

March 20, 2015

Alysen Abel, P.E.
Public Works Director
Parkville City Hall
8880 Clark Avenue
Parkville, MO 64152

SUBJECT: Review of Traffic Impact Study and Driveway Geometry for
QuikTrip Store Development

Dear Ms. Abel,

We thank you for this opportunity to work with you and the City staff on this project. As authorized by the City's Work Authorization dated March 9, 2015, GBA has completed a review of the traffic Impact Study (TIS) and the driveway geometry submitted for the QuikTrip Store development which is to be located along the east side of Missouri Route 9 at the intersection with Missouri Route 45 in Parkville.

Proposed Development

The proposed development, according to the TIS includes 5,858 square feet of convenience market with 18 positions to dispense vehicle fuel located south of Mo Rte 45 and east of Mo Rte 9.

Development Site Access

The TIS and the site plan indicate that the development site would be served by three access driveways. Drive 1 utilizes an existing, three-lane driveway generally opposite the intersection with Lewis Street. This drive currently serves only a banking facility which abuts the south side of the QuikTrip site.

Drive 2 consists of a connection from the QuikTrip site to an existing private road which connects with Julian Drive. The existing private road provides access for another banking facility and a church which abut the east side of the QuikTrip site. Julian Drive provides a three-lane connection to a T-type intersection with Mo Rte 45, which is about 920 feet east of the intersection at Mo Rte 9. Julian Drive serves as a connector to residential developments to the south and east of this T-type intersection. The existing private road intersects Julian Drive about 60 feet south of the Mo Rte 45 intersection.

Drive 3 is a proposed new 2-lane, right-in-right-out driveway directly onto Mo Rte 45 from the QuikTrip site. This drive is located about 300 feet east of the intersection at Mo Rte 9.

Design Traffic Volumes

The TIS report stated that the traffic counts were recorded in January 2012. However, the traffic count data in the report appendix indicated that the counts were recorded at 62nd & Mo Rte 9 in January, 2011 and at Clark Avenue & Mo Rte 9 in February, 2013. Although this should be reconciled, the fact that the traffic counts are 2 or 3 years old should not have any effect on the conclusions of the study.

The existing traffic volumes shown in the traffic impact study (TIS) reports for this QuikTrip development and the previously reviewed Lake Pointe Lodge development to the south along Mo Rte 9 are generally consistent. However, the conclusion regarding balancing of traffic volumes included in the second paragraph on page 5 of the TIS report for the QuikTrip development is inconsistent and should be resolved.

The TIS report also states that the future traffic growth rate should be 1% per year. This is verified with counts that GBA recorded on Mo Rte 9 in 2006 compared to the recent counts. Comparison of the GBA counts to the recent counts indicates an average annual growth rate of about 0.75% per year.

The trip generation projected for the proposed QuikTrip development was verified as conforming to standards published by the Institute of Transportation Engineers. Likewise, we confirmed that the 40% pass-by trip rate is conservative compared to the typical published rates of 48% to 87%. As such, the TIS assumes that 40% of the peak hour traffic going to and from the proposed QuikTrip development is already traveling on Mo Routes 9 and 45. Only 60% of the 299 am peak hour trips and 344 pm peak hour trips are new trips attracted to the QuikTrip site from other routes.

Traffic Operations Analyses

The TIS includes a thorough analysis of the traffic control and intersection lane configuration needs to provide adequate traffic operations at the three site access intersections, as well as at the intersections of Mo Rte 45 and 63rd Street with Mo Rte 9. The analyses include level of service computations, traffic signal warrant worksheets, and MoDOT turn lane warrant worksheets. We find that all of these analyses are complete and accurate.

The analyses indicated that, even with existing traffic volumes: a second northbound through traffic lane should be provided on Mo Rte 9 from south of Lewis Street through the intersection with Mo Rte 45; and a

second westbound left turn lane should be considered on Mo Rte 45 on the approach to Mo Rte 9.

In order to serve the future Year 2035 traffic volumes including the QuikTrip site traffic, a second southbound through traffic lane should be added on Mo Rte 9 from north of the intersection with Mo Rte 45 through the intersection with Lewis Street and terminating as a right turn lane at the intersection with 63rd Street.

The analysis also determined that new traffic signals would not be warranted at any of study intersections even with the projected proposed site development traffic and future Year 2035 traffic.

Site Access Drive Geometry

We have also reviewed the lane configuration and geometric details of the three proposed site access drives. This review was based on the preliminary site plan and site grading plans that the City provided.

Drive 1 – As stated in the TIS report, this drive should be restriped to provide at least 75 feet of storage for left turn vehicle queues. However, this drive should be widened to allow for vehicle off-tracking as they enter and exit this driveway which currently requires a very tight curve to the north immediately east of Mo Rte 9. The attached graphics indicate that three passenger cars could pass through the curved throat with care. However, if an exiting vehicle happens to be even a 30-foot truck (SU-30), then the vehicles cannot pass without encroaching into adjacent lanes.

Drive 2 – As stated in the TIS report, Julian Drive should be restriped to provide storage for the northbound left turn vehicle queues. Approximately 90 feet of northbound left turn vehicle queue storage could be provided with the current geometric configuration of Julian Drive. However, with the existing private road connection to the QuikTrip site intersecting Julian Drive only about 60 feet south of Mo Rte 45, the vehicle queues on Julian Drive would block the private road intersection during the peak hours. To try to mitigate this blockage, traffic signs should be considered to be installed at the private road intersection telling drivers “Do Not Block Intersection”.

Drive 3 – As stated in the TIS report, this drive should be provided with a “150’ minimum eastbound right-turn lane (plus taper length)”. The current site plan only displays a 100-foot long right turn lane.

In addition, as stated in the TIS report, the geometrics of this driveway should be modified to control eastbound and westbound on the internal

site drive and allow vehicles entering the site to flow freely into the parking and fueling areas. Please refer to the attached graphic.

We hope that this letter addresses the traffic impact and access concerns associated with the proposed QuikTrip development in enough detail. If you or the City staff have any questions or would like additional information, please contact me.

Respectfully,

GEORGE BUTLER ASSOCIATES, INC.

A handwritten signature in black ink that reads "Paul M. Bertrand". The signature is written in a cursive style with a large initial 'P' and a long horizontal stroke at the end.

Paul M. Bertrand, P.E., PTOE
Vice President/Principal