CR 16 (North Quaker Lane) Safety Assessment

Forest Drive to Fallkill Road, Town of Hyde Park

PDCTC

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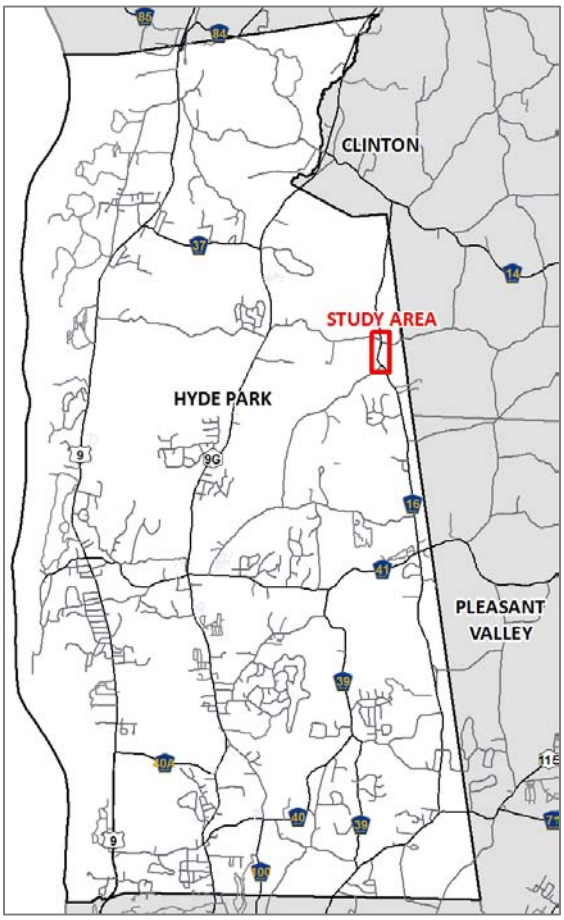
1. Background

The Poughkeepsie-Dutchess County Transportation Council (PDCTC) conducted a Safety Assessment (SA) of CR16 (North Quaker Lane) from Forest Drive to Fallkill Road in support of its goal to improve transportation safety in Dutchess County. The SA is intended to provide the facility owner, Dutchess County, with a list of opportunities for low-cost, short-range safety improvements, and if warranted, more expensive long-range improvements. The PDCTC, in consultation with the Dutchess County Department of Public Works (DCDPW), selected the assessment location based on a county-wide analysis of crash data from 2008-2012.

2. Road Characteristics

CR16 (North/South Quaker Lane) runs in a north-south direction between CR14 (Hollow Road) in the Town of Clinton south to NYS Route 115 in the Town of Hyde Park. The seven mile road is maintained by the Dutchess County Department of Public Works (DCDPW). The portion of CR16 that is the focus of this SA is located in the Town of Hyde Park and locally referred to as North Quaker Lane. See Figure 1.

Figure 1. Study Area



Within the ¼ mile study area, North Quaker Lane is a two-way, two-lane urban collector with narrow asphalt shoulders and no posted speed limit. As an un-posted road, the speed limit reverts to a State-default limit of 55 miles per hour (mph). Based on measurements at the site, travel lane widths are approximately 11 feet with 1-2 foot shoulders and the overall pavement is in good condition. According to available information from DCDPW, the last road resurfacing occurred in 2010 and consisted of a single-course overlay. The approaching Town roads of Fallkill Road and East Fallkill Road, and Forest Drive are in fair to good condition with some longitudinal cracking.

North Quaker Lane serves as a popular north-south alternative to NYS Routes 9 and 9G. Heavy vehicles use the road based on its proximity to local quarries, while school buses use

the road to transport students to/from nearby schools (i.e. Roosevelt High School and North Park Elementary School). The lack of substantial shoulders discourages walking and biking, though one bicyclist was observed during the November 13th field visit.

Traffic volumes collected in 2011 indicated an annual average daily traffic (AADT) volume of 2,825 vehicles per day, with peak hour volumes of approximately 308 vehicles per hour in the morning (7 to 8 a.m.) and 275 vehicles in the evening (4 to 5 p.m.). Based on 2008 vehicle classification counts, 9.4 percent of vehicles were classified as heavy-duty trucks or buses. The same 2008 data indicated an 85th percentile speed of 43 mph northbound and 47 mph southbound, meaning 85 percent of measured speeds were at or below these speeds; average speeds were 37 mph northbound and 40 mph southbound. Table 1 shows AADT data for the study area.

Table 1. CR 16 (North Quaker Lane) Traffic Volumes: Forest Drive to E. Fallkill Road

Year	AADT	Peak Hour Volumes	
		7-8 AM	4-5 PM
2005	3,465	356	328
2008	3,222	389	344
2011	2,825	308	275

AADT: Annual Average Daily Traffic

The Fallkill/East Fallkill Road and Forest Drive approaches to North Quaker Lane are STOP sign controlled with stop bars present at all but Forest Drive. This segment of North Quaker Lane is marked with a double yellow full barrier line and white edge lines, while the approaching Town roadways are not marked. Throughout the corridor, a variety of warning signs are used, including an offset intersection warning sign, curve warning signs with speed advisory plaques, and hazard markers. Guiderails are present just north of the Forest Drive intersection.

3. Safety Assessment Process

This project was the second application of the SA process in Dutchess County, building upon an SA that was completed in March 2013 for CR 9 (Beekman Road) in the Town of Beekman. As before, the PDCTC conducted this SA consistent with Road Safety Audit (RSA) guidance from the Federal Highway Administration (FHWA) and Safety Assessment Guidelines from the New York State Association of Metropolitan Planning Associations (NYSAMPO). The SA relied on the participation of an interdisciplinary team of staff from partner agencies, which included the

following individuals:

- Robert Benson - Lieutenant, Hyde Park Police Dept.
- Mark Debald - Transportation Program Administrator, PDCTC
- Emily Dozier - Senior Planner, PDCTC
- Howard Fisher - Highway Department, Town of Hyde Park
- Thomas Mirabella - Police Officer, Hyde Park Police Dept.
- Ken Schneider - Town Councilman, Hyde Park Town Board
- Daniel Terry, Sr. - Sector Chief, DCDPW
- William Trifilo - Junior Civil Engineer, DCDPW

The SA took place on November 13-14, 2013, starting with a pre-assessment meeting on November 13th, followed by site visits that afternoon (both during daylight and dusk) and the morning of November 14th. A post assessment meeting was held on November 14th to discuss SA team observations and explore possible safety improvements; the post assessment followed the prompt-list included with the FHWA RSA software program. The SA team used a variety of information to complete the SA, including crash and traffic data, aerial photography, and field work. The key issues identified included vehicle speeds, narrow shoulders, horizontal and vertical curves, limited sight distances, and wet-weather crashes. The SA team strove to identify low-cost, high-impact improvements to address these issues.

4. Crash Analysis

The PDCTC collected crash data from 2008-2012 (the latest year available) from the NYS Accident Location Information System (ALIS) database, which is a multi-agency reporting system operated by the NYS Office of Cyber Security & Critical Infrastructure Coordination (CSCIC), the NYS Department of Motor Vehicles (DMV) and the NYS Department of Transportation (NYSDOT). ALIS data originates from the Traffic and Criminal Software (TraCS) system used by police agencies and submitted via DMV accident report forms (Form MV-104).

The ¼ mile stretch of CR 16 experienced 34 crashes from 2008-2012, which resulted in 13 reported injuries. In addition, the Hyde Park Police Dept. reported that one traffic fatality occurred within this section of North Quaker Lane in 2004. The crash analysis indicated that the majority of crashes (79 percent) occurred during daytime conditions, while wet or snowy road surface conditions were present during 82 percent of the crashes. Of the 34 crashes, 20 (or 59 percent) occurred within 75 feet of the Forest Drive intersection, on or near the curve. In addition, the number of crashes spiked in 2011 and 2012, accounting for 74 percent of the

crashes over the five year period. Of note, the analysis revealed that very few of the crashes were intersection related. Table 2 summarizes crash data for the study area.

Table 2. CR 16 (North Quaker Lane) Crash Summary: Forest Drive to E. Fallkill Road

Year	Number of Crashes	Number of Injuries	Light Conditions		Road Surface Condition		
			Daylight	Dark	Dry	Wet	Snow
2008	3	3	3	0	0	3	0
2009	4	4	2	2	2	2	0
2010	2	0	2	0	1	1	0
2011	12	1	11	1	0	10	2
2012	13	5	9	4	3	10	0
Total	**34**	**13**	**27**	**7**	6	26	2

Figure 2 shows the general locations and dates of crashes in the study area, while Figure 3 shows the nature of the crashes.

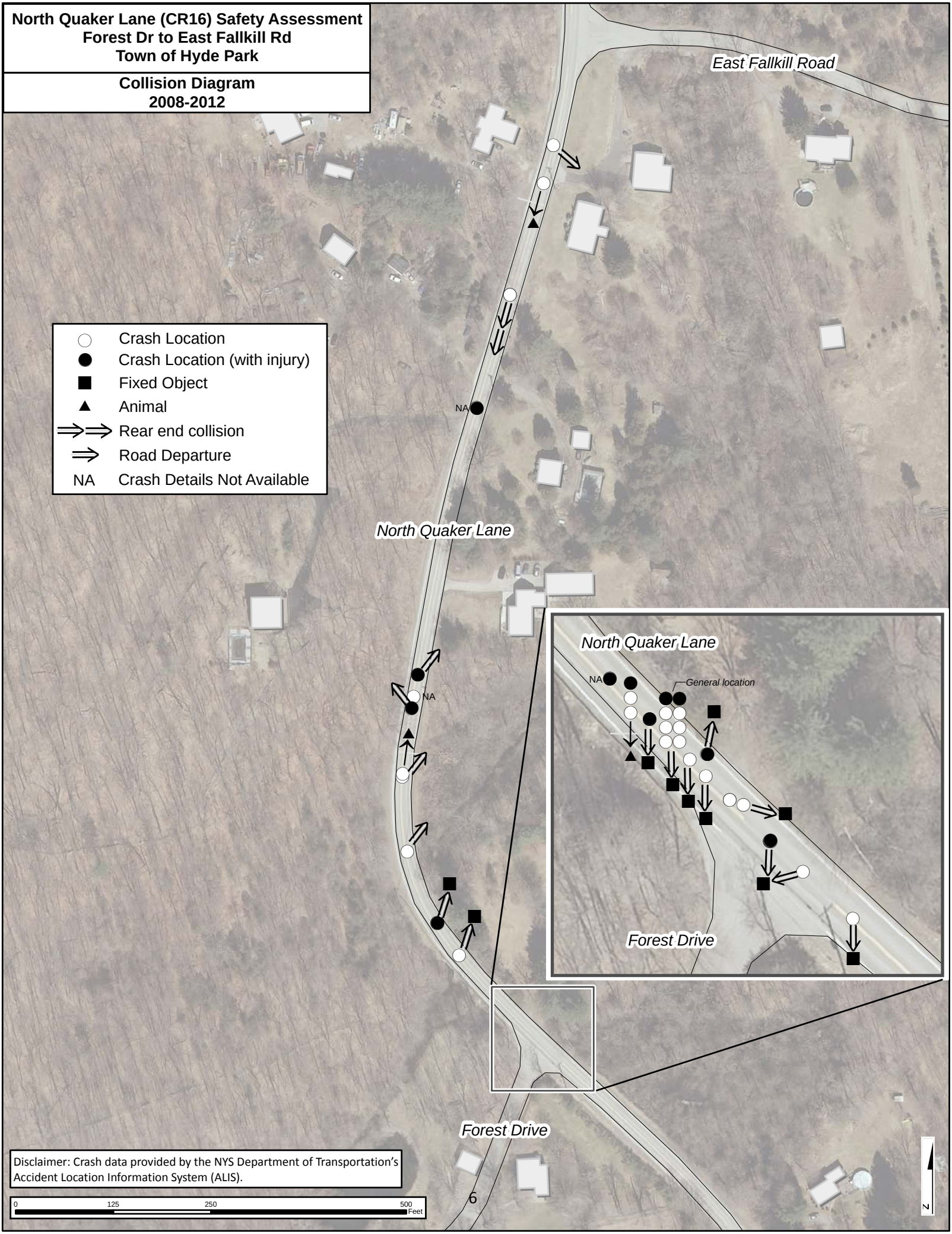
5. Findings

This assessment provides information on issues identified by the SA team as opportunities to improve overall safety along the corridor and approaching roadways. For each safety issue, an assessment of the safety risk and suggestions for improvements are included. These suggestions should not be viewed as design-level recommendations. They are intended to be illustrative of potential solutions to identified safety issues and are presented for consideration by the facility owner. The findings are organized by first addressing overall safety issues and then specific issues related to three locations within the study area:

- CR16 (North Quaker Lane)/Fallkill-East Fallkill Road offset intersections
- CR16 (North Quaker Lane) from East Fallkill Road to Forest Drive (including curve)
- CR16 (North Quaker Lane)/Forest Drive intersection

Many of the suggested improvements relate to the use or relocation of warning signs; therefore, where possible, the sign number from the 2009 Manual on Uniform Traffic Control Devices (MUTCD) is included with the sign name. In making its recommendations, the SA team attempted to balance the need to inform drivers about conditions without over-saturating the corridor with signs. As per the MUTCD, regulatory and warning signs should be used conservatively because these signs, if used to excess, tend to lose their effectiveness.


North Quaker Lane (CR16) Safety Assessment
Forest Dr-East Fallkill Rd
Town of Hyde Park
Crash Map (2008-2012)
STOP
E FALLKILL RD
HIDDEN MEADOW LN
2/5/2011
12/24/2012
SPEED LIMIT 25
10/20/2011
10/3/2012
5/22/2008
N QUAKER LN
16
10/10/2012
12/10/2012
5/8/2008
8/18/2009
6/13/2010
4/22/2012
5/26/2012
6/12/2012
12/17/2012
Crash Location & Date
1/12/2009
8/28/2012
6/12/2012
8/9/2011
10/3/2009
10/13/2011
3/16/2011
2/11/2012
7/21/2012
10/4/2011
1/13/2012
1/28/2011
12/6/2011
8/9/2011
STOP
FOREST DR
0
125
250
500
Feet
N


North Quaker Lane (CR16) Safety Assessment
Forest Dr to East Fallkill Rd
Town of Hyde Park
Collision Diagram
2008-2012
East Fallkill Road
Crash Location
Crash Location (with injury)
Fixed Object
Animal
Rear end collision
Road Departure
NA Crash Details Not Available
NA
North Quaker Lane
NA
NA
North Quaker Lane
NA
General location
Forest Drive
Forest Drive
Disclaimer: Crash data provided by the NYS Department of Transportation's Accident Location Information System (ALIS).
0
125
250
500
Feet
N

Overall Safety Issues

Issue #1: Vehicle operating speeds

Safety Concern: Roadway operating speeds are considered too high for conditions.

Observations: The regulatory speed limit is 55 mph. However, speeds appear to be too high for the corridor, especially for the curve north of Forest Drive. Unsafe speed was cited as a contributing factor in 13 of the 34 crashes from 2008-2012. Observed speeds, even though they may be lower than the un-posted 55 mph limit, pose a safety issue for vehicles entering the curve, most notably for vehicles travelling southbound on North Quaker Lane during wet or snowy conditions. This is evidenced by the 25 mph advisory speed plaque on North Quaker Lane southbound, 275 feet south of E. Fallkill Road, and a 30 mph advisory plaque travelling northbound, approx. 1,000 feet south of Forest Drive. The rapid transition from an un-posted 55 mph limit to an advisory 25 mph appears abrupt and may require an interim speed reduction beforehand to gradually slow vehicles down. An un-posted speed limit also makes enforcement difficult, negating an important tool to influence driver behavior. Speed data from the PDCTC's traffic count program indicated that 85 percent of vehicles were travelling at 47 mph, which supports the case for a 45 mph speed limit through the corridor.

Risk Analysis: Elevated operating speeds increase the probability of severe collisions. The existing horizontal geometry at the curve north of Forest Drive does not support safe motor vehicle operations at the un-posted speed limit of 55 mph. This substantially increases the risk of a collision.

Suggestions:

1. Reduce the regulatory speed limit to 45 mph for at least the segment from Fallkill Road south to Forest Drive, and potentially the larger segment from CR14 (Hollow Road) south to Cardinal Road. In order to change speed limit, the Town would pass a resolution requesting that Dutchess County DPW seek a speed reduction from NYSDOT, which would be the final approving agency. Approval often requires data showing that operating speeds are lower than the current speed limit, which is the case for this road segment.
2. Increase enforcement of speed limits to educate drivers, especially in conjunction with a future speed limit reduction. The County Sheriff could also employ its speed awareness trailer/Variable Messaging Sign (VMS) to alert drivers to their operating speeds.

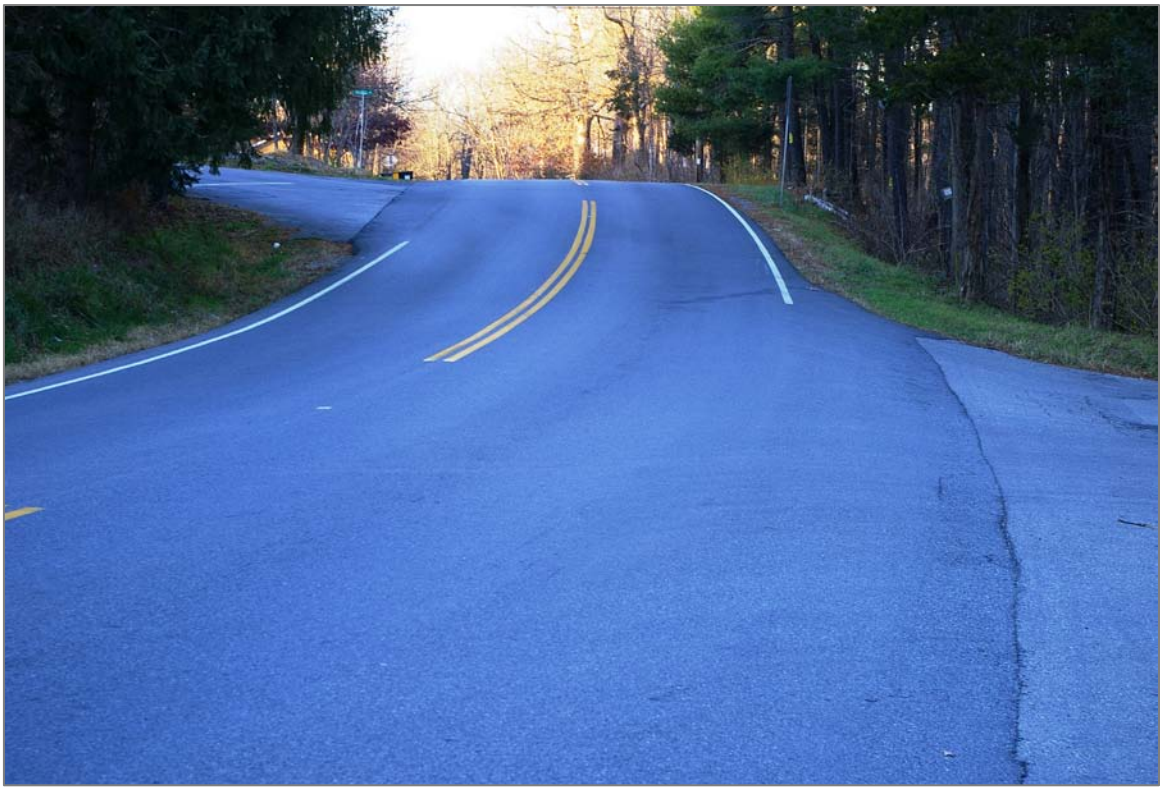


Figure 4. North Quaker Lane at East Fallkill Road looking north towards Fallkill Road. The vertical geometry creates a challenging environment for drivers making turns from the intersections.

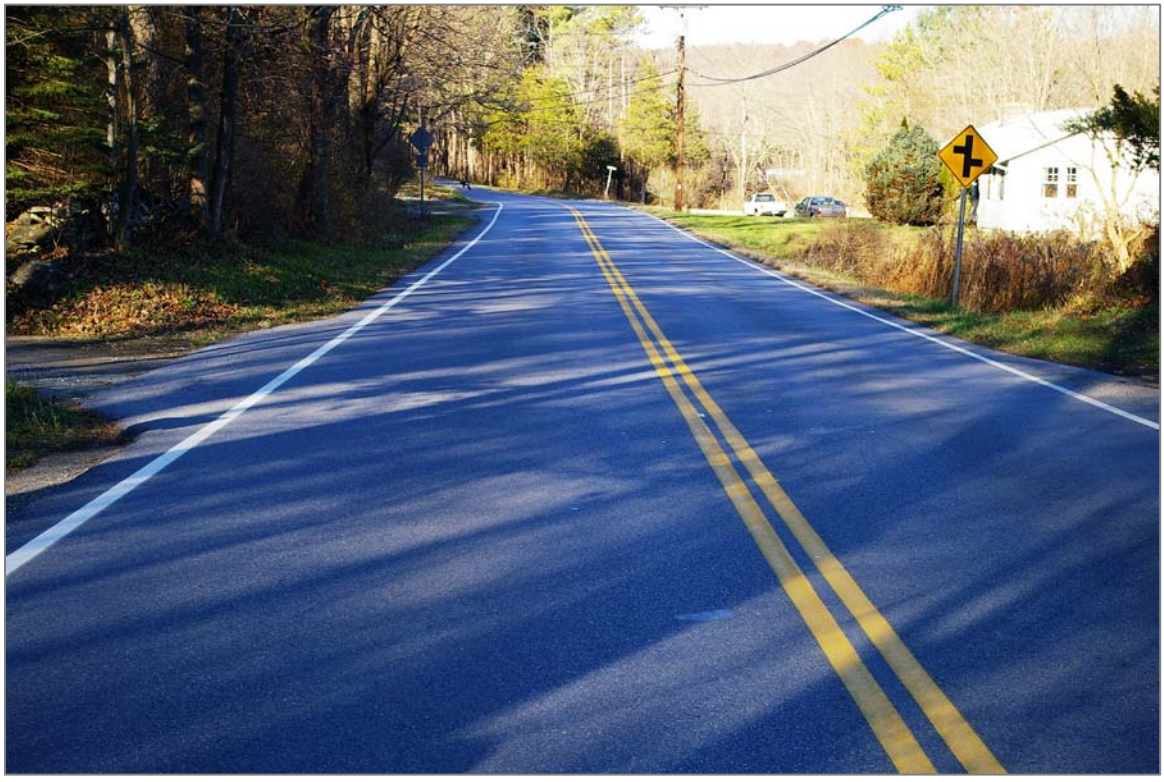


Figure 5. North Quaker Lane looking north towards East Fallkill Road.

Figure 6. North Quaker Lane looking south towards the curve between East Fallkill Road and Forest Drive.

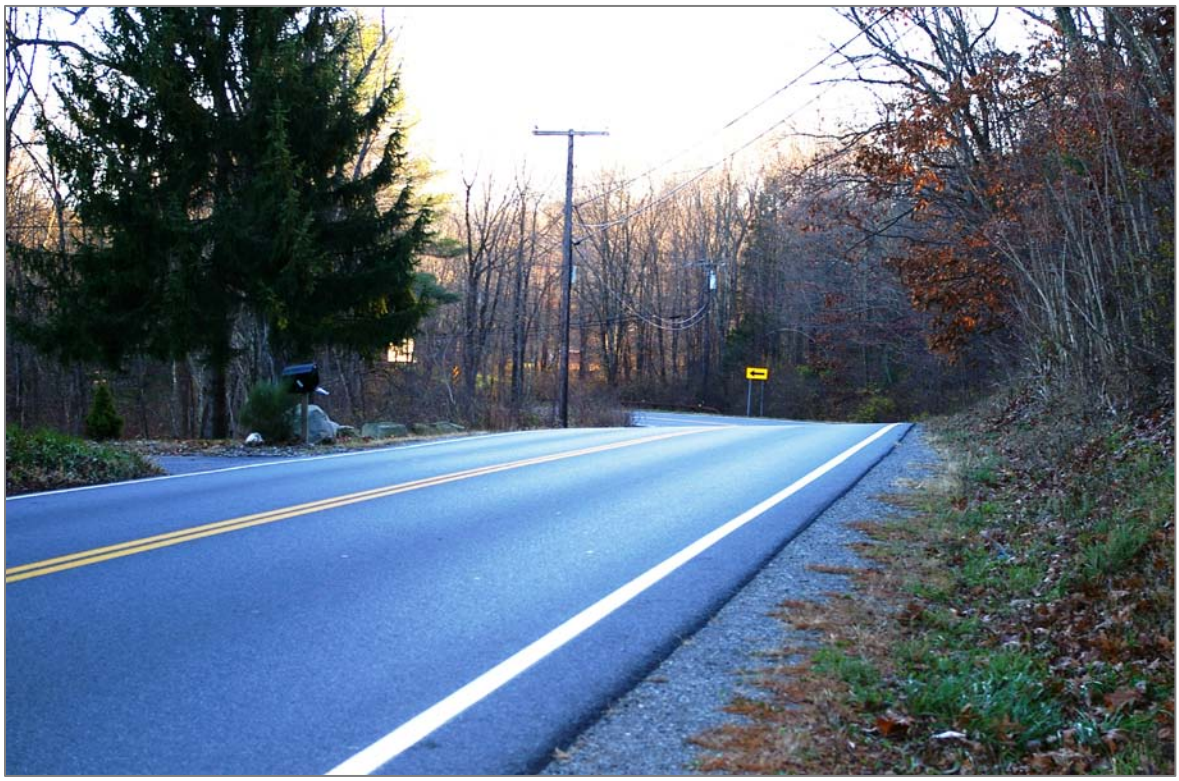


Figure 7. A second view of North Quaker Lane looking south towards the curve between East Fallkill Road and Forest Drive.

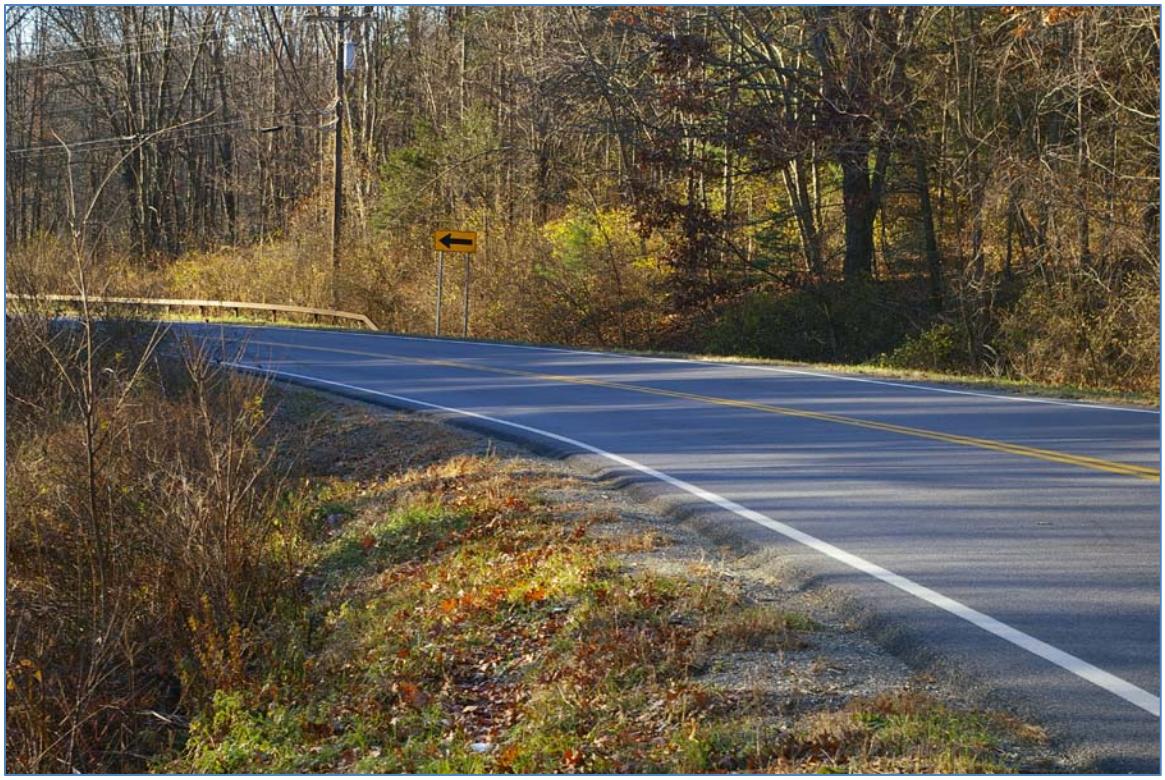


Figure 8. North Quaker Lane looking south towards the curve.

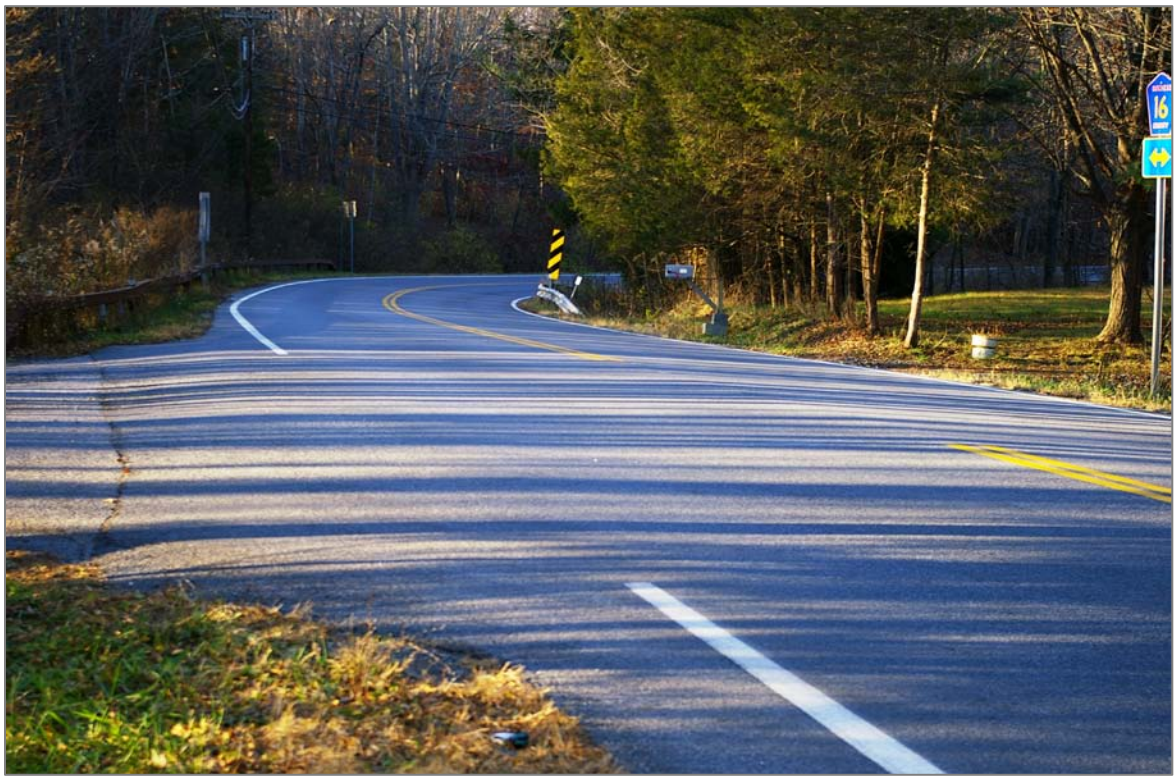


Figure 9. North Quaker Lane at Forest drive looking north towards the curve.

3. Consider narrowing travel lanes from 11 feet to 10 feet (with wider shoulders) in order to calm traffic. Since this may increase the potential for sideswipe crashes involving heavy vehicles, the SA team eliminated this suggestion from further consideration.

Priority for Consideration:
Suggestion 1: High
Suggestion 2: Moderate
Suggestion 3: Dismissed

Issue #2: Crashes during wet pavement conditions

Safety Concern: Most crashes occur during wet or snowy pavement conditions.

Observations: Crash data indicated that wet or snowy road conditions were present during 82 percent of the crashes. Evidence of previous crashes was present during the site visit, especially at the curve flanked by the two guiderails and the wetland area just north of the northbound guiderail. Though the field visit was conducted during dry conditions, some SA team members noted that snowy/icy road surfaces in and around the curve would be slow to melt due to shadows cast by nearby evergreen trees.

Risk Analysis: The combination of tight horizontal curvature, narrow shoulders, and relatively high approach speeds create a challenging environment for drivers. The potential for a roadway departure increases when the pavement is slippery, as evidenced by the crash analysis. In addition, the steep shoulder drop off on the east side of the road near the curve can make it difficult for a driver to regain control once a wheel has left the pavement. Once off the pavement, there is a high probability of a collision with a fixed object such as a tree or embankment.

Suggestions:

1. Trim trees at shaded areas on the curve to increase sunlight on the road and help dry wet pavement. This may provide a significant benefit considering that 79 percent of the crashes occurred during daylight conditions.
2. Install Slippery When Wet signs (W8-5) to warn drivers approaching the curve. This would respond to the number of incidents occurring under wet pavement conditions. While the SA team agreed that these signs are applicable, the group also felt adding more signs at or before the curves could detract from the primary message about the geometry. If installed, the placement of these signs should


W8-5

be carefully considered as part of the overall signing package for North Quaker Lane. They could be used as an alternative to the combination alignment and advisory speed signs described later.

3. Consider a high-friction pavement overlay to improve skid resistance. The installation of a higher friction pavement treatment through the curve would increase the horizontal friction factor, especially during periods of rain. A higher friction factor would help keep some vehicles from departing the road. The SA team discussed alternative treatments including a rough asphalt top course and micro-surfacing. Further study and evaluation would be required to determine which would be the best treatment for North Quaker Lane. It should be noted that such treatments could contribute to over-corrections by drivers.

Priority for Consideration:
Suggestion 1: High
Suggestion 2: Low
Suggestion 3: High

Issue #3: Sign and pavement marking reflectivity

Safety Concern: Some warning signs have lost their reflectivity.

Observations: During the field visit, SA team members noted that an existing warning sign was not reflective under night-time conditions. The 30 mph advisory speed plaque (WC13-1P) on North Quaker Lane northbound, located south of Forest Drive under the curve warning sign (W1-6L), had extremely low reflectivity under headlight conditions. Centerline and shoulder striping may also not be as reflective as possible.

Risk Analysis: Diminished retro-reflectivity under dark conditions reduces driver reaction time, increasing the risk of a crash.

Suggestions:

1. Replace the speed plaque (W13-1P) south of Forest Drive to improve reflectivity and driver awareness. [Dutchess County DPW indicated that the speed plaque and direction sign were replaced on November 14, 2013.]
2. Add vertical sign post reflectors to regulatory and warning signs on North Quaker Lane, especially for any proposed signs alerting drivers to the curve north of Forest Drive. NYSDOT uses such devices on chevron warning signs (W1-8) in the area.
3. Review reflectivity of centerline and shoulder striping and upgrade if needed.

4. Develop a county-wide sign reflectivity monitoring program to enforce retro-reflectivity standards (DCDPW).

Priority for Consideration:
Suggestion 1: High
Suggestions 2-3: Moderate
Suggestion 4: Low

Issue #4: Heavy vehicles and buses

Safety Concern: There is a relatively high percentage of heavy-duty vehicles and school buses that use North Quaker Lane.

Observations: Based on field observations, numerous large, multi-axle trucks and buses travel through the corridor. School bus activity is especially high in the late afternoon, mainly turning right from Fallkill Road on to North Quaker Lane south. A number of large semi-trailers were observed using North Quaker Lane. In some cases, the SA team observed northbound semi-trailers crossing over the shoulder lane marking on the inside curve, which was a result of vehicle speed and narrow road geometry.

Risk Analysis: Though a rare occurrence, heavy vehicles crossing paths at the curve could pose a safety hazard, especially under wet road conditions.

Suggestion: Widen shoulders on North Quaker Lane to better accommodate larger vehicles, especially northbound on the right shoulder of the curve, though this might encourage higher speeds.

Figure 10. Heavy vehicles use North Quaker Lane as an alternative to NYS Route 9G, while nearby schools generate noticeable bus activity.

Issue #5: Street name signs

Safety Concern: Street name signs may be difficult to read for older drivers.

Observations: The street name signs for Fallkill and East Fallkill Roads, Forest Drive, and North Quaker Lane use an older style with all capital lettering, which has been superseded by a preferred style with upper and lower case letters. The FHWA has determined that the new style is better suited for older drivers. Although there is no deadline for adherence, the new standard should be used when replacing street signs in the future.

Risk Analysis: Lack of clear navigational information increases the risk of last minute decision making and maneuvers, which may in turn increase the risk of a collision. This condition would affect unfamiliar motorists to a greater extent than locals.

Suggestion: Upgrade street name signs to meet the larger, mixed-case sign standard as per the 2009 MUTCD.

Priority for Consideration: Low

Figure 11. The street name signs in the study area (left) use the old lettering style that has now been superseded by a mixed-case style (above). Source: 2009 MUTCD.

Figure 12. The Fallkill Road approach to North Quaker Lane appears wider than necessary, while the stop line may not be positioned at the optimal point for sight distance.

Figure 13. The East Fallkill Road approach to North Quaker Lane is equally wide.

CR16 (North Quaker Lane)/Fallkill–East Fallkill Road Intersections

Issue #1: Sight Distance

Safety Concern: The elevation change on North Quaker Lane restricts sight distance from Fallkill and East Fallkill Roads, as well as for traffic on North Quaker Lane.

Observations: The vertical geometry at the offset intersections of Fallkill and East Fallkill Roads creates extremely limited sight distance for northbound vehicles making a left from North Quaker Lane onto Fallkill Road and for left-turning vehicles exiting Fallkill and East Fallkill Roads. The SA Team witnessed numerous occasions where northbound vehicles would stop past the vertical crest to make a left turn onto Fallkill Road, due to the limited sight distance.

Risk Analysis: A lack of adequate intersection sight distance increases the risk of a collision by affecting the driver's ability to accurately judge and accept gaps in approaching traffic. Operating speeds on North Quaker Lane increase the probability of a severe collision.

Suggestions:

1. Trim the evergreen trees on the west side of North Quaker Lane, just south of Fallkill Road. [DCDPW completed this on November 14, 2013].
2. At Fallkill Road, move the stop bar closer to North Quaker Lane to provide drivers with better visibility of northbound vehicles.
3. Increase the size of STOP signs (R1-1) at Fallkill and East Fallkill Roads from 30x30 inches to 36x36 inches, increasing reflectivity.
4. Bring the STOP sign (R1-1) at Fallkill Road, closer to North Quaker Lane to improve visibility.
5. At Fallkill Drive, narrow the mouth of the intersection, especially on the south side to direct vehicles to the optimum location for sight distance.
6. Lower the vertical crest on North Quaker Lane. This would improve sight distance for drivers exiting Fallkill and East Fallkill Roads, as well as for northbound drivers on North Quaker Lane making a left turn on to Fallkill Road. Such an improvement would significantly impact adjacent properties and have considerable costs; the SA team therefore identified this as a long-range suggestion, given the lack of crashes at the intersections.

Priority for Consideration:
Suggestion 1: High

Figure 14. North Quaker Lane looking south towards the curve. The pavement slopes downward through the curve.

Figure 15. North Quaker Lane looking north towards the curve. Note the damaged box beam guiderail to the left (arrow).

Suggestions 2-4: Moderate
Suggestions 5-6: Low

CR16 (North Quaker Lane) from East Fallkill Road-Forest Drive

The segment between East Fallkill Road and Forest Drive had the highest number of crashes on within the study area. Unsafe speeds during wet weather, coupled with the road's geometry, have resulted in numerous road departure crashes. Beyond short term improvements such as better signage and pavement treatments, DCDPW might consider realigning the road to reduce the curve.

Issue #1: Curve warning signs (North Quaker Lane northbound)

Safety Concern: The horizontal alignment warning sign assembly on North Quaker Lane northbound, south of Forest Drive may not be located at the correct location based on current engineering standards.

Observation: Based on SA team member input, the horizontal alignment warning sign (W1-4) on North Quaker Lane northbound is located too far south of the actual curve. The current placement appears to be based on an older standard.

Risk Analysis: Placing the sign too far from the target feature increases the chance that the sign might be missed or forgotten by the time a driver reaches the curve. The sign therefore does not provide timely information.

Suggestions:

1. Relocate the horizontal alignment warning assembly (W1-4) south of Forest Drive, closer to the first curve based on new MUTCD guidance.
2. In conjunction with relocating the warning assembly, replace the horizontal alignment warning sign (W1-4) and speed advisory plaque (W13-1P) to increase reflectivity, and increase the sign size to 36x36 inches and plaque size to 24x24 inches.
3. Install a series of warning chevrons (W1-8) at the curve to alert northbound traffic of the approaching curve. Consider the use of vertical reflective strips on the chevron sign posts, as done by NYSDOT on nearby NYS Route 115, to increase driver awareness.


W1-8

Priority for Consideration:
Suggestion 1: High

Suggestion 2: Moderate
Suggestion 3: High

Issue #2: Curve warning signs (North Quaker Lane southbound)

Safety Concern: The curve warning assembly on North Quaker Lane southbound, south of East Fallkill Road, may not be located at the correct location based on revised engineering standards.

Observation: Based on SA team member input, the horizontal alignment warning sign (W1-4)/25 mph advisory speed plaque (W13-1P) assembly on North Quaker Lane southbound is located too far north of the actual curve and may not keep the attention of drivers as they approach the curve.

Figure 16. Located approx. 800 feet from the curve (when travelling south), this sign assembly should be moved further south to keep the driver's attention.

Risk Analysis: Placing the sign too far from the target feature increases the chance that the sign might be missed or forgotten by the time a driver reaches the curve. The sign therefore does not provide useful, timely information.

Suggestions:

1. Relocate the horizontal alignment warning sign (W1-4) and advisory speed plaque (W13-1P) closer to the point of curvature (i.e. closer to the curve), as per current engineering standards.
2. Consider enlarging the warning sign to 36x36 inches and speed plaque to 24x24 inches.
3. Install a series of warning chevrons (W1-8) to alert North Quaker Lane southbound traffic of the approaching curve north of Forest Drive and consider adding reflective vertical strips to the chevron signposts. The existing large arrow warning sign (W1-6) should be removed in conjunction with the installation of the chevrons.


W1-8

4. If crash rates remain high after lower cost improvements are made, consider the use of flashing beacons or LEDs to increase the visibility of warning signs.

Priority for Consideration:
Suggestion 1: High
Suggestion 2: Moderate
Suggestion 3: High
Suggestion 4: Low

Issue #3: Guiderail condition and type

Safety Concern: Portions of the two opposing guiderails at the North Quaker Lane curve are in poor condition and the two guiderails are of different types.

Observations: Recurring vehicle impacts have damaged the southbound guiderail, which is missing some structural members. Several segments of the guiderail are in poor condition and leaning out and away from the road, indicating that they have either been struck by vehicles or suffer from a lack of suitable back-up support. In addition, the southbound guiderail is a box beam, while the northbound guiderail is the older "W" style. The bridge/hazard markers (OM3-L/R) may not be needed, since they compete with other warning signs. Numerous reflective delineators on the southbound guiderail were bent or broken. The SA team also noted that a new guiderail might be needed further north of the curve (northbound lane), where the road abuts a low lying wetland; the field visit uncovered evidence of a road departure into the edge of this wetland.

Risk Analysis: Lack of adequate guiderails can result in an errant vehicle traversing down a steep, non-recoverable slope. This is of special concern if the area at the toe of the slope contains fixed objects or other hazards such as water. Askew guiderail systems and turned down end sections can also increase the risk of vehicle launching.

Suggestions:
1. Repair the damaged southbound guiderail.
2. Once the warning chevrons (W-8) are installed, remove the object markers (OM3-L/R) located on both guiderails.
3. Consider upgrading the reflective delineators and/or adding a reflective strip along the side of the guiderails.
4. Replace the northbound guiderail with a box beam style. The SA team noted that the County standard for new installations is box beam guiderail and that DCDPW has a program to identify and replace deficient systems.
5. Consider the installation of a new guiderail on the eastern edge of the northbound lane, in order to prevent vehicles from entering the wetlands. This could be an

Figure 17. The box beam guiderail along the southbound lane of North Quaker Lane wears the marks of previous crashes.

Figure 18. The obsolete "W" style guiderail along the northbound lane of North Quaker Lane should be replaced with a box beam guiderail.

Figure 19. Repeated impacts by vehicles have separated support posts from the guiderails, while some delineators have worn away.

Figure 20. The northbound guiderail along North Quaker Lane could be extended to prevent vehicles from entering the wetland area to the east (left).

Figure 21. The field visit revealed evidence of a previous roadside departure, with the vehicle resting in the wetland.

extension of the existing northbound guiderail. However, DCDPW should weigh the benefit of a new guiderail with the potential of increasing possible head-on crashes if errant northbound vehicles bounce back into traffic. As an alternative, DCDPW may want to consider raising the shoulder/clear zone elevation on the northbound lane to reduce the drop off distance (see also Issue #4 below).

Priority for Consideration:
Suggestion 1: High
Suggestion 2: Moderate
Suggestion 3: High
Suggestion 4: Moderate
Suggestion 5: Low

Issue #4: Shoulder widths and drop-offs

Safety Concern: Shoulder (pavement edge) drop-off.

Observations: Paved shoulders vary from 1 to 2 feet, with an additional 2 to 4 feet of unpaved shoulder. Some of these paved shoulders drop off substantially at the edge, particularly on the northbound lane just north of the curve and existing guiderail. The SA team suspected that roadway runoff was cutting a path along the edge of the pavement, resulting in an edge drop-off condition at the shoulder.

Figure 22. Sections of the northbound shoulder have steep edges, likely due to water runoff. Such features can make it difficult for vehicles to recover when departing the pavement.

Risk Analysis: Edge drop-off can cause loss of control when a vehicle drifts towards the shoulder. If a driver attempts a sudden correction to regain control, the vehicle can

become destabilized resulting in a crash. The lack of adequate clear areas and high operating speeds along the road increase the chances of a severe crash.

Suggestions:

1. Reduce shoulder drop-offs by backfilling along shoulders, especially along the northbound lane (short-term).
2. Widen shoulders, especially along the northbound lane. This could be done in conjunction with slightly narrowing the travel lanes.
3. Consider adding a safety wedge, which is a simple but effective solution that allows drivers who drift off the road to return to the road safely. Instead of a vertical drop-off, the Safety Edge shapes the edge of the pavement to 30 degrees. FHWA supported research has shown that this is the optimal angle to allow drivers to re-enter the roadway safely.

Priority for Consideration:
Suggestion 1: High
Suggestions 2-3: Moderate

Issue #5: Sight distances along North Quaker Lane (Segment)

Safety Concern: Limited visibility at the curve on North Quaker Lane, and from approaching driveways may lead to crashes.

Observations: Trees located on the inside curve of northbound North Quaker Lane restrict visibility northbound, while trees on the west side of the southbound lane (i.e. on the embankment) also restrict visibility. The SA Team reported that the resident of 691 North Quaker Lane had previously complained of poor visibility from their driveway, particularly of northbound vehicles on North Quaker Lane. However, the crash data did not indicate a safety issue related to poor visibility from driveways.

Figure 23. Large trees located on the east side of the curve obscure oncoming traffic and cast shadows on the pavement.

Risk Analysis: Inadequate sight distance increases the risk of a crash by reducing the driver's ability to accurately judge upcoming roadway features.

Suggestions:

1. As part of normal tree maintenance, DCDPW should ensure that the County right-of-way is free and clear of obstructions and that the clear zone is sufficient for this type of facility. If vegetation is located on private property and is determined to compromise safety, DCDPW should notify the applicable property owner of the situation and suggest that they remove the obstruction(s).
2. Trim or remove trees at the inside of the curve.
3. Trim or remove trees on the west side of the road (on the embankment).
4. Add a supplemental name panel (W16-8P) to the existing offset intersection warning assembly (W2-7L) on the northbound lane.

Priority for Consideration:
Suggestion 1: High
Suggestion 2: Moderate
Suggestions 3-4: Low

CR16 (North Quaker Lane)/Forest Drive intersection

Issue #1: Forest Drive Intersection Signs

Safety Concern: Regulatory and warning signs on Forest Drive are obstructed.

Observations: The order of advisory and warning signs on Forest Drive approaching North Quaker Lane could be better positioned so that they do not obstruct the intersection STOP sign (R1-1). In addition, the SA team noted that the posts for the STOP sign were imbedded in a tree trunk that had grown around the sign. The SA team also noted that there was no stop bar at the approach. Stop bars would help motorists recognize the need to stop and designate proper positioning for optimal sight distance prior to entering the intersection. Lack of these markings may increase the risk of non-compliance.

Figure 24. The posts for the STOP sign on Forest Drive have been encased by a tree trunk.

Risk Analysis: Inadequate STOP sign visibility can result in a high-speed, severe right-angle crash.

Suggestions:

1. Move the STOP (R1-1) sign post away from the large tree at the southwest corner of the intersection (see also Issue #2: Sight Distance).
2. Replace the old 'STOP Ahead' sign with the new pictorial advanced traffic control sign (W3-1) [Completed on November 14, 2013].
3. Move the "end 30 mph" sign back approx. 200-feet behind the new "STOP Ahead" sign [Completed on November 14, 2013].


W3-1

4. Consider the use of a vertical retro-reflective strip on the STOP (R1-1) sign support to enhance visibility.
5. Install a stop bar on the Forest Drive approach to North Quaker Lane, using the NYSDOT recommended standard width of 18 inches or the wider 24-inches, which would make it consistent with other intersecting roads (e.g. Fallkill Road).
6. Consider the placement of an intersection warning sign (W2-2) on North Quaker Lane northbound approaching Forest Drive. This should be balanced with the desire to not over-saturate the area with signs.


W2-2

Priority for Consideration:
Suggestions 1-3: High
Suggestions 4-5: Moderate
Suggestion 6: Low

Figure 25. Branches from a large tree, coupled with an approaching speed sign, obscure the STOP sign at Forest Drive.

Figure 26. Tree branches obscure the STOP sign on Forest Drive, while another sign distracts drivers as they approach North Quaker Lane. A stop line would improve driver awareness.

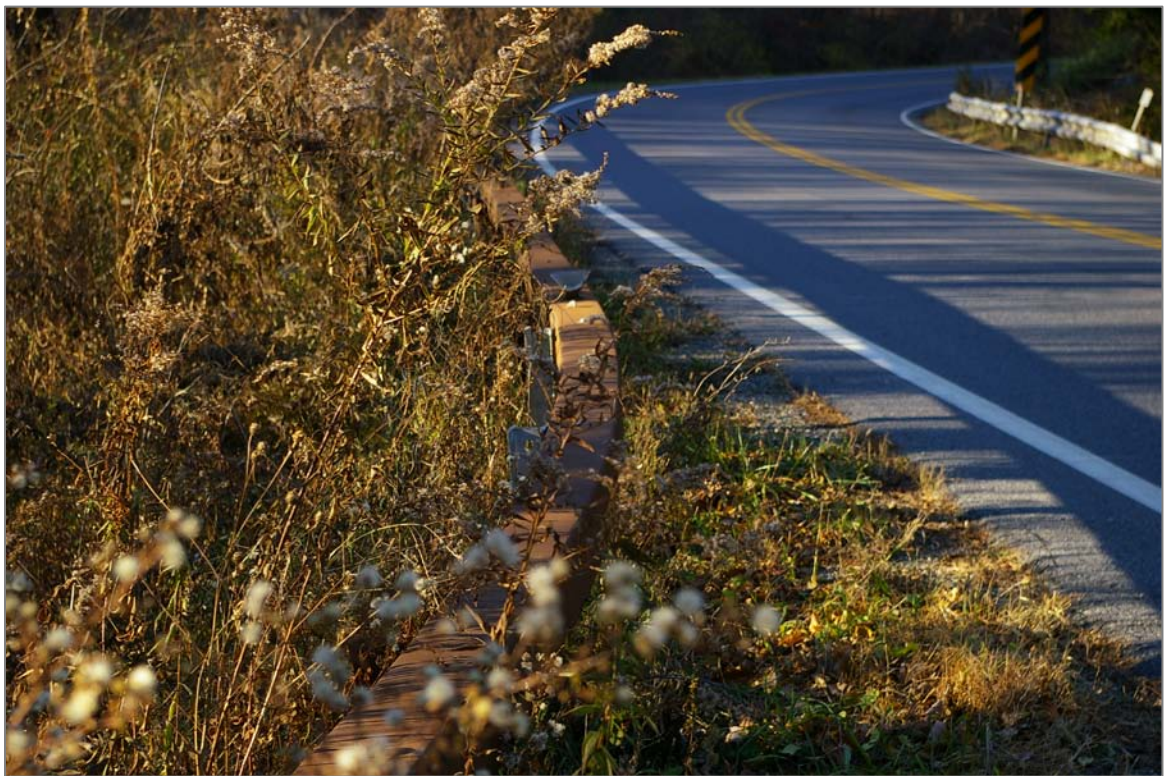


Figure 27. Vegetation along the southbound guiderail on North Quaker Lane impedes the line of sight of drivers looking north from Forest Drive.

Issue #2: Sight Distance at Forest Drive

Safety Concern: Intersection sight distance from Forest Drive is limited when looking south.

Observation: The large tree on the southwest corner of Forest Drive restricts the visibility of drivers looking south from Forest Drive. This is the same tree that has grown in and around the STOP (R1-1) sign. In addition, brush located in and around the existing box beam guiderail may impede a driver's line of sight when looking north from Forest Drive.

Risk Analysis: Inadequate STOP sign visibility when approaching the intersection, along with poor line of sight from the intersection, can result in a high-speed, severe right-angle crash.

Suggestions:

1. Remove the large tree on the southwest corner of Forest Drive.
2. Cut/remove brush located on the inside of the southbound guiderail, north of Forest Drive, to improve sight distance.

Priority for Consideration:
Suggestions 1-2: Moderate

Issue #3: Potential Road Flooding

Safety Concern: Debris is limiting the capacity of the swale on the west side of North Quaker Lane, which could result in ponding on the road.

Observation: The SA Team noted that the swale located at the northwest corner of the Forest Road intersection had a large amount of silt and sand buildup, which could limit its capacity to discharge water runoff during extreme weather events or prolonged wet periods.

Risk Analysis: Road ponding during severe weather events could create a hazard to drivers and contribute to slippery pavement conditions.

Suggestion: Clean out the blacktop swale at the Forest Drive and North Quaker Lane intersection.

Priority for Consideration: High

6. Next Steps

The PDCTC, through the work of the SA Team, has prepared this report to assist Dutchess County DCDPW and the Town of Hyde Park with prioritizing opportunities to improve safety within the study area. The suggestions are for consideration only and are in no way intended to serve as design or operational recommendations. The SA Team believes it has been thorough and diligent in its work, given the information available and its field reviews. This report does not preclude the identification of additional issues pertaining to safety by the owners or the emergence of new issues over time. It is recommended that Dutchess County DCDPW review this report, document its responses to the issues identified in a formal response, and track progress towards the implementation of safety improvements prompted by this assessment.

Table 3. Suggested Actions and Priority by Location

Issue	Suggested Action	Priority
Overall Safety		
1-1	Reduce regulatory speed limit to 45 mph.	High
1-2	Increase speed enforcement.	Moderate
1-3	Narrow travel lanes from 11 to 10 feet.	Dismissed
2-1	Trim trees and vegetation.	High
2-2	Install 'Slippery When Wet' warning sign (W8-5).	Low
2-3	High friction pavement treatment at curve.	High
3-1	Replace advisory speed plaque (WC13-1P).	High
3-2	Add vertical reflectors to signposts.	Moderate
3-3	Review retro-reflectivity of pavement markings.	Moderate
3-4	Develop a County-wide sign reflectivity monitoring program.	Low
4-1	Widen shoulders on North Quaker Lane.	Low
5-1	Upgrade street name signs to 2009 MUTCD standards.	Low
CR16 (North Quaker Lane)/Fallkill-East Fallkill Road offset intersections		
1-1	Trim trees on west-side of North Quaker Lane.	High
1-2	Move pavement stop line on Fallkill Road closer to North Quaker Lane.	Moderate
1-3	Increase size of STOP signs (R1-1) at Fallkill and East Fallkill Roads.	Moderate
1-4	Move Fallkill Road STOP sign (R1-1) closer to North Quaker Lane.	Moderate
1-5	Narrow width of Fallkill Road intersection.	Low
1-6	Lower vertical crest on North Quaker Lane.	Low
CR16 (North Quaker Lane) from East Fallkill Road to Forest Drive (including curve)		
1-1	Relocate warning assembly (W1-4) closer to Forest Drive (northbound).	High
1-2	Replace warning signs to increase reflectivity and increase sign size.	Moderate
1-3	Install warning chevrons (W1-8) at the curve (northbound approach).	High
2-1	Relocate warning sign (W1-4) assembly closer to curve (southbound).	High
2-2	Increase size of above warning sign (southbound).	Moderate
2-3	Install warning chevrons (W1-8) at the curve (southbound approach).	High
2-4	Install flashing beacons on warning sign assembly (southbound).	Low
3-1	Repair damaged southbound guiderail.	High

3-2	Remove object markers on guiderails.	Moderate
3-3	Upgrade reflective delineators on guiderails.	High
3-4	Replace northbound "W" guiderail with box beam guiderail.	Moderate
3-5	Install new guiderail on eastern edge of northbound lane.	Low
4-1	Reduce shoulder drop-offs with backfill.	High
4-2	Widen shoulders.	Moderate
4-3	Add safety wedge to pavement shoulders.	Moderate
5-1	Clear right-of-way of obstructions.	High
5-2	Trim or remove trees at curve.	Moderate
5-3	Trim or remove trees on west side (southbound) embankment.	Low
5-4	Install name panel to intersection warning assembly (northbound).	Low

CR16 (North Quaker Lane)/Forest Drive intersection

1-1	Move STOP signpost away from tree trunk.	High
1-2	Replace old 'STOP Ahead' sign.	High
1-3	Move 'end 30 mph' sign further behind new pictorial STOP ahead sign.	High
1-4	Install vertical reflectors to signposts.	Moderate
1-5	Install pavement stop line at Forest Drive.	Moderate
1-6	Install intersection warning sign (W2-2) on North Quaker Lane.	Low
2-1	Remove large tree on southwest corner.	Moderate
2-2	Cut/remove brush behind southbound guiderail.	Moderate
3-1	Clean out blacktop swale.	High

Appendix A

North Quaker Lane (CR 16) Safety Assessment: Forest Dr-East Fallkill Rd
Town of Hyde Park, New York

Existing Conditions

1. Location and Character
    a. North Quaker Lane (CR 16)
        i. Generally north-south
        ii. Owned and maintained by Dutchess County DPW
        iii. Functional Classification – Urban Major Collector
        iv. Un-posted speed limit: 55 mph
        v. Travel Lane Width – 11 feet per lane
        vi. Shoulder Width – 1-2 ft (each side)
        vii. Terrain – Mostly level with horizontal curves both NB and SB, with slight vertical rise approaching the Fallkill Road intersection.
    b. Forest Drive & East Fallkill Road
        i. Generally east-west
        ii. Owned and maintained by Town of Hyde Park
        iii. Functional Classification – local street
        iv. Posted speed limit: 30 mph
        v. Travel Lane Width –20 ft total; 10 feet per lane; no centerline (based on Google Earth)
        vi. Shoulder Width – no marked shoulder
        vii. Terrain –vertical slope down to CR 16.

2. Traffic Control/Signage
    a. Intersection Control
        i. STOP Sign on Forest Drive at CR 16 (right side only).
        ii. STOP Sign on Fallkill Road at CR 16 (right side only).
        iii. STOP Sign on East Fallkill Road at CR 16 (right side only).
    b. Stop bar- not marked.
    c. Warning Signs
        i. Directional sign (large arrow)
            1. Located approx. 250 ft north of intersection for SB traffic.
        ii. Curve Warning sign (reverse curve with 25 mph speed advisory)
            1. Located approx. 800 feet north of Forest Drive intersection for SB traffic.
        iii. Curve Warning sign (reverse curve with 30 mph speed advisory)
            1. Located approx. 1,000 feet south of Forest Drive intersection for NB traffic.
3. Pavement/Maintenance History
    a. Paved in 2010

b. Previous concerns/issues [checking with DC DPW]

4. Traffic Volumes, Speeds, and Composition (2008 and 2011)
    a. North Quaker Lane (CR 16) from Crum Elbow Rd (CR 41) to Forest Drive [Station 828343]; count taken 0.50 miles north of Cardinal Road (2011):
        i. AADT – 3,534
            1. 1,793 – NB
            2. 1,741 – SB
        ii. Peak Hour Volumes – 367 (7-8am) and 353 (5-6pm)
            1. AM: 121-NB; 246-SB
            2. PM: 224-NB; 129-SB
        iii. Average Speed – 53 mph
        iv. 85% Speed – 59 mph
        v. Heavy Vehicle % - 6.65%
    b. North Quaker Lane (CR 16) from Crum Elbow Rd (CR 41) to Forest Drive [Station 828343]; count taken 2/10 mile north of Cardinal Road (2008):
        i. AADT – 3,916
            1. 1,990 NB
            2. 1,926 SB
        ii. Peak Hour Volumes – 419 (7-8am) and 397 (4-5pm)
            1. AM: 121-NB; 298-SB
            2. PM: 253-NB; 144-SB
        iii. Average Speed – 49 mph
        iv. 85% Speed – 55 mph
        v. Heavy Vehicle % - 8.08%
    c. North Quaker Lane (CR 16) from Forest Drive to East Fallkill Road [Station 828344]; count taken 1,080 ft north of Forrest Drive (2011):
        i. AADT – 2,825
            1. 1,497 NB
            2. 1,328 SB
        ii. Peak Hour Volumes – 308 (7-8am) and 275 (4-5pm)
            1. AM: 196-NB; 112-SB
            2. PM: 124-NB; 151-SB
        iii. Average Speed – n/a (NYSDOT count; no speed or class data)
        iv. 85% Speed – n/a
        v. Heavy Vehicle % - n/a
    d. North Quaker Lane (CR 16) from Forest Drive to East Fallkill Road [Station 828344]; count taken 1/10 miles south of East Fallkill Road (2008):
        i. AADT – 3,222
            1. 1,656 NB
            2. 1,566 SB
        ii. Peak Hour Volumes – 389 (7-8am)and 344 (4-5pm)

1. AM: 144-NB; 245-SB
2. PM: 218-NB; 126-SB

iii. Average Speed – 40 mph
iv. 85% Speed – 45 mph
v. Heavy Vehicle % - 9.39%

e. Forest Dr – no volume data

5. Crash History
   a. 34 total crashes from 2008 to 2012
   b. 13 injuries; no fatalities
   c. No pedestrian or bicycle crashes reported
   d. Crash data summary (NYS ALIS)

Accident Severity	No. of Crashes	% of Total
Injury	11	32%
Property Damage only	20	68%
Total	34	

Light Conditions	No. of Crashes	% of Total
1-Daylight	26	76%
2-Dawn	1	3%
3-Dusk	0	0%
4-Dark-Road Lighted	0	0%
5-Dark-Road Unlighted	7	21%
Total	34	

Finding: Most accidents occur during daylight hours.

Roadway Character	No. of Crashes	% of Total
1-Straight and Level	2	6%
2-Straight and Grade	0	0%
3-Sright and Hill Crest	0	0%
4-Curve and Level	27	79%
5-Curve and Grade	5	15%
Total	34	

Finding: High percentage of accidents at the horizontal curves.

Roadway Surface Conditions	No. of Crashes	% of Total
1-Dry	4	12%
2-Wet	28	82%
3-Muddy	0	0%
4-Snow/Ice	2	6%
5-Slush	0	0%
6-Flooded Water	0	0%
Total	34	

Finding: High percentage of accidents occurring during wet/slippery surface conditions.

Weather	No. of Crashes	% of Total
1-Clear	4	12%
2-Cloudy	14	41%
3-Rain	15	44%
4-Snow	0	0%
5-Sleet/Hail/Freezing Rain	1	3%
6-Fog/Smog/Smoke	0	0%
Total	34	

Finding: Most accidents occur when weather conditions are either rainy or cloudy.

Accident Type	No. of Crashes	% of Total
1-Other Motor Vehicle	2	6%
4-Collision with Animal	1	3%
7-Collision with Deer	2	6%
11-Collision with Utility Pole	2	6%
12-Collision with Guardrail	5	15%
15-Collision with Tree	6	18%
18-Collision with Fence	1	3%
22-Collision with Snow Bank	2	6%
23-Collision with Earth Element	10	29%
30-Collision with Other Fixed Object	1	3%
31-Overturned	2	6%
Total	34	

Finding: Most frequent accident type is collision with tree.

Traffic Control	No. of Crashes	% of Total
1-None	27	79%
7-No Passing Zone	6	18%
ZZ-Unknown	1	3%
Total	34	

Factors Listed*	No. of Crashes
Unsafe Speed	13
Unsafe Lane Change	1
Driver Inexperience	1
Alcohol Involvement	1
Pavement Slippery	21
Reaction to Uninvolved Vehicle	1
Outside Car Distraction	1
Animal's Action	5

*Some crashes include more than one contributing factor.

Finding: Most common factor was slippery pavement; followed by unsafe speed. Most crashes involved more than 1 contributing factor.

Appendix B

CR 16 (North Quaker Lane): Forest Drive-Fallkill Road Crash History (2008-2012)

YEAR	CASE #	CRASH DATE	REPORTING AGENCY	CONTRIBUTING FACTORS	COMMENTS
2008	32553927	3/16/2008	DUTCHESS CO SHERIFF DEPT	5-driver inexperience and 20-unsafe lane changing	V-1 was traveling SB on N.Quaker Rd and lost control, striking a tree. Driver had a permit and was not used to wet roads.
2008	32617737	5/8/2008	RHINEBECK SP	66-pavement slippery and 19- unsafe speed	Traveling northbound, road slippery due to rain and oil; vehicle slides across southbound lane, strikes rock and dirt embankment on west shoulder.
2008	32601850	5/22/2008	HYDE PARK TOWN PD	Unavailable	Unavailable
2009	32874588	1/12/2009	HYDE PARK TOWN PD	Unavailable	Unavailable
2009	33123018	8/18/2009	RHINEBECK SP	19- unsafe speed	Traveling northbound, lost control of vehicle going around bend; fishtails, overturns, landing in ditch on east shoulder.
2009	33167264	10/3/2009	HYDE PARK TOWN PD	2-alcohol involvement and 19-unsafe speed	V-1 was traveling south of N. Quaker Lane when he failed to negotiate a turn striking a guide rail and coming to a reset on Forest Dr.
2009	33191909	10/28/2009	HYDE PARK TOWN PD	66-pavement slippery	D1 began to lose control of V1 in a hydroplane around a curve in the roadway. D1 took evasive action to avoid striking guide rail which spun the vehicle, causing it to strike a sign post and end in a ditch at the intersection
2010	33470923	6/13/2010	HYDE PARK TOWN PD	61-animal's action	Deer entered roadway, attempted to swerve, lost control, left roadway and went into a ditch.
2010	33615522	9/16/2010	NOT ENTERED	N/A	Traveling south, two deer ran across the road from right to left and vehicle struck 2nd deer
2011	33756651	1/28/2011	HYDE PARK TOWN PD	66-pavement slippery	Traveling south driver hit a sheet of ice on the road causing her to go off the road and strike an embankment
2011	33761372	2/5/2011	HYDE PARK TOWN PD	66-pavement slippery	V1 negotiating a curve; lost control, struck snow bank.
2011	33814286	3/16/2011	HYDE PARK TOWN PD	19-unsafe speed and 66-pavement slippery	Driver down-shifted causing vehicle to slide. Driver stated therre was oil on the road, which caused her to slide
2011	33979854	8/9/2011	HYDE PARK TOWN PD	66-pavement slippery	Traveling south, driver lost control of his vehicle due to slippery pavement and crashed into an embankment
2011	33979914	8/9/2011	HYDE PARK TOWN PD	66-pavement slippery	Traveling south driver lost control of vehicle due to slippery pavement and crashed into an earth embankment
2011	33991769	8/14/2011	HYDE PARK TOWN PD	19-unsafe speed and 66-pavement slippery	While making the turn heading SB, vehicle began to slide and made a complete 180^{o} turn, striking a small tree on the property of 680 N. Quaker Ln
2011	34037124	10/1/2011	HYDE PARK TOWN PD	19-unsafe speed and 66-pavement slippery	While driving south the driver lost control around a corner, spun around, sild in reverse, hit a fence and went into a ditch while still sliding in reverse
2011	34049121	10/4/2011	HYDE PARK TOWN PD	61-animal's action and 66-pavement slippery	Traveling south, driver served to avoid hitting a deer causing his vehicle to slide on the slippery pavement, spin an strike a guide rail
2011	34049122	10/13/2011	HYDE PARK TOWN PD	26-reaction to uninvolved vehicle and 66-pavement slippery	Traveling south, driver entered curve in the roadway and NB vehicle was on center line, attempting to swerve vehicle began to slide, spun around, crossed into NB lane & struck tree with rear of vehicle and hit an earth embankment
2011	34060803	10/20/2011	HYDE PARK TOWN PD	19-unsafe speed and 66-pavement slippery	Traveling south, lost control, spun around; left door hit a speed limit sign.

CR 16 (North Quaker Lane): Forest Drive-Fallkill Road Crash History (2008-2012)

2011	34137339	12/6/2011	HYDE PARK TOWN PD	19-unsafe speed and 66-pavement slippery	Driver states an oncoming vehicle was in his lane when he swerved to avoid it V1 left the roadway and entered loose gravel. V1 lost traction and slid sideways across the roadway into a utility pole
2011	34144700	12/15/2011	RHINEBECK SP	19-unsafe speed and 66-pavement slippery	Traveling south, Driver lost control of vehicle on a curve and slid off road onto westren shoulder and collided into a wooden fence off of shoulder
2012	34176768	1/13/2012	HYDE PARK TOWN PD	19-unsafe speed and 66-pavement slippery	Operator lost control of vehicle due to slippery roads and unsafe speed and overturned into a ditch on the east side of the road
2012	34203731	2/11/2012	HYDE PARK TOWN PD	19-unsafe speed and 66-pavement slippery	Traveling south, rounding a bend in the road doing approx 40mph rear tires began to slide on wet pavement. Vehicle went off the road, spun around, and sturck a tree at the intersection with Forest Dr
2012	34286490	4/22/2012	HYDE PARK TOWN PD	61-animal's action and 66-pavement slippery	Traveling north, swerved to avoid a deer, went off road and down embankment.
2012	34323797	5/26/2012	HYDE PARK TOWN PD	66-pavement slippery	Traveling south, going around corner, losts control, hit guiderail.
2012	34330206	6/12/2012	HYDE PARK TOWN PD	19-unsafe speed and 66-pavement slippery	D1 unsafe speed, left lane of travel around curve; crossed over shoulder and struck guide rail, spun around, ended up in opposite travel lane.
2012	34340085	6/12/2012	HYDE PARK TOWN PD	19-unsafe speed and 66-pavement slippery	Entered turn too fast, lost traction when attempted to slow. Struck utility pole, ended up down an embankment.
2012	34385528	7/21/2012	HYDE PARK TOWN PD	25-outside car distraction and 61-animal's action	Traveling south a turkey ran into the road and the sruck the front of the vehicle. The operator slid on the pavement while approaching a turn and struck a guide rail
2012	34424043	8/28/2012	HYDE PARK TOWN PD	19- unsafe speed	D1 traveling south, rounding a curve on wet pavement; lost control. Vehicle slid off the roadway; struck guide rail.
2012	34465078	10/3/2012	HYDE PARK TOWN PD	9-following too closely	V2 attempting to turn right into driveway, struck in rear. V1 traveling south, unable to stop in time.
2012	34465080	10/10/2012	HYDE PARK TOWN PD	19-unsafe speed and 66-pavement slippery	Traveling north, rounding a curve, lost control on wet pavement. Went off road, down embankment.
2012	34566631	12/10/2012	HYDE PARK TOWN PD	Unavailable	Unavailable
2012	34596378	12/17/2012	HYDE PARK TOWN PD	66-pavement slippery	Traveling north, negotiating a turn, vehicle slipped on wet pavement, lost control, left road and hit tree.
2012	34581710	12/24/2012	HYDE PARK TOWN PD	61-animal's action	Travling south, deer ran into road, unable to avoid deer.