

CR 601 – Montgomery Township Road Safety Audit

FINAL REPORT

December 2013

Submitted by

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In cooperation with

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and

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CAIT's Transportation Safety Resource Center (TSRC) and New Jersey Local Technical Assistance Program (NJ LTAP) offer a statewide Road Safety Audit (RSA) service at no charge to New Jersey towns and counties. Interested parties can request road surveys conducted by a team of engineers, planners, and law-enforcement officers to help municipalities and counties make cost-effective safety improvements.

A multidisciplinary team of professionals offers assessments on roadway issues such as pedestrian and bicycle safety, intersection analyses, rural roads, human factors, speed management, and sign visibility and retroreflectivity standards.

RSAs include data-driven considerations and analysis of crashes. To determine the best safety solutions, RSA professionals perform incisive crash data evaluations on the target area using Plan4Safety, TSRC's award-winning crash database and software.

The RSA team provides a final report that includes long- and short-term countermeasure recommendations that fit within the requestor's budget. Furthermore, RSAs pay off. According to the Federal Highway Administration (FHWA), countermeasures applied after RSAs can reduce crashes by about 60 percent.

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Introduction

The Rutgers' Transportation Safety Resource Center (TSRC) at the Rutgers' Center for Advanced Infrastructure and Transportation (CAIT) and the North Jersey Transportation Planning Authority (NJTPA) have partnered to provide NJTPA's sub-regions with facilitated Road Safety Audits at locations identified by the sub-regions as having safety concerns.

Somerset County approached NJTPA about conducting a Road Safety Audit on CR 601 between Skillman Road and CR 518, in anticipation of a significant increase in pedestrian and pedalcyclist activity due to the development of Skillman Park (an area of open space in the Skillman section of Montgomery Township, which is owned by Somerset County and maintained by the Somerset County Parks Department).

Currently there are little to no pedestrian and cyclist amenities along the 50 mph roadway. There are also neighboring uses—specifically a high school and small business district in Blawenburg, and existing bicycle facilities along CR 518—which are anticipated to generate a demand for connectivity to the future park. Additionally high school students currently walk along the roadway to Blawenburg, especially during the lunch period, the cross country team members access the park for practice, and many others use the roadway.

The anticipated increase in pedestrian traffic underlines concerns for safer accommodations of the increased multimodal user base. Somerset County requested this RSA to be proactive in supporting the development of a significant pedestrian generator.

Background

The audit focused on the corridor of CR 601, Belle Mead Blawenburg Road, as shown in Figure 1 below, located within Montgomery Township, Somerset County.

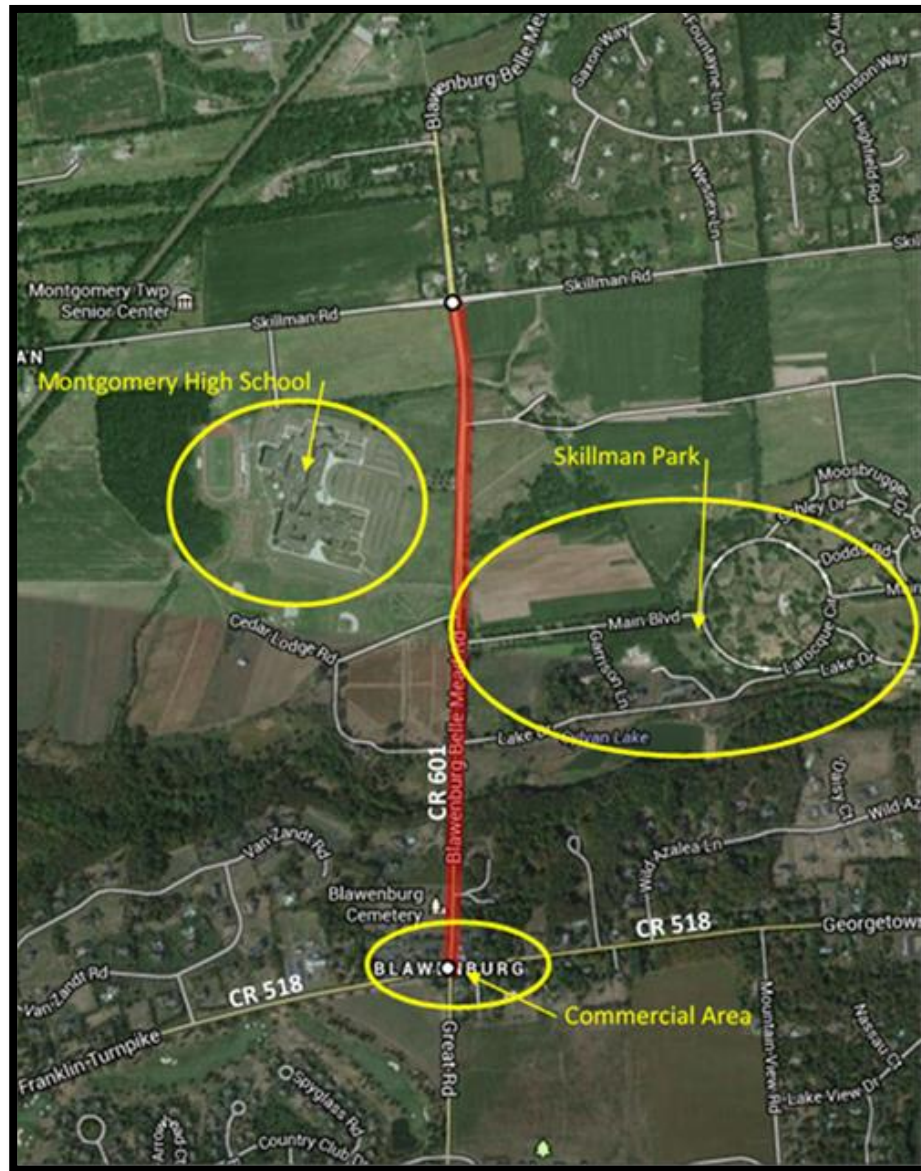


Figure 1 – CR 601, Belle Mead Blawenburg Road, RSA corridor

CR 601 is an important north-south route through Montgomery Township that provides an alternative to Route 206, located more than two miles to the east. The roadway is 7.3 miles long from to Route 206 in the north (near the northern border of the township) to Cherry Valley Road in the south (the southern border of the township). The road continues another 2.55 miles south, into Princeton, and terminates at Route 206.

The area of the Road Safety Audit (RSA) is a 0.9-mile corridor through a rural landscape. The roadway provides a route for through traffic. Access to the main entrance for Montgomery High School is to the west, and Skillman Park is located on the east side of CR 601. The park is 256 acres of open space owned by Somerset County and maintained by the Somerset County Parks Department. It is currently being developed and will provide a loop trail and passive recreation. (See Appendix D.)

CR 601 has no accommodations for pedestrians and the shoulders are narrow, creating a challenging environment for pedestrians and bicyclists. Currently, there is pedestrian activity south of the high school to the small commercial center at the intersection of CR 601 and CR 518. The high school track team additionally uses the park for practice runs. It is anticipated that there will be increased pedestrian and cyclist activity, both from the high school and from area residents when Skillman Park is fully developed. Pedestrian connectivity is desired along the corridor from CR 518 to the intersection of Skillman Road. The constraints for implementing a path or sidewalk include limited right-of-way, topography, a culvert, and a small truss bridge.

There are three signalized intersections along the corridor: at CR 518, at the high school, and at Skillman Road (CR 602). The signal equipment is relatively new at all three signalized intersections. The high school and its access road were built in 2005, and the CR 518 intersection has been recently improved including updated signal timing. In addition to Skillman Park and Montgomery High School, there are a few driveways off CR 601 including private residences, a cemetery, a sod farm, New Jersey state property, and some small commercial properties at the intersection with CR 518. There is congestion in the morning combining commuter rush hour and the beginning of school. In the afternoon, there are two congested periods, with the end of school being earlier than the commuter rush hour. Left-turning vehicles into the high school cause heavy queuing and spillback into the through travel lanes.

The roadway section has one lane in each direction with a shoulder width that varies from one to three feet. The road is classified as an "Urban Collector" with a speed limit of 50 mph. There is a significant amount of truck traffic. CR 601 is under the jurisdiction of Somerset County.

The intersection of **CR 601 and CR 518** is a four-legged signalized intersection. There is one through lane in each direction and a left-turn-only lane in all four legs. In addition, there is a right-turn-only lane in the southbound CR 601 approach. There are commercial properties on three of the four corners, Blawenburg Market and New World Pizza on the east side of the road receive significant student traffic. There are pedestrian heads and three marked crosswalks. In addition there are bicycle lanes on CR 518 both east and west of the intersection. Bicycles must “share the road” with vehicles at the intersection since the bicycle lanes are dropped approaching the signal.

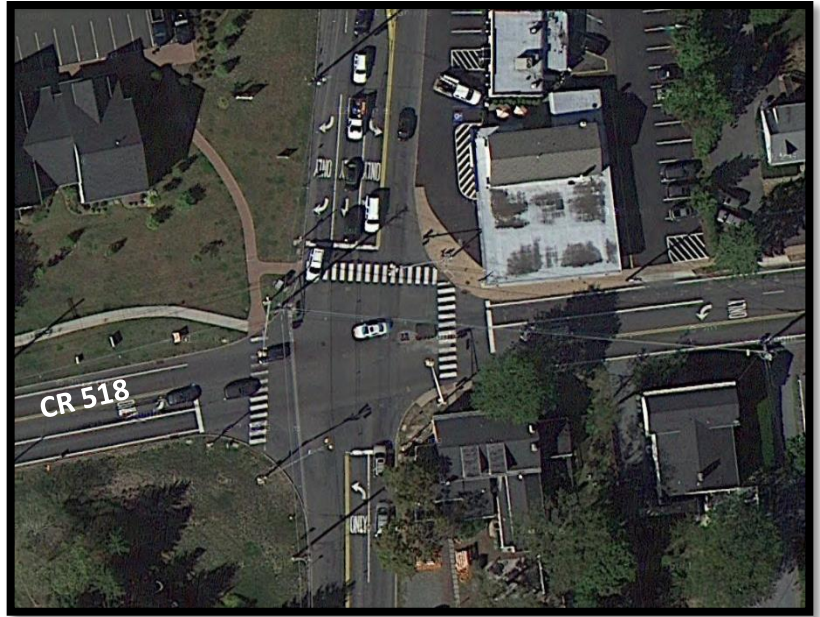


Figure 2 – The intersection of CR 518 and CR 601



Figure 3 – The intersection of Montgomery High School and CR 601

The intersection of **Montgomery High School and CR 601** is a T-intersection with one through lane in each direction, a dedicated northbound left-turn lane and a dedicated southbound right-turn lane. There is a NO TURN ON RED sign actuated during the northbound lead signal phase. The high school has a divided entrance. The pedestrian signal is actuated by a push button to cross CR 601. There is spillover for northbound vehicles from the left-turn lane into the high school during the start and end of the school day, which impacts through traffic south of the intersection.

There is a small secondary driveway to the south of the main entrance that allows for entrance and exit for southbound vehicles only. There is sidewalk connectivity to the high school, and pedestrians tend to cross CR 601 at this location.

The intersection of **Skillman Road and CR 601** is a four-legged signalized intersection. The northeast corner is residential, and the northwest corner has a post office. There are dedicated left-turn lanes in all four corners. The pedestrian accommodations include three marked crosswalks and pedestrian push buttons. Although there are curb ramps, they are overgrown, and there are no sidewalks. The existing sidewalk ramps, when present, do not appear to be ADA compliant.



Figure 4 – The intersection of Skillman Road and CR 601

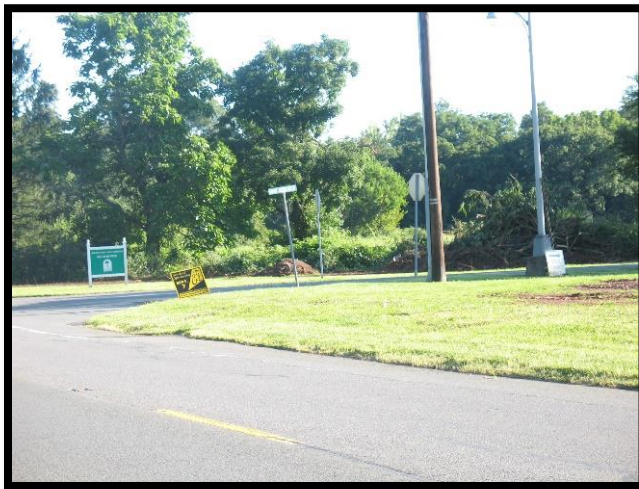


Figure 5 – Entrance to Skillman Park

There is one main entrance to Skillman Park on CR 601. There is a secondary entrance south of the main entrance that will serve emergency vehicles and pedestrians and bicyclists.

Road Safety Audit Process

The CR 601 RSA followed a process that began with data collection, a crucial task that served as the backbone for recommendations for improvement. At the selected sites, crash data was collected using Plan4Safety, a crash data analysis tool, and consisted of crash types, locations, years, road conditions, and contributing circumstances. Using the crash data, crashes were plotted along the corridor, as shown in Appendix B, with crash types noted.



Figure 6 –RSA team conducting site visit

The Road Safety Audit occurred on Tuesday, August 27, 2013. The day began with a pre-audit meeting that involved the definition of a road safety audit and an overview of the intersections. A presentation was shown detailing the crash data and aerial images of the different sites. Following the presentation, site visits were conducted where all participants were given a chance to inspect the sites and utilize their various backgrounds to brainstorm recommended improvements. After the site visits, the team reconvened to discuss the issues observed and suggested recommendations to remedy the issues.

Information Sources

Several sources of information were used in the RSA process. For example, crash data from 2009 to 2011 * was examined for trends and patterns. Specific resources used in the analysis include:

- NJDOT Crash Database (2009 to 2011)
- Plan4Safety Crash Data Analysis Tool
- Highway Safety Manual
- NJTR-1 Crash Reports
- NJDOT Straight Line Diagrams
- Google Earth

* **Note:** The RSA data collection was started before the 2012 crash data was complete. Therefore, the data used was from 2009 to 2011.

RSA Team

The RSA team consisted of 22 members, including police officers, engineers, and planners from different agencies across the state.

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Crash Data

The crash data reported by the NJDOT shows a total of 72 crashes occurring along the RSA corridor during the three-year period from 2009 to 2011. Although the crash data was analyzed, the impetus of this RSA was not data driven but rather proactive in recognizing the current pedestrian activity in an unsafe environment and anticipating increased pedestrian activity due to the presence of Skillman Park and newly developed paths.

RSA Crash Types

The following table shows the crash types along the corridor. As can be seen, the most common crashes were animal and same direction–rear end. Approximately a third of the crashes resulted in moderate injury.

		CRASH TYPE										
		Same Direction – Rear End	Same Direction – Side Swipe	Right Angle	Opposite Direction – Head On/Angular	Opposite Direction – Side Swipe	Left Turn / U-Turn	Encroachment	Fixed Object	Animal	Pedal-cyclist	TOTAL
EPDO	PDO	16	1	7	1	1	2		5	16		49
	Pain											
	Moderate Injury	10		3			1	1	3	3	1	23
	Incapacitating Injury											
	Fatal											
TOTAL		26	1	10	1	1	3	1	8	19	1	72

Table 1 – Crash type vs. severity

The contributing circumstances that were discernible were driver inattention and animal related:

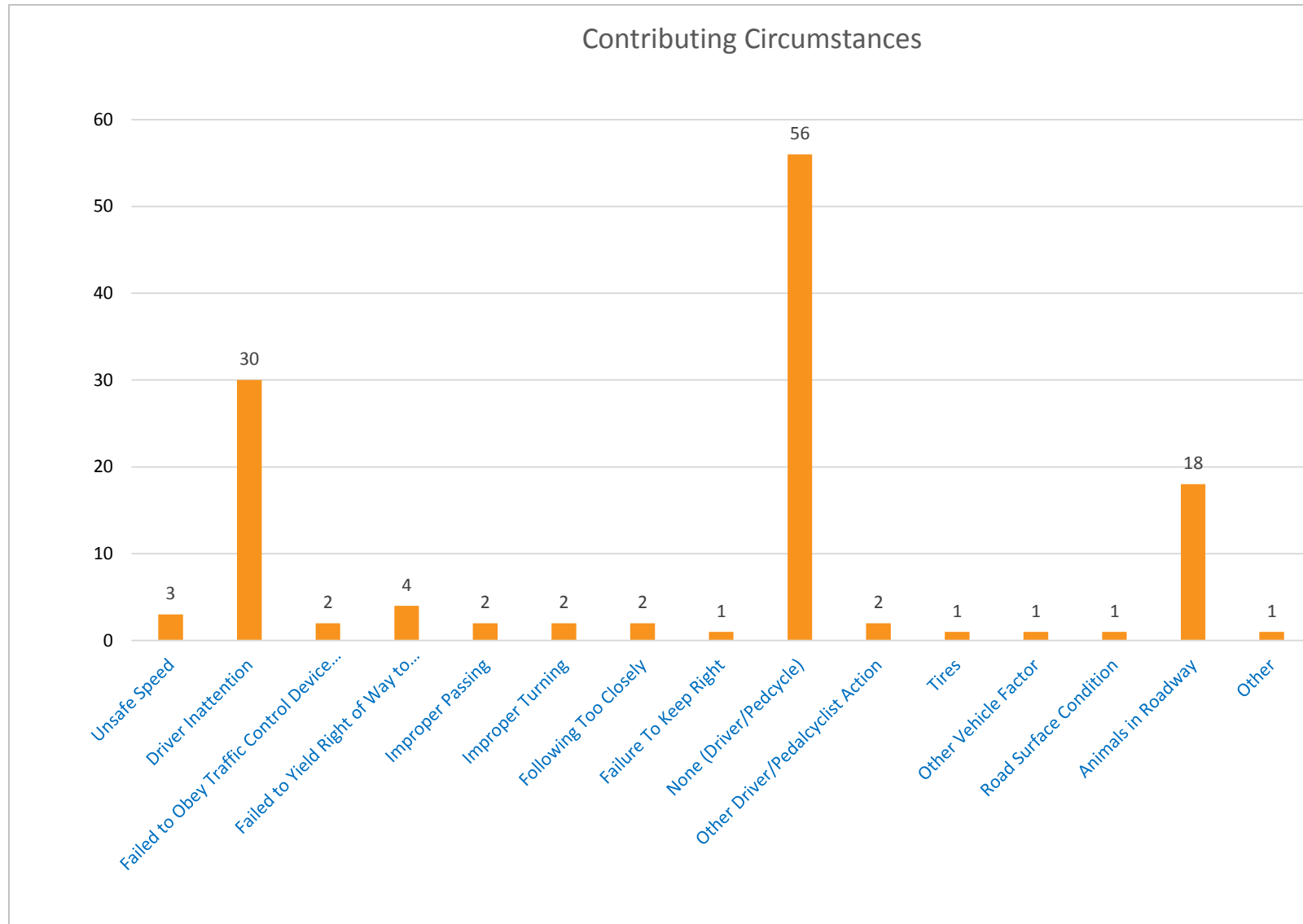


Table 2 – Contributing circumstances

One-third of the crashes occurred in various dark conditions:

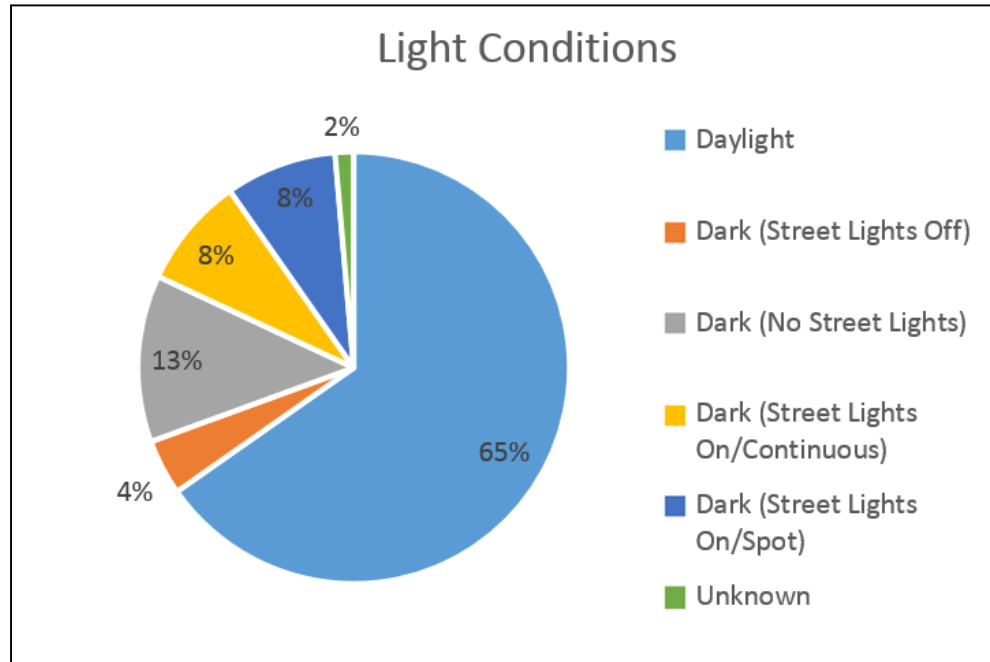


Table 3 – Light conditions

RSA Team Findings

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 codes, standards, and best practices.

		Corridor	CR 518	Skillman Park	Montgomery High School	Skillman Road	Other
Accommodations for Pedestrians and Bicyclists							
1	There is potential for significant pedestrian and bicycle activity along CR 601, especially between the high school and the intersection at CR 518, and the existing pedestrian facilities are limited or nonexistent.	X					
2	Pedestrians and bicyclists often cross at locations other than the signalized intersections.	X					
3	Pedestrians do not receive clear guidance on where and on which side of the road to walk.	X					
4	There are almost no ADA compliant pedestrian accommodations along the entire corridor.	X					
5	There is a culvert north of the high school entrance that is not slated to be replaced, and which may create an obstacle to installing a roadside multiuse path.						X
6	There are numerous constraints to locating a multiuse path along the corridor, such as utility poles, right-of-way, and slopes adjacent to the roadway.	X					
7	Some of the crosswalks at the signalized intersections are not marked.		X		X	X	



Lack of sidewalk connectivity



ADA facilities are not compliant



Lack of ADA compliant pedestrian accommodations

		Corridor	CR 518	Skillman Park	Montgomery High School	Skillman Road	Other
Traffic Operations							
8	The roadway cross section is narrow and has minimal shoulder width.		X				
9	The lane width was found to be only nine feet wide at one location.						X
10	The 50 mph speed limit is high for pedestrian use of the roadway.	X					
11	There are a few locations where vegetation impacts sight distance.	X					
12	There are numerous deer crashes along this corridor.	X					



Lack of shoulder



Vegetation limits sight distance



Varying shoulder width is insufficient for bicycles and pedestrians



Vegetation and utility poles block sight distance

		Corridor	CR 518	Skillman Park	Montgomery High School	Skillman Road	Other
	Intersection CR 518 and CR 601						
13	Because of the vertical curve, there is limited sight distance for northbound vehicles, especially for northbound left-turning vehicles.		X				
14	There were two bicycle crashes in 2012 involving left-turning vehicles.		X				
15	There may be confusion for cyclists and motorists as there are dedicated bike lanes on CR 518 and no bicycle accommodations on CR 601.		X				
16	The access to the parking lot of New World Pizza is very wide and immediately adjacent to the intersection.		X				
17	The edge of pavement drop-off is excessive in a few areas on the northbound side.		X				
18	There are some erosion problems at the edge of pavement on the northbound side.		X				
19	There may be problems with sun glare for vehicles travelling on CR 518.		X				



Pavement edge drop off



Wide access to New World Pizza



Vertical curve limits sight distance



Lack of bicycle accommodations

		Corridor	CR 518	Skillman Park	Montgomery High School	Skillman Road	Other
	Park Entrance						
20	CR 601 at the park entrance may not be wide enough to safely accommodate both vehicles and pedestrians and bicycles.					X	
21	There may be an increase in traffic turning into Skillman Park, and southbound left-turning vehicles may create congestion.					X	



Entrance to Skillman Park

		Corridor	CR 518	Skillman Park	Montgomery High School	Skillman Road	Other
High School Intersection							
21	There is congestion during morning and afternoon school rush hours.				X		
23	Northbound left-turn lane queuing volume causes spillover into the through lane and causes through traffic to drive around waiting vehicles.				X		
24	There is no sidewalk connectivity from the high school to the traffic signal.				X		
25	There are no ADA accommodations at the intersection.				X		
26	There is only one marked crosswalk across CR 601.				X		



No sidewalk connectivity

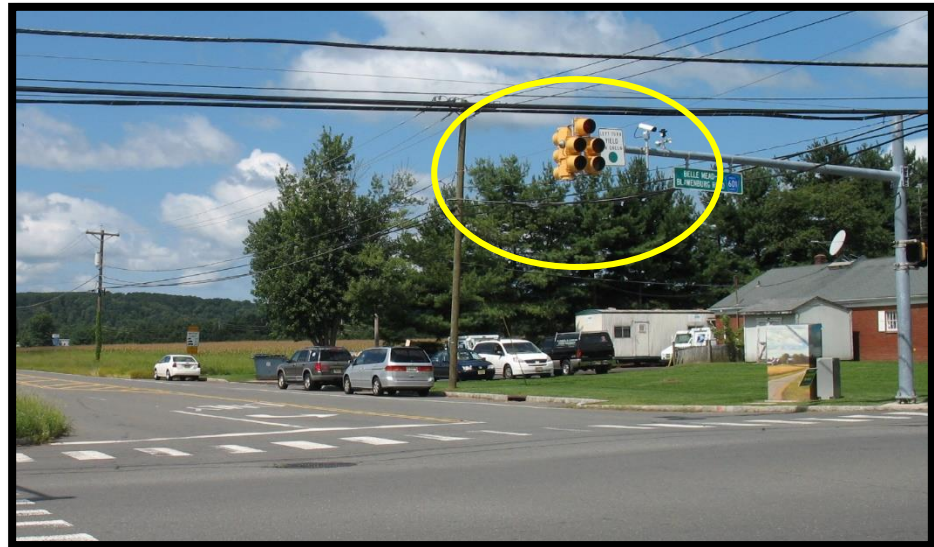


Lack of access to push button

		Corridor	CR 518	Skillman Park	Montgomery High School	Skillman Road	Other
Intersection of Skillman Road & CR 601							
27	The ADA accommodations are inadequate.				X		
28	There is a missing marked crosswalk on the eastern side of CR 601.				X		
29	There is an encroachment issue for vehicles travelling westbound on Skillman Road, and stopped before turning on red. The roadway geometry is likely a cause.				X		
30	There may be problems with sun glare for vehicles travelling on Skillman Road, both eastbound and westbound, depending on the time of day.				X		



No sidewalk connectivity to residences



Signal heads do not include retroreflective back plates



Condition of ramps at northeast corner



Condition of ramp in southeast corner

		Corridor	CR 518	Skillman Park	Montgomery High School	Skillman Road	Other
	Maintenance						
31	Many of the roadway markings, especially the edge of travel lane, are faded.	X					
32	There are areas where overgrown vegetation reduces sight distance.	X					



Worn pavement markings



Vegetation needs to be trimmed

Recommendations

The following are recommendations for the issues that are detailed in the RSA Team Finding section. The recommendations are divided up by the cost and effort involved with their implementation: Long Term, Medium Term, and Short Term; the divisions are subjective and fluid.

Currently there are little-to-no pedestrian and cyclist amenities along the 50 mph roadway. There are also neighboring uses—specifically a high school and small business district in Blawenburg, and existing bicycle facilities along CR 518—which are anticipated to generate a demand for connectivity to the future park. Additionally high school students currently walk along the roadway to the Blawenburg business district, especially during the lunch period, the cross country team members access the park for practice, and many others use the roadway. The anticipated increase in pedestrian traffic underlines concerns for safer accommodations of the increased multimodal user base. Somerset County requested this RSA to be proactive in supporting the development of a significant pedestrian generator. To best address this, the RSA team recommended a multi-use path. The multiuse path would require the construction of a cantilever on an existing bridge and a culvert extension. The multiuse path was identified as the most significant countermeasure that would address the primary concerns and provide safe accommodations for the anticipated multimodal users.

The intersections are all under the jurisdiction of Somerset County:

A – Multiuse Path

	Short Term	Cost	Safety Benefit
A-1	As an interim aid, way-finding and warning signage could be added to warn pedestrians to be careful and to alert drivers to the presence of pedestrians and bicyclists.	\$	Medium/High
	Long Term	Cost	Safety Benefit
A-2	A multiuse path along the eastern side of CR 601, from the intersection of CR 518 to Skillman Road, would provide a safe location for pedestrians and bicyclists. (The eastern side alignment is initially preferred due to a cemetery located close to the road in addition to the location of utility poles along the western side). * FHWA Proven Countermeasure (2008): Walkways ¹	\$\$\$	High
A-3	Install way finding signs for pedestrians to encourage use of the multiuse path and signalized locations to safely cross CR 601.	\$	High
A-4	Install a cantilever walkway for the multiuse path at the truss bridge.* FHWA Proven Countermeasure (2008): Walkways	\$\$\$	High
A-5	Investigate possible solutions for extending the culvert, in order to provide room for the construction of the multiuse path. * FHWA Proven Countermeasure (2008): Walkways	\$\$\$	High
A-6	Connect any multiuse path to the high school and Skillman Park internal pathways. FHWA Proven Countermeasure (2008): Walkways	\$\$\$	High

* See illustration on the following page.

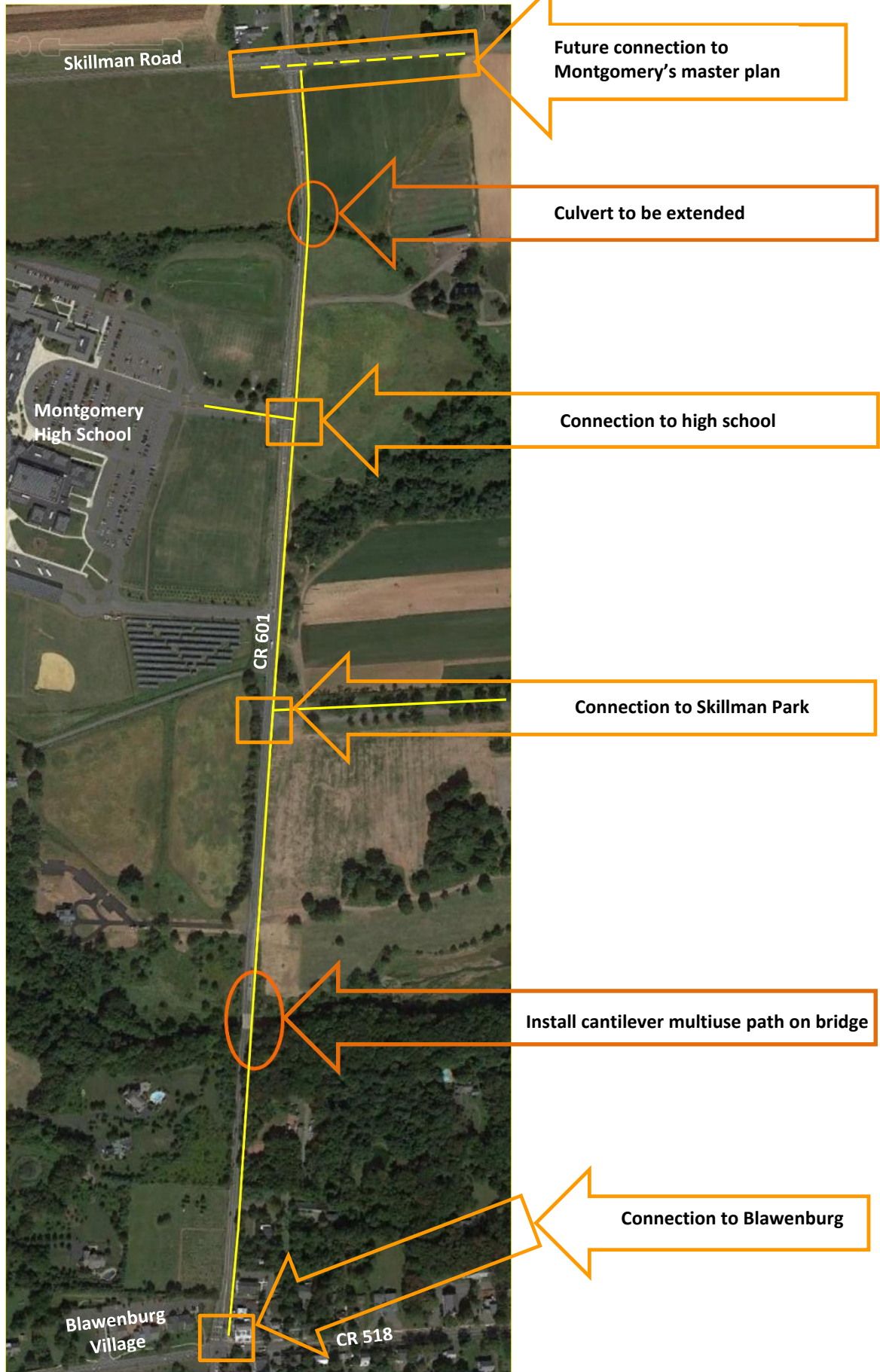
Concerns Addressed:

There is significant pedestrian and bicycle activity along CR 601, especially between the high school and the intersection at CR 518 and the conditions are unsafe.

Pedestrians do not receive clear guidance on where to walk.

¹ <http://www.fhwa.dot.gov/publications/publicroads/12marapr/04.cfm>

Multiuse Path



B – Additional Pedestrian Accommodations

	Medium Term	Cost	Safety Benefit
B-1	Plan for full ADA compliance of existing pedestrian facilities, including at signals, by scheduling upgrades of existing ramps and curbs, including the detectable warning surfaces.	\$\$	Medium
B-2	Consider the addition of sidewalks from the high school to the signalized intersection. FHWA Proven Countermeasure (2008): Walkways	\$\$	Medium
B-3	Once sidewalks are installed between the high school and CR 601, using additional signage, encourage students to use the crosswalk at the signalized intersection and not at the southern high school driveway.	\$	Medium
B-4	Evaluate adding the missing marked crosswalk at the southerly crossing of CR 601 at high school signalized intersection.	\$\$	Medium

Concerns Addressed:

Pedestrians and bicyclists often cross at locations other than the signalized intersections.

There are almost no ADA compliant pedestrian accommodations along the entire corridor.

C – Traffic Operations

	Short Term	Cost	Safety Benefit
C-1	Revisit the study that was done a few years ago about designating CR 601 in the vicinity of the Montgomery High School as a school zone, potentially with reduced school zone speed limits.	\$	Medium
C-2	Evaluate installing signs (S1-1) alerting drivers to the presence of a school, even if there is no school zone speed reduction.	\$	Medium/High
C-3	The police department should continue using variable message signs during the peak deer season. In addition, consider installing signs alerting drivers to the possibility of encountering deer crossing the road.	\$	Medium/High
	Long Term	Cost	Safety Benefit
C-4	Evaluate the possibility of widening the roadway, with the lanes being a minimum of 11 feet and the shoulders six feet wide.	\$\$\$	High
C-5	Creating a separate facility for pedestrians and bicyclists would significantly increase safety of all roadway users. FHWA Proven Countermeasure (2008): Walkways	\$\$\$	High

Concerns Addressed:
There is a significant volume of truck traffic.
The roadway cross section is narrow and has minimal shoulder width.
The lane width was found to be only nine feet wide at one location.
The 50 mph speed limit appears to be excessive considering that there is a high school along the corridor.
Pedestrians and bicyclists along the roadway present a hazard for motorists.
The numerous deer along this corridor are a safety hazard.

D – Intersection CR 518 and CR 601

	Short Term	Cost	Safety Benefit
D-1	Consider the installation of either sharrows through the intersection or adding dotted lane line extensions for the bicycle lane on CR 518.	\$	Medium
D-2	Evaluate limiting the access to the New World Pizza; alternatively, the addition of signs warning of exiting vehicles may improve safety.	\$	Medium
D-3	Add retroreflective back plates to signal heads especially on CR 518. FHWA Proven Countermeasure: Installation of backplates with retroreflective borders	\$	Medium
	Long Term	Cost	Safety Benefit
D-4	During the next repaving cycle, include the use of safety edge to improve safety and decrease vehicle overcorrection where there is erosion. FHWA Proven Countermeasure: Safety Edge: A Pavement Edge Drop-off Treatment	\$\$	Medium/High
D-5	Consider the addition of a protected left-turn arrow for northbound turning traffic.	\$\$	High

Concerns Addressed:

Because of the vertical curve, there is a sight distance problem for northbound vehicles, especially for northbound left-turning vehicles.

There were two bicycle crashes in 2012 involving left turning vehicles.

There may be confusion for cyclists as there is a dedicated bike lane on CR 518 and no bicycle accommodations on CR 601.

The access to the parking lot of New World Pizza is very wide and immediately adjacent to the intersection.

The edge of pavement drop-off is excessive in a few areas on the northbound side.

There are some erosion problems at the edge of pavement on the northbound side.

There may be problems with sun glare for vehicles travelling on CR 518.

E – Skillman Park Entrance and CR 601

	Long Term	Cost	Safety Benefit
E-1	Designing the entrance to the park to allow for future addition of a left-turn lane, if warranted, would be beneficial. See illustration on the following page.	\$\$\$	Medium

Concerns Addressed:

CR 601 at the park entrance may not be wide enough to safely accommodate both vehicles and pedestrians and bicycles.

There may be an increase in traffic turning into Skillman Park and left-turning vehicles may create congestion.

↑
Main Entrance
Montgomery High School

Length of left-turn lane to be determined by engineering study

Montgomery High School
(southern access)

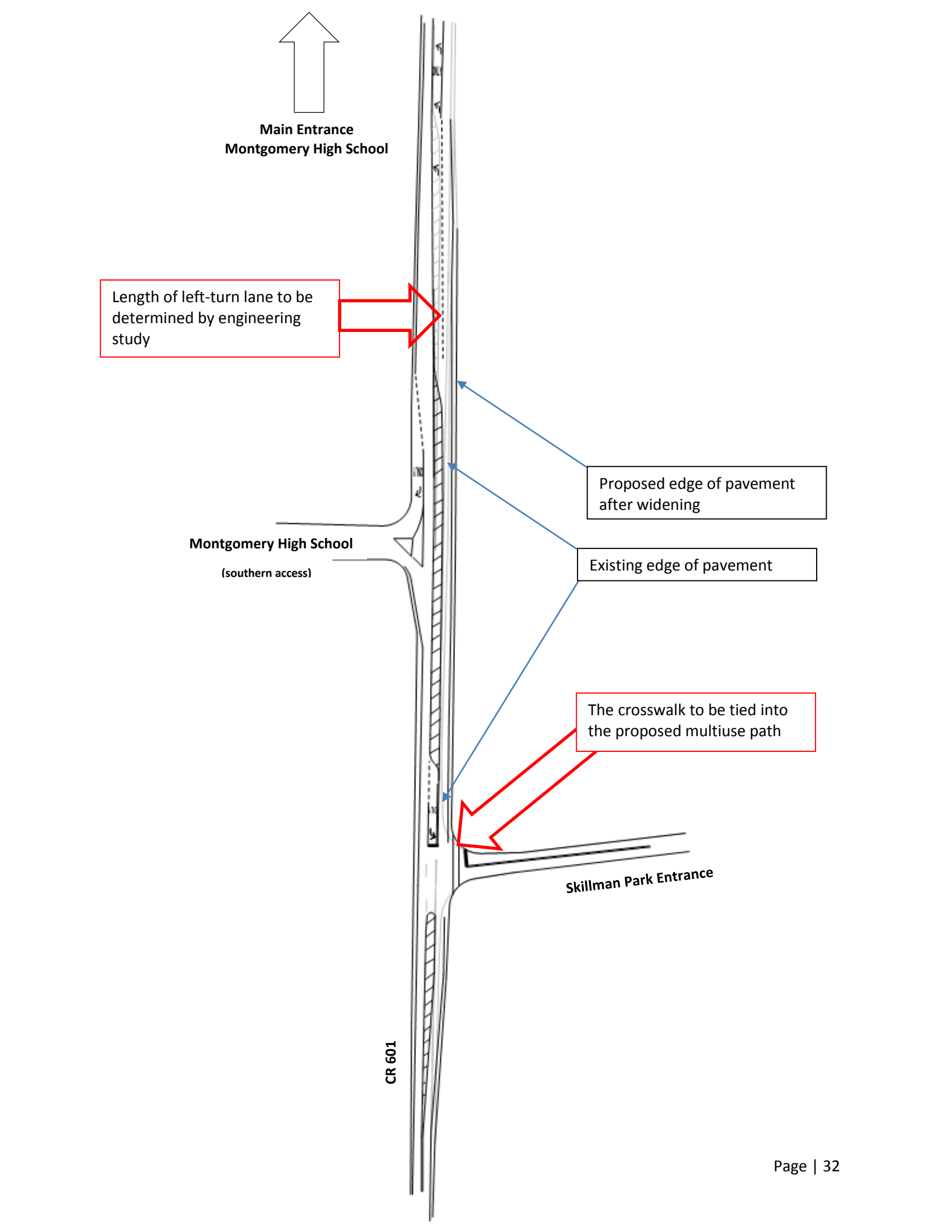
Proposed edge of pavement after widening

Existing edge of pavement

The crosswalk to be tied into the proposed multiuse path

Skillman Park Entrance

CR 601



F – High School Entrance and CR 601

	Short Term	Cost	Safety Benefit
F-1	Evaluate extending the left-turn lane to accommodate queuing.	\$\$	Medium/High
F-2	Investigate optimization of the signal timing to maximize flow in all directions.	\$	Medium/High
F-3	Add retroreflective backplates at signal heads. FHWA Proven Countermeasure: Installation of backplates with retroreflective borders	\$	High
	Medium Term	Cost	Safety Benefit
F-4	Plan for full ADA compliance by scheduling upgrades of existing ramps and curbs, including detectable warning surfaces.	\$\$	Medium
F-5	Evaluate the operations at the intersection and, if beneficial, install an additional marked crosswalk.	\$	Low/Medium
	Long Term	Cost	Safety Benefit
F-6	The high school should consider the addition of sidewalks from the building to the signalized intersection.	\$\$	Medium

Concerns Addressed:

There is significant congestion during morning and afternoon school rush hours.

Left-turn lane queuing volume causes spillover into the through lane and causes through traffic to drive around waiting vehicles.

There is no sidewalk connectivity from the high school to the intersection.

There are no ADA accommodations at the intersection.

There is only one marked crosswalk across CR 601.

G – Intersection Skillman Road and CR 601

	Short Term	Cost	Safety Benefit
G-1	Consider the addition of dotted lane line extensions to better delineate the edge of the travel lane on CR 601 to reduce encroachment from right turning vehicles.	\$	High
G-2	Add retroreflective backplates at signal heads, especially on Skillman Road. FHWA Proven Countermeasure: Installation of backplates with retroreflective borders	\$	High
	Medium Term	Cost	Safety Benefit
G-3	Plan for full ADA compliance by scheduling upgrades of existing ramps and curbs, including the detectable warning surfaces.	\$\$	Medium
	Long Term	Cost	Safety Benefit
G-4	According to the master plan, a sidewalk on the south side of Skillman Road would support the township’s long-term connectivity goals. When that is installed, connectivity to the residential properties on the north side of the road should be considered.	\$\$	High

Concerns Addressed:
The ADA accommodations are inadequate.
There is a missing marked crosswalk on the eastern side of CR 601.
There is an encroachment issue for vehicles travelling westbound on Skillman Road, and stopped before turning on red. The roadway geometry is probably the cause of this.
There may be problems with sun glare for vehicles travelling on Skillman Road

H – Maintenance

	Short Term	Cost	Safety Benefit
H-1	Replace the faded roadway markings. Since some of the fading is as a result of the narrow roadway widths, a thorough evaluation should be done to improve the cross section.	\$	High
H-2	Keep vegetation trimmed to maximize sight distance.	\$	High

Concerns Addressed:

There are a few locations where vegetation impacts sight distance.

Many of the roadway markings, especially the edge of travel lane, are faded.

Implementing Recommendations

The RSA team's recommendations suggested in this report should improve the safety of pedestrians, motorists and bicyclists along the CR 601 corridor between CR 518 and Skillman Road in Montgomery Township. Most of the recommendations fall under Somerset County roadway jurisdiction.

Many of the recommendations contained within this report can be implemented through routine maintenance, such as maintaining signs, pavement conditions, and roadway markings, while others will take more time and investment. Recognizing limited resources and developing partnerships can help to extend the impact of safety efforts. Rutgers' TSRC can provide support to municipalities and counties in identifying partnership opportunities. North Jersey Transportation Planning Authority (NJTPA) staff also provides a great partnership to assist with analysis with respect to crash data, capacity analysis, or any other related assistance.

Some of the recommendations may require sizable capital investment to obtain a long-term safety benefit. It is understood that larger projects may require funding assistance from non-county and non-municipal funds. The primary safety improvement within the RSA area is the construction of a multiuse path/sidewalk; this will be a multifaceted project addressing the constraints, and coordinating efforts between the county, the high school, the municipality, homeowners, utilities, and environmental constraints. In the section following the summary of recommendations, various potential funding sources are listed.

In addition to physical improvements, a combined effort of public education and police enforcement is necessary to make these intersections a safer place for all its users:

In terms of public education, the North Jersey Transportation Planning Authority (NJTPA) provides support through various programs focused on seat belt usage, child seats, and additional driver behavior educational and outreach programs. Education about traffic safety for the employees within the area businesses, distributing informational pamphlets to pedestrians, and education about traffic safety in public schools are just a sample of the different educational campaigns that can benefit road users.

Enforcement, in areas such as prohibited turning movements, excessive speed, and pedestrian right-of-way, can go a long way in reducing crashes and alerting drivers of the seriousness of being safety conscious. Officers may also hand out pamphlets during routine traffic stops to educate motorists of changes in traffic laws.

Potential Funding Sources

In this economy, budget constraints may hamper the implementation of some of these recommendations. Finding alternative funding sources is critical to ensuring the investment in the safety of the intersections' users.

Local Funding Sources:

Roadway Owner's Maintenance and Operation Budget:

Existing funds from local and county sources, as appropriate, which are allocated for investment in maintenance and operational activity, can be used to implement the above suggestions. Many of the above countermeasures may be eligible for the appropriate use of these existing funds. The manager of these funds who understands the full budget picture should be consulted.

State Funding Sources:

LOCAL AID

Contact:

NJDOT Local Aid District 3 (Hunterdon, Mercer, Middlesex, Monmouth, Ocean, Somerset)
District 3, Bureau of Local Aid
PO Box 600
Trenton, NJ 08625-0600
Phone: 732-625-4290
Fax: 732-625-4292

MUNICIPAL AID/URBAN AID PROGRAM (NJDOT Local Aid):

<http://www.state.nj.us/transportation/business/localaid/municaid.shtm>

This program has been a significant resource for municipalities in funding local transportation projects. All municipalities are eligible. The department continues to encourage municipalities to consider using the Municipal Aid Program to fund projects such as resurfacing, rehabilitation, or reconstruction and signalization.

LOCAL AID INFRASTRUCTURE FUND (Discretionary Aid):

<http://www.state.nj.us/transportation/business/localaid/descrfunding.shtm>

Subject to funding appropriation, a discretionary fund is established to address emergencies and regional needs throughout the state. Any county or municipality may apply at any time. These projects are approved at the discretion of the commissioner. Payment of project costs is the same as the Municipal Aid Program. Under this program a county or municipality may also apply for funding for local pedestrian safety and bikeway projects.

SAFE STREETS TO TRANSIT:

<http://www.state.nj.us/transportation/business/localaid/safe.shtm>

This program provides funding to counties and municipalities in improving access to transit facilities and all modes of public transportation. The objectives of the SSTT program are:

- To improve the overall safety and accessibility for mass transit riders walking to transit facilities
- To encourage mass transit users to walk to transit stations
- To facilitate the implementation of projects and activities that will improve safety in the vicinity of transit facilities (approximately one half-mile for pedestrian improvements)

BIKEWAY:

<http://www.state.nj.us/transportation/business/localaid/bikewaysf.shtm>

The NJDOT Bikeway Grant Program provides funds to counties and municipalities to promote bicycling as an alternate mode of transportation in New Jersey. A primary objective of the Bikeway Grant Program is to support the state's goal of constructing 1,000 new miles of dedicated bike paths. This program is available to every municipality and county throughout New Jersey.

NEW JERSEY DEPARTMENT OF COMMUNITY AFFAIRS**MAIN STREET NEW JERSEY**

<http://www.nj.gov/dca/divisions/dhcr/offices/msnj.html>

Main Street New Jersey provides selected communities with technical assistance and training of proven value in revitalizing historic downtowns. The program helps municipalities improve the economy, appearance, and image of their central business districts through the organization of local citizens and resources.

Contact:

Main Street New Jersey
NJ Department of Community Affairs – Office of Smart Growth
P.O. Box 204
Trenton, NJ 08625-0204
Jef Buehler
Phone: 609-633-9769
Email: jef.buehler@dca.state.nj.us

COMMUNITY DEVELOPMENT BLOCK GRANT (CDBG)

<http://www.nj.gov/dca/divisions/dhcr/offices/cdbg.html>

The Community Development Block Grant provides funds for economic development, housing rehabilitation, community revitalization and public facilities designated to benefit people of low and moderate income, to prevent or eliminate slums and blight, or to address recent local needs for which no other source of funding is available.

Contact:

New Jersey Department of Community Affairs
101 South Broad Street
PO Box 811, 5TH Floor
Trenton, NJ 08625-0800
Terry Schrider
Phone: 609-633-6283
Email: terence.schrider@dca.state.nj.us

Federal Funding Sources – via NJDOT Office of Local Aid:

Contact (see details under State Funding section):

NJDOT Local Aid District 3 (Hunterdon, Mercer, Middlesex, Monmouth, Ocean, Somerset)

SAFE ROUTES TO SCHOOLS (SRTS):

<http://www.state.nj.us/transportation/business/localaid/srts.shtm>

The Safe Routes to Schools (SRTS) Program is a federally funded program and is administered by the New Jersey Departments of Transportation. This program provides funds to substantially improve the ability of primary and middle school students to walk and bicycle to school safely.

The purposes of the program are:

- to enable and encourage children, including those with disabilities, to walk and bicycle to school;
- to make bicycling and walking to school a safer and more appealing transportation alternative, thereby encouraging a healthy and active lifestyle from an early age;
- to facilitate the planning, development and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption and air pollution in the vicinity (approximately two miles) of primary and middle schools (grades K through 8).

The program establishes two distinct types of funding opportunities: infrastructure projects (the planning, design and construction of engineering improvements) and non-infrastructure related activities (such as education, enforcement and encouragement programs).

Contact:

Elise M Bremer-Nei
Supervising Planner Transportation, NJDOT
Statewide Planning
Phone: 609-530-2765
Email: Elise.Bremer-Nei@dot.state.nj.us

[via North Jersey Transportation Planning Authority \(NJTPA\):](#)**Contact:**

North Jersey Transportation Planning Authority
One Newark Center, 17th Floor
Newark, NJ 07102
Phone: 973-639-8400
Fax: 973-639-1953

LOCAL SAFETY PROGRAM:

http://www.njtpa.org/Project/Devel/local_safety/default.aspx

The federally funded Local Safety Program (LSP) is a component of wider safety planning at the NJTPA, supporting construction of quick-fix, high-impact safety improvements on county and local roadway facilities in the NJTPA region. Projects supported by this program include new and upgraded traffic signals, signage, pedestrian indications, crosswalks, curb ramps, pavement markings, and other improvements to increase the safety of drivers, bicyclists, and pedestrians.

The Local Safety Program:

- typically addresses NJTPA and/or NJDOT derived high-priority crash locations on county or local roadways;
- supports quick-fix projects, backed with detailed crash data, with minimal or no environmental or cultural resource impacts (eligible for programmatic categorical exclusion from FHWA);
- funds the construction phase of work only—planning, design, and right-of-way acquisition are the responsibility of the sponsor.

LOCAL CMAQ MOBILITY INITIATIVES:

<http://www.njtpa.org/Project/Mobility/Default.aspx>

The NJTPA established the CMAQ Local Mobility Initiatives Program to promote a variety of initiatives—including ridesharing, transit usage, travel demand management and traffic mitigation projects—to lessen the level of pollutants and greenhouse gases generated through

the use of fossil fuels. Proposals must implement strategies and policies in the Regional Transportation Plan, Plan 2040.

THE HIGH RISK RURAL ROADS PROGRAM

http://www.njtpa.org/Project/Devel/local_safety/default.aspx

The High Risk Rural Roads Program (HRRRP) provides federal funds for construction improvements to address safety problems only on roadways that are functionally classified as rural major collector, rural minor collector or rural local roads *and* have a crash rate that exceeds the statewide average for those functional classes of roadways. Projects supported by this program include skid-resistant surface treatments, guiderails, reflective pavement markings, rumbles strips and rumble stripes, safety edge, and enhanced and advanced warning signs.

This program funds the construction phase of work only, and therefore planning, design and right-of-way acquisition are the responsibility of the sponsor

LOCAL CONCEPT DEVELOPMENT PHASE of the LOCAL CAPITAL PROJECT DELIVERY PROGRAM

http://www.njtpa.org/Project/Devel/local_capital_program/local_concept/default.aspx

The Local Capital Project Delivery (LCPD) Program provides federal funding for priority local projects. The LCD Phase involves drafting a well-defined and well-justified Purpose and Need Statement focusing on the primary transportation need to be addressed. The LCD Phase elements include, but are not limited to: data collection, coordination, development of a reasonable number of prudent and feasible conceptual alternatives and investigation of all aspects of a project (environmental, right-of-way, access, utilities, design, community involvement, constructability, etc., at a “planning level of effort”) and addressing requirements of the NJTPA Congestion Management Process (CMP).

SUBREGIONAL STUDIES Program

http://www.njtpa.org/Plan/Subregion/subregional_studies/default.aspx

This is a competitive program that provides two-year grants to individual sub-regions or sub-regional teams. The program is designed to assist sub-regions in refining and developing transportation improvement strategies rooted in the NJTPA’s Regional Transportation Plan (RTP). Ultimately, the program aims to generate project concepts ready for further development or implementation consistent with the RTP and/or other transportation planning activities in the region.

TRANSPORTATION ALTERNATIVES PROGRAM

This is new under MAP-21 and is currently under development at the NJDOT.

<http://www.fhwa.dot.gov/map21/guidance/guidetap.cfm>

The Transportation Alternatives Program (TAP) provides funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving nondriver access to public transportation and enhanced mobility, community improvement activities, and environmental mitigation; recreational trail program projects; safe routes to school projects; and projects for the planning, design, or construction of boulevards and other roadways largely in the right-of-way of former interstate system routes or other divided highways.

Federal Funding Sources – via NJDOT Department of Highway Safety:

<http://www.nj.gov/oag/hts/grants/index.html>

The New Jersey Division of Highway Traffic Safety offers, on an annual basis, federal grant funding to agencies that wish to undertake programs designed to reduce motor vehicle crashes, injuries, and fatalities on the roads of New Jersey. Municipal, county, state government, and law enforcement agencies, as well as nonprofit organizations, are encouraged to apply for NJDHTS grant funding to address specific, local traffic safety issues.

Contact:

Ed O'Connor, Central Region Supervisor
609-633-9048

Edward.O'Connor@lps.state.nj.us

Appendix A – Raw Crash Data

CR 601 – from CR 518 to Skillman Road

CRASH DATE	CRASH TIME	CRASH TYPE	CROSS STREET NAME	LIGHT CONDITION	MILE-POST	SEVERITY	SURFACE CONDITION	TOTAL INJURED	TOTAL VEHICLES INVOLVED
1/26/2009	7:15 PM	Animal	MAIN BLVD WEST	Dark (No Street Lights)	2.41	Property Damage	Dry	0	1
1/26/2009	2:10 AM	Animal	SKILLMAN RD	Dark (Street Lights On/Continuous)	2.62	Property Damage	Dry	0	1
1/28/2009	7:42 PM	Animal	CR 518	Dark (No Street Lights)	2.1	Property Damage	Wet	0	1
4/14/2009	2:27 PM	Same Direction – Rear End	MAIN BOULEVARD WEST	Daylight	2.35	Property Damage	Wet	0	2
4/25/2009	11:22 AM	Fixed Object	SOMERSET COUNTY 602	Daylight	2.84	Property Damage	Dry	0	1
5/25/2009	12:37 PM	Animal	SKILLMAN ROAD	Daylight	2.74	Injury	Dry	2	1
6/18/2009	11:01 PM	Left Turn / U-Turn	CR 602	Dark (No Street Lights)	2.82	Injury	Dry	1	2
6/22/2009	1:54 PM	Same Direction – Rear End	MAIN BLVD WEST	Daylight	2.35	Property Damage	Dry	0	3
6/24/2009	1:48 AM	Fixed Object	CR 602	Dark (Street Lights On/Spot)	2.82	Injury	Dry	1	1
7/6/2009	1:22 AM	Animal	CR 602	Dark (Street Lights On/Spot)	2.69	Property Damage	Dry	0	1
8/6/2009	8:50 AM	Same Direction – Rear End	CR 518	Daylight	1.94	Property Damage	Dry	0	2
8/14/2009	1:51 PM	Same Direction – Side Swipe	CR 518	Daylight	1.89	Property Damage	Dry	0	2
8/27/2009	10:37 AM	Right Angle	SKILLMAN ROAD	Daylight	2.84	Property Damage	Dry	0	2

CRASH DATE	CRASH TIME	CRASH TYPE	CROSS STREET NAME	LIGHT CONDITION	MILE-POST	SEVERITY	SURFACE CONDITION	TOTAL INJURED	TOTAL VEHICLES INVOLVED
9/25/2009	3:39 PM	Fixed Object	MAIN BOULEVARD WEST	Daylight	2.35	Injury	Dry	1	1
10/5/2009	7:27 AM	Animal	MAIN BOULEVARD	Daylight	2.34	Property Damage	Dry	0	1
10/8/2009	7:35 AM	Same Direction – Rear End	SKILLMAN RD	Dark (Street Lights On/Spot)	2.82	Injury	Dry	1	3
10/26/2009	8:12 PM	Animal	LAKE DRIVE	Dark (Street Lights Off)	2.2	Property Damage	Dry	0	1
10/31/2009	11:28 AM	Fixed Object	CR 518	Daylight	1.89	Property Damage	Wet	0	2
11/4/2009	9:31 AM	Same Direction – Rear End	SKILLMAN ROAD	Daylight	2.57	Injury	Dry	1	2
11/11/2009	12:02 AM	Animal	MAIN BOULEVARD	Dark (Street Lights On/Spot)	2.33	Property Damage	Dry	0	1
11/24/2009	5:37 PM	Animal	CR 518	Dark (Street Lights On/Continuous)	1.9	Property Damage	Wet	0	1
12/14/2009	8:49 PM	Animal	CR 518	Dark (Street Lights On/Spot)	1.9	Property Damage	Dry	0	1
12/14/2009	7:17 AM	Same Direction – Rear End	MAIN BLVD	Daylight	2.33	Property Damage	Wet	0	2
12/15/2009	8:57 AM	Same Direction – Rear End	CR 518	Daylight	1.9	Property Damage	Wet	0	2
12/31/2009	7:51 AM	Fixed Object	COUNTY ROUTE 518 E	Daylight	1.9	Property Damage	Snowy	0	1
1/7/2010	6:04 PM	Animal	MAIN BLVD	Dark (No Street Lights)	2.33	Property Damage	Dry	0	1

CRASH DATE	CRASH TIME	CRASH TYPE	CROSS STREET NAME	LIGHT CONDITION	MILE-POST	SEVERITY	SURFACE CONDITION	TOTAL INJURED	TOTAL VEHICLES INVOLVED
1/7/2010	6:05 AM	Right Angle	SKILLMAN ROAD	Dark (Street Lights Off)	2.82	Injury	Dry	1	2
1/20/2010	6:09 PM	Animal	MAIN BLVD.	Dark (Street Lights On/Continuous)	2.33	Property Damage	Dry	0	1
2/4/2010	7:19 AM	Same Direction – Rear End	CR 518	Daylight	2	Injury	Dry	1	3
2/9/2010	7:29 AM	Same Direction – Rear End	CR 518	Daylight	1.91	Property Damage	Dry	0	3
3/8/2010	8:30 AM	Same Direction – Rear End	ROUTE 518	Daylight	1.91	Property Damage	Dry	0	2
4/24/2010	11:39 AM	Animal	MAIN BOULEVARD WEST	Daylight	2.37	Injury	Dry	1	1
6/2/2010	6:46 PM	Right Angle	CR 518	Daylight	1.9	Property Damage	NULL	0	2
6/24/2010	9:41 PM	Animal	COUNTY ROAD 518	Dark (No Street Lights)	2.22	Injury	Dry	1	1
6/29/2010	4:20 PM	Other	COUNTY ROAD 518	Daylight	1.91	Injury	Dry	1	2
7/25/2010	10:58 AM	Right Angle	SKILLMAN RD	Daylight	2.82	Injury	Dry	3	2
8/2/2010	5:34 PM	Right Angle	COUNTY ROAD 518	Daylight	1.94	Property Damage	Dry	0	2
10/6/2010	7:34 AM	Same Direction – Rear End	MAIN BLVD	Daylight	2.37	Injury	Wet	1	3
11/2/2010	7:34 AM	Same Direction – Rear End	SKILLMAN RD	Daylight	2.73	Property Damage	Dry	0	2
1/8/2011	1:29 PM	Right Angle	MONTGOMERY HIGH SCHOOL ENTRANCE	Daylight	2.5	Property Damage	Snowy	0	2

CRASH DATE	CRASH TIME	CRASH TYPE	CROSS STREET NAME	LIGHT CONDITION	MILE-POST	SEVERITY	SURFACE CONDITION	TOTAL INJURED	TOTAL VEHICLES INVOLVED
2/5/2011	11:10 AM	Left Turn / U-Turn	COUNTY ROAD 518	Daylight	1.938	Property Damage	Wet	0	2
3/14/2011	8:37 AM	Same Direction – Rear End	MAIN BLVD	Daylight	2.34	Injury	Dry	1	2
3/24/2011	4:06 PM	Same Direction – Rear End	SKILLMAN RD	Daylight	2.82	Property Damage	Dry	0	2
4/26/2011	6:37 PM	Left Turn / U-Turn	COUNTY ROAD 518	Daylight	1.9	Property Damage	Dry	0	2
6/21/2011	12:15 PM	Right Angle	COUNTY ROAD 518	Daylight	1.88	Injury	Dry	1	2
6/30/2011	9:31 PM	Animal	MAIN BLVD	Dark (No Street Lights)	2.31	Property Damage	Dry	0	1
7/13/2011	2:58 PM	Same Direction – Rear End	COUNTY ROAD 518	Daylight	1.9	Property Damage	Dry	0	2
8/12/2011	3:47 PM	Pedalcyclist	MAIN BLVD	Daylight	2.35	Injury	Dry	1	1
9/9/2011	1:43 PM	Same Direction – Rear End	MAIN BLVD	Daylight	2.4	Injury	Dry	1	2
10/17/2011	7:22 AM	Same Direction – Rear End	SKILLMAN RD	Daylight	2.78	Property Damage	Dry	0	2
10/22/2011	11:33 AM	Same Direction – Rear End	SKILLMAN RD	Daylight	2.83	Property Damage	Dry	0	2
10/28/2011	6:12 PM	Animal	SKILLMAN RD	Dark (No Street Lights)	2.83	Property Damage	Dry	0	1
10/28/2011	6:28 PM	Animal	SKILLMAN RD	Dark (No Street Lights)	2.83	Property Damage	Dry	0	1
10/31/2011	2:28 PM	Same Direction – Rear End	SKILLMAN RD	Daylight	2.82	Property Damage	Dry	0	3
11/9/2011	8:42 AM	Same Direction – Rear End	MAIN BLVD W	Daylight	2.37	Injury	Dry	1	2
11/17/2011	5:48 PM	Animal	MAIN BLVD	Dark (Street Lights Off)	2.36	Property Damage	Dry	0	1

CR 518 – at Intersection with CR 601

CRASH DATE	CRASH TIME	CRASH TYPE	CROSS STREET NAME	EPDO	INTERSECTION	LIGHT CONDITION	MILE POST	SURFACE CONDITION	TOTAL INJURED	TOTAL VEHICLES INVOLVED
10/9/2009	9:25 AM	Same Direction – Rear End	CR 601 / GREAT RD	PDO	Not At Intersection	Daylight	13.73	Dry	0	2
12/18/2009	4:43 PM	Opposite Direction – Head On/Angular	CR 601 / GREAT RD	PDO	Not At Intersection	Dark (No Street Lights)	13.73	Dry	0	3
9/16/2010	8:52 AM	Same Direction – Rear End	CR 601 / GREAT RD	PDO	Not At Intersection	Daylight	13.73	Dry	0	3
2/9/2011	9:44 AM	Same Direction – Rear End	CR 601 / GREAT RD	Moderate Injury	Not At Intersection	Daylight	13.73	Dry	2	3
10/27/2011	4:21 PM	Same Direction – Rear End	CR 601 / GREAT RD	Moderate Injury	Not At Intersection	Daylight	13.73	Wet	1	2
3/14/2009	1:58 PM	Right Angle	CR 601	PDO	Not At Intersection	Daylight	13.74	Dry	0	2
5/7/2009	9:33 PM	Same Direction – Rear End	CR 601 / GREAT RD	PDO	Not At Intersection	Dark (Street Lights On/Continuous)	13.74	Wet	0	2
6/2/2009	3:50 AM	Fixed Object	CR 601 / GREAT RD	Moderate Injury	Not At Intersection	Dark (Street Lights On/Continuous)	13.74	Dry	1	1
7/30/2009	10:43 AM	Same Direction – Rear End	CR 601 / GREAT RD	Moderate Injury	Not At Intersection	Daylight	13.74	Dry	1	2
10/20/2010	12:35 AM	Fixed Object	CR 601 / GREAT RD	PDO	Not At Intersection	Dark (Street Lights On/Spot)	13.74	Dry	0	1

CRASH DATE	CRASH TIME	CRASH TYPE	CROSS STREET NAME	EPDO	INTERSECTION	LIGHT CONDITION	MILE POST	SURFACE CONDITION	TOTAL INJURED	TOTAL VEHICLES INVOLVED
12/26/2010	1:34 PM	Opposite Direction – Side Swipe	CR 601 / GREAT RD	PDO	Not At Intersection	Daylight	13.74	Snowy	0	2
2/15/2011	1:41 PM	Right Angle	CR 601 / GREAT RD	PDO	At Intersection	Daylight	13.74	Dry	0	2
3/28/2011	7:55 AM	Right Angle	CR 601 / GREAT RD	PDO	At Intersection	Daylight	13.74	Dry	0	2
9/28/2011	7:01 AM	Animal	COUNTY ROAD 601	PDO	Not At Intersection	Unknown	13.74	Unknown	0	1
11/17/2011	6:52 PM	Encroachment	CR 601 / GREAT RD	Moderate Injury	At Intersection	Dark (Street Lights On/Continuous)	13.74	Dry	1	2

















Appendix B – Crash Locations

1-Aerial – Crashes (panels from south to north)

LEGEND CR 601		
Type of Crash	No Injury	Injury
Same Direction – Rear End		
Same Direction – Side Swipe		
Right Angle or Left Turn/U-Turn		
Encroachment, Other		
Animal		
Fixed Object		
Pedalcyclist		
Opposite Direction Head On		



















2-Aerial - Crashes

LEGEND CR 601		
Type of Crash	No Injury	Injury
Same Direction – Rear End		
Same Direction – Side Swipe		
Right Angle or Left Turn/U-Turn		
Encroachment, Other		
Animal		
Fixed Object		
Pedalcyclist		
Opposite Direction Head On		



















3-Aerial - Crashes

LEGEND CR 601		
Type of Crash	No Injury	Injury
Same Direction - Rear End		
Same Direction - Side Swipe		
Right Angle or Left Turn/U-Turn		
Encroachment, Other		
Animal		
Fixed Object		
Pedalcyclist		
Opposite Direction Head On		



















4-Aerial - Crashes

LEGEND CR 601		
Type of Crash	No Injury	Injury
Same Direction - Rear End		
Same Direction - Side Swipe		
Right Angle or Left Turn/U-Turn		
Encroachment, Other		
Animal		
Fixed Object		
Pedalcyclist		
Opposite Direction Head On		



















5-Aerial - Crashes

LEGEND CR 601		
Type of Crash	No Injury	Injury
Same Direction - Rear End		
Same Direction - Side Swipe		
Right Angle or Left Turn/U-Turn		
Encroachment, Other		
Animal		
Fixed Object		
Pedalcyclist		
Opposite Direction Head On		



















6-Aerial - Crashes

LEGEND CR 601		
Type of Crash	No Injury	Injury
Same Direction – Rear End		
Same Direction – Side Swipe		
Right Angle or Left Turn/U-Turn		
Encroachment, Other		
Animal		
Fixed Object		
Pedalcyclist		
Opposite Direction Head On		



















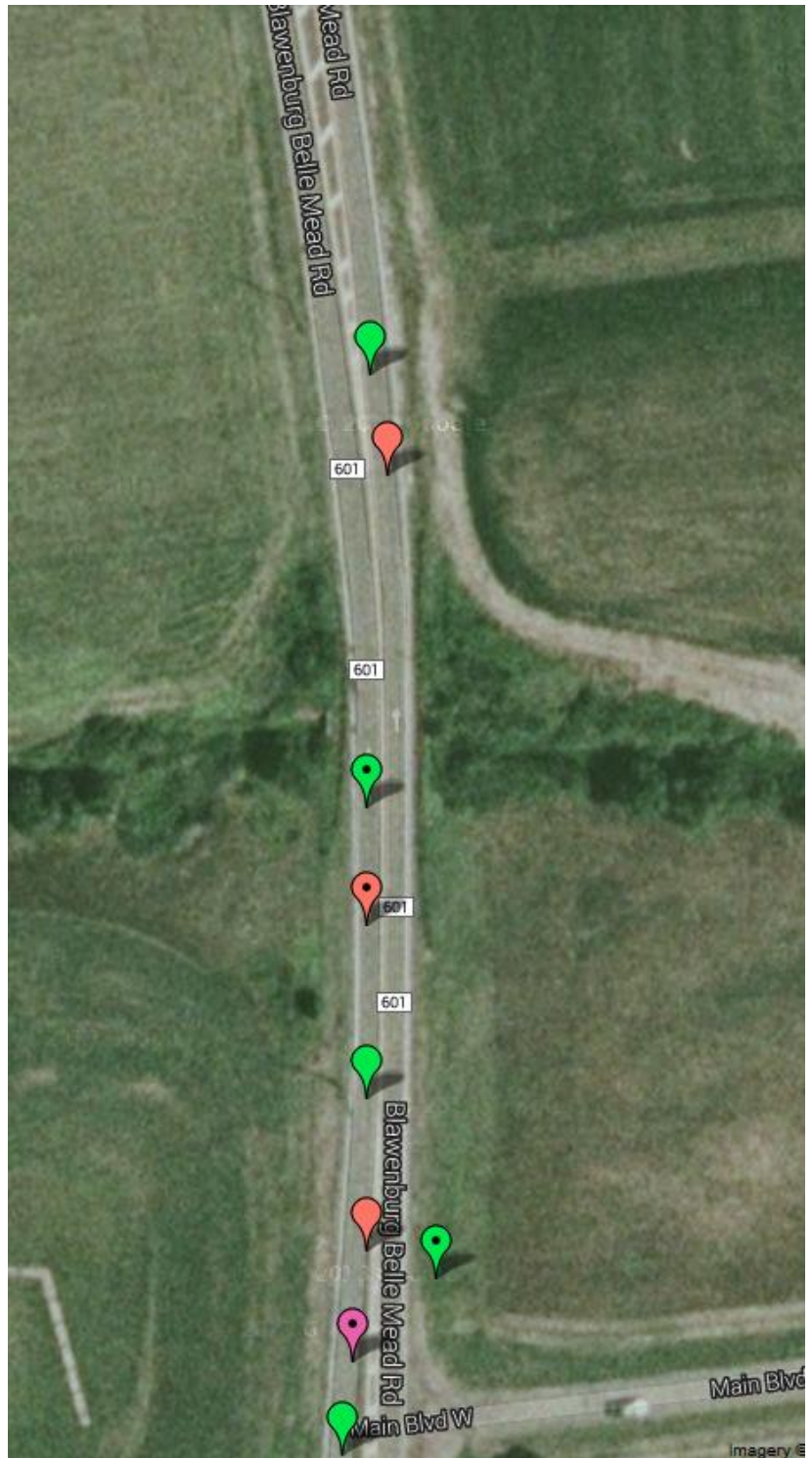
7-Aerial – Crashes

LEGEND CR 601		
Type of Crash	No Injury	Injury
Same Direction – Rear End		
Same Direction – Side Swipe		
Right Angle or Left Turn/U-Turn		
Encroachment, Other		
Animal		
Fixed Object		
Pedalcyclist		
Opposite Direction Head On		



















8-Aerial - Crashes

LEGEND CR 601		
Type of Crash	No Injury	Injury
Same Direction - Rear End		
Same Direction - Side Swipe		
Right Angle or Left Turn/U-Turn		
Encroachment, Other		
Animal		
Fixed Object		
Pedalcyclist		
Opposite Direction Head On		



9-Aerial - Crashes

LEGEND CR 601		
Type of Crash	No Injury	Injury
Same Direction - Rear End		
Same Direction - Side Swipe		
Right Angle or Left Turn/U-Turn		
Encroachment, Other		
Animal		
Fixed Object		
Pedalcyclist		
Opposite Direction Head On		

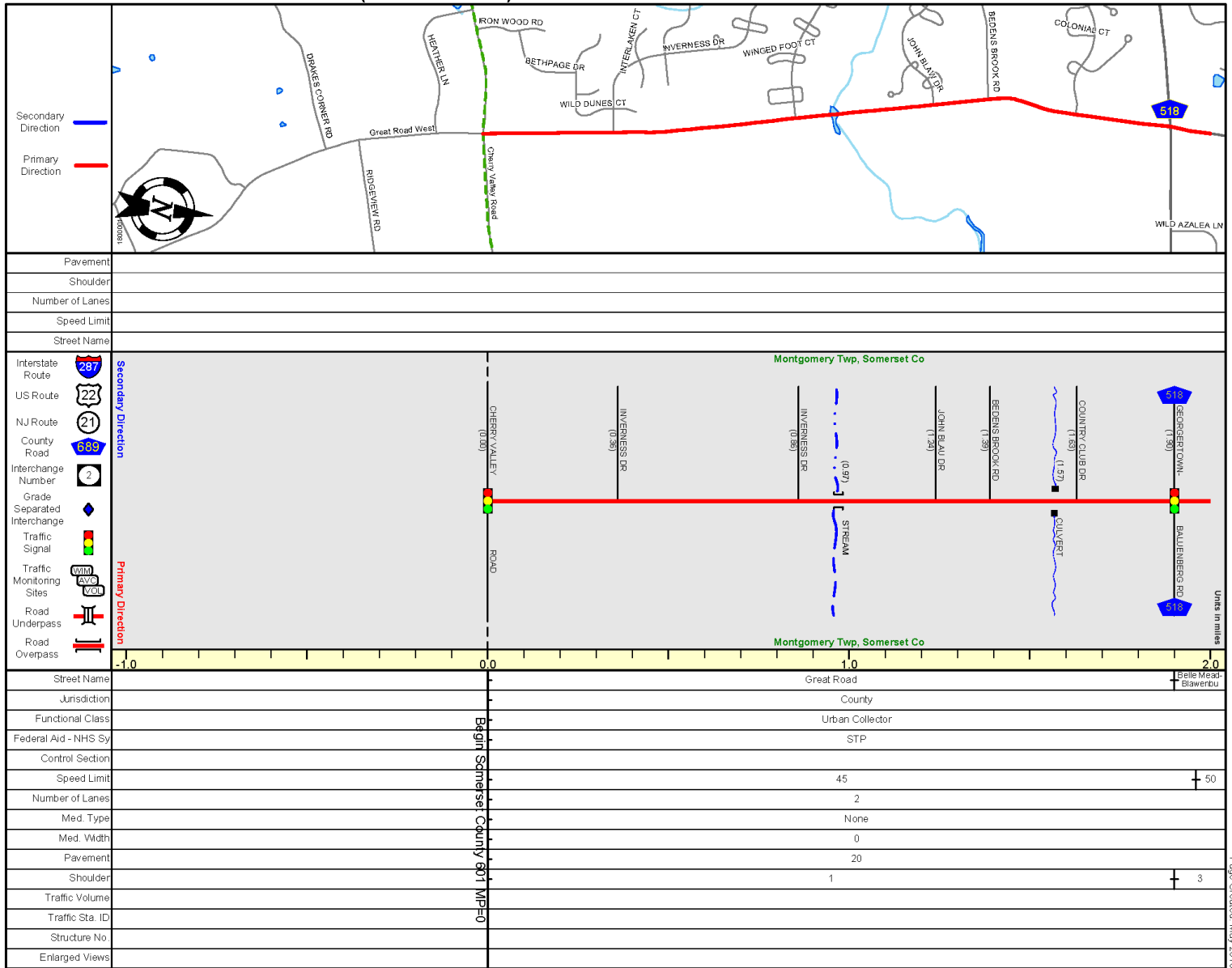


Appendix C – Straight Line Diagram

CR 601 - Belle Mead Blawenburg Road

SOMERSET COUNTY 601 (South to North)

Mile Posts: 0.000 - 2.000

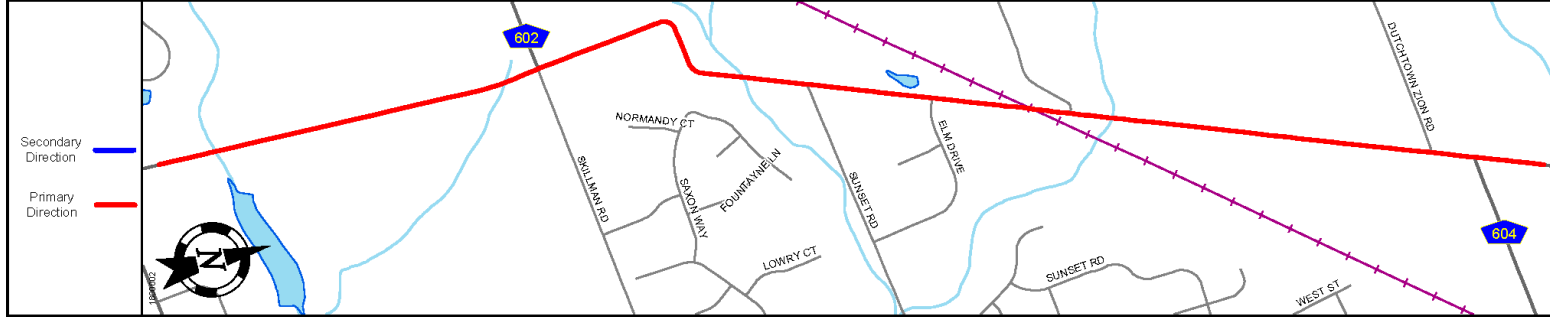


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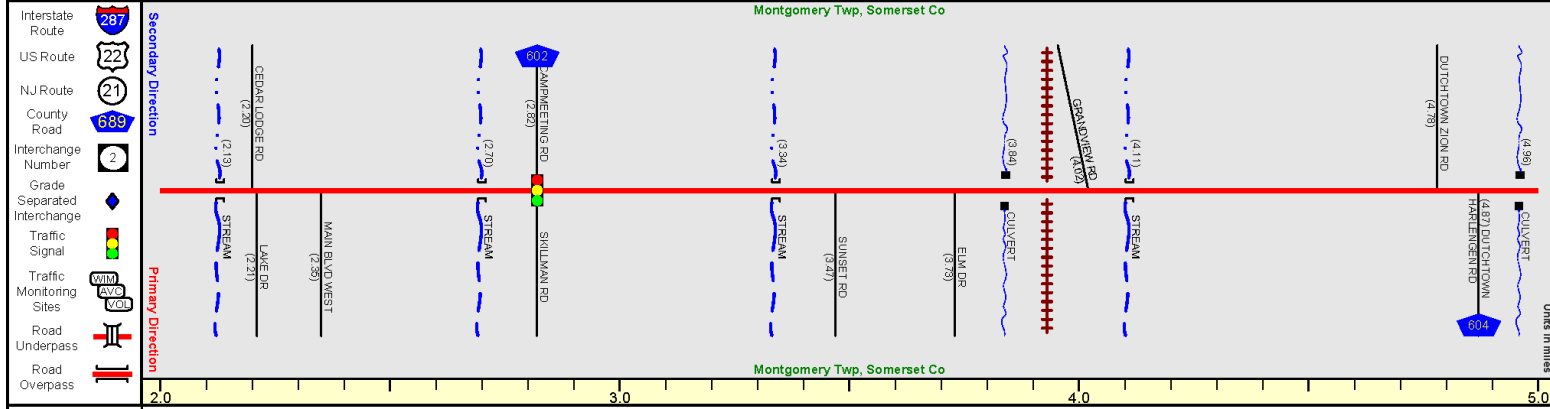
Date last inventoried: July 2000

SOMERSET COUNTY 601 (South to North)

Mile Posts: 2.000 - 5.000



Pavement	
Shoulder	
Number of Lanes	
Speed Limit	
Street Name	



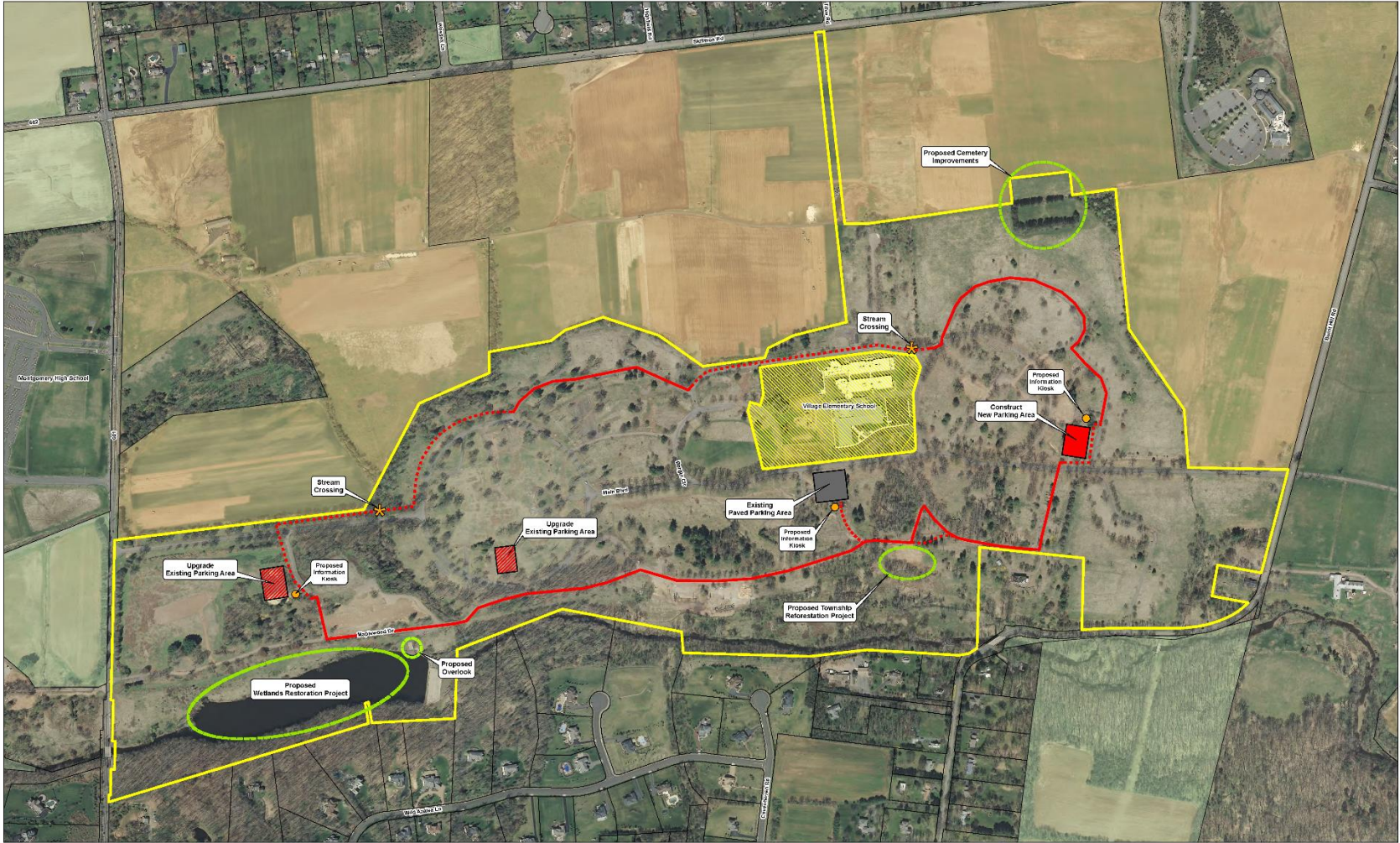
Street Name	Belle Mead-Blawenburg Road	
Jurisdiction	County	
Functional Class	Urban Collector	Rural Major Collector
Federal Aid - NHS Sy	STP	
Control Section		
Speed Limit	50	
Number of Lanes	2	
Med. Type	None	
Med. Width	0	
Pavement	20	25
Shoulder	3	1
Traffic Volume		
Traffic Sta. ID		
Structure No.		
Enlarged Views		

SRI = 18000601_

Date last inventoried: July 2000

Page Created May 2010

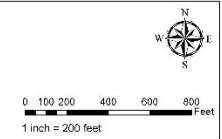
Appendix D – Skillman Park



- Legend**
- Skillman Park
 - Village Elementary School
 - Existing Paved Path
 - Proposed Paved Path
 - Local Preserved Land
 - Preserved Farms



CONCEPTUAL DEVELOPMENT PLAN
SKILLMAN PARK
 MONTGOMERY TOWNSHIP
 Somerset County
 Somerset County Park Commission
 June, 2013



Appendix E – Traffic Data

Traffic Volumes CR 601 – Belle Mead Blawenburg Road

Somerset County Engineering Department

20 Grove Street
Somerville, NJ 08876
908-231-7024

Site Code: 00000004
Station ID: Volume
CR601, Belle-Mead Blawenburg Road
Between Camp Meeting Ave (CR602) & Montg
Latitude: 0' 0.000 Undefined

Start Time	24-Jun-13		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
	Southboun	Northbo	Southbo	Northbo	Southbo	Northbo	Southbo	Northbo	Southbo	Northbo	Southbo	Northbo	Southbo	Northbo	Southbo	Northbo
12:00 AM	*	*	*	*	*	*	24	28	19	18	33	36	30	39	26	30
01:00	*	*	*	*	*	*	6	14	6	14	12	21	25	23	12	18
02:00	*	*	*	*	*	*	6	1	6	6	8	9	11	17	8	8
03:00	*	*	*	*	*	*	0	10	4	4	10	9	4	8	4	8
04:00	*	*	*	*	*	*	20	33	14	22	6	4	14	6	14	16
05:00	*	*	*	*	*	*	59	80	65	67	30	33	22	13	44	48
06:00	*	*	*	*	*	*	245	277	191	234	64	71	38	51	134	158
07:00	*	*	*	*	*	*	621	459	515	362	142	129	87	44	341	248
08:00	*	*	*	*	*	*	744	521	690	451	198	163	131	130	441	316
09:00	*	*	*	*	*	*	468	412	446	381	257	166	206	179	344	284
10:00	*	*	*	*	*	*	301	255	267	255	272	253	220	177	265	235
11:00	*	*	*	*	*	*	282	244	296	212	298	249	273	232	287	234
12:00 PM	*	*	*	*	*	*	313	323	355	289	290	256	275	215	308	271
01:00	*	*	*	*	*	*	333	323	337	361	267	240	266	271	301	299
02:00	*	*	*	*	307	305	314	297	325	346	262	297	225	287	287	306
03:00	*	*	*	*	388	366	348	324	410	356	262	289	265	240	335	315
04:00	*	*	*	*	506	524	448	559	506	520	260	281	206	227	385	422
05:00	*	*	*	*	600	722	606	680	517	640	246	288	169	193	428	505
06:00	*	*	*	*	521	539	505	609	381	487	238	260	175	240	364	427
07:00	*	*	*	*	334	284	302	325	267	277	173	201	120	207	239	259
08:00	*	*	*	*	183	251	185	295	168	157	148	163	152	207	167	215
09:00	*	*	*	*	130	144	103	190	177	149	176	146	117	124	141	151
10:00	*	*	*	*	75	117	74	104	89	125	142	136	73	78	91	112
11:00	*	*	*	*	61	71	61	41	95	105	103	102	41	47	72	73
Lane	0	0	0	0	3105	3323	6368	6404	6146	5838	3897	3802	3145	3255	5038	4958
Day	0	0	0	0	6428	6428	12772	12772	11984	11984	7699	7699	6400	6400	9996	9996
AM Peak							08:00	08:00	08:00	08:00	11:00	10:00	11:00	11:00	08:00	08:00
Vol.							744	521	690	451	298	253	273	232	441	316
PM Peak					17:00	17:00	17:00	17:00	17:00	17:00	12:00	14:00	12:00	14:00	17:00	17:00
Vol.					600	722	606	680	517	640	290	297	275	287	428	505

Traffic Speeds CR 601 – Belle Mead Blawenburg Road

Somerset County Engineering Department

20 Grove Street
Somerville, NJ 08876
908-231-7024

Site Code: 00000004
Station ID: Speed
CR601, Belle-Mead Blawenburg Road
Between Camp Meeting Ave (CR602) & Montg
Latitude: 0' 0.000 Undefined

Southbound	1	16	21	26	31	36	41	46	51	56	61	66	71	76	Total	Pace	Number
Start Time	15	20	25	30	35	40	45	50	55	60	65	70	75	999		Speed	in Pace
06/26/13	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	1	0	0	3	15	56	115	86	18	11	2	0	0	0	307	40-49	189
15:00	0	3	3	4	20	62	160	117	16	3	0	0	0	0	388	40-49	257
16:00	2	0	0	0	25	97	202	144	32	4	0	0	0	0	506	40-49	327
17:00	0	0	0	7	16	137	263	140	35	2	0	0	0	0	600	39-48	402
18:00	0	0	2	5	18	92	224	153	25	2	0	0	0	0	521	40-49	354
19:00	2	0	0	2	7	49	130	106	38	0	0	0	0	0	334	40-49	218
20:00	0	0	0	1	5	19	66	68	18	6	0	0	0	0	183	41-50	122
21:00	0	0	0	0	0	15	67	37	10	1	0	0	0	0	130	40-49	96
22:00	0	0	0	0	3	8	31	25	7	1	0	0	0	0	75	41-50	51
23:00	0	0	0	0	1	8	20	21	10	1	0	0	0	0	61	42-51	38
Total	5	3	5	22	110	543	1278	897	209	31	2	0	0	0	3105		
Percent	0.2%	0.1%	0.2%	0.7%	3.5%	17.5%	41.2%	28.9%	6.7%	1.0%	0.1%	0.0%	0.0%	0.0%			
AM Peak Vol.																	
PM Peak Vol.	16:00	15:00	15:00	17:00	16:00	17:00	17:00	18:00	19:00	14:00	14:00				17:00		
	2	3	3	7	25	137	263	153	38	11	2				600		