



February 8, 2023

Penske Truck Leasing  
8100 NE Parkway Drive, Suite 350  
Vancouver, Washington 98662

Attn: Mr. Josh Lester

Re: Penske Truck Leasing  
Traffic Study Letter  
Aurora, Colorado

Dear Mr. Lester,

This letter documents the results of a traffic evaluation including trip generation, trip distribution, traffic assignment, and driveway vehicle queuing analysis for the proposed expansion of an existing Penske Truck Leasing facility located at 15600 32<sup>nd</sup> Avenue in Aurora, Colorado. A vicinity map of the site is attached as **Figure 1**. The existing facility includes 9,816 square feet of service bays and 5,120 square feet of office space. The expansion project is proposed to add 9,282 square feet of service bays and 1,600 square feet of office space. Therefore, upon completion of the expansion, Penske will have a total of 19,098 square feet of service bays and 6,760 square feet of office space. A conceptual site plan for the Penske expansion is attached.

Regional access to Penske is provided by Interstate 70 (I-70) and Interstate 225 (I-225) while primary access is provided along 32<sup>nd</sup> Avenue. Direct access is provided by two existing full movement accesses along the south side of 32<sup>nd</sup> Avenue, approximately 550 feet and 850 feet east of Chambers Road.

### **EXISTING TRAFFIC VOLUMES**

Existing turning movement counts were conducted at the project accesses on Wednesday, August 17, 2022, during the weekday morning and afternoon peak hours. The counts were conducted during the morning and afternoon peak hours in 15-minute intervals from 7:00 AM to 9:00 AM and 3:00 PM to 5:00 PM on this count date. Of note, the business hours for the existing Penske facility end at 5:00 PM on weekdays. The count sheets are attached.

### **UNSPECIFIED DEVELOPMENT TRAFFIC GROWTH**

To conform to City of Aurora Traffic Impact Study Guidelines, a two (2) percent annual growth rate was used to estimate future traffic volume conditions for the 2023 buildout horizon.

### **TRIP GENERATION**

Site-generated traffic estimates are determined through a process known as trip generation. Rates and equations are applied to the proposed land use to estimate traffic generated by the development during a specific time interval. The acknowledged source for trip generation

rates is the Trip Generation Manual<sup>1</sup> published by the Institute of Transportation Engineers (ITE). ITE has established trip rates in nationwide studies of similar land uses. However, the ITE Trip Generation Manual does not have a land use code applicable to the Penske Truck Leasing facility. Therefore, trip generation was based on existing counts collected entering and exiting the existing site (traffic counts attached). To provide a conservative analysis, the trip generation of the proposed expansion was assumed to be prorated to the service bay expansion, with an approximate 95 percent increase in that use size as compared to the office expansion being an approximate 31 percent increase in size. The following **Table 1** summarizes the estimated trip generation for the Penske expansion.

**Table 1 – Penske Expansion Traffic Generation**

Use	Weekday Vehicles Trips					
	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Existing	35	29	64	20	25	45
Expanded	33	28	61	19	24	43
Total	68	57	125	39	49	88

As summarized in Table 1, the Penske expansion may generate 61 more trips during the morning peak hour and 43 more trips during the afternoon peak hour. This would result in approximately 125 trips occurring during the morning peak hour and 88 trips occurring during the afternoon peak hour for the entire facility after the expansion is complete.

### TRIP DISTRIBUTION, TRAFFIC ASSIGNMENT, AND TOTAL TRAFFIC

Trip distribution of traffic to Penske was identified based on the area street system characteristics, surrounding demographic information, and the access system for the project. The distribution of traffic is a means to quantify the percentage of site-generated traffic that approaches the site from a given direction and departs the site back to the original source. Expansion project traffic assignment was obtained by applying the project trip distribution to the estimated project traffic generation of the development shown in **Table 1**. **Figure 2** illustrates the trip distribution on the surrounding street network while **Figure 3** illustrates traffic assignment volumes for the proposed Penske expansion at the adjacent intersections and accesses. Site generated traffic volumes at the project accesses were added to the existing volumes to represent estimated traffic conditions for the 2023 buildout horizon. These total traffic volumes for the project accesses are illustrated for the buildout year in **Figure 4**.

### VEHICLE QUEUING ANALYSIS

A vehicle queuing analysis was conducted for the project access intersections. The queuing analysis was performed using Synchro presenting the results of the 95<sup>th</sup> percentile queue lengths. Results are shown in the following **Table 2** with calculations provided within the attached level of service operational sheets.

<sup>1</sup> Institute of Transportation Engineers, *Trip Generation Manual*, Eleventh Edition, Washington DC, 2021.

Table 2 – Project Access Vehicle Queuing Analysis

Intersection Turn Lane	Existing Turn Lane Length (feet)	Existing Plus Project Calculated Queue (feet)	Existing Plus Project Recommended Length (feet)
<b>32<sup>nd</sup> Ave &amp; West Access (#2)</b>			
Northbound Approach	C (50')	1 Vehicle (40')	C (50')
Westbound Through/Left	C	1 Vehicle (40')	C
<b>32<sup>nd</sup> Ave &amp; East Access (#3)</b>			
Northbound Approach	C (40')	1 Vehicle (40')	C (40')
Westbound Through/Left	C	1 Vehicle (40')	C

C = Continuous Lane


As shown in **Table 2** above, with the expansion of the existing Penske facility, all vehicle queues entering and exiting the project site are anticipated to consist of a maximum length of one (1) vehicle (40 feet for large box truck).

## CONCLUSIONS AND RECOMMENDATIONS

Kimley-Horn believes the Penske expansion will be accommodated on the existing roadway network, same as today. No changes to the existing Penske accesses are proposed. Therefore, the Penske expansion project is not anticipated to adversely impact the surrounding street network. If you have any questions or require anything further, please feel free to call me at (303) 228-2300.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.



Jeffrey R. Planck, P.E.  
Project Traffic Engineer



## Figures

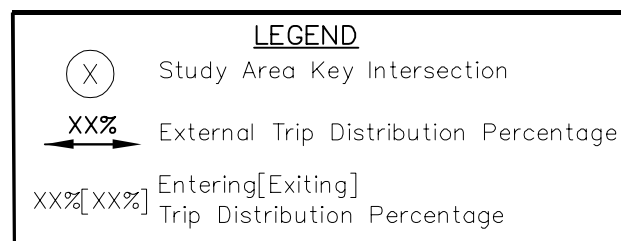
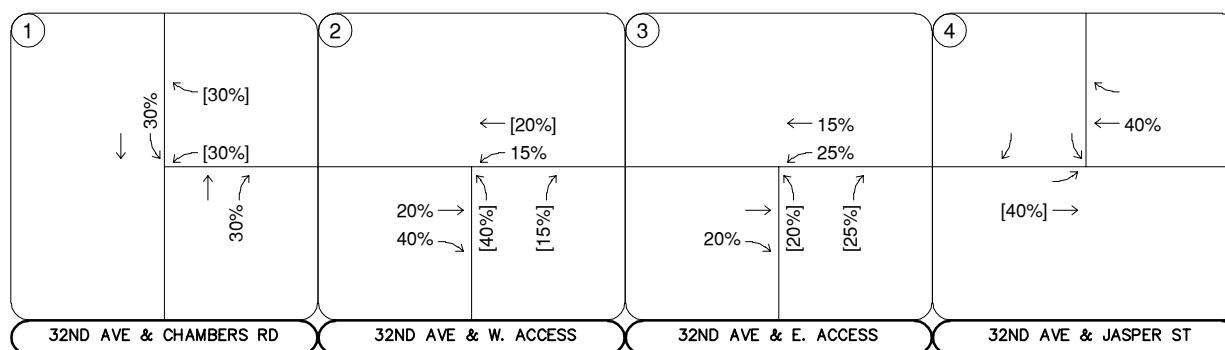




PENSKE  
AURORA, COLORADO  
VICINITY MAP

FIGURE 1





PENSKE  
 AURORA, COLORADO  
 PROJECT TRIP DISTRIBUTION

FIGURE 2



1	2	3	4
<div> <div> <div>← 10(6)</div> <div>← 8(7)</div> <div>← 8(7)</div> <div>10(6) →</div> </div> </div>	<div> <div>← 6(5)</div> <div>← 5(3)</div> <div>7(4) →</div> <div>13(8) →</div> <div>11(9) →</div> <div>4(4) →</div> </div>	<div> <div>← 5(3)</div> <div>← 8(4)</div> <div>4(4) →</div> <div>7(4) →</div> <div>6(5) →</div> <div>7(6) →</div> </div>	<div> <div>← 13(7)</div> <div>11(10) →</div> </div>
32ND AVE & CHAMBERS RD	32ND AVE & W. ACCESS	32ND AVE & E. ACCESS	32ND AVE & JASPER ST

**LEGEND**

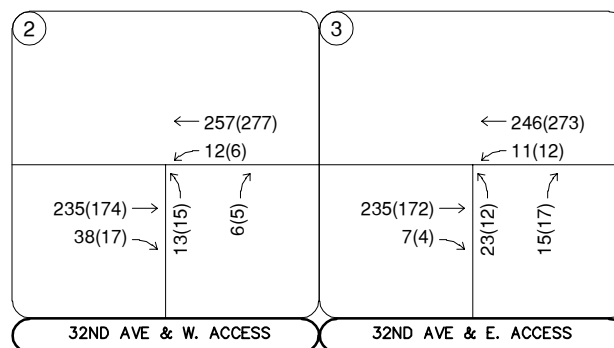
(X) Study Area Key Intersection

xxx(xxx) Weekday AM(PM)  
 Peak Hour Traffic Volumes

PENSKE  
 AURORA, COLORADO  
 PROJECT TRAFFIC ASSIGNMENT

FIGURE 3





PENSKE  
 AURORA, COLORADO  
 2023 TOTAL TRAFFIC  
 VOLUMES (ACCESS)

**LEGEND**

(X) Study Area Key Intersection

xxx(XXX) Weekday AM(PM)  
 Peak Hour Traffic Volumes

FIGURE 4



## Existing Traffic Counts

## 32nd Ave West Access 32nd Ave

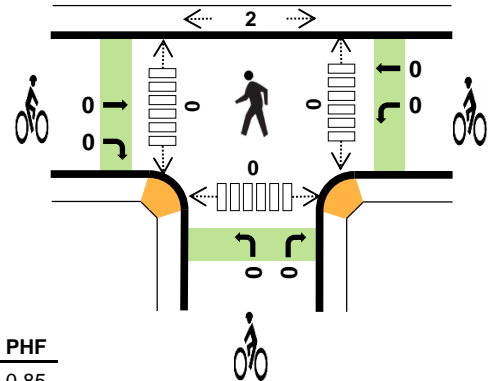
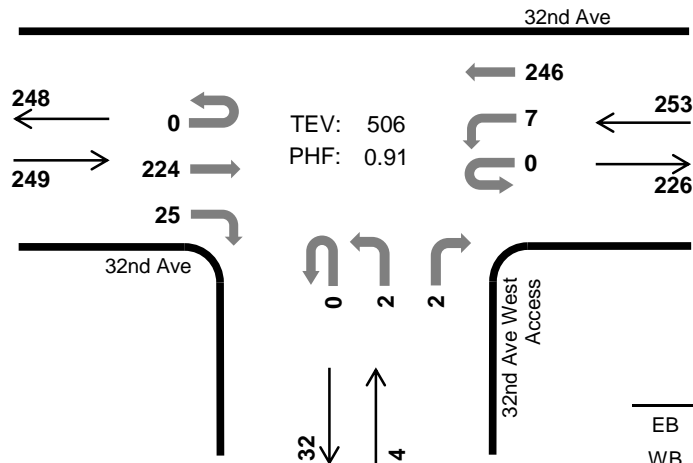


Peak Hour

Date: 08/17/2022

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	19.3%	0.85
WB	36.8%	0.97
NB	50.0%	0.50
SB	-	-
TOTAL	28.3%	0.91

### Two-Hour Count Summaries

Interval Start	32nd Ave Eastbound				32nd Ave Westbound				32nd Ave West Access Northbound				N/A Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	54	9	0	3	58	0	0	0	0	0	0	0	0	0	124	0
7:15 AM	0	0	44	7	0	1	64	0	0	1	0	0	0	0	0	0	117	0
7:30 AM	0	0	59	3	0	1	61	0	0	1	0	1	0	0	0	0	126	0
7:45 AM	0	0	67	6	0	2	63	0	0	0	0	1	0	0	0	0	139	506
8:00 AM	0	0	39	2	0	1	51	0	0	1	0	0	0	0	0	0	94	476
8:15 AM	0	0	48	5	0	0	47	0	0	1	0	0	0	0	0	0	101	460
8:30 AM	0	0	33	3	0	3	48	0	0	0	0	0	0	0	0	0	87	421
8:45 AM	0	0	27	3	0	1	39	0	0	1	0	0	0	0	0	0	71	353
Count Total	0	0	371	38	0	12	431	0	0	5	0	2	0	0	0	0	859	0
Peak Hour	All	0	0	224	25	0	7	246	0	0	2	0	2	0	0	0	506	0
	HV	0	0	32	16	0	2	91	0	0	0	0	2	0	0	0	143	0
	HV%	-	-	14%	64%	-	29%	37%	-	-	0%	-	100%	-	-	-	28%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	9	21	0	0	30	0	0	0	0	0	0	0	0	0	0
7:15 AM	17	25	0	0	42	0	0	0	0	0	0	0	1	0	1
7:30 AM	12	26	1	0	39	0	0	0	0	0	0	0	1	0	1
7:45 AM	10	21	1	0	32	0	0	0	0	0	0	0	0	0	0
8:00 AM	7	17	1	0	25	0	0	0	0	0	0	0	0	0	0
8:15 AM	9	19	0	0	28	0	0	0	0	0	0	0	0	0	0
8:30 AM	6	24	0	0	30	0	0	0	0	0	0	0	0	0	0
8:45 AM	10	20	0	0	30	0	0	0	0	0	0	0	0	0	0
Count Total	80	173	3	0	256	0	0	0	0	0	0	0	2	0	2
Peak Hr	48	93	2	0	143	0	0	0	0	0	0	0	2	0	2

**Two-Hour Count Summaries - Heavy Vehicles**

Interval Start	32nd Ave				32nd Ave				32nd Ave West Access				N/A				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	4	5	0	1	20	0	0	0	0	0	0	0	0	0	30	0
7:15 AM	0	0	11	6	0	0	25	0	0	0	0	0	0	0	0	0	42	0
7:30 AM	0	0	9	3	0	0	26	0	0	0	0	1	0	0	0	0	39	0
7:45 AM	0	0	8	2	0	1	20	0	0	0	0	1	0	0	0	0	32	143
8:00 AM	0	0	5	2	0	1	16	0	0	1	0	0	0	0	0	0	25	138
8:15 AM	0	0	8	1	0	0	19	0	0	0	0	0	0	0	0	0	28	124
8:30 AM	0	0	4	2	0	2	22	0	0	0	0	0	0	0	0	0	30	115
8:45 AM	0	0	9	1	0	1	19	0	0	0	0	0	0	0	0	0	30	113
Count Total	0	0	58	22	0	6	167	0	0	1	0	2	0	0	0	0	256	0
Peak Hour	0	0	32	16	0	2	91	0	0	0	0	2	0	0	0	0	143	0

**Two-Hour Count Summaries - Bikes**

Interval Start	32nd Ave			32nd Ave			32nd Ave West Access			N/A			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



## 32nd Ave West Access 32nd Ave

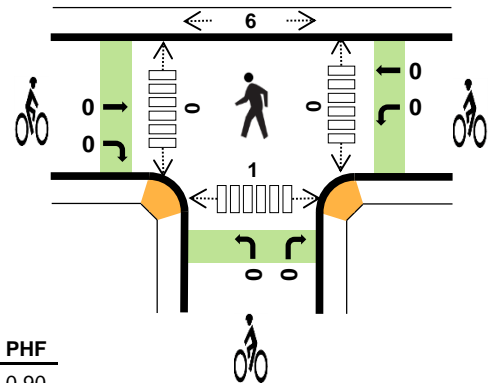
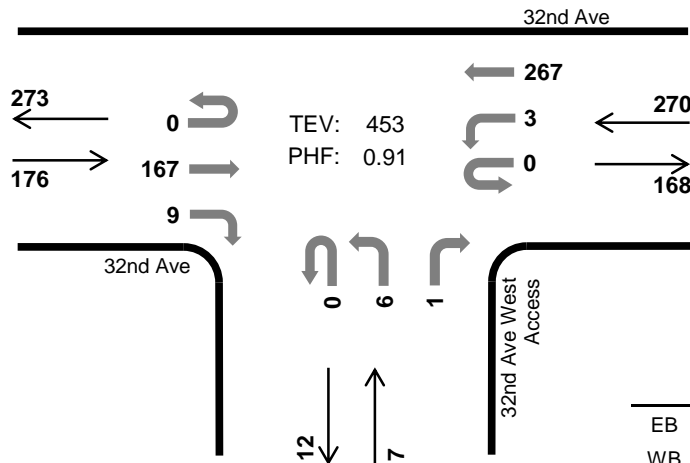


Peak Hour

Date: 08/17/2022

Count Period: 3:00 PM to 5:00 PM

Peak Hour: 3:45 PM to 4:45 PM



	HV %:	PHF
EB	26.7%	0.90
WB	13.3%	0.80
NB	28.6%	0.58
SB	-	-
TOTAL	18.8%	0.91

### Two-Hour Count Summaries

Interval Start	32nd Ave Eastbound				32nd Ave Westbound				32nd Ave West Access Northbound				N/A Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:00 PM	0	0	43	5	0	4	73	0	0	0	0	1	0	0	0	0	126	0
3:15 PM	0	0	29	3	0	3	72	0	0	2	0	1	0	0	0	0	110	0
3:30 PM	0	0	31	0	1	0	75	0	0	2	0	1	0	0	0	0	110	0
3:45 PM	0	0	41	4	0	0	53	0	0	1	0	0	0	0	0	0	99	445
4:00 PM	0	0	41	2	0	0	74	0	0	2	0	1	0	0	0	0	120	439
4:15 PM	0	0	47	2	0	1	58	0	0	2	0	0	0	0	0	0	110	439
4:30 PM	0	0	38	1	0	2	82	0	0	1	0	0	0	0	0	0	124	453
4:45 PM	0	0	36	0	0	0	53	0	0	1	0	0	0	0	0	0	90	444
Count Total	0	0	306	17	1	10	540	0	0	11	0	4	0	0	0	0	889	0
Peak Hour	All	0	0	167	9	0	3	267	0	0	6	0	1	0	0	0	453	0
	HV	0	0	43	4	0	2	34	0	0	2	0	0	0	0	0	85	0
	HV%	-	-	26%	44%	-	67%	13%	-	-	33%	-	0%	-	-	-	19%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
3:00 PM	16	12	0	0	28	0	0	0	0	0	0	0	0	0	0
3:15 PM	7	13	2	0	22	0	0	0	0	0	0	0	1	0	1
3:30 PM	6	9	1	0	16	0	0	0	0	0	0	0	0	0	0
3:45 PM	14	12	1	0	27	0	0	0	0	0	0	0	2	1	3
4:00 PM	14	12	0	0	26	0	0	0	0	0	0	0	0	0	0
4:15 PM	10	6	1	0	17	0	0	0	0	0	0	0	4	0	4
4:30 PM	9	6	0	0	15	0	0	0	0	0	0	0	0	0	0
4:45 PM	9	9	0	0	18	0	0	0	0	0	0	0	0	0	0
Count Total	85	79	5	0	169	0	0	0	0	0	0	0	7	1	8
Peak Hr	47	36	2	0	85	0	0	0	0	0	0	0	6	1	7

**Two-Hour Count Summaries - Heavy Vehicles**

Interval Start	32nd Ave				32nd Ave				32nd Ave West Access				N/A				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:00 PM	0	0	11	5	0	3	9	0	0	0	0	0	0	0	0	0	28	0
3:15 PM	0	0	5	2	0	2	11	0	0	1	0	1	0	0	0	0	22	0
3:30 PM	0	0	6	0	1	0	8	0	0	0	0	1	0	0	0	0	16	0
3:45 PM	0	0	12	2	0	0	12	0	0	1	0	0	0	0	0	0	27	93
4:00 PM	0	0	13	1	0	0	12	0	0	0	0	0	0	0	0	0	26	91
4:15 PM	0	0	9	1	0	0	6	0	0	1	0	0	0	0	0	0	17	86
4:30 PM	0	0	9	0	0	2	4	0	0	0	0	0	0	0	0	0	15	85
4:45 PM	0	0	9	0	0	0	9	0	0	0	0	0	0	0	0	0	18	76
Count Total	0	0	74	11	1	7	71	0	0	3	0	2	0	0	0	0	169	0
Peak Hour	0	0	43	4	0	2	34	0	0	2	0	0	0	0	0	0	85	0

**Two-Hour Count Summaries - Bikes**

Interval Start	32nd Ave			32nd Ave			32nd Ave West Access			N/A			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

## 32nd Ave East Access 32nd Ave

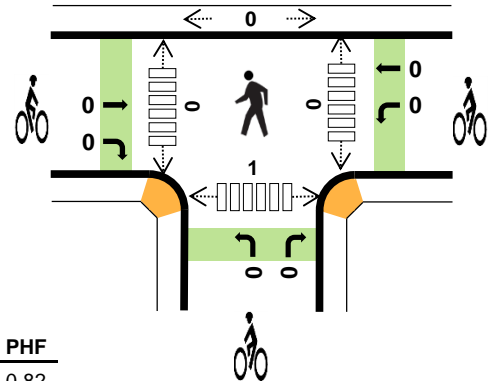
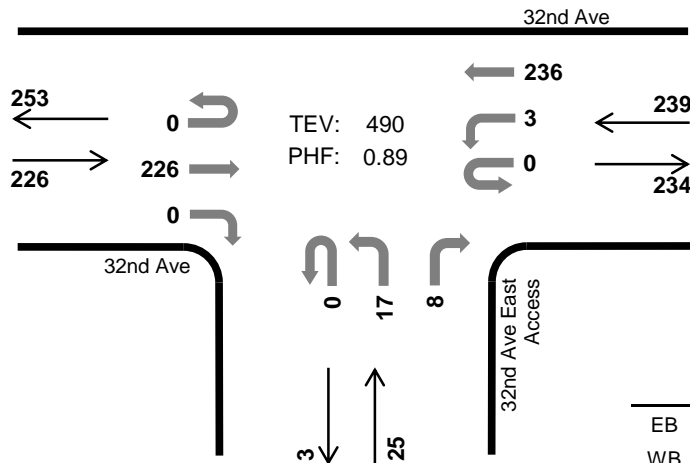


Peak Hour

Date: 08/17/2022

Count Period: 7:00 AM to 9:00 AM

Peak Hour: 7:00 AM to 8:00 AM



	HV %:	PHF
EB	15.0%	0.82
WB	33.9%	0.95
NB	84.0%	0.89
SB	-	-
TOTAL	27.8%	0.89

### Two-Hour Count Summaries

Interval Start	32nd Ave Eastbound				32nd Ave Westbound				32nd Ave East Access Northbound				n/a Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	55	0	0	1	58	0	0	5	0	2	0	0	0	0	121	0
7:15 AM	0	0	42	0	0	1	58	0	0	6	0	0	0	0	0	0	107	0
7:30 AM	0	0	60	0	0	1	57	0	0	4	0	2	0	0	0	0	124	0
7:45 AM	0	0	69	0	0	0	63	0	0	2	0	4	0	0	0	0	138	490
8:00 AM	0	0	40	0	0	0	48	0	0	3	0	1	0	0	0	0	92	461
8:15 AM	0	0	48	0	0	1	48	0	0	0	0	1	0	0	0	0	98	452
8:30 AM	0	0	33	0	0	0	50	0	0	2	0	1	0	0	0	0	86	414
8:45 AM	0	0	26	0	0	1	38	0	0	3	0	1	0	0	0	0	69	345
Count Total	0	0	373	0	0	5	420	0	0	25	0	12	0	0	0	0	835	0
Peak Hour	All	0	0	226	0	0	3	236	0	0	17	0	8	0	0	0	490	0
	HV	0	0	34	0	0	2	79	0	0	15	0	6	0	0	0	136	0
	HV%	-	-	15%	-	-	67%	33%	-	-	88%	-	75%	-	-	-	28%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:00 AM	4	18	5	0	27	0	0	0	0	0	0	0	0	1	1
7:15 AM	11	21	5	0	37	0	0	0	0	0	0	0	0	0	0
7:30 AM	10	23	6	0	39	0	0	0	0	0	0	0	0	0	0
7:45 AM	9	19	5	0	33	0	0	0	0	0	0	0	0	0	0
8:00 AM	5	13	4	0	22	0	0	0	0	0	0	0	0	0	0
8:15 AM	8	19	1	0	28	0	0	0	0	0	0	0	0	0	0
8:30 AM	4	24	1	0	29	0	0	0	0	0	0	0	0	0	0
8:45 AM	9	18	4	0	31	1	0	0	0	1	0	0	0	1	1
Count Total	60	155	31	0	246	1	0	0	0	1	0	0	0	2	2
Peak Hr	34	81	21	0	136	0	0	0	0	0	0	0	0	1	1



**Two-Hour Count Summaries - Heavy Vehicles**

Interval Start	32nd Ave				32nd Ave				32nd Ave East Access				n/a				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	4	0	0	0	18	0	0	4	0	1	0	0	0	0	27	0
7:15 AM	0	0	11	0	0	1	20	0	0	5	0	0	0	0	0	0	37	0
7:30 AM	0	0	10	0	0	1	22	0	0	4	0	2	0	0	0	0	39	0
7:45 AM	0	0	9	0	0	0	19	0	0	2	0	3	0	0	0	0	33	136
8:00 AM	0	0	5	0	0	0	13	0	0	3	0	1	0	0	0	0	22	131
8:15 AM	0	0	8	0	0	0	19	0	0	0	0	1	0	0	0	0	28	122
8:30 AM	0	0	4	0	0	0	24	0	0	1	0	0	0	0	0	0	29	112
8:45 AM	0	0	9	0	0	1	17	0	0	3	0	1	0	0	0	0	31	110
Count Total	0	0	60	0	0	3	152	0	0	22	0	9	0	0	0	0	246	0
Peak Hour	0	0	34	0	0	2	79	0	0	15	0	6	0	0	0	0	136	0

**Two-Hour Count Summaries - Bikes**

Interval Start	32nd Ave			32nd Ave			32nd Ave East Access			n/a			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	1
Count Total	0	1	0	0	0	0	0	0	0	0	0	0	1	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.

## 32nd Ave East Access 32nd Ave

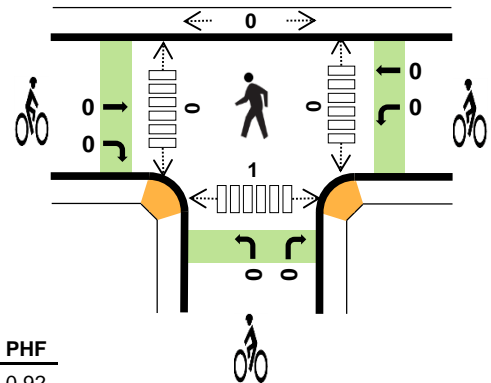
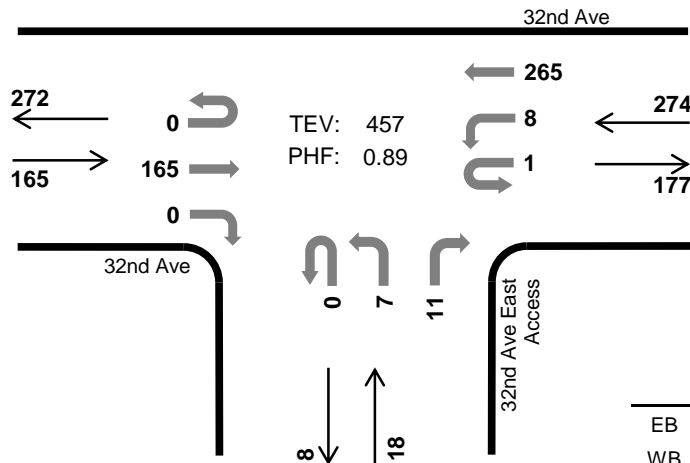


Peak Hour

Date: 08/17/2022

Count Period: 3:00 PM to 5:00 PM

Peak Hour: 3:45 PM to 4:45 PM



	HV %:	PHF
EB	26.1%	0.92
WB	12.8%	0.80
NB	50.0%	0.75
SB	-	-
TOTAL	19.0%	0.89

### Two-Hour Count Summaries

Interval Start	32nd Ave Eastbound				32nd Ave Westbound				32nd Ave East Access Northbound				n/a Southbound				15-min Total	Rolling One Hour
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:00 PM	0	0	43	0	0	0	74	0	0	2	0	2	0	0	0	0	121	0
3:15 PM	0	0	30	0	0	1	71	0	0	4	0	1	0	0	0	0	107	0
3:30 PM	0	0	33	0	0	2	74	0	0	1	0	3	0	0	0	0	113	0
3:45 PM	0	0	40	0	1	0	50	0	0	3	0	3	0	0	0	0	97	438
4:00 PM	0	0	42	0	0	2	73	0	0	2	0	3	0	0	0	0	122	439
4:15 PM	0	0	45	0	0	4	58	0	0	1	0	1	0	0	0	0	109	441
4:30 PM	0	0	38	0	0	2	84	0	0	1	0	4	0	0	0	0	129	457
4:45 PM	0	0	34	0	0	3	50	0	0	2	0	2	0	0	0	0	91	451
Count Total	0	0	305	0	1	14	534	0	0	16	0	19	0	0	0	0	889	0
Peak Hour	All	0	0	165	0	1	8	265	0	0	7	0	11	0	0	0	457	0
	HV	0	0	43	0	0	3	32	0	0	3	0	6	0	0	0	87	0
	HV%	-	-	26%	-	0%	38%	12%	-	-	43%	-	55%	-	-	-	19%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
3:00 PM	11	11	2	0	24	0	0	0	0	0	0	0	0	0	0
3:15 PM	6	11	2	0	19	0	0	0	0	0	0	0	0	0	0
3:30 PM	8	7	3	0	18	0	0	0	0	0	0	0	0	0	0
3:45 PM	12	9	3	0	24	0	0	0	0	0	0	0	0	1	1
4:00 PM	13	11	2	0	26	0	0	0	0	0	0	0	0	0	0
4:15 PM	9	8	1	0	18	0	0	0	0	0	0	0	0	0	0
4:30 PM	9	7	3	0	19	0	0	0	0	0	0	0	0	0	0
4:45 PM	9	9	1	0	19	0	0	0	0	0	0	0	0	0	0
Count Total	77	73	17	0	167	0	0	0	0	0	0	0	0	1	1
Peak Hr	43	35	9	0	87	0	0	0	0	0	0	0	0	1	1

**Two-Hour Count Summaries - Heavy Vehicles**

Interval Start	32nd Ave				32nd Ave				32nd Ave East Access				n/a				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:00 PM	0	0	11	0	0	0	11	0	0	1	0	1	0	0	0	0	24	0
3:15 PM	0	0	6	0	0	0	11	0	0	2	0	0	0	0	0	0	19	0
3:30 PM	0	0	8	0	0	1	6	0	0	1	0	2	0	0	0	0	18	0
3:45 PM	0	0	12	0	0	0	9	0	0	1	0	2	0	0	0	0	24	85
4:00 PM	0	0	13	0	0	1	10	0	0	1	0	1	0	0	0	0	26	87
4:15 PM	0	0	9	0	0	1	7	0	0	1	0	0	0	0	0	0	18	86
4:30 PM	0	0	9	0	0	1	6	0	0	0	0	3	0	0	0	0	19	87
4:45 PM	0	0	9	0	0	1	8	0	0	1	0	0	0	0	0	0	19	82
Count Total	0	0	77	0	0	5	68	0	0	8	0	9	0	0	0	0	167	0
Peak Hour	0	0	43	0	0	3	32	0	0	3	0	6	0	0	0	0	87	0

**Two-Hour Count Summaries - Bikes**

Interval Start	32nd Ave			32nd Ave			32nd Ave East Access			n/a			15-min Total	Rolling One Hour
	Eastbound			Westbound			Northbound			Southbound				
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



## Access Vehicle Queuing Worksheets

Intersection						
Int Delay, s/veh	0.7					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Vol, veh/h	235	38	12	257	13	6
Future Vol, veh/h	235	38	12	257	13	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	19	19	37	37	50	50
Mvmt Flow	258	42	13	282	14	7
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	300	0	446	150
Stage 1	-	-	-	-	279	-
Stage 2	-	-	-	-	167	-
Critical Hdwy	-	-	4.84	-	7.8	7.9
Critical Hdwy Stg 1	-	-	-	-	6.8	-
Critical Hdwy Stg 2	-	-	-	-	6.8	-
Follow-up Hdwy	-	-	2.57	-	4	3.8
Pot Cap-1 Maneuver	-	-	1040	-	434	737
Stage 1	-	-	-	-	618	-
Stage 2	-	-	-	-	719	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1040	-	427	737
Mov Cap-2 Maneuver	-	-	-	-	427	-
Stage 1	-	-	-	-	618	-
Stage 2	-	-	-	-	708	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.5		12.6	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	492	-	-	1040	-	
HCM Lane V/C Ratio	0.042	-	-	0.013	-	
HCM Control Delay (s)	12.6	-	-	8.5	0.1	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.1	-	-	0	-	

Intersection						
Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Vol, veh/h	174	17	6	277	15	5
Future Vol, veh/h	174	17	6	277	15	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	27	27	13	13	29	29
Mvmt Flow	191	19	7	304	16	5

Major/Minor	Major1	Major2	Minor1			
Conflicting Flow All	0	0	210	0	367	105
Stage 1	-	-	-	-	201	-
Stage 2	-	-	-	-	166	-
Critical Hdwy	-	-	4.36	-	7.38	7.48
Critical Hdwy Stg 1	-	-	-	-	6.38	-
Critical Hdwy Stg 2	-	-	-	-	6.38	-
Follow-up Hdwy	-	-	2.33	-	3.79	3.59
Pot Cap-1 Maneuver	-	-	1281	-	540	849
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	771	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	-	1281	-	536	849
Mov Cap-2 Maneuver	-	-	-	-	536	-
Stage 1	-	-	-	-	738	-
Stage 2	-	-	-	-	766	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.2	11.3
HCM LOS			B

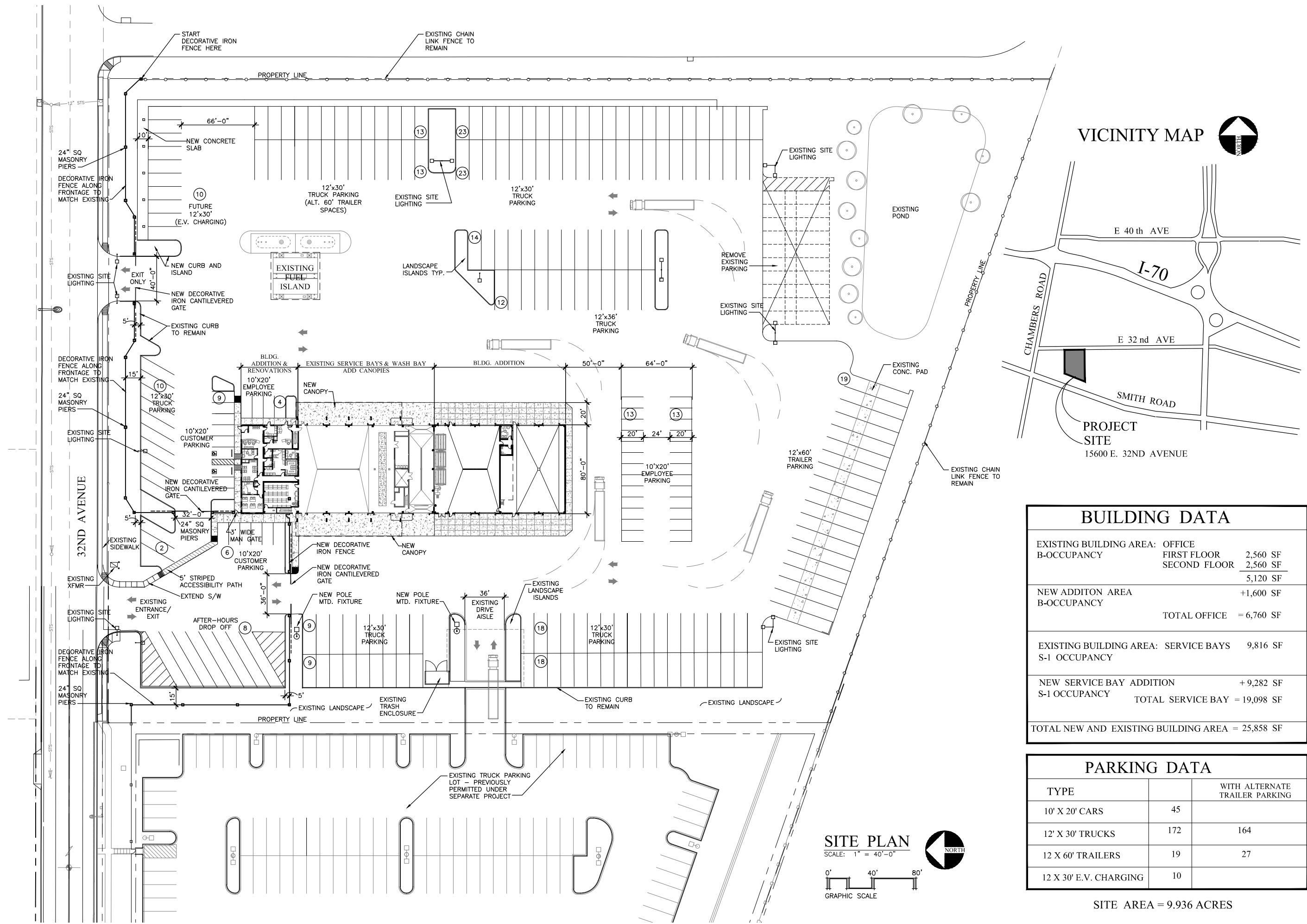
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	590	-	-	1281	-
HCM Lane V/C Ratio	0.037	-	-	0.005	-
HCM Control Delay (s)	11.3	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection						
Int Delay, s/veh	1.2					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Vol, veh/h	235	7	11	246	23	15
Future Vol, veh/h	235	7	11	246	23	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	15	15	34	34	84	84
Mvmt Flow	264	8	12	276	26	17
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	272	0	430	136
Stage 1	-	-	-	-	268	-
Stage 2	-	-	-	-	162	-
Critical Hdwy	-	-	4.78	-	8.48	8.58
Critical Hdwy Stg 1	-	-	-	-	7.48	-
Critical Hdwy Stg 2	-	-	-	-	7.48	-
Follow-up Hdwy	-	-	2.54	-	4.34	4.14
Pot Cap-1 Maneuver	-	-	1085	-	386	679
Stage 1	-	-	-	-	556	-
Stage 2	-	-	-	-	652	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1085	-	381	679
Mov Cap-2 Maneuver	-	-	-	-	381	-
Stage 1	-	-	-	-	556	-
Stage 2	-	-	-	-	644	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.4		13.6	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	461	-	-	1085	-	
HCM Lane V/C Ratio	0.093	-	-	0.011	-	
HCM Control Delay (s)	13.6	-	-	8.4	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.3	-	-	0	-	



Intersection						
Int Delay, s/veh	0.8					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑			↑↑	↑↑	
Traffic Vol, veh/h	172	4	12	273	12	17
Future Vol, veh/h	172	4	12	273	12	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	89	89	89	89	89	89
Heavy Vehicles, %	26	26	13	13	50	50
Mvmt Flow	193	4	13	307	13	19
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	197	0	375	99
Stage 1	-	-	-	-	195	-
Stage 2	-	-	-	-	180	-
Critical Hdwy	-	-	4.36	-	7.8	7.9
Critical Hdwy Stg 1	-	-	-	-	6.8	-
Critical Hdwy Stg 2	-	-	-	-	6.8	-
Follow-up Hdwy	-	-	2.33	-	4	3.8
Pot Cap-1 Maneuver	-	-	1296	-	488	803
Stage 1	-	-	-	-	693	-
Stage 2	-	-	-	-	707	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1296	-	482	803
Mov Cap-2 Maneuver	-	-	-	-	482	-
Stage 1	-	-	-	-	693	-
Stage 2	-	-	-	-	699	-
Approach	EB		WB		NB	
HCM Control Delay, s	0		0.3		11	
HCM LOS					B	
Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT	
Capacity (veh/h)	630	-	-	1296	-	
HCM Lane V/C Ratio	0.052	-	-	0.01	-	
HCM Control Delay (s)	11	-	-	7.8	0	
HCM Lane LOS	B	-	-	A	A	
HCM 95th %tile Q(veh)	0.2	-	-	0	-	

## Conceptual Site Plan



### BUILDING DATA

EXISTING BUILDING AREA: B-OCCUPANCY	OFFICE	
	FIRST FLOOR	2,560 SF
	SECOND FLOOR	2,560 SF
		5,120 SF

NEW ADDITON AREA B-OCCUPANCY	+1,600 SF
	TOTAL OFFICE = 6,760 SF

EXISTING BUILDING AREA: SERVICE BAYS S-1 OCCUPANCY	9,816 SF
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NEW SERVICE BAY ADDITION S-1 OCCUPANCY	+ 9,282 SF
	TOTAL SERVICE BAY = 19,098 SF

TOTAL NEW AND EXISTING BUILDING AREA = 25,858 SF

### PARKING DATA

TYPE		WITH ALTERNATE TRAILER PARKING
10' X 20' CARS	45	
12' X 30' TRUCKS	172	164
12 X 60' TRAILERS	19	27
12 X 30' E.V. CHARGING	10	

SITE AREA = 9.936 ACRES

**PENSKE**  
Truck Leasing

**BUILDING ADDITION  
& RENOVATIONS**  
PENSKE TRUCK LEASING  
15600 E. 32ND AVENUE  
AURORA, CO.

**K/G**  
ARCHITECTS  
7585 E. REDFIELD ROAD  
SUITE 102  
SCOTTSDALE, AZ. 85260  
(480) 443-3705 - TEL.  
(480) 443-3805 - FAX

DRAWN BY:	DATE:	REVISIONS:	DATE:	ISSUED FOR:
BIA			04-28-22	PROGRESS
CHECKED BY:			SHEET NO:	
LK / PG				
PROJECT NO:				
21114				
SITE PLAN			A1-0	