Plan On It

A Dutchess County Planning Federation eNewsletter

DUTCHESS COUNTY PLANNING FEDERATION

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Road Safety Assessments

A Tool for Reducing Crashes and Injuries on County Roads

By Mark Debald, Transportation Program Administrator, PDCTC

We often read with dismay the tragic stories of death and injury that result from vehicle crashes. Young and old, male and female, local and visitor, driver, passenger, pedestrian, motorcyclist, and bicyclist, all people hurt or killed performing an activity that most of us take for granted: travelling from point A to point B. The uncomfortable truth is that we as a society accept a certain level of risk on our roads, chalking it up to the cost of living in the 21st century. Though on occasion, we owe it to ourselves and to the memory of crash victims and survivors, to examine our acceptance of this risk. Are we content that we lose on average 23 lives and sustain over 2,800 injuries on roads in Dutchess County each year?[1] More importantly, are we doing all that we can to lower these numbers – knowing that human behavior, money, time, and circumstances will always counter our best intentions? From our standpoint, we can answer the first question with a resounding no, and the second with a yes, in the best way we know how: performing Safety Assessments.

What is a Safety Assessment?

The Federal Highway Administration (FHWA) defines a Safety Assessment as a formal safety examination of an existing or planned transportation facility (e.g. road, intersection, sidewalk, or trail) by an independent, multi-disciplinary team of stakeholders (Safety Assessment Team, or "Team"). Regardless of where they are done or by whom, Safety Assessments strive to address potential safety issues and identify solutions that improve the safety of all road users – whether a walker, bicyclist, bus passenger, or driver. FHWA promotes the use of Safety Assessments as a cost effective tool to improve roadway safety. With these tenets in mind, Safety Assessments attempt to answer three basic questions:

1. What elements of the road may present a safety concern: to what extent, to which road users, and under what circumstances?
2. What opportunities exist to eliminate or mitigate identified safety concerns?
3. Are there low cost solutions or countermeasures that would improve safety?

To help answer these questions, the typical Safety Assessment follows a logical, eight-step process that clearly establishes the parameters of the assessment and ensures that the Team addresses any and all potential safety issues at a location.

Safety Assessments rely on the participation of a multi-disciplinary team of experts, such as the one shown above for CR19 (Slate Quarry Rd.).

During the course of a Safety Assessment, the Team is encouraged to suggest safety improvements that can be as broad or narrow in scope as needed, ensuring no suggestion is

discounted until it has been discussed by the Team. The FHWA provides a useful software tool to help with this effort. Using its Road Safety Audit (RSA) program, the Team is guided through a comprehensive checklist that addresses the many issues related to safety: road alignments, sight distances, shoulder widths and conditions, pavement and guiderail conditions, signs and markings, lighting, etc. The Poughkeepsie-Dutchess County Transportation Council (PDCTC)[2] has also found that discussing improvements in the context of the "Five E's": Evaluation, Engineering, Education, Encouragement, and Enforcement, can be a useful tool to formulate potential solutions.

Local Safety Assessments

In 2012, the PDCTC initiated a program of Safety Assessments to improve conditions on high-crash, County-owned highways. To date, the PDCTC has completed three assessments:

1. CR9 (Beekman Rd), Town of Beekman
2. CR16 (North Quaker Ln), Town of Hyde Park
3. CR19 (Slate Quarry Rd), Town of Rhinebeck

The Eight-Step Safety Assessment Process

Step 1: Identify the project or location to be studied.

Step 2: Select an independent, qualified, and multidisciplinary SA Team.

Step 3: Conduct a pre-assessment meeting to review project information.

Step 4: Perform field observations under various road and environmental conditions.

Step 5: Conduct the assessment and prepare a report of findings.

Step 6: Present findings to the facility owner.

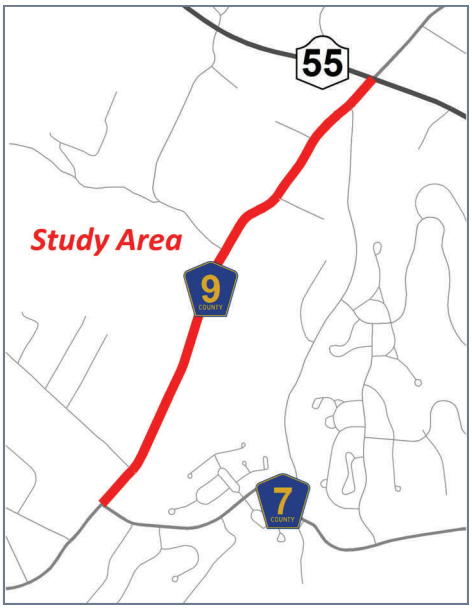
Step 7: Facility owner prepares a formal response.

Step 8: Incorporate findings into project development.

The PDCTC chose these locations based on an analysis of crash data from the NYS Accident Location Information System (ALIS) database and input from the Dutchess County Department of Public Works (DCDPW) and local municipalities. The three locations, all with above average crash rates, have provided the PDCTC with an opportunity to apply the Safety Assessment process at the local level. In all three cases, the PDCTC relied on the knowledge and participation of local and County highway officials and law enforcement to complete the assessments.

Beekman: CR9 (Beekman Rd) from NYS Route 55 to CR7 (Beekman-Poughquag Rd)

The PDCTC initiated its Safety Assessment program with a focus on this 1.5 mile segment of Beekman Rd, which had experienced over 67 crashes from 2008-2011. The PDCTC, SA Team, and project consultant completed the assessment over a three-day period in late October 2012. The Team identified low-cost, high-impact improvements to address safety issues related to speeding, narrow lanes and shoulders, horizontal and vertical alignments, limited sight distances, and wet-weather crashes. The assessment produced a menu of improvements that ranged from short-term solutions such as installing new warning signs, remarking pavement, and trimming trees to long-term items such as reconfiguring intersections and repaving curves. Perhaps due in part to DCDPW's work on some of

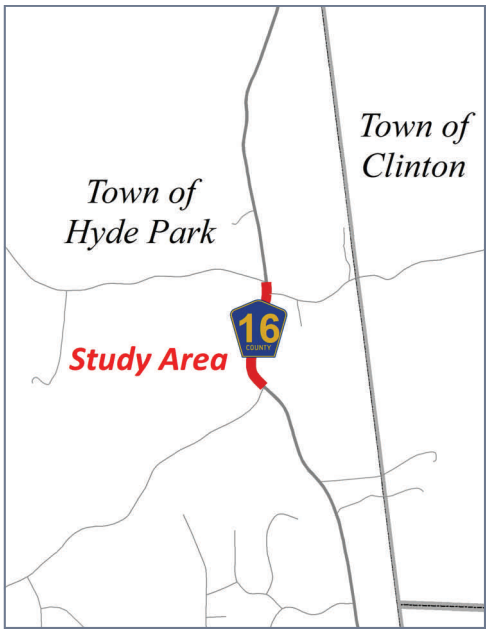


CR9 (Beekman Road) study area.

these improvements, an analysis of 2013 crash data indicated that crashes decreased by 25 percent since the assessment. See the CR9 (Beekman Rd) Safety Assessment for more information.

Hyde Park: CR16 (North Quaker Lane) from Forest Dr to East Fallkill Rd

Based on the success with Beekman Rd, the PDCTC conducted a similar assessment of North Quaker Lane in Hyde Park, focusing on a ¼-mile segment from Forest Drive to Fallkill Road. This short section witnessed 34 crashes from 2008-2012, resulting in 13 injuries. The PDCTC and SA Team completed the assessment in November 2013. Through its field work and the RSA checklist, the Team identified issues involving vehicle speeds, narrow shoulders, horizontal and vertical curves, limited sight distances, and wet-weather crashes. In turn, the Team identified a variety of short-term improvements such as lowering the speed limit to 45 mph, repositioning existing warning signs, installing new signs, replacing worn guiderails, and improving sight distances – DCDPW has already acted on many of these suggestions. See the CR16 (North Quaker Lane) Safety Assessment for more information.



CR16 (North Quaker Lane) study area.

As seen in 2013, this curve on CR 16 (North Quaker Lane) in Hyde Park, near Forest Drive, had experienced a high number of crashes.

The same intersection in 2014. Note the addition of warning chevrons to alert drivers of the approaching curve – a recommendation from the Safety Assessment.

Rhinebeck: CR19 (Slate Quarry Rd) from NYS Route 9G to White Schoolhouse Rd

The PDCTC's third assessment dealt with a one-mile segment of Slate Quarry Road from Route 9G to White Schoolhouse Road. A winding, two-lane rural road, the segment experienced 59 crashes from 2009-2013, which resulted in one fatality and 26 injuries. Over the course of two-days in October 2014, the Team completed the assessment. Again, using observations from its field work and the RSA program, the Team developed a

set of recommended short-term improvements that included improved shoulders, consistent signage, sightline improvements, and remarking the White Schoolhouse Road intersection, which experienced a high share of crashes. The Team also identified long-term improvements such as realigning curves and physically reconfiguring the White Schoolhouse Road intersection. DCDPW is currently developing a work plan to implement some of the recommendations. See the CR19 (Slate Quarry Rd) Safety Assessment for more information.

CR19 (Slate Quarry Road) study area.

A Safer County, One Assessment at a Time

It stands to reason that if the thousands of drivers who navigate our roads drove well below the speed limit, during daylight only, never in the rain or snow, rested and sober, and with nary a cell phone or chatty passenger nearby, the number of crashes in Dutchess County would drop precipitously. Clearly, that's not realistic: driving and road conditions will not always be optimal and crashes will, unfortunately, happen. We can accept this to a certain point – we acknowledge that driving, walking, and biking have inherent risks – yet, we can still do the best we can to minimize such risks and reduce the severity of crashes regardless of their causes. Performing Safety Assessments is our small way of doing this.

How to Contact Us

For more information on the PDCTC and its work, please feel free to contact us by phone (845-486-3600) or email. If you have locations that might benefit from a Safety Assessment, please let us know so we can investigate further.

[1] Average number of traffic related fatalities and injuries in Dutchess County from 2005–2014. Data from New York State Governor's Traffic Safety Committee.

[2] About the PDCTC: Established in 1982, the PDCTC serves as the designated Metropolitan Planning Organization (MPO) for Dutchess County. Federal regulations require that all Urbanized Areas (U.S. Census defined metropolitan areas with over 50,000 people) be represented by a MPO, which is responsible for ensuring that federal highway and transit funds are committed through a locally driven, comprehensive planning process. The PDCTC includes representatives from local municipalities, the New York State Department of Transportation, and the Metropolitan Transportation Authority.

More Information

Road Safety Audits (RSA), Federal Highway Administration

Safety Assessments

Beekman Road (CR 9) Safety Assessment

North Quaker Lane (CR 16) Safety Assessment

Slate Quarry Road (CR 19) Safety Assessment

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This newsletter was developed by the Dutchess County Department of Planning and Development, in conjunction with the Dutchess County Planning Federation.

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