

Wednesday, October 7, 2021

Matthew Grush, P.E.
Transportation Development Section
Planning Department
City of Albuquerque
600 2nd St. NW
Albuquerque, NM 87102

Re: La Mirada Development (La Mirada Pl. / Wyoming Blvd.)

Dear Matt:

Please consider this letter of analysis a supplement to the Traffic Impact Study for the La Mirada Development at the northwest corner of La Mirada Pl. / Wyoming Blvd. This analysis will address your comments as follows:

- 1) Revise analysis of Montgomery Blvd. / Driveway "A" to include the impact resulting from the platooning effect of the existing signalized intersection of Montgomery Blvd. / Pennsylvania located approximately 2,000 feet west of Driveway "A".
- 2) Revise analysis of Montgomery Blvd. / Driveway "B" to include the impact resulting from the platooning effect of the existing signalized intersection of Montgomery Blvd. / Pennsylvania located approximately 2,000 feet west of Driveway "B".
- 3) Revise the analysis of Driveway "A" as a right-in, right-out only driveway. Reroute the left turns into Driveway "A" and the left turns out of Driveway "A" over to Driveway "C" and determine the impact of doing so.
- 4) Use the Mid-Region Council of Governments Regional Model (2040 Data Set) to estimate the annual growth rate for this area of Albuquerque.

As you will see, the results of this analysis demonstrate that 1) the existing signal operation at Montgomery / Pennsylvania dramatically improve the calculated delays associated with the left turn movements at Driveway "A"; 2) the calculated queue lengths at Driveway "B" are also reduced significantly as a result of the impact of the operation of the signal at Pennsylvania; 3) restricting Driveway "A" to a right-in, right-out driveway will have a significant adverse impact on the operation of the signalized intersection of Montgomery Blvd. / Wyoming Blvd. and Driveway "C" / Wyoming Blvd.; and 4) the Mid-Region Council of Governments' Regional Transportation Model would support an annual growth rate of 0.5%. Restricting Driveway "A" access to right-in, right-out will divert left turn traffic at the driveway to Driveway "C" and then through Montgomery / Wyoming, thus having a significant adverse impact on both Driveway "A" and Montgomery / Wyoming. It is not



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possible to mitigate the impact on those two intersections due to right-of-way constraints and geometric constraints. Mitigation of failure of the eastbound left turn movement at Driveway "C" onto Wyoming Blvd. could be considered by constructing dual eastbound left turn lanes, but that is not feasible or safe at an unsignalized intersection (driveway). Failure of the northbound left turn movement on Wyoming Blvd. at Montgomery Blvd. could possibly be mitigated by constructing triple northbound left turn lanes, but there is insufficient existing pavement width to reconfigure the laneage to add a third northbound left turn lane on Wyoming and the three receiving lanes on Montgomery are too narrow to receive triple left turns.

The intersection of Montgomery Blvd. / Pennsylvania St. was counted in September 2017 in association with another project in the area. The 2017 traffic count data was correlated with Mid-Region Council of Governments' Transportation Analysis and Querying Application (TAQA) and the information correlated pretty closely. The 2017 turning movements volumes count was utilized as a basis for the analysis in this study and grown at an annual rate of 0.5% consistent with the rest of the Traffic Impact Study to the year 2025 (Implementation Year) and again to the year 2035 (Horizon Year). Trips generated by full development of the La Mirada Development were distributed through the intersection of Montgomery Blvd. / Pennsylvania St. and added to derive the 2025 and 2035 BUILD volumes for the new analysis. The focus of the analysis was the impact on Driveway "A" and Driveway "B" in consideration of the platooning effect of eastbound traffic flows on Montgomery Blvd. created as an effect of the signal operation at Pennsylvania St. The platooning effect on eastbound Montgomery Blvd. traffic flows will create gaps in the traffic that will make it easier to execute both the northbound left turn movement at Driveway "A" and the westbound left turn movement into Driveway "A". It will also make the right turn movements out of Driveway "A" and Driveway "B" somewhat easier.

A summary of the revised analysis of Driveway "A" and Driveway "B" to consider the effects of platooning created in the eastbound flow of traffic on Montgomery Blvd. by the existing traffic signal at Montgomery Blvd. / Pennsylvania St. is in the following tables:

Driveway "A" (2025)	TIS (AM / PM)	Supplement (AM / PM)
Northbound Left Turn	F – 879 / F – 722	F – 191 / E – 35
Westbound Left Turn	D – 29.7 / F – 64.0	B – 10.4 / B – 11.6
Northbound Right Turn	C – 16.0 / C – 22.8	B – 10.8 / B – 12.5

Driveway "A" (2035)	TIS (AM / PM)	Supplement (AM / PM)
Northbound Left Turn	F – 999+ / F – 976	F – 228.8 / F – 38.3
Westbound Left Turn	D – 32.9 / F – 79.1	B – 10.6 / B – 11.9
Northbound Right Turn	C – 16.5 / C – 24.2	B – 11.0 / B – 12.8

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Driveway "B" (2025)	TIS (AM / PM) - Queue	Supplement (AM / PM)
Northbound Right Turn	1.4 / 2.4	0.7 / 0.9

Driveway "B" (2035)	TIS (AM / PM) - Queue	Supplement (AM / PM)
Northbound Right Turn	1.5 / 2.6	1.2 / 0.5

The platooning effect created by the existing traffic signal at Pennsylvania causes a dramatic reduction in calculated delays at Driveway "A", but does not eliminate all of the levels-of-service F, especially for the northbound left turn movement. However, it should be considered that many retail commercial driveways along Principal Arterial Roadways in Albuquerque operate at LOS F during either the AM Peak Hour and / or the PM Peak Hour periods.

Also, platooning effect created by the existing traffic signal at Pennsylvania causes a significant reduction in the 95th percentile queue length for the northbound right turn movement at Driveway "B". The maximum queue length is reduced from 2.6 vehicles (round up to 3) down to 1.2 vehicles (round to 2). Therefore, the design queuing for the northbound right turn movement should be 50 feet.

The next part of this analysis is to analyze Driveway "A" as a right-in, right-out only driveway and divert the left turns at Driveway "A" over to Driveway "C" on Wyoming Blvd. just south of Montgomery Blvd. Driveway "C" is already congested (at LOS E) in the original Traffic Impact Study as is the signalized intersection of Montgomery Blvd. /

Wyoming Blvd. Prohibiting left turn movements into and out of Driveway "A" will cause additional failures at Driveway "C" and the signalized intersection of Montgomery Blvd. / Wyoming Blvd. The following table summarizes the comparative results for Driveway "A", Driveway "C", and the signalized intersection of Montgomery Blvd. / Wyoming Blvd. considering Driveway "A" as a full access driveway versus restricting Driveway "A" to right-in, right-out only.

Summary of Results - La Mirada Development

Comparative Analysis Incorporating Pennsylvania St.
Driveway "A" - Full Access vs. Right-in, Right-out

Montgomery / Wyoming					
Conditions	Driveway "A"	Driveway "B"	Driveway "C"	Overall LOS / Delay	NB LT LOS / Delay
2025 AM (Driveway "A" - Full Access)	F - 191	B - 11.6 (0.7)	E - 38.8	E - 65.7	F - 85.7
2025 AM (Driveway "A" - RI / RO Access)	B - 10.8**	*****	F - 317.6	E - 69.1	F - 227
2035 AM (Driveway "A" - Full Access)	F - 228.8*	B - 11.6 (0.7)	E - 44.4	F - 88.6	F - 165.6
2035 AM (Driveway "A" - RI / RO Access)	B = 12.5**	*****	F - 608.8	F - 95.5	F - 324.9
2025 PM (Driveway "A" - Full Access)	E - 35.0*	B - 13.8 (0.8)	D - 29.4	E - 59.4	E - 74.3
2025 PM (Driveway "A" - RI / RO Access)	B - 12.5	*****	F - 74.4	E - 63.9	F - 133.1
2035 PM (Driveway "A" - Full Access)	E - 38.3*	B - 14.3 (0.9)	D - 32.3	E - 65.3	F - 80.5
2035 PM (Driveway "A" - RI / RO Access)	B - 12.8	*****	F - 91.5	E - 70.1	F - 146.2

* - LOS - Delay associated with NB LT movement

** LOS - Delay associated with NB RT movement

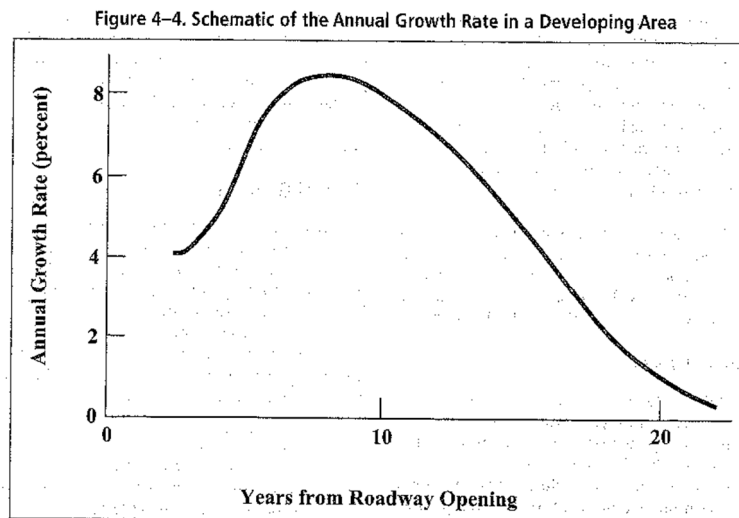
Driveway "B" - LOS - delay (95th Percentile Queue - vehicles)

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In summary, there is a substantial adverse impact realized at Driveway “C” and at the signalized intersection of Montgomery Blvd. / Wyoming Blvd. by restricting Driveway “A” to right-in, right-out only. This supplemental analysis recommends that Driveway “A” be maintained as a full access unsignalized driveway as it has been for many years to avoid the adverse impacts to the intersection of Montgomery Blvd. / Wyoming Blvd. and to Driveway “C” on Wyoming Blvd.

Finally, the Mid-Region Council of Governments’ Regional Transportation Model was accessed to determine the annual growth rate for the intersection of Montgomery Blvd. / Wyoming Blvd. that would be supported by that method. The Regional Transportation Model is a valid method to determine background traffic growth rates on roadways, but it is my opinion that it is not as accurate as the historic method that was utilized in the La Mirada Traffic Impact Study which resulted in no growth.

Additionally, it should be remembered that the annual growth rate on a roadway in a major community typically grows significantly for a period of time but stabilizes at near zero growth rate once the area around the roadway fully develops. The following graph copied from ITE’s Transportation Impact Analyses for Site Development (An ITE Recommended Practice) demonstrates the concept:



Note: Axis values are provided for example only and do not reflect “true” data.

SOURCE: Stover and Koepke, 2002.

The graph is a result of research by Stover and Koepke (2002). Even though the preceding graph does not reflect “true” data, it does demonstrate a typical trend of growth on a roadway in the developing area. Since this segment of Montgomery Blvd. and Wyoming Blvd. is located in a virtually fully developed area of town that has been

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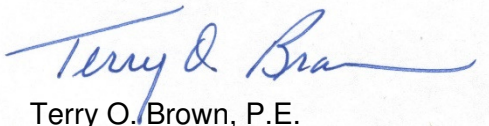
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developing for the last 30 or 40 years, it seems reasonable to conclude that the appropriate growth rate for Montgomery and Wyoming are zero or near zero.

In summary, the recommendations of this supplement to the La Mirada Development Traffic Impact Study supports the full access at Driveway "A" and finds that there are substantial adverse impacts to Driveway "C" and the signalized intersection of Montgomery Blvd. / Wyoming Blvd. if Driveway "A" access is restricted to right-in, right-out only. This supplemental analysis also supports the low (near zero) annual growth rate for the study area of the La Mirada Development project.

Please call me if you have questions.

Best Regards,

A handwritten signature in blue ink that reads "Terry O. Brown". The signature is fluid and cursive, with the first and last names being more prominent.

Terry O. Brown, P.E.

attachments as noted

cc: Ronald R. Bohannon, Tierra West, LLC