REPORT

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From:	Matt Pacyna, PE, Principal Transportation Collaborative & Consultants, LLC
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Subject:	Elmwood Neighborhood Traffic Audit

INTRODUCTION

The Elmwood Neighborhood within the City of St Louis Park is bound by Highway 7 to the north, Highway 100 to the east, Excelsior Boulevard to the south, and the CP Railroad to the west. The neighborhood has experienced a significant amount of change over the past 15+ years from a land use and transportation perspective. Dating back to the early 2000's, several planning documents have been completed which planned and evaluated how the area was expected to change, as well as identified transportation infrastructure to accommodate the changes. Therefore, the purpose of this audit is to review these historical planning documents, identify actual land use and traffic volume changes, compare planning documents relative to actual construction, and determine if predicted traffic growth has occurred as projected. This information will help improve transportation planning for the City and aid in determining the future transportation system capacity needs within the study area. The following information provides an overview of the Elmwood Neighborhood Traffic Audit.

HISTORICAL DOCUMENTS

The following list summarizes the planning documents reviewed as part of the traffic audit. The documents range from larger comprehensive planning studies to individual development traffic impact studies. Key data obtained from these resources include land use and traffic forecasts.

- Elmwood Area Transportation Study (2003)
- Hoigaard Village Traffic Study (2005)
- Highway 7/Wooddale Avenue Interchange (2008)
- 36th Street Streetscape (2008)
- Towerlight Traffic Study (2009)
- Wooddale/36th Street Reconstruction (2013)
- SWLRT Final EIS (2016)
- Place VIA Sol and Via Luna Traffic Study (2016)
- The Elmwood Traffic Study (2016)
- Union Park Flats (2016)
- Elmwood Traffic Management Study (2017)
- Monterey/Beltline/36th Multimodal Study (2018)
- 36th/Beltline Multimodal Feasibility Studies (2019)
- St. Louis Park Comprehensive Plan (2019)

LAND USE AND DEVELOPMENT COMPARISON

Redevelopment that has occurred in the Elmwood Neighborhood over the past 15+ years has centered around the 36th Street and Wooddale Avenue corridors. A summary of the redevelopments is illustrated in Figure 1. Most of the redevelopments replaced industrial type land uses with multi-family residential and/or mixed-use developments with first floor retail components. Also, there are a few redevelopments previously approved that are yet to be developed (i.e., the PLACE development (south site) now referred to as the Wooddale Station Redevelopment Site and the Union Congregation Church). There are also preliminary plans to redevelop Aldersgate Church.

The trip generation data below is based on previous land uses (removed) that were identified using City records and/or estimated from historical aerial photography. The *Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition* was then used to estimate the approximate trip generation of the previously removed land uses. To estimate the trip generation of the current land uses (i.e., the "built" sites), data in the corresponding traffic study documents were reviewed. However, since some of the actual developments have changed from the study assumptions, a secondary estimate was developed using the *ITE Trip Generation Manual* to compare the change in trip generation between the previous land uses and the redevelopment sites.

A summary of the total trip generation changes during the a.m. and p.m. peak hours, as well as a daily basis, between the previous and current land uses is provided in Table 1. This information focuses on the zones/sites that were removed and/or redeveloped between 2003 and 2018, which corresponds to available traffic data documented later in this audit. Note that year 2020 data was excluded due to COVID-19 related travel pattern impacts. A detailed summary of each development is in the Appendix.

Based on the trip generation review, the change in land uses were estimated to increase activity within the study area by approximately 200 a.m. peak hour, 300 p.m. peak hour and 3,300 daily trips. Note that this assumes the previous land uses were still active and generating trips. These trips are also distributed throughout the study area and are not all added to one specific roadway within the transportation system.

Table 1 Land Use Trip Generation Comparison

Zone IDs	Timeframe	Land Use Summary	Trip Generation*		
			AM Peak Hour	PM Peak Hour	Daily
1 – 9 (Removed)	2003 - 2018	227,000 SF Industrial 86,900 SF Retail / Commercial 15,500 SF Fire Station 3 Single-Family Homes	*(- 219)*	*(- 315)*	*(- 2,915)*
1 – 7 (Built)	2005 – 2013	564 Residential Units 175 Senior Units 35,000 SF Retail / Commercial 30,000 SF Fire Station	+ 380	+ 546	+ 5,511
		Change	**+198**	**+305**	**+3,274**

* *Does not include future sites not yet redeveloped, which includes the PLACE (south site)/Wooddale Station, Union Congregation, and Aldersgate Church*

Zone	Former Site Name	Current Site Name	Redevelopment Timeframe
1	Quadion / MN Rubber	Village in the Park	2005-2008
2	Hoigaards	Hoigaard Village (Phase 1)	2007-2008
3	Dworskly	N/A - Vacated for Roadway	2007
4	Soomec Building	N/A - Vacated for Roadway	2009
5	Quadion / MN Rubber	Towerlight	2012
6	The Frantz Family Partnership	Hoigaard Village (Phase 2)	2012-2013
7	Fire Station / Residential	Fire Station	2013
8	McGarvey Coffee	PLACE Development (North Site)	2020-2021
9	VFW #5632	Elmwood	2021
10	Union Daycare	Union Congregation	FUTURE
11	Aldersgate Church	Aldersgate Church	FUTURE
12	Nash Frame/Commercial	PLACE (South Site) / Wooddale Station	FUTURE

Zone	Transportation Improvement	Construction Timeframe
A	Highway 7 / Wooddale Avenue Interchange	2010-2011
B	Wooddale Avenue / 36th Street Reconfiguration	2015
C	36th Street / Xenwood Traffic Signal	2015
D	Highway 100 Reconstruction / Expansion	2015-2016
E	Oxford Street Two-Way Conversion	2018-2019
F	Aldersgate Connection Removal	2019
G	SWLRT Construction Closure	2020

HISTORICAL LAND USE & TRANSPORTATION CHANGES

Elmwood Neighborhood Traffic Audit

Figure 1

TRANSPORTATION INFRASTRUCTURE

In addition to the land use changes within the Elmwood Neighborhood, there have been several transportation improvements on the regional and local transportation systems that have influenced traffic volumes within the Elmwood Area. Historically, the Wooddale Avenue and 36th Street corridors have experienced a significant amount of traffic from motorists avoiding congestion along Highway 7 and/or Highway 100 during peak periods. However, subsequent studies have shown that the following key regional transportation improvements have reduced traffic volumes along the Wooddale Avenue and 36th Street corridors:

- Highway 7 and Wooddale Avenue Interchange (2010-2011)
- Highway 7 and Louisiana Avenue Interchange (2013-2014)
- Highway 100 Reconstruction / Expansion (2015-2016)

In addition, several local roadway improvements have been completed to enhance mobility within the area, including:

- Wooddale Avenue and 36th Street Intersection Improvements (2015)
- 36th Street / Xenwood Avenue Traffic Signal (2015)
- Oxford Street Two-Way Conversion (2018-2019)

Historical documents noted these transportation improvements would provide additional capacity, reduce vehicular diversion, and support area development to maintain adequate capacity within the study area. The City's "Connect the Park" initiative has also incrementally improved biking and walking connectivity (initiative approved in 2013 with implementation beginning in 2015), which is expected to reduce the dependence on vehicular trips. This trend is expected to continue with future redevelopment, particularly with the completion of the Southwest LRT Green Line (after 2023) and the 36th Street Bikeway planned for 2022.

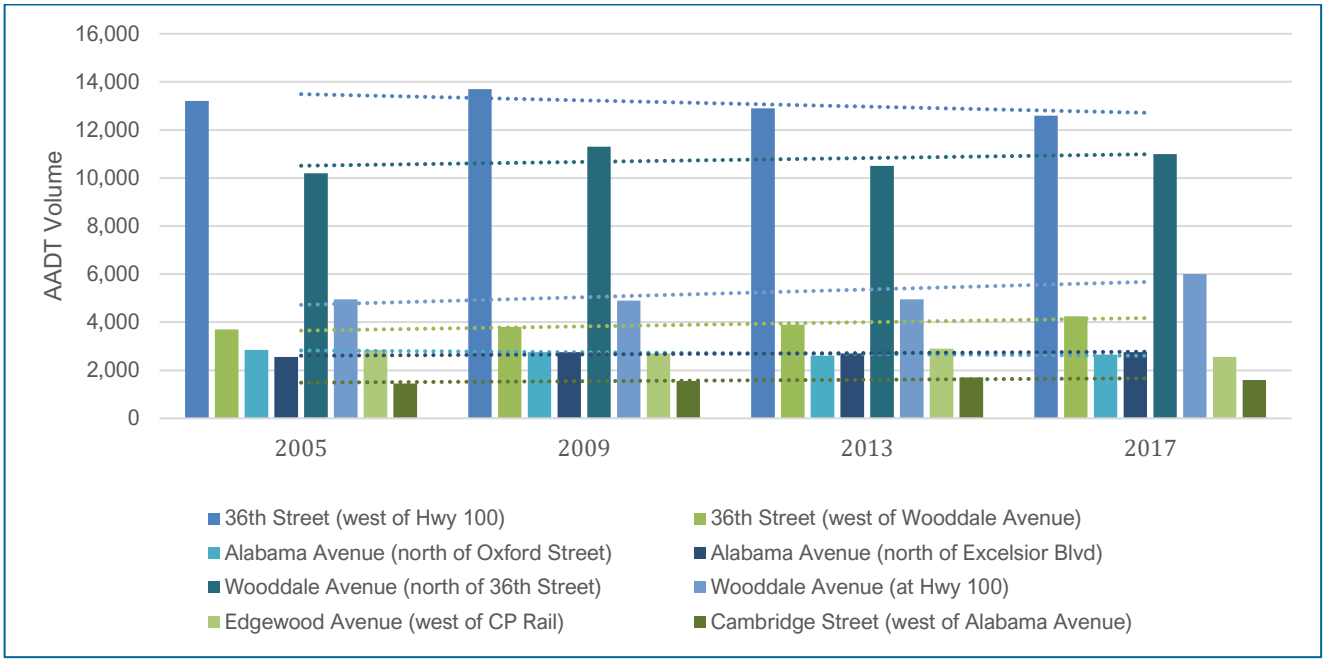
TRAFFIC VOLUME COMPARISON

Historical annual average daily traffic (AADT) volumes were obtained from MnDOT at multiple sites within the Elmwood Neighborhood dating back to 2005. A review of these traffic volumes, which are summarized in Table 2 and Figure 2, indicate that traffic volumes within the study area have been relatively stable. Average AADT volume growth rates are approximately one-third (0.3) percent per year. Historical background growth rates from planning documents have ranged from one-half (0.5) to one (1.0) percent annually. Note that year 2020 data was excluded due to COVID-19 related travel pattern impacts.

Table 2 Historical Study Area AADT Volumes

Location	Annual Average Daily Traffic (AADT)				Percent Annual Growth
	2005	2009	2013	2017	
36th Street (west of Hwy 100)	13,200	13,700	12,900	12,600	*(- 0.4%)*
36th Street (west of Wooddale Avenue)	3,700	3,800	3,900	4,250	+1.1%
Alabama Avenue (north of Oxford Street)	2,850	2,750	2,600	2,650	(- 0.6%)
Alabama Avenue (north of Excelsior Blvd)	2,550	2,750	2,700	2,750	+0.6%
Cambridge Street (west of Alabama Avenue)	1,450	1,550	1,700	1,600	+0.8%
Wooddale Avenue (north of 36th Street)	10,200	11,300	10,500	11,000	+0.6%
Wooddale Avenue (at Hwy 100)	4,950	4,900	4,950	6,000	+1.6%
Edgewood Avenue (west of CP Rail)	2,850	2,700	2,900	2,550	*(- 0.9%)*
Average (*all sites*)	**5,219**	**5,431**	**5,269**	**5,425**	**+0.3%**

Figure 2 Historical Study Area AADT Volumes



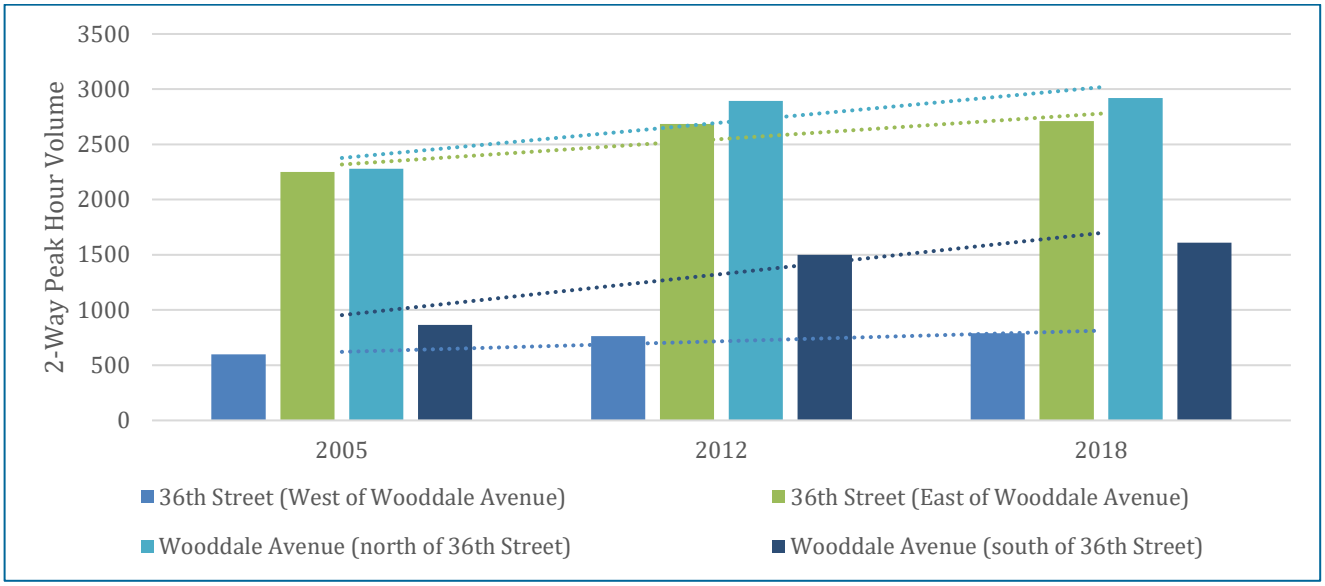
In addition to reviewing AADT volumes, three different peak hour data sets were reviewed (2005, 2012, and 2018). This data focused along 36th Street (east and west of Wooddale Avenue) and Wooddale Avenue (north and south of 36th Street). There was insufficient historical peak hour data within the rest of the Elmwood Neighborhood to draw specific conclusions from a peak hour perspective.

A review of the available peak hour traffic volumes summarized in Table 3 and Figure 3, indicate that peak hour traffic volumes have increased by approximately two (2) percent per year, which is higher than the change in AADT volumes that has occurred over a similar period. This difference could be attributed to the change in land use from an industrial focus to more of a residential/commercial focus, which have different travel patterns associated with each. Commercial uses often have higher peaking characteristics as compared to industrial type uses. The peak hour growth appears to be in line with previous estimates associated with area redevelopment.

Table 3 Historical Study Area Peak Hour Volumes

Location	AM Peak Hour			PM Peak Hour			Annual Growth
	2005	2012	2018	2005	2012	2018	
36th Street (west of Wooddale Avenue)	276	318	375	322	445	415	+2.2%
36th Street (east of Wooddale Avenue)	918	1,050	1,090	1,331	1,636	1,620	+1.4%
Wooddale Avenue (north of 36th Street)	1,003	1,248	1,350	1,276	1,646	1,570	+1.9%
Wooddale Avenue (south of 36th Street)	371	670	735	495	831	875	+4.9%
Average (*all sites*)	**2,568**	**3,286**	**3,550**	**3,424**	**4,558**	**4,480**	**2.3%**

Figure 3 Historical Study Area Combined AM & PM Peak Hour Volumes



ROADWAY TRANSPORTATION CAPACITY

Future roadway capacity within the audit area was reviewed to understand if the transportation system can support the expected level of growth. First, planned area growth from the *City's 2040 Comprehensive Plan* within the Elmwood Neighborhood was reviewed. This includes household (HH) and job (i.e., employment - EMP) growth as noted in Table 4, which indicates an increase of approximately 222 households and 479 jobs in the area. The increases by traffic analysis zone (TAZ) between the 2020 Baseline and 2040 Projections are noted in green. Based on industry standard daily trip rate assumptions, the projected growth equates to approximately 6,655 daily vehicular trips.

Table 4 Elmwood Neighborhood Household and Employment Growth

(TAZ)	2020 Baseline			2040 Projections			Growth* (Change in Daily Trips)
	HH	EMP Retail	EMP Non-Retail	HH	EMP Retail	EMP Non-Retail	
64	440	114	295	526 (+86)	223 (+109)	359 (+64)	2,470
65	730	192	492	866 (+136)	381 (+189)	609 (+117)	4,185
						Total Trips	6,655

* *Daily Trip Rate Assumptions: HH – 9 trips, Emp (retail) – 13.5 trips, Emp (non-retail) – 3.5 trips*

Next, forecasted 2040 daily traffic volumes were reviewed and compared to planning-level street capacities by facility type from the *City's 2040 Comprehensive Plan (Chapter 6 -Mobility, Table 6-7)*. The 2040 forecasts incorporate planned neighborhood growth, as well as projected growth outside of the Elmwood Neighborhood. This review, summarized in Table 5, indicates that study area roadways are expected to operate at LOS C or better from a segment capacity perspective. It is important to note that the segment of 36th Street (west of Highway 100) is planned to be reconfigured as a 3-lane facility (i.e., 2-westbound lanes and 1-eastbound lane) with turn lanes in 2022 as part of a bikeway project. This configuration was evaluated as part of the *36th Street Multimodal Feasibility Study*, which determined the planned configuration would provide sufficient future roadway capacity.

Table 5 Planning Level Roadway Capacity

Location	Future Facility Type	Forecasted 2040 ADT	Future 2040 Daily Level of Service
36th Street (west of Hwy 100)	3-Lane*	16,700	C*
36th Street (west of Wooddale Avenue)	2-Lane	4,700	B
Alabama Avenue (north of Oxford Street)	2-Lane	3,000	A
Alabama Avenue (north of Excelsior Blvd)	2-Lane	3,100	A
Cambridge Street (west of Alabama Avenue)	2-Lane	1,800	A
Wooddale Avenue (north of 36th Street)	4-Lane	12,300	B
Wooddale Avenue (west of Hwy 100)	3-Lane	8,900	B
Edgewood Avenue (west of CP Rail)	2-Lane	2,900	A

* *Represents 2-westbound and 1-eastbound travel lane per the planned bikeway project in 2022; the level of service is based on the average capacity of a 2-lane and 4-lane facility type.*

CONCLUSION

Regional and local transportation improvements, along with multimodal focused travel behavior changes, have offset the traffic growth associated with redevelopment in the Elmwood Neighborhood. Even with the forecasted growth assumptions, the existing and planned transportation system is expected to have reserve capacity and operate within acceptable levels of service. Thus, the Elmwood Neighborhood transportation network can support future planned redevelopment.

APPENDIX

Previous Land Use								Current Land Use							Net Change in Trips		
Zone ID	**Year Removed**	**Name**	**Size / Type *(ITE Code)* ***	**AM**	**PM**	**Daily**		**Year Built**	**Name**	**Size / Type *(ITE Code)* ***	**AM**	**PM**	**Daily**		**AM**	**PM**	**Daily**
1	2003	Quadion / MN Rubber	80,000 SF Industrial *(110)*	59	52	390		2005-2008	Village in the Park	60 Senior Units *(252)* 144 Condo/Townhome Units *(220)*	70	88	1165		11	36	775
2	2006	Hoigaards L&D Hjelle & H&A Ahrendt	42,000 SF Retail *(861)* 23,000 SF Industrial *(110)*	37	105	1111		2007-2008	Hoigaard Village (Phase 1)	298 Apartments *(221)* 25,000 SF Retail *(822)*	169	281	2714		132	176	1603
3	2007	Dworskly	24,500 SF Industrial *(110)*	18	16	119			N/A - Vacated for Roadway						-18	-16	-119
4	2009	Soomec Building	21,900 SF Retail *(890)*	6	11	139			N/A - Vacated for Roadway						-6	-11	-139
5	2005	Quadion / MN Rubber	60,000 SF Industrial *(110)*	44	39	292		2012	Towerlight	115 Senior Units *(252)* 4,000 SF Daycare *(565)* 6,000 SF Retail *(822)*	81	113	890		37	74	598
6	2006	The Frantz Family Partnership	12,000 SF Industrial *(110)*	9	8	58		2012-2013	Hoigaard Village (Phase 2)	22 Row Homes *(220)* 100 Apartments *(221)*	46	50	602		37	42	544
7	2011	Fire Station / Residential	15,500 SF Fire Station *(575)* 3-Single Family Homes *(210)*	9	10	128		2013	Fire Station	30,000 SF Fire Station (575)	14	14	140		5	4	12
8	2017-2018	McGarvey Coffee	27,500 SF Industrial *(110)*	20	18	134		2020-2021	PLACE Development (North Site)	217 Apartments *(221)* 5,100 SF Retail *(822)* 5-Employee Greenhouse *(817)*	95	129	1372		75	111	1238
9	2018	VFW #5632	11,500 SF Restaurant / Bar / Banquet *(931)* 11,500 Office *(710)*	17	56	544		2021	Elmwood	50 Apartments *(221)* 4,400 SF Retail *(822)*	29	49	467		12	-7	-77
			Total Trip Generation (Previous Developments)	**219**	**315**	**2915**				**Total Trip Generation (Current Sites)**	**504**	**724**	**7350**		**285**	**409**	**4435**
										Total Trip Generation (Less Zones 8 and 9)	**380**	**546**	**5511**		**198**	**305**	**3274**

Future Development

Previous Land Use								Proposed Land Use (Latest)							Net Change in Trips		
Zone ID	**Year Removed**	**Name**	**Size / Type *(ITE Code)* ***	**AM**	**PM**	**Daily**		**Year Built**	**Name**	**Size / Type *(ITE Code)* ***	**AM**	**PM**	**Daily**		**AM**	**PM**	**Daily**
10	N/A	Union Daycare	85 Kid Daycare *(565)*	66	67	348		FUTURE	Union Congregation Church	60 Apartments *(221)*	22	23	272		-44	-44	-76
11	N/A	Aldersgate Church	20,000 SF Church *(560)*	6	10	152		FUTURE	Aldersgate Church	114 Apartments *(221)*	42	44	518		36	34	366
12	N/A	Nash Frame/Commercial	15,000 SF Industrial *(110)* 24,000 SF Retail *(822)*	68	168	1380		FUTURE	Wooddale Station	293 Apartments *(221)* 17,000 SF Retail *(822)*	148	226	2256		80	58	876
			Total Trip Generation (Previous Developments)	**140**	**245**	**1880**				**Total Trip Generation (Current Sites)**	**212**	**293**	**3046**		**72**	**48**	**1166**