



STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION
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SHAILEN P. BHATT
SECRETARY

MEMORANDUM

TO: Todd Sammons, Kent County Subdivision Coordinator
FROM: Troy Brestel, Project Engineer **TEB**
DATE: September 22, 2011
SUBJECT: Milford Plaza - Expansion
Results of Traffic Operational Analysis Review

We have reviewed the traffic operational analysis (TOA) for the proposed expansion of the Milford Plaza shopping center in the City of Milford, prepared by LandmarkJCM, Inc. (LMJ), dated August 9, 2011. The analysis evaluates the traffic impacts of the proposed expansion of the existing commercial development, located on the northeast corner of the intersection of US Route 113 and Delaware Route 14 in the City of Milford. The proposed expansion would consist of a 4,200 square foot drive-in bank and the addition of 15,000 square feet of retail space to the existing 180,000 square foot shopping center. Three access points to the development currently exist: one full signalized access on US Route 113, and two full unsignalized accesses on Delaware Route 14 (one by means of interconnection with an existing donut shop). Construction is expected to be complete by 2013.

Based on our review, we find that all but one of intersections analyzed would operate at level of service (LOS) D or better during the a.m. and p.m. peak hours for both present and future conditions, and would meet the LOS criteria listed in Chapter 2 of our Standards and Regulations for Subdivision Streets and State Highway Access.

The existing site entrance on Delaware Route 14 exhibits LOS deficiencies in 2013 during the p.m. peak hour. In this case, the site entrance has relatively light traffic volumes turning onto the Delaware Route 14 during the peak hour. Due to heavy through volumes along Delaware Route 14, vehicles will experience significant delay in turning from the site entrance, thus resulting in poor LOS. However, the vehicles turning from the site entrance will be distributed over the course of the peak hour, resulting in minimal traffic queues for these movements. Therefore, we do not recommend any improvements be made to this intersection.

Should the developer choose to develop the property per the proposed land use listed above, we offer the following comments:

1. The entrance to the existing donut shop on Delaware Route 14, which serves as an access point to the shopping center by means of interconnection, should be closed.
2. The developer should contact DelDOT's Subdivision and Traffic Sections in regards to bicycle, pedestrian and transit issues prior to submittal of the site plan.

Please note that this analysis generally focuses on capacity and level of service issues. Level of Service tables for the existing and future cases are attached with this memorandum.

TB:km

cc: Ted Williams, LandmarkJCM, Inc.
J. Solomon McCloskey, LandmarkJCM, Inc.
Theodore G. Bishop, Assistant Director, Development Coordination
T. William Brockenbrough, Jr., County Coordinator, Development Coordination
J. Marc Cote', Subdivision Engineer, Development Coordination
Diane Calloway, Subdivision Manager, Development Coordination
Kristen Melendez, Traffic Engineer, Traffic, DOTS

Table 1
 PEAK HOUR LEVELS OF SERVICE (LOS)
 Milford Plaza - Expansion TOA
 Prepared by LandmarkJCM, Inc.

Signalized Intersection ¹	LOS per TOA		LOS per DelDOT ²	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
US Route 113 / Site Entrance				
2011 Existing	C (24.3)	C (26.8)	B (12.8)	C (22.5)
2013 without development	C (24.6)	C (27.0)	B (12.7)	C (22.4)
2013 with development	C (24.7)	C (28.1)	B (13.1)	C (25.2)

¹ The numbers in parentheses following levels of service are average delay per vehicle, measured in seconds.

² In the review of the analysis, a cycle length of 120 seconds was used and the arrival types on US Route 113 were changed from 3 to 4.

Table 2
 PEAK HOUR LEVELS OF SERVICE (LOS)
 Milford Plaza - Expansion TOA
 Prepared by LandmarkJCM, Inc.

Signalized Intersection ¹	LOS per TOA		LOS per DelDOT ²	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
US Route 113 / Delaware Route 14				
2011 Existing	C (31.2)	C (32.5)	C (34.4)	D (38.3)
2013 without development	C (32.5)	C (33.9)	C (34.9)	D (39.4)
2013 with development	C (32.8)	D (35.1)	C (35.0)	D (40.2)

¹ The numbers in parentheses following levels of service are average delay per vehicle, measured in seconds.

² In the review of the analysis, a cycle length of 120 seconds was used and the arrival types on US Route 113 were changed from 3 to 4.

Table 3
 PEAK HOUR LEVELS OF SERVICE (LOS)
 Milford Plaza - Expansion TOA
 Prepared by LandmarkJCM, Inc.

Unsignalized Intersection ¹	LOS per TOA		LOS per DelDOT ²	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Delaware Route 14 / Site Entrance				
2011 existing				
Eastbound Delaware Route 14 Left-Turn	A (8.4)	A (9.0)	A (8.4)	A (8.8)
Southbound Site Entrance	C (15.4)	E (35.4)	C (15.4)	D (27.1)
2013 without development				
Eastbound Delaware Route 14 Left-Turn	A (8.5)	A (9.2)	A (8.4)	A (9.0)
Southbound Site Entrance	C (15.9)	E (39.8)	C (15.9)	D (29.5)
2013 with development				
Eastbound Delaware Route 14 Left-Turn	A (8.7)	A (9.6)	A (8.3)	A (9.4)
Southbound Site Entrance	C (17.5)	F (128.1)	B (15.0)	F (60.8)

¹ The numbers in parentheses following levels of service are average delay per vehicle, measured in seconds.

² In the review of the analysis, the peak hour factors were changed from what was used in the initial submission.