Design of Traffic Calming Measures

SECTION

VII

The following pages detail Remington & Vernick Engineers' specific recommendations for the streets within the Old Newark Traffic Calming Study area.

COLLECTOR STREETS

Street Name	CRITERIA MET			Posted Speed/85th Percentile Speed	Vehicles Counted	Accidents Per Year	Bicycle Lane (Y/N)	Traffic Calming Warranted (Y/N)
	4,000 or More Vehicles Per Day	10 mph Above Posted Limits	> 6 Accidents Per Year					
Delaware Avenue*	X	X	X	25 mph/40-45 mph	30,814	100	Y	Y
South College Avenue*	X	X	X	25 mph/36 mph	5,585	88	Y	Y
South Chapel Street*	X	X	X	25 mph/35 mph	7,429	52	Y	Y
Academy Street*	X		X	25 mph/25 mph	6,705	42	N	Y
East Park Place*	X		X	25 mph/34 mph	6,825	20	N	Y
West Park Place*	X		X	25 mph/35 mph	7,840	17	N	Y

*Emergency access route.

LOCAL STREETS

Street Name	CRITERIA MET			Posted Speed/85th Percentile Speed	Vehicles Counted	Accidents Per Year	Bicycle Lane (Y/N)	Traffic Calming Warranted (Y/N)
	2,000 or More Vehicles Per Day	5 mph Over Posted Speed	> 3 Accidents Per Year					
Kells Avenue	X	X	X	25 mph/33 mph	2,724	7	N	Y
Orchard Road		X	X	25 mph/33 mph	1,877	7	N	Y
Chrysler Avenue		X		25 mph/33 mph	1,318	3	N	N
Ritter Lane		X	X	25 mph/33 mph	1,778	17	N	Y

Delaware Avenue

CRITERIA MET			Posted Speed/85th Percentile Speed	Vehicles Counted	Accidents Per Year	Bicycle Lane (Y/N)	Traffic Calming Warranted (Y/N)
4,000 or More Vehicles Per Day	10 mph Above Posted Limits	> 6 Accidents Per Year					
X	X	X	25 mph/40-45 mph	30,814	100	Y	Y

Current Conditions: Delaware Avenue is one of the main corridors that run through both the study area and the University of Delaware campus. For the purpose of the study, the committee has performed an analysis for Delaware Avenue from Orchard Road to South Chapel Street. It is a one-way, two-lane collector that runs east to west, carrying traffic in the eastbound direction. The posted speed is 25 mph with 6% of the vehicles counted traveling at speeds of 40 to 45 mph.

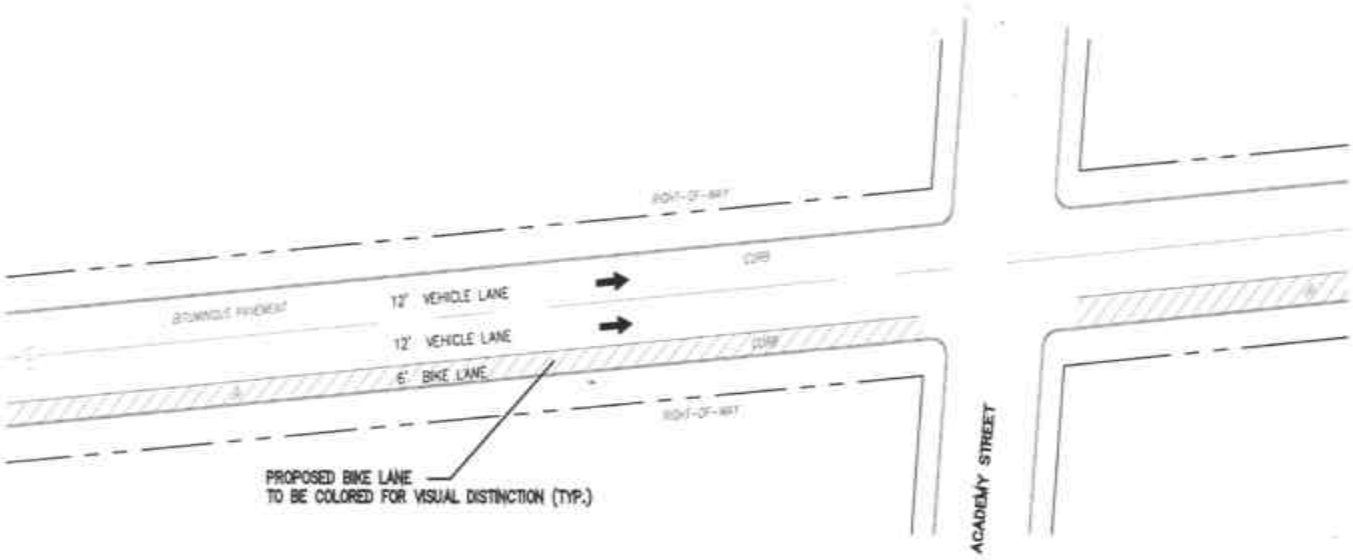
The existing cartway measures 30-feet wide with approximately four-foot sidewalks on both sides of the street. A bike lane exists along one side of the road. A painted white line currently marks off this bike lane. Bikers are not separated from moving vehicles. This situation becomes dangerous when vehicles are making a right-hand turn and crossing the bike lane.

According to traffic counts provided by the City of Newark Police Department, this collector is visited by 30,814 vehicles per day and experiences approximately 100 accidents per year. (These accidents may occur anywhere along the Delaware Avenue corridor.) The condition of the road is good, with no potholes or bumps to watch out for, which may lead to excessive speeds from motorists. It is also a primary route for emergency vehicles, thus leaving several options for traffic calming not feasible.

Recommendations: Delaware Avenue meets all three criteria for traffic calming: more than six accidents per year, over 4,000 vehicles travelling the road per day and 85th percentile speeds, 15 to 20 mph over the posted speed limit. With that in mind, we are recommending this collector for traffic calming. Delaware Avenue is not a local street, thus DelDOT policies must be taken into consideration for any type of calming effect. We have observed high amounts of traffic, high vehicle speeds, and many pedestrians. The safety of pedestrians is the number one concern.

Due to the emergency access route that Delaware Avenue serves, we recommend the installation of a colored lane along the southern portion of the roadway from Elkton Road to Haines Street for strong visual presence. According to the DelDOT traffic calming manual, where volumes of both bicycle and motor vehicle traffic are high, special accommodations must be made for the safety of both parties.

The bike lanes should measure approximately six (6) feet; however, with 11-foot lanes for traffic, a wider bike lane could be designed. Special signage should also be provided at each intersection and mid-block along streets that have a designated bicycle lane. The bike lane should be incorporated from Elkton Road to Haines Street. The University of Delaware must approve recommended improvements to the University property before implementation.



South College Avenue

CRITERIA MET			Posted Speed/85th Percentile Speed	Vehicles Counted	Accidents Per Year	Bicycle Lane (Y/N)	Traffic Calming Warranted (Y/N)
4,000 or More Vehicles Per Day	10 mph Above Posted Limits	> 6 Accidents Per Year					
X	X	X	25 mph/36 mph	5,585	88	Y	Y

Current Conditions: South College Avenue is another major arterial that runs through both the study area and the University of Delaware campus. For the purposes of the Old Newark Study, the analysis of the road included points between Delaware Avenue and the Chrysler Plant.

South College Avenue is a two-way, two-lane collector that carries vehicles northbound and southbound. It is an important gateway into Old Newark for northbound traffic. The existing cartway is 36-feet wide with sidewalks along both sides. There are painted lines on the road to indicate the right-hand turn lane and the left-hand turn lane. Pedestrian crosswalks are marked with thick painted white lines to alert motorists.

South College Avenue currently has a narrow bike lane that runs from Winslow Road to the railroad bridge. It is separated from the sidewalk with curbs, but not from moving traffic within the cartway. Posted speeds are 25 mph, but traffic counts from the City of Newark Police Department indicate that vehicles are traveling at an 85th percentile speed of 36 mph. This road has experienced 88 accidents in the last year (these accidents can happen at any point along the road) and is visited by almost 5,600 vehicles per day. The condition of the road is good, which leads motorists to travel at higher speeds. A major concern of the committee is the numerous mid-block crossings made by students to get to their destinations.

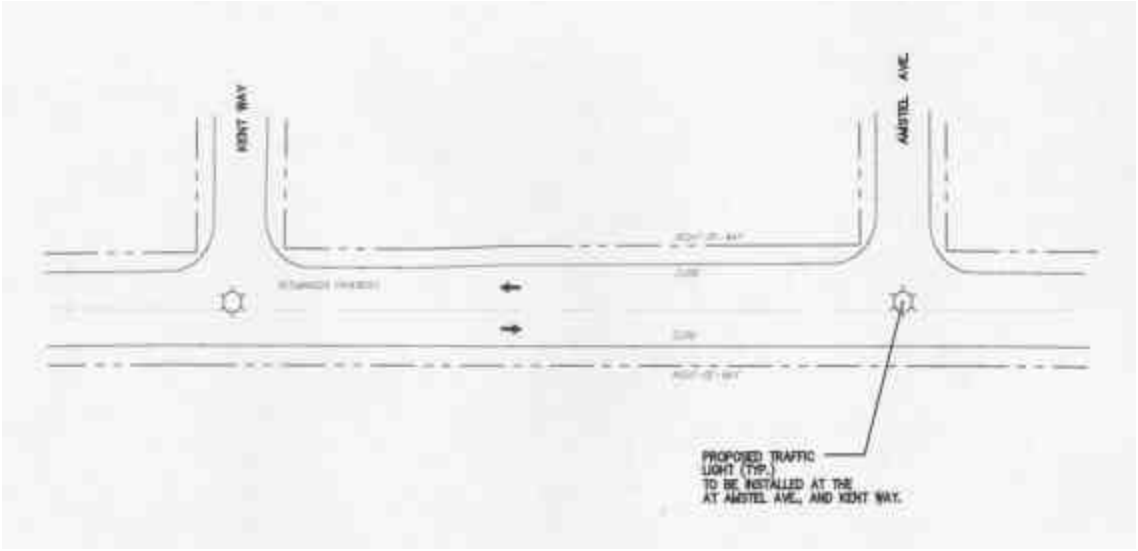
Recommendations: South College Avenue meets all three set criteria: it experiences over 4,000 cars per day, has over six (6) accidents per year, and had an 85th percentile speed of 36 mph or 11 mph higher than the posted speed limit. Therefore, we are recommending this collector for traffic calming. South College Avenue is a state maintained road, thus requiring DelDOT policies to play an integral role in any solutions.

Currently, this road allows limited on street parking, which alone will have minimal traffic calming effects. However, we are

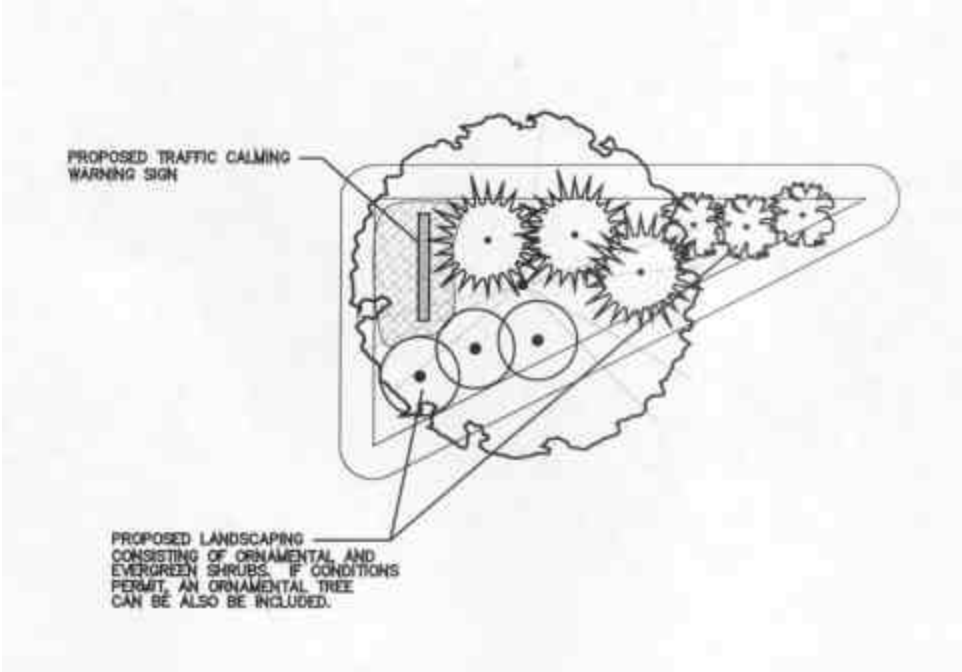
more concerned with the high speed of moving traffic coming from the southern side of South College Avenue bridge. A pedestrian and vehicle bridge separates these two different areas, yet cars still travel at the high speeds in the residential areas north of the bridge. This becomes a safety issue for pedestrians and residents within Old Newark.

1. Emergency vehicles use South College Avenue as a primary route. This limits the options for this road. However, the installation of coordinated traffic lights at the intersections of Amstel Avenue and Kent Way will work to slow cars down and will increase the safety of crossing pedestrians. The northern section of South College Avenue currently experiences heavy pedestrian cross traffic in the area of Kent Way and Amstel Avenue, indicating that signals are warranted. These proposed traffic lights would also decrease the extensive backup of vehicles at these locations. These lights, as well as others along emergency access routes, should be equipped with emergency signal preemption.

2. An important element to the Old Newark Neighborhood is identification. South College Avenue offers an opportunity to create ambience before entering Old Newark. This should be done by enhancing the medians on the south side of the bridge to serve as gateways to Old Newark. A gateway is comprised of a raised island with landscaping, decorative pavers and signage or lighting. The gateway may also include public art from the City, University or community. The existing median should be utilized but re-designed to match the architectural styles of Old Newark and the University. Signage should warn drivers to reduce their speed over the bridge and further into the downtown area.



South College Avenue Coordinated Signals



South College Avenue Median Design

South Chapel Street

CRITERIA MET							
4,000 or More Vehicles Per Day	10 mph Above Posted Limits	> 6 Accidents Per Year	Posted Speed/85th Percentile Speed	Vehicles Counted	Accidents Per Year	Bicycle Lane (Y/N)	Traffic Calming Warranted (Y/N)
X	X	X	25 mph/35 mph	7,429	52	Y	Y

Current Conditions: South Chapel Street serves as the eastern border of the study area. University offices, student apartments, and other housing are along this road. The analysis of this road incorporated South Chapel Street from the intersection of Delaware Avenue to Park Place.

South Chapel Street is a two-lane, two-way collector road that carries traffic northbound and southbound. It is used by many as a by-pass to get to Main Street without cutting through the center of the University of Delaware campus. The existing cartway is 30 feet wide with sidewalks on both sides of the street. The intersection with Delaware Avenue is signalized for vehicles but has no pedestrian signal; the intersection with Wyoming Avenue is controlled by four-way stop signs.

South Chapel Street currently has a bike lane with no on-street parking. Posted speeds are 25 mph; however, traffic counts from the City of Newark indicate actual speeds averaging 35 mph. The road has experienced 52 accidents in the past year and is visited by 7,500 vehicles per day. Site visits indicated the road is in poor condition.

Recommendations: South Chapel Street meets all three criteria: it has more than six (6) accidents per year, is traveled by over 4,000 cars per day, and has speeds 10 mph over the posted limit. The goals for South Chapel Street are to reduce cut-through traffic and make pedestrian paths safer going from the housing complex to campus. Thus, we are recommending South Chapel Street for traffic calming. South Chapel Street is a State maintained road subject DelDOT policies. In addition, good emergency access must be maintained when implementing traffic calming measures on this emergency response route.

The intersection of South Chapel Street and Delaware Avenue experiences heavy traffic with the restaurants, student housing, and

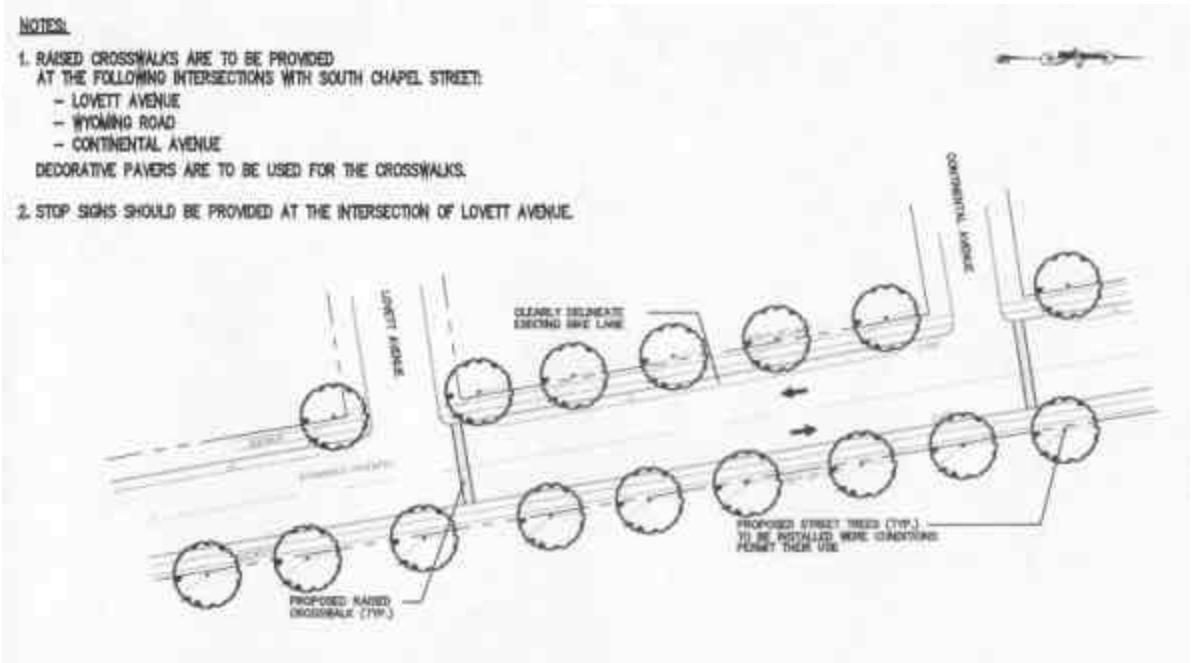
access to highway routes, as does the intersection of South Chapel and Wyoming. On virtually all four corners, there are parking facilities. This intersection has a designated bike lane. The intersection is controlled by stop signs.

1. The use of additional streetscaping along South Chapel will provide a visual aesthetic to slow down the cars. A shade tree canopy should be considered. Due to the City's tree ordinance, every measure should be utilized to place trees or additional landscaping between the sidewalk and existing property lines.

2. Raised, colored or textured crosswalks should be installed at the following intersections:

   - Lovett Avenue
   - Wyoming Road
   - Continental Avenue

   A stop sign should be considered at the intersection of Lovett Avenue. The raised crosswalks should be constructed of decorative pavers and flashing pedestrian lights should be installed to alert motorists of pedestrian crossings. All decorative pavers utilized in the crosswalks should be consistent with the City standard, which is currently under study. Any trees will be planted six to 10 feet inside of the sidewalk.



Academy Street

CRITERIA MET			Posted Speed/85th Percentile Speed	Vehicles Counted	Accidents Per Year	Bicycle Lane (Y/N)	Traffic Calming Warranted (Y/N)
4,000 or More Vehicles Per Day	10 mph Above Posted Limits	> 6 Accidents Per Year					
X		X	25 mph/25 mph	6,705	42	N	Y

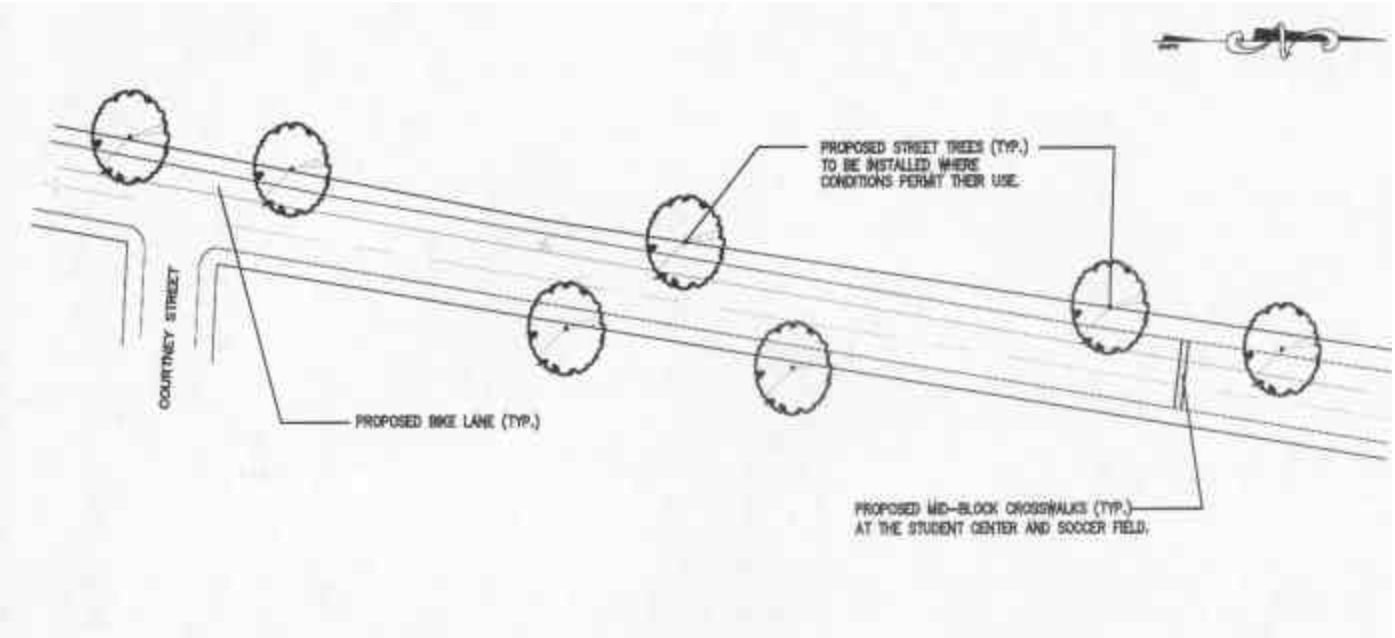
Current Conditions: Academy Street is another collector that runs through the center of the Old Newark Study Area, as well as the University of Delaware campus. It runs parallel to South College Avenue and shares the northbound and southbound traffic through the area.

Academy is a two-lane, two-way collector that runs north and south. The posted speed is 25 mph with a majority of cars traveling at that speed. The existing cartway is 30-feet wide with sidewalks on both sides of the road. Bike lanes have been incorporated along the entire length of the western side and from Park to Lovett on the eastern side. However, the portion of the street from Lovett Avenue to Delaware Avenue provides for on street parking, as well as the portion from Park Place to Kells Avenue. It is an important route for emergency vehicles.

According to traffic counts collected by the City of Newark, this collector is visited by 6,705 per day and experiences approximately 42 accidents per year. The condition of the road is fair to good. Currently, there are identifiable crosswalks for pedestrians along the road. They are painted with white lines and provide handicap access onto the sidewalks. On street parking and striped bicycle lanes alone have a minimal amount of calming effect, and are good beginning point.

Recommendations: Academy Street meets at least two of the three set criteria: it has more than six (6) accidents per year and is visited by more than 4,000 vehicles per day. The goals for Academy Street include enhancing safety for pedestrians and cutting down on accidents. Therefore, we are recommending traffic calming for this street.

Additional landscaping and street trees should be provided along the pedestrian paths to provide a shade tree canopy in the summer months and to soften the institutional look of the road. Designs should be sensitive to City policies regarding street trees. Proposed mid block crosswalks are also shown at the Student Center in order to control uncontrolled crossings. A bumpout should be installed on the northeastern side of Academy Street and Lovett Avenue intersection to protect parking and shorten pedestrian crossing distance.



Elkton Road

Elkton Road is a major arterial along the periphery of the Old Newark Study Area and serves as a by-pass road for the University of Delaware and a gateway to Newark. Although Elkton Road was not included in this study, initial investigations indicate that traffic calming measures appear to be warranted. We recommend that DelDOT consider traffic calming measures for this road.

East Park Place

CRITERIA MET			Posted Speed/85th Percentile Speed	Vehicles Counted	Accidents Per Year	Bicycle Lane (Y/N)	Traffic Calming Warranted (Y/N)
4,000 or More Vehicles Per Day	10 mph Above Posted Limits	> 6 Accidents Per Year					
X		X	25 mph/34 mph	6,825	20	N	Y

Current Conditions: East Park Place runs through the southern end of the campus and through the center of the Old Newark Study Area. For the purpose of this study, Park Place was split into East and West (to be discussed later in this report). East Park Place includes portions of the road from South College Avenue through South Chapel Street.

East Park Place is a two-way collector that runs east and west. The posted speed is 25 mph, but traffic counts indicate speeds of 34 mph. The existing cartway is 30 feet wide with sidewalks on both sides of the street. There is no bike lane currently in place along the eastern portion of Park Place.

According to traffic counts from the City of Newark, approximately 6,800 cars travel this road daily and there are about 20 accidents per year. The pavement condition of the road is poor; thus, improvements in the near future may be warranted.

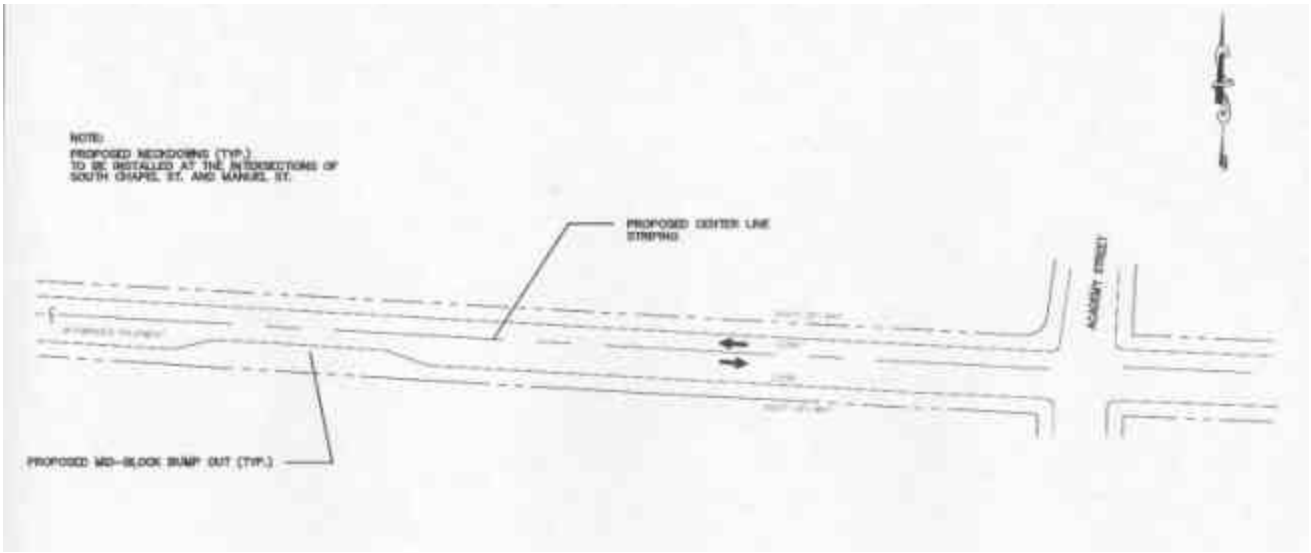
Recommendations: East Park Place meets at least two of the three criteria: more than six (6) accidents per year and over 4,000 vehicles traveling it per day. The goals for East Park Place are to reduce vehicle speeds and increase safety for pedestrians. East Park Place is considered a local road, thus not requiring DelDOT policies. Presently, East Park Place allows permit parking on the south side of the road.

We recommend the improvements for East Park Place be enacted in three phases as follows:

1. To clearly delineate travel lanes, a centerline should be painted along the roadway. This will also psychologically slow cars down by reducing the cartway. The lines should be delineated by AASHTO standards. In addition, the existing traffic signals should be adjusted to operate continuously.

2. If the signal changes and roadway stripping has not produced satisfactory effect, the need for speed cameras should be evaluated, as well as neckdowns at six months and one year. Temporary bump-outs can be used to determine the effect on traffic calming and emergency vehicular traffic, without the expense of constructing bump-outs.

3. Construction of the neckdowns along the south side of the road to reduce the cartway if it is determined in Phase 2 that these will not impede emergency vehicles. The neckdown should be at least five (5) feet but no larger than eight (8) feet in width to maintain the free flow of traffic in travel lanes. They should also be used mid-block approximately five or six properties in from South College Avenue. Residential driveways may offer a problem; however, the cartway narrowings can be designed to fit in between driveway curb cuts. The bump-outs will protect the parked cars. These bump-outs should be designed with landscaping and pavers to add to the aesthetics of the neighborhood.



West Park Place

CRITERIA MET			Posted Speed/ 85th Percentile Speed	Vehicles Counted	Accidents Per Year	Bicycle Lane (Y/N)	Traffic Calming Warranted (Y/N)
4,000 or More Vehicles Per Day	10 mph Above Posted Limits	> 6 Accidents Per Year					
X	X	X	25 mph/35 mph	7,840	17	N	Y

Current Conditions: West Park Place cuts through the southern portion of the study area. It begins at Elkton Road and intersects South College Avenue, where East Park Place begins.

West Park Place is a two-lane, two-way, collector street that runs east to west. The posted speed along the road is 25 mph, with 21% of the motorists traveling at speeds of 36 to 40 mph. Speeds are of particular concern since West Park Place is used extensively by school traffic.

The existing cartway along West Park Place, from South College Avenue to Beverly Road is 30 feet, then widens to the width of 36 feet from Beverly Road to Elkton Road. Sidewalks are provided on each side of the road with a strip for grass and plantings. There is no bike lane and on-street parking is permitted in portions of the length of the road.

Traffic counts also revealed 7,840 vehicles traveled this road per day. West Park Place has had 17 accidents in the last year. The condition of the road from South College Avenue to Orchard Road is poor, while West Park Place from Orchard Road to Elkton Road is in good condition.

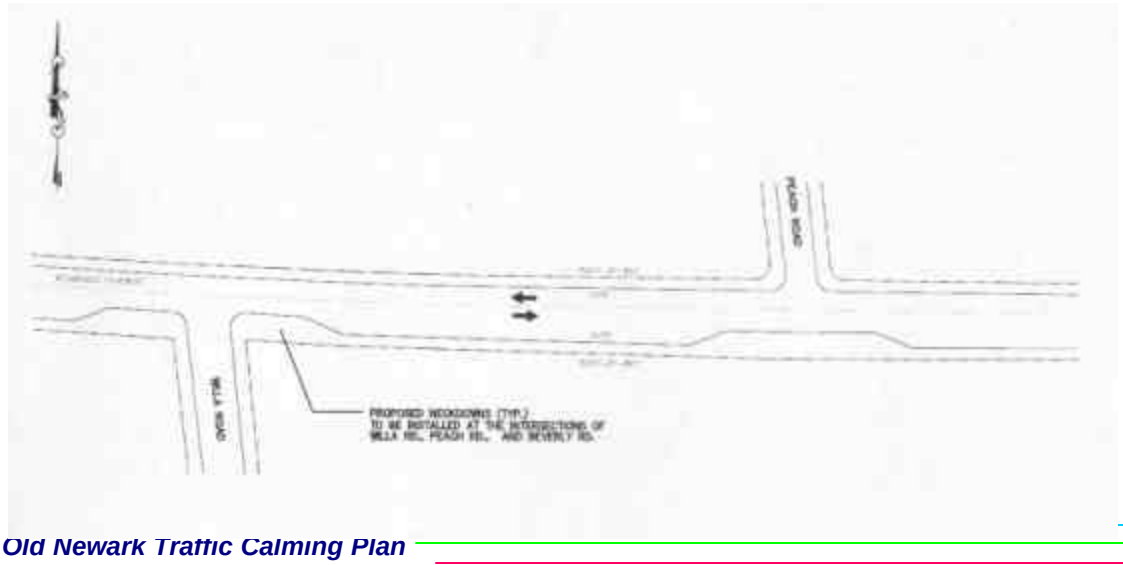
Recommendations: West Park Place meets all the criteria for traffic calming. It is traveled by more than 4,000 cars per day, has over six accidents per year, and has measured 85th percentile speeds 10mph over the posted speed limit. Our goals for West Park Place are to slow traffic down, reduce the number of collisions, and enhance pedestrian and bicycle safety. Any measure will not be as effective if not carried along the entire length of the road. West Park Place presently has traffic lights at Apple Road and Orchard Road.

1. The intersection of West Park Place and Elkton Road should be redesigned. The existing parking lot at this corner is in bad condition and is not properly curbed. Consideration should be given to eliminating access to this parking lot from West Park Place. Parking along this portion of the road should be pushed back another 10 feet from the intersection. A bike lane is shown, but then faded into the parking area. This lane should either be taken permanently away or re-stripped.

2. To clearly delineate travel lanes, a centerline should be painted along the roadway. This will also psychologically slow cars down by reducing the cartway. The lines should be delineated by AASHTO standards. In addition, the existing traffic signals should be adjusted to operate continuously.

3. If the signal changes and roadway stripping has not produced satisfactory effect, the need for speed cameras should be evaluated, as well as neckdowns at six months and one year. Temporary bump-outs can be utilized to determine the effect on traffic calming and emergency vehicular traffic, without the expenditure of constructing the bump-outs.

4. Construction of neckdowns or bumps-outs should be utilized along West Park Place if it is determined in Phase 3 that these will not impede emergency vehicles. The cartway begins to narrow at Beverly Road. Neckdowns should be used from Beverly Road to Elkton Road, thus keeping the cartway the same width the entire length. The neckdowns should be placed on one-side of the road. The use of neckdowns will eliminate the parking along the north side within the intersection. The neckdowns should be continued at the intersections of Willa Road and Peach Road. A pattern should be established.



Kells Avenue

CRITERIA MET			Posted Speed/85th Percentile Speed	Vehicles Counted	Accidents Per Year	Bicycle Lane (Y/N)	Traffic Calming Warranted (Y/N)
2,000 or More Vehicles Per Day	5 mph Over Posted Speed	> 3 Accidents Per Year					
X	X	X	25 mph/33 mph	2,724	7	N	Y

Current Conditions: Kells Avenue is located in the southern portion of the Old Newark Study Area and runs parallel to Park Place. It is a two-lane, two-way local street that runs east to west. The posted speed is 25 mph, while traffic counts indicate cars travel at a speed of 33 mph. The existing cartway measures 30 feet with sidewalks on both sides of the street. Traffic counts indicate 2,724 cars per day traveling along this road with seven accidents per year.

Kells Avenue is heavily traveled and provides access to the apartment complex on Wollston Avenue. Kells Avenue is also utilized by cut-through traffic trying to avoid the Park Place-South College intersection.

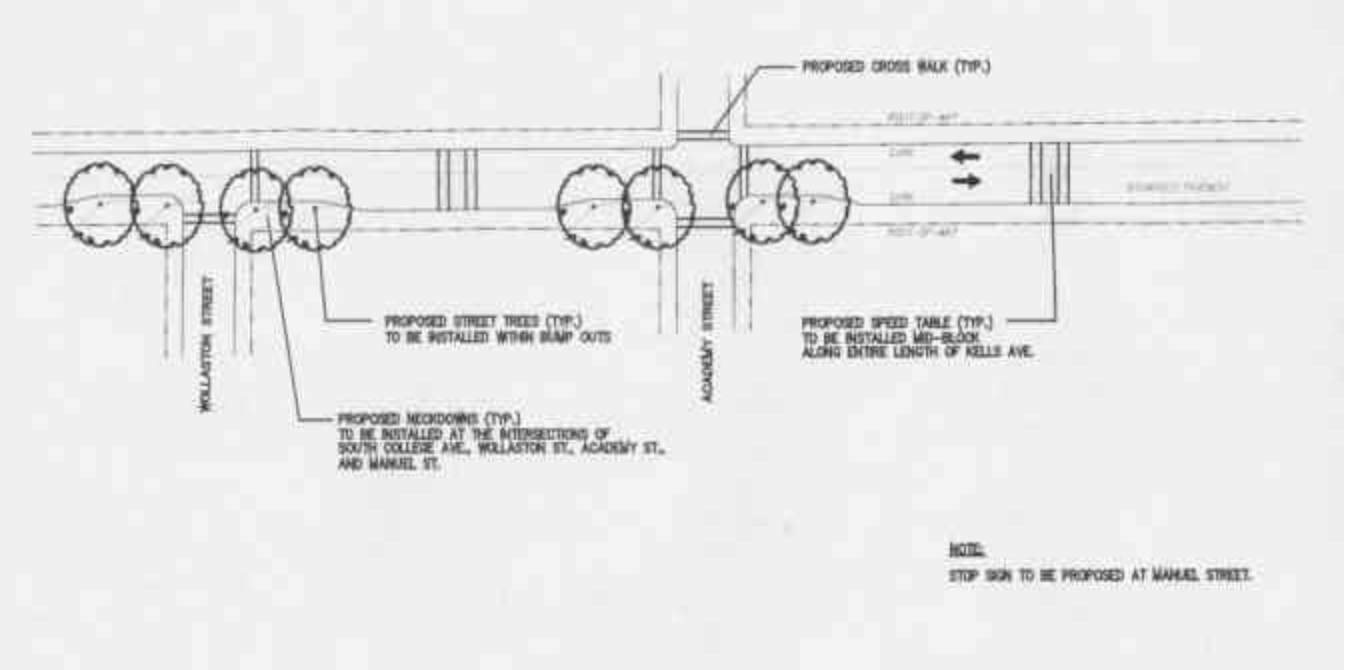
Kells Avenue is an important path to the Kells Park and Lewis Park. Pedestrian safety is a major concern. On-street parking is allowed with permits and there is no existing bike lane.

Recommendations: Kells Avenue meets all three criteria: it is traveled by over 2,000 vehicles per day, experiences over three accidents per year and vehicles are traveling at least 5 mph over the posted speed limit. Kells Avenue is considered a local road; DelDOT policies do not apply. There is an existing stop sign at the intersection of Kells and Academy Street. Although Kells intersects with Manuel Street, there is no traffic sign at this intersection.

1. At the intersection of Manuel, a stop sign should be added as well as a four (4)-foot wide neckdown or bump out on the southern side of the road. We are recommending a bump out for only one side of the road. Continuing down Kells Avenue, the introduction of speed tables should be constructed mid-block or the use of staggered neckdowns to narrow the cartway. At least two of each traffic calming measure should be utilized on each block to have the full effect and promote consistency.

2. A neckdown should be constructed at the intersection of Academy, then continued onto the next block. A neckdown should be constructed at the three-way intersection of Wollston Road or the repeated use of two mid-block neckdowns should be utilized. A final neckdown should be constructed at the intersection of South College Avenue. This would alert motorists cutting down Kells from South College Avenue of the calmed nature of the road; thus discouraging cut through traffic.

3. The proposed neckdowns should all be installed with proper crosswalks for pedestrian use. This is especially important along Kells Avenue as residents utilize the existing park.



Orchard Road

CRITERIA MET			Posted Speed/85th Percentile Speed	Vehicles Counted	Accidents Per Year	Bicycle Lane (Y/N)	Traffic Calming Warranted (Y/N)
2,000 or More Vehicles Per Day	5 mph Over Posted Speed	> 3 Accidents Per Year					
	X	X	25 mph/33 mph	1,877	7	N	Y

Current Conditions: Orchard Road is a two-lane, two-way local road that runs parallel to South College Avenue and carries traffic heading northbound or southbound. The posted speed is 25 mph, and traffic counts from the City of Newark indicate actual speeds of 33 mph. The existing cartway is 30 feet with sidewalks on either side. It is reported that 1,877 vehicles visit this road per day and there are seven accidents per year. The road is in good condition and there is currently on-street parking allowed. There are no bike lanes along Orchard Road.

Recommendations: Orchard Road meets two of the three criteria: it has more than three accidents per year and is considered to have more than 85% of the motorists traveling at least 5 mph over the posted speed limit. The goals for Orchard are to reduce speed and increase pedestrian safety. Currently, Orchard Road has a traffic light at the intersections of West Park Place and an existing stop sign at the intersections of Sunset Road, Winslow Road and Ritter Lane. Motorists often ignore the stop signs and drive through these intersections.

1. The use of neckdowns or bump-outs should be utilized on Orchard. The neckdowns should be constructed at Winslow Avenue and Sunset Road. A long, wide road, Orchard Road allows vehicles to pick up speed from traffic light to traffic light. These measures will help to continue the pedestrian character the street presently provides. The speed tables can be designed to provide full emergency access and not slow down emergency response times.


PROPOSED NECKDOWNS (TYP.)
TO BE INSTALLED AT THE INTERSECTIONS OF
WINSLOW RD. AND SUNSET RD.
SUNSET ROAD
WINSLOW ROAD

Chrysler Avenue

CRITERIA MET			Posted Speed/85th Percentile Speed	Vehicles Counted	Accidents Per Year	Bicycle Lane (Y/N)	Traffic Calming Warranted (Y/N)
2,000 or More Vehicles Per Day	5 mph Over Posted Speed	> 3 Accidents Per Year					
	X		25 mph/33 mph	1,318	3	N	N

Current Conditions: Chrysler Avenue was considered in this study because it is a major connector to the residential portions of Old Newark. It is a two-lane, two-way local road, which allows traffic to head in the eastbound or westbound direction. The posted speed along Chrysler Avenue is 25 mph, with traffic counts indicating motorists are traveling at speeds of 33 mph. Only 1,318 vehicles per day visit this road and only three accidents occurred per year on Chrysler Avenue. The existing cartway is 36 feet wide and sidewalks are provided on both sides. There is currently on-street parking and no bike lanes.

Recommendations: Chrysler Avenue only exceeds one of the set criteria; 85% of the cars are traveling at higher speeds than posted. Therefore, traffic calming measures are not recommended at this time.

Ritter Lane

CRITERIA MET			Posted Speed/85th Percentile Speed	Vehicles Counted	Accidents Per Year	Bicycle Lane (Y/N)	Traffic Calming Warranted (Y/N)
2,000 or More Vehicles Per Day	5 mph Over Posted Speed	> 3 Accidents Per Year					
	X	X	25 mph/33 mph	1,778	17	N	Y

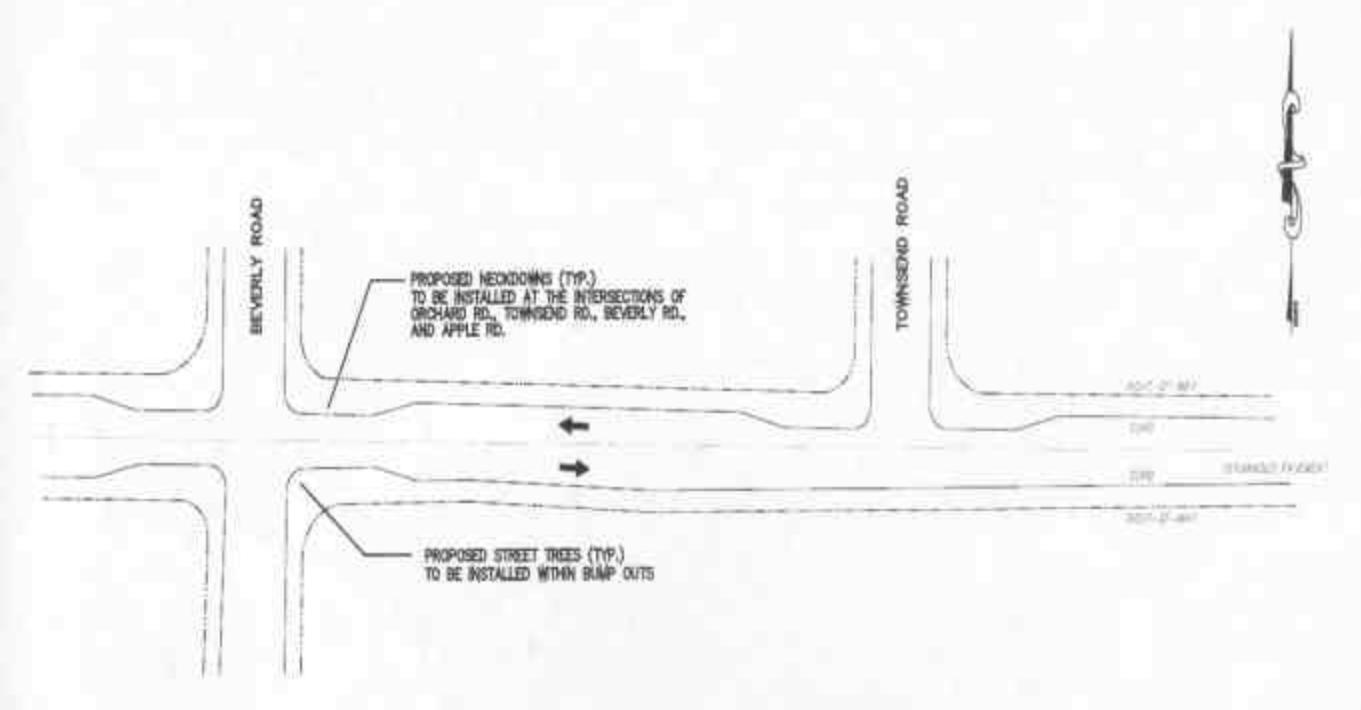
Current Conditions: Ritter Lane is a two-lane, two-way local street, which carries traffic in the east or westbound direction. Posted speeds are 25 mph, while traffic counts from the City of Newark indicate actual speeds of 33 mph. This street is traveled by school children en-route to the Newark Center for Creative Learning on Phillips Avenue. The existing cartway is 33 feet wide and sidewalks are provided on both sides of the road. Traffic counts also indicate that 1,778 vehicles visit this road per day while 17 accidents per year occur. The condition of the road is good and there is no existing bike lane.

Recommendations: Ritter Lane meets two of the three set criteria: 85% of the vehicles travel at speeds higher than posted and there are more than three (3) accidents per year. Our goals for Ritter Lane are to reduce accidents and increase safety for pedestrians. Currently, Ritter Lane allows permit parking along both sides of the road. Presently, a vehicle cannot turn left onto Ritter Lane from South College from the hours of 7:00 a.m. to 6:00 p.m. Stop signs control the intersections of Beverly Road and Apple Road.

1. Ritter Lane is wide enough to construct horizontal measures such as a neckdown or bump-outs. They can be utilized on both sides of the street, but may be narrower than the recommended width of eight (8) feet. Residential driveways may present a problem, but can be worked into the design.

2. Bump-outs should be constructed at the following intersections:

   - Orchard Road
   - Townsend Road
   - Beverly Road
   - Apple Road


BEVERLY ROAD
TOWNSEND ROAD
PROPOSED NECKDOWNS (TYP.)
TO BE INSTALLED AT THE INTERSECTIONS OF
ORCHARD RD., TOWNSEND RD., BEVERLY RD.,
AND APPLE RD.
PROPOSED STREET TREES (TYP.)
TO BE INSTALLED WITHIN BUMP OUTS