



**TranSystems**

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April 19, 2017

Mr. Judd Claussen, PE  
Phelps Engineering, Inc.  
1270 N. Winchester  
Olathe, KS 66061

**Re: Weber Carpet Traffic Assessment  
1016 SE Blue Parkway  
Lee's Summit, Missouri**

Dear Mr. Claussen:

In accordance with your request, TranSystems has prepared the following traffic assessment for a new Weber Carpet sales and warehouse facility to be located in a new building at 1016 SE Blue Parkway in Lee's Summit, Missouri. In general, the purpose of this letter is to estimate trip generation and assess traffic operations in the vicinity of the site.

The development site consists of undeveloped property located on the north side of Blue Parkway between a restaurant and a hotel. The proposed development includes a 25,000 square foot sales and warehouse facility for flooring products. The owner provided the following details related to the proposed development:

- ▶ Approximately 40 percent of the building will be a showroom and the remaining 60 percent will be finished as a warehouse.
- ▶ Other similar Weber Carpet facilities in the Kansas City area are open from 9:00 AM until 7:00 PM on weekdays, and until 5:00 PM on Saturdays.
- ▶ Typically there are 6 to 8 employees at the store at one time.
- ▶ During the PM peak hour, roughly 12 customers would visit the store.
- ▶ About half of the customers are by appointment.

Given these operational characteristics, the trip generation for the proposed development is be assumed to be fairly low. It is reasonable to assume less than 50 trips will be generated during each of the A.M. and the P.M. peak hours.

Trip generation estimates are typically prepared using the Institute of Transportation Engineer's Trip Generation, 9th Edition. **Table I** on the following page shows a comparison of several different land use categories from Trip Generation.

The proposed development is unique, and does not correlate with several of the land uses shown in **Table I**. The data for the Building Materials and Lumber Store land use is based on smaller size building with outdoor storage yards. The hardware/paint store has a much higher volume of retail sales and customer traffic than the proposed development.

**Table I  
 Trip Generation**

Land Use	Intensity	ITE Code	Average Weekday	AM Peak Hour			PM Peak Hour		
				Total	In	Out	Total	In	Out
Building Materials and Lumber Store	25,000 sf	812	1,024	65	44	21	112	53	59
Hardware/Paint Store	25,000 sf	816	1,282	25	14	11	110	52	58
Business Park	25,000 Sf	770	311	37	31	6	43	11	32

The Business Park land use has a description that is more in-line with the characteristics of the proposed development. The land use description in Trip Generation states that the spaces are flexible for a variety of uses. The description also states that a portion of the building is for commercial uses and the majority of the building is warehouse, served by a garage door. Most of the data collected for the Business Park land use is based on larger scale developments; however, several smaller sites under 50,000 square feet are also included.

Blue Parkway is a two-lane commercial collector type street, which functions as the north frontage road parallel to US-50 Highway. Blue Parkway is maintained by the Missouri Department of Transportation. The street is 24 feet wide, with 8-foot paved shoulders on each side of the street. There are no sidewalks along Blue Parkway adjacent to the site. The posted speed limit is 35 mph, and the average daily traffic volume is less than 10,000 vehicles per day. Adjacent to the development site Blue Parkway has a straight horizontal alignment with a sag vertical curve.

The site plan for the development includes one new driveway along Blue Parkway, on the western side of the site. The driveway is to have a throat length of approximately 65 feet, which is adequate to store three vehicles. Given the low volume of traffic expected at the driveway, the throat length is sufficient.

As a low traffic generator, there are no significant traffic impacts expected from the proposed development. The site driveway intersection is expected to operate acceptably, with traffic distributed to/from the east and west on Blue Parkway. Auxiliary turn lanes are likely not necessary at the site driveway, given the low traffic volume. If the need for a left-turn lane arises in the future, it would be prudent to check the condition of the shoulders along Blue Parkway to see if they are in adequate condition for regular traffic flow. If so, the entire segment of Blue Parkway could be re-striped as a three-lane street with a continuous two-way left-turn lane.

To the west of the site, Blue Parkway intersects M-291 Highway. MoDOT staff is currently studying the interchange of M-291 Highway and US-50 Highway, which includes the closely spaced Blue Parkway intersection. During the PM peak hour, preliminary results from MoDOT staff indicates that the volume to capacity (v/c) ratio for the Blue Parkway and M-291 Highway intersection is 0.86, indicating that there is some capacity available. The intersection currently operates at level of service B with an average delay of 18 seconds per vehicle. During the AM peak hour, long queues are common on the westbound Blue

Parkway approaches. The proposed development will not be open during the AM peak hour, therefore no development trips are anticipated to be added to this queue.

To the east of the site near Todd George Parkway, a retail development was recently constructed. A traffic study for that development projected the intersection of Todd George Parkway and Blue Parkway operates at level of service B during the peak hours with the addition of traffic from the new development. The v/c ratios were projected to be 0.78 and 0.81, indicating that there is some capacity available at the intersection. Additionally, a new interchange is currently being constructed at Blackwell Road and US-50 Highway which will relieve some of the current congestion on Todd George Parkway at the US-50 Highway interchange.

Sincerely,

**TRANSYSTEMS**

By: \_\_\_\_\_

A handwritten signature in black ink, appearing to read "Jeffrey J. Wilke", written over a horizontal line.

Jeffrey J. Wilke, PE, PTOE

JJW/jw/P101170149