



STATE OF DELAWARE  
**DEPARTMENT OF TRANSPORTATION**  
800 BAY ROAD  
P.O. BOX 778  
DOVER, DELAWARE 19903

**MEMORANDUM**

**TO:** Sean McEvilly, Johnson, Mirmiran & Thompson, Inc.  
**FROM:** Troy Brestel, Project Engineer   
**DATE:** June 30, 2011  
**SUBJECT:** **Huber's Crossing**  
**Update of Traffic Operational Analysis Review – PM Peak Hour**

---

This memorandum is to serve as an update to the memorandum issued on August 6, 2010 (copy enclosed). The developer of the subject property had multiple concerns over our initial comments & recommendations contained in that correspondence. As a result, we met with the developer several times over the fall and winter of 2010 and 2011 to discuss potential options for access to the property. The developer tasked VMI Maris Traffic Consultants to review the previous study submitted to us by Landmark Engineering / JCM Environmental, and presented a number of conceptual options for access to the property. After review of the new work, we found that full access could be permitted to the property along Bayview Road, provided that the developer agreed to undertake the following measures:

1. The developer should improve the westbound approach of Bayview Road at US Route 13 so that the approach would consist of two exclusive left-turn lanes, one exclusive through lane, and one exclusive right-turn lane.
2. The developer should extend the southbound double left-turn lane at the intersection of US Route 13 / Bayview Road / Greylag Road from approximately 450 feet (excluding taper) to 905 feet (excluding taper).
3. The developer should enter into a signal agreement with DelDOT for the intersection of US Route 13 / Bayview Road / Greylag Road to cover the physical changes as well as changes to the signal timings.

Please note that this updated review generally focuses on capacity and level of service issues. Level of Service tables for the intersection of US Route 13 / Bayview Road / Greylag Road during the PM peak hour have been updated, as the PM peak hour at this intersection is critical to the operation of the proposed development.



Mr. Sean McEvilly  
June 30, 2011  
Page 2 of 3

If you have any questions concerning this correspondence, please contact me at (302) 760-2167.

TB:km

Enclosure

cc: Larry Tarabicos, Elzufon, Austin, Reardon, Tarlow & Mondell, P.A.  
Robert Wittig, Diamond State Management, Inc.  
Barry Baker, A-Del Construction, Inc.  
Vincent Iavarone, VMI Maris Traffic Consultants  
Ted Williams, Landmark Engineering / JCM Environmental  
John Janowski, New Castle County Department of Land Use  
Owen Robatino, New Castle County Department of Land Use  
Theodore G. Bishop, Assistant Director, Development Coordination  
T. William Brockenbrough, Jr., County Coordinator, Development Coordination  
J. Marc Cote', Subdivision Engineer, Development Coordination  
Pao Lin, Subdivision Manager, Development Coordination  
Peter Haag, Traffic Engineer, Traffic, DOTS

Table 1  
 PEAK HOUR LEVELS OF SERVICE (LOS)  
 Huber's Crossing TOA  
 Updated by DelDOT per concepts submitted by VMI Maris Associates, Inc.

Signalized Intersection <sup>1</sup>	LOS per DelDOT
US Route 13 / Bayview Road / Greylag Road	Weekday PM
2008 Existing	C (22.6)
Westbound LT lane queue length	35 feet
Westbound shared LT / TH lane queue length	58 feet
2012 without development	D (36.2)
Westbound LT lane queue length	138 feet
Westbound shared LT / TH lane queue length	190 feet
2012 with development and with full access on Bayview Road	E (65.8)
Westbound LT lane queue length	265 feet
Westbound shared LT / TH lane queue length	578 feet
2012 with development, full access on Bayview Road, and the SBLT optimized	D (49.7)
Westbound LT lane queue length	248 feet
Westbound shared LT / TH lane queue length	453 feet
2012 with development, full access on Bayview Road, the SBLT optimized with the WB approach improvement not optimized	D (47.0)
Westbound LT lane queue length	275 feet
Westbound shared LT / TH lane queue length	140 feet
2012 with development, full access on Bayview Road, the SBLT not-optimized with the WB approach improvement optimized	D (49.9)
Westbound LT lane queue length	235 feet
Westbound shared LT / TH lane queue length	125 feet
Southbound US Route 13 LT lane queue length	903 feet

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



STATE OF DELAWARE  
**DEPARTMENT OF TRANSPORTATION**  
800 BAY ROAD  
P.O. BOX 778  
DOVER, DELAWARE 19903

CAROLANN WICKS, P.E.  
SECRETARY

MEMORANDUM

**TO:** Sean McEvelly, Johnson, Mirmiran & Thompson, Inc.  
**FROM:** Troy Brestel, Project Engineer   
**DATE:** August 6, 2010  
**SUBJECT:** **Huber's Crossing**  
**Results of Traffic Operational Analysis Review**

We have reviewed the traffic operational analysis (TOA) for the proposed Huber's Crossing commercial development in New Castle County, prepared by Landmark Engineering / JCM Environmental, Inc. (LM) dated July 15, 2010. The analysis evaluates the traffic impacts of the commercial development, proposed to be located on the northeast corner of the intersection of US Route 13, Bayview Road and Greylag Road. The proposed development would consist of a 95,885 square foot shopping center, 14,000 square feet of high-turnover restaurant space, a 5,000 square foot fast-food restaurant, and a 4,500 square foot bank with drive-thru lane. Two access points are proposed for this project: one full access on Bayview Road across from the existing Bayview Crossing site entrance, and one rights-in, rights-out entrance on US Route 13. Construction is expected to be complete by 2012.

Based on our review, we have two concerns about the proposed access:

1. In every future (2012 with development) access scenario, the westbound queue length at the intersection of US Route 13, Bayview Road and Greylag Road exceeds 255 feet, which is the approximate length of the westbound dedicated left-turn lane on Bayview Road. In some cases, the queue length exceeds 330 feet, which is the approximate distance between US 13 and the proposed site entrance. As the queue would block the site access, movements entering and exiting this access would be difficult to make.
2. The distance between the site access and the bridge spanning over Delaware Route 1 along Bayview Road to the east is approximately 265 feet. For movements entering and exiting this access, a potential sight distance problem could exist, as those movements may not see or be seen by traffic traveling westbound along Bayview Road in time to react appropriately.

To address the above mentioned issues, we find that the best course of action would be to limit the site entrance on Bayview Road to right turns in only. This would force the site traffic to utilize the rights-in, rights-out entrance on US Route 13 to travel north to the signalized intersection at Boyd's Corner, where any site traffic intending to travel south along US Route 13 or west along Greylag Road would be able to make a U-turn.



Mr. Sean McEvilly  
August 6, 2010  
Page 2 of 4

Please note that this review generally focuses on capacity and level of service issues. Level of Service tables for the existing, future no-build, and future build cases are attached with this memorandum.

TB:km

cc: Ted Williams, Landmark Engineering / JCM Environmental  
John Janowski, New Castle County Department of Land Use  
Owen Robatino, New Castle County Department of Land Use  
Theodore G. Bishop, Assistant Director, Development Coordination  
T. William Brockenbrough, Jr., County Coordinator, Development Coordination  
J. Marc Cote, Subdivision Engineer, Development Coordination  
Pao Lin, Subdivision Manager, Development Coordination  
Peter Haag, Traffic Engineer, Traffic, DOTS

Table 1  
 PEAK HOUR LEVELS OF SERVICE (LOS)  
 Huber's Crossing TOA  
 Prepared by Landmark Engineering / JCM Environmental, Inc.

Unsignalized Intersection <sup>1</sup>	LOS per TOA		LOS per DelDOT	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Bayview Road / Site Access / Bayview Crossing Access				
2012 with development and with full access on Bayview Road				
Bayview Road Eastbound LT Lane	B (10.4)	B (10.1)	B (10.4)	A (10.0)
Queue Length	25 feet	34 feet	25 feet	33 feet
Bayview Road Westbound LT Lane	A (7.8)	A (10.0)	A (7.8)	B (10.0)
Queue Length	25 feet	25 feet	25 feet	25 feet
Bayview Crossing Northbound RT Lane	A (9.5)	C (16.5)	A (9.5)	C (16.4)
Queue Length	25 feet	25 feet	25 feet	25 feet
Site Access Southbound LT Lane	F (57.9)	F (950.6)	F (53.7)	F (826.7)
Queue Length	30 feet	189 feet	28 feet	179 feet
Site Access Southbound RT Lane	C (16.0)	B (14.4)	C (15.7)	B (14.1)
Queue Length	25 feet	42 feet	25 feet	40 feet
2012 with development and with rights-in, rights-out access on Bayview Road				
Site Access Southbound RT Lane	C (17.2)	C (15.8)	C (16.9)	C (15.3)
Queue Length	29 feet	58 feet	28 feet	55 feet
2012 with development and with rights-in, rights-out, lefts-in access on Bayview Road				
Bayview Road Eastbound LT Lane	B (10.4)	A (9.8)	B (10.4)	A (9.8)
Queue Length	25 feet	32 feet	25 feet	32 feet
Site Access Southbound RT Lane	C (16.3)	B (14.1)	C (16.9)	C (15.3)
Queue Length	25 feet	39 feet	27 feet	55 feet

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

Table 2  
 PEAK HOUR LEVELS OF SERVICE (LOS)  
 Huber's Crossing TOA  
 Prepared by Landmark Engineering / JCM Environmental, Inc.

Signalized Intersection <sup>1</sup>	LOS per TOA		LOS per DeDOT	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
US Route 13 / Bayview Road / Greylag Road				
2008 Existing			C (29.6)	C (22.6)
Westbound LT lane queue length	N/A	N/A	28 feet	35 feet
Westbound shared LT / TH lane queue length	N/A	N/A	48 feet	58 feet
2012 without development			C (24.7)	D (36.2)
Westbound LT lane queue length	N/A	N/A	180 feet	138 feet
Westbound shared LT / TH lane queue length	N/A	N/A	213 feet	190 feet
2012 with development and with full access on Bayview Road	D (43.0)	D (40.6)	D (43.8)	E (65.8)
Westbound LT lane queue length	228 feet	268 feet	220 feet	265 feet
Westbound shared LT / TH lane queue length	373 feet	523 feet	410 feet	578 feet
2012 with development and with rights-in, rights-out access on Bayview Road	D (44.5)	D (38.1)	D (45.0)	E (70.2)
Westbound LT lane queue length	255 feet	303 feet	253 feet	305 feet
Westbound shared LT / TH lane queue length	418 feet	555 feet	448 feet	603 feet
2012 with development and with rights-in, rights-out, lefts-in access on Bayview Road	D (42.8)	C (34.6)	D (45.5)	E (69.2)
Westbound LT lane queue length	263 feet	283 feet	245 feet	303 feet
Westbound shared LT / TH lane queue length	368 feet	463 feet	428 feet	623 feet

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