

SOUTH BIRCHWOOD PARK DRIVE
TRAFFIC CALMING PLAN



DRAFT

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INTRODUCTION

The Issue

This document stems out of the identification of many residential streets being identified as, "cut-through's," linking larger arterials. Traffic diverting through these neighborhoods reportedly travel at high speeds, may create unsafe conditions for pedestrians and reduce the quality of life for residents on these streets. These cut-throughs were identified as a major problem in the Township during the Master Plan and Route 70 Concept Plan public comment period.

"Speeding in residential areas is the top citizen complaint in many municipalities. However, traffic experts say that tougher law enforcement is not the only answer. Public education and changes in traffic patterns are equally important."¹

Speeding in residential neighborhoods is a nationwide problem, exemplified in the many communities of Cherry Hill, as identified below by the U.S. Department of Justice²:

"Speeding in residential areas causes five basic types of harm:

- it makes citizens fear for children's safety;
- it makes pedestrians and bicyclists fear for their safety;
- it increases the risk of vehicle crashes;
- it increases the seriousness of injuries to other drivers, passengers, pedestrians, and bicyclists struck by a vehicle; and
- it increases noise from engine acceleration and tire friction.

Speeding increases the risks of crashes and injuries for several reasons:

- the driver is more likely to lose control of the vehicle;
- the vehicle safety equipment is less effective at higher speeds;
- the distance it takes to stop the vehicle is greater;
- the vehicle travels farther during the time it takes the driver to react to a hazard; and
- crashes are more severe at higher speeds."

To counter these ever increasing problems as new concepts in planning and engineering have taken shape to combat problems related to vehicle speeding, volume as related to pedestrian safety and the livability of residential communities. These approaches are known as traffic calming.

¹ *Township of Cherry Hill Master Plan, 2003, p. 86*

² *Speeding in Residential Areas, Michael S. Scott, Office of Community Oriented Policing Services, U.S. Department of Justice. ISBN: 1-932582-02-9*

What is Traffic Calming?

The Institute of Transportation Engineers (ITE) defines traffic calming as, “the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior, and improve conditions for non-motorized street users.” The general objectives of traffic calming are³:

- To encourage citizen involvement in the traffic calming process by incorporating the preferences and requirements of the citizens,
- To reduce vehicular speeds,
- To promote safe and pleasant conditions for motorists, bicyclists, pedestrians, and residents,
- To improve the environment and livability of neighborhood streets
- To improve real and perceived safety for non-motorized users of the streets,
- To discourage use of residential streets by non-citizens cut through vehicular traffic.

Traffic calming installation often occurs as the final step of a three-step process referred to as the “three E’s” (education, enforcement, and engineering). However, this three-step process only addresses problems with speeding, not with cut-through volumes. If the first two steps are not effective in lowering speeds on neighborhood streets, the need for traffic calming measures becomes more apparent.

Education: Communities with educational programs seek to remind speeding drivers of the negative effects of their actions, often by stressing that the community’s children are the most at risk. Educational campaigns may use brochures or neighborhood newsletters to spread this message. Newsletters may also contain information on speeding fines (particularly in school zones), pedestrian and bicycle safety tips, and information on average speeds in the neighborhood.

Enforcement: Enforcement involves a more intensive police presence and a greater allocation of time to enforcing the speed limit in a particular neighborhood. Unfortunately, it is often not practicable to maintain a police presence at the level needed to permanently lower speeds. However, consistent visible enforcement (i.e. speed monitoring trailers, traffic counters, etc.) does lead to respect of the speed limit by motorists.

³ U.S. D.O.T. Federal Highway Administration

Engineering: Engineering includes, but is not limited to, traffic calming measures. It can also include the use of signs and pavement markings to obtain the desired effect.

The goal of this report is to improve neighborhood livability by reducing the speeds and impact of vehicular traffic on residential streets, while providing for safe, efficient, and economical movement of persons and goods throughout the Township. Traffic Calming measures will promote safe and pleasant conditions for residents, pedestrians, bicyclists, and motorists on neighborhood streets, while preserving access for emergency-vehicles, buses, and other similar uses.

I. EXISTING CONDITIONS

Birchwood Park Drive South is located in the Lakeview neighborhood, providing a direct connection between New Jersey State Route 70 and Greentree Road (C.R. 674). The Lakeview Neighborhood was incrementally built in the late 1970's and early 1980's, technically called Point of Woods South.

Land Use



The southern portion of the roadway offers a right in/right out onto Route 70 westbound, with a left turn stacking lane on Route 70 eastbound into the Lakeview neighborhood. A landscaped median divides Birchwood Park Drive South for the initial roughly 400 feet. The Highlands

Apartments are on the western property, while the eastern parcel is currently vacant. Once the median portion of the roadway merges to one, the road turns slightly to the northwest providing a straight throughway to Greentree Road. There are 27 single-family dwellings along Birchwood Park Drive South and five intersecting streets, each being T-shaped intersections. The homes are modern two-level structures, with 35' front setbacks from the roadway. Birchwood Park Drive South terminates at the Cooper School, a public elementary school, when it reaches Greentree Road. There is a landscaped median island approximately 100 feet in length, with appropriate lane markings for right and left turns at the signalized intersection.



The cartway is approximately 40 feet wide, with four foot sidewalks and a separating grassy buffer on both sides. There is no striping along Birchwood Park Drive South, except for a limited amount near the entrances of Route 70 and Greentree Road. The utility lines are buried underground and the area has uniform Town & Country style lighting.

The existing measures in the neighborhood that provide a traffic calming effect is '25 MPH.' signs installed in various locations along the road. There is an existing tree line of mature deciduous and coniferous trees; however they are located along the lawn side of the sidewalks instead of the traditional location in the grassy buffer (where they are most effective).

Traffic Conditions

South Birchwood Park Drive is a two-lane urban collector roadway under the jurisdiction of Cherry Hill Township and has a posted speed limit of 25 MPH. There are two 15-foot unmarked lanes and 4-foot shoulders and is divided by median landscaped islands near the intersections of Route 70 and Greentree Road.



The area is generally used as a cut-through for vehicles that would utilize the congested and confusing turns and movement along the parallel Springdale Road, between Greentree and Route 70. At the time traffic counts were collected, 1,772 vehicles traveled along Birchwood Park Drive South (both north and south direction) on a weekday⁴. As shown below, peak hour traffic is during the morning commute (7 - 9 a.m.) and evening commute hours (4 - 8 p.m.). There is clearly more traffic during the daytime hours, than opposite night/early morning hours.

A study of the neighborhood circulation was conducted by Shropshire Associates, showing volumes and the level of service at intersections (2004)⁵. The intersection at the southern edge of the study area is the intersection of N.J. State Route 70, which is considered a principal arterial, and South Birchwood Park. This is an un-signalized intersection that operates at a poor level (C-E grade). The intersection at the northern point of the study area is the intersection of Greentree Road (County Road 674), which is considered a collector roadway, and South Birchwood Park. This intersection operates at a fair level (A-C grade)⁶.

⁴ CHPD, 2.23.04, see appendix

⁵ Traffic Impact Study, Klein Site, Shropshire Associates, LLC, October 28, 2004

⁶ Traffic Impact Study: Klein Site, Shropshire Associates, LLC; November 29, 2004

<p>Level of Service A: This occurs when the reserve capacity for a specific movement is at or above 400 vehicles per hour. There is little or no delay to the side street traffic under these conditions.</p>
<p>Level of Service B: LoS B occurs when the reserve capacity ranges from 300-399 vehicles during one hour for a critical movement. The delays to the minor street or major street left turns are relatively short.</p>
<p>Level of Service C: Reserve capacity ranges from 200-299 vehicles per hour under these conditions. The delay to the critical movements are considered average.</p>
<p>Level of Service D: The reserve capacity under LoS D conditions range from 100-199 vehicles per hour at the critical movements. Minor street approach traffic may begin to experience long delays while waiting for an acceptable gap to complete their desired movement.</p>
<p>Level of Service E: LoS E conditions occur when very long delays are experienced by the minor street traffic. The reserve capacity ranges from 0-99 vehicles per hour. This condition may warrant intersection improvements.</p>
<p>Level of Service F: LoS F conditions occur when demand volume exceeds the capacity of the lane or movement. Extreme delays will be encountered with queuing which may cause severe congestion affecting other traffic movements at the intersection. This condition usually warrants improvement to the intersection.</p>

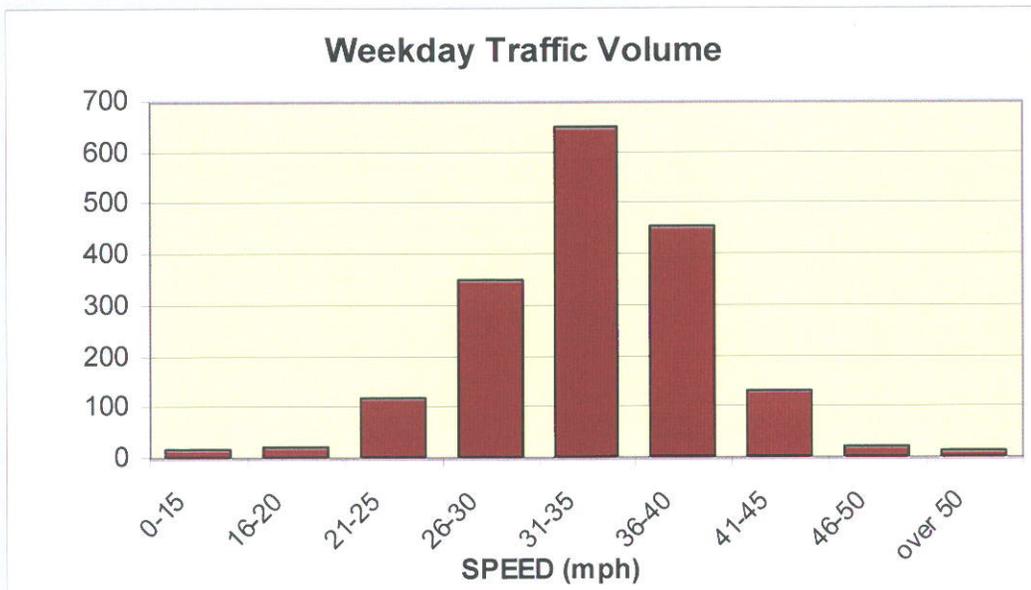
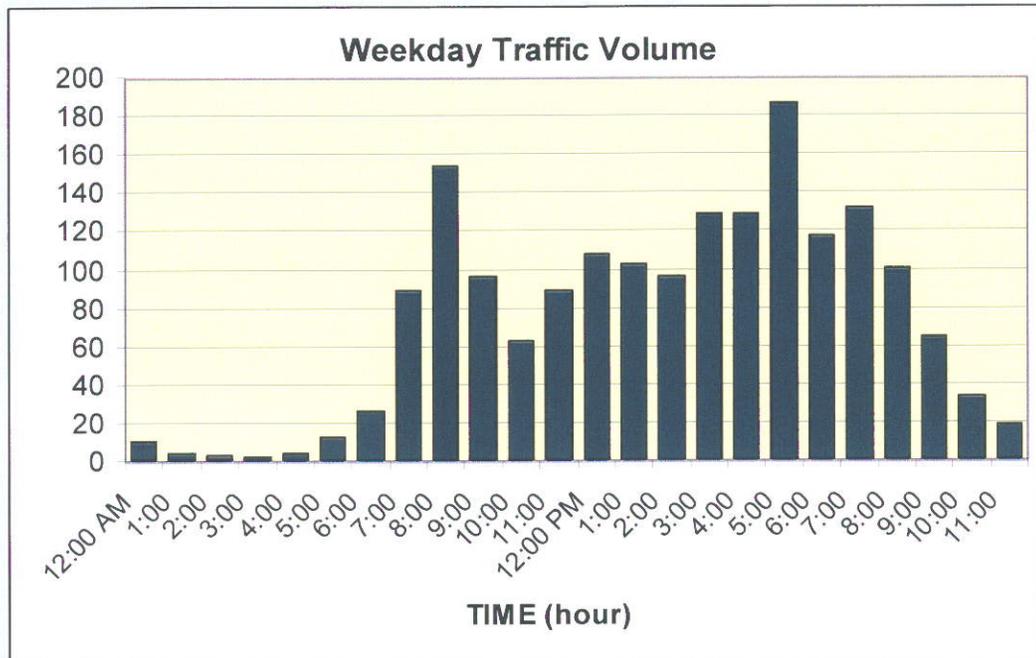
Traffic engineering represents speed through the 85th percentile speeds. It is not the highest any motorist travels, but it is high enough to represent the probably safe end of the speed distribution. There are three measures of impact – average 85th percentile after traffic calming measure, average absolute change in 85th percentile speed from before to after traffic calming, and average percentage change in 85th percentile speed from before to after.

The following data is based on actual traffic counts of the Cherry Hill Police Department Traffic Division. Counts were taken on February 20 – 24, 2004⁷.

⁷ See Appendix

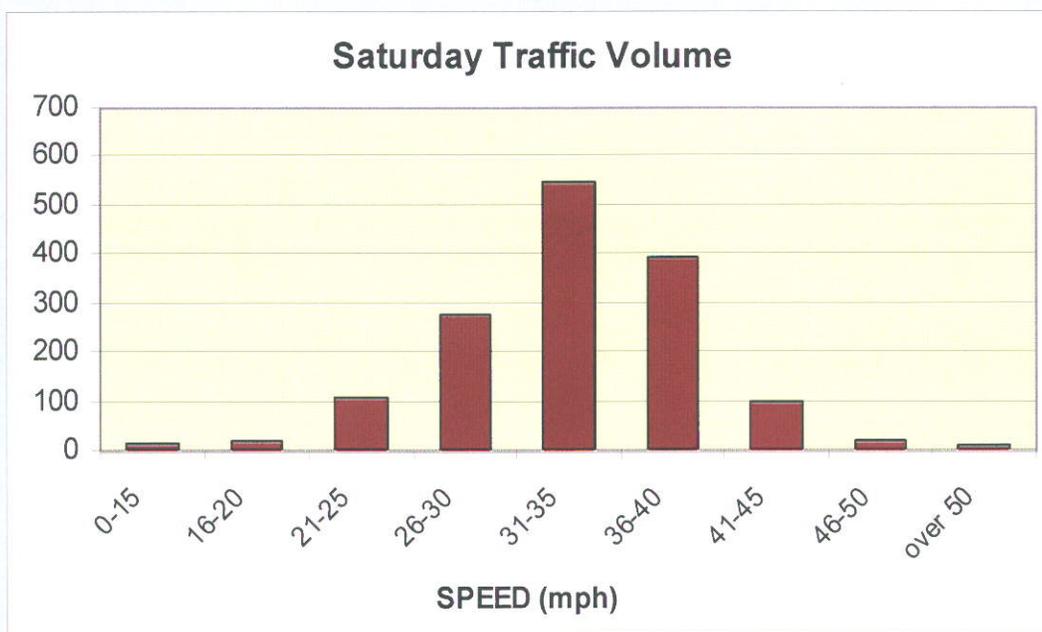
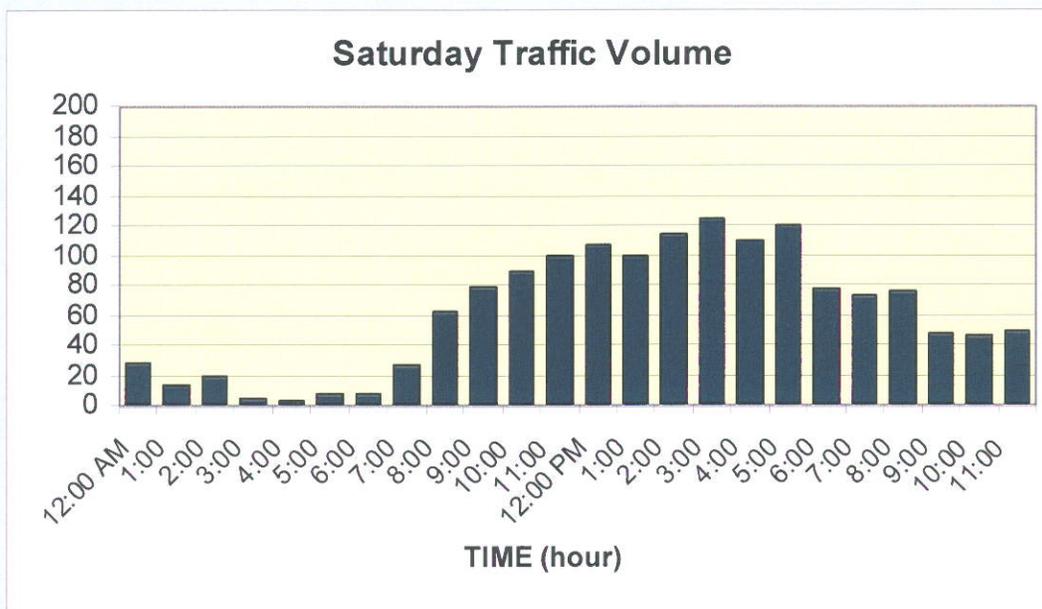
Monday Traffic

The traffic data collected included speed (miles per hour the vehicle was traveling) and the volume of cars per hour. On the day of observation, 1,772 automobiles were counted. This roadway averages an AADT (weekday) of 1,500-2,000 vehicles. The 85th percentile speed was between 35 and 40 mph, 10 mph over the speed limit. A majority of the traffic (82 percent) traveled between 26 and 35 mph.



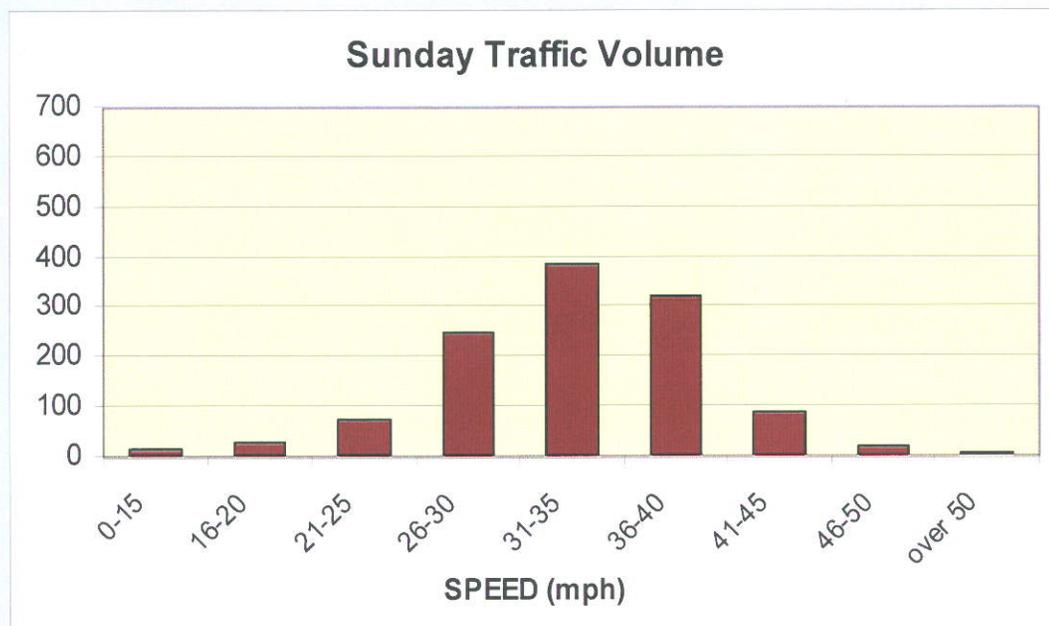
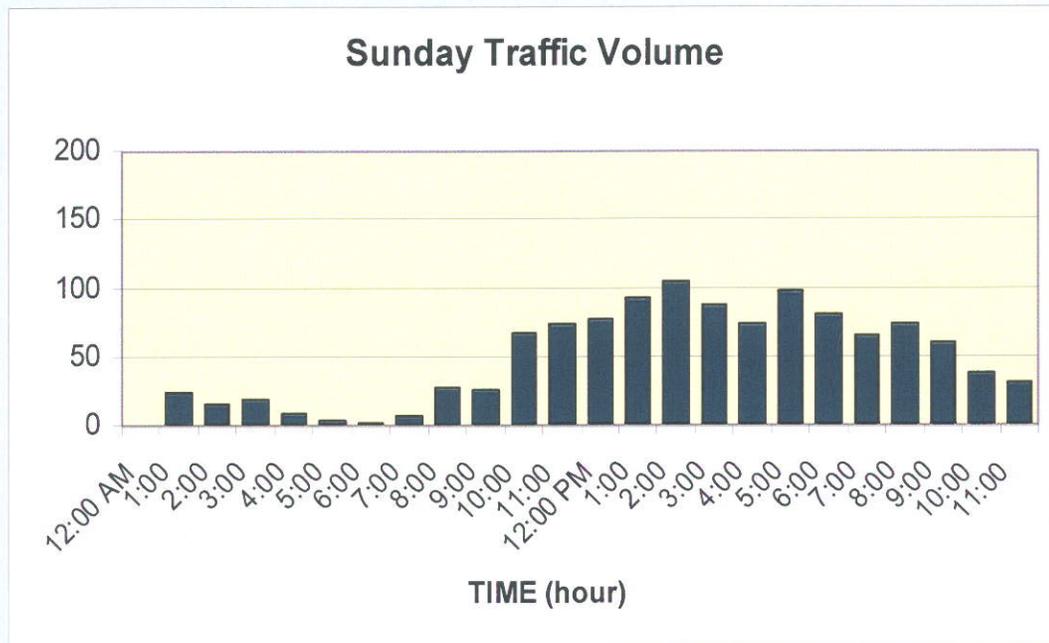
Saturday Traffic

Saturday and Sunday traffic is mainly level during the hours of 9 a.m. to 9 p.m. On the day of observation, 1,483 automobiles were counted. This roadway averages an AADT (weekday) of 1,500-2,000 vehicles. The 85th percentile speed was between 41 and 45 mph, 15 mph over the speed limit. A majority of the traffic traveled between 30 and 40 mph.



Sunday Traffic

Saturday and Sunday traffic is mainly level during the hours of 9 a.m. to 9 p.m. On the day of observation, 1,179 automobiles were counted. This roadway averages an AADT (weekday) of 1,500-2,000 vehicles. The 85th percentile speed was between 35 and 40 mph, 10 mph over the speed limit. A majority of the traffic traveled between 30 and 40 mph.



Dangers of Speeding

Speeding, particularly in residential neighborhoods, is dangerous and creates multiple safety concerns. According to the federal Office of Community Oriented Policing Services, speeding in residential areas causes five basic types of harm. It creates the following harm:

- citizens fear for children's safety;
- pedestrians and bicyclists fear for their safety;
- increases the risk of vehicle crashes;
- increases the seriousness of injuries to other drivers, passengers, pedestrians, and bicyclists struck by a vehicle; and
- increases noise from engine acceleration and tire friction.

Speeding increases the risks of crashes and injuries for several reasons:

- the driver is more likely to lose control of the vehicle;
- the vehicle safety equipment is less effective at higher speeds;
- the distance it takes to stop the vehicle is greater;
- the vehicle travels farther during the time it takes the driver to react to a hazard; and
- crashes are more severe at higher speeds.

Even modestly higher speeds can spell the difference between life and death for pedestrians struck by a vehicle. The force of impact on the human body is more than one-third greater at 35 mph than at 30 mph. Each 1-mph reduction in average speeds translates roughly to a 5 percent reduction in vehicle crashes⁸.

The overall neighborhood environment is threatened by the large volume of high-speed vehicles. The solutions vary, but an emerging application that has proven to resolve the earlier-identified issues is Traffic Calming.

⁸ *Speeding in Residential Areas, Community Oriented Policing Services, U.S. Department of Justice, Michael Scott.*

II. PROPOSED ALTERNATIVES

Traffic calming methods have become more popular in the recent decade, implemented in a number of different communities (rural, urban, and suburban). The Township Master Plan (2003) recommends this street segment for traffic calming treatments, "Birchwood Drive South between Greentree Road and Route 70" (p.87). Its wide corridor and straight line of vision lead the driver to instinctively increase speeds (as shown in photo below).



Effective Measures

Traffic calming works, as proven by analysis and study. "Narrower roads with fewer traffic lanes are associated with a significantly lower crash risk to pedestrians than wider roads⁹." Converting four-lane urban arterials to two lanes plus a center turn lane tends to reduce collisions about one-third, improves pedestrian travel and causes only minor reductions in traffic volumes. Annual crash rates per lane-mile tend to increase with lane width, and are highest on wider, lower volume, straight streets that have the highest speeds. 24-foot streets appear to have the lowest accident rates¹⁰. This suggests that narrower street designs and traffic calming can increase road safety.

The chart below is a sample of the effect of various traffic calming measures¹¹.

⁹ Victoria Transport Policy Institute

¹⁰ Victoria Transport Policy Institute

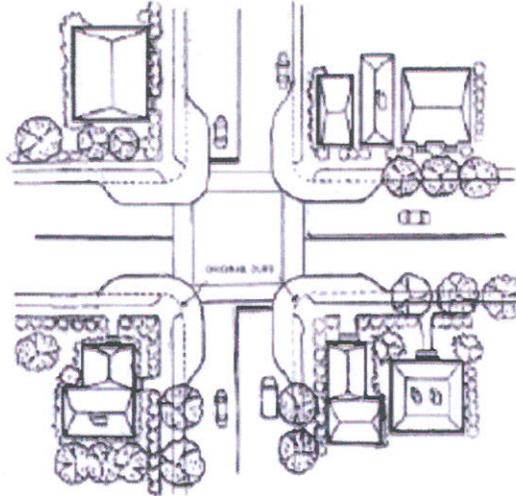
¹¹ Ewing, Reid. "Traffic Calming: State of the Practice", 1998. Institute of Traffic Engineers, Federal Highway Administration.

Speed Impacts of Traffic Calming Measures (standard deviations in parentheses)				
	Sample Size	85th Percentile Speed Afterward	Average Change in 85th Percentile Speed	Average % Change
<i>Raised Intersections</i>	3	34.3 -6	-0.3 -3.8	-1 -10
<i>Circles</i>	45	30.2 -4.3	-3.9 -3.2	-11 -10
<i>Narrowings</i>	7	32.3 -2.8	-2.6 -5.5	-4 -22
<i>One-Lane Slow Points</i>	5	28.6 -3.1	-4.8 -1.3	-14 -4
<i>Half Closures</i>	16	26.3 -5.2	-6 -3.6	-19 -11
<i>Diagonal Diverters</i>	7	27.9 -5.2	-1.4 -4.7	0 -17
Note: Speeds Are Measured at Midpoints Between Measures.				

South Birchwood Park and the surrounding Lakeview neighborhood is an environment suitable for traffic calming implementation. There are a number of measures, ranging from a traffic circle to striping. The following are some tools that are not cost-prohibitive and are feasible for suburban nature of the Lakeview neighborhood.

Bulb-Outs

Bulb-outs, sometimes referred to as curb extensions, are corners of intersections with increased area, therefore creating narrower roadways at roadway junctions. They can be used at mid-block locations when there is a need, such as crossing school children, church areas, or other pedestrian generators. Bulb-outs are best in areas with intense on-street parking and/or transit stops. They should be combined with crosswalks whenever possible.



Advantages

- Improve pedestrian safety
- May slow right-turning vehicles
- Prevent illegal parking close to intersections
- Improve neighborhood appearance with landscaping and/or textured treatments

Disadvantages

- Can result in loss of one on-street parking space on each side of the road
- prohibit parking close to intersections
- May prevent right turns at intersection when another vehicle is stopped at the stop line
- May make it difficult to accommodate full bicycle lanes

Cost

\$7,000 - \$10,000

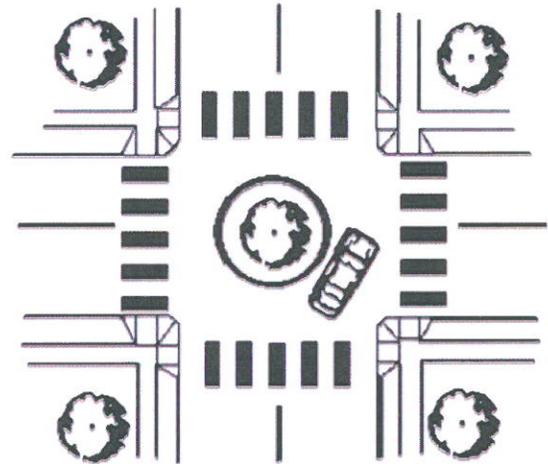


Traffic Circles (small)

Traffic circles are small circular islands located in the center of an un-signalized intersection. These differ from the larger traffic circles that are common on larger arterial roadways, which delineate traffic to various roads. Traffic circles slow vehicles due their slight narrowing of the roadway and visual break up of the straight line of sight



(particularly when appropriately landscaped. They are appropriate at three- or four- way intersections of local streets that do not have a high pedestrian volume or left-turn movements. On average, speeds are reduced from 4 to 6 mph in the vicinity of these small circles. Signage and lighting are needed to accompany this traffic calming measure.



Advantages

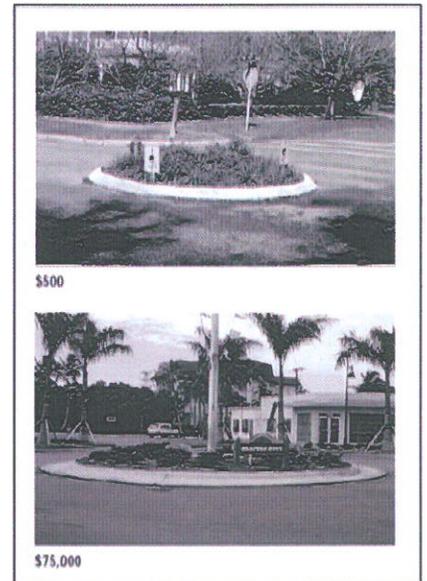
- Reduce speeds
- Reduce motor vehicle collisions (esp. right angle conflicts)¹²
- Contributes to green space and can aesthetically enhance the neighborhood when landscaped.

Disadvantages

- Must allow room for emergency vehicles to maneuver
- May prohibit some on-street parking.
- Landscaping maintenance

Cost

\$1,000 and up



¹² The Insurance Corporation of British Columbia, summarizing 43 international studies, reported that circles reduce collisions by 82 percent.

Gateways

Gateways are special entrance treatments that emphasize a change in environment from an arterial to a residential street and serve to provide identity to a neighborhood by using a combination of physical and textural features. By carrying common features, such as a street sign theme, similar roadside plantings, or a pavement or sidewalk treatments through a community the motorists can better identify an area where traffic calming is in effect. Items utilized to create a gateway are masonry monument signs, alternative roadway material, crosswalks, road narrowing, etc.

Though this application may not be as effective as other calming measures, they are thought to increase driver awareness of the environment in which they are driving. This measure is most appropriate for local neighborhood streets, such as South Birchwood Park Drive. The northern and southern entrances both have an existing gateway that could be expanded upon.

Advantages

- Identify and enhance overall neighborhood
- Discourage large truck entry
- Emphasize entering a residential area

Disadvantages

- Some noise may result from textured pavement

Cost

Varies

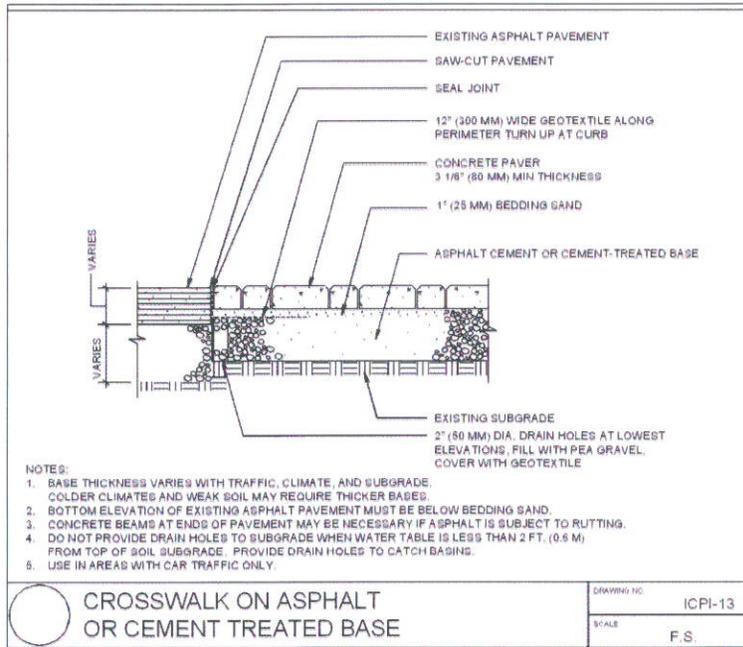


Neighborhood gateways remind drivers that they are entering residential areas where lower speeds are appropriate.



Textured Crosswalks

Textured crosswalks are the use of pavers, imprinted concrete, asphalt, or other materials to demarcate crosswalks and alert motorists that they are entering a pedestrian-friendly area (i.e. a residential neighborhood with children at play). This application is used in a wide-variety of environments, from residential neighborhoods to downtown intersections. Alternative pavements are often used in conjunction with other traffic calming measures, such as traffic circles, median islands, etc.



Advantages

- Improved street appearance
- Enhance pedestrian presence to motorists

Disadvantages

- Some noise may result from textured pavement

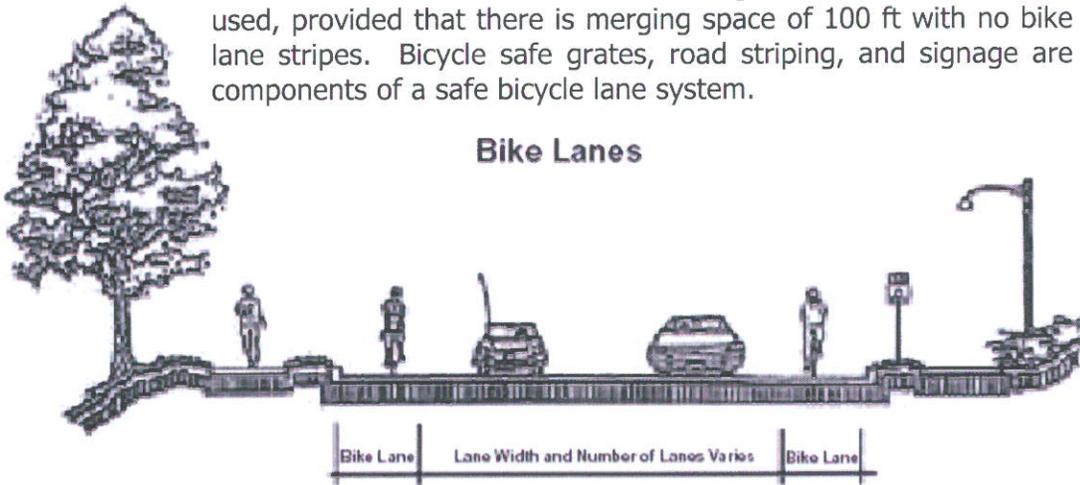
Cost

\$50 - \$150 per square foot

Bicycle Lanes

Bicycle lanes are considered a portion of a roadway that has been designated by striping, signing, and pavement markings for the preferential or exclusive use of bicyclists. These differ from off-road trails or road shoulders in that they are designated areas on existing roadways.

They generally serve only one direction of traffic and are located adjacent to general traffic lanes, with no barrier separating the bike lane from the traffic lane. On smaller residential streets, bike lanes are approximately 8 – 10 feet wide. Striping of a bike lane should end 100 ft leading to an intersection, except that a short distance of bike lane to the left of a right-turn-only lane can be used, provided that there is merging space of 100 ft with no bike lane stripes. Bicycle safe grates, road striping, and signage are components of a safe bicycle lane system.



When designed correctly, bike lanes do the following:

- support and encourage bicycling as a means of transportation
- encourage bicyclists to ride in the correct direction, with the flow of traffic
- remind motorists to look for cyclists when turning or opening car doors
- signal motorists that cyclists have a right to the road
- reduce the motorists stray into cyclists' path of travel
- make it less likely that passing motorists swerve toward opposing traffic

Cost
Striping & Signs vary



Other Measures

Signs

The installation of speed limit signing in residential areas functions as a constant reminder of the roadway's speed limit. There are currently a limited amount of 25 m.p.h. signs along South Birchwood Park Drive. Installation of new signs must be examined for visibility and maintenance.

Striping

Many residential streets have been constructed to such a width that getting motorists to obey a 25 or 30 mph posting is extremely difficult. A low-cost way of reducing speeds is to narrow the roadway lane through the use of edge lines and centerlines. A number of jurisdictions across the country have installed this type of pavement marking application to create 9 to 10-foot-wide lanes. These applications have generally reduced speeds by 1 to 2 mph with reported reductions as high as 5 mph in some locations. This pavement marking application is appropriate on local streets and low-volume minor collectors, but should not be used on major collector or arterial streets. South Birchwood Park Drive currently has no striping.

Speed Display Boards

Speed display boards measure oncoming vehicles' speeds and prominently display the speeds to drivers. Speed display boards have been shown to reduce speeds and crashes, and appear to be at least as effective as speed cameras in reducing speeds, and to do so more cost-effectively. Speed display boards are particularly effective with drivers who are not paying attention to their speed. They are more effective when supplemented with police enforcement—in this combination, the effect can last several weeks after they are removed. Unattended display boards, however, are vulnerable to vandalism.



On-Street Parking

Though South Birchwood Park Drive has legal on-street parking, it is not often utilized. On-street parking has the inherent effect of reducing the cartway width of a roadway, as well as offering a barrier of protection from moving cars and pedestrians on the sidewalk. It may not be applicable to this environment, as there must be sufficient demand before on-street parking becomes an effective measure to calm traffic.

III. IMPLEMENTATION

The Department of Community Development, The Department of Engineering, and the Cherry Hill Township Police Traffic Division have examined various traffic calming applications extensively in order to derive cost and installment. A point system was used to determine need and impact.

The Numeric Value Assessment System for Determining Priority of Traffic Calming Measures is a point system used by the Cherry Hill Police Department Traffic Division in determining where in the Township traffic calming resources should be applied. Key determinants ranked in the assessment are places where residents congregate, such as schools, parks, and playgrounds. Points were given based on pre-determined parameters that increase in value based on the volume of traffic on the roadway.

Numeric Value Assessment System for Determining Priority of Traffic Calming Measures						
POINTS:	1	2	3	4	5	6
Average Daily Total*	1,000 vehicles	1,500	2,000	2,500	3,000	3,500
Site obstruction	minor	moderate	significant			
Sidewalks			None			
Road width	30' or more	27'	24'			
MVA with injury						
School Zone	w/i 2,000 ft	w/i 1,500 ft	w/i 1,000 ft			
Park/Playground	w/i 2,000 ft	w/i 1,500 ft	w/i 1,000 ft			
Crosswalk heavy use	w/i 2,000 ft	w/i 1,500 ft	w/i 1,000 ft			
85th percentile	One point for each mph over posted limit not to exceed 15 points.					

* Should not exceed 3,500 vehicles/day for control devices that are placed in the travel way.

Source: CHPD traffic division

Recommendations

Location A: This location is the main entrance to the residential community. An extensive gateway with signage and landscaping should be provided to indicate to the motorist that they are entering a residential neighborhood. The landscaping should be low maintenance and include a large shade tree, which psychologically narrows the roadway causing drivers to slow and drive at careful speeds (Smith and Appleyard, 1980, op. cit.).

Location B: Public outreach found that large trucks mistake the Lakeview entrance for the entrance to the Highlands Apartment complex and make illegal turns at this intersection. To mitigate this movement, a small traffic circle approximately ten (10') feet in diameter is recommended at the Crestview Drive intersection. The interior landscaping would be maintained by volunteer homeowners in the Lakeview neighborhood.

S. Birchwood Park Drive: TRAFFIC CALMING PLAN



Proposed vegetation should be low maintenance and not hinder visibility, such as a single shade tree in the center, with low-lying shrubs (holly, boxwood, etc.) or native grasses and wildflowers. The curbs should be mountable to allow for emergency and/or public works access. The detriment of this application is the potential for the traffic circle to become unkempt and become an eyesore to the community. The benefits include the opposite; it could become a unique feature and point of pride for the neighborhood. Furthermore, the additional pervious cover will aid the water quality and stormwater management of the overall area.

Location C: North of this intersection are additional three-way intersections at Lakeview Drive, West High Ridge, Greentree Way and Woodbury Drive that allow for the opportunity to apply traffic calming measures that provide for pedestrian crossings. Decorative bump-outs and paved crosswalks should be installed strategically at these locations, which will visually and physically narrow the roadway and provide a different material for the vehicle to cross; both of which will calm traffic. Maintenance of the bump-outs must be addressed.

Location D: The north entrance intersects with Greentree Road (C.R. 674), which is under the jurisdiction of the Camden County Highway Department. Therefore, any applications on or near Greentree Road should be done with Camden County approval. Currently there are striped crosswalks at this intersection/gateway. Limited improvements could be applied in this area, as extensive facilities have been provided due to the presence of Cooper School students.

Throughout the corridor, extensive tree planting by private homeowners on their respective grass strip between the curb and sidewalk, which is recommended to create the visual narrowing, referred to above.

Costs

A cost estimate is provided below, which assists in determining spending constraints for the project. The estimate is a list of average prices, which was determined by examining the minimum and maximum price for that particular item. Additional costs may occur, which depend on factors such as building materials (i.e. using red brick vs. limestone for a gateway, different sizes and durability, etc.). The total cost of the project is approximately \$146,000, which includes the expected planning, engineering, construction, and materials of the implementation of these measures. The cost estimate accounts for one traffic circle, one gateway treatment (landscaping, paving treatments, etc.) eight bump-outs at two intersections with paved crosswalks and accessory ADA ramps. Each of these treatments vary by material (concrete, brick, cobble stone, etc.) and any landscaping or lighting treatments.

South Birchwood Park Drive: TRAFFIC CALMING PLAN

COST ESTIMATE

ITEM	DESCRIPTION	UNITS	QUANTITY	AVERAGE UNIT PRICE	AVERAGE AMOUNT
1	Maintenance & Protection of Traffic	LS	1	\$35,000	\$35,000
2	Bulb Outs	LS	8	\$8,500	\$68,000
3	Small Traffic Circles	LS	1	\$5,500	\$5,500
4	Decorative Gateway Treatments	LS	1	\$12,500	\$12,500
5	Paved Crosswalks	LS	4	\$1,500	\$6,000
6	Handicap Ramp	LS	8	\$1,200	\$9,600
8	Street Trees	LS	n/a	\$0	\$0
CONSTRUCTION COST					\$136,600.00
Long Term/Recurring Costs Associated with Project					
Acquisition					
	Land			\$0	
	Equipment			\$136,600	
Construction					
	Engineering/Planning			\$0	
	Project Administration			\$0	
	Project Inspection			\$0	
	Construction Contract			\$0	
	Project Cost (Acquisition + Construction)			\$136,600	
	Bond Administration (Project Cost x 0.07)			\$9,562	
	Total Project Cost (Project Cost x 1.07)			\$146,162	
	Project Funding/Revenue to be Received			\$1,000	
	(Amount and source of funding)			Contribution-In-Aid	

Funding

Funding is key to the implementation of the project. The Township, Lakeview Civic Association, and residents should work together to apply for a variety of funding from Federal, State, and non-profit sources. The criteria and the amount of funding may vary and some grants are for reoccurring years. The unique location and attributes of the area make it eligible for an assortment of grants.

National Bicycle and Pedestrian Clearinghouse

The National Bicycle and Pedestrian Clearinghouse is a program under the Federal Highway Administration (FHWA) that gives conditional grants for the promotion of bicycle and pedestrian safety programs. Overall objectives for this program are to provide for educational and informative materials and programs for bicyclers and pedestrians. A second objective would be to establish strategies on how to accomplish these programs. This program is geared toward non-profit associations. Funding for this program varies and may be for multiple years. For more information, see <http://www.pedbikeinfo.org/>.

Safe Streets to Schools

New Jersey Safe Streets Safe Schools program is initially funded by the Federal Highway Administration (FHA) and administered by the New Jersey Department of Transportation, which seeks to improve the pedestrian environment and safety of school children walking to school. Grants are offered as one time endowments to fund bicycle and pedestrian safety in school zone areas. This could specifically be utilized to install pedestrian infrastructure (crosswalks, signaling devices, etc.) in the vicinity of the Cooper School. Grant amounts vary from \$25,000 and higher depending on the size of a proposed project. This grant may be used to fund research studies to construction projects? For more information, see: <http://safety.fhwa.dot.gov/saferoutes/statecontacts.htm> or <http://www.nj.gov/transportation/business/localaid/>

Transportation Community Development Initiative (TCDI)

This grant program is Federal Highway Administration and is administered by the New Jersey Department of Transportation (NJDOT). The TCDI grant aims at four distinct goals. First, is to support planning projects that produce an increase residential opportunities. A second goal is to improve the overall character of the community. Third, is to enhance existing infrastructure and roadways. Finally, the grant is to reduce congestion and improve circulation with in the area. The development initiative looks for innovate projects that not only encourages transportation alternatives but explores ways to make existing ways safer and more efficient. Funding for this project varies and is a matching grant. This means whatever the municipality decides to invest into the project, the TCDI will match all or a portion of the funding the municipality puts into the project. For example, if Cherry Hill decided to put \$10,000 in to the project and TCDI decides to do a 100 percent match, then there will be \$20,000 total dedicated to the project. To obtain this funding the municipality has to enter into a contact with the FHWA for funding, and follow certain guidelines. For more information, see: www.dvrpc.org/planning/tcdi.htm

Transportation Enhancements (TE)

The Transportation Enhancements (TE) program provides grants to fund the construction and implementation of several types of transportation-related projects that enhance livable communities. Common applications include the construction of streetscape treatments, bike paths, safety and educational programs, and other infrastructure aimed at pedestrians and bicyclists. The project is funded by the Federal Highway Administration and administered through the New Jersey Department of Transportation in coordination with the Delaware Valley Regional Planning Commission. Project amounts vary. For more information, see: www.state.nj.us/transportation/business/localaid/enhancements

Smart Growth Grant

The Office of Smart Growth in the New Jersey Department of Community Affairs assists on planning and implementation on projects that encourage redevelopment of use areas, rehabilitation of older structures, use of environmentally friendly technology and strategies that encourage walkable communities. Grants are available to assist counties, municipalities, and non profits to reach their goals from doing research, protecting or implementing projects that promote or persuade the argument for Smart Growth. Grants vary depending on the type of grant sought and the availability of funding allocated for particular projects. The Department of Smart Growth funds variety of Smart Growth initiatives. From year to year they may allocate more money for a one initiatives' over others. For example year one may focus more on historic preservation, year two maybe more for open space, and year three maybe more for walkable communities. For more information, see:

www.nj.gov/dca/osg/resources/grants/index

Comprehensive Traffic Safety Program

The Division of Highway and Traffic Safety (DHTS) operated out of the New Jersey Attorney General's office offers a grant to cover multiple traffic problems that include speeding, pedestrian safety, and mediating situations where traffic accidents are frequent. This grant provides multiple avenues of assistance from community education, enforcement, and engineering. Guidelines for this grant require a well-detailed document that includes the problem, history or the area, data, and an innovate plan for change. Awards are subject to a board review of each application. For more information, see:

http://www.nj.gov/lps/hts/grants/index_south.

Pedestrian and Bicycle Education and Enforcement

The Division of Highway and Traffic Safety (DHTS) sponsors and grants that aim at education of the community and extra funding for overtime for speed enforcement in zones that poses a high risk for pedestrian safety and social groups (children and seniors). To qualify for this grant a community must be within the top 50 municipalities for pedestrian injury crashes. This was determined from the years 2001-2004. Currently Cherry Hill ranks within the top 50. The amount of funding received varies due to a community's need and the size of the scope for the project. For more information, see: www.nj.gov/lps/hts/grants/index_south

Free Trees for Arbor Day

The New Jersey Tree Foundation provides applications to municipalities, neighborhood associations, and civic associations for free tree deciduous and evergreen seedlings in the celebration of Arbor Day. The amount of trees varies and is subject to availability. For more information, see: www.newjerseytreefoundation.org.

The following general steps should be taken to begin the process of implementing the identified recommendations and create safer traffic conditions South Birchwood Park Drive:

1. Cherry Hill Township, local neighborhood groups, and individual concerned residents should collectively work to investigate and prepare applications for the above-identified grants.
2. Establish a Neighborhood Speed Watch program in coordination with the Lakeview Civic Association and CHPD Traffic Division
3. Once funding is obtained, select residents should organize a task force to work with the Township during the construction process.
4. Monitor 'before' and 'after' affects along the corridor utilizing CHPD traffic counts and resident observation of any changes in traffic and front yard activity.
5. Stay involved with the Traffic Calming process, to determine need and type of permanent program.

Recent Updates

In June of 2005, a public meeting was held in the Lakeview neighborhood to collect ideas and input from residents along and adjacent to South Birchwood Park Drive. A property owners list was assembled with current tax data integrated into the Geographic Information Systems mapping. Letters were sent to each property owner, as well as flyers posted in community centers.

Residents agreed that speeding and the large volume of traffic, utilizing South Birchwood Park Drive as a cut-through, were issues that affected residents. While small traffic circle and paved crosswalks were favored in other areas, any line striping was not. The Cherry Hill Township Police Traffic Division investigated the application of temporary measures and proposed temporary speed tables to determine effect and community satisfaction.



On April 24, 2006, Township Council approved the purchase of four speed tables. The speed tables are different than speed bumps, as they are 14 feet in width. Two were designated to be installed along South Birchwood Park Drive for a trial period. Qualitative data will be collected from neighborhood residents and vehicular users, while quantitative data will be collected from CHPD Traffic Division to compare with earlier results. Installation is expected in the fall of 2006.

According to the Institute of Traffic Engineers (ITE), speed tables have a greater impact on 85th percentile speeds, while raised intersections and circles have the least impact. The speed impacts of the speed tables depend primarily on geometrics and spacing of them. Geometrics determine the speeds at which motorists will travel through slow points and spacing determines the extent to which motorists speed up between slow points. It is important to not space the measures too far apart, which will allow motorists to gain speeds of the 85th percentile. Not only must speeds be lessened at the calming point, but also along the entire length of the street. It is assumed that by decreasing speed, safety will be increased and quality of life will be improved.

APPENDIX

CHPD Traffic Counts

	0-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-55	56-60	61-65	66-70	71-75	76+	TOTAL
2/20/2004	Friday														
10:00	2	1	6	14	17	28	6	3	1	0	0	0	0	0	78
11:00	1	3	9	21	23	21	12	3	0	0	0	0	0	1	94
12:00 PM	4	2	6	19	38	29	12	3	1	0	0	0	0	1	115
1:00	0	0	6	19	36	30	8	4	0	0	0	0	0	1	104
2:00	2	0	3	19	38	37	9	2	0	1	0	0	0	0	111
3:00	1	3	9	30	46	36	12	2	0	0	0	0	0	2	141
4:00	2	1	15	36	63	35	14	1	1	0	0	0	0	0	168
5:00	1	0	5	32	61	67	10	6	1	0	0	0	0	0	183
6:00	1	0	6	22	56	35	9	1	1	0	0	0	0	2	133
7:00	0	0	7	25	45	35	6	2	1	0	0	0	0	1	122
8:00	0	2	7	17	34	17	4	0	0	0	0	0	0	0	81
9:00	0	2	8	10	25	13	5	0	0	0	1	0	0	0	64
10:00	0	0	2	11	31	10	2	0	0	0	0	0	0	0	56
11:00	0	0	1	11	15	10	4	0	0	0	0	0	0	0	41
TOTAL	14	14	90	286	528	403	113	27	6	1	1	0	0	8	1,491

2/21/2004	Saturday														
12:00 AM	0	0	3	8	4	8	4	1	0	0	0	0	0	0	28
1:00	0	0	0	4	4	6	0	0	0	0	0	0	0	0	14
2:00	0	0	2	6	4	5	3	0	0	0	0	0	0	0	20
3:00	0	0	0	0	3	1	1	0	0	0	0	0	0	0	5
4:00	0	0	0	1	2	0	0	0	0	0	0	0	0	0	3
5:00	1	0	0	0	2	3	1	0	0	0	0	0	0	0	7
6:00	1	0	1	0	3	2	1	0	0	0	0	0	0	0	8
7:00	0	0	3	3	9	7	4	1	0	0	0	0	0	0	27
8:00	2	0	6	6	24	16	4	2	0	0	0	0	0	2	62
9:00	1	1	7	15	34	16	5	0	0	0	0	0	0	0	79
10:00	0	0	7	18	34	23	6	0	1	0	0	0	0	0	89
11:00	1	2	3	22	26	36	7	2	0	0	0	0	0	0	99
12:00 PM	2	0	7	17	38	36	5	1	0	0	0	0	0	0	106
1:00	0	1	9	19	35	29	4	3	0	0	0	0	0	0	100
2:00	0	3	16	23	37	25	8	1	1	0	0	0	0	0	114
3:00	0	1	7	23	44	39	8	1	1	0	0	0	0	0	124
4:00	1	3	9	14	48	23	8	3	1	0	0	0	0	0	110
5:00	1	1	7	21	42	34	9	5	0	0	0	0	0	0	120
6:00	1	2	3	19	31	19	2	0	0	0	0	0	0	0	77
7:00	0	0	3	14	33	16	5	0	0	0	1	0	0	0	72
8:00	1	2	9	21	25	14	3	0	0	0	1	0	0	0	76
9:00	0	1	4	9	23	9	2	0	0	0	0	0	0	0	48
10:00	0	0	2	9	21	8	5	1	0	0	0	0	0	0	46
11:00	0	1	1	3	21	18	4	0	0	1	0	0	0	0	49
TOTAL	12	18	109	275	547	393	99	21	4	1	2	0	0	2	1,483

2/22/2004 Sunday														
12:00 AM	0	0	0	7	7	8	1	1	0	0	0	0	0	24
1:00	0	0	1	5	2	4	3	1	0	0	0	0	0	16
2:00	0	0	1	3	4	8	1	0	1	0	0	0	0	18
3:00	0	0	1	2	1	2	3	0	0	0	0	0	0	9
4:00	1	0	0	0	1	1	1	0	0	0	0	0	0	4
5:00	0	0	0	0	0	0	0	1	0	0	0	0	0	1
6:00	0	0	0	1	3	2	1	0	0	0	0	0	0	7
7:00	1	0	3	7	8	6	1	1	1	0	0	0	0	28
8:00	0	1	1	7	9	5	3	0	0	0	0	0	0	26
9:00	1	1	5	11	19	21	7	1	0	0	0	0	0	66
10:00	0	0	8	14	25	17	5	4	0	0	0	0	0	73
11:00	0	2	7	13	27	21	6	1	0	0	0	0	0	77
12:00 PM	1	2	12	19	28	22	6	2	0	0	0	0	1	93
1:00	4	4	5	28	29	26	6	2	0	1	0	0	0	105
2:00	4	7	3	23	27	18	4	0	1	0	0	0	0	87
3:00	3	1	1	19	29	15	5	1	0	0	0	0	0	74
4:00	0	3	6	25	31	25	7	0	0	0	0	0	0	97
5:00	0	2	2	17	26	31	3	0	0	0	0	0	0	81
6:00	0	0	4	13	22	21	4	1	0	0	0	0	0	65
7:00	0	0	8	11	33	20	2	0	0	0	0	0	0	74
8:00	0	2	2	12	16	19	7	1	0	0	0	0	0	59
9:00	0	1	0	3	16	14	4	0	0	0	0	0	0	38
10:00	0	0	2	4	13	4	5	1	1	0	0	0	0	30
11:00	1	1	2	5	9	8	1	0	0	0	0	0	0	27
TOTAL	16	27	74	249	385	318	86	18	4	1	0	0	1	1,179

2/23/2004 Monday														
12:00 AM	0	0	0	1	5	4	0	0	0	0	0	0	0	10
1:00	0	0	0	0	1	2	0	1	0	0	0	0	0	4
2:00	0	0	0	2	0	1	0	0	0	0	0	0	0	3
3:00	0	1	0	0	0	0	0	0	0	1	0	0	0	2
4:00	0	0	0	0	3	0	0	1	0	0	0	0	0	4
5:00	1	1	2	4	2	3	0	0	0	0	0	0	0	13
6:00	0	0	0	4	5	10	5	2	0	0	0	0	0	26
7:00	2	4	12	23	23	21	2	0	0	0	0	0	2	89
8:00	0	0	7	24	62	47	11	1	1	0	0	0	1	154
9:00	0	1	5	17	32	28	6	4	3	0	0	0	0	96
10:00	2	1	3	18	19	12	8	0	0	0	0	0	0	63
11:00	0	0	2	16	33	28	9	1	0	0	0	0	0	89
12:00 PM	2	1	9	16	39	27	12	2	0	0	0	0	0	108
1:00	1	2	4	15	39	29	12	1	0	0	0	0	0	103
2:00	3	2	7	9	24	38	12	0	1	0	0	0	0	96
3:00	2	0	3	23	53	36	11	0	0	1	0	0	0	129
4:00	2	2	11	27	50	29	6	2	0	0	0	0	0	129
5:00	0	0	12	45	69	42	10	6	0	1	0	0	1	186
6:00	1	3	11	27	46	22	7	0	0	0	0	0	0	117
7:00	0	0	10	38	49	27	8	0	0	0	0	0	0	132
8:00	0	1	7	23	48	17	5	0	0	0	0	0	0	101

9:00	0	0	8	9	28	14	6	0	0	0	0	0	0	0	65
10:00	0	0	3	4	13	12	1	1	0	0	0	0	0	0	34
11:00	0	0	0	4	7	5	1	1	1	0	0	0	0	0	19
TOTAL	16	19	116	349	650	454	132	23	6	2	1	0	0	4	1,772

2/24/2004 Tuesday															
12:00 AM	1	0	0	4	4	5	2	1	0	0	0	0	0	0	17
1:00	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1
2:00	0	0	0	0	3	2	0	0	0	0	0	0	0	0	5
3:00	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
4:00	0	0	2	1	0	2	1	0	0	0	0	0	0	0	6
5:00	2	0	3	2	1	4	0	0	0	0	0	0	0	0	12
6:00	0	0	1	5	9	8	2	2	0	0	0	0	0	0	27
7:00	4	5	11	21	27	21	6	1	1	0	0	0	0	0	97
8:00	0	0	2	16	36	64	36	9	0	0	0	0	0	0	163
TOTAL	7	6	19	49	80	106	48	13	1	0	0	0	0	0	329

PUBLIC KICK-OFF MEETING

Wednesday

June 29th, 2005

7 p.m.

COOPER SCHOOL

(All-Purpose Room)

1960 Greentree Road

TRAFFIC
CALMING

SOUTH
BIRCHWOOD
PARK
DRIVE

Traffic utilizing South Birchwood Park Drive as a 'cut-through' between Route 70 and Greentree Road can pose serious risks for local residents. The Township is drafting a Pilot Traffic Calming Study on South Birchwood Park Drive. One of the first steps of this project is to gather information and receive feedback from you, the resident in the Lakeview and Point of Woods neighborhoods. This will provide a basis for the final product – A Traffic Calming Plan for South Birchwood Park Drive. Please keep in mind, we are at the early concept phase, and this is the most crucial time for your input.

The kick-off meeting for the Pilot Traffic Calming Study on South Birchwood Park Drive will be on **Wednesday, June 29th, 2005 at 7:00 p.m. in the All-Purpose Room of Cooper Elementary School** located at 1960 Greentree Road. For any other information, please do not hesitate to contact Nicole Hostettler, AICP, Senior Planner in the Department of Community Development at nhostettler@chtownship.com or (856) 661-4737.

TOWNSHIP OF CHERRY HILL



Cherry Hill Township

BERNARD A. PLATT
MAYOR

June 20, 2005

PROPERTY OWNERS
ADDRESS
CITY, STATE ZIP

Dear Lakeview/Point of Woods Resident:

As you know, traffic utilizing South Birchwood Park Drive as a 'cut-through' between Route 70 and Greentree Road can pose serious risks for local residents. Traffic diverting through this neighborhood travels at unsafe speeds, therefore creating unsafe conditions for Lakeview residents. Speeding in this area was identified in the Cherry Hill Master Plan as one of the top complaints of residents.

The Township is drafting a Pilot Traffic Calming Study on South Birchwood Park Drive. The goal of this report is to improve neighborhood livability by reducing the speeds and impact of vehicular traffic on residential streets, while providing for safe, efficient, and economical movement of persons and goods throughout the Township. Traffic Calming measures will promote safe and pleasant conditions for residents, pedestrians, bicyclists, and motorists on neighborhood streets, while preserving access for emergency-vehicles, buses, and other similar vehicles.

One of the first steps of this project is to gather information and receive feedback from you, the resident in the Lakeview and Point of Woods neighborhoods. This will provide a basis for the final product - A Traffic Calming Plan for South Birchwood Park Drive. Subsequently, the Township will pursue funding opportunities for the implementation of this plan. Please keep in mind, we are at the early concept phase, and this is the most crucial time for your input.

The kick-off meeting for the Pilot Traffic Calming Study on South Birchwood Park Drive will be on **Wednesday, June 29th, 2005 at 7:00 p.m. in the All-Purpose Room of Cooper Elementary School** located at 1960 Greentree Road. For any other information, please do not hesitate to contact Nicole Hostettler, AICP, Senior Planner in the Department of Community Development at nhostettler@chtownship.com or (856) 661-4737.

Sincerely,



Bernie Platt
Mayor
Township of Cherry Hill

**TRAFFIC
CALMING**

**SOUTH
BIRCHWOOD
PARK
DRIVE**

enclosure

