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MEMORANDUM

Date: August 15, 2024
To: Brian Hansen
From: Kelsey E. Larsen, P.E., PTOE
Bryan T. Nemeth, P.E., PTOE
Subject: Southtown Redevelopment Traffic Study Update
City of Bloomington, MN
Project No.: 24X135019000

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

By: Kelsey Larsen
Kelsey E. Larsen, P.E., PTOE
License No. 57829

Date: August 15, 2024

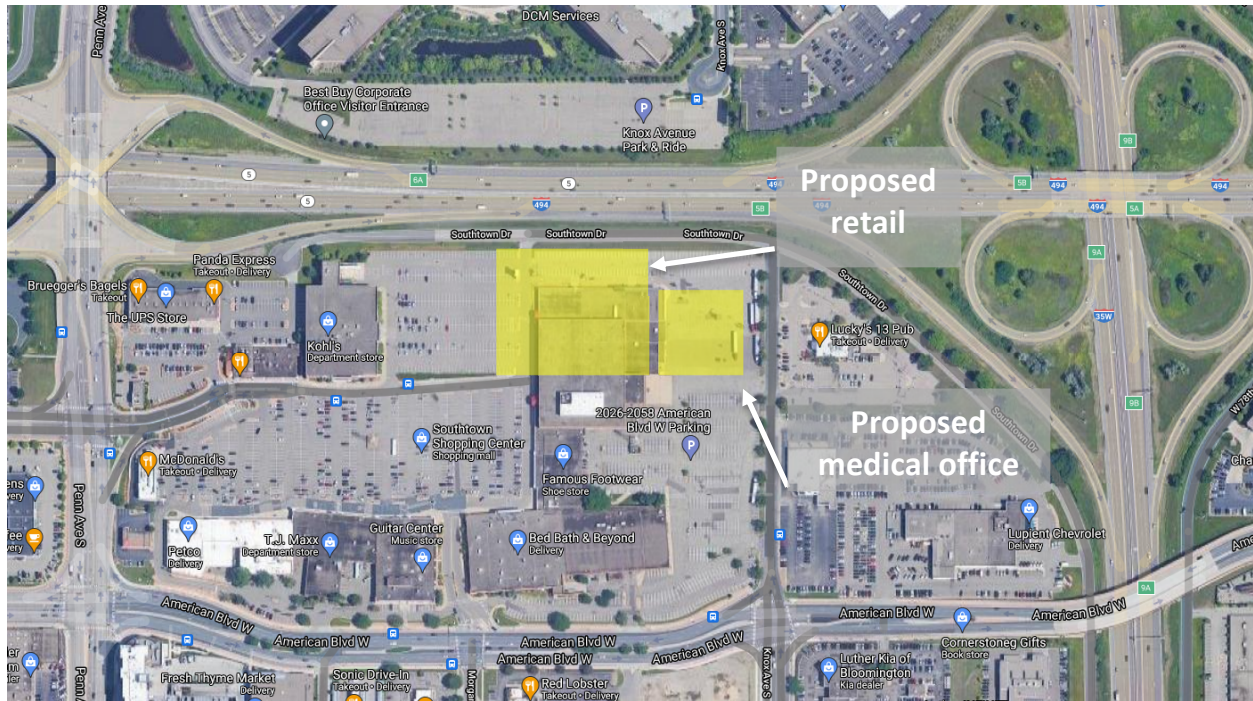
Introduction

A traffic study is being completed to analyze the proposed retail and medical office additions to the Southtown Shopping Center in Bloomington, MN. In 2021, a similar study was conducted to confirm and recommend alternatives for the internal site as well as the external intersections to accommodate other redevelopment; including grocery store, liquor store, and retail stores.

The proposed redevelopment would consist of a new 120,000 square foot (60,000 on two levels) retail store, with an attached 18,000 square foot athletic field. The future proposed development within Southtown Shopping center includes a medical office, which would be 104,000 square feet amongst 4 levels. See **Figure A** for the location map of the proposed redevelopment.

There are currently multiple entrances to the Southtown shopping center; one at the west end at Penn Ave and 79th St, one on the south end at American Blvd and Morgan Cir, and one on the east side, just north of the intersection at American Blvd and Knox Ave. See **Figure 1** in the **Appendix** for the proposed site plan. This memorandum analyzes the operational and safety impacts and reviews the site layout and circulation of the proposed development.

Figure A: Location Map



Existing Conditions

Data Collection

Traffic counts were collected in July 2022 as part of the I-494 reconstruction projects. Data was collected at the intersections of Penn Ave at 79th St, Penn Ave at American Blvd, American Blvd at Morgan Cir, and American Blvd at Knox Ave. The weekday PM peak was analyzed. The weekday PM peak hour was found to 4:15-5:15 pm. Turning movement count data from the previous analysis completed in 2021 was used and adjusted for the internal T-intersection to the east of Penn Ave and 79th St near the Applebee's. Additionally, for the weekend peak hour analyses, turning movement count data from the previous analysis completed in 2021 was referenced.

The 2022 turning movements (pre-494 construction) are shown in **Figure 2** the **Appendix**.

Operational Analysis

The traffic operation analysis for the intersection included an evaluation of existing intersection delay and Level of Service (LOS). LOS results are described using letters ranging from A to F. These letters serve to describe a range of operating conditions for different types of facilities. Levels of Service are calculated based on the Highway Capacity Manual (HCM) 7th Edition, which defines the LOS, based on control delay. Control delay is the delay experienced by vehicles slowing down as they are approaching the intersection, the wait time at the intersection, and the time for the vehicle to speed up through the intersection and enter into the traffic stream. The average intersection control delay is a volume weighted average of delay experienced by all motorists entering the intersection on all intersection approaches. The control delay is modeled within the analysis software, Trafficware Synchro and SimTraffic.

The PM Peak and Weekend Peak hours were modeled for the five intersections in the area surrounding the Southtown Shopping Center. The following scenarios were modeled to get an understanding of the current traffic operations:

- Existing (Pre I-494 Construction)
 - Reflects turning movements and traffic patterns as they were in 2022, before I-494 construction began
- Existing (Post I-494 Construction)
 - Reflects turning movements and traffic patterns as they will be once I-494 construction is completed, and certain movements are altered due to restrictions from the new interchange configurations at Penn Ave and I-35W.

The existing PM peak operations are shown in **Tables 1** and **2** for pre-494 construction and **Tables 5** and **6** for post-494 construction. The existing weekend peak operations are shown in **Tables 3** and **4** for pre-494 construction and **Tables 7** and **8** for post-494 construction.

Table 1. Existing (Pre 494 Construction) Traffic Operational Analysis- PM Peak

		PM Peak				
		Traffic Delay (sec/veh)				
Intersection	Approach	Movement (Delay - LOS)			Approach (Delay - LOS)	Intersection (Delay - LOS)
		L	T	R		
Southtown Center Internal <i>Stop Controlled</i>	EB	2 - A	2 - A	-	2 - A	4 - A
	WB	-	8 - A	4 - A	8 - A	
	NB	-	-	-	-	
	SB	6 - A	-	3 - A	4 - A	
Penn Ave and 79th St <i>Signalized</i>	EB	48 - D	45 - D	7 - A	32 - C	25 - C
	WB	57 - E	45 - D	19 - B	32 - C	
	NB	78 - E	16 - B	5 - A	21 - C	
	SB	61 - E	20 - C	2 - A	23 - C	
Penn Ave and American Blvd <i>Signalized</i>	EB	44 - D	40 - D	36 - D	40 - D	35 - D
	WB	68 - E	42 - D	5 - A	29 - C	
	NB	57 - E	40 - D	5 - A	40 - D	
	SB	43 - D	25 - C	3 - A	27 - C	
American Blvd and Morgan Cir <i>Signalized</i>	EB	40 - D	6 - A	6 - A	8 - A	15 - B
	WB	59 - E	11 - B	7 - A	14 - B	
	NB	60 - E	62 - E	36 - D	52 - D	
	SB	60 - E	54 - D	5 - A	39 - D	
American Blvd and Knox Ave <i>Signalized</i>	EB	74 - E	6 - A	5 - A	9 - A	14 - B
	WB	63 - E	7 - A	5 - A	11 - B	
	NB	62 - E	56 - E	1 - A	52 - D	
	SB	71 - E	59 - E	1 - A	48 - D	

Table 2. Existing (Pre 494 Construction) Queues by Movement – PM Peak

		PM Peak								
		Traffic Queuing (ft)								
Intersection	Approach	Left Turn			Through			Right Turn		
		Storage	Avg	Max	Link Length	Avg	Max	Storage	Avg	Max
Southtown Center Internal <i>Stop Controlled</i>	EB	-	-	-	-	-	-	-	-	-
	WB	-	-	-	400	75	125	-	75	125
	NB	-	-	-	-	-	-	-	-	-
	SB	-	50	75	-	-	-	-	50	75
Penn Ave and 79th St <i>Signalized</i>	EB	200	175	250	250	75	475	200	75	200
	WB	-	100	175	250	100	250	-	100	250
	NB	125	100	200	350	125	200	125	25	50
	SB	150	75	175	550	125	225	100	25	100
Penn Ave and American Blvd <i>Signalized</i>	EB	300	125	350	250	300	500	-	300	500
	WB	275	50	100	500	125	225	-	25	150
	NB	175	150	225	350	175	275	-	100	225
	SB	125	100	175	350	75	175	-	75	175
American Blvd and Morgan Cir <i>Signalized</i>	EB	100	50	125	300	25	125	-	25	125
	WB	175	50	150	350	100	225	-	100	225
	NB	-	100	175	75	100	175	-	100	175
	SB	-	100	200	300	100	200	-	50	75
American Blvd and Knox Ave <i>Signalized</i>	EB	225	50	100	300	100	200	-	100	200
	WB	100	50	125	200	100	225	-	100	225
	NB	250	100	225	250	50	75	-	-	-
	SB	75	25	100	150	25	75	150	25	25

Existing (Pre 494 Construction) PM Peak Delay:

- All movements operate with LOS E or better
- The intersection of Penn Ave at American Blvd operates with LOS D. All other intersections operate with LOS C or better.

Existing (Pre 494 Construction) PM Peak Queuing:

- Queues highlighted in red extend past the turn lanes or adjacent intersections. Queues in orange are through movement queues that extend beyond turn lanes.
- **Table 2** indicates that several maximum and a few average queues extend past the turn lanes or adjacent intersections.

Table 3. Existing (Pre 494 Construction) Traffic Operational Analysis- Weekend Peak

		Weekend Peak				
		Traffic Delay (sec/veh)				
Intersection	Approach	Movement (Delay - LOS)			Approach (Delay - LOS)	Intersection (Delay - LOS)
		L	T	R		
Southtown Center Internal <i>Stop Controlled</i>	EB	2 - A	2 - A	-	2 - A	5 - A
	WB	-	9 - A	6 - A	9 - A	
	NB	-	-	-	-	
	SB	7 - A	-	4 - A	5 - A	
Penn Ave and 79th St <i>Signalized</i>	EB	34 - C	32 - C	5 - A	24 - C	19 - B
	WB	40 - D	25 - C	13 - B	18 - B	
	NB	58 - E	15 - B	4 - A	18 - B	
	SB	35 - D	16 - B	2 - A	20 - C	
Penn Ave and American Blvd <i>Signalized</i>	EB	41 - D	35 - D	23 - C	34 - C	25 - C
	WB	44 - D	29 - C	3 - A	21 - C	
	NB	43 - D	21 - C	2 - A	26 - C	
	SB	33 - C	14 - B	2 - A	17 - B	
American Blvd and Morgan Cir <i>Signalized</i>	EB	54 - D	6 - A	5 - A	11 - B	13 - B
	WB	43 - D	6 - A	3 - A	9 - A	
	NB	44 - D	41 - D	17 - B	30 - C	
	SB	37 - D	39 - D	5 - A	26 - C	
American Blvd and Knox Ave <i>Signalized</i>	EB	43 - D	2 - A	2 - A	3 - A	6 - A
	WB	50 - D	4 - A	2 - A	6 - A	
	NB	43 - D	41 - D	1 - A	36 - D	
	SB	30 - C	38 - D	1 - A	21 - C	

Table 4. Existing (Pre 494 Construction) Queues by Movement – Weekend Peak

		Weekend Peak								
		Traffic Queuing (ft)								
Intersection	Approach	Left Turn			Through			Right Turn		
		Storage	Avg	Max	Link Length	Avg	Max	Storage	Avg	Max
Southtown Center Internal <i>Stop Controlled</i>	EB	-	25	25	-	25	25	-	-	-
	WB	-	-	-	400	75	125	-	75	125
	NB	-	-	-	-	-	-	-	-	-
	SB	-	50	75	-	-	-	-	50	75
Penn Ave and 79th St <i>Signalized</i>	EB	200	125	225	250	50	125	200	50	100
	WB	-	50	100	250	100	250	-	100	250
	NB	125	75	125	350	50	125	-	-	-
	SB	150	100	175	550	75	175	100	0	25
Penn Ave and American Blvd <i>Signalized</i>	EB	300	100	175	250	150	275	-	150	250
	WB	275	50	100	500	75	150	-	25	100
	NB	175	125	250	350	100	200	-	50	100
	SB	125	75	150	350	50	125	-	50	100
American Blvd and Morgan Cir <i>Signalized</i>	EB	100	50	100	300	25	75	-	25	75
	WB	175	50	100	350	50	125	-	50	125
	NB	-	75	175	75	75	175	-	75	175
	SB	-	100	175	300	100	175	-	50	75
American Blvd and Knox Ave <i>Signalized</i>	EB	225	25	75	300	25	75	-	25	75
	WB	100	25	50	200	50	125	-	50	125
	NB	250	50	150	250	25	75	-	-	-
	SB	75	25	50	150	25	50	150	0	25

Existing (Pre 494 Construction) Weekend Peak Delay:

- All movements operate with LOS D or better except the northbound left turn at Penn Ave and 79th St which operates with LOS E.
- All intersections operate with LOS C or better.

Existing (Pre 494 Construction) Weekend Peak Queuing:

- Queues highlighted in red extend past the turn lanes or adjacent intersections. Queues in orange are through movement queues that extend beyond turn lanes.
- **Table 4** indicates that several maximum queues extend past the turn lanes or adjacent intersections.

Using StreetLight Insight Origin-Destination analysis, the existing pre-494 construction traffic patterns of vehicles of entering and exiting traffic at Southtown Shopping Center were determined. **Figure B** shows the existing pre-494 construction traffic patterns.

Traffic along I-494, 76th St, Penn Ave, I-35W north of I-494, and a portion of vehicles along I-35W south of I-494 were found to enter/exit Southtown at Penn Ave and 79th St. Traffic along American Blvd west of Southtown enter/exit at the Morgan Cir access. Traffic along American Blvd east of Southtown, 82nd St, and a portion of vehicles along I-35W south of I-494 enter/exit at the Knox Ave access.

Figure B: Trip Distribution (PM Peak)



The I-494 project will impact how vehicles to and from I-35W will enter and exit Southtown. **Figure 3** in the **Appendix** shows the design changes currently under construction as a part of the I-494 project. The following movements were shifted for the “Post 494 Construction” scenarios:

- Traffic along northbound I-35W (South of I-494) can no longer take I-494 and exit at Penn Ave to enter the Southtown Shopping Center
 - Post I-494 construction this traffic is assumed to exit at 82nd St and enter Southtown at Knox Ave
 - During the PM peak, 12% of entering traffic from I-35W south of I-494 uses I-494. However, only 6.5% of all traffic entering Southtown are coming from I-35W south of I-494 so this only equates to 3 trips in the PM peak hour being shifted to 82nd St and Knox Ave.
 - During the Weekend peak, 22% of entering traffic from I-35W south of I-494 uses I-494. However, only 3% of all traffic entering Southtown are coming from I-35W south of I-494 so this also equates to only 3 trips during the weekend peak hour being shifted to 82nd St and Knox Ave.
- Traffic along southbound I-35W (North of I-494) can no longer take I-494 and exit at Penn Ave to enter the Southtown Shopping Center
 - Post I-494 construction this traffic is assumed to exit at 76th St and enter Southtown at Penn Ave
 - This does not re-route any trips in the project area, as both routes are assumed to enter Southtown at Penn Ave and 79th St
- Traffic exiting Southtown can no longer get to southbound I-35W via Penn/I-494
 - Post I-494 construction this traffic is assumed to exit the site at Knox Ave and use 82nd St to get to I-35W
 - During the PM peak, 27% of traffic destined for southbound I-35W uses I-494. However only 8.25% of all traffic exiting Southtown is destined for I-35W south of I-494 so this only equates to 8 trips in the PM peak hour being shifted to 82nd St and Knox Ave.
 - During the Weekend peak, 52% of traffic destined to for southbound I-35W uses I-494. However, only 4% of all traffic exiting Southtown is destined for I-35W south of I-494 so this only equates to 3 trips during the weekend peak hour being shifted to 82nd St and Knox Ave.

Figure C later in the report shows the percentages of traffic after these changes are made and what the development distributions are based on. **Figure 4** in the **Appendix** shows the turning movements for the PM peak hour and Weekend Peak hour in the ‘Post I-494 Construction’ scenario.

Table 5. Existing (Post 494 Construction) Traffic Operational Analysis- PM Peak

		PM Peak				
		Traffic Delay (sec/veh)				
Intersection	Approach	Movement (Delay - LOS)			Approach (Delay - LOS)	Intersection (Delay - LOS)
		L	T	R		
Southtown Center Internal <i>Stop Controlled</i>	EB	2 - A	2 - A	-	2 - A	4 - A
	WB	-	8 - A	5 - A	8 - A	
	NB	-	-	-	-	
	SB	6 - A	-	3 - A	4 - A	
Penn Ave and 79th St <i>Signalized</i>	EB	46 - D	41 - D	7 - A	30 - C	25 - C
	WB	59 - E	56 - E	21 - C	35 - D	
	NB	79 - E	17 - B	5 - A	23 - C	
	SB	58 - E	21 - C	2 - A	24 - C	
Penn Ave and American Blvd <i>Signalized</i>	EB	42 - D	38 - D	34 - C	38 - D	34 - C
	WB	69 - E	40 - D	4 - A	27 - C	
	NB	60 - E	39 - D	3 - A	40 - D	
	SB	43 - D	30 - C	4 - A	29 - C	
American Blvd and Morgan Cir <i>Signalized</i>	EB	40 - D	6 - A	6 - A	8 - A	15 - B
	WB	62 - E	13 - B	7 - A	16 - B	
	NB	60 - E	60 - E	35 - D	51 - D	
	SB	57 - E	60 - E	5 - A	36 - D	
American Blvd and Knox Ave <i>Signalized</i>	EB	81 - F	6 - A	5 - A	9 - A	14 - B
	WB	66 - E	8 - A	5 - A	12 - B	
	NB	62 - E	53 - D	1 - A	50 - D	
	SB	55 - E	49 - D	1 - A	38 - D	

Table 6. Existing (Post 494 Construction) Queues by Movement – PM Peak

		PM Peak								
		Traffic Queuing (ft)								
Intersection	Approach	Left Turn			Through			Right Turn		
		Storage	Avg	Max	Link Length	Avg	Max	Storage	Avg	Max
Southtown Center Internal <i>Stop Controlled</i>	EB	-	-	-	-	-	-	-	-	-
	WB	-	-	-	400	75	100	-	75	100
	NB	-	-	-	-	-	-	-	-	-
	SB	-	50	75	-	-	-	-	50	75
Penn Ave and 79th St <i>Signalized</i>	EB	200	175	250	250	50	300	200	75	175
	WB	-	100	150	250	100	225	-	100	225
	NB	125	100	200	350	125	175	125	25	100
	SB	150	100	175	550	125	250	100	25	100
Penn Ave and American Blvd <i>Signalized</i>	EB	300	100	300	250	300	450	-	300	450
	WB	275	50	100	500	100	175	-	25	125
	NB	175	150	250	350	175	250	-	75	225
	SB	125	100	150	350	75	200	-	75	200
American Blvd and Morgan Cir <i>Signalized</i>	EB	100	50	125	300	25	100	-	25	100
	WB	175	50	125	350	100	225	-	100	225
	NB	-	100	200	75	100	200	-	100	200
	SB	-	100	175	300	100	175	-	50	75
American Blvd and Knox Ave <i>Signalized</i>	EB	225	50	100	300	100	225	-	100	225
	WB	100	50	150	200	100	200	-	100	200
	NB	250	100	200	250	50	75	450	0	25
	SB	75	25	75	150	50	100	150	0	25

Existing (Post 494 Construction) PM Peak Delay:

- All movements operate with LOS E or better, except the eastbound left movement at American Blvd and Knox Ave, which operates with 81 seconds of delay per vehicle (LOS F)
- All intersections operate with LOS C or better.

Existing (Post 494 Construction) PM Peak Queuing:

- Queues highlighted in red extend past the turn lanes or adjacent intersections. Queues in orange are through movement queues that extend beyond turn lanes.
- **Table 6** indicates that several maximum and average queues extend past the turn lanes or adjacent intersections.

Table 7. Existing (Post 494 Construction) Traffic Operational Analysis- Weekend Peak

		Weekend Peak				
		Traffic Delay (sec/veh)				
Intersection	Approach	Movement (Delay - LOS)			Approach (Delay - LOS)	Intersection (Delay - LOS)
		L	T	R		
Southtown Center Internal <i>Stop Controlled</i>	EB	2 - A	2 - A	-	2 - A	4 - A
	WB	-	9 - A	5 - A	9 - A	
	NB	-	-	-	-	
	SB	7 - A	-	4 - A	5 - A	
Penn Ave and 79th St <i>Signalized</i>	EB	35 - D	32 - C	5 - A	25 - C	18 - B
	WB	41 - D	27 - C	11 - B	17 - B	
	NB	54 - D	12 - B	6 - A	15 - B	
	SB	37 - D	15 - B	2 - A	20 - C	
Penn Ave and American Blvd <i>Signalized</i>	EB	42 - D	34 - C	25 - C	34 - C	25 - C
	WB	42 - D	29 - C	3 - A	20 - C	
	NB	45 - D	21 - C	2 - A	27 - C	
	SB	31 - C	13 - B	2 - A	16 - B	
American Blvd and Morgan Cir <i>Signalized</i>	EB	54 - D	6 - A	6 - A	11 - B	14 - B
	WB	42 - D	6 - A	3 - A	9 - A	
	NB	41 - D	45 - D	18 - B	29 - C	
	SB	40 - D	40 - D	4 - A	29 - C	
American Blvd and Knox Ave <i>Signalized</i>	EB	45 - D	2 - A	2 - A	3 - A	7 - A
	WB	58 - E	3 - A	3 - A	5 - A	
	NB	43 - D	33 - C	1 - A	34 - C	
	SB	42 - D	38 - D	1 - A	25 - C	

Table 8. Existing (Post 494 Construction) Queues by Movement – Weekend Peak

		Weekend Peak								
		Traffic Queuing (ft)								
Intersection	Approach	Left Turn			Through			Right Turn		
		Storage	Avg	Max	Link Length	Avg	Max	Storage	Avg	Max
Southtown Center Internal <i>Stop Controlled</i>	EB	-	-	-	-	-	-	-	-	-
	WB	-	-	-	400	75	125	-	75	125
	NB	-	-	-	-	-	-	-	-	-
	SB	-	50	100	-	-	-	-	50	100
Penn Ave and 79th St <i>Signalized</i>	EB	200	125	225	250	50	200	200	50	75
	WB	-	50	125	250	100	200	-	100	200
	NB	125	75	150	350	50	125	125	25	150
	SB	150	100	200	550	75	150	100	25	50
Penn Ave and American Blvd <i>Signalized</i>	EB	300	100	150	250	175	300	-	175	300
	WB	275	50	100	500	75	125	-	25	100
	NB	175	125	225	350	100	175	-	50	150
	SB	125	75	150	350	50	150	-	50	100
American Blvd and Morgan Cir <i>Signalized</i>	EB	100	50	125	300	25	100	-	25	100
	WB	175	50	125	350	50	100	-	50	100
	NB	-	75	150	75	75	150	-	75	150
	SB	-	100	175	300	100	175	-	50	75
American Blvd and Knox Ave <i>Signalized</i>	EB	225	25	75	300	25	75	-	25	75
	WB	100	25	50	200	50	125	-	50	125
	NB	250	50	125	250	25	75	-	-	-
	SB	75	25	75	150	25	75	150	25	25

Existing (Post 494 Construction) Weekend Peak Delay:

- All movements operate with LOS D or better except the westbound left turn at American Blvd and Knox Ave which operates with LOS E.
- All intersections operate with LOS C or better.

Existing (Post 494 Construction) Weekend Peak Queuing:

- Queues highlighted in red extend past the turn lanes or adjacent intersections. Queues in orange are through movement queues that extend beyond turn lanes.
- **Table 8** indicates that several maximum queues extend past the turn lanes or adjacent intersections.

Build Analysis

Trip Generation

The development within the site is anticipated to take place in two phases. The retail space is anticipated to be developed in the near future, while the medical office space is not assumed to be built in the near-term, but by 2046. The ITE Trip Generation Manual (11th Edition) was used to determine the added daily weekday and peak hour trips anticipated with the proposed redevelopment. For the retail and athletic field combined 138,000 square feet, the Land Use Code (LUC) #861 for a sporting goods superstore was used. To be conservative the total square footage of the store and athletic field was used to generate trips. **Table 9** shows the near-term retail development anticipated trips for the PM Peak, Weekend Peak, and Weekday.

Table 9. Trip Generation for Proposed Retail

Land Use	PM Peak		Weekend Peak		Weekday	
	Entering	Exiting	Entering	Exiting	Entering	Exiting
Retail Space	136	160	281	270	1754	1754

An internal-to-internal reduction was assumed for trips that would make multiple stops within the Southtown Shopping Center. The retail store was assumed to have an internal-to-internal reduction of 20% during the PM and Weekend peak hours and 30% reduction during the overall day. With this reduction accounted for the total trips for the new retail space are shown below in **Table 10**.

Table 10. Trip Generation for Proposed Retail (Reduced)

Land Use	PM Peak		Weekend Peak		Weekday	
	Entering	Exiting	Entering	Exiting	Entering	Exiting
Retail Space (Reduced)	109	128	200	208	1228	1228

The ITE Trip Generation Handbook was used to estimate the number of pass-by vs new trips. Pass-by trips are trips already on the adjacent roadways that make a stop on the way to another destination. New trips are trips made by people driving solely to this site and then returning to where they came from. The ITE Trip Generation Manual recommends assuming 34% of the trips for a retail store are pass-by trips.

Also, since there are some businesses currently open (or were open in 2022 when traffic counts were conducted) that will be removed by the redevelopment, the following ITE codes were used to estimate the number of existing trips that would be removed:

- #876 – Apparel Store: assumed for the existing Famous Footwear
- #712 – Small Office Building: assumed for the existing World Class Travel Leaders
- #918 – Hair Salon: assumed for the existing Massage Envy
- #890 – Furniture Store: assumed for the existing Mattress Factory

An internal-to-internal reduction of 20% during the PM and Weekend peak hours and 30% reduction during the overall day was assumed for the Famous Footwear, but not for the other businesses. The total existing trips during the PM peak hour, Weekend peak hour, and total daily (weekday) that would be removed from the current businesses are shown below in **Table 11**.

Table 11. Trip Generation for Current Businesses (to be removed with the redevelopment)

Land Use	PM Peak		Weekend Peak		Weekday	
	Entering	Exiting	Entering	Exiting	Entering	Exiting
Existing Businesses	22	30	32	34	283	310

Table 12 shows the net number of trips added to the Southtown Shopping Center with the redevelopment. This was determined by adding together the new trips for the retail space and subtracting out the trips for the current businesses that will close with the redevelopment.

Table 12. Trips Added with Redevelopment at the Southtown Shopping Center

Land Use	PM Peak		Weekend Peak		Weekday	
	Entering	Exiting	Entering	Exiting	Entering	Exiting
Total Added with Redevelopment	87	98	193	182	945	918

Trip Distribution

The trip distribution of the new and pass-by trips with the redevelopment were estimated using StreetLight InSight’s Origin-Destination analyses. The distribution percentages of the trips entering and exiting the Southtown Shopping Center is as follows during the PM peak hour:

- 46.5% will enter and 63.5% will exit to/from the north, using the Penn/79th intersection. These vehicles are those coming from/destined for Penn Ave to the north, Interstate 35W to the north, and Interstate 494.
- 11% will enter and 7% will exit to/from the south, using the American/Penn and Penn/79th intersections. These vehicles are coming from/destined for Penn Ave to the south.
- 18.5% will enter and 10.25% will exit to/from the west, using the American/Penn intersection and American/Morgan intersections. These vehicles are coming from/destined for American Blvd to the west.
- 15% will enter and 9% will exit to/from the east, using the American/Knox intersection. These vehicles are coming from/destined for American Blvd to the east.
- 9% will enter and 10.25% will exit to/from the south, using the American/Knox intersection. These vehicles are coming from/destined for 82nd St and Interstate 35W to the south.

The distribution percentages of the trips entering and exiting the Southtown Shopping Center is as follows during a weekend peak hour:

- 50% will enter and 68% will exit to/from the north, using the Penn/79th intersection. These vehicles are those coming from/destined for Penn Ave to the north, Interstate 35W to the north, and Interstate 494.
- 11% will enter and 4% will exit to/from the south, using the American/Penn and Penn/79th intersections. These vehicles are coming from/destined for Penn Ave to the south.
- 16.5% will enter from the west, using the American/Penn intersection and American/Morgan intersections. These vehicles are coming from American Blvd to the west.
- 14% will enter and 20% will exit to/from the east, using the American/Knox intersection. These vehicles are coming from/destined for American Blvd to the east.
- 8.5% will enter and 8% will exit to/from the south, using the American/Knox intersection. These vehicles are coming from/destined for 82nd St and Interstate 35W to the south.

See **Figure C** and **Figure D** below for a more detailed breakdown of the trip distribution percentages that the assumptions were based on for the PM and Weekend peak hours.

Figure C: Trip Distribution (PM Peak)

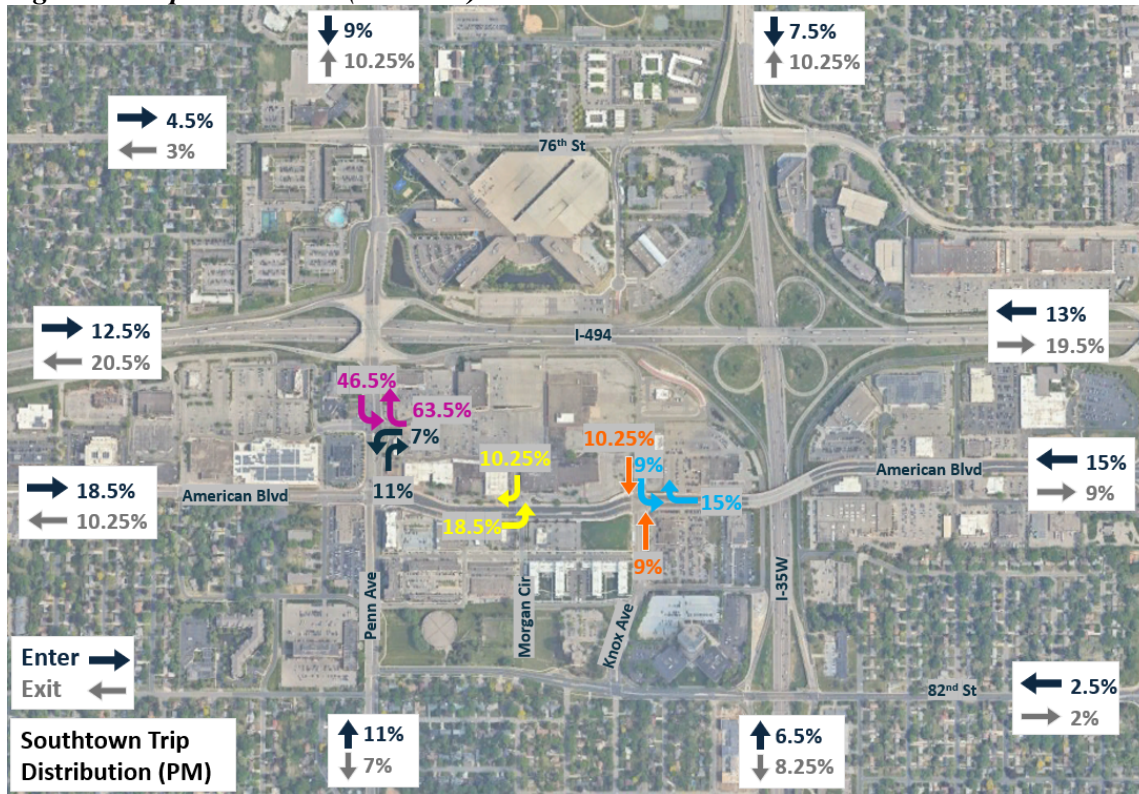


Figure D: Trip Distribution (Weekend Peak)

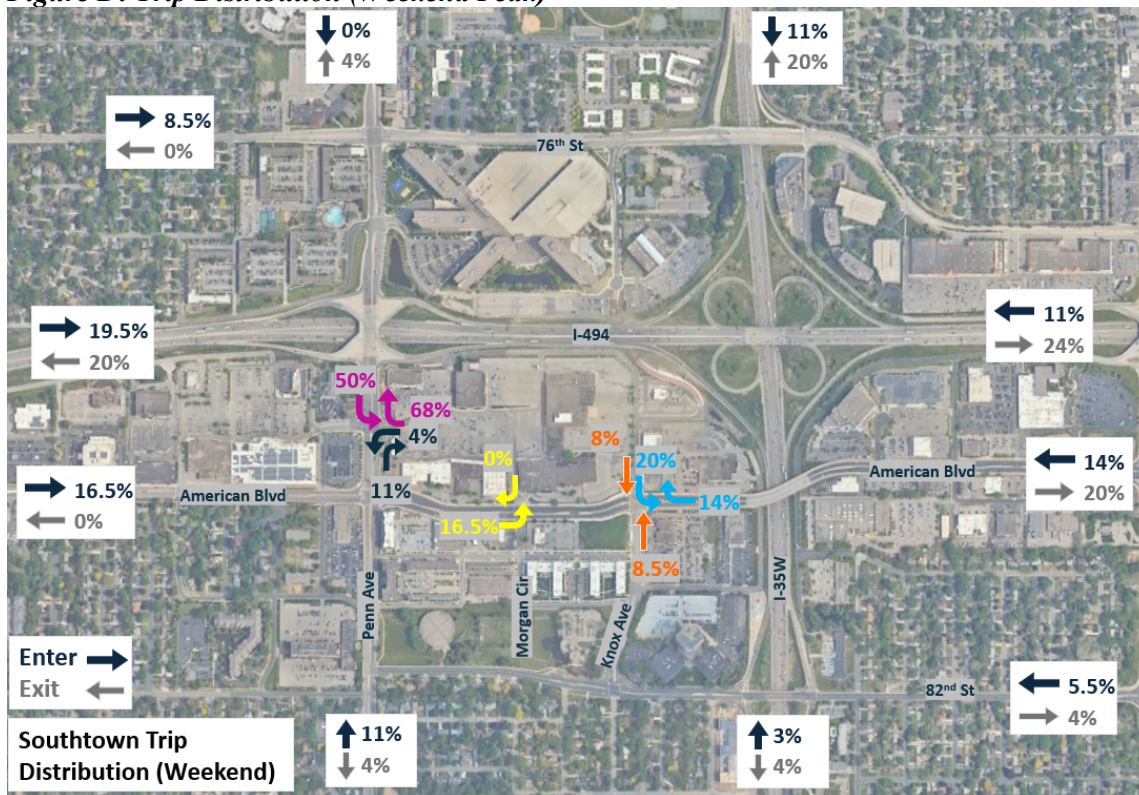


Figure 5 in the Appendix shows the turning movements for the PM peak and Weekend Peak hours with the proposed retail development.

Build Operational Analysis

The existing roadway layout was analyzed with the increased volume sets. The PM and Weekend Peaks were analyzed for the partial development volume scenario, which includes the retail development only. The full development; which includes both the retail and medical office development, was considered for the 2046 build scenario. The build operations are shown in Tables 13 through 16.

Table 13. Partial Development Traffic Operational Analysis – PM Peak

		PM Peak				
		Traffic Delay (sec/veh)				
Intersection	Approach	Movement (Delay - LOS)			Approach (Delay - LOS)	Intersection (Delay - LOS)
		L	T	R		
Southtown Center Internal <i>Stop Controlled</i>	EB	2 - A	2 - A	-	2 - A	5 - A
	WB	-	9 - A	5 - A	9 - A	
	NB	-	-	-	-	
	SB	7 - A	-	4 - A	5 - A	
Penn Ave and 79th St <i>Signalized</i>	EB	47 - D	44 - D	7 - A	31 - C	26 - C
	WB	59 - E	55 - E	17 - B	31 - C	
	NB	76 - E	18 - B	5 - A	23 - C	
	SB	60 - E	20 - C	2 - A	25 - C	
Penn Ave and American Blvd <i>Signalized</i>	EB	40 - D	38 - D	31 - C	38 - D	34 - C
	WB	70 - E	40 - D	5 - A	28 - C	
	NB	60 - E	38 - D	4 - A	40 - D	
	SB	45 - D	30 - C	4 - A	30 - C	
American Blvd and Morgan Cir <i>Signalized</i>	EB	45 - D	6 - A	5 - A	9 - A	16 - B
	WB	57 - E	14 - B	7 - A	16 - B	
	NB	57 - E	65 - E	37 - D	51 - D	
	SB	58 - E	58 - E	5 - A	37 - D	
American Blvd and Knox Ave <i>Signalized</i>	EB	73 - E	7 - A	6 - A	10 - B	15 - B
	WB	64 - E	8 - A	6 - A	12 - B	
	NB	61 - E	53 - D	2 - A	49 - D	
	SB	55 - E	52 - D	1 - A	39 - D	

Table 14. Partial Development Queues by Movement – PM Peak

		PM Peak								
		Traffic Queuing (ft)								
Intersection	Approach	Left Turn			Through			Right Turn		
		Storage	Avg	Max	Link Length	Avg	Max	Storage	Avg	Max
Southtown Center Internal <i>Stop Controlled</i>	EB	-	-	-	-	-	-	-	-	-
	WB	-	-	-	400	75	150	-	75	150
	NB	-	-	-	-	-	-	-	-	-
	SB	-	50	75	-	-	-	-	50	75
Penn Ave and 79th St <i>Signalized</i>	EB	200	175	250	250	75	325	200	75	200
	WB	-	100	200	250	100	225	-	100	225
	NB	125	100	175	350	125	225	-	-	-
	SB	150	100	175	550	125	225	100	25	50
Penn Ave and American Blvd <i>Signalized</i>	EB	300	125	300	250	300	450	-	300	450
	WB	275	50	100	500	100	200	-	25	150
	NB	175	150	250	350	175	275	-	75	200
	SB	125	100	175	350	75	175	-	75	175
American Blvd and Morgan Cir <i>Signalized</i>	EB	100	75	150	300	25	150	-	25	100
	WB	175	50	125	350	100	250	-	100	225
	NB	-	100	175	75	100	175	-	100	175
	SB	-	100	200	300	100	200	-	50	75
American Blvd and Knox Ave <i>Signalized</i>	EB	225	50	125	300	125	200	-	125	200
	WB	100	50	150	200	100	200	-	100	200
	NB	250	100	175	250	50	100	450	0	25
	SB	75	25	75	150	50	100	150	25	50

Partial Development PM Peak Delay:

- Traffic operations remain similar to the existing condition with all movements operating with LOS E or better and all intersections operating with LOS C or better
- There are no notable delay changes with the additional traffic from the proposed retail development

Partial Development PM Peak Queuing:

- Traffic queues are also similar to the existing condition
- Nearly all maximum through queues are anticipated to block turn lanes or extend beyond adjacent intersections.
- Several maximum left turn queues are anticipated to extend beyond the channelized turn lanes.

Table 15. Partial Development Traffic Operational Analysis – Weekend Peak

		Weekend Peak				
		Traffic Delay (sec/veh)				
Intersection	Approach	Movement (Delay - LOS)			Approach (Delay - LOS)	Intersection (Delay - LOS)
		L	T	R		
Southtown Center Internal <i>Stop Controlled</i>	EB	3 - A	3 - A	-	3 - A	6 - A
	WB	-	11 - B	8 - A	11 - B	
	NB	-	-	-	-	
	SB	8 - A	-	5 - A	6 - A	
Penn Ave and 79th St <i>Signalized</i>	EB	32 - C	34 - C	5 - A	24 - C	21 - C
	WB	38 - D	36 - D	15 - B	19 - B	
	NB	54 - D	17 - B	5 - A	19 - B	
	SB	40 - D	18 - B	2 - A	24 - C	
Penn Ave and American Blvd <i>Signalized</i>	EB	37 - D	37 - D	27 - C	36 - D	27 - C
	WB	37 - D	36 - D	3 - A	24 - C	
	NB	45 - D	21 - C	2 - A	28 - C	
	SB	32 - C	15 - B	3 - A	18 - B	
American Blvd and Morgan Cir <i>Signalized</i>	EB	57 - E	6 - A	5 - A	11 - B	13 - B
	WB	38 - D	6 - A	3 - A	9 - A	
	NB	42 - D	44 - D	19 - B	32 - C	
	SB	38 - D	38 - D	4 - A	24 - C	
American Blvd and Knox Ave <i>Signalized</i>	EB	39 - D	2 - A	3 - A	3 - A	7 - A
	WB	57 - E	4 - A	3 - A	5 - A	
	NB	41 - D	32 - C	1 - A	28 - C	
	SB	38 - D	35 - D	1 - A	28 - C	

Table 16. Partial Development Queues by Movement – Weekend Peak

		Weekend Peak								
		Traffic Queuing (ft)								
Intersection	Approach	Left Turn			Through			Right Turn		
		Storage	Avg	Max	Link Length	Avg	Max	Storage	Avg	Max
Southtown Center Internal <i>Stop Controlled</i>	EB	-	-	-	-	-	-	-	-	-
	WB	-	-	-	400	100	225	-	100	225
	NB	-	-	-	-	-	-	-	-	-
	SB	-	50	100	-	-	-	-	50	100
Penn Ave and 79th St <i>Signalized</i>	EB	200	125	200	250	50	150	200	50	75
	WB	-	50	125	250	125	275	-	125	275
	NB	125	75	125	350	50	125	-	-	-
	SB	150	150	225	550	100	200	100	25	25
Penn Ave and American Blvd <i>Signalized</i>	EB	300	100	175	250	175	325	-	175	325
	WB	275	50	100	500	100	150	-	25	75
	NB	175	150	225	350	100	200	-	50	125
	SB	125	75	125	350	50	100	-	50	100
American Blvd and Morgan Cir <i>Signalized</i>	EB	100	50	100	300	25	100	-	25	100
	WB	175	50	100	350	50	100	-	50	100
	NB	-	75	150	75	75	150	-	75	150
	SB	-	100	150	300	100	150	-	50	75
American Blvd and Knox Ave <i>Signalized</i>	EB	225	25	50	300	25	100	-	25	100
	WB	100	25	50	200	50	125	-	50	125
	NB	250	75	125	250	25	50	-	-	-
	SB	75	25	75	150	50	75	150	25	50

Partial Development Weekend Peak Delay:

- Most movements operate with LOS D or better
 - The eastbound left on American Blvd at Morgan Cir and the westbound left on American Blvd at Knox operate with LOS E
- All intersections operate with LOS C or better
- There are no notable delay changes with the additional traffic from the proposed retail development

Partial Development Weekend Peak Queuing:

- Traffic queues are similar to the existing condition
- A few maximum left turn queues and several through maximum queues are anticipated to extend beyond the channelized turn lanes and adjacent intersections.

Future Year Analysis

An analysis of the full development build out with 2046 traffic volumes was completed. Forecasted 2046 volumes at the Penn Ave/79th St and Penn Ave/American Blvd were completed for the Interstate 494 project. The Interstate 494 project did not forecast volumes along American Blvd to the east so volumes at the American Blvd/Morgan Cir and American Blvd/Knox Ave were adjusted by increasing the eastbound and westbound through volumes to balance with the volumes provided at the Penn Ave/American Blvd intersection. Additionally, the ITE Trip Generation Manual was used to estimate the anticipated trips for the medical office building.

The ITE code #630 (clinic) was used to estimate the number of trips produced by the future potential development. No internal reduction was assumed for the medical office as all trips are expected to be primary purpose trips. **Table 17** shows the estimated trips during the PM peak hour and overall weekday for the future potential development. The medical office was assumed to be closed on the weekend.

Table 17. Trip Generation for the Future Medical Office Development

Land Use	PM Peak		Weekday	
	Entering	Exiting	Entering	Exiting
Medical Office	115	269	1956	1956

These trips were assumed to enter and exit the project area in the same distribution pattern assumed for the near-term retail development as shown in **Figure C. Figure 6** in the **Appendix** shows the turning movements for the PM peak hour in the 2046 Full Build scenario.

Tables 18 and **19** show the delay and queuing anticipated with the 2046 volumes and full build out.

Table 18. 2046 Full Development Traffic Operational Analysis – PM Peak

		PM Peak				
		Traffic Delay (sec/veh)				
Intersection	Approach	Movement (Delay - LOS)			Approach (Delay - LOS)	Intersection (Delay - LOS)
		L	T	R		
Southtown Center Internal <i>Stop Controlled</i>	EB	2 - A	2 - A	-	2 - A	8 - A
	WB	-	14 - B	12 - B	14 - B	
	NB	-	-	-	-	
	SB	8 - A	-	4 - A	5 - A	
Penn Ave and 79th St <i>Signalized</i>	EB	38 - D	34 - C	12 - B	26 - C	29 - C
	WB	51 - D	33 - C	30 - C	35 - D	
	NB	78 - E	20 - C	7 - A	25 - C	
	SB	59 - E	35 - D	6 - A	35 - D	
Penn Ave and American Blvd <i>Signalized</i>	EB	85 - F	93 - F	85 - F	91 - F	56 - E
	WB	86 - F	28 - C	8 - A	30 - C	
	NB	93 - F	46 - D	19 - B	50 - D	
	SB	88 - F	39 - D	16 - B	47 - D	
American Blvd and Morgan Cir <i>Signalized</i>	EB	51 - D	11 - B	10 - B	14 - B	18 - B
	WB	66 - E	18 - B	11 - B	20 - C	
	NB	61 - E	57 - E	35 - D	52 - D	
	SB	59 - E	60 - E	7 - A	33 - C	
American Blvd and Knox Ave <i>Signalized</i>	EB	68 - E	12 - B	11 - B	14 - B	17 - B
	WB	67 - E	10 - B	9 - A	13 - B	
	NB	63 - E	49 - D	2 - A	49 - D	
	SB	62 - E	56 - E	2 - A	51 - D	

Table 19. 2046 Full Development Queues by Movement – PM Peak

		PM Peak								
		Traffic Queuing (ft)								
Intersection	Approach	Left Turn			Through			Right Turn		
		Storage	Avg	Max	Link Length	Avg	Max	Storage	Avg	Max
Southtown Center Internal <i>Stop Controlled</i>	EB	-	-	-	-	0	25	-	-	-
	WB	-	-	-	400	125	350	-	125	350
	NB	-	-	-	-	-	-	-	-	-
	SB	-	50	100	-	-	-	-	50	100
Penn Ave and 79th St <i>Signalized</i>	EB	200	175	250	250	100	500	200	100	225
	WB	-	100	225	250	200	375	-	200	325
	NB	125	125	250	350	150	300	125	50	200
	SB	150	150	275	550	250	450	100	75	150
Penn Ave and American Blvd <i>Signalized</i>	EB	300	225	375	250	650	1425	-	650	1425
	WB	275	100	250	500	125	275	-	75	250
	NB	175	225	325	350	250	450	-	250	400
	SB	125	175	325	350	200	375	-	200	375
American Blvd and Morgan Cir <i>Signalized</i>	EB	100	75	150	300	100	200	-	100	200
	WB	175	75	225	350	175	325	-	175	325
	NB	-	100	200	75	100	200	-	100	200
	SB	-	100	200	300	100	200	-	50	100
American Blvd and Knox Ave <i>Signalized</i>	EB	225	50	225	300	200	400	-	200	400
	WB	100	50	175	200	150	325	-	150	325
	NB	250	100	175	250	50	125	450	25	50
	SB	75	50	125	150	75	150	150	25	125

2046 Full Development PM Peak Delay:

- The following movements are anticipated to operate with failing LOS:
 - All eastbound movements, the westbound left, the northbound left, and the southbound left turn at the intersection of Penn Ave and American Blvd
- The intersection of Penn Ave and American Blvd overall is anticipated to operate with LOS E, all others are anticipated to operate with LOS C or better.

2046 Full Development PM Peak Queuing:

- Nearly all maximum through queues are anticipated to block turn lanes or extend beyond adjacent intersections.
- Several maximum left turn queues are anticipated to extend beyond the channelized turn lanes.
- The maximum westbound queue at Penn Ave and 79th St extends 125 feet beyond its storage, blocking the internal T-intersection near Applebee's. However, the average queue for this movement is within the storage length of 250 feet.

The Full Development analysis indicates that there are operational concerns with future volumes at American Blvd and Penn Ave, however, the intersections directly serving traffic entering and existing Southtown are anticipated to continue operating acceptably through 2046.

Site Layout and Circulation Review Analysis

The current proposed layout includes several improvements based on the results and recommendations of the 2021 study. The site layout was reviewed to determine which improvements are still recommended, which no longer apply, and a general review of how the proposed layout serves all modes of traffic including parking customers, delivery trucks and pedestrians. Each are discussed below.

Parking Customers:

- Parking is currently being revised and will be reviewed by city staff in detail, so it was omitted from this analysis.

Delivery Truck Access:

- The proposed layout shows adequate accommodations for delivery trucks. Delivery trucks are assumed to enter at any of the Southtown accesses, turn near the existing Kohls to get to the back of the store, and exit the site Via Knox Ave.

Pedestrians:

- There is existing sidewalk along Penn Avenue and American Boulevard.
- Within the Southtown Shopping Center there is sidewalk along the 79th St access, Morgan Cir access, and in front of most existing and proposed businesses.
- Improved pedestrian ramps are shown and recommended in front of most businesses with striped crossings leading pedestrians into the parking lot.
- Within Southtown Center, multiple pedestrian routes are proposed for circulation of pedestrians throughout the shopping center. Three pedestrian routes are shown north-south within the parking lot to connect patrons to businesses on the north and south side of the shopping center. These connections are shown on the west side of the parking lot between Kohls/T.J. Maxx, in the middle of the parking lot on the east side of Morgan Cir, and on the east side of the parking lot between the AMF Bowling Alley and east of the proposed retail space.

- A wide raised crosswalk is shown in front of Kohls
- Overall, the planned pedestrian routes provide patrons of the Southtown Shopping Center with clear and convenient crossing locations, but improvements are recommended at a few locations.
 - Morgan Circle: Marked crosswalks and pedestrian ramps are shown at the intersection of Morgan Cir and the initial parking lot access just north of American Blvd. MnMUTCD compliant pedestrian signage and crosswalk markings are recommended to define the north leg pedestrian crossing more clearly. Currently, there is a “PED XING” signage that should be removed. Instead, the pedestrian crossing assembly (W11-2 and W16-7P signage per the MnMUTCD) should be installed on either side of the approaches to the pedestrian crossing (both sides of Morgan Cir) and in street pedestrian crossing signage (R1-6c) should be installed in the center median.
 - Pedestrian crossing near Applebee’s: This location is currently marked and signed to warn drivers of the pedestrian crossing location. This crossing should be improved by removing the “PED XING” signage from the median and adding in street pedestrian crossing signage (R1-6c) in its place. The existing pedestrian crossing signage on the south side of the crossing and raised median should be maintained with the reconstruction of this intersection.
 - Add pedestrian ramps and marked crosswalks west of the new proposed retail and between the proposed retail and medical office building.
 - Add an improved pedestrian crossing in front of proposed retail store, similar to what’s shown in front of Kohls entrance
 - Add a marked crosswalk at the driveway on Knox Ave on the east end of Southtown near the future medical office building.

Internal Access:

- The intersection access routes connecting Penn Ave and Morgan Circle extend through the site, creating streamlined access and circulation throughout the shopping center. Each parking lane in the middle of the shopping center allows for vehicles to enter and exit the main routes that connect to the entrances/exits.
- The proposed layout shows the two eastbound lanes entering Southtown from the 79th St and Penn Ave access extending to Morgan Circle. Instead, the two eastbound lanes are recommended only from Penn Ave to the pedestrian crossing in front of Kohl’s. Dropping the second lane just before the pedestrian crossing at Kohl’s allows pedestrians to cross only one lane of traffic per direction. The pedestrian crossing at Kohl’s is proposed to be one of three major north-south crossings within Southtown. Under the existing condition the second lane drop occurs just after the pedestrian crossing near Applebee’s. Extending the second lane to the Kohl’s pedestrian crossing will improve traffic flow, allowing vehicles to focus on the pedestrian crossing near Applebee’s and then get into their correct lane based on where their destination is.
- The previous study showed a need to reconstruct the east leg of the 79th St and Penn Ave intersection to allow for a westbound left, thru, and right turn lane. The existing approach is a shared westbound thru-left and thru-right. With lower traffic volumes anticipated with the proposed retail use than the previous proposed use with the 2021 study, there is no longer an operational need to reconstruct the westbound approach to accommodate the additional lane. Therefore, the existing westbound thru-left and thru-right is recommended to remain in place which also allows the existing median to remain in place.

- The previous study also showed a need for an eastbound left turn lane at the internal T-intersection near Applebee’s to keep the heavy eastbound through movement flowing easily. Again, with lower traffic volumes anticipated there is no longer a need for this turn lane.

Wayfinding Signage:

- Overhead signage is shown on the layout per a recommendation from the previous study to inform traffic entering the Southtown Shopping Center at the Penn Ave/79th St access what lane they need to be in to get to destinations within the shopping center. This is no longer needed with lower traffic volumes anticipated with the new proposed use.

Signal Timing Modifications:

- The 2021 analysis evaluated and proposed altered signal timing and even a second left turn phase on the southbound approach at Penn Ave and 79th St to minimize queuing concerns. This is no longer necessary as the intersection and approach operate acceptably proposed retail development.
- The 2021 study also recommended optimizing splits and reevaluating the signal timing for the intersections surrounding the Southtown Shopping Center. This is no longer necessary as the intersections are found to operate similar to the existing condition with the proposed retail development.

Conclusion

Trip Generation/Distribution

- Trips generated from the proposed retail were dispersed to the multiple entrances and exits to the Southtown Shopping Center via current traffic patterns and future roadway configurations. The table below shows the amount of additional trips the redevelopment is anticipated to add at Southtown during the PM peak hour, the Weekend peak hour, and during a typical weekday.

PM Peak		Weekend Peak		Weekday	
Entering	Exiting	Entering	Exiting	Entering	Exiting
87	98	193	182	945	918

Existing Traffic Operations

- All intersections operate with LOS C or better during the PM and Weekend peak hours.
- There are currently problematic maximum queues at all of the intersections (except the internal T-intersection) during both the PM and Weekend peak hours.

Partial Development Traffic Operations

- All intersections operate with LOS C or better during the PM and Weekend peak hours.
- Queues extend slightly from the existing (Post 494 Construction) condition, but by no more than 50 feet
- The existing roadway configuration at the intersections adjacent to Southtown are anticipated to operate acceptably with the additional traffic from the proposed retail development.

2046 Full Development Traffic Operations

- All intersections operate with LOS C or better during the PM peak hour, except for the intersection of Penn Ave and American Blvd, which operates with LOS E. There are several failing movements at this intersection; each left turn movement, and each eastbound movement fails with 85-93 seconds of delay per vehicle.
- The intersections directly serving traffic entering and existing Southtown are anticipated to continue operated acceptably through 2046.

Site Layout and Circulation Review

The proposed site layout was reviewed to determine how it serves all modes of traffic including parking customers, delivery trucks, and pedestrians. The requirements for each mode of traffic are listed below.

- Parking Customers
 - Parking is currently being revised and will be reviewed by city staff in detail, so it was omitted from this analysis.
- Pedestrians
 - The improved pedestrian ramps and marked crosswalks throughout the site are recommended to allow pedestrians to safely navigate the proposed site and provide access to existing public sidewalks.
 - The planned pedestrian routes provide patrons of the Southtown Shopping Center with clear and convenient crossing locations.
 - Additional improvements are recommended as follows:
 - Morgan Circle: Marked crosswalks and pedestrian ramps are shown at the intersection of Morgan Cir and the initial parking lot access just north of American Blvd. MnMUTCD compliant pedestrian signage is recommended to define the north leg pedestrian crossing more clearly. Currently, there is a “PED XING” signage that should be removed. Instead, the pedestrian crossing assembly (W11-2 and W16-7P signage per the MnMUTCD) should be installed on either side of the approaches to the pedestrian crossing (both sides of Morgan Cir) and in street pedestrian crossing signage (R1-6c) should be installed in the center median.
 - Pedestrian crossing near Applebee’s: This location is currently marked and signed to warn drivers of the pedestrian crossing location. This crossing should be improved by removing the “PED XING” signage from the median and adding in street pedestrian crossing signage (R1-6c) in its place. The existing pedestrian crossing signage on the south side of the crossing and raised median should be maintained with the reconstruction of this intersection.
 - Add pedestrian ramps and marked crosswalks west of the new proposed retail and between the proposed retail and medical office building.
 - Add an improved pedestrian crossing in front of proposed retail store, similar to what’s shown in front of Kohls entrance
 - Add a marked crosswalk at the driveway on Knox Ave on the east end of Southtown near the future medical office building.

Recommendations

The following recommendations are proposed with the Southtown Redevelopment, based on the current site plan layout. These recommendations are shown on a marked up site layout in **Figure 7** in the **Appendix**.

Geometric Changes:

- While previously found to be necessary, the separate right turn lane on westbound 79th St at Penn Ave is no longer needed with the current proposed development
- The eastbound left turn lane at the internal T-intersection near Applebee's is also not needed with the current proposed development
- The two eastbound through lanes entering the Southtown Shopping Center at the Penn Ave/79th St access from Penn Ave to Kohl's are recommended to be retained to improve traffic flow. Previously the two eastbound lanes were shown from Penn Ave to Morgan Cir. Dropping the second lane just before the pedestrian crossing at Kohl's allows pedestrians to cross only one lane of traffic per direction. Under the existing condition the second lane drop occurs just after the pedestrian crossing near Applebee's. Extending the second lane to the Kohl's pedestrian crossing will improve traffic flow, allowing vehicles to focus on the pedestrian crossing near Applebee's and then get into their correct lane based on where their destination is. Modified signing and striping to warn drivers of the lane drop are recommended as shown in **Figure 7** in the **Appendix**. Extending the median in front of Kohl's and reconfiguring the eastbound lanes between Kohl's and Morgan Circle are also recommended with this change in design.

Wayfinding Signage:

- The overhead signage currently shown on the layout is no longer needed with lower traffic volumes anticipated with the new proposed use.

Pedestrian Accommodations

- In addition to what is currently shown, improved pedestrian accommodations are recommended as follows:
 - Morgan Circle: Remove "PED XING" signage and install the pedestrian crossing assembly (W11-2 and W16-7P signage per the MnMUTCD) on either side of the approaches to the pedestrian crossing (both sides of Morgan Cir) and in street pedestrian crossing signage (R1-6c) in the center median.
 - Pedestrian crossing near Applebee's: Remove the "PED XING" signage from the median and add in street pedestrian crossing signage (R1-6c) in its place.
 - Add pedestrian ramps and marked crosswalks west of the new proposed retail and between the proposed retail and medical office building.
 - Add an improved pedestrian crossing in front of proposed retail store, similar to what's shown in front of Kohls entrance
 - Add a marked crosswalk at the driveway on Knox Ave on the east end of Southtown near the future medical office building.

Recommendations (Updated Concept Drawing dated 8/14/2024)

The following recommendations are proposed with the Southtown Redevelopment, based on the site plan layout provided on August 14th, 2024. These recommendations are shown on a marked up site layout in **Figure 8** in the **Appendix**.

Geometric Changes:

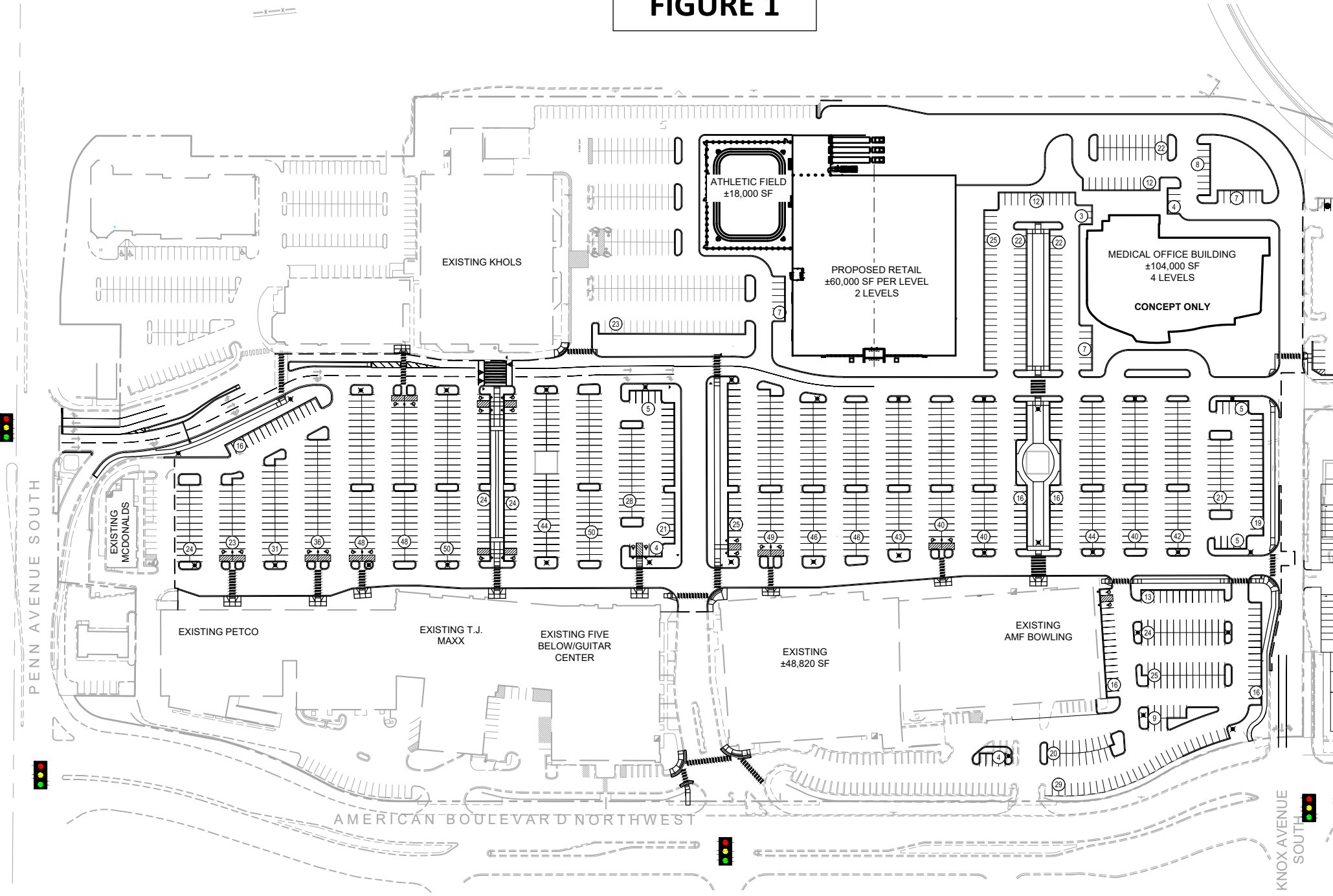
- Extend the two eastbound through lanes entering the Southtown Shopping Center at the Penn Ave/79th St access from Penn Ave to Kohl's to improve traffic flow. Under the existing condition the second lane drop occurs just after the pedestrian crossing near Applebee's. Extending the second lane to the Kohl's pedestrian crossing will improve traffic flow, allowing vehicles to focus on the pedestrian crossing near Applebee's and then get into their correct lane based on where their destination is. Modified signing and striping to warn drivers of the lane drop are recommended as shown in **Figure 8** in the **Appendix**. This also requires reconstruction of two concrete islands at the end of the parking aisles.

Pedestrian Accommodations

- In addition to what is currently shown, improved pedestrian accommodations are recommended as follows:
 - Morgan Circle: Remove "PED XING" signage and install the pedestrian crossing assembly (W11-2 and W16-7P signage per the MnMUTCD) on either side of the approaches to the pedestrian crossing (both sides of Morgan Cir) and in street pedestrian crossing signage (R1-6c) in the center median.
 - Pedestrian crossing near Applebee's: Remove the "PED XING" signage from the median and add in street pedestrian crossing signage (R1-6c) in its place.
 - Expand the crosswalk marking in front of Kohl's and make this a raised crossing as was shown in **Figure 7**.
 - Add pedestrian ramps and a raised marked crossing in front of the proposed retail store.
 - Add a pedestrian ramp and marked crosswalk at the driveway on Knox Ave on the east end of Southtown near the future medical office building.

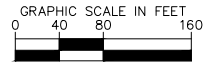
Appendix

FIGURE 1



SITE PLAN LEGEND

- PROPERTY LINE
- - - BUILDING SETBACK LINE
- ⑩ PARKING COUNT



PRELIMINARY - NOT FOR CONSTRUCTION

SOUTHTOWN SHOPPING CENTER
 PREPARED FOR
KRAUS-ANDERSON

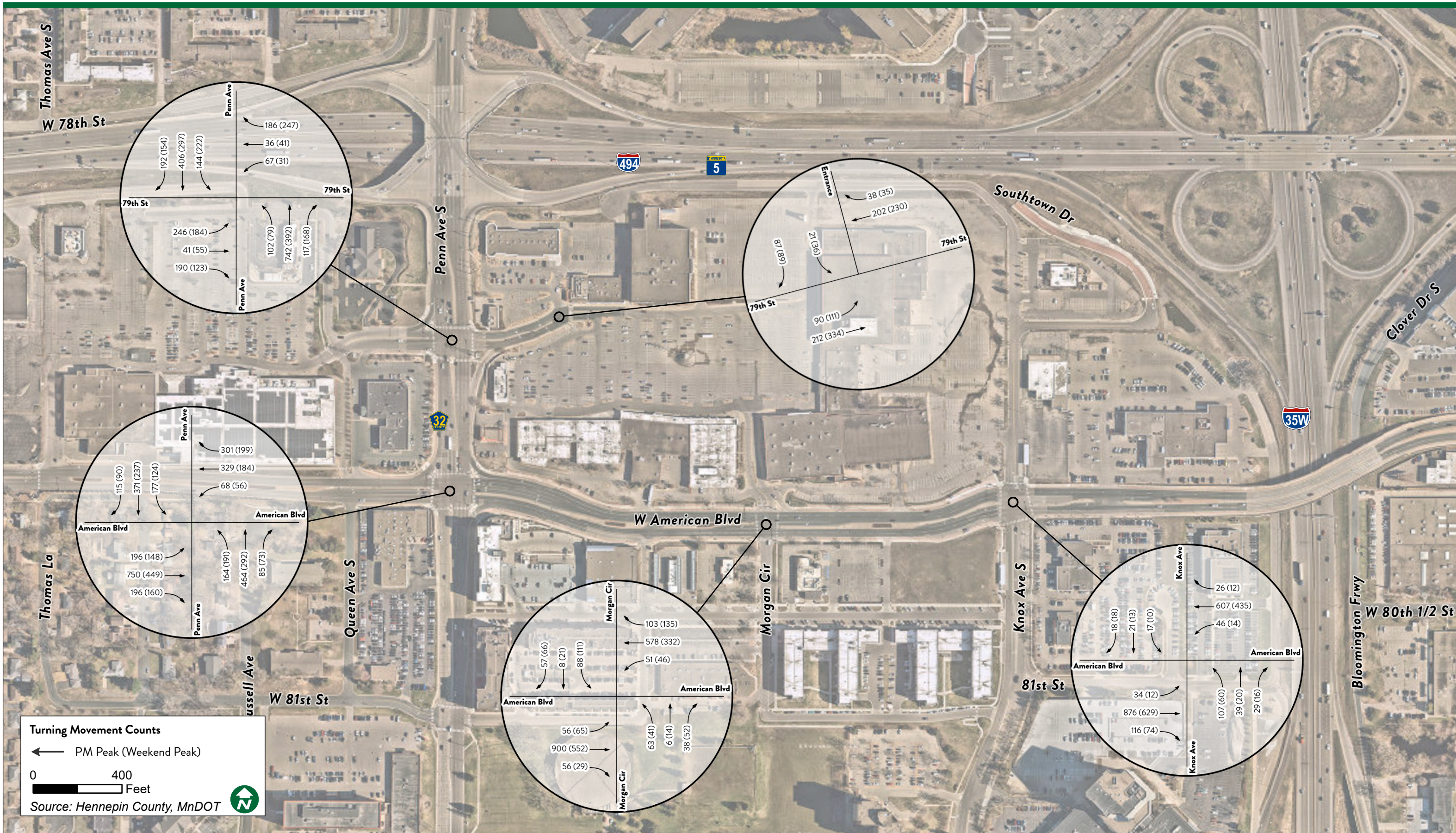
SOUTHTOWN - SITE CONCEPT

KHA PROJECT	18051004
DATE	08/09/2023
SCALE	AS SHOWN
DESIGNED BY	ACL
DRAWN BY	MBB
CHECKED BY	WDM

Kimley»Horn
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No.	REVISIONS	DATE	BY

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Map Document: \aacs\server\lcm_gis\MINNESOTA\BLOOMING\4135018000\Pre494\TMC.aprx | Existing (Pre-494 Construction) + Partial Development Turning Movement Counts | Username: aaropaa | Date Saved: 6/19/2024 2:45 PM

FIGURE 3

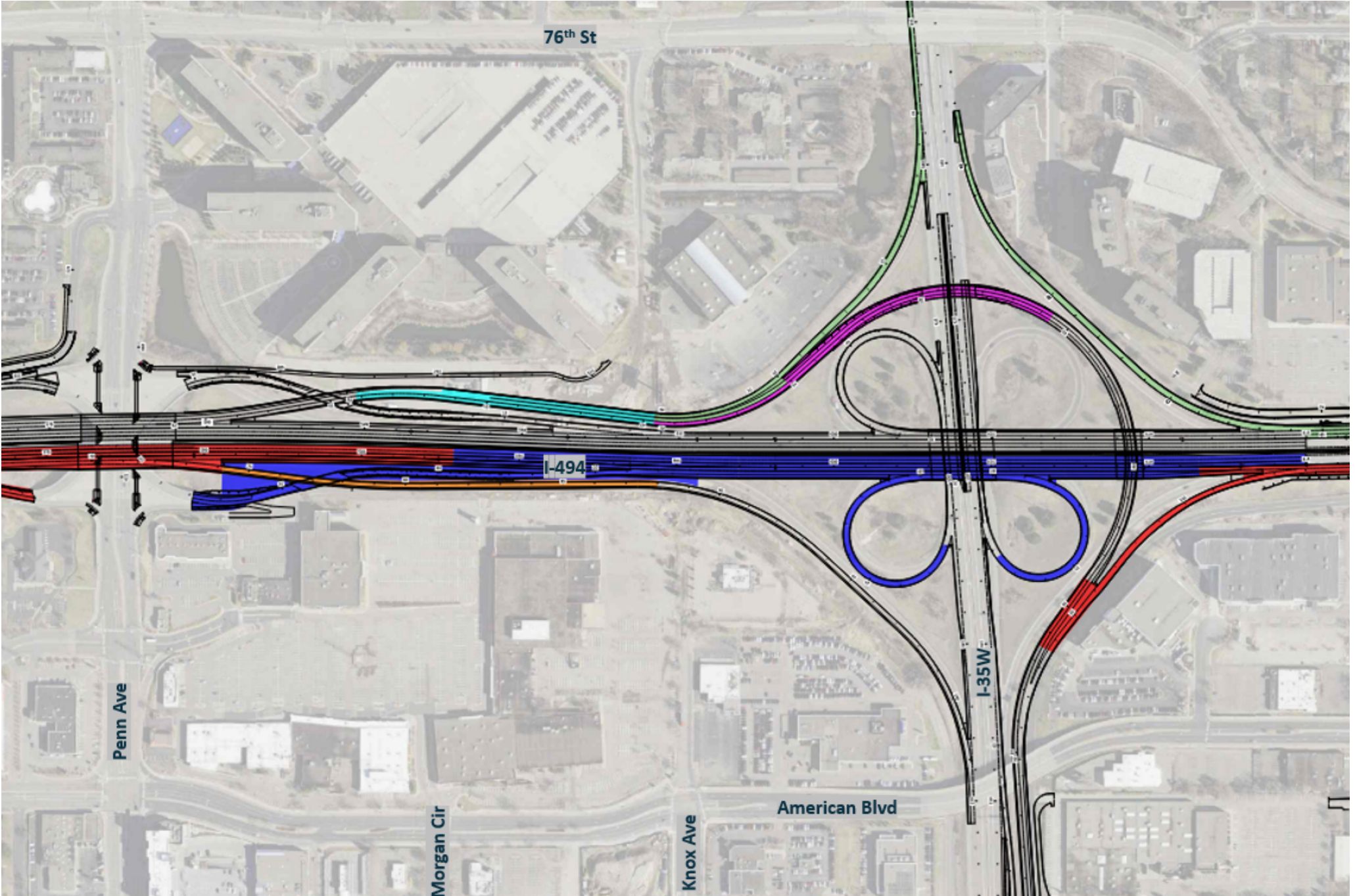
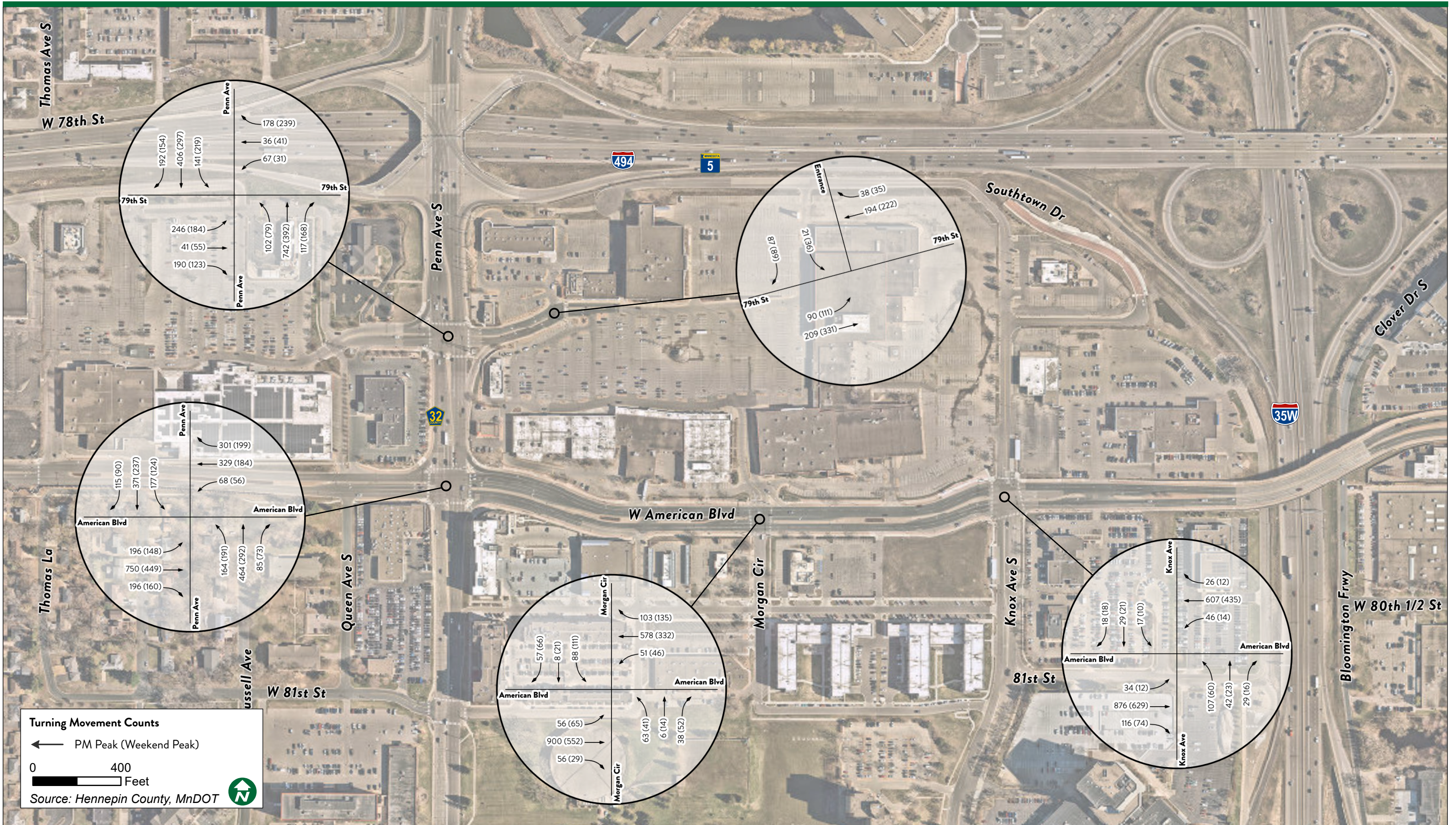
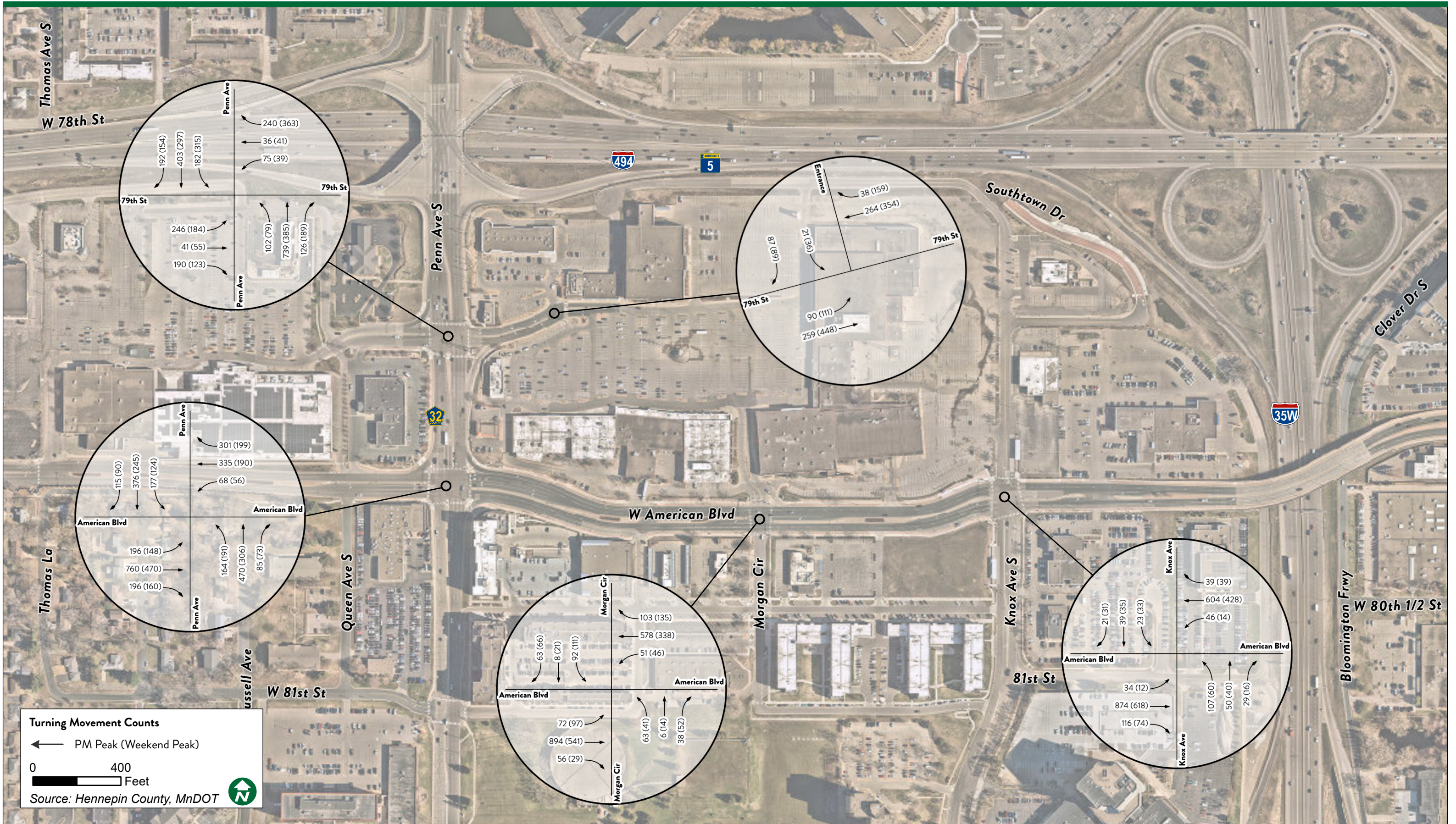


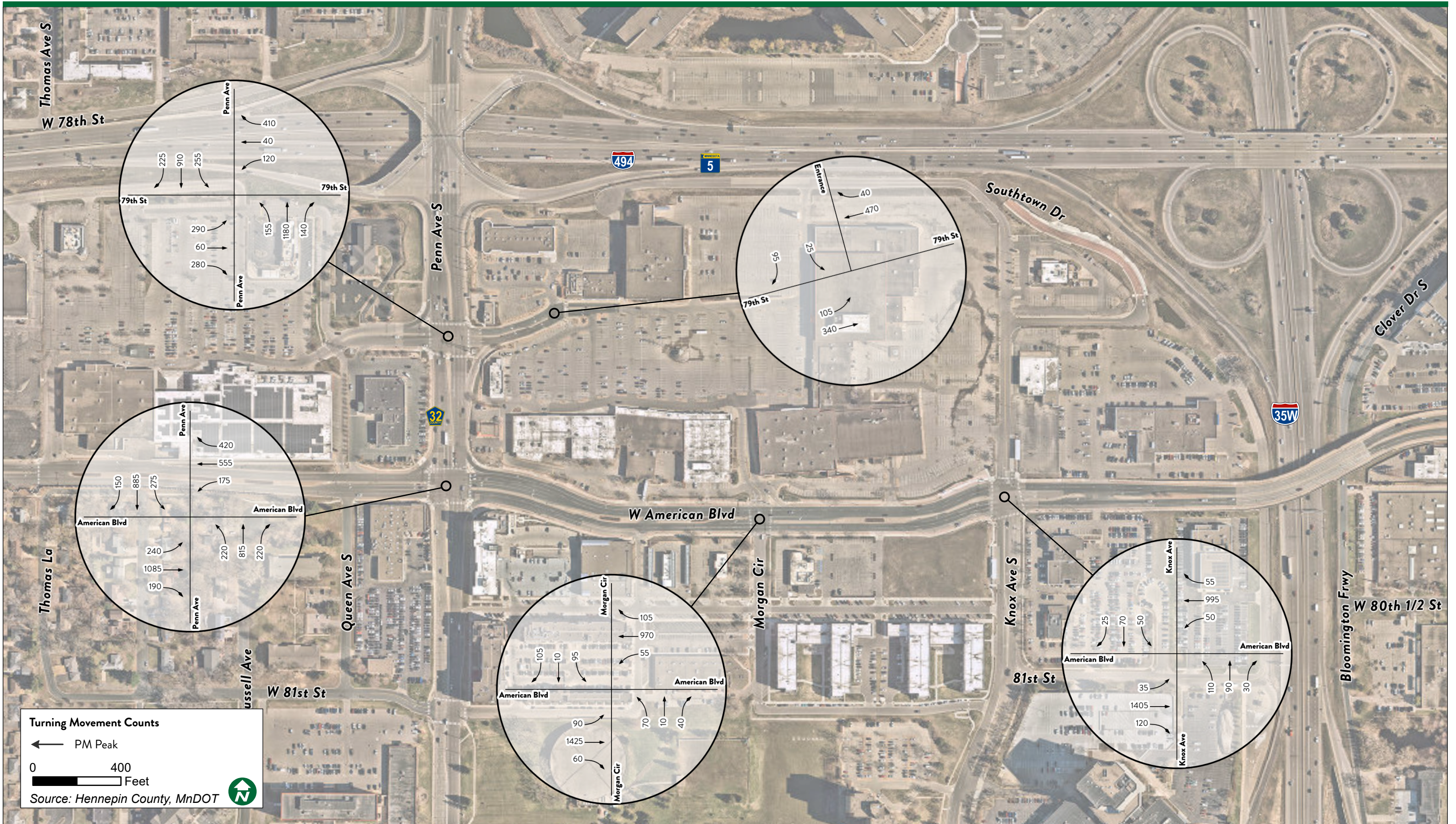
FIGURE 4



Map Document: \aacs\server\lsm_gis\MINNESOTA\BLOM\24\135018000\Partial Development Turning Movement Counts - Existing (Post-494 Construction) + Partial Development Turning Movement Counts | Username: aaropaa | Date Saved: 6/19/2024 2:45 PM

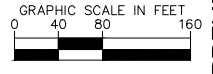
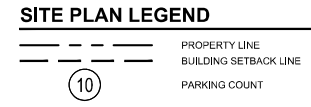
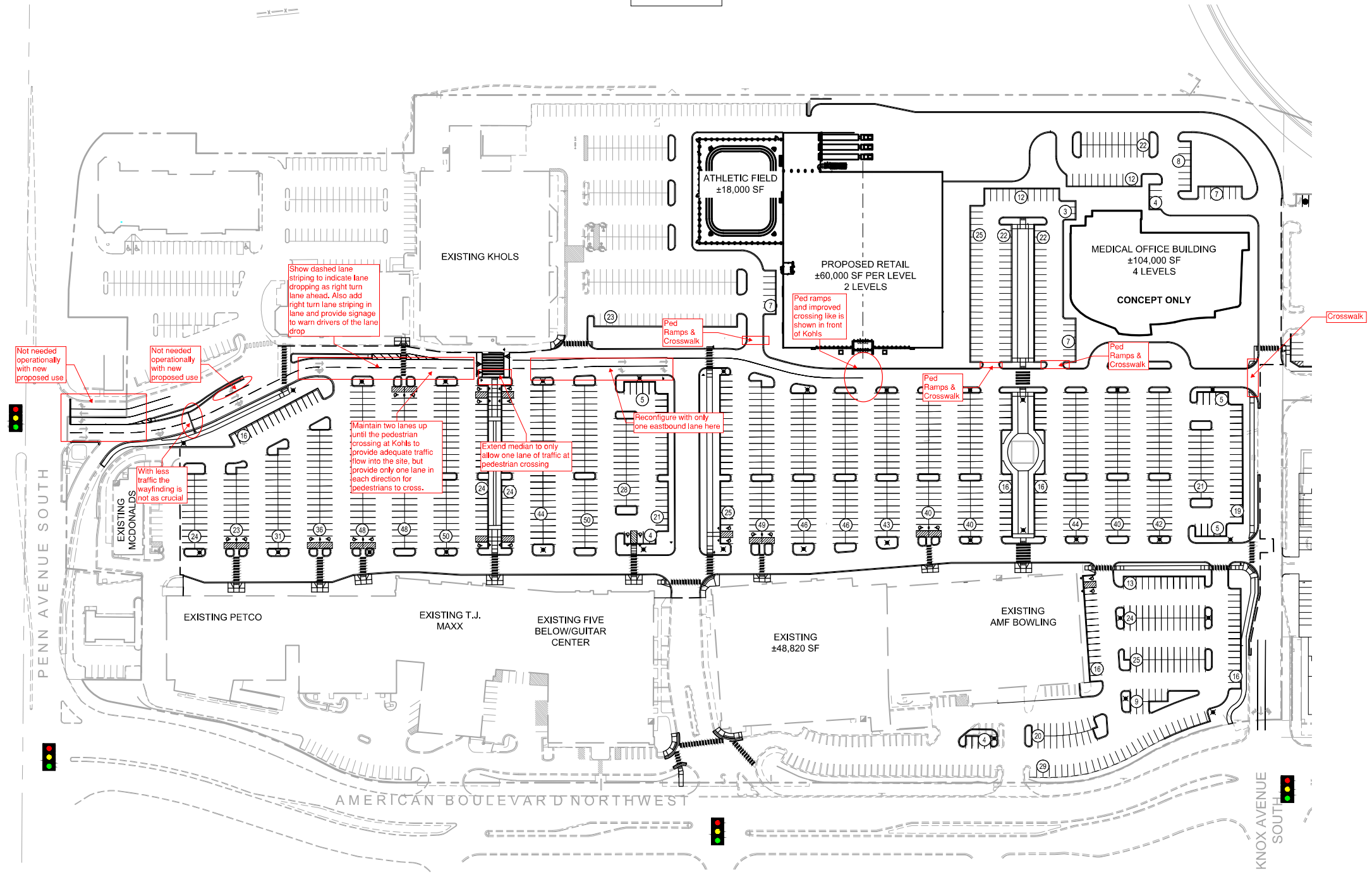


Map Document: \aacs\server\lsm_gis\MINNESOTA\BLOOMINGTON\494\35018000\Partial Development Turning Movement Counts - Existing (Post-494 Construction) + Partial Development Turning Movement Counts | Username: aaropra | Date Saved: 6/21/2024 2:25 PM



Map Document: \aescenvert\dm_gis\MINNESOTA\BLOM\24\135018000\Partial Development Turning Movement Counts - Existing (Post-484 Construction) + Partial Development Turning Movement Counts | Username: aaropra | Date Saved: 6/19/2024 2:45 PM

FIGURE 7



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PRELIMINARY - NOT FOR CONSTRUCTION

SOUTHTOWN SHOPPING CENTER

PREPARED FOR
KRAUS-ANDERSON

BLOOMINGTON MN

**SOUTHTOWN -
SITE CONCEPT**

KHA PROJECT	160851004
DATE	05/08/2023
SCALE	AS SHOWN
DESIGNED BY	ACL
DRAWN BY	MJB
CHECKED BY	WDM

Kimley-Horn

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