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CITY of NOVI CITY COUNCIL

Agenda Item **E**
December 7, 2009

SUBJECT: Approval of Traffic Control Orders 09-17 for the installation of a stop sign on eastbound Argyle Street to stop at Broadmoor Park Lane, and 09-18 for westbound Argyle Street to stop at Broadmoor Park Lane, creating a 4-way stop at this intersection.

SUBMITTING DEPARTMENT: Department of Public Services, Engineering Division *BTC*
Police Department

CITY MANAGER APPROVAL: *[Signature]*

BACKGROUND INFORMATION:

The enclosed traffic sign review was completed by the City's traffic consultant, Birchler Arroyo, at the request of the Broadmoor Park Homeowners' Association for the intersection of Argyle Street and Broadmoor Park Lane. Currently, there is a two-way stop at the intersection requiring Broadmoor Park Lane to stop at Argyle Street. The study concludes that there is limited sight distance at the intersection (which is also the location of a school bus stop) and recommends the installation of stop signs on eastbound and westbound Argyle creating a four-way stop at the intersection.

RECOMMENDED ACTION: Approval of Traffic Control Orders 09-17 for the installation of a stop sign on eastbound Argyle Street to stop at Broadmoor Park Lane, and 09-18 for westbound Argyle Street to stop at Broadmoor Park Lane, creating a 4-way stop at this intersection.

	1	2	Y	N
Mayor Landry				
Mayor Pro Tem Gatt				
Council Member Crawford				
Council Member Fischer				

	1	2	Y	N
Council Member Margolis				
Council Member Mutch				
Council Member Staudt				

**CITY OF NOVI
TRAFFIC CONTROL ORDER**

SPEED
PARKING
X OTHER

DATE OF ORDER: **November 30, 2009**

CONTROL NUMBER: **09-17**

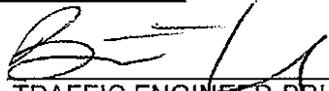
PURSUANT TO CHAPTER NO. 33 OF THE CODE OF ORDINANCES OF THE CITY OF NOVI, MICHIGAN, SAME BEING THE UNIFORM TRAFFIC CODE FOR CITIES, TOWNSHIPS AND VILLAGES OF MICHIGAN AND IN THE INTEREST OF PUBLIC SAFETY AND CONVENIENCE THE FOLLOWING TRAFFIC CONTROL ORDER IS HEREBY ISSUED BY BRIAN COBURN, SENIOR CIVIL ENGINEER, DULY AUTHORIZED AS TRAFFIC ENGINEER, BY SEC. 33.141 OF THE AFORESAID CHAPTER.

ISSUANCE OF THIS TRAFFIC CONTROL ORDER WAS PRECEDED BY STUDY AND INVESTIGATION OF TRAFFIC CONDITIONS ON THE FOLLOWING PUBLIC ROAD OR ROADS IN THE CITY OF NOVI, MICHIGAN.

ARGYLE STREET AND BROADMOOR LANE

AND AFTER SAID INVESTIGATION, IT IS HEREBY ORDERED AND DIRECTED THAT THE DEPARTMENT OF PUBLIC SERVICES ERECT AND MAINTAIN THE **STOP** SIGN (S) IN ACCORDANCE WITH THE MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES AS REQUIRED BY SEC. 33.217 OF THE AFORESAID CHAPTER, SAID SIGNS TO GIVE NOTICE OF THE FOLLOWING DETERMINATION:

WESTBOUND ARGYLE STREET TO STOP AT BROADMOOR PARK LANE



TRAFFIC ENGINEER-BRIAN COBURN

DATED: **11/30/2009**

APPROVED BY CITY COUNCIL

TRAFFIC CONTROL ORDER NUMBER **09-17** HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDEED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COP THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

IT IS FURTHER ORDERED AND DIRECTED THAT THIS ORDER SHALL BECOME EFFECTIVE UPON BEING FILED WITH THE CLERK AND UPON ERECTION OF ADEQUATE SIGNS GIVING NOTICE OF THE EXISTENCE OF AFORESAID,

WESTBOUND ARGYLE STREET TO STOP AT BROADMOOR PARK LANE

ADOPTED AT THE REGULAR MEETING
OF COUNCIL ON _____.

BY: _____
Mayor - David Landry

By: _____
City Clerk - Maryanne Cornelius

**CITY OF NOVI
TRAFFIC CONTROL ORDER**

SPEED
PARKING
X OTHER

DATE OF ORDER: **November 30, 2009**

CONTROL NUMBER: **09-18**

PURSUANT TO CHAPTER NO. 33 OF THE CODE OF ORDINANCES OF THE CITY OF NOVI, MICHIGAN, SAME BEING THE UNIFORM TRAFFIC CODE FOR CITIES, TOWNSHIPS AND VILLAGES OF MICHIGAN AND IN THE INTEREST OF PUBLIC SAFETY AND CONVENIENCE THE FOLLOWING TRAFFIC CONTROL ORDER IS HEREBY ISSUED BY BRIAN COBURN, SENIOR CIVIL ENGINEER, DULY AUTHORIZED AS TRAFFIC ENGINEER, BY SEC. 33.141 OF THE AFORESAID CHAPTER.

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ARGYLE STREET AND BROADMOOR LANE

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EASTBOUND ARGYLE STREET TO STOP AT BROADMOOR PARK LANE



TRAFFIC ENGINEER-BRIAN COBURN

DATED: **11/30/2009**

APPROVED BY CITY COUNCIL

TRAFFIC CONTROL ORDER NUMBER **09-18** HAVING BEEN PRESENTED TO THE COUNCIL OF THE CITY OF NOVI, MICHIGAN FOR STUDY AND APPROVAL, IS HEREBY APPROVED AND IT IS HEREBY ORDEED AND DIRECTED THAT THIS ORDER BE FILED IN THE OFFICE OF THE CITY CLERK AND A COP THEREOF IN THE OFFICE OF THE CHIEF OF POLICE OF SAID CITY.

IT IS FURTHER ORDERED AND DIRECTED THAT THIS ORDER SHALL BECOME Efective UPON BEING FILED WITH THE CLERK AND UPON ERECTION OF ADEQUATE SIGNS GIVING NOTICE OF THE EXISTENCE OF AFORESAID,

EASTBOUND ARGYLE STREET TO STOP AT BROADMOOR PARK LANE

ADOPTED AT THE REGULAR MEETING
OF COUNCIL ON _____.

BY: _____
Mayor - David Landry

By: _____
City Clerk - Maryanne Cornelius

MEMORANDUM

DATE: August 7, 2008

TO: William McCusker, Director of Public Works, City of Novi

FROM: Rodney L. Arroyo, AICP, Vice President
William A. Stimpson, P.E., PTOE, Director of Traffic Engineering

SUBJECT: **Traffic Sign Review at Broadmoor Park Lane and Argyle Street**



BIRCHLER ARROYO
ASSOCIATES, INC.

At your request, we have reviewed the July 2008 volume and speed data you provided for Argyle Street near Broadmoor Park Lane, in the Broadmoor Park Subdivision. We also inspected the Broadmoor Park / Argyle intersection, in order to address the request of the Homeowners Association for adding STOP signs on Argyle (STOP signs were installed on Broadmoor Park Lane in the summer of 2000 in response to a previous review requested by the City). This memo summarizes our new findings and recommendations.

Findings Related to Speeds

Table 1 (below) presents our summary of the detailed volume and speed data you provided, which was collected over three consecutive weekdays in early July via automated hoses at locations selected by the DPW. The average speed was found to be 20.3 mph east of the intersection and 17.8 mph west of the intersection. The 85th percentile speed – the speed exceeded by 15% of all sampled drivers – was 26.1 mph to the west and 22.0 mph to the east. Note that the traffic volume west of the intersection was 2.5 times as great as the volume east of the intersection, reflecting the heavy turning movement between the west and north legs of the intersection.

Ideally, the 85th percentile speed approximates the speed limit (25 mph here). However, compliance with speed limits on residential streets has historically been less than ideal (one national study found it to average only 17%). Past studies on some streets in Novi have found 85th percentile speeds in the 31-37 mph range. Nationally, special "traffic calming" actions to reduce speeds are typically not considered unless the average and 85th percentile speeds exceed the speed limit by at least 5 mph and 10 mph, respectively. By these standards, the Argyle speed data do not indicate a speeding problem warranting special engineering or enforcement actions.

Additionally, we are aware of no signing that would likely be effective in reducing speeds away from the immediate vicinity of the intersection. The *Michigan Manual of Uniform Traffic Control Devices (MMUTCD)*, which limits what the City can legally do with respect to signage, states (in Section 2B.05) that **"STOP signs shall not be used for speed control."** Installing STOP signs for the sole purpose of reducing speeds has been found to increase the incidence of rolling stops and can give crossing pedestrians a false sense of security. Before-and-after studies have shown that speed reductions near

Table 1. Summary of Recent Traffic Statistics for Broadmoor Park Subdivision¹

Location	Direction(s)	Average Daily Volume	Average Speed (mph)	85th Percentile Speed (mph)
Argyle St., 50 ft East of Broadmoor Park Ln.	EB	66	20.3	25.5
	WB	60	20.2	26.8
	Both	126	20.3	26.1
Argyle St., 50 ft West of Broadmoor Park Ln.	EB	155	17.8	22.6
	WB	162	17.8	21.5
	Both	317	17.8	22.0

¹ Average of three weekdays: Tuesday, 7-01-08 through Thursday, 7-03-08.

such STOP signs are often offset by speed *increases* between signs, as drivers attempt to "make up for lost time." Special signage – such as "Children at Play" signs – have also been found ineffective in reducing speeds and do not appear in the MMUTCD; moreover, "it is likely that such signs encourage parents to believe that there is an added protection, which is not the case... these signs [may] suggest that it is acceptable to play in the street" (*Speed Control in Residential Areas*, Michigan Office of Highway Safety Planning, #OHSP 701, 11/93).

Other Findings

Our August 2000 inspection and evaluation of this location found the evergreen trees on the southeast corner to most significantly restrict intersection sight distance. It was these trees that provided the basis for our previous recommendation that STOP signs be installed on the two Broadmoor Park approaches, a recommendation that was subsequently approved and implemented by the City (as can be seen in the first attached photo).

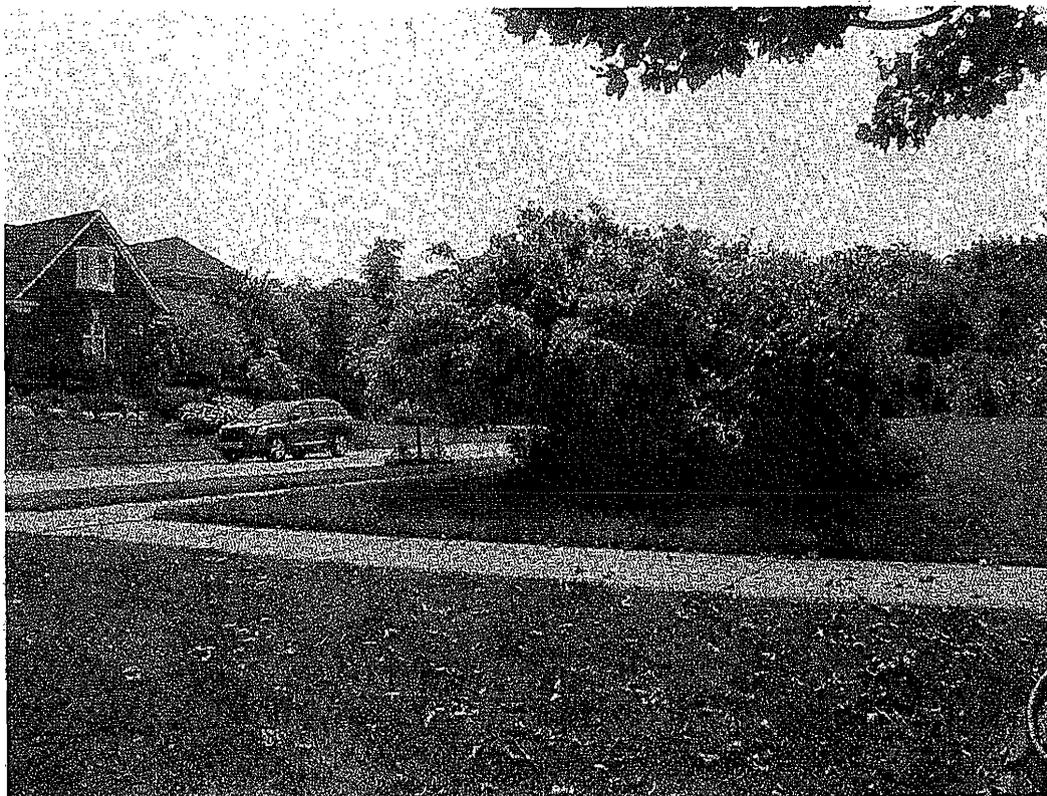
Comparing the second and third attached photos to the first attached photo reveals a substantial eight-year growth in the landscaping near this intersection. Especially notable is the growth on the southwest corner, which inhibits the ability of northbound drivers stopped behind the Argyle sidewalk to see oncoming eastbound through traffic. This may result in some northbound drivers pulling out without seeing as much as they should, or otherwise creeping forward and blocking the implied crosswalk before committing to crossing Argyle. Both of these types of driver behavior would be undesirable in an area said to feature a school bus stop. Based on the optional criteria for a multi-way stop presented in Section 2B.07 of the 2005 *MMUCTD*, we are therefore recommending conversion of this intersection to four-way stop control. The recommended addition of east-west STOP signs is not specifically intended to reduce speeds.

Recommendations

1. STOP (R1-1) signs should be installed on both Argyle Street approaches to Broadmoor Park Lane, and all four (existing plus new) STOP signs should be supplemented with ALL WAY (R1-4) signs below. A corresponding Traffic Control Order should be obtained from City Council.
2. The record should reflect that the conversion from two-way to four-way stop control is being done for operational and safety reasons other than speed control.



Trees on SE Corner of Broadmoor Park & Argyle in 2008 (Compare to 2000)



Vegetation on Southwest Corner in 2008 (Compare to 2000)



Looking South at the Newly Installed STOP Control Signs at Intersection of Argyle St. and Broadmoor Park Ln
(Broadmoor Park Subdivision, Novi)

MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

City Of Novi



Proposed Stop Signs

