

## DESIGN MEMORANDUM

To: Mr. Bill Stogsdill, CPM, PWM, PWLF  
From: David J. Mennenga, P.E., PTOE  
Date: October 15, 2019  
Subject: Belinder Avenue Traffic Calming – September 2019 “After” Results

As you requested, GBA has obtained the required daily 24-hour machine traffic counts (over a one-week total period length) at five locations within the City of Fairway, in order to assess the “after” traffic conditions following the 2019 installation of three temporary speed humps along Belinder Avenue between Shawnee Mission Parkway and State Park Road. These traffic counters were installed during the week of September 10-16, 2019, while schools were fully in-session and traffic had returned to “normal” conditions well after the Labor Day weekend. The attached **Table 1** provides a comparative summary of the previously reported “before and after” traffic data along the Belinder Avenue corridor, as well as this supplemental September 2019 round of “after” traffic counts at similar roadway locations as those previously evaluated.

The following bullet list summarizes these comparative results and describes other items of note from this latest round of traffic volume, speed, and classification data collection:

- Belinder Avenue: During this September 2019 round of “after” traffic condition assessments, a total of four traffic count stations were utilized along this study corridor. The corridor traffic volumes were found to be mostly consistent with the November 2018 traffic data obtained after the initial installation of temporary speed humps on this roadway. In general, the combined two-way traffic volumes along Belinder Avenue are still between 1,100 and 1,200 vehicles per day (vpd) on an average weekday, and between 600 and 700 vpd during the weekends. Therefore, it is still reasonable to assume that some of the original neighborhood “cut-through” traffic previously using Belinder Avenue has now been diverted away from this study corridor to avoid the temporary speed humps.
  - At the “NEW” northernmost count station (i.e., located to the north of the three installed temporary speed humps), the traffic counts and travel speeds were very similar to the adjacent count station in the southbound direction. Given its location closer to the signalized intersection with Shawnee Mission Parkway, travel speeds in the northbound



direction are somewhat lower as vehicles likely are slowing down on approach to the traffic signal.

- At the “middle” count station on Belinder Avenue (i.e., located between the second and third installed speed humps), the vehicle travel speeds in both directions along Belinder Avenue were found to be slightly slower than the November 2018 “after” traffic conditions. This speed reduction could be attributed to there being another temporary speed hump added into the series of traffic calming devices during 2019. There was a slight anomaly with the northbound traffic count at this station appearing to be too high, while the southbound traffic count also appears slightly too low. This could be due to the machine counter’s lateral placement within the roadway or possibly by vehicle paths being influenced by the presence of a parked vehicle on the western side of the roadway. In any case, the combined two-way traffic volume still seems to be consistent with the other count stations along the corridor.
- At the southernmost count station (i.e., located to the south of the three installed speed humps), the observed travel speeds are slightly higher than during the November 2018 “after” evaluations, especially in the southbound direction. This may be an indication of some driver frustration resulting from the need to traverse across three temporary speed humps in 2019, rather than just the two temporary speed humps that were installed during 2018, and drivers attempting to “over-speed” and make-up for some lost travel time. Regardless, these vehicles must still make the sharp right-hand turn and come to a full stop downstream at the recently reconfigured State Park Road intersection.
- Norwood Road: The traffic volumes along Norwood Road do seem to have increased just slightly in the northbound direction following the installation of the three temporary speed humps on Belinder Avenue in 2019. However, due to a failure of the complementary southbound machine counter, any similar volume increase in the southbound direction was unable to be quantified. Based on the limited speed data collected at this count station, the travel speeds along Norwood Road do still appear to be consistent with the November 2018 data.

### **Summary / Conclusions**

It appears that the previously obtained minor speed reductions along the Belinder Avenue corridor were maintained in 2019 with the installation of the three temporary speed humps and the continued effects of



the State Park Road island reconfiguration. A traffic volume displacement of about 400 vpd away from the Belinder Avenue corridor has continued to be exhibited during 2019 while these three temporary speed humps were installed.

We appreciate the opportunity to continue being of service to you and the City on this very important neighborhood traffic calming project. If you should have any questions regarding these evaluations and/or need additional information, please feel free to contact us.

cc: KGM, ALC, file

**TABLE 1**

**Traffic Calming "Before" and "After" Comparisons  
Belinder Avenue Corridor (Fairway, KS)**

	<b>NOVEMBER 2017 "BEFORE" Traffic Conditions</b>			<b>NOVEMBER 2018 "AFTER" Traffic Conditions</b>			<b>SEPTEMBER 2019 "AFTER" Traffic Conditions</b>		
	<u>Northbound (vpd)</u>	<u>Southbound (vpd)</u>	<u>2-Way Total (vpd)</u>	<u>Northbound (vpd)</u>	<u>Southbound (vpd)</u>	<u>2-Way Total (vpd)</u>	<u>Northbound (vpd)</u>	<u>Southbound (vpd)</u>	<u>2-Way Total (vpd)</u>
<b><u>Belinder Avenue (NEW)</u></b>									
Average Weekday Volume	N/A	N/A	N/A	N/A	N/A	N/A	770	420	1,190
Average Weekend Volume	N/A	N/A	N/A	N/A	N/A	N/A	405	280	685
85th Percentile Speed	N/A	N/A		N/A	N/A		25 MPH	32 MPH	
Average Speed	N/A	N/A		N/A	N/A		21 MPH	27 MPH	
Percent > 25 MPH	N/A	N/A		N/A	N/A		16%	69%	
<b><u>Belinder Avenue (North)</u></b>									
Average Weekday Volume	890	720	1,610	745	440	1,185	725	435	1,160
Average Weekend Volume	475	380	855	440	305	745	355	295	650
85th Percentile Speed	33 MPH	32 MPH		32 MPH	37 MPH		32 MPH	32 MPH	
Average Speed	29 MPH	27 MPH		27 MPH	30 MPH		27 MPH	27 MPH	
Percent > 25 MPH	80%	69%		65%	83%		72%	63%	
<b><u>Belinder Avenue (Middle)</u></b>									
Average Weekday Volume	885	700	1,585	775	390	1,165	780	355	1,135
Average Weekend Volume	450	350	800	430	340	770	475 (high)	165 (low)	640
85th Percentile Speed	32 MPH	34 MPH		32 MPH	35 MPH		30 MPH	33 MPH	
Average Speed	27 MPH	29 MPH		27 MPH	28 MPH		26 MPH	27 MPH	
Percent > 25 MPH	73%	78%		69%	67%		60%	64%	
<b><u>Belinder Avenue (South)</u></b>									
Average Weekday Volume	870	660	1,530	765	405	1,170	710	410	1,120
Average Weekend Volume	435	330	765	410	315	725	385	250	635
85th Percentile Speed	43 MPH	29 MPH		33 MPH	31 MPH		33 MPH	36 MPH	
Average Speed	36 MPH	26 MPH		27 MPH	27 MPH		28 MPH	30 MPH	
Percent > 25 MPH	94%	62%		70%	64%		76%	86%	
<b><u>Norwood Road</u></b>									
Average Weekday Volume	160	225	385	185	260	445	235	**FAILURE**	N/A
Average Weekend Volume	110	150	260	150	280	430	160	**FAILURE**	N/A
85th Percentile Speed	28 MPH	28 MPH		34 MPH	29 MPH		29 MPH	33 MPH	
Average Speed	22 MPH	23 MPH		24 MPH	23 MPH		24 MPH	24 MPH	
Percent > 25 MPH	35%	38%		44%	39%		36%	40%	