



MEMORANDUM

Date: May 22, 2015
To: Wendy Rhoades, Case Manager
CC: Vivek Deshpande, P.E., Kimley-Horn
Reference: Sunfield MUD 2/PUD TIA
Zoning Case: C814-2014-0083

The Transportation Review Section has reviewed the Traffic Impact Analysis (TIA) for the Sunfield MUD 2/PUD, dated 03/30/2015, and offers the following comments:

TRIP GENERATION

The Sunfield MUD 2/PUD is a 482-acre development located in the southwest quadrant of the Turnersville Road and South Turnersville Road intersection which is also northeast of the City of Buda and in the limited-purpose jurisdiction of the City of Austin. The subject property is currently undeveloped and not zoned. The proposed zoning is Planned Unit Development (PUD) it is to be a mixed-use development consisting of single-family homes, multi-family apartments, mixed commercial uses, an amenity center, a fire station, a reservoir site, and parkland. The estimated completion of the project is expected in the year 2022.

Based on the standard trip generation rates established by the Institute of Transportation Engineers (ITE Trip Generation, 9th Edition), the proposed development is estimated to generate approximately 1,931 unadjusted AM peak-hour trips (PHTs) and 2,781 unadjusted PM peak-hour trips upon build-out as shown in Table 1. However, ITE Trip Generation 9th Edition allows adjusted trip rates applicable to certain land uses resulting in reduced trips to/from the site and identified as either pass-by traffic or internal-capture trips. Accordingly, Table 2 indicates 1,883 adjusted trips during the morning peak-hour (AM) and 2,450 trips during the evening peak-hour (PM).

Table 1. Summary of Unadjusted Peak-Hour Trip Generation (PHTs)

LAND USE	Size	AM Peak Hour			PM Peak Hour		
		Total	Enter	Exit	Total	Enter	Exit
Single-Family (ITE Code 210)	1,165 Units	874	219	655	1,165	734	431
Multi-family (ITE Code 220)	1,751 Units	894	180	714	1,086	706	380
Commercial (ITE Code 890)	128,000 SF	123	76	47	475	228	247
Recreation Center (ITE Code 459)	20,000 SF	41	27	14	55	27	28
Total Unadjusted Trips		1,931	501	1,430	2,781	1,695	1,086

Table 2. Summary of Adjusted Peak-Hour Trip Generation (PHTs)

LAND USE	Size	AM Peak Hour			PM Peak Hour		
		Total	Enter	Exit	Total	Enter	Exit
Single-Family (ITE Code 210)	1,165 Units	862	214	648	1,114	704	410
Multi-family (ITE Code 220)	1,751 Units	882	174	708	1,036	676	360
Commercial (ITE Code 890)	128,000 SF	99	62	37	246	123	123
Recreation Center (ITE Code 459)	20,000 SF	41	27	14	55	27	28
Total Adjusted Trips		1,883	477	1,406	2,450	1,530	920

DATA ASSUMPTIONS

1. Background traffic volumes for 2022 included the estimated traffic volumes for Sunfield MUDs 1, 3, and 4. Based on traffic volumes using the CAMPO long range travel demand model, an average annual growth rate of 2.54% was used for this proposed development.
2. Pass-by trip reductions are allowed for certain commercial uses based on data provided in the ITE Trip Generation, 9th Edition. A pass-by reduction of 26.73% was used only for shopping center during the PM peak period. No pass-by reductions during the AM peak and PM peak periods were assumed for any of the other proposed land uses.
3. ITE Trip Generation, 9th Edition, allows an internal capture trip reduction for large, mixed-use developments because a percentage of the trips will occur wholly within the PUD. No internal capture reductions were assumed for the recreation center during the AM and PM peak periods. A total internal capture reduction of 2.48% and 7.34%, respectively, was assumed for the other land uses during the AM and PM peak periods.
4. No reductions were taken for transit use during any period of the analysis. However, Capital Metro service may expand its service to this development in the future.
5. Based on the TIA's scope of work, traffic counts were taken at various key locations to establish the circulation characteristics of the roadways in the study area. The traffic counts taken in conjunction with data from CAMPO and other sites formed the basis for the future traffic assumptions in the study area. A 2.54% annual growth rate was assumed for this proposed development.

EXISTING AND PLANNED ROADWAYS

IH-35 – This state roadway is located approximately 1 mile west of the site. The Austin Metropolitan Area Transportation Plan and the CAMPO Mobility Plan classify IH-35 as a six-lane freeway in the site's vicinity area. IH-35 is part of the US Interstate Highway System maintained by the Texas Dept. of Transportation (TxDOT). The IH-35 frontage roads are listed as Bike Route No. 421 in the Bicycle Plan. It is estimated that a large portion of the traffic to this PUD will utilize IH-35 as their primary route. The 2012 traffic volume on IH-35 between Main Street and Turnersville Rd. was approximately 133,000 vehicles per day (vpd).

SH-45 – This state roadway is located approximately 1 mile north of the site. The Austin Metropolitan Area Transportation Plan and the CAMPO Mobility Plan classify SH-45 as a six-lane toll freeway in the site's vicinity area. The 2012 traffic volume on SH-45 east of IH-35 was approximately 10,500 vehicles per day and the traffic volume on SH-45 east of North Turnersville Road was approximately 10,100 vehicles per day.

Main Street – This road exists as a four-lane divided major arterial from IH-35 to approximately half a mile to the west and then transitions to a three-lane undivided section further to the west. In the vicinity of the project, Main Street is a three-lane undivided road from IH-35 to approximately one mile to the east of IH-35 and comes to an end at the water tower. The 2035 CAMPO Transportation Plan lists this road to be widened to a four-lane divided section from IH-35 to North Turnersville Road.

FM 2001 – This state road is classified as a two-lane undivided arterial. The 2012 traffic volume on FM 2001 between IH-35 and CR 118 was approximately 9,600 vehicles per day; the traffic volume on FM 2001 past Satterwhite Road was approximately 6,200 vehicles per day. FM 2001 is expected to be realigned to straighten out several 90-degree turns. The CAMPO Transportation Plan lists this road to be widened to a four-lane divided major arterial with bike lanes and sidewalks between IH-35 and SH 21. Currently, Hays County is preparing schematics for widening this road. It is expected that two lanes will be constructed in 2016 through the TxDOT Partnership Program.

Turnersville Road – Currently, this roadway is a two-lane undivided road. The CAMPO Transportation Plan lists this road to be widened to a four-lane section between IH-35 and the intersection with North/South Turnersville Road. The Sunfield MUD developer has widened this roadway to a three-lane cross section between IH-35 and Firecracker Drive and to a four-lane cross section ending at the county line.

North/South Turnersville Road – This roadway is currently a two-lane undivided road. The CAMPO Transportation Plan lists this road to be widened to a four-lane major divided arterial with bike lanes and sidewalks between Turnersville Road and SH-45. Currently, Hays County has no plans for any further upgrades to this road.

TRAFFIC ANALYSIS

The impact of site development traffic on the existing area roadways was analyzed. Two time periods and travel conditions were evaluated:

- 2014 Existing Conditions
- 2022 Build-Out Conditions

INTERSECTION LEVEL OF SERVICE (LOS)

The TIA analyzed 11 intersections, 10 of which are or would be signalized, and 1 which will not be signalized. Existing and projected levels of service are shown on Table 3, assuming that all improvements recommended in the TIA are built:

Intersection	2014 Existing		2022 Forecasted		2022 PUD + Forecasted	
	AM	PM	AM	PM	AM	PM
SH-45 WB FR and North Turnersville Road*	A	A	B	B	B	C
SH-45 EB FR and North Turnersville Road*	A	A	B	B	A	A
IH-35 NB FR and Turnersville Road	C	B	F	F	A	A

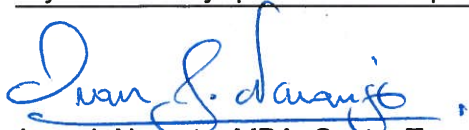
Table 3. Level of Service (cont.)						
Intersection	2014 Existing		2022 Forecasted		2022 PUD + Forecasted	
	AM	PM	AM	PM	AM	PM
Turnersville Rd. and North Turnersville Road*	A	A	B	B	A	A
IH-35 SB FR and Main Street*	C	C	D	E	C	D
IH-35 NB FR and Main Street*	B	C	F	F	C	C
IH-35 SB FR and FM 2001*	A	B	C	F	B	D
IH-35 NB FR and FM 2001*	A	B	B	F	B	C
SH-45 EB FR/FM 1327 and IH-35 NB FR*	A	A	A	A	B	B
SH-45 WB FR/FM 1327 and IH-35 NB FR*	A	B	A	B	A	B
SH-45 WB FR/FM 1327 and IH-35 SB FR*	A	A	A	A	A	B

* = SIGNALIZED

RECOMMENDATIONS

- 1) Please see Exhibit A for the summary of traffic improvements recommended with the TIA.
- 2) Based on discussions with TxDOT, the Sunfield PUD developer will provide at their expense the total of construction of the deceleration lane improvement at or before the time when 50% of the development's single-family lots are approved. In addition, the Sunfield PUD developer will provide at their expense the total cost of construction of the acceleration lane improvement at or before the expected build-out year of 2022.
- 3) The cost estimate for the recommended traffic improvements has not been approved by the City of Austin or Travis County. Fiscal posting for the traffic improvements will be deferred to the subdivision stage. A Traffic Phasing Agreement will be required along with an updated TIA when the subdivision preliminary plan is submitted.
- 4) Development of the PUD should be limited to uses and intensities which will not exceed or vary from the projected traffic conditions assumed in the TIA and all roadways should be in full compliance with the intent of the City of Austin's Complete Streets Policy.
- 5) Additional right-of-way for Turnersville Road, Main Street, and North/South Turnersville Road shall be dedicated during the subdivision platting stage.
- 6) Development of this property should not exceed or vary from the projected traffic conditions assumed in the TIA, including peak hour trip generations, traffic distribution, roadway conditions, and other traffic related characteristics.

If you have any questions or require additional information, please contact me at 974-7649.



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 Transportation Review Staff – Land Use Review Division
 City of Austin – Development Services Department

EXHIBIT A

Intersection	Approach	Mitigation Measure	Unit Cost	Unit	Amount	Total Estimated Cost	Percent MUD 2 Traffic on Movement or Intersection	Pro-Rata Share of Cost for Sunfield MUD 2
Main Street and N Turnersville and SH 45 Frontage Roads	Travis County EB at N Turnersville / SH 45 EBFR SH 45 WBFR	Construct 3-lane section w/ TWLTL				\$ 5,140,244.00	100%	\$ 5,140,244.00
		Add one (1) right-turn bay	\$ 500.00	per l.f. plus taper	400	\$ 200,000.00	41%	\$ 82,955.87
		Signalize	\$ 175,000.00	per l.f. plus taper	1	\$ 175,000.00	43%	\$ 75,931.57
		Restripe WB approach to include L, LTR lanes	\$ 1,200.00	signs/markings	1	\$ 1,200.00	43%	\$ 510.56
		Signalize	\$ 175,000.00	per intersection	1	\$ 175,000.00	36%	\$ 63,556.07
		Traffic Signal	\$ 250,000.00	per intersection	1	\$ 250,000.00	60%	\$ 148,985.22
		Add one (1) right-turn bay	\$ 500.00	per l.f. plus taper	400	\$ 200,000.00	62%	\$ 123,941.93
		Add one (1) acceleration lane on IH-35 NBFR for WBR Traffic	\$ 500.00	per l.f. plus taper	1200	\$ 600,000.00	27%	\$ 162,233.07
		Add one (1) right-turn bay	\$ 500.00	per l.f. plus taper	400	\$ 200,000.00	11%	\$ 22,923.56
		Add second L lane by restriping U-turn lane	\$ 1,200.00	per l.f. plus taper	1	\$ 1,200.00	14%	\$ 172.86
Turnersville and Main/N Turnersville	IH-35 SBFR	Add one (1) U-turn lane	\$ 500.00	per l.f. plus taper	400	\$ 200,000.00	14%	\$ 28,776.72
		Modify island to accommodate new L turn	\$ 40.00	per s.f. island	1000	\$ 40,000.00	14%	\$ 5,755.34
		Restripe IH-35 NBFR to provide a receiving lane for the U-turn.	\$ 1,200.00	signs/markings	1	\$ 1,200.00	8%	\$ 98.47
		Restripe 6-lane section to include 7 lanes with the center lane being used as back-to-back left-turn bays in EB and WB direction.	\$ 1,200.00	signs/markings	1	\$ 1,200.00	18%	\$ 220.46
		Change TL to through only	\$ 1,200.00	signs/markings	1	\$ 1,200.00	18%	\$ 220.46
		Change TL to through only	\$ 1,200.00	per intersection	1	\$ 1,200.00	18%	\$ 220.46
		Revise signal design for new lanes	\$ 200,000.00	per intersection	2	\$ 400,000.00	17%	\$ 67,136.53
		Add one (1) right-turn bay	\$ 500.00	per l.f. plus taper	400	\$ 200,000.00	0%	\$ -
		Add second L lane by restriping U-turn lane as shared L-U lane	\$ 1,200.00	signs/markings	1	\$ 1,200.00	0%	\$ -
		Remove island for adding second left-turn lane	\$ 40.00	per s.f. island	850	\$ 34,000.00	0%	\$ -
Turnersville and IH-35	Intersections	Add one (1) through lane by removing existing median	\$ 500.00	per l.f.	200	\$ 100,000.00	0%	\$ -
		Revise signal design for new lanes	\$ 50,000.00	per intersection	2	\$ 100,000.00	6%	\$ 5,929.49
		TOTAL						
Main Street and IH-35	Intersections	Improvements on TxDOT Rdwy				\$ 2,432,400.00		\$ 516,281.31
		TOTAL						\$ 5,929,452.45