| 27 | 16:48 | TUE | 12-18-18 | 2 | DRY | CLEAR | DARK |
| 28 | 14:23 | SUN | 12-23-18 | 0 | DRY | CLEAR | DAY |
| 29 | 11:03 | SUN | 01-13-19 | 0 | DRY | CLEAR | DAY |
| 33 | 09:48 | SAT | 03-30-19 | 0 | DRY | CLEAR | DAY |
| 34 | 11:14 | WED | 04-17-19 | 0 | DRY | CLEAR | DAY |
| 36 | 08:15 | THU | 05-30-19 | 1 | DRY | CLEAR | DAY |
| 39 | 20:55 | FRI | 06-14-19 | 1 | DRY | CLEAR | DUSK |
| 42 | 09:01 | THU | 07-11-19 | 0 | DRY | CLEAR | DAY |
| 45 | 16:28 | SAT | 08-03-19 | 3 | DRY | CLEAR | DAY |
| 49 | 16:56 | WED | 10-09-19 | 0 | WET | OVERCAST | DAY |
| 56 | 15:50 | MON | 11-16-20 | 2 | DRY | CLEAR | DAY |
| 57 | 14:38 | TUE | 11-17-20 | 0 | WET | RAIN | DAY |
| 58 | 13:58 | TUE | 11-24-20 | 0 | DRY | CLEAR | DAY |

LEGEND

| | |
|------------------------|-----------|
| NUMBER OF CRASHES WITH | |
| PROPERTY DAMAGE ONLY | <u>15</u> |
| INJURIES | <u>5</u> |
| FATALITIES* | <u>0</u> |
| TOTAL NO. OF CRASHES | <u>20</u> |

| SYMBOLS | |
|---------|----------------------------|
| | MOVING VEHICLE |
| | BACKING VEHICLE |
| | NON-INVOLVED VEHICLE |
| | PEDESTRIAN |
| | BICYCLIST |
| | PROPERTY DAMAGE ONLY CRASH |
| | INJURY IN CRASH |
| | FATAL CRASH |
| | FIXED OBJECT |
| | ANIMAL |
| | NON-FIXED OBJECT |
| | POTHOLE |

| TYPES OF CRASHES | |
|------------------|-----------------------|
| | REAR END |
| | ENCROACHMENT |
| | HEAD ON |
| | LEFT TURN |
| | SIDE SWIPE |
| | RIGHT ANGLE |
| | OUT OF CONTROL |
| | OVERTURNED |
| | STRUCK PARKED VEHICLE |

| COLORS | |
|--------|--------------|
| | 2018 CRASHES |
| | 2019 CRASHES |
| | 2020 CRASHES |

NEW JERSEY DEPARTMENT OF TRANSPORTATION

UNIONTOWN ROAD (CR 519)
FROM STRYKERS ROAD TO MEMORIAL PARKWAY
GREENWICH TOWNSHIP, WARREN COUNTY

2018 - 2020 COLLISION DIAGRAMS

GPI Engineering Design Planning Construction Management

NOT TO SCALE

COLLISION DIAGRAM DATA

| NO. | TIME | DAY | DATE | NO. INJURED | SURFACE CONDITION | WEATHER | LIGHT CONDITION |
|-----|-------|-----|----------|-------------|-------------------|-------------------|-----------------|
| 30 | 17:39 | FRI | 02-22-19 | 0 | DRY | CLEAR | DAY |
| 31 | 18:26 | SUN | 02-24-19 | 0 | DRY | SEVERE CROSSWINDS | DARK |
| 32 | 18:26 | SUN | 02-24-19 | 0 | DRY | CLEAR | DARK |



LEGEND

| | |
|------------------------|----------|
| NUMBER OF CRASHES WITH | |
| PROPERTY DAMAGE ONLY | <u>3</u> |
| INJURIES | <u>0</u> |
| FATALITIES* | <u>0</u> |
| TOTAL NO. OF CRASHES | <u>3</u> |

| SYMBOLS | |
|---------|----------------------------|
| | MOVING VEHICLE |
| | BACKING VEHICLE |
| | NON-INVOLVED VEHICLE |
| | PEDESTRIAN |
| | BICYCLIST |
| | PROPERTY DAMAGE ONLY CRASH |
| | INJURY IN CRASH |
| | FATAL CRASH |
| | FIXED OBJECT |
| | ANIMAL |
| | NON-FIXED OBJECT |
| | POTHOLE |

| TYPES OF CRASHES | |
|------------------|-----------------------|
| | REAR END |
| | HEAD ON |
| | SIDE SWIPE |
| | OUT OF CONTROL |
| | OVERTURNED |
| | ENCROACHMENT |
| | LEFT TURN |
| | RIGHT ANGLE |
| | STRUCK PARKED VEHICLE |

| COLORS | |
|--------|--------------|
| | 2018 CRASHES |
| | 2019 CRASHES |
| | 2020 CRASHES |

2 / 8

NEW JERSEY DEPARTMENT OF TRANSPORTATION

UNIONTOWN ROAD (CR 519)
FROM STRYKERS ROAD TO MEMORIAL PARKWAY
GREENWICH TOWNSHIP, WARREN COUNTY

2018 - 2020 COLLISION DIAGRAMS

GPI Engineering Design Planning Construction Management

NOT TO SCALE

DATE: 01/20/22
 TIME: 4:17:44 PM
 FILE: \\NJ-IST\videt\2021085_HSP_ProjectDevelopmentand_Support\Cad\HwyCrash_Diagrams\Warren_County\Ven_Sheet_Z.dgn
 SEE SHEET NO. 1 OF 8
 MATCH LINE A
 MATCH LINE B
 SEE SHEET NO. 3 OF 8
 GREENMAN-PEDERSEN, INC.

COLLISION DIAGRAM DATA

| NO. | TIME | DAY | DATE | NO. INJURED | SURFACE CONDITION | WEATHER | LIGHT CONDITION |
|-----|------|-----|----------|-------------|-------------------|---------|-----------------|
| 50 | 9:17 | THU | 10-24-19 | 2 | DRY | CLEAR | DAY |

MATCH LINE B
SEE SHEET NO. 2 OF 8

MATCH LINE C
SEE SHEET NO. 4 OF 8

UNIONTOWN ROAD
(CR 519)

LEGEND

NUMBER OF CRASHES WITH

| | |
|----------------------|----------|
| PROPERTY DAMAGE ONLY | <u>0</u> |
| INJURIES | <u>1</u> |
| FATALITIES* | <u>0</u> |
| TOTAL NO. OF CRASHES | <u>1</u> |

SYMBOLS

| | | | |
|--|------------------|--|----------------------------|
| | MOVING VEHICLE | | BICYCLIST |
| | BACKING VEHICLE | | PROPERTY DAMAGE ONLY CRASH |
| | PEDESTRIAN | | INJURY IN CRASH |
| | FIXED OBJECT | | FATAL CRASH |
| | NON-FIXED OBJECT | | ANIMAL |
| | | | POTHOLE |

TYPES OF CRASHES

| | | | |
|--|----------------|--|-----------------------|
| | REAR END | | ENCROACHMENT |
| | HEAD ON | | LEFT TURN |
| | SIDE SWIPE | | RIGHT ANGLE |
| | OUT OF CONTROL | | STRUCK PARKED VEHICLE |
| | OVERTURNED | | |

COLORS

| | |
|--|--------------|
| | 2018 CRASHES |
| | 2019 CRASHES |
| | 2020 CRASHES |

NEW JERSEY DEPARTMENT OF TRANSPORTATION

UNIONTOWN ROAD (CR 519)
FROM STRYKERS ROAD TO MEMORIAL PARKWAY
GREENWICH TOWNSHIP, WARREN COUNTY

2018 - 2020 COLLISION DIAGRAMS

GPI Engineering
Design
Planning
Construction Management

NOT TO SCALE

3
8

COLLISION DIAGRAM DATA

| NO. | TIME | DAY | DATE | NO. INJURED | SURFACE CONDITION | WEATHER | LIGHT CONDITION |
|-----|-------|-----|----------|-------------|-------------------|---------|-----------------|
| 2 | 05:48 | WED | 01-17-18 | 0 | SNOWY | SNOW | DARK |



MATCH LINE C
SEE SHEET NO. 3 OF 8

MATCH LINE D
SEE SHEET NO. 5 OF 8

LEGEND

| | |
|------------------------|----------|
| NUMBER OF CRASHES WITH | |
| PROPERTY DAMAGE ONLY | <u>1</u> |
| INJURIES | <u>0</u> |
| FATALITIES* | <u>0</u> |
| TOTAL NO. OF CRASHES | <u>1</u> |

| SYMBOLS | |
|---------|----------------------------|
| | MOVING VEHICLE |
| | BACKING VEHICLE |
| | NON-INVOLVED VEHICLE |
| | PEDESTRIAN |
| | BICYCLIST |
| | PROPERTY DAMAGE ONLY CRASH |
| | INJURY IN CRASH |
| | FATAL CRASH |
| | FIXED OBJECT |
| | ANIMAL |
| | NON-FIXED OBJECT |
| | POTHOLE |

| TYPES OF CRASHES | |
|------------------|-----------------------|
| | REAR END |
| | HEAD ON |
| | SIDE SWIPE |
| | OUT OF CONTROL |
| | OVERTURNED |
| | ENCROACHMENT |
| | LEFT TURN |
| | RIGHT ANGLE |
| | STRUCK PARKED VEHICLE |

| COLORS | |
|--------|--------------|
| | 2018 CRASHES |
| | 2019 CRASHES |
| | 2020 CRASHES |

4 / 8

NEW JERSEY DEPARTMENT OF TRANSPORTATION

UNIONTOWN ROAD (CR 519)
FROM STRYKERS ROAD TO MEMORIAL PARKWAY
GREENWICH TOWNSHIP, WARREN COUNTY

2018 - 2020 COLLISION DIAGRAMS

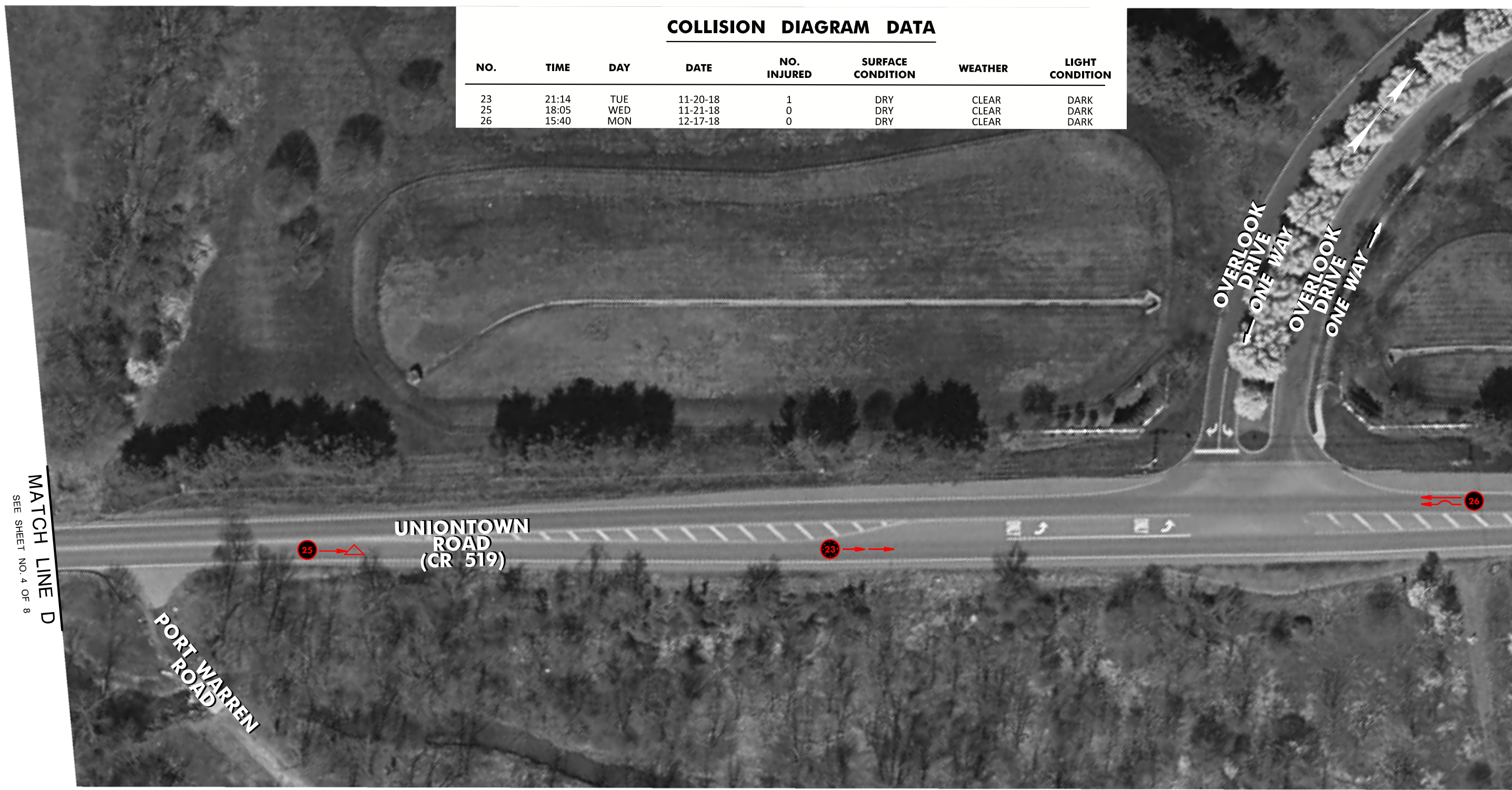
| | |
|---|--------------|
| GPI Engineering Design Planning Construction Management | NOT TO SCALE |
|---|--------------|

DATE: 02/20/22 TIME: 09:23:13 AM FILE: \\NF-IsV\videt\2021085_HSP_ProjectDevelopment\and_Support\Cadd\Hwy\Crash_Diagrams\Warren_County\veh_Sheet_4.dgn

DATE: 8/2/2022 TIME: 9:24:58 AM FILE: \\NF-istiv\p001\2022\695_HSP_ProjectDevelopmentand_Support\Cad\Cad\Crash_Diagrams\Warren_County\Ven\SHEET 5.dgn

COLLISION DIAGRAM DATA

| NO. | TIME | DAY | DATE | NO. INJURED | SURFACE CONDITION | WEATHER | LIGHT CONDITION |
|-----|-------|-----|----------|-------------|-------------------|---------|-----------------|
| 23 | 21:14 | TUE | 11-20-18 | 1 | DRY | CLEAR | DARK |
| 25 | 18:05 | WED | 11-21-18 | 0 | DRY | CLEAR | DARK |
| 26 | 15:40 | MON | 12-17-18 | 0 | DRY | CLEAR | DARK |



LEGEND

| NUMBER OF CRASHES WITH | |
|------------------------|----------|
| PROPERTY DAMAGE ONLY | <u>2</u> |
| INJURIES | <u>1</u> |
| FATALITIES* | <u>0</u> |
| TOTAL NO. OF CRASHES | <u>3</u> |

| SYMBOLS | |
|---------|----------------------------|
| | MOVING VEHICLE |
| | BACKING VEHICLE |
| | NON-INVOLVED VEHICLE |
| | PEDESTRIAN |
| | BICYCLIST |
| | PROPERTY DAMAGE ONLY CRASH |
| | INJURY IN CRASH |
| | FATAL CRASH |
| | FIXED OBJECT |
| | ANIMAL |
| | NON-FIXED OBJECT |
| | POTHOLE |

| TYPES OF CRASHES | |
|------------------|-----------------------|
| | REAR END |
| | HEAD ON |
| | SIDE SWIPE |
| | OUT OF CONTROL |
| | OVERTURNED |
| | ENCROACHMENT |
| | LEFT TURN |
| | RIGHT ANGLE |
| | STRUCK PARKED VEHICLE |

| COLORS | |
|--------|--------------|
| | 2018 CRASHES |
| | 2019 CRASHES |
| | 2020 CRASHES |

NEW JERSEY DEPARTMENT OF TRANSPORTATION

UNIONTOWN ROAD (CR 519)
FROM STRYKERS ROAD TO MEMORIAL PARKWAY
GREENWICH TOWNSHIP, WARREN COUNTY

2018 - 2020 COLLISION DIAGRAMS

| | | |
|--|--|--------------|
| | Engineering Design Planning Construction Management | NOT TO SCALE |
|--|--|--------------|

DATE: 8/16/2022 TIME: 7:27:53 AM FILE: \\NTI-siv\p\p\2022\695_HSP - Project Development and Support\Cad\Hwy\Crash Diagrams\Warren County\Sheet 6.dgn

MATCH LINE E
SEE SHEET NO. 5 OF 8

COLLISION DIAGRAM DATA

| NO. | TIME | DAY | DATE | NO. INJURED | SURFACE CONDITION | WEATHER | LIGHT CONDITION |
|-----|-------|-----|----------|-------------|-------------------|---------|-----------------|
| 14 | 20:37 | WED | 07-18-18 | 1 | DRY | CLEAR | DARK |
| 24 | 17:49 | WED | 11-21-18 | 0 | DRY | CLEAR | DARK |
| 55 | 18:16 | TUE | 11-03-20 | 0 | DRY | CLEAR | DARK |



MATCH LINE F
SEE SHEET NO. 7 OF 8

UNIONTOWN ROAD
(CR 519)

LEGEND

| | |
|------------------------|----------|
| NUMBER OF CRASHES WITH | |
| PROPERTY DAMAGE ONLY | <u>2</u> |
| INJURIES | <u>1</u> |
| FATALITIES* | <u>0</u> |
| TOTAL NO. OF CRASHES | <u>3</u> |

| SYMBOLS | |
|---------|----------------------------|
| | MOVING VEHICLE |
| | BACKING VEHICLE |
| | NON-INVOLVED VEHICLE |
| | PEDESTRIAN |
| | BICYCLIST |
| | PROPERTY DAMAGE ONLY CRASH |
| | INJURY IN CRASH |
| | FATAL CRASH |
| | FIXED OBJECT |
| | ANIMAL |
| | POTHOLE |
| | NON-FIXED OBJECT |

| TYPES OF CRASHES | |
|------------------|-----------------------|
| | REAR END |
| | HEAD ON |
| | SIDE SWIPE |
| | OUT OF CONTROL |
| | OVERTURNED |
| | ENCROACHMENT |
| | LEFT TURN |
| | RIGHT ANGLE |
| | STRUCK PARKED VEHICLE |

| COLORS | |
|--------|--------------|
| | 2018 CRASHES |
| | 2019 CRASHES |
| | 2020 CRASHES |

NEW JERSEY DEPARTMENT OF TRANSPORTATION

UNIONTOWN ROAD (CR 519)
FROM STRYKERS ROAD TO MEMORIAL PARKWAY
GREENWICH TOWNSHIP, WARREN COUNTY

2018 - 2020 COLLISION DIAGRAMS

| | |
|--------------|--|
| | Engineering Design Planning Construction Management |
| NOT TO SCALE | |

FILE: \\NJ-IsV\videt\2021085 ISIP Project Development and Support\Cad\HWY\Crash Diagrams\Warren County\Ven\SHEET 7.dgn
 TIME: 7:30:29 AM
 DATE: 8/16/2022
 GREENMAN-PEDERSEN, INC.

COLLISION DIAGRAM DATA

| NO. | TIME | DAY | DATE | NO. INJURED | SURFACE CONDITION | WEATHER | LIGHT CONDITION |
|-----|-------|-----|----------|-------------|-------------------|----------|-----------------|
| 8 | 15:33 | SUN | 04-22-18 | 2 | DRY | CLEAR | DAY |
| 53 | 19:12 | WED | 07-08-20 | 0 | WET | CLEAR | DAY |
| 54 | 11:01 | SUN | 11-01-20 | 0 | DRY | OVERCAST | DAY |



LEGEND

| NUMBER OF CRASHES WITH | |
|------------------------|----------|
| PROPERTY DAMAGE ONLY | <u>2</u> |
| INJURIES | <u>1</u> |
| FATALITIES* | <u>0</u> |
| TOTAL NO. OF CRASHES | <u>3</u> |

| SYMBOLS | |
|---------|----------------------------|
| | MOVING VEHICLE |
| | BACKING VEHICLE |
| | NON-INVOLVED VEHICLE |
| | PEDESTRIAN |
| | BICYCLIST |
| | PROPERTY DAMAGE ONLY CRASH |
| | INJURY IN CRASH |
| | FIXED OBJECT |
| | NON-FIXED OBJECT |
| | FATAL CRASH |
| | ANIMAL |
| | POTHOLE |

| TYPES OF CRASHES | |
|------------------|-----------------------|
| | REAR END |
| | HEAD ON |
| | SIDE SWIPE |
| | OUT OF CONTROL |
| | OVERTURNED |
| | ENCROACHMENT |
| | LEFT TURN |
| | RIGHT ANGLE |
| | STRUCK PARKED VEHICLE |

| COLORS | |
|--------|--------------|
| | 2018 CRASHES |
| | 2019 CRASHES |
| | 2020 CRASHES |

NEW JERSEY DEPARTMENT OF TRANSPORTATION

UNIONTOWN ROAD (CR 519)
 FROM STRYKERS ROAD TO MEMORIAL PARKWAY
 GREENWICH TOWNSHIP, WARREN COUNTY

2018 - 2020 COLLISION DIAGRAMS

| | |
|--|--------------|
| Engineering Design Planning Construction Management | NOT TO SCALE |
|--|--------------|

COLLISION DIAGRAM DATA

| NO. | TIME | DAY | DATE | NO. INJURED | SURFACE CONDITION | WEATHER | LIGHT CONDITION |
|-----|-------|-----|----------|-------------|-------------------|----------|-----------------|
| 19 | 09:50 | WED | 09-12-18 | 0 | WET | OVERCAST | DAY |
| 20 | 08:52 | FRI | 09-14-18 | 0 | DRY | OVERCAST | DAY |
| 35 | 06:58 | FRI | 05-03-19 | 2 | DRY | OVERCAST | DAY |
| 38 | 15:17 | TUE | 06-04-19 | 0 | DRY | CLEAR | DAY |
| 52 | 12:13 | SUN | 05-31-20 | 0 | DRY | CLEAR | DAY |



MATCH LINE G
SEE SHEET NO. 7 OF 8

UNIONTOWN ROAD
(CR 519)

NJ 57

LEGEND

| | |
|------------------------|---|
| NUMBER OF CRASHES WITH | |
| PROPERTY DAMAGE ONLY | 4 |
| INJURIES | 1 |
| FATALITIES* | 0 |
| TOTAL NO. OF CRASHES | 5 |

| SYMBOLS | |
|---------|----------------------------|
| | MOVING VEHICLE |
| | BACKING VEHICLE |
| | NON-INVOLVED VEHICLE |
| | PEDESTRIAN |
| | BICYCLIST |
| | PROPERTY DAMAGE ONLY CRASH |
| | INJURY IN CRASH |
| | FATAL CRASH |
| | FIXED OBJECT |
| | ANIMAL |
| | NON-FIXED OBJECT |
| | POTHOLE |

| TYPES OF CRASHES | |
|------------------|-----------------------|
| | REAR END |
| | HEAD ON |
| | SIDE SWIPE |
| | OUT OF CONTROL |
| | OVERTURNED |
| | ENCROACHMENT |
| | LEFT TURN |
| | RIGHT ANGLE |
| | STRUCK PARKED VEHICLE |

| COLORS | |
|--------|--------------|
| | 2018 CRASHES |
| | 2019 CRASHES |
| | 2020 CRASHES |

NEW JERSEY DEPARTMENT OF TRANSPORTATION

UNIONTOWN ROAD (CR 519)
FROM STRYKERS ROAD TO MEMORIAL PARKWAY
GREENWICH TOWNSHIP, WARREN COUNTY

2018 - 2020 COLLISION DIAGRAMS

GPI Engineering Design Planning Construction Management

NOT TO SCALE

FILE: \\NJ-IST\vidal\2021085_HSP_ProjectDevelopmentand_Support\Cad\HwyCrash_Diagrams\Warren_County\Veh_Sheet_8.dgn
DATE: 8/16/2022
TIME: 7:22:13 AM
GREENMAN-PEDERSEN, INC.

D. ADDITIONAL INFORMATION

Summary of Year 2021 Traffic Crashes Per Roadway

| County Route | 517 | - | Total Crashes: | | | 59 | Total Miles: | | | 6.47 | |
|-------------------|-----|--------|------------------------|----|--------|--------------------------|--------------|--------|-----------------------|------|--------|
| <u>Crash Type</u> | | | <u>Light Condition</u> | | | <u>Surface Condition</u> | | | <u>Crash Severity</u> | | |
| Same Dir. | 22 | 37.29% | Daylight | 41 | 69.49% | Dry | 51 | 86.44% | Fatal | 0 | 0.00% |
| Off-Road | 6 | 10.17% | Dawn/Dusk | 7 | 11.86% | Wet | 4 | 6.78% | Injury | 15 | 25.42% |
| Angle | 5 | 8.47% | Dark | 11 | 18.64% | Snowy | 4 | 6.78% | Prop. Damage | 44 | 74.58% |
| Head On | 3 | 5.08% | | | | Icy | 0 | 0.00% | | | |
| Left Turn | 4 | 6.78% | | | | Other | 0 | 0.00% | | | |
| Animal | 9 | 15.25% | | | | | | | | | |
| Side Swipe | 5 | 8.47% | | | | | | | | | |
| Other | 5 | 8.47% | | | | | | | | | |

| County Route | 519 | A | Total Crashes: | | | 83 | Total Miles: | | | 7.92 | |
|-------------------|-----|--------|------------------------|----|--------|--------------------------|--------------|--------|-----------------------|------|--------|
| <u>Crash Type</u> | | | <u>Light Condition</u> | | | <u>Surface Condition</u> | | | <u>Crash Severity</u> | | |
| Same Dir. | 28 | 33.73% | Daylight | 63 | 75.90% | Dry | 65 | 78.31% | Fatal | 0 | 0.00% |
| Off-Road | 7 | 8.43% | Dawn/Dusk | 1 | 1.20% | Wet | 12 | 14.46% | Injury | 22 | 26.51% |
| Angle | 11 | 13.25% | Dark | 19 | 22.89% | Snowy | 4 | 4.82% | Prop. Damage | 61 | 73.49% |
| Head On | 4 | 4.82% | | | | Icy | 0 | 0.00% | | | |
| Left Turn | 4 | 4.82% | | | | Other | 2 | 2.41% | | | |
| Animal | 3 | 3.61% | | | | | | | | | |
| Side Swipe | 16 | 19.28% | | | | | | | | | |
| Other | 10 | 12.05% | | | | | | | | | |

| County Route | 519 | B | Total Crashes: | | | 58 | Total Miles: | | | 12.92 | |
|-------------------|-----|--------|------------------------|----|--------|--------------------------|--------------|--------|-----------------------|-------|--------|
| <u>Crash Type</u> | | | <u>Light Condition</u> | | | <u>Surface Condition</u> | | | <u>Crash Severity</u> | | |
| Same Dir. | 9 | 15.52% | Daylight | 32 | 55.17% | Dry | 49 | 84.48% | Fatal | 0 | 0.00% |
| Off-Road | 7 | 12.07% | Dawn/Dusk | 4 | 6.90% | Wet | 8 | 13.79% | Injury | 12 | 20.69% |
| Angle | 10 | 17.24% | Dark | 22 | 37.93% | Snowy | 1 | 1.72% | Prop. Damage | 46 | 79.31% |
| Head On | 4 | 6.90% | | | | Icy | 0 | 0.00% | | | |
| Left Turn | 0 | 0.00% | | | | Other | 0 | 0.00% | | | |
| Animal | 18 | 31.03% | | | | | | | | | |
| Side Swipe | 6 | 10.34% | | | | | | | | | |
| Other | 4 | 6.90% | | | | | | | | | |

519 A - MP 23.4 (Hunterdon County Line) to MP 31.4 (Lopatcong/Harmony Twp. Line)

519 B - MP 31.4 (Lopatcong/Harmony Twp. Line) to MP 44.3 (White/Hope Line)

| Date | County Route | Milepost | Intersecting Road | Collision Type | Light Condition | Surface Condition | Crash Severity |
|------------|--------------|----------|-------------------|----------------|-----------------|-------------------|----------------|
| 9/2/2021 | 519 | 27.05 | Alpha St. | 5 | 1 | 3 | 3 |
| 7/6/2021 | 519 | 27.31 | Pohatcong St. | 2 | 1 | 1 | 3 |
| 6/18/2021 | 519 | 27.36 | SR 122 (N) | 5 | 1 | 1 | 2 |
| 1/3/2021 | 519 | 27.59 | SR 122 (S) | 7 | 1 | 3 | 3 |
| 11/16/2021 | 519 | 27.59 | SR 122 (S) | 5 | 3 | 1 | 2 |
| 5/12/2021 | 519 | 27.59 | SR 122 (S) | 1 | 1 | 1 | 2 |
| 3/18/2021 | 519 | 27.60 | Shimer Blvd. | 4 | 1 | 2 | 3 |
| 7/11/2021 | 519 | 27.60 | Shimer Blvd. | 1 | 1 | 2 | 3 |
| 7/17/2021 | 519 | 27.69 | | 2 | 3 | 2 | 2 |
| 10/25/2021 | 519 | 27.84 | Pershing Ave. | 8 | 3 | 2 | 3 |
| 10/31/2021 | 519 | 27.84 | Pershing Ave. | 1 | 1 | 1 | 3 |
| 2/4/2021 | 519 | 27.84 | Pershing Ave. | 3 | 3 | 1 | 2 |
| 9/15/2021 | 519 | 27.84 | Pershing Ave. | 1 | 1 | 1 | 3 |
| 7/2/2021 | 519 | 27.92 | Liggett Blvd. | 7 | 1 | 1 | 3 |
| 7/29/2021 | 519 | 28.10 | | 8 | 1 | 1 | 3 |
| 2/2/2021 | 519 | 28.16 | Haig Blvd. | 7 | 3 | 2 | 2 |
| 7/7/2021 | 519 | 28.22 | | 1 | 1 | 1 | 2 |
| 11/9/2021 | 519 | 28.26 | Foch Blvd. | 7 | 1 | 1 | 3 |
| 12/10/2021 | 519 | 28.26 | Foch Blvd. | 2 | 3 | 1 | 2 |
| 3/14/2021 | 519 | 28.28 | | 7 | 3 | 1 | 3 |
| 1/3/2021 | 519 | 28.33 | US 22 | 1 | 1 | 3 | 3 |
| 10/17/2021 | 519 | 28.33 | US 22 | 1 | 1 | 2 | 3 |
| 10/26/2021 | 519 | 28.33 | US 22 | 1 | 3 | 2 | 3 |
| 10/31/2021 | 519 | 28.33 | US 22 | 7 | 1 | 1 | 3 |
| 10/7/2021 | 519 | 28.33 | US 22 | 1 | 1 | 1 | 3 |
| 11/16/2021 | 519 | 28.33 | US 22 | 7 | 3 | 1 | 3 |
| 11/24/2021 | 519 | 28.33 | US 22 | 7 | 1 | 1 | 3 |
| 12/12/2021 | 519 | 28.33 | US 22 | 7 | 1 | 1 | 3 |
| 2/22/2021 | 519 | 28.33 | US 22 | 1 | 1 | 3 | 3 |
| 3/26/2021 | 519 | 28.33 | US 22 | 1 | 1 | 1 | 3 |
| 3/5/2021 | 519 | 28.33 | US 22 | 3 | 1 | 1 | 2 |
| 5/14/2021 | 519 | 28.33 | US 22 | 7 | 1 | 1 | 3 |
| 5/3/2021 | 519 | 28.33 | US 22 | 3 | 1 | 1 | 3 |
| 6/3/2021 | 519 | 28.33 | US 22 | 7 | 1 | 1 | 3 |
| 6/8/2021 | 519 | 28.33 | US 22 | 7 | 1 | 1 | 3 |
| 7/13/2021 | 519 | 28.33 | US 22 | 1 | 1 | 1 | 3 |
| 7/23/2021 | 519 | 28.33 | US 22 | 7 | 1 | 1 | 3 |
| 8/3/2021 | 519 | 28.33 | US 22 | 1 | 1 | 1 | 2 |
| 9/24/2021 | 519 | 28.33 | US 22 | 1 | 1 | 1 | 3 |
| 7/4/2021 | 519 | 28.50 | | 1 | 1 | 1 | 2 |
| 5/8/2021 | 519 | 28.70 | | 6 | 3 | 1 | 3 |
| 10/29/2021 | 519 | 28.71 | Strykers Rd. | 3 | 1 | 1 | 2 |

| | | | | |
|-------------|-----------------------|------------------------|--------------------------|-----------------------|
| | <u>Collision Type</u> | <u>Light Condition</u> | <u>Surface Condition</u> | <u>Crash Severity</u> |
| 1-Same Dir. | 5-Left Turn | 1-Daylight | 1-Dry 4-Icy | 1-Fatal |
| 2-Off-Road | 6-Animal | 2-Dawn/Dusk | 2-Wet 5-Other | 2-Injury |
| 3-Angle | 7-Side Swipe | 3-Dark | 3-Snowy | 3-Property Damage |
| 4-Head On | 8-Other | | | |

| Date | County Route | Milepost | Intersecting Road | Collision Type | Light Condition | Surface Condition | Crash Severity |
|------------|--------------|----------|-------------------|----------------|-----------------|-------------------|----------------|
| 6/22/2021 | 519 | 28.71 | Strykers Rd. | 5 | 1 | 2 | 2 |
| 2/17/2021 | 519 | 28.77 | Dumont Rd. | 3 | 1 | 1 | 2 |
| 2/16/2021 | 519 | 28.80 | | 3 | 3 | 1 | 3 |
| 12/24/2021 | 519 | 28.90 | | 1 | 1 | 1 | 3 |
| 11/5/2021 | 519 | 28.91 | | 8 | 1 | 1 | 3 |
| 6/19/2021 | 519 | 29.00 | | 1 | 1 | 1 | 3 |
| 3/5/2021 | 519 | 29.50 | | 8 | 1 | 1 | 2 |
| 6/23/2021 | 519 | 29.60 | | 7 | 1 | 1 | 3 |
| 8/13/2021 | 519 | 29.70 | | 8 | 1 | 1 | 3 |
| 10/11/2021 | 519 | 29.71 | | 8 | 1 | 1 | 3 |
| 1/12/2021 | 519 | 29.93 | SR 57 | 7 | 2 | 1 | 3 |
| 11/21/2021 | 519 | 29.93 | SR 57 | 3 | 1 | 1 | 2 |
| 2/12/2021 | 519 | 29.93 | SR 57 | 1 | 3 | 1 | 3 |
| 3/13/2021 | 519 | 29.93 | SR 57 | 3 | 1 | 1 | 3 |
| 5/18/2021 | 519 | 29.93 | SR 57 | 1 | 1 | 1 | 2 |
| 6/6/2021 | 519 | 29.93 | SR 57 | 1 | 1 | 1 | 2 |
| 7/6/2021 | 519 | 29.93 | SR 57 | 8 | 1 | 1 | 3 |
| 9/4/2021 | 519 | 29.93 | SR 57 | 1 | 1 | 1 | 3 |
| 1/26/2021 | 519 | 30.18 | | 2 | 1 | 5 | 3 |
| 1/26/2021 | 519 | 30.85 | | 8 | 1 | 5 | 3 |
| 2/10/2021 | 519 | 32.00 | | 6 | 3 | 1 | 3 |
| 3/14/2021 | 519 | 32.10 | | 6 | 3 | 1 | 3 |
| 9/22/2021 | 519 | 32.20 | | 1 | 1 | 1 | 3 |
| 7/13/2021 | 519 | 32.30 | | 3 | 1 | 2 | 3 |
| 5/19/2021 | 519 | 32.50 | | 3 | 1 | 1 | 3 |
| 8/3/2021 | 519 | 32.66 | | 2 | 1 | 1 | 2 |
| 12/14/2021 | 519 | 33.00 | | 6 | 3 | 1 | 3 |
| 9/2/2021 | 519 | 34.40 | | 1 | 1 | 1 | 3 |
| 9/28/2021 | 519 | 34.45 | | 6 | 3 | 1 | 3 |
| 12/28/2021 | 519 | 34.50 | CR 622 (S) | 1 | 1 | 2 | 2 |
| 10/6/2021 | 519 | 34.55 | | 6 | 2 | 2 | 3 |
| 1/19/2021 | 519 | 35.00 | | 7 | 1 | 2 | 3 |
| 11/26/2021 | 519 | 35.40 | | 7 | 3 | 1 | 3 |
| 7/16/2021 | 519 | 35.50 | | 2 | 1 | 1 | 2 |
| 10/22/2021 | 519 | 35.51 | | 6 | 2 | 1 | 3 |
| 1/12/2021 | 519 | 36.00 | | 7 | 3 | 1 | 3 |
| 10/22/2021 | 519 | 36.34 | CR 622 (N) | 3 | 1 | 1 | 3 |
| 8/15/2021 | 519 | 36.50 | | 6 | 3 | 1 | 3 |
| 4/1/2021 | 519 | 37.00 | | 4 | 1 | 1 | 2 |
| 4/1/2021 | 519 | 37.05 | | 1 | 1 | 1 | 3 |
| 10/16/2021 | 519 | 37.10 | | 8 | 1 | 2 | 2 |
| 10/5/2021 | 519 | 37.22 | White Rd. | 6 | 3 | 1 | 3 |

| | | | | |
|-------------|-----------------------|------------------------|--------------------------|-----------------------|
| | <u>Collision Type</u> | <u>Light Condition</u> | <u>Surface Condition</u> | <u>Crash Severity</u> |
| 1-Same Dir. | 5-Left Turn | 1-Daylight | 1-Dry 4-Icy | 1-Fatal |
| 2-Off-Road | 6-Animal | 2-Dawn/Dusk | 2-Wet 5-Other | 2-Injury |
| 3-Angle | 7-Side Swipe | 3-Dark | 3-Snowy | 3-Property Damage |
| 4-Head On | 8-Other | | | |

Post Development Traffic Impact Study for the Strykers Road Warehouse Lopatcong Township, Warren County, NJ



A handwritten signature in black ink, appearing to read "John R. Wichner".

John R. Wichner, P.E., PTOE
New Jersey PE License Number 24GE04595000

Prepared by
McMahon Associates, Inc.
840 W. Hamilton Street, Suite 622
Allentown, PA 18101
610.628.2994

Prepared for
Stryker Road Associates, LLC

November 2021
McMahon Project Number: E18786.12

Executive Summary

Stryker Road Associates, LLC recently developed the Strykers Road Warehouse, including 511,200 square feet of warehouse space, located at 39-41 Strykers Road in Lopatcong Township, Warren County, NJ. Access to the site is provided via:

- Northern Driveway: One (1) full movement access for passenger vehicles, and enter only access for trucks along Strykers Road on the northern portion of the site.
- Southern Driveway: One (1) access (restricting left-turn egress movements) along Strykers Road on the southern portion of the site.

The scope of this Post Development Traffic Impact Study is based on the Agreement, dated June 16, 2020, between Stryker Road Associates, LLC and the County of Warren, which states:

“A post completion traffic study must be performed and submitted to the County for review within six months after 80% occupancy of the building to verify generated traffic volumes, and to confirm no additional impacts occurred at any of the study locations, as a result of the project, specifically the intersections of State Route 57 and Strykers Road, County Route 519 and Strykers Road, and U.S. Route 22 and County Route 519.”

The scope of this study includes an evaluation of the existing weekday morning and weekday afternoon peak hours post-construction and occupancy of the referenced development at the following study intersections:

- Strykers Road and Uniontown Road (CR 519)
- US 22 Westbound and Uniontown Road (CR 519)
- US 22 Eastbound and Uniontown Road (CR 519)
- Strykers Road and Memorial Parkway (NJ 57)
- Uniontown Road (CR 519) and Dumont Road
- Strykers Road and Northern Proposed Site Access
- Strykers Road and Southern Proposed Site Access

It is McMahon’s understanding that the site began 100% full-occupancy and operations at or around October 11, 2021. As noted further in the report, all traffic counts were conducted on October 21, 2021, at the request of the Project Owner. Based on data collection obtained post-occupancy the referenced development is generating a total of approximately 221 trips during the weekday morning peak hour and 170 trips during the weekday afternoon peak hour.

Per the field observations, the following on-site and off-site traffic improvements were observed.

Site Accesses

Northern Site Access and Strykers Road

- One ingress and one egress lane are provided for the access.
- Egress movement is restricted to passenger vehicles only with geometric constraints and signage.
- Stop control is provided on the access approach.

Southern Site Access and Strykers Road

- One ingress and one egress lane are provided for the access.
- Left-turn egress movement is restricted from the driveway via signage, pavement markings, and geometric constraints.
- Stop control is provided on the access approach.

Off-Site Traffic Improvements

Intersection 1 – Strykers Road and Uniontown Road (CR 519)

- Based on the results of the post development study, a traffic signal should continue to be monitored at this intersection for master planning purposes. Due to the close proximity of the Dumont Road intersection, it is our opinion that these intersections should operate with a single controller, as a clustered traffic signal operation. The Applicant has provided a contribution in the amount of \$250,000 to Warren County, per the Agreement dated June 16, 2020, for future improvements (signalization) at this intersection.
- Advance warning signage due to the limited clearance at the Norfolk Southern Railroad tunnel on Uniontown Road (CR 519) north of Strykers Road has been provided.

Intersection 2 & 3 – Uniontown Road (CR 519) and US 22 Eastbound/Westbound

- Based on the results of the post-development study, the existing levels of service are consistent with the previously approved with-development conditions contained in the Traffic Impact Study for the Strykers Road Warehouse Development, dated March 2020.

Intersection 4 – Memorial Parkway (NJ 57) and Strykers Road

- Based on the results of the post-development study, the existing levels of service are consistent with the previously approved with development conditions contained in the Traffic Impact Study for the Strykers Road Warehouse Development, dated March 2020 for the weekday morning peak hour. Additionally, the weekday afternoon peak hour operates at a level of service C in existing conditions compared to a level of service D in the previously approved Traffic Impact Study.

The traffic analyses contained herein reveal that efficient access to and from the development is being provided, and furthermore, site-generated traffic is being accommodated at the study area intersections. Detailed results of the level-of-service and queueing analysis are contained in the matrices provided in **Tables 1 and 2**.

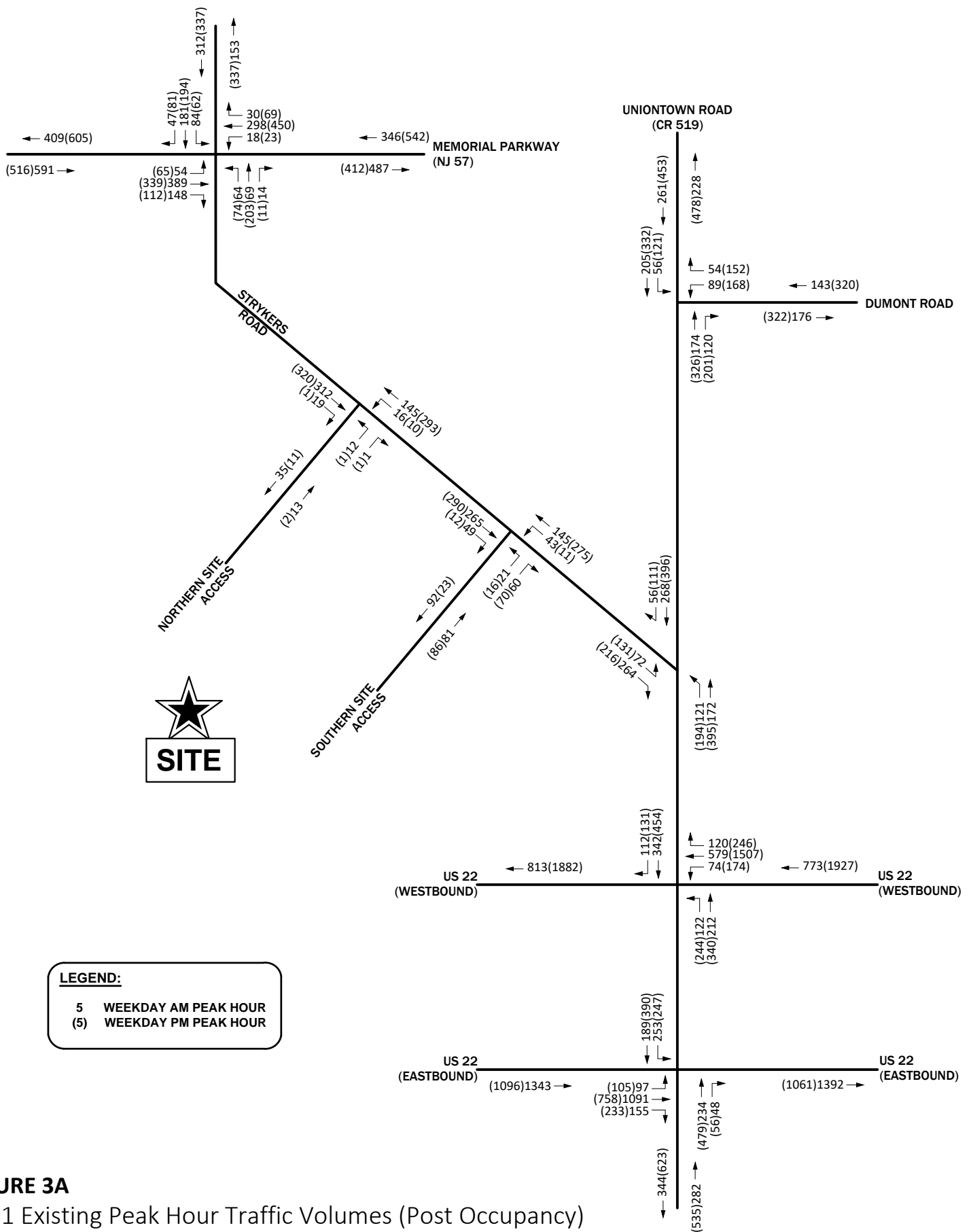


FIGURE 3A
 2021 Existing Peak Hour Traffic Volumes (Post Occupancy)
STRYKERS ROAD
WAREHOUSE DEVELOPMENT
 LOPATCONG TOWNSHIP, WARREN COUNTY, NJ



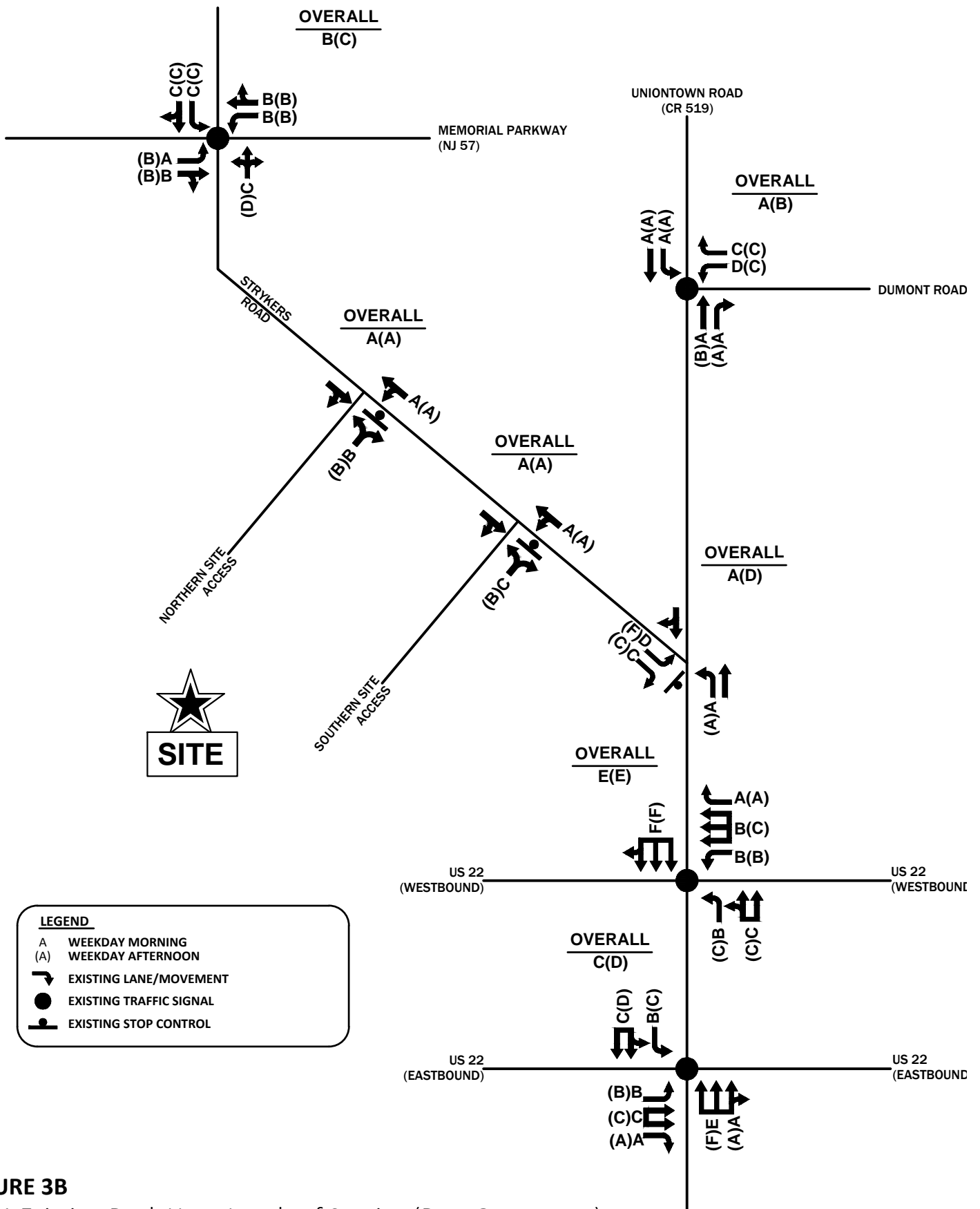


FIGURE 3B
 2021 Existing Peak Hour Levels of Service (Post Occupancy)
STRYKERS ROAD
WAREHOUSE DEVELOPMENT
 LOPATCONG TOWNSHIP, WARREN COUNTY, NJ



Table 1 - Level of Service Matrices
1. Uniontown Road (CR 519) and Strykers Road

| Time Period | | Weekday Morning Peak Hour | | Weekday Afternoon Peak Hour | |
|----------------------------|-------------|---------------------------|---------------------|-----------------------------|---------------------|
| Design Year | | 2021 | 2022 | 2021 | 2022 |
| Development Condition | | w/ Construction | Previously Approved | w/ Construction | Previously Approved |
| Strykers Road | Left EB | D 28.5 | F 56.2 | F 298.3 | F 181.1 |
| | Right | C 16.2 | B 13.0 | C 17.4 | C 18.2 |
| Uniontown Road (CR 519) | Left NB | A 8.5 | A 8.6 | A 8.9 | C 18.2 |
| | Thru | (1) | (1) | (1) | (1) |
| | Right SB | (1) | (1) | (1) | (1) |
| Overall | | A 8.3 | B 10.8 | D 34.1 | C 18.4 |

(1) Movement operates at free-flow conditions.

Table 1 - Level of Service Matrices
5. Uniontown Road (CR 519) and Dumont Road

| Time Period | | Weekday Morning Peak Hour | | Weekday Afternoon Peak Hour | |
|----------------------------|-------|---------------------------|---------------------|-----------------------------|---------------------|
| Design Year | | 2021 | 2022 | 2021 | 2022 |
| Development Condition | | w/ Construction | Previously Approved | w/ Construction | Previously Approved |
| Dumont Road | Left | D | D | C | C |
| | WB | 35.5 | 35.5 | 30.7 | 29.9 |
| Dumont Road | Right | C | C | C | C |
| | WB | 26.1 | 26.4 | 21.4 | 22.6 |
| Uniontown Road (CR 519) | Thru | A | A | B | A |
| | NB | 7.0 | 6.8 | 10.7 | 9.9 |
| | Right | A | A | A | A |
| | NB | 3.9 | 3.8 | 4.5 | 4.5 |
| | Left | A | A | A | A |
| | SB | 4.1 | 4.1 | 6.3 | 5.9 |
| Uniontown Road (CR 519) | Thru | A | A | A | A |
| | SB | 3.2 | 3.1 | 4.9 | 4.4 |
| Overall | | A | B | B | B |
| Overall | | 9.9 | 10.2 | 11.5 | 11.4 |

Table 2 - 95th Percentile Queue Matrices
1. Uniontown Road (CR 519) & Strykers Road

| Time Period | | Current Storage ⁽¹⁾ | Future Storage ⁽²⁾ | Weekday Morning Peak Hour | | Weekday Afternoon Peak Hour | |
|-------------------------|---------------|--------------------------------|-------------------------------|---------------------------|---------------------|-----------------------------|---------------------|
| Design Year | | | | 2021 | 2022 | 2021 | 2022 |
| Development Condition | | | | w/ Construction | Previously Approved | w/ Construction | Previously Approved |
| Strykers Road | EB Left | 115' | | 53 | 108 | 288 | 185 |
| | EB Right | 1000'+ | | 75 | 43 | 65 | 88 |
| Uniontown Road (CR 519) | NB Left | 160' | | 25 | 25 | 25 | 25 |
| | NB Thru | 1000'+ | | (3) | (3) | (3) | (3) |
| | SB Thru Right | 120' | | (3) | (3) | (3) | (3) |

(1) Distance to adjacent intersections shown in italics.

(2) Future storage/distance to adjacent intersections shown if different/improved from existing conditions.

(3) Movement operates at free-flow conditions.

Table 2 - 95th Percentile Queue Matrices
5. Uniontown Road (CR 519) and Dumont Road

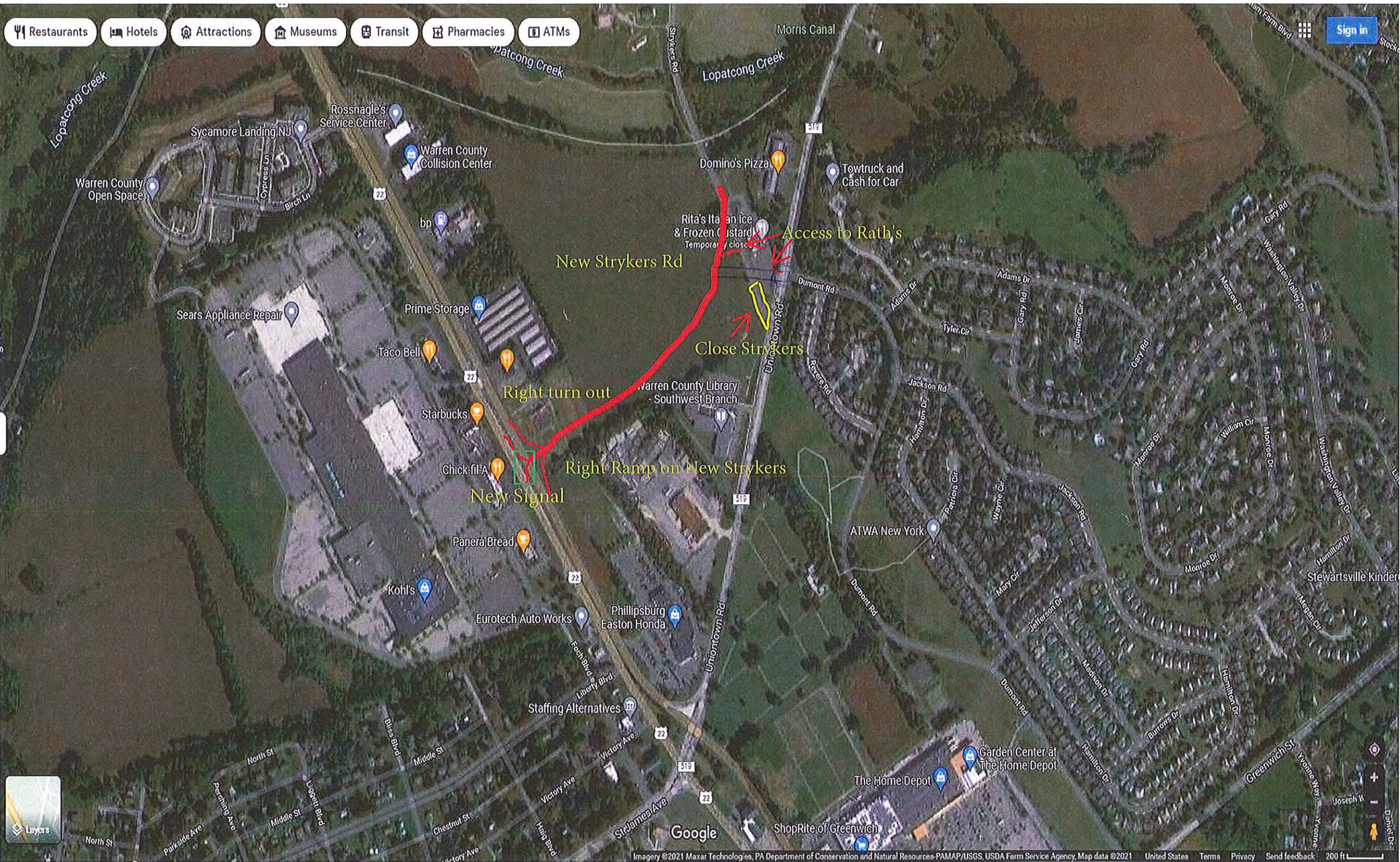
| Time Period | | Current Storage ⁽¹⁾ | Future Storage ⁽²⁾ | Weekday Morning Peak Hour | | Weekday Afternoon Peak Hour | |
|-------------------------|----------|--------------------------------|-------------------------------|---------------------------|---------------------|-----------------------------|---------------------|
| Design Year | | | | 2021 | 2022 | 2021 | 2022 |
| Development Condition | | | | w/ Construction | Previously Approved | w/ Construction | Previously Approved |
| Dumont Road | WB Left | 50' | | 95 | 100 | 140 | 120 |
| | WB Right | 1000'+ | | 25 | 25 | 35 | 68 |
| Uniontown Road (CR 519) | NB Thru | <i>150'</i> | | 58 | 55 | 133 | 115 |
| | NB Right | 120' | | 28 | 35 | 45 | 40 |
| | SB Left | 190' | | 25 | 25 | 25 | 25 |
| | SB Thru | 1000'+ | | 30 | 25 | 63 | 48 |

(1) Distance to adjacent intersections shown in italics.

(2) Future storage/distance to adjacent intersections shown if different/improved from existing conditions.

(3) Synchro 10 percentile methodology was utilized due to clustered intersection.





- Restaurants
- Hotels
- Attractions
- Museums
- Transit
- Pharmacies
- ATMs

Sign in

New Strykers Rd

Close Strykers

Right turn out

Right Ramp on New Strykers

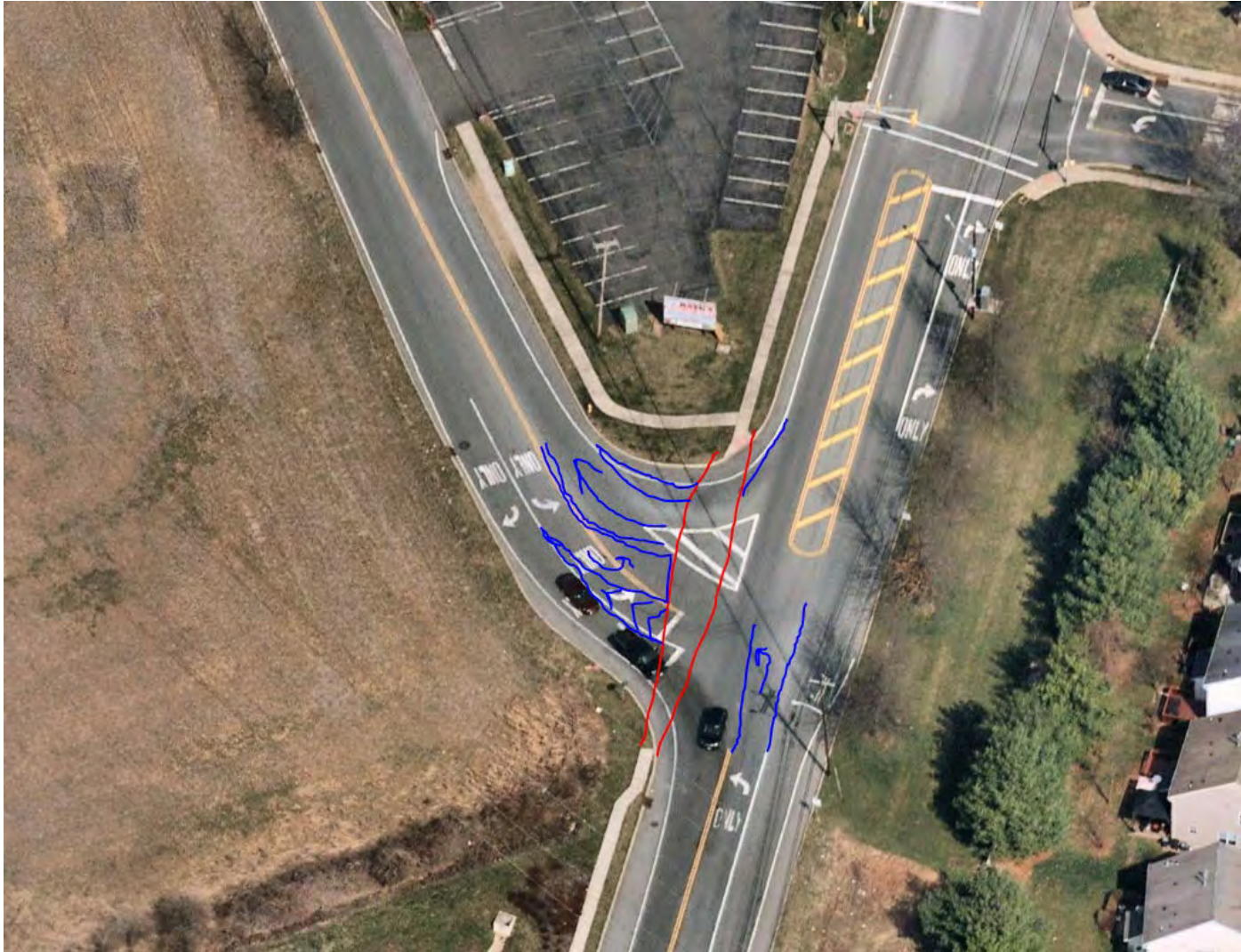
New Signal

Access to Rath's

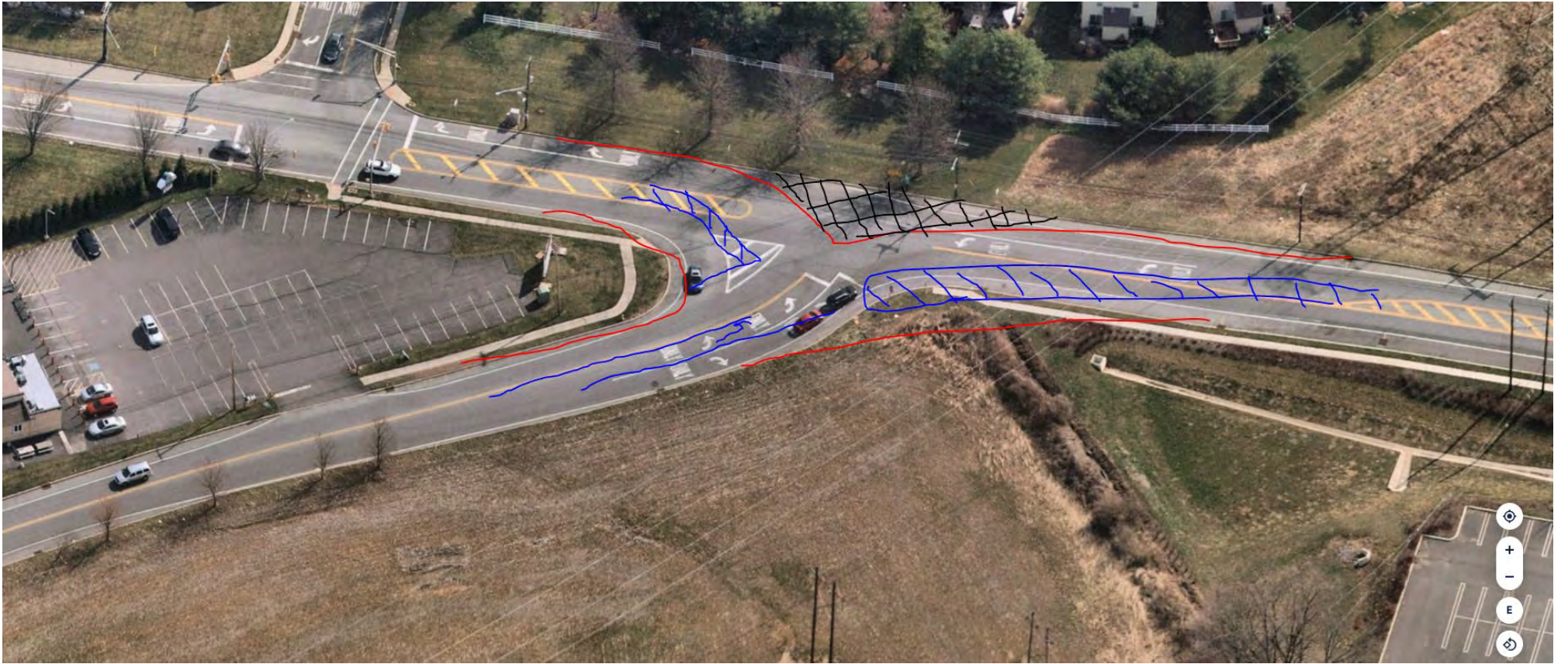
Google

Also sharing (1) A sketch of my pavement marking geometric squaring off; (2) Keith's idea for a Re-Alignment of Strykers and Uniontown Rd

(1) Squaring off and shrinking intersection box



(2) Re-Alignment



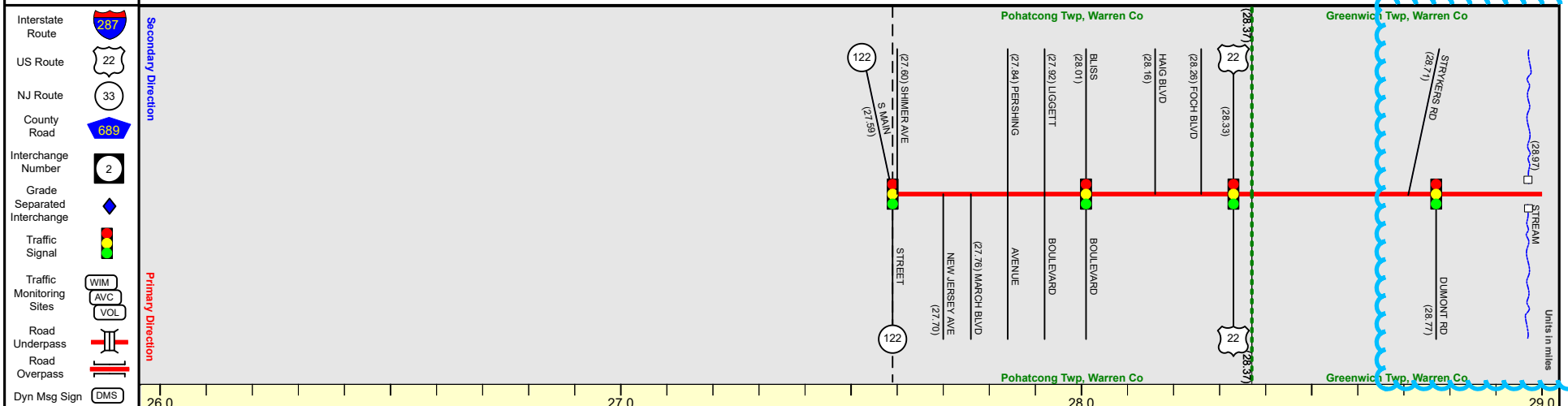
E. TRAFFIC DATA STRAIGHT LINE DIAGRAMS

ROUTE 519 (South to North)

Mile Posts: 27.590 - 29.000



| | |
|-----------------|--|
| Pavement | |
| Shoulder | |
| Number of Lanes | |
| Speed Limit | |
| Street Name | |



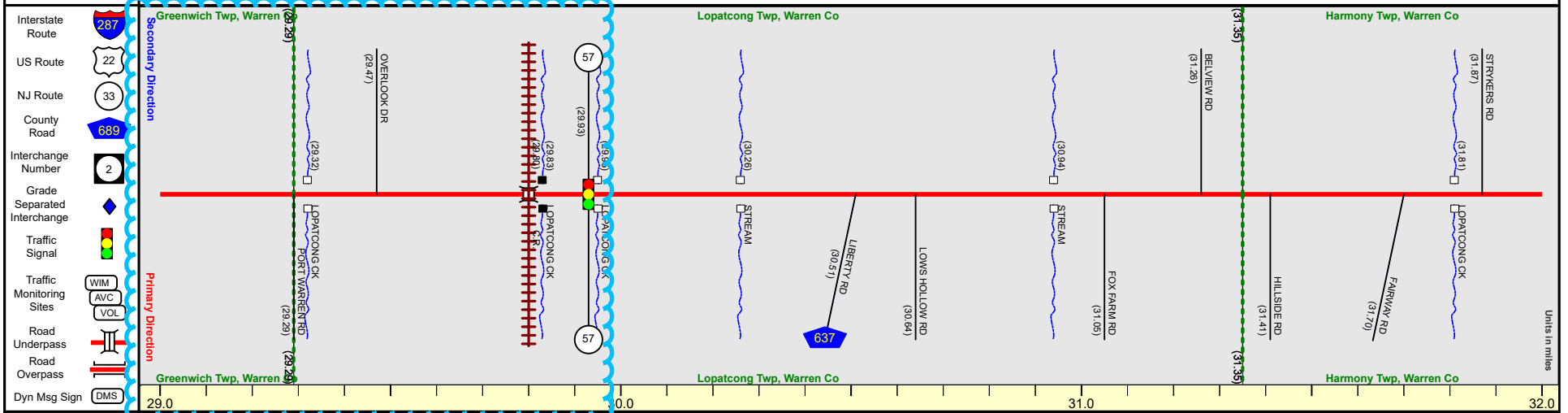
| | | | | | |
|----------------------|--|----------------------|----|----------------|---------|
| Street Name | | St James Avenue | | Uniontown Road | |
| Jurisdiction | | County | | | |
| Functional Class | | Urban Minor Arterial | | | |
| Federal Aid - NHS Sy | | STP | | | |
| Control Section | | | | | |
| Speed Limit | | 35 | | 40 + 50 | |
| Number of Lanes | | 2 | | 4 + 5 + 2 | |
| Med. Type | | None | | | |
| Med. Width | | | | | |
| Pavement | | 24 | 26 | 40 | 26 + 24 |
| Shoulder | | 2 | 4 | | 8 + 2 |
| Traffic Volume | | 11,493 (2018) | | | |
| Traffic Sta. ID | | 1-7-678 | | | |
| Structure No. | | | | | |
| Enlarged Views | | | | | |

SRI = 0000519_

Date last inventoried: November 2012



| | |
|---------------------|-----------|
| Secondary Direction | Blue line |
| Primary Direction | Red line |
| Pavement | |
| Shoulder | |
| Number of Lanes | |
| Speed Limit | |
| Street Name | |



| | | |
|----------------------|----------------------|-----------------|
| Street Name | Uniontown Road | |
| Jurisdiction | County | |
| Functional Class | Urban Minor Arterial | |
| Federal Aid - NHS Sy | STP | |
| Control Section | | |
| Speed Limit | 50 | |
| Number of Lanes | 2 | |
| Med. Type | None | |
| Med. Width | | |
| Pavement | 24 | |
| Shoulder | 2 | 4 |
| Traffic Volume | 5,893 (2018) | |
| Traffic Sta. ID | 1-4-122 | |
| Structure No. | 2101725 | 2101517 2101506 |
| Enlarged Views | 2101031 | |

New Jersey Department of Transportation

Short-term Hourly Traffic Volume for 05/30/2018 to 06/05/2018

Site names: 1-4-422,Uniontown Road-30.071,00000519__
 County: WARREN
 Funct Class: Urban Minor Arterial
 Location: Bet NJ 57 and CO 637 Liberty Rd

Seasonal Factor Grp: rg2_4U
 Daily Factor Grp: rg2_4U
 Axle Factor Grp: rg2_4U
 Growth Factor Grp: rg2_4U

| | Sun, May 27, 2018 | | | Mon, May 28, 2018 | | | Tue, May 29, 2018 | | | Wed, May 30, 2018 | | | Thu, May 31, 2018 | | | Fri, Jun 1, 2018 | | | Sat, Jun 2, 2018 | | |
|--------------|-------------------|---|---|-------------------|---|---|-------------------|---|---|-------------------|--------|--------|-------------------|--------|--------|------------------|--------|--------|------------------|--------|--------|
| | Road | N | S | Road | N | S | Road | N | S | Road | N | S | Road | N | S | Road | N | S | Road | N | S |
| 00:00 | | | | | | | | | | 30 | 19 | 11 | 16 | 14 | 2 | 23 | 16 | 7 | 37 | 28 | 9 |
| 01:00 | | | | | | | | | | 15 | 8 | 7 | 18 | 8 | 10 | 20 | 9 | 11 | 21 | 11 | 10 |
| 02:00 | | | | | | | | | | 17 | 5 | 12 | 22 | 8 | 14 | 18 | 10 | 8 | 16 | 6 | 10 |
| 03:00 | | | | | | | | | | 30 | 13 | 17 | 22 | 8 | 14 | 23 | 12 | 11 | 9 | 5 | 4 |
| 04:00 | | | | | | | | | | 45 | 10 | 35 | 59 | 15 | 44 | 66 | 19 | 47 | 23 | 6 | 17 |
| 05:00 | | | | | | | | | | 160 | 60 | 100 | 150 | 42 | 108 | 144 | 32 | 112 | 49 | 12 | 37 |
| 06:00 | | | | | | | | | | 206 | 86 | 120 | 218 | 99 | 119 | 226 | 80 | 146 | 108 | 49 | 59 |
| 07:00 | | | | | | | | | | 314 | 127 | 187 | 362 | 144 | 218 | 346 | 137 | 209 | 184 | 89 | 95 |
| 08:00 | | | | | | | | | | 395 | 174 | 221 | 379 | 184 | 195 | 332 | 151 | 181 | 270 | 121 | 149 |
| 09:00 | | | | | | | | | | 358 | 156 | 202 | 325 | 129 | 196 | 365 | 155 | 210 | 377 | 142 | 235 |
| 10:00 | | | | | | | | | | 343 | 158 | 185 | 389 | 180 | 209 | 396 | 180 | 216 | 432 | 181 | 251 |
| 11:00 | | | | | | | | | | 470 | 214 | 256 | 401 | 195 | 206 | 469 | 256 | 213 | 500 | 227 | 273 |
| 12:00 | | | | | | | | | | 498 | 242 | 256 | 473 | 233 | 240 | 499 | 267 | 232 | 472 | 249 | 223 |
| 13:00 | | | | | | | | | | 465 | 259 | 206 | 406 | 216 | 190 | 470 | 259 | 211 | 453 | 232 | 221 |
| 14:00 | | | | | | | | | | 457 | 247 | 210 | 491 | 258 | 233 | 470 | 261 | 209 | 447 | 251 | 196 |
| 15:00 | | | | | | | | | | 486 | 248 | 238 | 529 | 293 | 236 | 551 | 287 | 264 | 358 | 176 | 182 |
| 16:00 | | | | | | | | | | 549 | 299 | 250 | 456 | 253 | 203 | 546 | 314 | 232 | 404 | 197 | 207 |
| 17:00 | | | | | | | | | | 509 | 300 | 209 | 546 | 297 | 249 | 515 | 332 | 183 | 374 | 180 | 194 |
| 18:00 | | | | | | | | | | 374 | 221 | 153 | 397 | 251 | 146 | 459 | 264 | 195 | 340 | 189 | 151 |
| 19:00 | | | | | | | | | | 275 | 155 | 120 | 289 | 179 | 110 | 274 | 150 | 124 | 264 | 149 | 115 |
| 20:00 | | | | | | | | | | 211 | 114 | 97 | 189 | 96 | 93 | 227 | 128 | 99 | 220 | 131 | 89 |
| 21:00 | | | | | | | | | | 179 | 113 | 66 | 130 | 77 | 53 | 208 | 137 | 71 | 215 | 118 | 97 |
| 22:00 | | | | | | | | | | 86 | 53 | 33 | 96 | 62 | 34 | 138 | 85 | 53 | 138 | 87 | 51 |
| 23:00 | | | | | | | | | | 37 | 20 | 17 | 57 | 34 | 23 | 81 | 52 | 29 | 75 | 47 | 28 |
| Total | | | | | | | | | | 6,509 | 3,301 | 3,208 | 6,420 | 3,275 | 3,145 | 6,866 | 3,593 | 3,273 | 5,786 | 2,883 | 2,903 |
| AM Peak Vol | | | | | | | | | | 470 | 214 | 256 | 401 | 195 | 219 | 469 | 256 | 232 | 500 | 227 | 279 |
| AM Peak Fct | | | | | | | | | | .877 | .799 | .831 | .946 | .886 | .944 | .953 | .865 | .921 | .962 | .93 | .955 |
| AM Peak Hr | | | | | | | | | | 11: 00 | 11: 00 | 11: 00 | 10: 30 | 11: 00 | 10: 45 | 11: 00 | 11: 00 | 9: 30 | 11: 00 | 11: 00 | 10: 45 |
| PM Peak Vol | | | | | | | | | | 558 | 304 | 265 | 551 | 310 | 249 | 575 | 350 | 264 | 483 | 257 | 233 |
| PM Peak Fct | | | | | | | | | | .949 | .844 | .839 | .912 | .891 | .798 | .91 | .911 | .825 | .85 | .765 | .955 |
| PM Peak Hr | | | | | | | | | | 16: 30 | 16: 30 | 16: 15 | 16: 45 | 16: 45 | 17: 00 | 15: 15 | 16: 45 | 15: 00 | 12: 30 | 12: 15 | 12: 30 |
| Seasonal Fct | | | | | | | | | | .940 | .940 | .940 | .940 | .940 | .940 | .969 | .969 | .969 | .969 | .969 | .969 |
| Daily Fct | | | | | | | | | | .911 | .911 | .911 | .884 | .884 | .884 | .911 | .911 | .911 | 1.070 | 1.070 | 1.070 |
| Axle Fct | | | | | | | | | | .493 | .493 | .493 | .493 | .493 | .493 | .494 | .494 | .494 | .494 | .494 | .494 |
| Pulse Fct | | | | | | | | | | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 |

New Jersey Department of Transportation

Short-term Hourly Traffic Volume for 05/30/2018 to 06/05/2018

Site names: 1-4-422,Uniontown Road-30.071,00000519__
 County: WARREN
 Funct Class: Urban Minor Arterial
 Location: Bet NJ 57 and CO 637 Liberty Rd

Seasonal Factor Grp: rg2_4U
 Daily Factor Grp: rg2_4U
 Axle Factor Grp: rg2_4U
 Growth Factor Grp: rg2_4U

| | Sun, Jun 3, 2018 | | | Mon, Jun 4, 2018 | | | Tue, Jun 5, 2018 | | | Wed, Jun 6, 2018 | | | Thu, Jun 7, 2018 | | | Fri, Jun 8, 2018 | | | Sat, Jun 9, 2018 | | |
|--------------|------------------|--------|--------|------------------|--------|--------|------------------|--------|--------|------------------|---|---|------------------|---|---|------------------|---|---|------------------|---|---|
| | Road | N | S | Road | N | S | Road | N | S | Road | N | S | Road | N | S | Road | N | S | Road | N | S |
| 00:00 | 42 | 21 | 21 | 15 | 7 | 8 | 33 | 19 | 14 | | | | | | | | | | | | |
| 01:00 | 19 | 13 | 6 | 13 | 4 | 9 | 16 | 5 | 11 | | | | | | | | | | | | |
| 02:00 | 21 | 11 | 10 | 16 | 7 | 9 | 10 | 4 | 6 | | | | | | | | | | | | |
| 03:00 | 7 | 4 | 3 | 17 | 11 | 6 | 39 | 21 | 18 | | | | | | | | | | | | |
| 04:00 | 17 | 8 | 9 | 41 | 13 | 28 | 56 | 17 | 39 | | | | | | | | | | | | |
| 05:00 | 31 | 11 | 20 | 159 | 42 | 117 | 169 | 56 | 113 | | | | | | | | | | | | |
| 06:00 | 45 | 16 | 29 | 213 | 95 | 118 | 217 | 93 | 124 | | | | | | | | | | | | |
| 07:00 | 121 | 40 | 81 | 350 | 137 | 213 | 380 | 144 | 236 | | | | | | | | | | | | |
| 08:00 | 179 | 74 | 105 | 376 | 178 | 198 | 375 | 174 | 201 | | | | | | | | | | | | |
| 09:00 | 267 | 126 | 141 | 344 | 150 | 194 | 388 | 182 | 206 | | | | | | | | | | | | |
| 10:00 | 400 | 181 | 219 | 403 | 176 | 227 | 365 | 177 | 188 | | | | | | | | | | | | |
| 11:00 | 415 | 195 | 220 | 440 | 218 | 222 | 406 | 196 | 210 | | | | | | | | | | | | |
| 12:00 | 464 | 219 | 245 | 469 | 231 | 238 | 415 | 213 | 202 | | | | | | | | | | | | |
| 13:00 | 475 | 261 | 214 | 468 | 217 | 251 | 507 | 285 | 222 | | | | | | | | | | | | |
| 14:00 | 465 | 226 | 239 | 438 | 238 | 200 | 465 | 263 | 202 | | | | | | | | | | | | |
| 15:00 | 414 | 206 | 208 | 533 | 300 | 233 | 506 | 297 | 209 | | | | | | | | | | | | |
| 16:00 | 433 | 243 | 190 | 533 | 315 | 218 | 517 | 268 | 249 | | | | | | | | | | | | |
| 17:00 | 385 | 212 | 173 | 519 | 289 | 230 | 510 | 329 | 181 | | | | | | | | | | | | |
| 18:00 | 277 | 157 | 120 | 371 | 226 | 145 | 402 | 226 | 176 | | | | | | | | | | | | |
| 19:00 | 238 | 127 | 111 | 323 | 182 | 141 | 285 | 171 | 114 | | | | | | | | | | | | |
| 20:00 | 144 | 80 | 64 | 232 | 135 | 97 | 213 | 140 | 73 | | | | | | | | | | | | |
| 21:00 | 115 | 62 | 53 | 145 | 95 | 50 | 166 | 100 | 66 | | | | | | | | | | | | |
| 22:00 | 49 | 27 | 22 | 86 | 56 | 30 | 84 | 48 | 36 | | | | | | | | | | | | |
| 23:00 | 50 | 29 | 21 | 49 | 33 | 16 | 56 | 35 | 21 | | | | | | | | | | | | |
| Total | 5,073 | 2,549 | 2,524 | 6,553 | 3,355 | 3,198 | 6,580 | 3,463 | 3,117 | | | | | | | | | | | | |
| AM Peak Vol | 432 | 203 | 229 | 440 | 218 | 238 | 421 | 198 | 237 | | | | | | | | | | | | |
| AM Peak Fct | .9 | .793 | .954 | .859 | .879 | .862 | .94 | .839 | .823 | | | | | | | | | | | | |
| AM Peak Hr | 10: 30 | 10: 30 | 10: 30 | 11: 00 | 11: 00 | 10: 15 | 10: 45 | 10: 45 | 7: 15 | | | | | | | | | | | | |
| PM Peak Vol | 504 | 261 | 254 | 566 | 320 | 261 | 533 | 329 | 249 | | | | | | | | | | | | |
| PM Peak Fct | .851 | .96 | .794 | .931 | .899 | .87 | .877 | .968 | .841 | | | | | | | | | | | | |
| PM Peak Hr | 13: 30 | 13: 00 | 13: 30 | 16: 45 | 15: 45 | 16: 45 | 15: 30 | 17: 00 | 16: 00 | | | | | | | | | | | | |
| Seasonal Fct | .969 | .969 | .969 | .969 | .969 | .969 | .969 | .969 | .969 | | | | | | | | | | | | |
| Daily Fct | 1.321 | 1.321 | 1.321 | .970 | .970 | .970 | .968 | .968 | .968 | | | | | | | | | | | | |
| Axle Fct | .494 | .494 | .494 | .494 | .494 | .494 | .494 | .494 | .494 | | | | | | | | | | | | |
| Pulse Fct | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | | | | | | | | | | | | |

New Jersey Department of Transportation

Short-term Hourly Traffic Volume for 05/30/2018 to 06/05/2018

Site names: 1-7-678,Uniontown Road-28.688,00000519__
 County: WARREN
 Funct Class: Urban Minor Arterial
 Location: bet US 22 and Stryker Rd

Seasonal Factor Grp: rg2_4U
 Daily Factor Grp: rg2_4U
 Axle Factor Grp: rg2_4U
 Growth Factor Grp: rg2_4U

| | Sun, May 27, 2018 | | | Mon, May 28, 2018 | | | Tue, May 29, 2018 | | | Wed, May 30, 2018 | | | Thu, May 31, 2018 | | | Fri, Jun 1, 2018 | | | Sat, Jun 2, 2018 | | |
|--------------|-------------------|---|---|-------------------|---|---|-------------------|---|---|-------------------|--------|--------|-------------------|--------|--------|------------------|--------|--------|------------------|--------|--------|
| | Road | N | S | Road | N | S | Road | N | S | Road | N | S | Road | N | S | Road | N | S | Road | N | S |
| 00:00 | | | | | | | | | | 55 | 36 | 19 | 58 | 36 | 22 | 68 | 47 | 21 | 114 | 79 | 35 |
| 01:00 | | | | | | | | | | 41 | 20 | 21 | 36 | 17 | 19 | 42 | 23 | 19 | 53 | 29 | 24 |
| 02:00 | | | | | | | | | | 39 | 18 | 21 | 25 | 10 | 15 | 43 | 14 | 29 | 34 | 18 | 16 |
| 03:00 | | | | | | | | | | 37 | 13 | 24 | 48 | 17 | 31 | 49 | 24 | 25 | 29 | 12 | 17 |
| 04:00 | | | | | | | | | | 100 | 22 | 78 | 103 | 36 | 67 | 111 | 19 | 92 | 51 | 22 | 29 |
| 05:00 | | | | | | | | | | 336 | 97 | 239 | 308 | 66 | 242 | 274 | 56 | 218 | 110 | 36 | 74 |
| 06:00 | | | | | | | | | | 538 | 182 | 356 | 517 | 168 | 349 | 511 | 164 | 347 | 217 | 81 | 136 |
| 07:00 | | | | | | | | | | 719 | 273 | 446 | 688 | 217 | 471 | 753 | 252 | 501 | 400 | 166 | 234 |
| 08:00 | | | | | | | | | | 681 | 284 | 397 | 698 | 308 | 390 | 702 | 275 | 427 | 562 | 244 | 318 |
| 09:00 | | | | | | | | | | 603 | 252 | 351 | 623 | 285 | 338 | 675 | 307 | 368 | 754 | 298 | 456 |
| 10:00 | | | | | | | | | | 614 | 265 | 349 | 698 | 277 | 421 | 743 | 325 | 418 | 871 | 358 | 513 |
| 11:00 | | | | | | | | | | 740 | 341 | 399 | 619 | 305 | 314 | 852 | 395 | 457 | 972 | 438 | 534 |
| 12:00 | | | | | | | | | | 777 | 389 | 388 | 774 | 350 | 424 | 887 | 399 | 488 | 981 | 457 | 524 |
| 13:00 | | | | | | | | | | 885 | 454 | 431 | 771 | 364 | 407 | 828 | 410 | 418 | 935 | 441 | 494 |
| 14:00 | | | | | | | | | | 817 | 389 | 428 | 789 | 407 | 382 | 950 | 480 | 470 | 851 | 402 | 449 |
| 15:00 | | | | | | | | | | 926 | 439 | 487 | 965 | 514 | 451 | 1,081 | 507 | 574 | 631 | 221 | 410 |
| 16:00 | | | | | | | | | | 1,065 | 507 | 558 | 1,019 | 579 | 440 | 1,047 | 477 | 570 | 736 | 319 | 417 |
| 17:00 | | | | | | | | | | 1,101 | 538 | 563 | 1,104 | 516 | 588 | 1,048 | 524 | 524 | 706 | 369 | 337 |
| 18:00 | | | | | | | | | | 874 | 467 | 407 | 864 | 459 | 405 | 921 | 465 | 456 | 683 | 363 | 320 |
| 19:00 | | | | | | | | | | 723 | 387 | 336 | 683 | 384 | 299 | 709 | 362 | 347 | 600 | 296 | 304 |
| 20:00 | | | | | | | | | | 492 | 280 | 212 | 543 | 286 | 257 | 643 | 332 | 311 | 529 | 273 | 256 |
| 21:00 | | | | | | | | | | 340 | 209 | 131 | 350 | 205 | 145 | 480 | 266 | 214 | 409 | 228 | 181 |
| 22:00 | | | | | | | | | | 172 | 108 | 64 | 202 | 125 | 77 | 290 | 170 | 120 | 304 | 169 | 135 |
| 23:00 | | | | | | | | | | 93 | 50 | 43 | 106 | 66 | 40 | 198 | 113 | 85 | 186 | 112 | 74 |
| Total | | | | | | | | | | 12,768 | 6,020 | 6,748 | 12,591 | 5,997 | 6,594 | 13,905 | 6,406 | 7,499 | 11,718 | 5,431 | 6,287 |
| AM Peak Vol | | | | | | | | | | 752 | 351 | 447 | 736 | 310 | 479 | 852 | 395 | 501 | 972 | 438 | 534 |
| AM Peak Fct | | | | | | | | | | .891 | .805 | .88 | .944 | .881 | .99 | .964 | .932 | .895 | .96 | .936 | .967 |
| AM Peak Hr | | | | | | | | | | 7: 30 | 10: 45 | 7: 30 | 7: 30 | 9: 30 | 7: 15 | 11: 00 | 11: 00 | 7: 00 | 11: 00 | 11: 00 | 11: 00 |
| PM Peak Vol | | | | | | | | | | 1,114 | 548 | 583 | 1,120 | 598 | 588 | 1,098 | 556 | 574 | 996 | 484 | 524 |
| PM Peak Fct | | | | | | | | | | .879 | .778 | .883 | .966 | .94 | .936 | .95 | .88 | .914 | .899 | .883 | .916 |
| PM Peak Hr | | | | | | | | | | 16: 30 | 16: 15 | 16: 45 | 16: 45 | 16: 15 | 17: 00 | 16: 30 | 16: 45 | 15: 00 | 12: 15 | 12: 15 | 12: 00 |
| Seasonal Fct | | | | | | | | | | .940 | .940 | .940 | .940 | .940 | .940 | .969 | .969 | .969 | .969 | .969 | .969 |
| Daily Fct | | | | | | | | | | .911 | .911 | .911 | .884 | .884 | .884 | .911 | .911 | .911 | 1.070 | 1.070 | 1.070 |
| Axle Fct | | | | | | | | | | .493 | .493 | .493 | .493 | .493 | .493 | .494 | .494 | .494 | .494 | .494 | .494 |
| Pulse Fct | | | | | | | | | | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 |

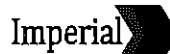
New Jersey Department of Transportation

Short-term Hourly Traffic Volume for 05/30/2018 to 06/05/2018

Site names: 1-7-678,Uniontown Road-28.688,00000519__
 County: WARREN
 Funct Class: Urban Minor Arterial
 Location: bet US 22 and Stryker Rd

Seasonal Factor Grp: rg2_4U
 Daily Factor Grp: rg2_4U
 Axle Factor Grp: rg2_4U
 Growth Factor Grp: rg2_4U

| | Sun, Jun 3, 2018 | | | Mon, Jun 4, 2018 | | | Tue, Jun 5, 2018 | | | Wed, Jun 6, 2018 | | | Thu, Jun 7, 2018 | | | Fri, Jun 8, 2018 | | | Sat, Jun 9, 2018 | | |
|--------------|------------------|--------|--------|------------------|--------|--------|------------------|--------|--------|------------------|---|---|------------------|---|---|------------------|---|---|------------------|---|---|
| | Road | N | S | Road | N | S | Road | N | S | Road | N | S | Road | N | S | Road | N | S | Road | N | S |
| 00:00 | 102 | 60 | 42 | 44 | 25 | 19 | 58 | 40 | 18 | | | | | | | | | | | | |
| 01:00 | 78 | 46 | 32 | 42 | 17 | 25 | 46 | 24 | 22 | | | | | | | | | | | | |
| 02:00 | 36 | 22 | 14 | 37 | 17 | 20 | 37 | 17 | 20 | | | | | | | | | | | | |
| 03:00 | 23 | 10 | 13 | 49 | 21 | 28 | 64 | 24 | 40 | | | | | | | | | | | | |
| 04:00 | 33 | 17 | 16 | 88 | 27 | 61 | 111 | 26 | 85 | | | | | | | | | | | | |
| 05:00 | 71 | 26 | 45 | 319 | 91 | 228 | 327 | 68 | 259 | | | | | | | | | | | | |
| 06:00 | 120 | 49 | 71 | 513 | 188 | 325 | 520 | 177 | 343 | | | | | | | | | | | | |
| 07:00 | 217 | 83 | 134 | 720 | 227 | 493 | 736 | 247 | 489 | | | | | | | | | | | | |
| 08:00 | 317 | 138 | 179 | 699 | 266 | 433 | 659 | 231 | 428 | | | | | | | | | | | | |
| 09:00 | 471 | 204 | 267 | 623 | 273 | 350 | 595 | 259 | 336 | | | | | | | | | | | | |
| 10:00 | 731 | 313 | 418 | 671 | 286 | 385 | 643 | 291 | 352 | | | | | | | | | | | | |
| 11:00 | 789 | 376 | 413 | 752 | 340 | 412 | 690 | 329 | 361 | | | | | | | | | | | | |
| 12:00 | 937 | 426 | 511 | 848 | 393 | 455 | 787 | 377 | 410 | | | | | | | | | | | | |
| 13:00 | 892 | 433 | 459 | 721 | 331 | 390 | 719 | 367 | 352 | | | | | | | | | | | | |
| 14:00 | 775 | 367 | 408 | 868 | 436 | 432 | 883 | 456 | 427 | | | | | | | | | | | | |
| 15:00 | 706 | 342 | 364 | 953 | 470 | 483 | 1,038 | 552 | 486 | | | | | | | | | | | | |
| 16:00 | 712 | 343 | 369 | 936 | 475 | 461 | 988 | 490 | 498 | | | | | | | | | | | | |
| 17:00 | 650 | 348 | 302 | 1,014 | 493 | 521 | 1,017 | 543 | 474 | | | | | | | | | | | | |
| 18:00 | 584 | 301 | 283 | 790 | 429 | 361 | 828 | 431 | 397 | | | | | | | | | | | | |
| 19:00 | 474 | 232 | 242 | 653 | 349 | 304 | 666 | 374 | 292 | | | | | | | | | | | | |
| 20:00 | 355 | 195 | 160 | 482 | 287 | 195 | 549 | 326 | 223 | | | | | | | | | | | | |
| 21:00 | 216 | 123 | 93 | 300 | 177 | 123 | 337 | 191 | 146 | | | | | | | | | | | | |
| 22:00 | 154 | 82 | 72 | 168 | 101 | 67 | 214 | 132 | 82 | | | | | | | | | | | | |
| 23:00 | 88 | 52 | 36 | 103 | 66 | 37 | 109 | 65 | 44 | | | | | | | | | | | | |
| Total | 9,531 | 4,588 | 4,943 | 12,393 | 5,785 | 6,608 | 12,621 | 6,037 | 6,584 | | | | | | | | | | | | |
| AM Peak Vol | 789 | 376 | 425 | 764 | 340 | 499 | 736 | 329 | 489 | | | | | | | | | | | | |
| AM Peak Fct | .893 | .825 | .837 | .95 | .867 | .924 | .864 | .968 | .861 | | | | | | | | | | | | |
| AM Peak Hr | 11: 00 | 11: 00 | 10: 15 | 7: 30 | 11: 00 | 7: 30 | 7: 00 | 11: 00 | 7: 00 | | | | | | | | | | | | |
| PM Peak Vol | 937 | 433 | 511 | 1,014 | 515 | 521 | 1,068 | 552 | 526 | | | | | | | | | | | | |
| PM Peak Fct | .956 | .91 | .975 | .883 | .842 | .917 | .878 | .885 | .802 | | | | | | | | | | | | |
| PM Peak Hr | 12: 00 | 13: 00 | 12: 00 | 17: 00 | 16: 15 | 17: 00 | 16: 45 | 15: 00 | 16: 30 | | | | | | | | | | | | |
| Seasonal Fct | .969 | .969 | .969 | .969 | .969 | .969 | .969 | .969 | .969 | | | | | | | | | | | | |
| Daily Fct | 1.321 | 1.321 | 1.321 | .970 | .970 | .970 | .968 | .968 | .968 | | | | | | | | | | | | |
| Axle Fct | .494 | .494 | .494 | .494 | .494 | .494 | .494 | .494 | .494 | | | | | | | | | | | | |
| Pulse Fct | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | 2.000 | | | | | | | | | | | | |



TRAFFIC & DATA COLLECTION

Imperial Traffic & Data Collection
www.imperialtdc.com

PO BOX 4637

Cherry Hill, New Jersey, United States 08034

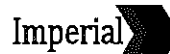
609-706-6100 kklein@imperialtdc.com

Project: Uniontown Road
Municipality: Lopatcong, Warren County, NJ
Setup: MAK
Location: 40.686786, -75.145439

Count Name: 2. Stryker Road & Uniontown Road
Site Code: 2
Start Date: 11/14/2019
Page No: 1

Turning Movement Data

| Start Time | Strykers Road Eastbound | | | | | Uniontown Road Northbound | | | | | Uniontown Road Southbound | | | | | Int. Total |
|--------------|-------------------------|------|-------|------|------------|---------------------------|------|------|------|------------|---------------------------|------|-------|------|------------|------------|
| | U-Turn | Left | Right | Peds | App. Total | U-Turn | Left | Thru | Peds | App. Total | U-Turn | Thru | Right | Peds | App. Total | |
| 7:00 AM | 0 | 9 | 42 | 0 | 51 | 0 | 15 | 33 | 0 | 48 | 0 | 54 | 17 | 0 | 71 | 170 |
| 7:15 AM | 0 | 17 | 51 | 0 | 68 | 0 | 16 | 32 | 0 | 48 | 0 | 61 | 14 | 0 | 75 | 191 |
| 7:30 AM | 0 | 18 | 40 | 0 | 58 | 0 | 17 | 43 | 0 | 60 | 0 | 53 | 8 | 0 | 61 | 179 |
| 7:45 AM | 0 | 22 | 49 | 0 | 71 | 0 | 20 | 57 | 0 | 77 | 0 | 68 | 12 | 0 | 80 | 228 |
| Hourly Total | 0 | 66 | 182 | 0 | 248 | 0 | 68 | 165 | 0 | 233 | 0 | 236 | 51 | 0 | 287 | 768 |
| 8:00 AM | 0 | 32 | 43 | 0 | 75 | 0 | 24 | 34 | 0 | 58 | 0 | 51 | 12 | 0 | 63 | 196 |
| 8:15 AM | 0 | 15 | 45 | 0 | 60 | 0 | 21 | 43 | 0 | 64 | 0 | 51 | 11 | 0 | 62 | 186 |
| 8:30 AM | 0 | 15 | 35 | 1 | 50 | 0 | 24 | 44 | 0 | 68 | 0 | 57 | 5 | 0 | 62 | 180 |
| 8:45 AM | 0 | 17 | 49 | 0 | 66 | 0 | 34 | 48 | 0 | 82 | 0 | 69 | 15 | 0 | 84 | 232 |
| Hourly Total | 0 | 79 | 172 | 1 | 251 | 0 | 103 | 169 | 0 | 272 | 0 | 228 | 43 | 0 | 271 | 794 |
| 9:00 AM | 0 | 14 | 33 | 0 | 47 | 0 | 13 | 43 | 0 | 56 | 0 | 42 | 7 | 0 | 49 | 152 |
| 9:15 AM | 0 | 22 | 33 | 0 | 55 | 0 | 16 | 37 | 0 | 53 | 0 | 41 | 15 | 0 | 56 | 164 |
| 9:30 AM | 0 | 19 | 30 | 0 | 49 | 0 | 15 | 33 | 0 | 48 | 0 | 49 | 4 | 0 | 53 | 150 |
| 9:45 AM | 0 | 24 | 37 | 0 | 61 | 0 | 13 | 37 | 0 | 50 | 0 | 58 | 10 | 0 | 68 | 179 |
| Hourly Total | 0 | 79 | 133 | 0 | 212 | 0 | 57 | 150 | 0 | 207 | 0 | 190 | 36 | 0 | 226 | 645 |
| 10:00 AM | 0 | 16 | 31 | 0 | 47 | 0 | 23 | 49 | 0 | 72 | 0 | 36 | 18 | 0 | 54 | 173 |
| 10:15 AM | 0 | 16 | 36 | 0 | 52 | 0 | 21 | 52 | 0 | 73 | 0 | 53 | 16 | 0 | 69 | 194 |
| 10:30 AM | 0 | 16 | 42 | 0 | 58 | 0 | 21 | 54 | 0 | 75 | 0 | 52 | 14 | 0 | 66 | 199 |
| 10:45 AM | 0 | 27 | 42 | 0 | 69 | 0 | 30 | 43 | 0 | 73 | 0 | 60 | 5 | 0 | 66 | 206 |
| Hourly Total | 0 | 75 | 151 | 0 | 226 | 0 | 95 | 198 | 0 | 293 | 0 | 201 | 54 | 0 | 255 | 774 |
| 11:00 AM | 0 | 32 | 31 | 0 | 63 | 0 | 20 | 41 | 0 | 61 | 0 | 55 | 14 | 0 | 69 | 193 |
| 11:15 AM | 0 | 25 | 44 | 0 | 69 | 0 | 23 | 51 | 0 | 74 | 0 | 51 | 16 | 0 | 67 | 210 |
| 11:30 AM | 0 | 17 | 27 | 1 | 44 | 0 | 16 | 45 | 0 | 61 | 0 | 61 | 16 | 0 | 77 | 182 |
| 11:45 AM | 0 | 24 | 50 | 1 | 74 | 0 | 25 | 53 | 0 | 78 | 0 | 77 | 20 | 0 | 97 | 249 |
| Hourly Total | 0 | 98 | 152 | 2 | 250 | 0 | 84 | 190 | 0 | 274 | 0 | 244 | 66 | 0 | 310 | 834 |
| 12:00 PM | 0 | 22 | 39 | 0 | 61 | 0 | 29 | 43 | 0 | 72 | 0 | 66 | 10 | 0 | 76 | 209 |
| 12:15 PM | 0 | 22 | 25 | 0 | 47 | 0 | 29 | 69 | 0 | 98 | 0 | 67 | 11 | 0 | 78 | 223 |
| 12:30 PM | 0 | 23 | 26 | 0 | 49 | 0 | 34 | 44 | 0 | 78 | 0 | 66 | 17 | 0 | 83 | 210 |
| 12:45 PM | 0 | 23 | 40 | 0 | 63 | 0 | 26 | 52 | 0 | 78 | 0 | 63 | 20 | 0 | 83 | 224 |
| Hourly Total | 0 | 90 | 130 | 0 | 220 | 0 | 118 | 208 | 0 | 326 | 0 | 262 | 58 | 0 | 320 | 866 |
| 1:00 PM | 0 | 34 | 25 | 0 | 59 | 0 | 35 | 67 | 0 | 102 | 0 | 65 | 12 | 0 | 77 | 238 |
| 1:15 PM | 0 | 22 | 41 | 0 | 63 | 0 | 37 | 64 | 0 | 101 | 0 | 55 | 19 | 0 | 74 | 238 |
| 1:30 PM | 0 | 20 | 30 | 0 | 50 | 0 | 33 | 77 | 0 | 110 | 0 | 59 | 13 | 0 | 72 | 232 |
| 1:45 PM | 0 | 23 | 36 | 0 | 59 | 0 | 26 | 47 | 0 | 73 | 0 | 49 | 16 | 0 | 65 | 197 |
| Hourly Total | 0 | 99 | 132 | 0 | 231 | 0 | 131 | 255 | 0 | 386 | 0 | 228 | 60 | 0 | 288 | 905 |
| 2:00 PM | 0 | 21 | 38 | 0 | 59 | 0 | 37 | 61 | 0 | 98 | 0 | 51 | 24 | 0 | 75 | 232 |



TRAFFIC & DATA COLLECTION

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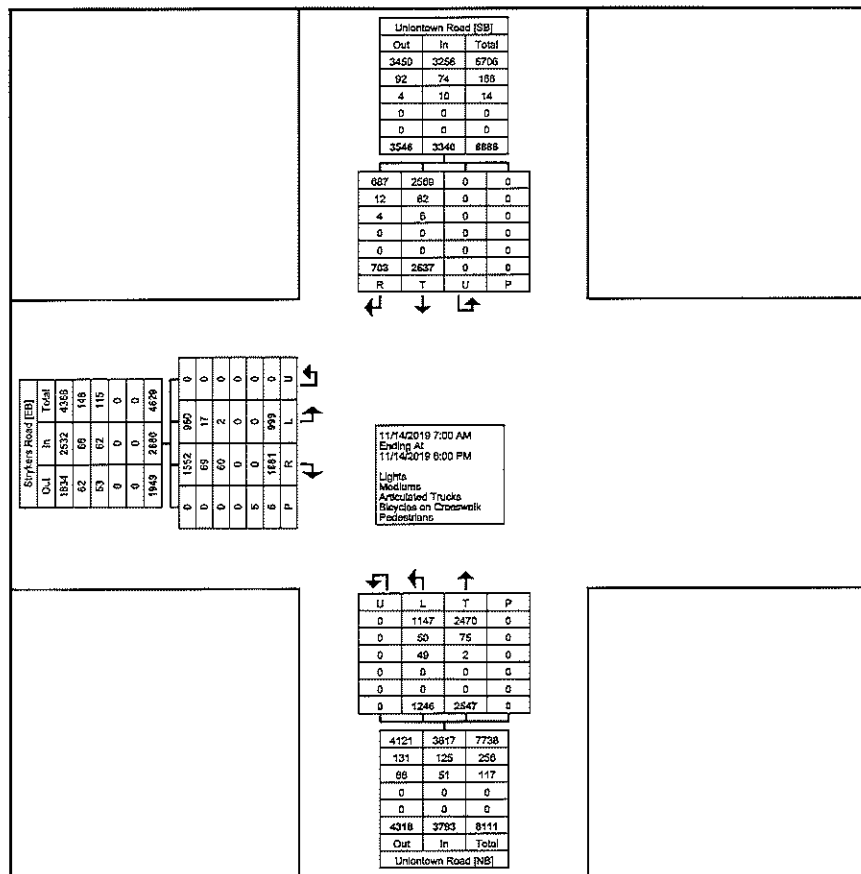
PO BOX 4637

Cherry Hill, New Jersey, United States 08034

609-706-6100 klein@imperialtdc.com

Project: Uniontown Road
 Municipality: Lopatcong, Warren County, NJ
 Setup: MAK
 Location: 40.686786, -75.145439

Count Name: 2. Stryker Road & Uniontown Road
 Site Code: 2
 Start Date: 11/14/2019
 Page No: 3



Turning Movement Data Plot



TRAFFIC & DATA COLLECTION

Imperial Traffic & Data Collection

www.imperialtdc.com

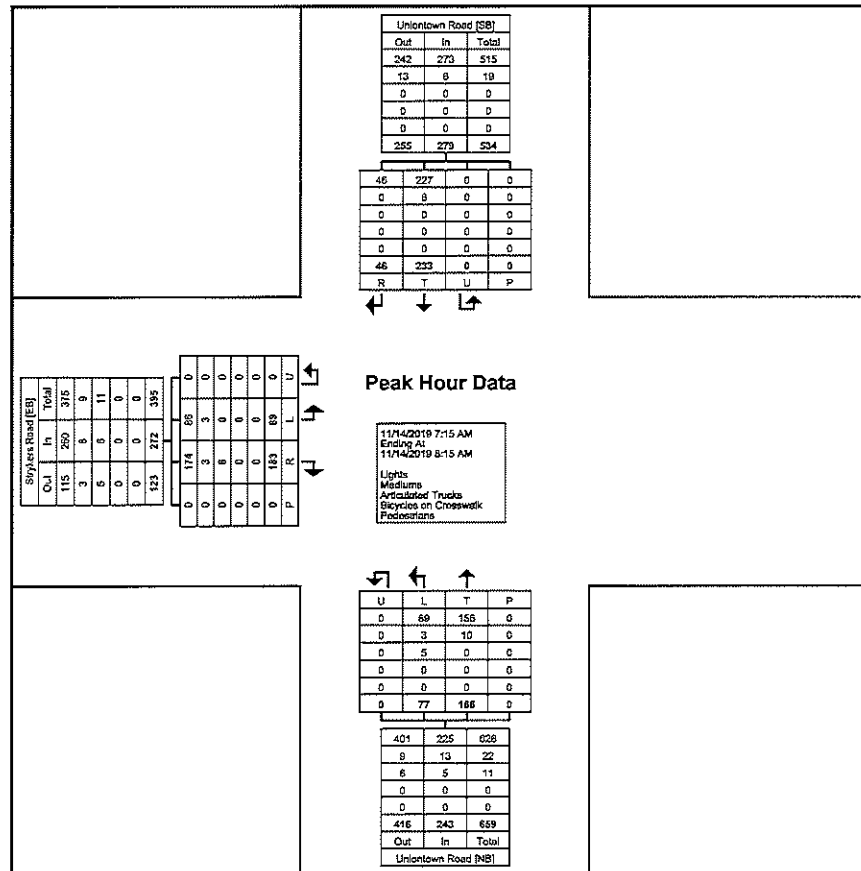
PO BOX 4637

Cherry Hill, New Jersey, United States 08034

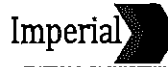
609-706-6100 lklein@imperialtdc.com

Project: Uniontown Road
 Municipality: Lopatcong, Warren County, NJ
 Setup: MAK
 Location: 40.686786, -75.145439

Count Name: 2. Stryker Road & Uniontown Road
 Site Code: 2
 Start Date: 11/14/2019
 Page No: 5



Turning Movement Peak Hour Data Plot (7:15 AM)



TRAFFIC & DATA COLLECTION

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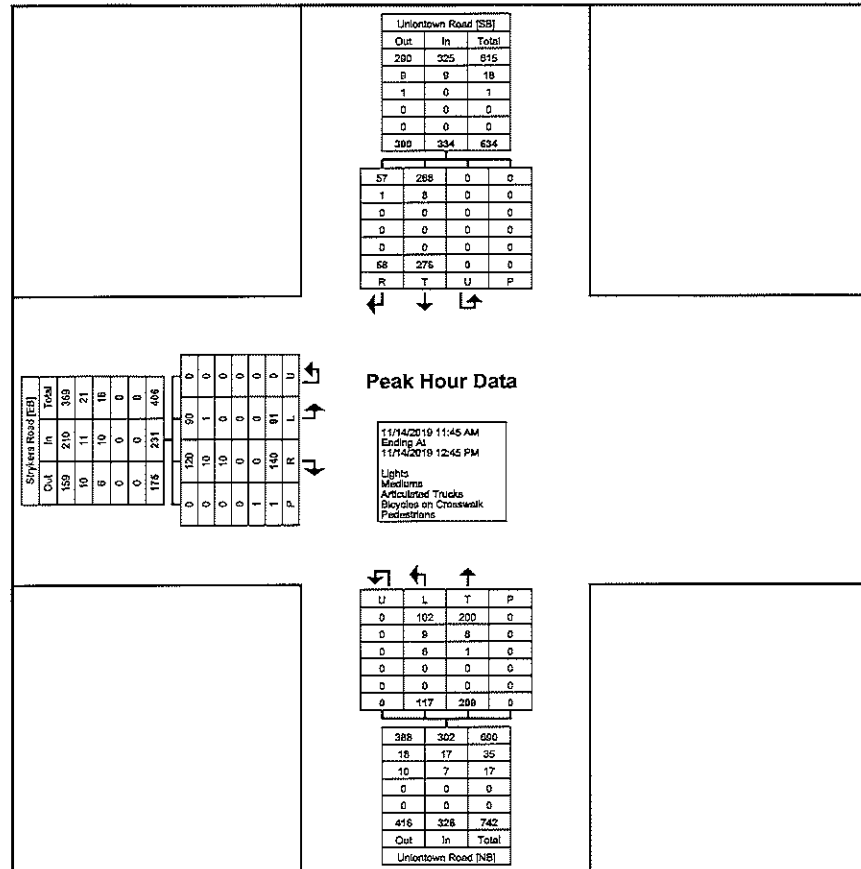
PO BOX 4637

Cherry Hill, New Jersey, United States 08034

609-706-6100 lklein@imperialtdc.com

Project: Uniontown Road
Municipality: Lopatcong, Warren County, NJ
Setup: MAK
Location: 40.686786, -75.145439

Count Name: 2. Stryker Road & Uniontown Road
Site Code: 2
Start Date: 11/14/2019
Page No: 7



Turning Movement Peak Hour Data Plot (11:45 AM)



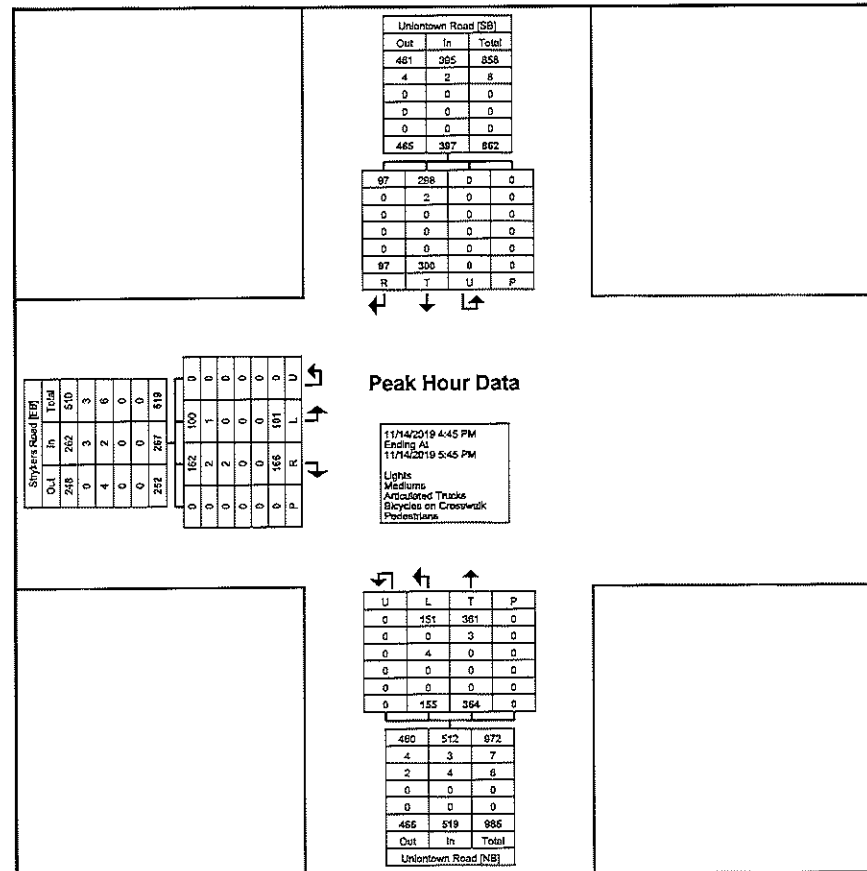
TRAFFIC & DATA COLLECTION

Imperial Traffic & Data Collection
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PO BOX 4637
Cherry Hill, New Jersey, United States 08034
609-706-6100 lklein@imperialtdc.com

Project: Uniontown Road
Municipality: Lopatcong, Warren County, NJ
Setup: MAK
Location: 40.686786, -75.145439

Count Name: 2. Stryker Road & Uniontown Road
Site Code: 2
Start Date: 11/14/2019
Page No: 9



Turning Movement Peak Hour Data Plot (4:45 PM)



Imperial Traffic & Data Collection
 www.imperialtdc.com
 PO BOX 4637
 Cherry Hill, New Jersey, United States 08034
 609-706-6100 hfurey@imperialtdc.com

Count Name: 1. Strykers Road & Uniontown Road
 Site Code: 1
 Start Date: 10/21/2021
 Page No: 1

Project: Strykers Road
 Municipality: Lopatcong, Warren County, NJ
 Setup: MAK/SF
 Location: 40.686786, -75.145439

Turning Movement Data

| Start Time | Strykers Road Eastbound | | | | | Uniontown Road Northbound | | | | | Uniontown Road Southbound | | | | | Int. Total |
|---------------|-------------------------|------|-------|------|------------|---------------------------|------|------|------|------------|---------------------------|------|-------|------|------------|------------|
| | U-Turn | Left | Right | Peds | App. Total | U-Turn | Left | Thru | Peds | App. Total | U-Turn | Thru | Right | Peds | App. Total | |
| 6:00 AM | 0 | 5 | 44 | 0 | 49 | 0 | 14 | 18 | 0 | 32 | 0 | 28 | 3 | 0 | 31 | 112 |
| 6:15 AM | 0 | 8 | 32 | 0 | 40 | 0 | 7 | 25 | 0 | 32 | 0 | 29 | 10 | 0 | 39 | 111 |
| 6:30 AM | 0 | 6 | 41 | 0 | 47 | 0 | 23 | 29 | 0 | 52 | 0 | 46 | 4 | 0 | 50 | 149 |
| 6:45 AM | 0 | 9 | 53 | 0 | 62 | 0 | 21 | 28 | 0 | 49 | 0 | 48 | 15 | 0 | 63 | 174 |
| Hourly Total | 0 | 28 | 170 | 0 | 198 | 0 | 65 | 100 | 0 | 165 | 0 | 151 | 32 | 0 | 183 | 546 |
| 7:00 AM | 0 | 12 | 66 | 0 | 78 | 0 | 33 | 21 | 0 | 54 | 0 | 56 | 13 | 0 | 69 | 201 |
| 7:15 AM | 0 | 9 | 36 | 0 | 45 | 0 | 33 | 36 | 0 | 69 | 0 | 59 | 12 | 0 | 71 | 185 |
| 7:30 AM | 0 | 27 | 64 | 0 | 91 | 0 | 21 | 54 | 0 | 75 | 0 | 65 | 10 | 0 | 75 | 241 |
| 7:45 AM | 0 | 20 | 82 | 0 | 102 | 0 | 27 | 51 | 0 | 78 | 0 | 72 | 18 | 0 | 90 | 270 |
| Hourly Total | 0 | 68 | 248 | 0 | 316 | 0 | 114 | 162 | 0 | 276 | 0 | 252 | 53 | 0 | 305 | 897 |
| 8:00 AM | 0 | 23 | 46 | 0 | 69 | 0 | 28 | 39 | 0 | 67 | 0 | 47 | 11 | 0 | 58 | 194 |
| 8:15 AM | 1 | 15 | 44 | 0 | 60 | 0 | 17 | 44 | 0 | 61 | 0 | 46 | 12 | 0 | 58 | 179 |
| 8:30 AM | 1 | 8 | 29 | 0 | 38 | 0 | 33 | 36 | 0 | 69 | 0 | 42 | 10 | 0 | 52 | 159 |
| 8:45 AM | 0 | 24 | 34 | 0 | 58 | 0 | 30 | 37 | 0 | 67 | 0 | 66 | 11 | 0 | 77 | 202 |
| Hourly Total | 2 | 70 | 153 | 0 | 225 | 0 | 108 | 156 | 0 | 264 | 0 | 201 | 44 | 0 | 245 | 734 |
| *** BREAK *** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3:00 PM | 0 | 27 | 40 | 0 | 67 | 0 | 44 | 88 | 0 | 132 | 0 | 81 | 22 | 0 | 103 | 302 |
| 3:15 PM | 0 | 22 | 43 | 0 | 65 | 0 | 58 | 79 | 0 | 137 | 0 | 76 | 23 | 0 | 99 | 301 |
| 3:30 PM | 0 | 35 | 43 | 0 | 78 | 0 | 40 | 55 | 0 | 95 | 0 | 72 | 27 | 0 | 99 | 272 |
| 3:45 PM | 0 | 22 | 64 | 0 | 86 | 0 | 40 | 71 | 0 | 111 | 0 | 86 | 19 | 0 | 105 | 302 |
| Hourly Total | 0 | 106 | 190 | 0 | 296 | 0 | 182 | 293 | 0 | 475 | 0 | 315 | 91 | 0 | 406 | 1177 |
| 4:00 PM | 0 | 28 | 68 | 0 | 96 | 0 | 36 | 69 | 0 | 105 | 0 | 65 | 34 | 0 | 99 | 300 |
| 4:15 PM | 0 | 37 | 56 | 0 | 93 | 0 | 48 | 66 | 0 | 114 | 0 | 80 | 20 | 0 | 100 | 307 |
| 4:30 PM | 1 | 23 | 37 | 0 | 61 | 1 | 32 | 87 | 0 | 120 | 0 | 93 | 19 | 0 | 112 | 293 |
| 4:45 PM | 0 | 35 | 45 | 0 | 80 | 0 | 45 | 75 | 0 | 120 | 0 | 80 | 24 | 0 | 104 | 304 |
| Hourly Total | 1 | 123 | 206 | 0 | 330 | 1 | 161 | 297 | 0 | 459 | 0 | 318 | 97 | 0 | 415 | 1204 |
| 5:00 PM | 0 | 39 | 46 | 0 | 85 | 0 | 42 | 98 | 0 | 140 | 0 | 96 | 25 | 0 | 121 | 346 |
| 5:15 PM | 0 | 27 | 63 | 0 | 90 | 0 | 49 | 105 | 0 | 154 | 0 | 97 | 26 | 0 | 123 | 367 |
| 5:30 PM | 0 | 33 | 43 | 0 | 76 | 0 | 43 | 90 | 0 | 133 | 0 | 88 | 21 | 0 | 109 | 318 |
| 5:45 PM | 0 | 24 | 51 | 0 | 75 | 0 | 48 | 78 | 0 | 126 | 0 | 91 | 32 | 0 | 123 | 324 |
| Hourly Total | 0 | 123 | 203 | 0 | 326 | 0 | 182 | 371 | 0 | 553 | 0 | 372 | 104 | 0 | 476 | 1355 |
| Grand Total | 3 | 518 | 1170 | 0 | 1691 | 1 | 812 | 1379 | 0 | 2192 | 0 | 1609 | 421 | 0 | 2030 | 5913 |
| Approach % | 0.2 | 30.6 | 69.2 | - | - | 0.0 | 37.0 | 62.9 | - | - | 0.0 | 79.3 | 20.7 | - | - | - |
| Total % | 0.1 | 8.8 | 19.8 | - | 28.6 | 0.0 | 13.7 | 23.3 | - | 37.1 | 0.0 | 27.2 | 7.1 | - | 34.3 | - |
| Lights | 1 | 510 | 1018 | - | 1529 | 1 | 691 | 1333 | - | 2025 | 0 | 1569 | 406 | - | 1975 | 5529 |
| % Lights | 33.3 | 98.5 | 87.0 | - | 90.4 | 100.0 | 85.1 | 96.7 | - | 92.4 | - | 97.5 | 96.4 | - | 97.3 | 93.5 |

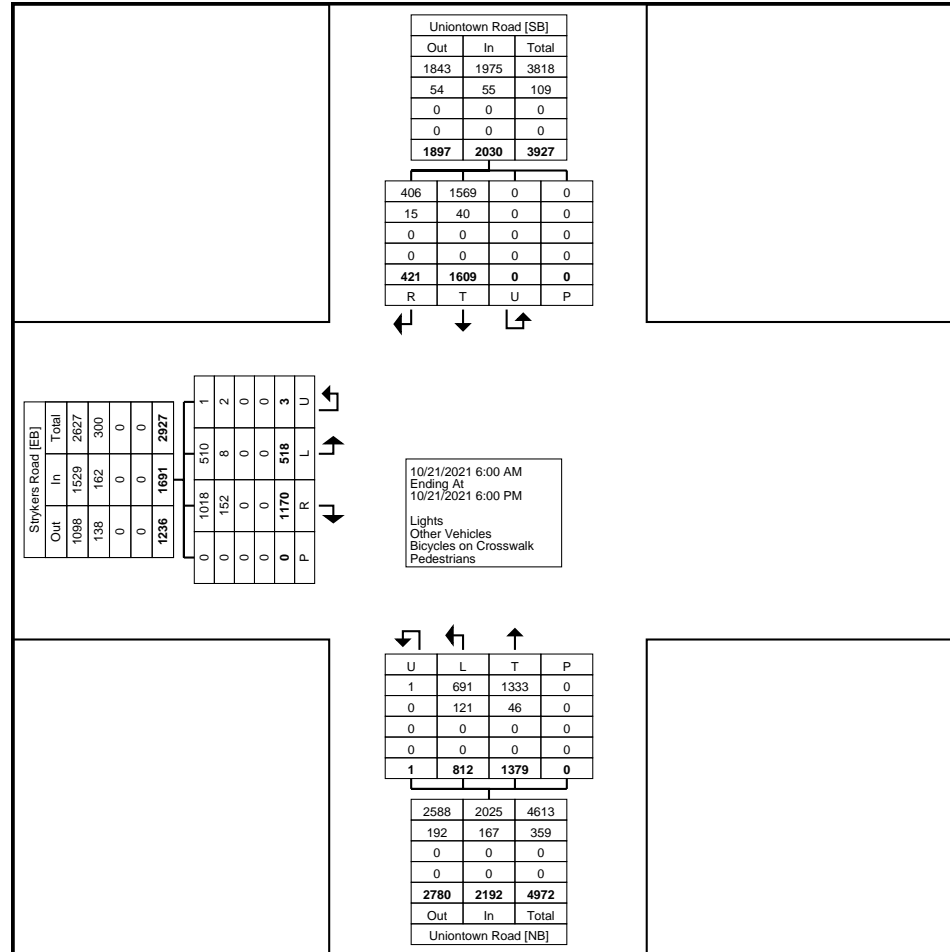


Imperial Traffic & Data Collection
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PO BOX 4637

Cherry Hill, New Jersey, United States 08034
609-706-6100 hfurey@imperialtdc.com

Count Name: 1. Strykers Road & Uniontown Road
Site Code: 1
Start Date: 10/21/2021
Page No: 3

Project: Strykers Road
Municipality: Lopatcong, Warren County, NJ
Setup: MAK/SF
Location: 40.686786, -75.145439



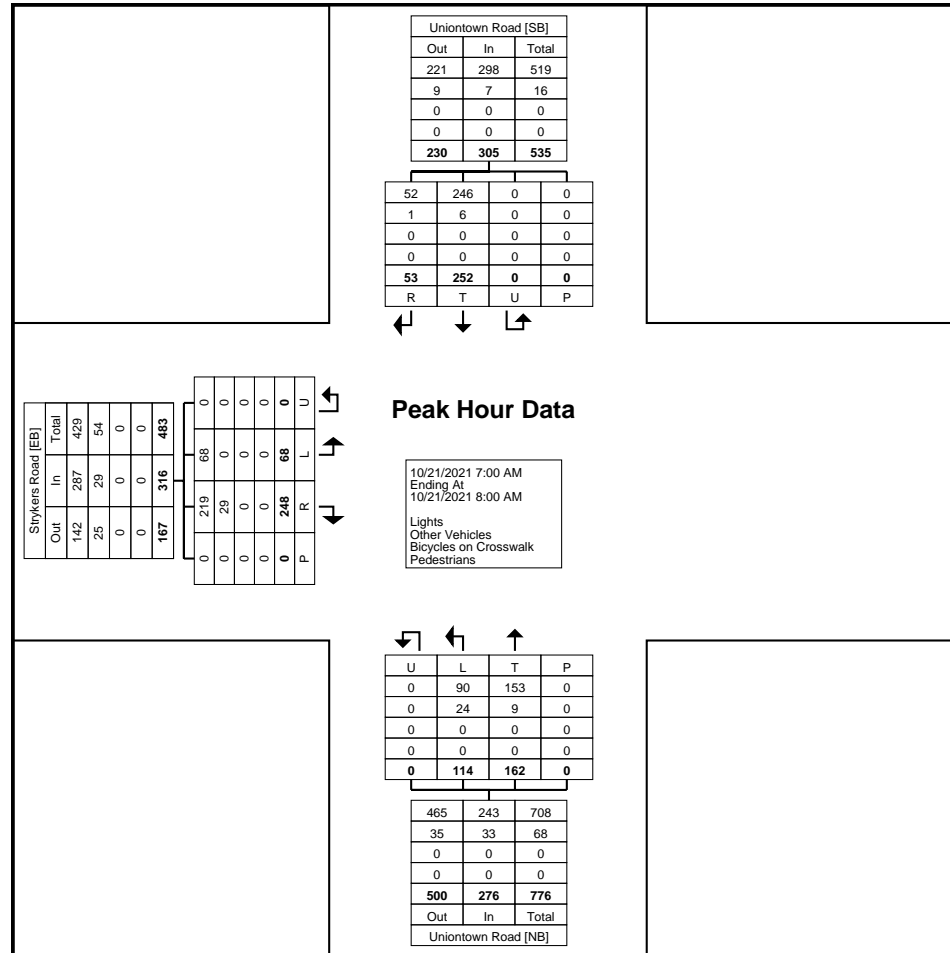
Turning Movement Data Plot



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 Cherry Hill, New Jersey, United States 08034
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Project: Strykers Road
 Municipality: Lopatcong, Warren County, NJ
 Setup: MAK/SF
 Location: 40.686786, -75.145439

Count Name: 1. Strykers Road & Uniontown Road
 Road
 Site Code: 1
 Start Date: 10/21/2021
 Page No: 5



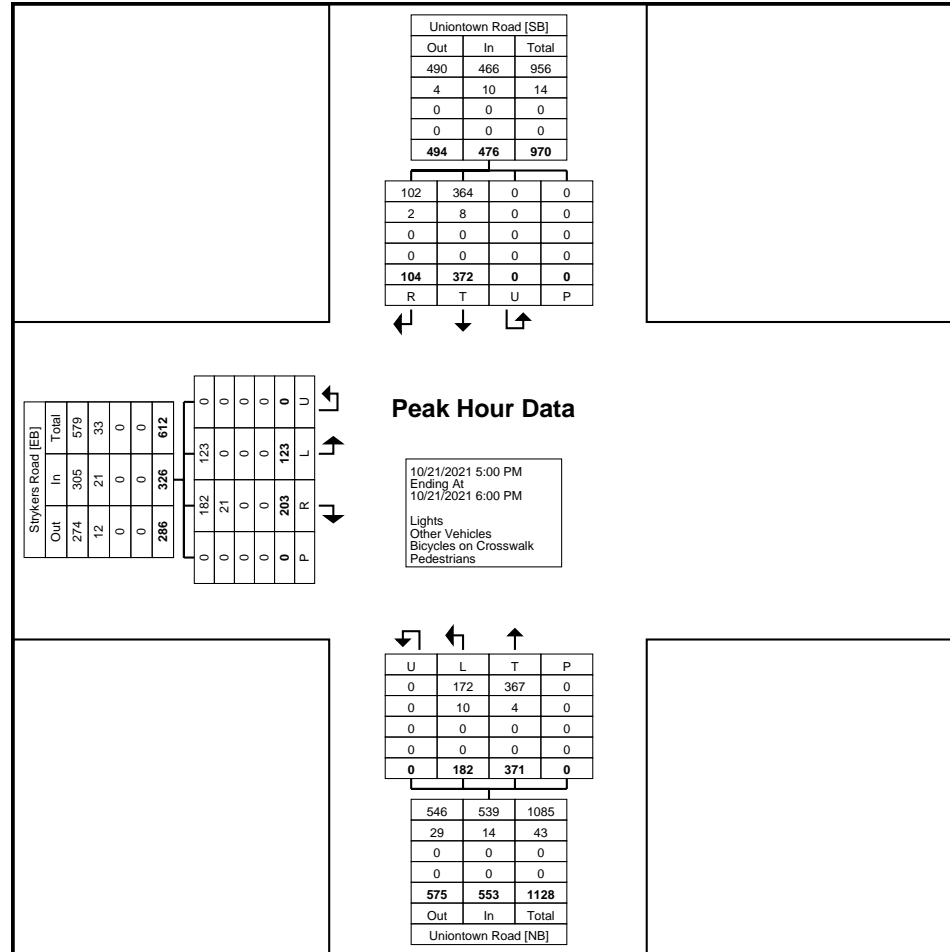
Turning Movement Peak Hour Data Plot (7:00 AM)



Imperial Traffic & Data Collection
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 Cherry Hill, New Jersey, United States 08034
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Project: Strykers Road
 Municipality: Lopatcong, Warren County, NJ
 Setup: MAK/SF
 Location: 40.686786, -75.145439

Count Name: 1. Strykers Road & Uniontown Road
 Road
 Site Code: 1
 Start Date: 10/21/2021
 Page No: 7



Turning Movement Peak Hour Data Plot (5:00 PM)

F. PHOTOGRAPHS

No curb ramp for sidewalk at intersection



Wide intersection with long pedestrian crossing, no marked crosswalk



Pushbutton not accessible from the sidewalk, may be mounted too high



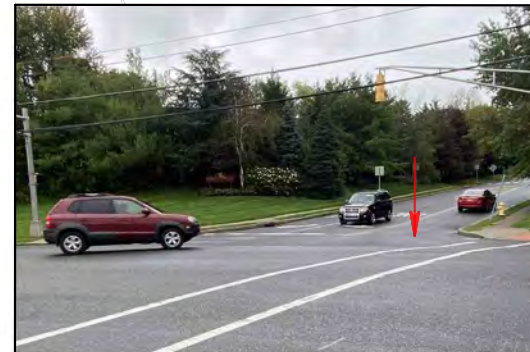
No marked crosswalk or indication to motorists that pedestrians should be expected



Heavy vehicles use CR 519 left turn lane to make right turns



Small warning sign may be missed by truck drivers



Some crosswalk striping is worn / missing, not high visibility markings

LEGEND



SIGNALIZED INTERSECTION



PROJECT CORRIDOR

1/4

NJDOT HSIP - ROAD SAFETY AUDIT
UNIONTOWN ROAD

LOPATCONG
WARREN COUNTY

SITE PHOTOGRAPHS



GPI Engineering
Design
Planning
Construction Management

N.T.S.

Missing concrete and exposed rebar on structure, guide rail does not meet current standards



Narrow shoulders not usable to pull over or for pedestrians/bicyclists



Narrow shoulders not usable to pull over or for pedestrians/bicyclists



Guide rail does not meet current standards, missing concrete on structure



Morris Canal access road may be hidden

LEGEND



SIGNALIZED INTERSECTION



PROJECT CORRIDOR

2
4

**NJDOT HSIP – ROAD SAFETY AUDIT
UNIONTOWN ROAD**

LOPATCONG
WARREN COUNTY

SITE PHOTOGRAPHS



GPI Engineering
Design
Planning
Construction Management

N.T.S.

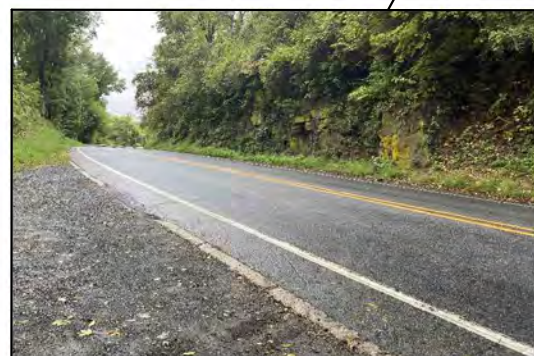
Rock face may obstruct sight distance



Missing curb ramp; no marked crosswalk



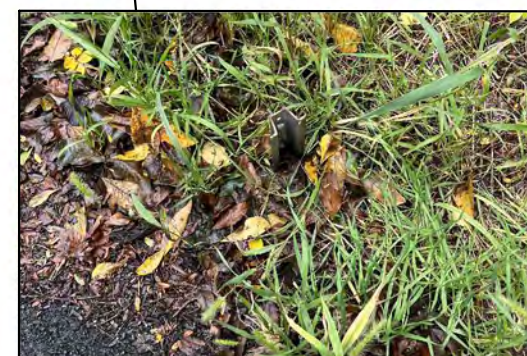
Larger vehicles cannot fit through underpass



Sight distance may be obstructed by rock face



Narrow shoulders, gravel area last opportunity to turn around



Missing sign, tripping hazard

LEGEND



SIGNALIZED INTERSECTION



PROJECT CORRIDOR

3
4

NJDOT HSIP - ROAD SAFETY AUDIT
UNIONTOWN ROAD

LOPATCONG
WARREN COUNTY

SITE PHOTOGRAPHS



GPI Engineering
Design
Planning
Construction Management

N.T.S.

Underpass with low clearance not visible from intersection, shoulders narrow



Warning signs do not provide instructions for truck drivers to use alternate routes



Heavy vehicle turns require stop bars to be farther from intersection, inaccessible push button



Sign approx. 600 ft from stop bar



Box truck executing K-turn at underpass due to low clearance and despite warning signs



Missing section of sidewalk; no connection for pedestrians between intersections



No pedestrian signal heads, push button not accessible behind guide rail

LEGEND



SIGNALIZED INTERSECTION



PROJECT CORRIDOR

4
4

**NJDOT HSIP – ROAD SAFETY AUDIT
UNIONTOWN ROAD**

LOPATCONG
WARREN COUNTY

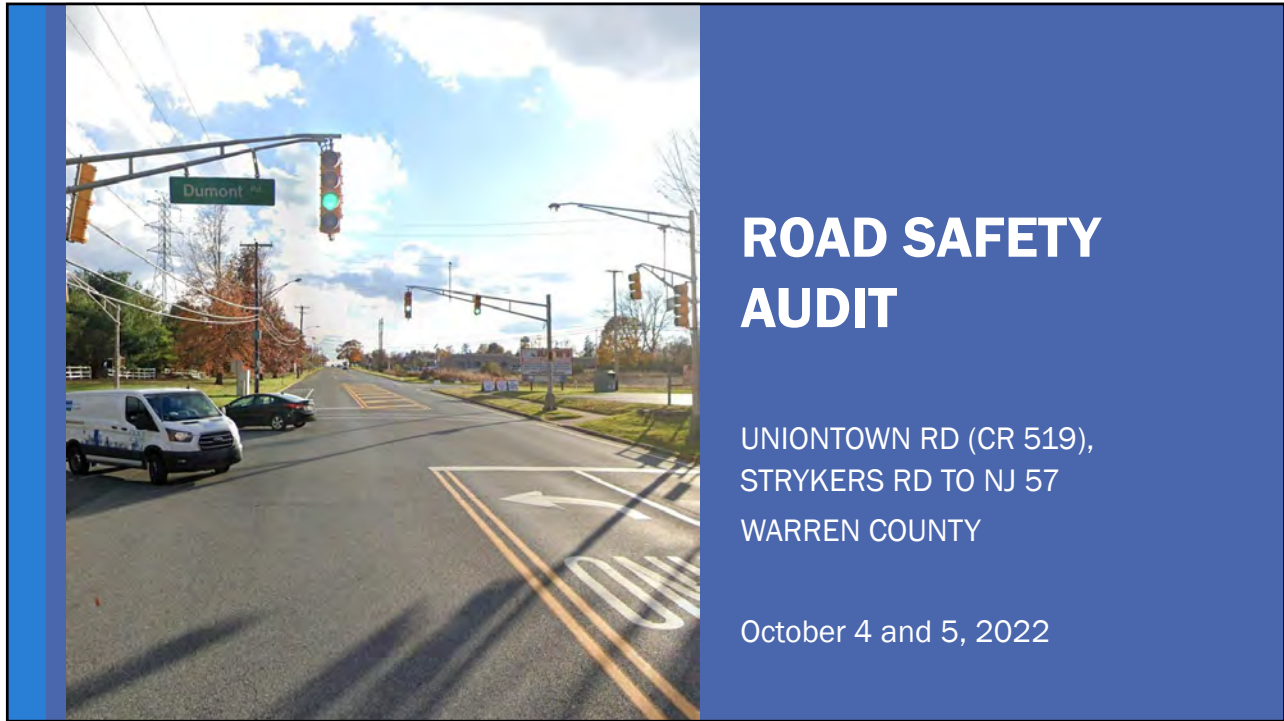
SITE PHOTOGRAPHS



GPI Engineering
Design
Planning
Construction Management

N.T.S.

G. PRE-AUDIT PRESENTATION



1

LOCATION / AUDIT TEAM



**NJDOT
NJTPA**



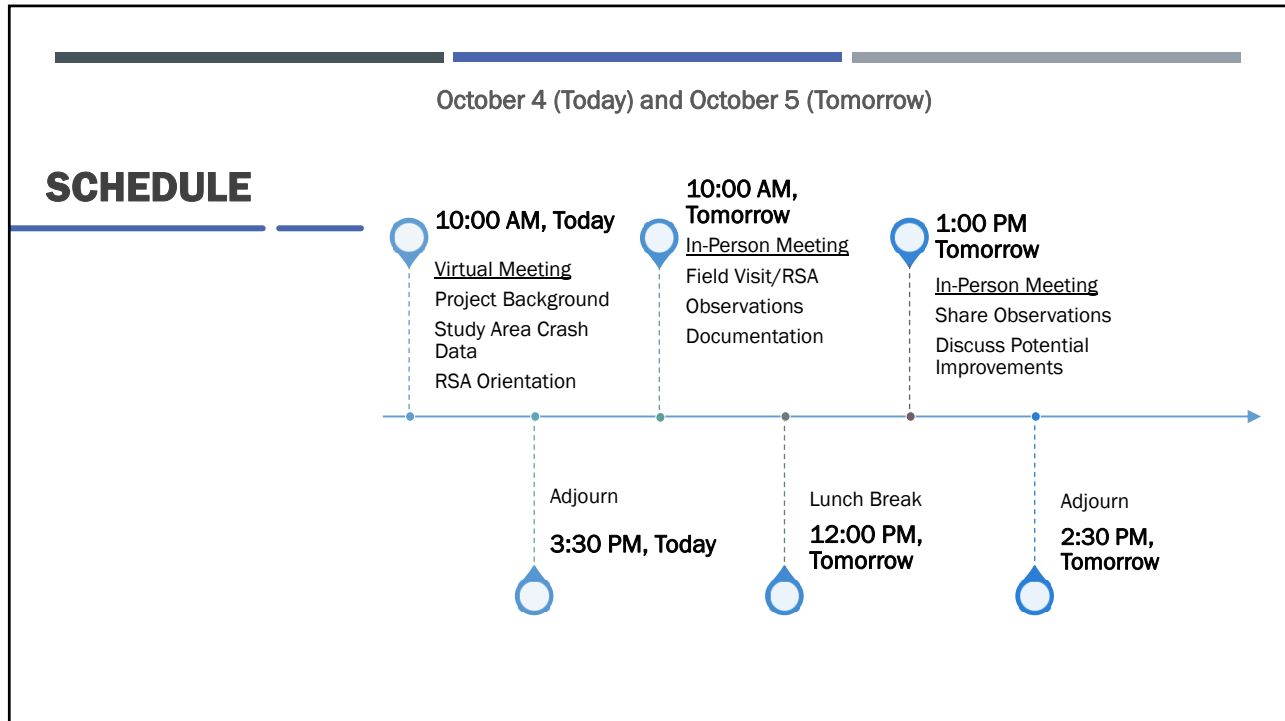
Warren County



**Lopatcong Township
Greenwich Township**

Funded by Federal Highway Administration and NJDOT
Presented by Greenman-Pedersen, Inc., NJDOT Consultant

2



3

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)

- 7 Emphasis Areas (NJ 2020 Strategic Highway Safety Plan)
- 7 sub-programs including Local Safety Program – ROAD SAFETY AUDITS
- Core Federal Aid Program, NJ receives about \$57M

Equity

Lane Departure

Intersections

Driver Behavior

Pedestrians and Bicyclists

Other Vulnerable Road Users

Data

Driver Behavior: Drowsy and Distracted Driving, Aggressive Driving, Impaired Driving, Unlicensed Driving, and Unbelted Drivers and Occupants
Other Vulnerable Road Users: Mature Drivers, Younger Drivers, Motorcyclists, Work Zone Workers and Other Road Workers

4

HUMAN PERSPECTIVE

“Humbly observe where people in the community struggle. Ask the question: What is the next smallest thing we can do right now to address the issue? Do that thing. Repeat.”

Charles Marohn
Founder, Strong Towns

5

FEDERAL TRANSPORTATION FUNDING

- **Local Safety and High Risk Rural Roads Programs**
 - \$235M on County / Local Roadways
 - Relatively quick-fix safety improvements
- **HSIP funds** – emphasizes data-driven, strategic approach to improving highway safety
- **Network Screening** – identifies locations experiencing:
 - High crash frequencies
 - Severe crash injuries
 - Specific crash types (e.g. right-angle, roadway departures)
- **Community Outreach** – opportunities for public, local officials and stakeholders to comment and ask questions

6

RSA PURPOSE

Formal safety performance examination by an independent, multidisciplinary audit team that identifies safety improvement opportunities for all road users.



Benefits

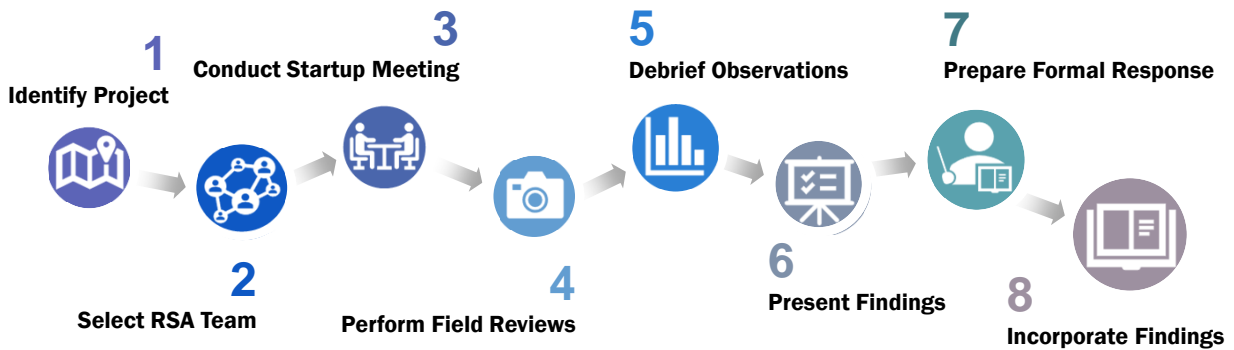
- Pro-actively address safety; reduce crashes
- Identify low-cost/high-value improvements
- Promote “safety culture”
- Provide continuous advancement of safety skills and knowledge
- Contribute feedback on safety issues
- Support optimized savings of lives, money and time



Not meant to replace

- Design quality control
- Standard compliance
- Traffic or safety impact studies
- Safety conscious planning
- Road safety inventory programs
- Traffic safety modeling efforts

7



RSA PROCESS



*Responsibilities: Steps 1-2 & 7-8: Design Team/Road Owner
Steps 3-6: RSA Team*

8

FHWA PROVEN SAFETY COUNTERMEASURES (PSC)

- 28 countermeasures
- Research proven strategies
 - ✓ Intersections
 - ✓ Roadway departures
 - ✓ Pedestrian/bicyclist
- Several crosscutting strategies address multiple safety focus areas



9

PSC EXAMPLES

Left:

- Roundabout, Cinnaminson Township, Burlington County
- Road diet, Maplewood Township, Essex County
- Pedestrian Hybrid Beacon (HAWK), Ocean City, Cape May County

Right:

- Backplates with Retroreflective Borders, Statewide
- Enhanced Delineation, Horizontal Curves, Statewide

Additional Considerations:

- Curb extensions



10

PROJECT AREA

Site Summary

- Undivided
- Urban minor arterial
- 2 lanes, shoulders
- 50 mph
- Wooded/farmland
 - Commercial/residential near Stryker Rd
 - Residential south of NJ 57

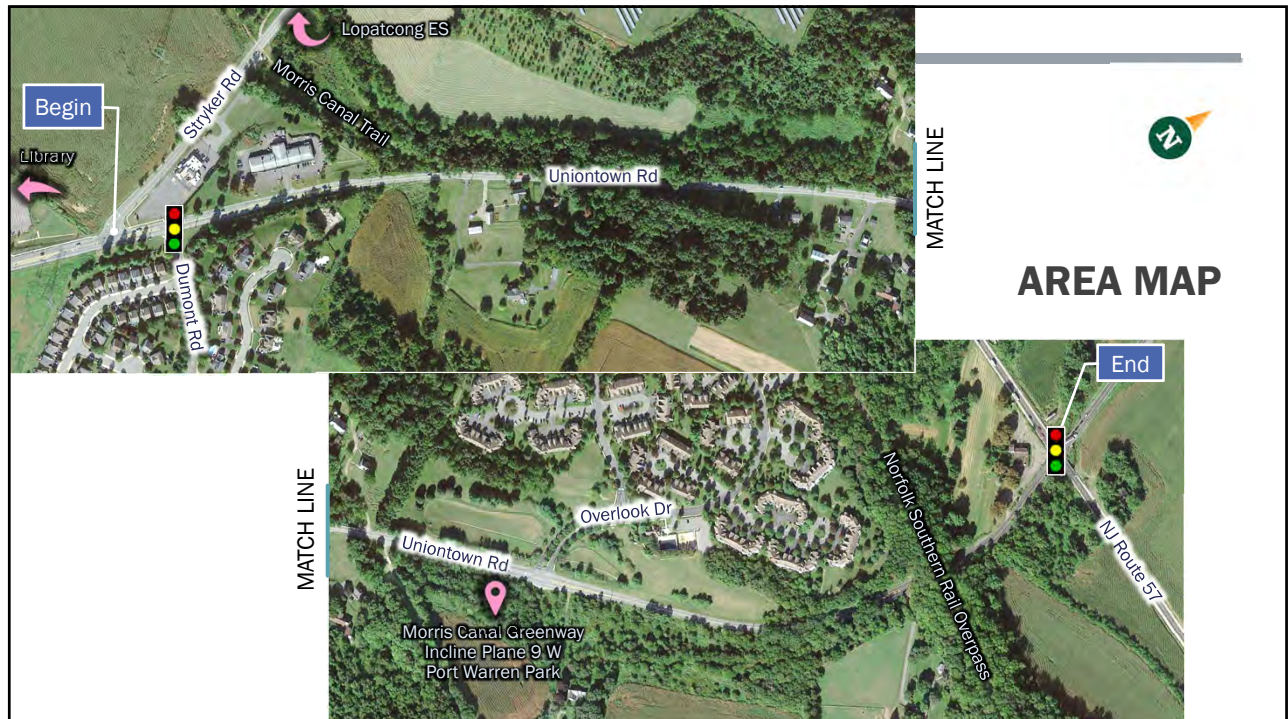
Demographics

| Item* | Study Area | Warren Co. |
|-------|------------|------------|
| DI | 17% | - |
| POC | 20% | 19% |
| 65+ | 22% | 18% |
| 18- | 18% | 20% |
| LI | 9% | 7% |
| LEP | 4% | 4% |
| PwD | 12% | 12% |

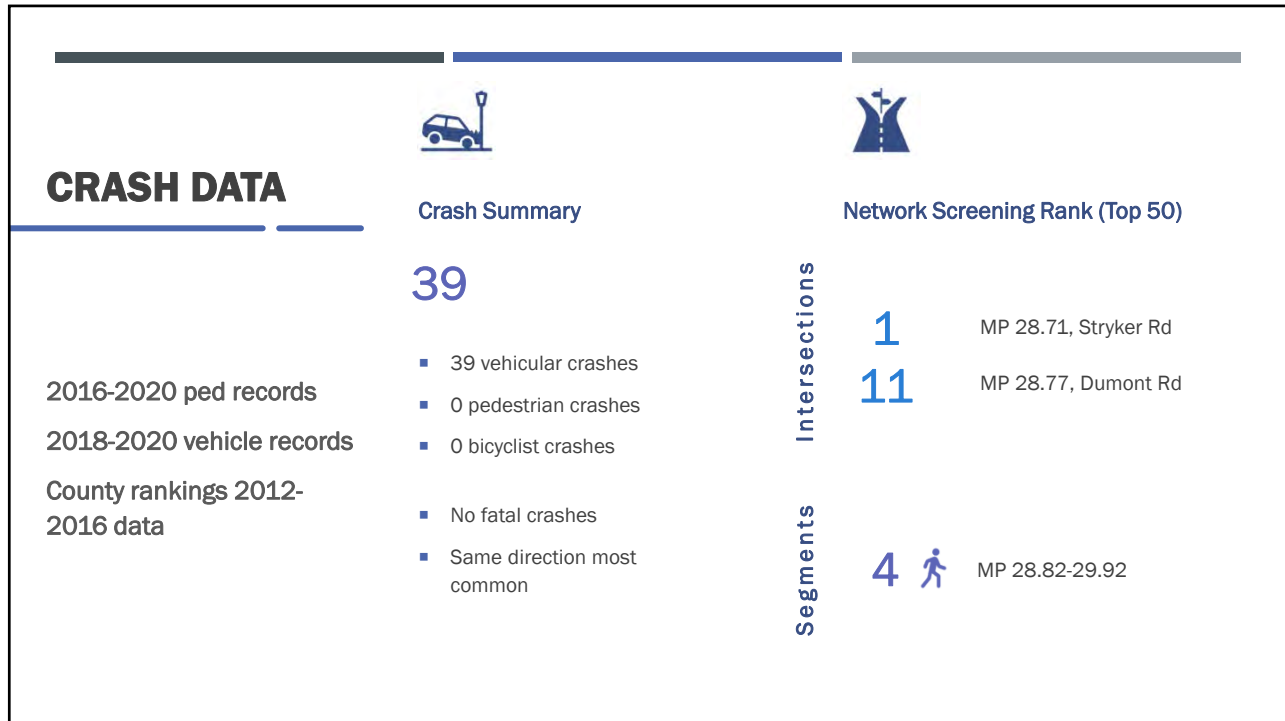
* DI = Demographic Index
 POC = People of Color
 65+ = People over age 64
 18- = People under age 18

LI = Low Income (persons)
 LEP = Limited English Proficiency
 PwD = Persons with a Disability
 DI > 50% indicates underserved

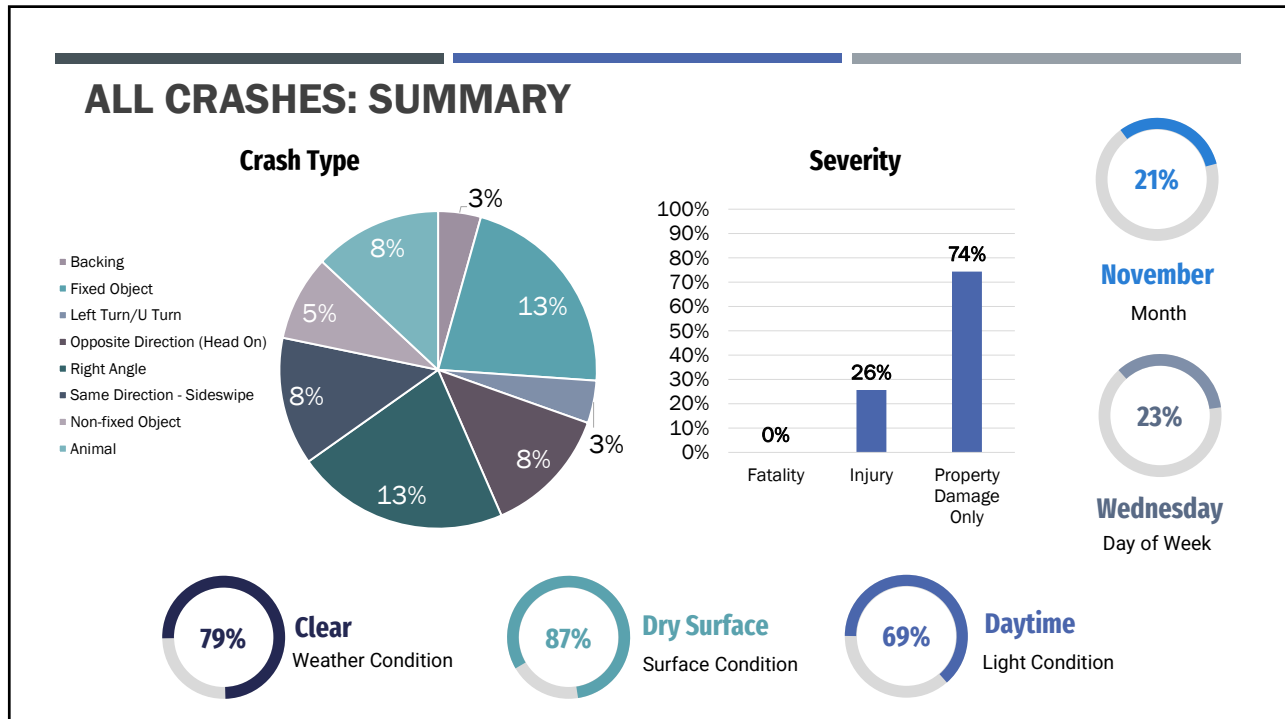
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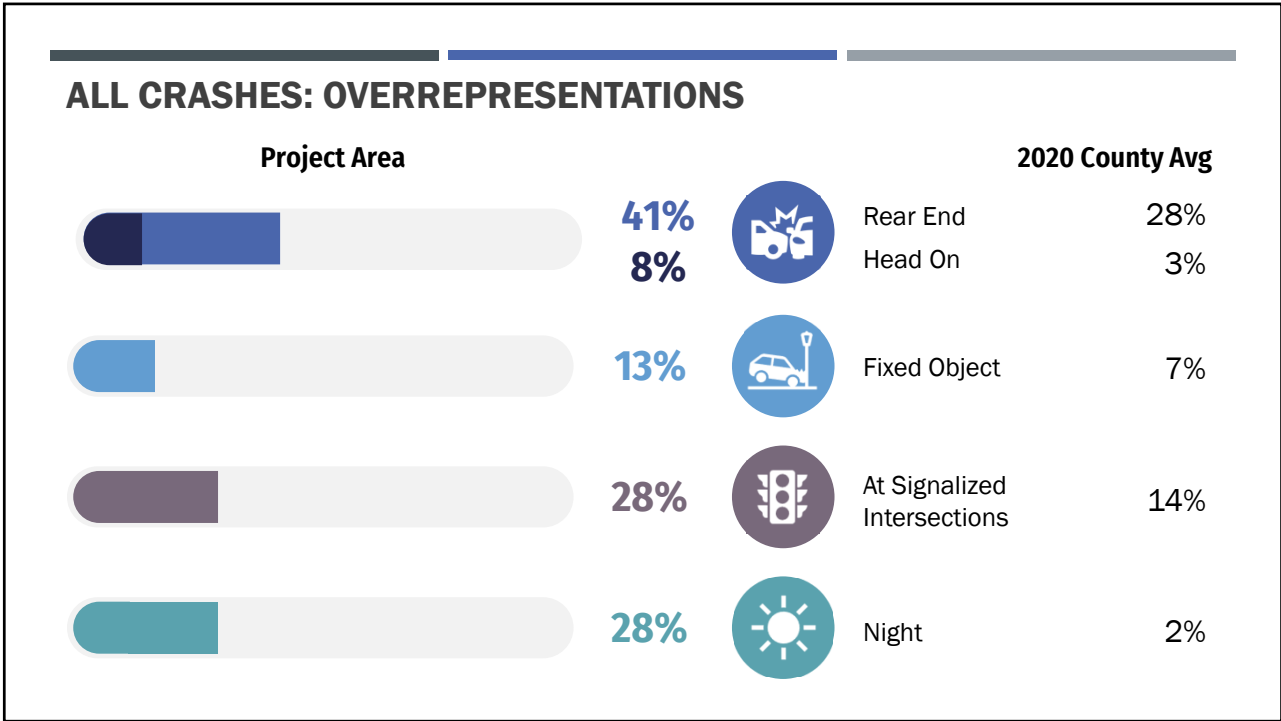
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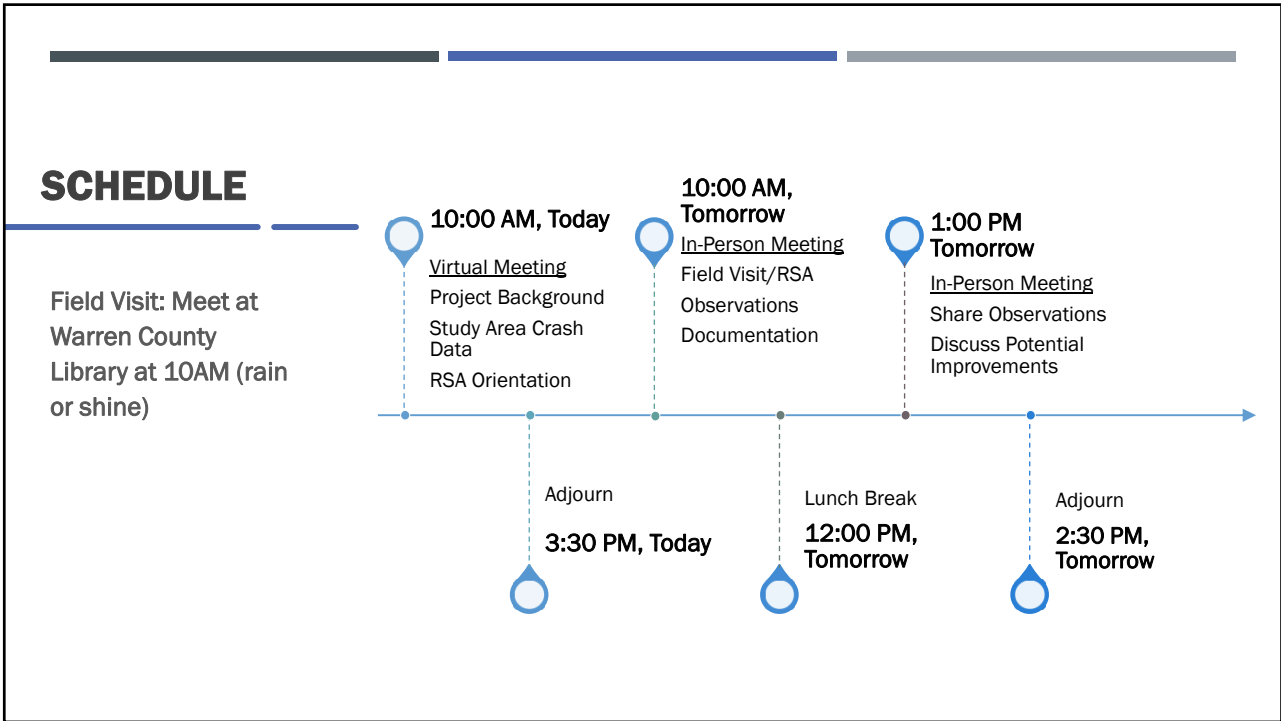
13



14



15



16

DISCUSSION DURING FIELD VISIT

Dress appropriately for safety and weather. Safety vests must be worn.



Observations

- What elements of the road may present a safety concern?
- To what extent, to which road users, and under what circumstances?
- What corridor safety issues did you observe?
- What localized safety issues did you observe?



Recommendations

- What opportunities exist to eliminate or mitigate identified safety concerns?
- What improvements would you make?
- Are any of the FHWA countermeasures beneficial?

17

NEXT STEPS

Problem Statement Development will be conducted separately.



- Preparation of RSA Report
- Review/comments from RSA Team
- Preparation of Preliminary Final Report
- Preparation of Final Report
- Approximate timeframe: 6-8 weeks

18

H. ROAD OWNER RESPONSE

WARREN COUNTY PLANNING DEPARTMENT
WAYNE DUMONT, JR. ADMINISTRATION BUILDING
165 COUNTY ROAD 519, SOUTH
BELVIDERE, NEW JERSEY 07823-1949

DAVID K. DECH
PLANNING DIRECTOR



Telephone: (908) 475-6532
Fax: (908) 475-6537
planningdept@co.warren.nj.us

October 27, 2023

Julia Steponanko, PE, Project Manager
Greenman-Pederson Inc.
520 US Highway 22
Suite 200
Bridgewater, NJ 08807

RE: Road Owner Response to Road Safety Audit Recommendations, Uniontown Road (Route 519) Strykers Road to NJ Route 57, Greenwich and Lopatcong Townships. Revised Draft Report March 23, 2023

Dear Ms. Steponanko,

The County of Warren appreciates the time and expertise that your team devoted to conducting the Road Safety Audit of Uniontown Road (CR 519) Strykers Road to NJ 57. Due to the increase in passenger car and truck traffic, it is important to take measures to make this segment safer to accommodate all users including pedestrians and bicyclists. We have reviewed the recommendations contained in the Revised Draft Report, dated March 2023. Although the County cannot commit to specific improvements without further analysis, we generally agree with many of the findings and recommendations with a few exceptions and additional commentary as provide below.

Corridor-wide Recommendations

No. 1, Updating sidewalk ramps for ADA compliance is in the jurisdiction of the Township. However, as part of the signalization project at CR 519/Strykers Road, ADA compliant ramps will be installed. Otherwise, the county allows sidewalks within its right of way but does not assume responsibility for maintenance.

October 27, 2023

Julia Steponanko, PE, Project Manager

Site Specific Recommendations

No. 16. A traffic study will need to be conducted to determine if a reduction to 40 mph on this portion of CR 519 is warranted.

No. 18. No. 30, Same comment as No. 1 above.

No. 20 A roundabout is not being considered. The current plan for the intersection is to install a signal that is coordinated with the signal at Dumont Road. The developer of a proposed warehouse on Strykers Road will be constructing the signal when all approvals are obtained.

No. 22. Relocating Dumont Road to align with Strykers Road was recommended by the County Planning in its review of the Greenwich Chase residential development in the late 1980's. The current alignment was approved because the developer needed it to meet Council on Affordable Housing obligations. Nevertheless, acquiring the right of way for a relocated Dumont Road as suggested in the Audit will be a major issue.

No. 23. A new connection from Strykers Road to U.S. 22 is being explored by the municipality. However, it is unlikely the intersection with CR 519 will be closed.

No. 32. Relocating Strykers Road to align with Dumont Road will have land acquisition issues with an affected commercial property owner.

No. 34. The CR 519 Bridge over the Lopatcong Creek is not scheduled for repair or replacement. The thought is that to promote the use of the Morris Canal Trail a pedestrian crossing over the Lopatcong Creek is needed. Currently pedestrians from the east side CR 519 must walk on the shoulder of CR 519 to cross the Lopatcong Creek and then access the trail on the south-west side of the bridge. A safe pedestrian crossing over the Lopatcong Creek is recommended.

No. 40. Increasing the size of the tunnel openings to accommodate larger vehicles is not possible. The structure is in the jurisdiction of Norfolk Southern and is eligible for the National Register of Historic Places.

No. 42. The County does not install mirrors for private landowners.

No. 43. Left turns into the horse farm driveway are not posing a problem currently.

No. 47. Installing OVDS and additional signage on NJ Route 57 would have to be discussed with the NJDOT.

The County thanks the Road Safety Audit Team for their participation and effort to improve traffic safety on CR 519 (Uniontown Road) from NJ Route 57 to the intersection with Strykers

October 27, 2023

Julia Steponanko, PE, Project Manager

Road. Should you have any questions concerning the above, please contact me at 908-475-6532 or via email ddech@co.warren.nj.us.

Sincerely,

A handwritten signature in black ink, appearing to read 'D. Dech', with a long, sweeping flourish extending upwards and to the right.

David K. Dech, Planning Director

cc. Board of County Commissioners
Alex Lazorisak, County Administrator
Bill Gleba, County Engineer
Joao D'Souza, Principal Engineer Traffic
Aimee Jefferson, Principal Planner