



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

JENNIFER COHAN
SECRETARY

MEMORANDUM

TO: Jeffrey Van Horn, New Castle County Review Coordinator, DeIDOT Planning

FROM: Claudy Joinville, Project Engineer *C.J.*

DATE: March 3, 2016

SUBJECT: **1700 Rocky Run Parkway**
Results of Traffic Operational Analysis Review

We have reviewed the Traffic Operational Analysis (TOA) for the 1700 Rocky Run Parkway (Tax Parcel: 06-01900-006) commercial development in Brandywine Hundred, New Castle County, DE. The TOA was prepared by Duffield Associates, Inc. and dated December 22, 2015. The analysis evaluates the traffic impacts of the proposed development, to be located on the northwest corner of the intersection of US Route 202 and Rocky Run Parkway in New Castle County. Currently, Leon's Garden World, a retail garden center, is located at the site. The proposed development would replace the existing retail garden center.

The proposed development would consist of a 4,622 square-foot Wawa convenience store with 10 fueling positions and a 2,500 square-foot drive-in branch bank. Two access points are proposed: one rights-in only access along US Route 202 and one full access on Rocky Run Parkway by way of a cross-access easement through the adjacent parcel to the west. Construction is anticipated to be complete in 2017.

The proposed development would utilize the existing rights-in / rights-out access along US Route 202 which is currently serving the existing retail garden center. However, this entrance is proposed to be modified from its current rights-in / rights-out configuration to provide rights-in only access to the proposed development. The 2010 Highway Capacity Software (HCS 2010) which implements the 2010 Highway Capacity Manual (HCM 2010), does not provide level of service (LOS) information for uncontrolled right-turn movements because they are treated as free flow movements. Thus, tables containing LOS information are only provided for the proposed entrance along Rocky Run Parkway and the intersection of US Route 202 and Rocky Run Parkway. In addition, due to the proximity of the existing entrance to the intersection of US Route 202 and Rocky Run Parkway, the developer is proposing to shift it farther north from that intersection.

Based on our review, we find that all the analyzed intersections would operate at level of service (LOS) D or better during the weekday morning and evening peak hours for both present and future conditions, and would meet the LOS criteria listed in Chapter 2 of the Development Coordination Manual.

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

- 1) The developer should dedicate rights-of-way as necessary to provide 30 feet of right-of-way measured from the outer edge of the southbound through lanes of US Route 202. Additionally, the developer should provide a 15-foot permanent easement along the US Route 202 frontage parallel and outside the ultimate right-of-way.
- 2) The developer should provide a ten-foot wide shared-use path along the subject site frontage on US Route 202 and Rocky Run Parkway. The existing sidewalk along US Route 202 should be removed to allow for the incorporation of the shared-use path. The shared-use path shall have a minimum five-foot wide grass buffer from the back of curb. In addition, the existing curb ramp along westbound Rocky Run Parkway will need to be removed and reconstructed.
- 3) The developer should provide an internal sidewalk connection from US Route 202.
- 4) The developer should construct a right-turn lane into the site entrance along US Route 202. Based on deceleration and storage length per DelDOT's Development Coordination Manual, a 400-foot right-turn lane is needed. The developer should contact the Subdivision Section of DelDOT for the details of these modifications.
- 5) The developer should construct a right-turn lane into the site entrance along Rocky Run Parkway. Based on deceleration and storage length per DelDOT's Development Coordination Manual, a 150-foot right-turn lane is needed. The developer should contact the Subdivision Section of DelDOT for the details of these modifications.
- 6) The developer should enter into a traffic signal agreement with DelDOT to fund an equitable portion of any needed improvements and / or maintenance for the intersection of US Route 202 and Rocky Run Parkway. The agreement should include pedestrian signals, crosswalks and interconnection at DelDOT's discretion. One or more developers may enter into a traffic signal agreement for this intersection.
- 7) The developer should provide bike parking near the building entrances within this development. Where the building architecture provides for an awning and other overhang, the bike parking should be covered.
- 8) The developer should provide ADA-compliant curb ramps and marked crosswalks at both site entrances.

- 9) The developer should relocate the existing catch basin that is currently located within the crosswalk on the westbound approach of Rocky Run Parkway, from the travel lane. The developer should coordinate with the Subdivision Section of DelDOT for the details of these modifications.

- 10) The developer should contribute towards an ADA accessible DART bus shelter by constructing the bus pad which would be located just west of the proposed site entrance on Rocky Run Parkway within the limits of the existing right-of-way. The Wilmington University Brandywine Campus, proposed to be located on the adjacent parcel (Tax Parcel: 06-01900-004), would be responsible for the completion of the bus shelter. The developer should coordinate with the Delaware Transit Corporation (DTC) for the details and implementation of the bus shelter and transit-related improvements.

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

CJ:km

cc: Michael Kaszyski, Duffield Associates, Inc.
Owen Robatino, New Castle County Department of Land Use
Tigist Zegeye, WILMAPCO
Drew Boyce, Director of Planning
J. Marc Coté, Assistant Director, Development Coordination
T. William Brockenbrough, Jr., County Coordinator, Development Coordination
Mark Tudor, Assistant Director, Project Development North, DOTS
Todd J. Sammons, Subdivision Engineer, Development Coordination
Kevin Canning, Canal District Public Works Engineer, Canal District, DOTS
Pao Lin, Subdivision Manager, Development Coordination
Meena Megalla, Subdivision Manager, Development Coordination
Ahmed Abdelmoteleb, Traffic Engineer, Traffic, DOTS
Troy Brestel, Project Engineer, Development Coordination

Table 1
 PEAK HOUR LEVELS OF SERVICE (LOS)
 1700 Rocky Run TOA
 Prepared by Duffield Associates, Inc.

Signalized Intersection ¹	LOS per TOA		LOS per DelDOT	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
US Route 202 / Rocky Run Parkway				
2015 Existing	A (9.4)	C (26.4)	A (6.7)	C (24.0)
2017 without 1700 Rocky Run Parkway	B (12.6)	D (54.2)	B (10.4)	D (37.9)
2017 with 1700 Rocky Run Parkway	B (15.3)	D (50.8)	B (13.6)	D (39.0)

¹ For both unsignalized and signalized intersection analyses, the numbers in parentheses following levels of service (LOS) are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.

Table 2
 PEAK HOUR LEVELS OF SERVICE (LOS)
 1700 Rocky Run Parkway TOA
 Prepared by Duffield Associates, Inc.

Unsignalized Intersection ¹ Two-Way Stop Control (T-intersection)	LOS per TOA		LOS per DelDOT	
	Weekday AM	Weekday PM	Weekday AM	Weekday PM
Rocky Run Parkway & Site Entrance				
2015 existing				
Northbound Shopping Center	A (8.4)	A (8.9)	A (8.5)	A (8.9)
Southbound Site Entrance	N/A	B (13.9)	N/A	B (13.7)
Eastbound Rocky Run Parkway	A (7.3)	A (7.3)	A (7.3)	A (7.3)
Westbound Rocky Run Parkway	A (7.3)	A (7.5)	A (7.4)	A (7.5)
2017 without 1700 Rocky Run Parkway				
Northbound Shopping Center	A (8.4)	A (8.9)	A (8.5)	A (8.9)
Southbound Site Entrance	N/A	B (13.9)	N/A	B (13.7)
Eastbound Rocky Run Parkway	A (7.3)	A (7.3)	A (7.3)	A (7.3)
Westbound Rocky Run Parkway	A (7.3)	A (7.5)	A (7.4)	A (7.5)
2017 with 1700 Rocky Run Parkway				
Northbound Shopping Center	A (8.5)	A (8.9)	A (8.5)	A (8.9)
Southbound Site Entrance	B (11.3)	C (22.6)	B (12.0)	C (22.9)
Eastbound Rocky Run Parkway	A (7.4)	A (7.4)	A (7.4)	A (7.4)
Westbound Rocky Run Parkway	A (7.3)	A (7.5)	A (7.4)	A (7.5)

¹ For both unsignalized and signalized intersection analyses, the numbers in parentheses following levels of service (LOS) are average delay per vehicle, measured in seconds. For signalized analyses, LOS analysis results are given for only the overall intersection delay.