

TIS Staff Report

4085 Harrodsburg Road (Masonic Temple)

Background Information:

- TIS Name: 4085 Harrodsburg Road (Masonic Temple)
- TIS Preparer: Vision Engineering, Mark S. McIntosh PE, PTOE
- TIS Prep Date: September 7, 2021, updated December 22, 2021
- MAR#: PLN-MJDP-21-00055

Development Overview:

The developer is proposing a Planned Neighborhood Residential (R-3) zone with eight (8) single-family homes, fourteen (14) townhomes and a Highway Service Business (B-3) zone with seven (7) commercial outlots.

Existing Traffic Conditions:

Harrodsburg Road (US 68)

- 4-lane, divided minor urban arterial with a speed limit of 55 mph
- AADT of 32,533 in 2019. *Down from 34,400 in 2016*

Man O' War Boulevard

- 4-lane, divided principle urban arterial with a speed limit of 45 mph
- AADT of 16,315 in 2018. *Down from 18,700 vehicles in 2015.*

Trip Generation / Distribution:

The full buildout year (2029) AM and PM peak hour traffic volumes shown in the following table were estimated using rates from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 10th edition.

	Entering	Exiting	Total
New AM Peak Trips	123	116	239
New PM Peak Trips	147	144	291

In addition to the site traffic, the 2029 full buildout scenario used in the study also accounts for peak hour trips generated by Ethington Heights and The Fountains at

Palomar. A 1% annual growth rate and 7% truck volumes were applied to through traffic on Harrodsburg Road and Man O' War. Trip distribution and assignments are based on the existing Harrodsburg Road and Man o' War Boulevard peak hour traffic.

Intersection Analysis:

The study analyzes existing and full buildout peak hour operating conditions at five existing intersections (4 signalized and 1 unsignalized) and one potential future intersection using the Trafficware Synchro Version 10 software. There are three different full buildout (2029) scenarios based on the level of site access to Harrodsburg Road and connectivity to Syringa Drive:

- Scenario 1: Full Access to US 68, no connection to Syringa
- Scenario 2: Right-In, Right-Out Only Access to US 68, no connection to Syringa
- Scenario 3: US 68 access via The Fountains and connection to Syringa

The following table summarizes the range of average delay, in seconds per vehicle, at each level of service.

Level of Service (LOS)	Average Delay (seconds per vehicle)	
	Signalized Intersections	Unsignalized Intersections
A	Less than 10	Less than 6
B	10 – 19	6 – 9
C	20 – 34	10 – 19
D	35 – 54	20 – 29
E	55 – 80	30 – 45
F	More than 80	More than 45

Existing and full buildout peak hour LOS conditions for each intersection are summarized in the tables on the following pages along with staff comments:

1. Harrodsburg Road at Wellington Way (Signalized):



Peak hour impact of full buildout traffic: Moderate

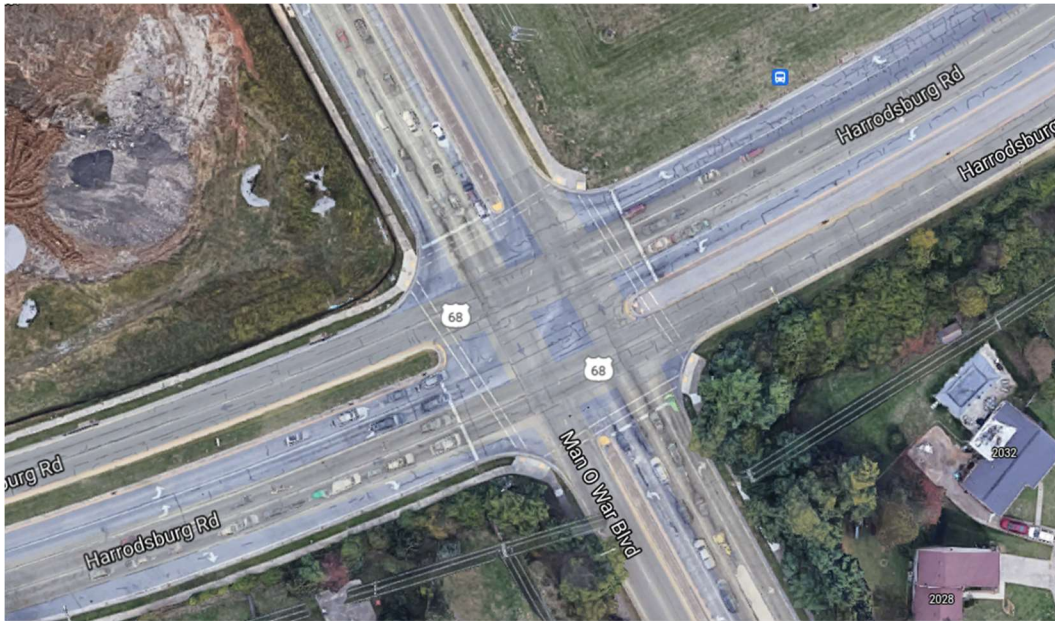
Existing (2021) Peak Hour Conditions:

	AM LOS	PM LOS
Overall Intersection	B	D
Wellington Way EB	E	F
Wellington Way WB	E	F
US 68 NB	A	A
US 68 SB	B	C

Full Buildout (2029) Peak Hour Conditions (All Scenarios):

	AM LOS	PM LOS
Overall Intersection	C	D
Wellington Way EB	E	F
Wellington Way WB	E	F
US 68 NB	A	A
US 68 SB	B	D

2. Harrodsburg Road at Man O' War (Signalized):



Peak hour impact of full buildout traffic: Significant

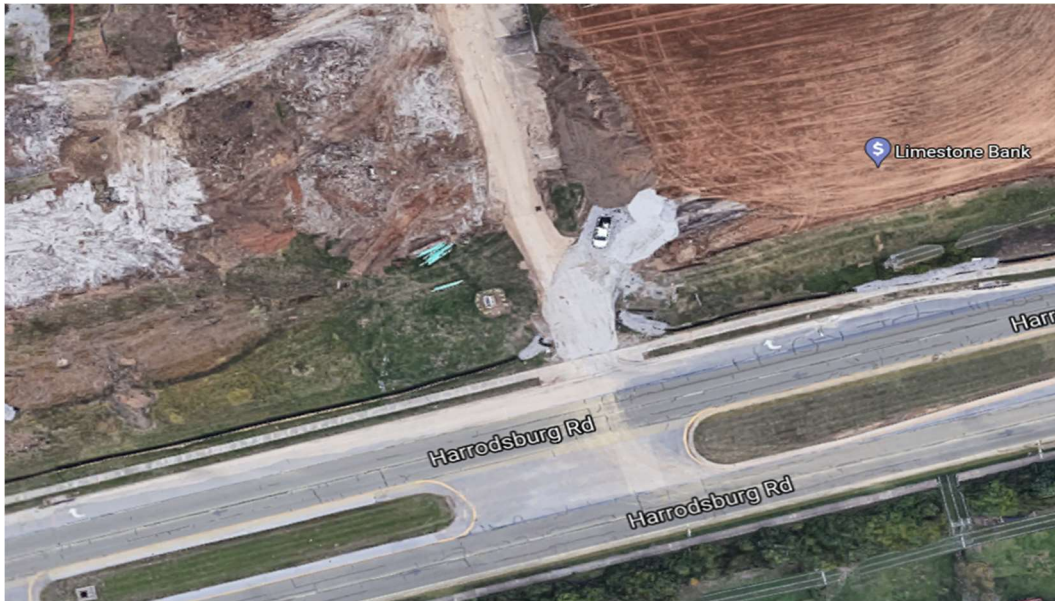
Existing (2021) Peak Hour Conditions:

	AM LOS	PM LOS
Overall Intersection	D	E
Man O' War EB	E	E
Man O' War WB	D	E
US 68 NB	C	D
US 68 SB	C	C

Full Buildout (2029) Peak Hour Conditions (All Scenarios):

	AM LOS	PM LOS
Overall Intersection	E	F
Man O' War EB	F	F
Man O' War WB	E	F
US 68 NB	E	E
US 68 SB	D	F

3. Harrodsburg Road at Fountainblue Lane (Signalized):



Peak hour impact of full buildout traffic: Low to Moderate

Existing (2021) Peak Hour Conditions:

	AM LOS	PM LOS
Overall Intersection	A	A
Fountainblue EB	E	E
US 68 NB	A	A
US 68 SB	A	A

Full Buildout (2029) Peak Hour Conditions:

Scenario:	AM			PM		
	1 LOS	2 LOS	3 LOS	1 LOS	2 LOS	3 LOS
Overall Intersection	B	B	B	B	C	C
Fountainblue EB	E	E	E	E	E	E
US 68 NB	A	A	A	B	C	C
US 68 SB	A	A	A	B	B	B

4. Harrodsburg Road at Palomar Blvd / Stedman Drive (Unsignalized):



Peak hour impact of full buildout traffic: Moderate to Significant

Existing (2021) Peak Hour Conditions:

	AM LOS	PM LOS
Overall Intersection	A	B
Palomar Blvd EB	F	F
Stedman Dr WB	F	F
US 68 NB	B	C
US 68 SB	C	B

Full Buildout (2029) Peak Hour Conditions:

Scenario:	AM			PM		
	1 LOS	2 LOS	3 LOS	1 LOS	2 LOS	3 LOS
Overall Intersection	C	C	D	D	D	F
Palomar Blvd EB	F	F	F	F	F	F
Stedman Dr NB	F	F	F	F	F	F
US 68 NB	B	B	B	D	D	D
US 68 SB	C	C	C	B	B	B

5. Harrodsburg Road at Madrone Way/Old Higbee Mill Road (Signalized):



Peak hour impact of full buildout traffic: Moderate

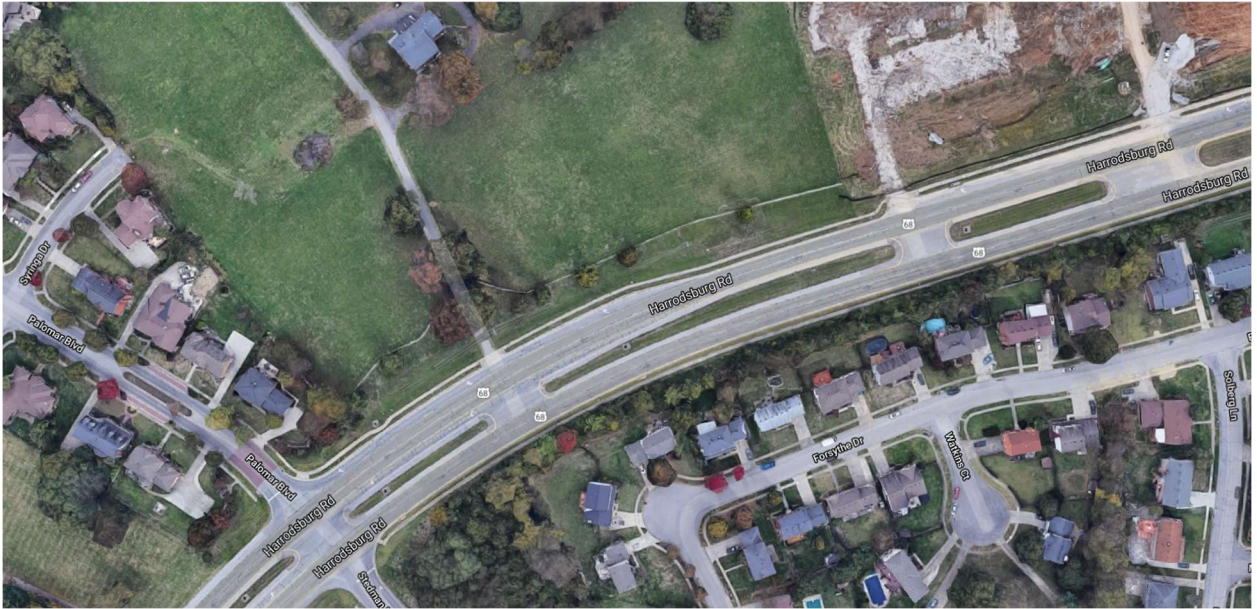
Existing (2021) Peak Hour Conditions:

	AM LOS	PM LOS
Overall Intersection	B	B
Madrone Way EB	E	E
Old Higbee Mill Rd WB	E	E
US 68 NB	B	B
US 68 SB	A	A

Full Buildout (2029) Peak Hour Conditions:

	AM LOS	PM LOS
Overall Intersection	C	C
Madrone Way EB	F	E
Old Higbee Mill Rd WB	E	D
US 68 NB	C	B
US 68 SB	B	D

6. Harrodsburg Road at Proposed Site Access (Unsignalized):



Peak hour impact of full buildout traffic: Low to Moderate

Full Buildout (2029) Peak Hour Conditions:

Scenario:	AM		PM	
	1 LOS	2 LOS	1 LOS	2 LOS
Overall Intersection	A	A	A	A
Site Access EB	F	B	F	F
US 68 NB Left	B	N/A	D	N/A
US 68 SB Left	A	A	A	A

Staff Comments:

The staff generally agrees with the findings of the applicant's traffic impact study. It could even be argued that the study predicts a worst-case future. At full buildout, with the exception of Man O' War, all existing intersections are expected to operate at an acceptable Level of Service of D or better during the AM and PM peak hours. While the study anticipates the impact at Man O' War to be significant, it is important to note that full buildout includes traffic from two approved developments. Furthermore, most development types that might eventually be approved for the subject property are likely to generate a similar trip volume.

There are two points where the staff does not agree with the study. The first is impact of, and need for, the proposed site access to Harrodsburg Road. Site traffic can easily be accommodated via Fountainblue Lane without additional access to US 68. If allowed, the site access point would need to be situated between Fountainblue Lane and Palomar Blvd, which are approximately 1,200 feet apart. At best, the proposed access point would be 600 feet from the adjacent intersections. Minor arterial intersection spacing guidelines in the subdivision regulations require a minimum of 1,000 feet spacing. While allowing full or RIRO access to Harrodsburg Road (scenarios 1 and 2) may result in a slightly lower delay at Fountainblue, it is the staff's opinion that this does not justify allowing direct site access to US 68.

The second point of staff disagreement is the impact of connecting Syringa Drive to the subject property. It is the staff's opinion that the study over-estimates the amount of site traffic that would enter and exit via Syringa which yields a significantly lower peak hour level of service at the intersection of Palomar Blvd and Harrodsburg Road under scenario 3. The majority of site traffic that did not originate from the Palomar neighborhood would choose to enter and exit the site via the Fountainblue and US 68 intersection. Daily cut-through traffic would not be an issue as, even during the peaks, it would still be faster for through drivers to stay on Harrodsburg Road and Man O' War.

Connecting Syringa Drive would allow Palomar residents of the Palomar neighborhood to access the site without having to drive on US 68. This benefits the residents as well as through-travelers on US 68. In the rare instance of an extended blockage on Harrodsburg Road, better neighborhood connectivity would provide an alternate route which would be a benefit to Palomar residents and the traveling public. This is especially true for first responders. Street continuity is important, and this is a subject for which the staff will continue to advocate. In short, it is the staff's opinion that any future development of the subject property should; 1) not have direct access to US 68, and 2) connect to Palomar Blvd via Syringa Drive.