

MEMORANDUM

To: John Mark Braswell, Palmetto Capital Group, LLC.

From: Kennedy Adams, P.E., Kimley-Horn and Associates, Inc.

Date: May 23, 2022

RE: ***3935 Western Avenue, Knoxville, Tennessee – Trip Generation Memorandum***

Kimley-Horn is pleased to provide this memorandum summarizing the trip generation for the proposed 3935 Western Avenue development on an approximate 1.36-acre property located in the northwest quadrant of the intersection of Western Avenue (SR 62) and Sanderson Road in the City of Knoxville, Tennessee.

PROJECT OVERVIEW

As currently envisioned, the development will consist of approximately 5,300 SF of gas convenience store with 12 fueling positions. The site currently consists of approximately 20,700 SF of commercial space that will be demolished in order to redevelop for gas convenience. This memorandum provides density and trip generation for both the existing (to be demolished) use and the proposed 3935 Western Avenue development.

Figure 1 provides an aerial image of the project site. Additionally, the preliminary site plan for the proposed development is provided.

SITE ACCESS

The 3935 Western Avenue development is proposed to be accessed by two site driveways – one driveway along Western Avenue (SR 62) and one driveway along Sanderson Road.

The driveway along Western Avenue (SR 62) is an existing driveway located approximately 350' west of the intersection of Western Avenue (SR 62) at Sanderson Road. The driveway is currently a stop controlled and is conserved a full-movement driveway with no signage, striping, or channelization to indicate otherwise. This driveway is proposed to be maintained as it currently exists in location and intersection control. Restricting the left-turn movement from the site is preferred at this location through signage, striping, and/or channelization. However, this driveway is not within the control of the developer.

The existing site currently has two driveways along Sanderson Road. The 3935 Western Avenue development proposes to consolidate the access along Sanderson Road to one driveway which will be relocated further north than the existing locations. The proposed Sanderson Road driveway will be located approximately 190' away from the intersection of Western Avenue (SR 62) at Sanderson Road. The driveway along Sanderson Road is proposed to be a stop controlled, full-movement driveway.

Sanderson Road is a two-lane minor collector with additional turning and receiving lanes at its intersection with Western Avenue (SR 62) and a posted speed limit of 30 MPH in the vicinity of the site. Western Avenue (SR 62) is a divided, six-lane principal arterial with left turn lanes and a posted speed

limit of 45 MPH in the vicinity of the site.

TRIP GENERATION

Anticipated trip generation for the existing (to be demolished) use and proposed 3935 Western Avenue development was calculated using rates and equations contained in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition. Reductions to gross trips are also considered in the analysis, including pass-by reductions.

Pass-by reductions are taken for a site when traffic normally traveling along a roadway may choose to visit a retail or restaurant establishment that is along the vehicle's path. These trips were already on the road and would therefore only be new trips on the driveways.

The trip generation for the existing (to be demolished) use and the proposed 3935 Western Avenue development is shown below in **Table 1**.

Table 1: Trip Generation Comparison									
ITE Code	Land Use	Density	Daily	AM Peak			PM Peak		
			Total	Total	Enter	Exit	Total	Enter	Exit
Existing (To Be Demolished) Trips									
822	Strip Retail Plaza (<40k)	20,695 SF	1,104	47	28	19	130	65	65
Pass-By Reductions			-442	-19	-11	-8	-52	-26	-26
Net Existing Trips			662	28	17	11	78	39	39
Proposed Trips									
945	Convenience Store/ Gas Station	12 fuel pumps	3,086	324	162	162	273	137	136
Pass-by Reductions			-2,314	-246	-123	-123	-205	-103	-102
Net Proposed Trips			772	78	39	39	68	34	34
Trip Comparison									
Difference in Gross Project Trips			1,982	277	134	143	143	72	71
Difference in Net Project Trips			110	50	22	28	-10	-5	-5

**Positive differences indicate an increase in trips with the proposed development. Negative differences indicate a decrease in trips with the proposed development.*

Based on the trip generation shown in **Table 1**, the proposed 3935 Western Avenue development is projected to generate 110 additional net daily trips (55 entering, 55 exiting), 50 additional net AM peak hour trips (22 entering, 28 exiting), and 10 less net PM peak hour trips (5 entering, 5 exiting). These trips are expected to be new trips on the adjacent roadways.

However, due to the nature of convenience gas stations, the development is projected to experience more trips entering and exiting the site driveways that are from vehicles already traveling on the adjacent roadways and are considered pass-by trips. The additional trips experienced at the site driveways are approximately 1,982 daily trips (991 entering, 991 exiting), 277 AM peak hour trips (134 entering, 143 exiting), and 143 PM peak hour trips (72 entering, 71 exiting). The anticipated trip

distribution and assignment as well as the projected increase in trips at the site driveways is shown in **Figure 2**.

SUMMARY

The proposed 3935 *Western Avenue* development is located on an approximate 1.36-acre property located in the northwest quadrant of the intersection of Western Avenue (SR 62) and Sanderson Road in the City of Knoxville, Tennessee.

As currently envisioned, the development will consist of approximately 5,300 SF of gas convenience store with 12 fueling positions. The site currently consists of approximately 20,700 SF of commercial space that will be demolished in order to redevelop for gas convenience. The 3935 *Western Avenue* development will be served by two site driveways – one driveway along Western Avenue (SR 62) and one driveway along Sanderson Road. The driveway along Western Avenue (SR 62) is proposed to be maintained as it currently exists in location and intersection control. The driveway along Sanderson Road is proposed to be a stop controlled, full movement driveway.

Based on the trip generation, the proposed 3935 *Western Avenue* development is projected to generate 110 additional net daily trips (55 entering, 55 exiting), 50 additional net AM peak hour trips (22 entering, 28 exiting), and 10 less net PM peak hour trips (5 entering, 5 exiting). These trips are expected to be new trips on the adjacent roadways.

We hope this information is helpful. Please contact me if you have any questions.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.

Kennedy Adams

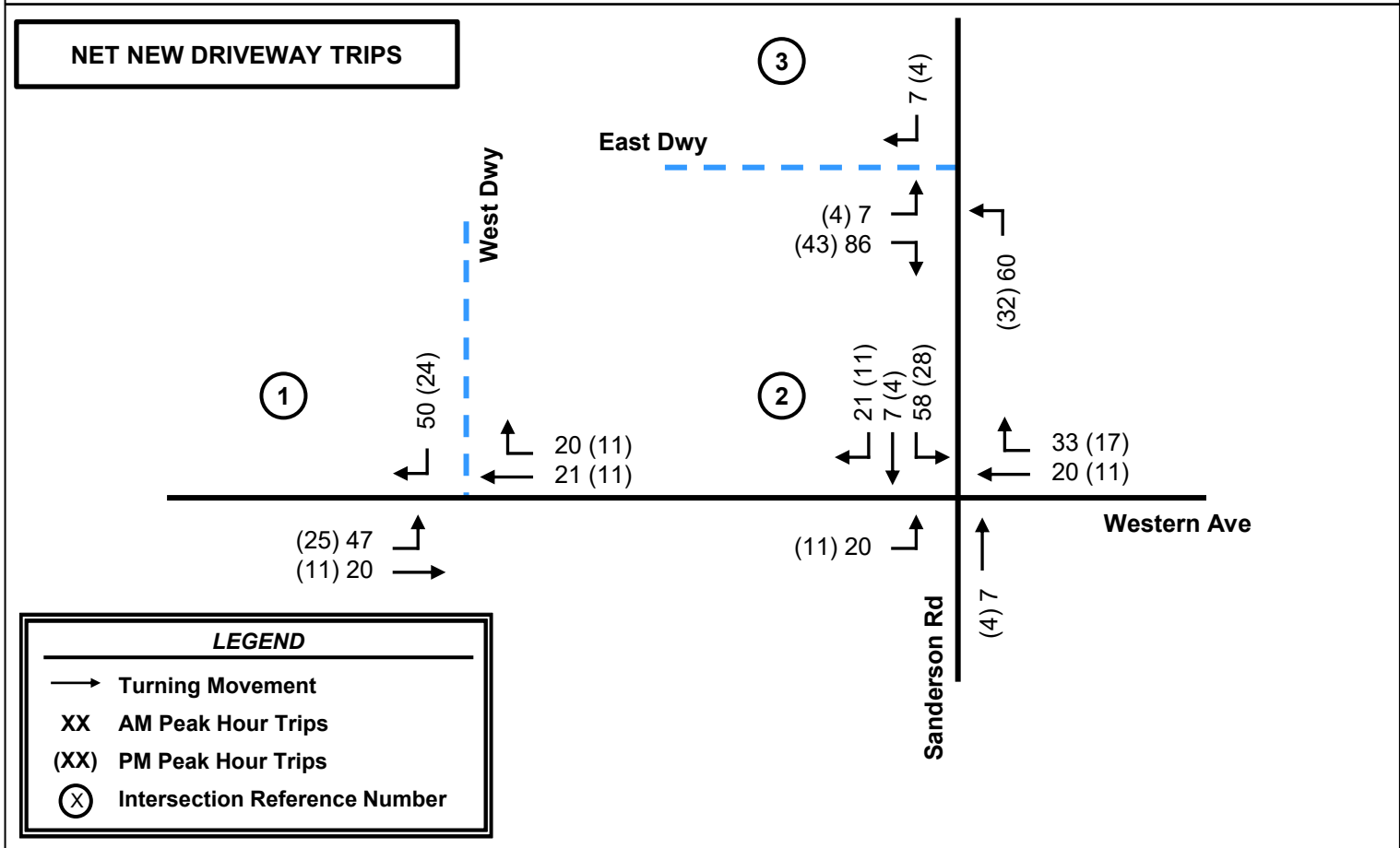
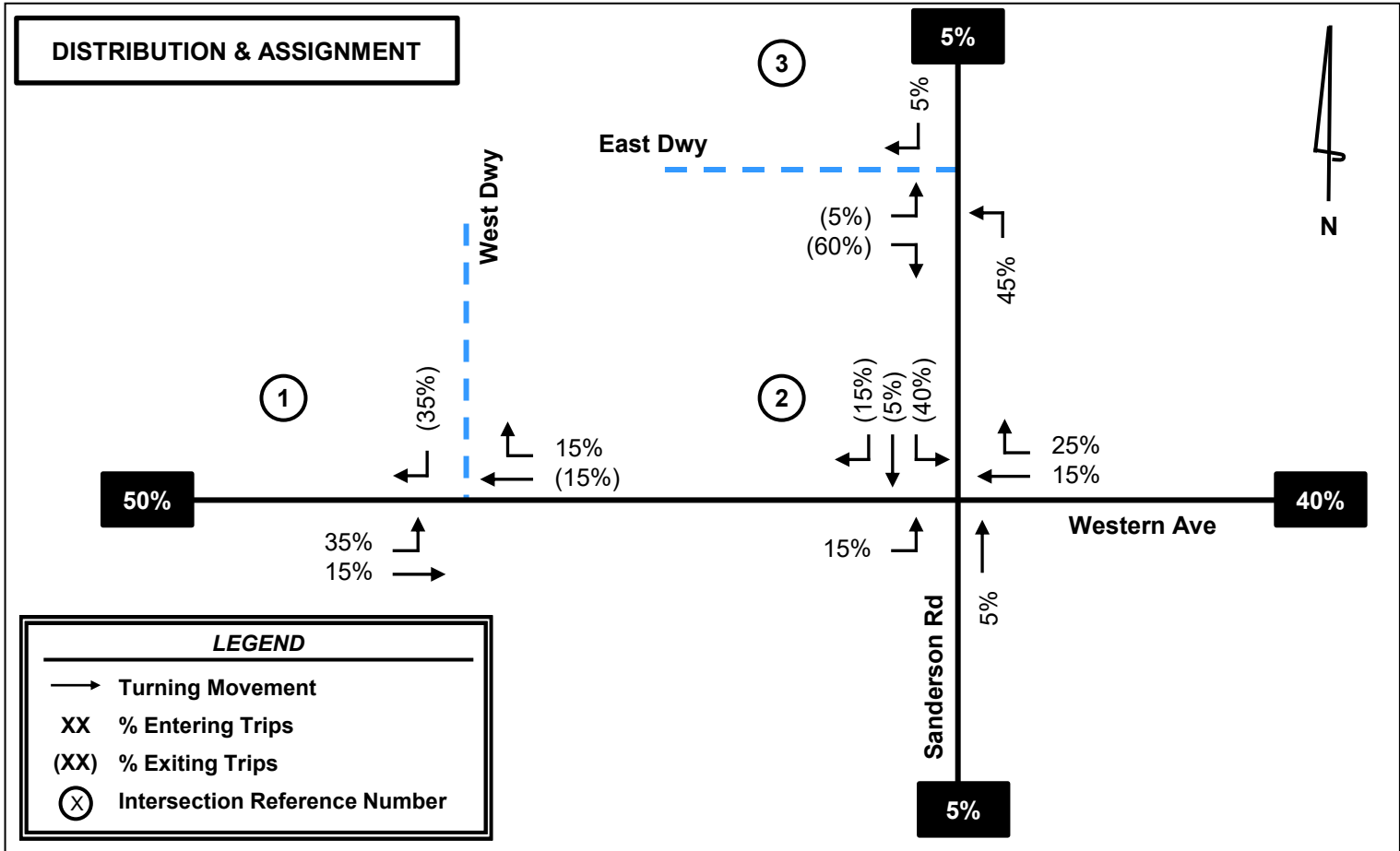
Kennedy Adams, P.E.
Project Engineer

Attachments:

- Figures 1-2
- Trip Generation Analysis
- Proposed Concept Site Plan







Trip Generation - 3935 Western Avenue - EXISTING (TO BE DEMOLISHED)

ITE Code	Land Use	Density		Daily			AM Peak Hour			PM Peak Hour		
				Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit
822	Strip Retail Plaza (<40k)	20,695	sf	1,104	552	552	47	28	19	130	65	65
Reduction - Pass-By		AM	PM									
821	Shopping Plaza (40-150k)*	40%	40%	-442	-221	-221	-19	-11	-8	-52	-26	-26
NEW TRIPS				662	331	331	28	17	11	78	39	39
DRIVEWAY VOLUMES				1,104	552	552	47	28	19	130	65	65

*Pass-by rates not provided for LUC 822

Trip Generation - 3935 Western Avenue - PROPOSED DEVELOPMENT

ITE Code	Land Use	Density		Daily			AM Peak Hour			PM Peak Hour		
				Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit
945	Convenience Store/Gas Station	12	fueling positions	3,086	1,543	1,543	324	162	162	273	137	136
Reduction - Pass-By		AM	PM									
945	Convenience Store/Gas Station	76%	75%	-2,314	-1,157	-1,157	-246	-123	-123	-205	-103	-102
NEW TRIPS				772	386	386	78	39	39	68	34	34
DRIVEWAY VOLUMES				3,086	1,543	1,543	324	162	162	273	137	136

Trip Generation - 3935 Western Avenue - COMPARISON

	Daily			AM Peak Hour			PM Peak Hour		
	Total	Enter	Exit	Total	Enter	Exit	Total	Enter	Exit
Existing (To Be Demolished) Gross Trips	1,104	552	552	47	28	19	130	65	65
Proposed Gross Trips	3,086	1,543	1,543	324	162	162	273	137	136
Difference in Gross/Driveway Project Trips	1,982	991	991	277	134	143	143	72	71
Existing (To Be Demolished) Net Trips	662	331	331	28	17	11	78	39	39
Proposed Net Trips	772	386	386	78	39	39	68	34	34
Difference in Net Project Trips	110	55	55	50	22	28	-10	-5	-5

*Positive differences indicate an increase in trips with the proposed development. Negative differences indicate a decrease in trips with the proposed development.



May 20, 2022
Liz Albertson
Knoxville-Knox County Planning Commission
400 Main St, Suite 403
Knoxville, TN 37902

RE: 6-E-22-SU

Our responses to the "3935 Western Avenue Gas Station/Convenience Store TIL Review Comments (6-E-22-SU)" are in **red italics** below:

1. The statement of "The 3935 Western Avenue development is proposing to maintain the existing vehicular access to the site along both Sanderson Road and Western Avenue" does not appear to be accurate, please clarify and update as necessary regarding the following aspects:
 - a. The site plan is showing that the existing driveway to Sanderson Road is being relocated further north, which should improve conditions from an access management/safety standpoint. Please document the existing and proposed separation distance between this driveway and Western Avenue.
 - ***The existing entrances to the site on Sanderson Road are +70' and +180'. The new entrance is proposed at +190' from Western Ave.***
 - b. The TIL states that the existing driveway along Western Avenue is a "partial movement driveway" although there is no existing signage or channelization that would prevent a vehicle from turning left out of this driveway.
 - ***The revised site plan has been modified so no modifications to the existing driveway are proposed. Furthermore, this driveway is not part of the proposed development and any changes to this drive will need to be directed to the owner of the existing strip mall.***
2. There is a desire to restrict the exiting left turn movement at the driveway discussed in comment #1b above. Please coordinate with the site plan designer to show the entire driveway on the site plan and install a channelizing island to indicate a right-out only operation. Additionally, the existing concrete island or other mechanism will need to be provided that maintains the throat depth currently provided along the eastern edge of this driveway. Please coordinate with TDOT Region 1 Traffic Office staff for an acceptable driveway design at this location.
 - ***The site plan area has been enlarged to show more areas of the adjacent parcels and roadway. The revised site plan has been modified so no modifications to the existing driveway are proposed. Furthermore, this driveway is not part of the proposed development and any changes to this drive will need to be directed to the owner of the existing strip mall.***
3. The final TIL needs to be signed and stamped by a registered Professional Engineer.
 - ***This TIL has been signed and stamped.***

Please contact me at (629) 255-0745 or cooper.morris@kimley-horn.com should you have any questions or need any clarification on the above comments.

Thank you!

Cooper Morris, EI
Kimley-Horn