Swire Coca-Cola

Second Creek Project

November 15, 2023

Our Purpose

To deliver refreshment
to the communities we call home.

Coca-Cola
SWIRE COCA-COLA

Agenda

- Welcome and Introductions
- Transportation Mobility Study
  - Overview and Findings
  - Study Details
- Questions and Discussion

Transportation Mobility Study

Regional Traffic and Network Planning

Denver

- Peña Blvd Transportation and Mobility Master Plan
- Gateway Area Travel Study
- Far Northeast Area Plan (2022 amendment)
- Jackson Gap/Aerotropolis Parkway Traffic Study
- “Denver Moves Everyone” 2050 Strategic Transportation Plan (2023)

Aurora

- Aerotropolis Parkway Alignment Study
- Aurora Multimodal Transportation Master Plan
- Aurora Transportation Demand Management Program (Partnership with Northeast Transportation connections)
- Northeast Area Transportation Study (NEATS)

Commerce City

- Transportation Plan (2010)
- 2045 Comprehensive Plan

Adams County

- Transportation Master Plan (2022)

Aerotropolis regional Transportation Authority

- Annual Report

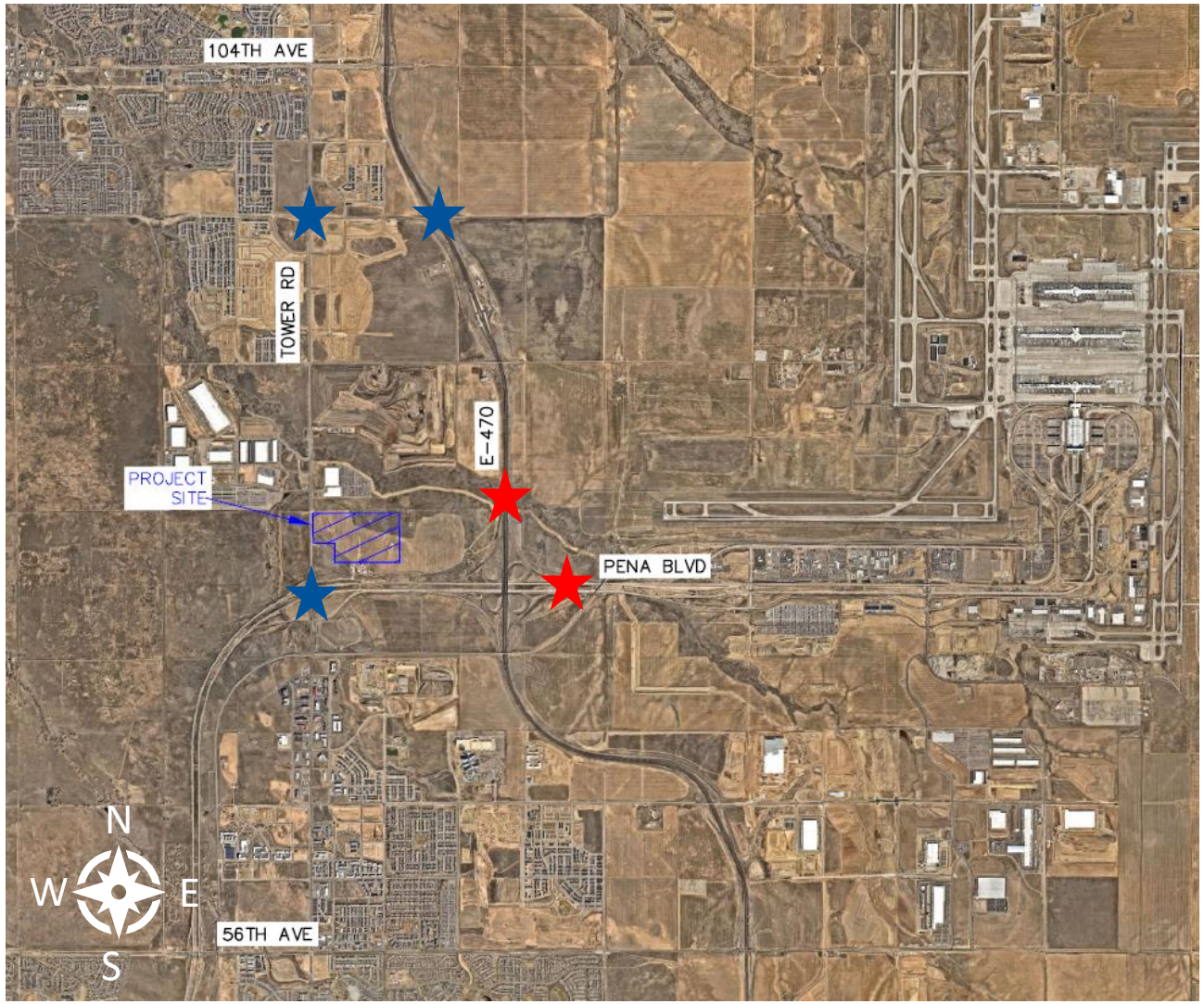
DRCOG

- 2050 Metro Vision Regional Transportation Plan

RTD

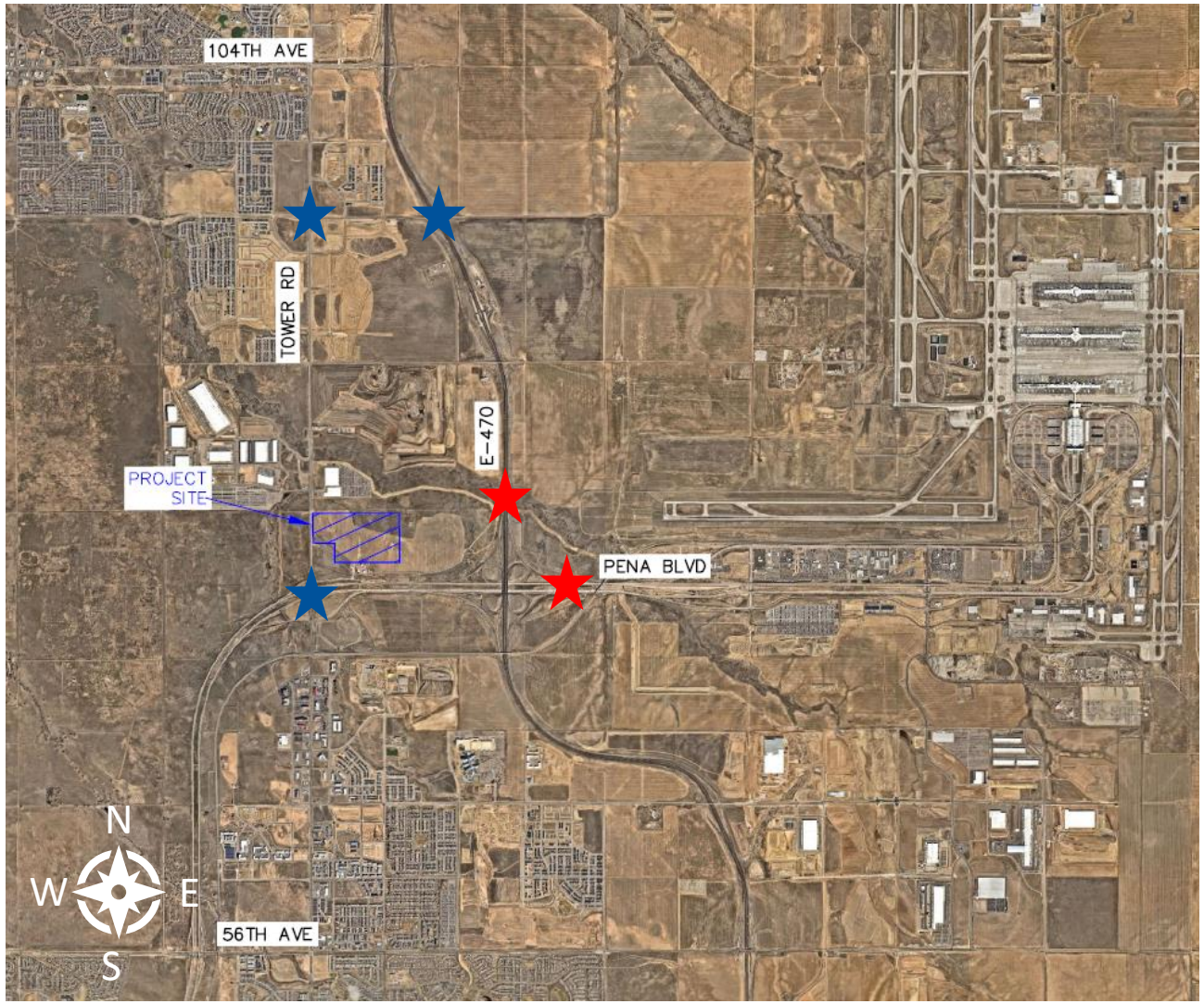
- System Optimization Plan

Transportation Mobility Study - Overview



- Conducted by Kimley-Horn to determine potential traffic related impacts on the local street system and develop mitigation actions
  - Counts originally completed in March 2023
  - Counts updated in August 2023
- Includes short-term (2027) and long-term (2045) projections
- Regional access will be provided by E-470 and Pena Blvd ★
- Reviewed Intersections ★
  - 96th Avenue & Tower Road
  - 96th Avenue & E-470 Southbound Ramp
  - 96th Avenue & E-470 Northbound Ramp
  - Pena Boulevard Westbound Ramp & Tower Road
  - Pena Boulevard Eastbound Ramp & Tower Road

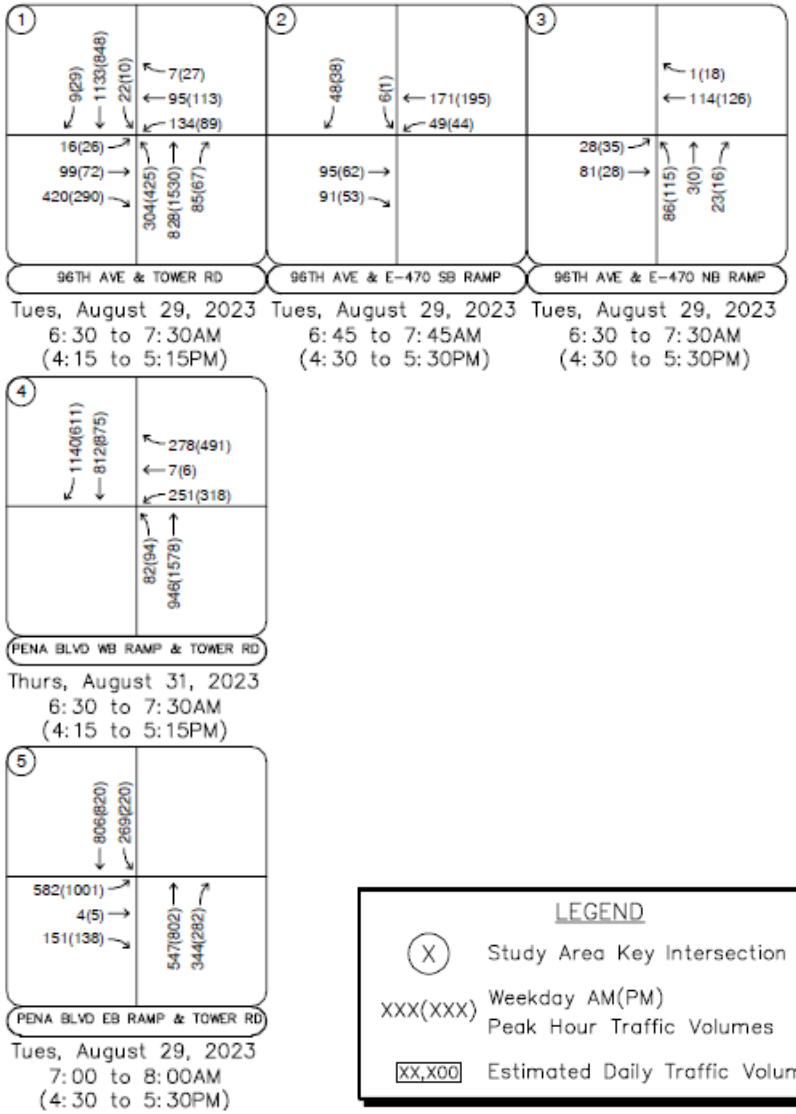
Transportation Mobility Study - Overview



- Approximately 670 employees at startup with up to 900 employees at full build out
- Swire operations will add about 118 morning peak-hour trips and 165 afternoon peak-hour trips
- Based on feedback from advisory committee, traffic counts were updated in late-August after local schools had resumed
  - Morning counts ranged from 10% - 44% higher in August compared to March
  - Afternoon counts ranged from -2% lower to 14% higher in August compared to March
  - Difference varied by intersection studied
- Study results and recommendations are based on the updated traffic counts from August
- DRCOG growth projections include DEN growth estimates

Methodology – Background Volumes

- Conducted existing movement counts at each of the five studied intersections to establish baseline traffic volumes
- Applied Denver Regional Council of Governments (DRCOG) 30-year growth factor (1.96) to account for unspecified traffic growth
  - Equates to annual growth of 2.28%
  - Applied growth rates annually to the existing movement counts to develop 2027 and 2045 projections



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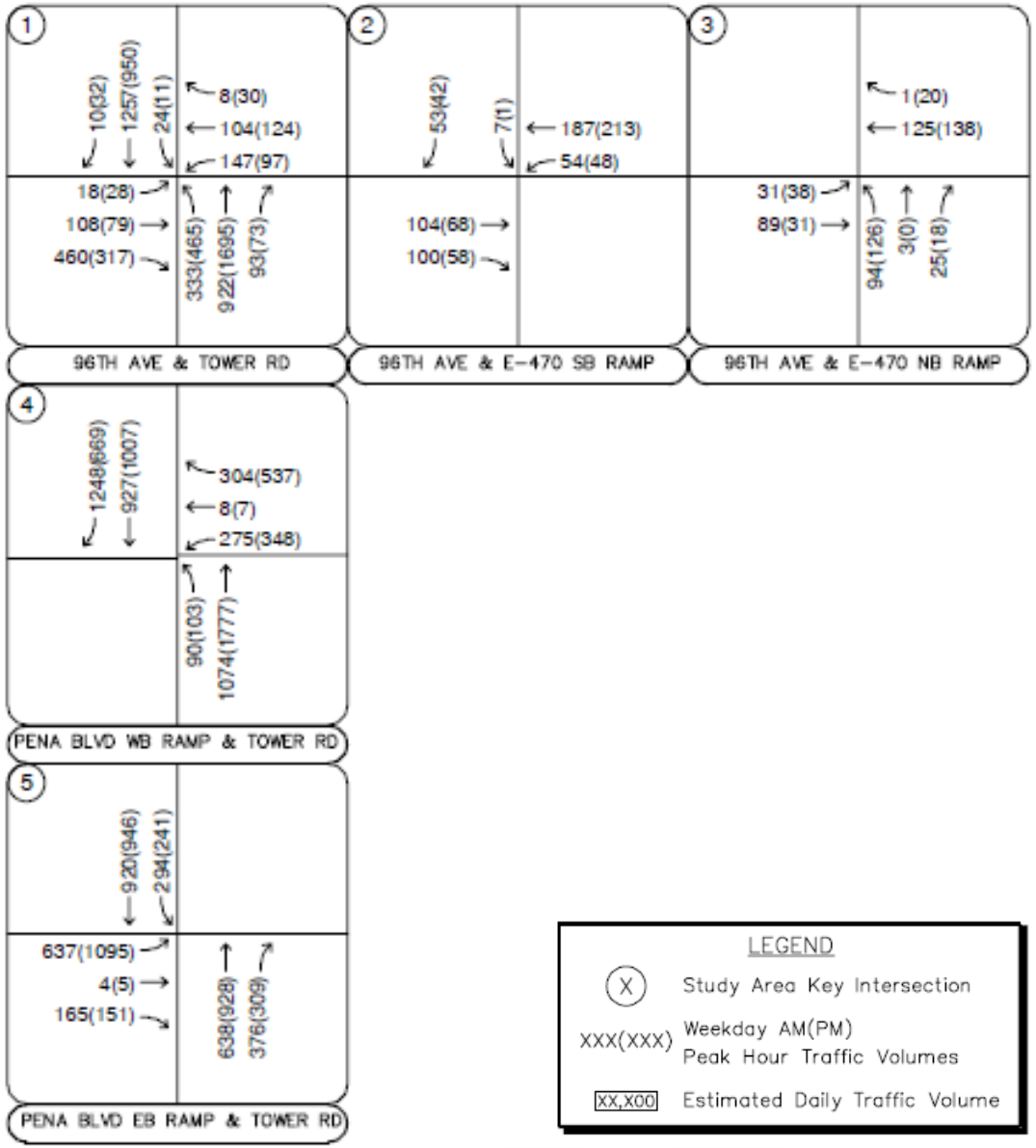
2027 Background Traffic Volume



LEGEND

(X) Study Area Key Intersection

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

XX,X00 Estimated Daily Traffic Volume

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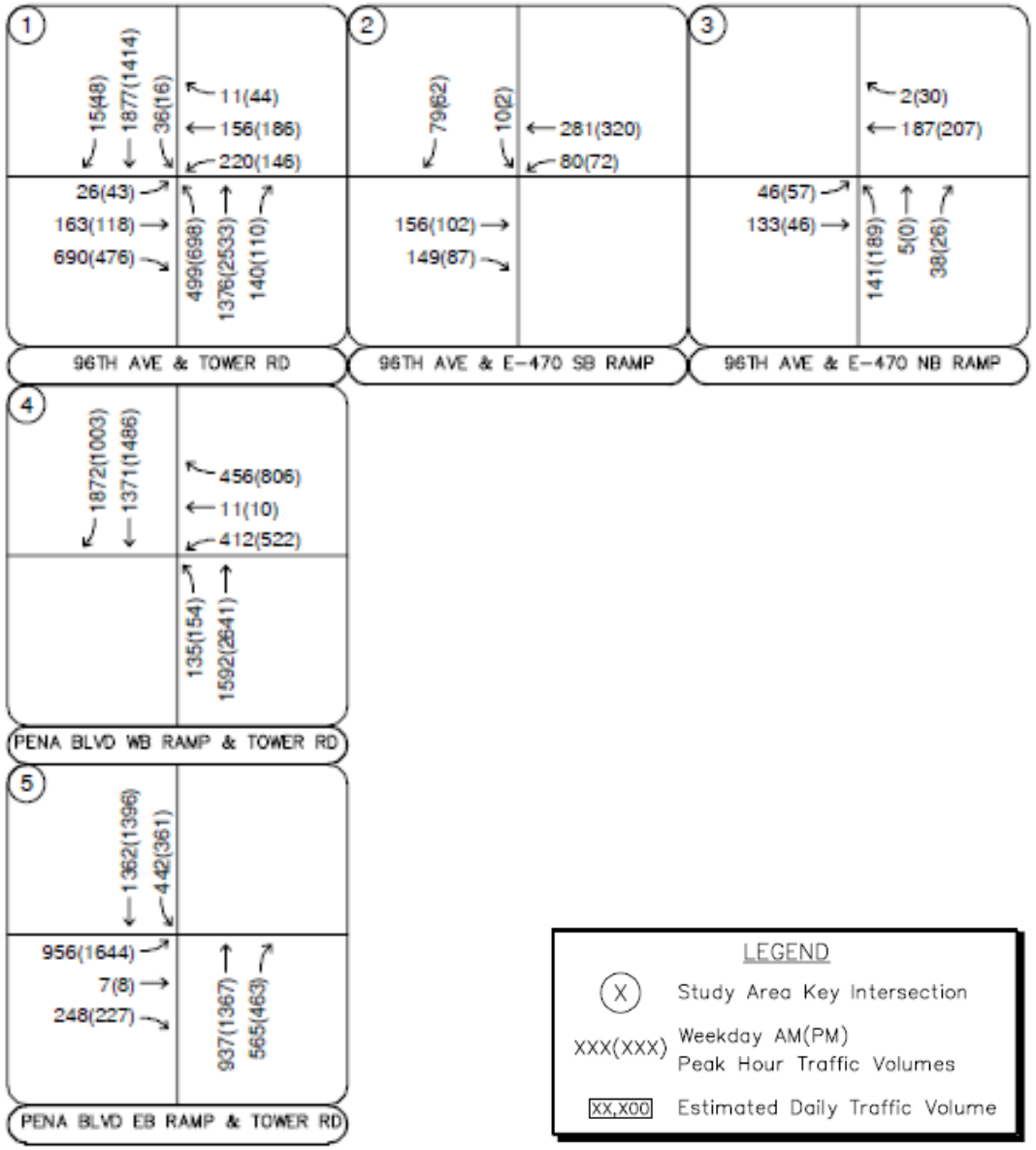
2045 Background Traffic Volume



LEGEND

(X) Study Area Key Intersection

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

[XX,X00] Estimated Daily Traffic Volume

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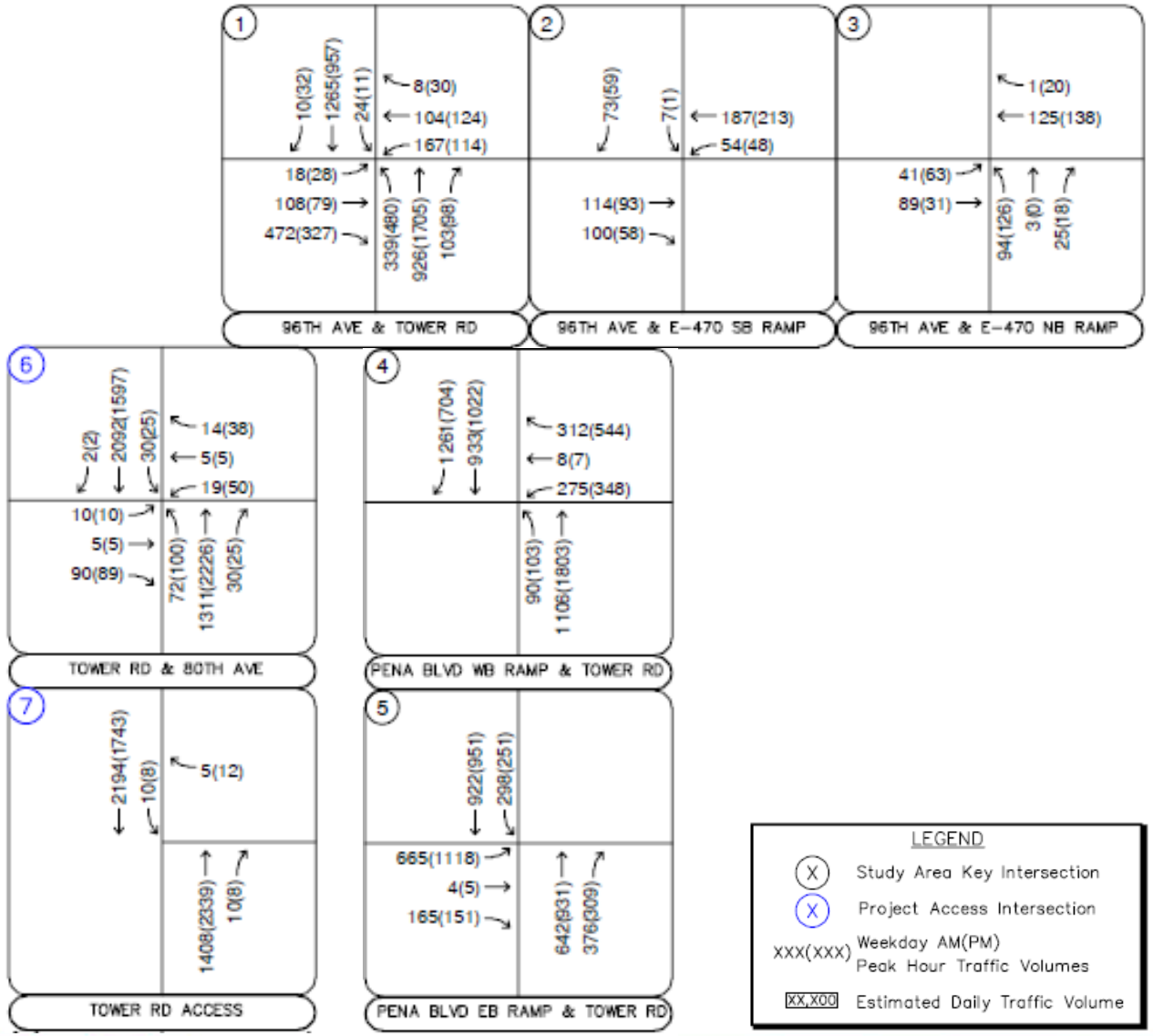
Methodology – Total Volumes

- Used trip generation counts collected at the two existing Swire Coca-Cola facilities in Denver
- 88 morning trips and 123 afternoon trips were observed
- 33% of morning and 26% of afternoon trips were observed to be heavy vehicles
- Counts were scaled using a factor of 1.34 (670 existing employees/900 employees at full build out)
- Generated trips from the project site were added to 2027 and 2045 background volumes to provide total volumes

Land Use and Size 900 Employees	Weekday Vehicle Trips					
	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
User-Specific Distribution Facility (Passenger Vehicles)	64	15	79	46	76	122
	80%	39%	67%	70%	77%	74%
User-Specific Distribution Facility (Heavy Vehicles)	16	23	39	20	23	43
	20%	61%	33%	30%	23%	26%
User-Specific Distribution Facility – (Total Vehicles)	**80**	**38**	**118**	**66**	**99**	**165**

** Total volumes used in study also include traffic projections from QuickTrip 4207 – west side of Tower road and north of project site*

2027 Total Traffic Volume



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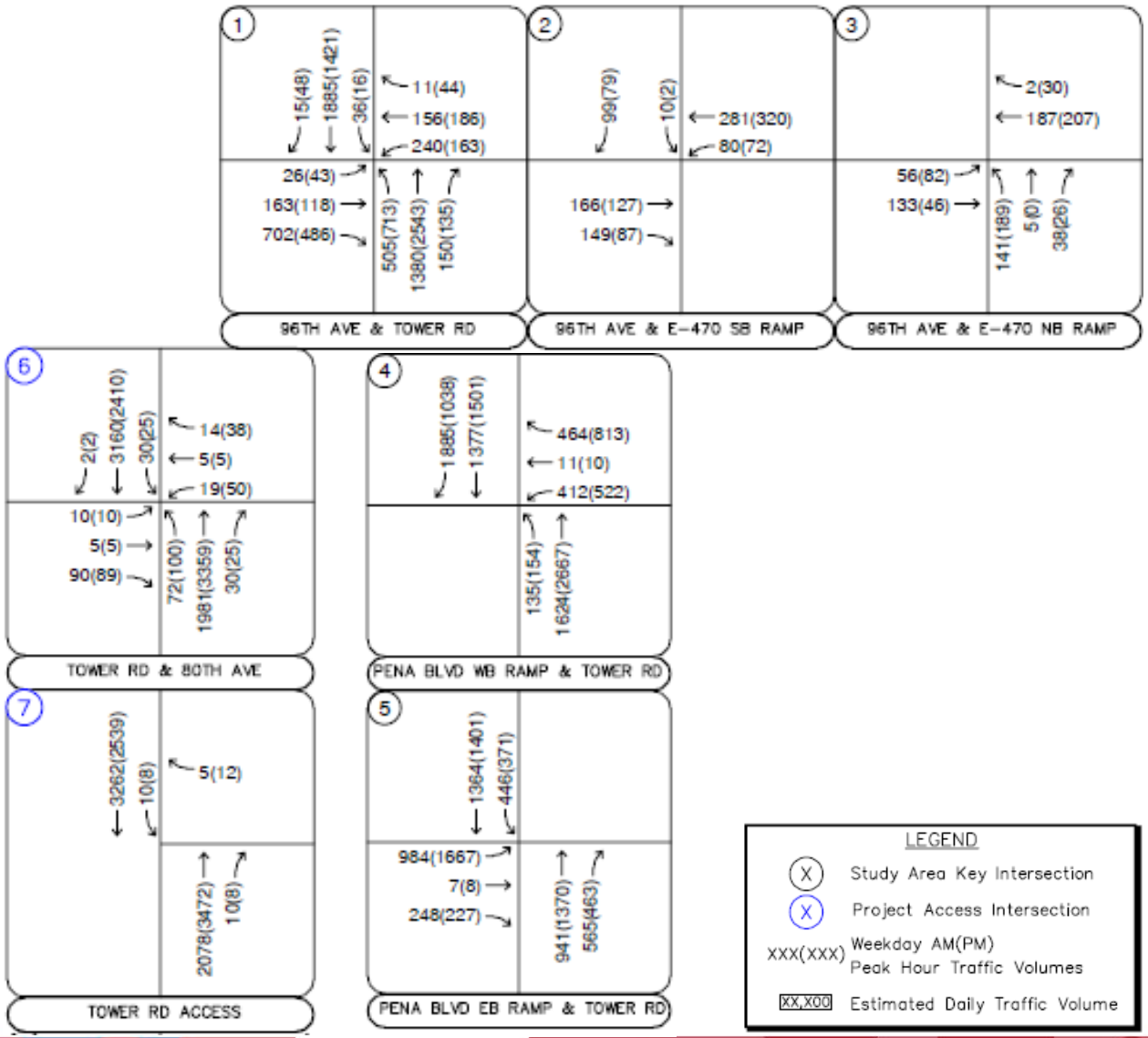
2045 Total Traffic Volume



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Methodology – Level of Service

- Capacity analysis results are listed in terms of Level of Service (LOS)
- Standard traffic engineering practice recommends the following minimum desirable thresholds for acceptable operations:
  - Intersections – LOS D
  - Movement/Approach – LOS E

Level of Service	Signalized Intersection Average Total Delay (sec/veh)	Unsignalized Intersection Average Total Delay (sec/veh)
A	≤ 10	≤ 10
B	> 10 and ≤ 20	> 10 and ≤ 15
C	> 20 and ≤ 35	> 15 and ≤ 25
D	> 35 and ≤ 55	> 25 and ≤ 35
E	> 55 and ≤ 80	> 35 and ≤ 50
F	> 80	> 50

Definitions provided from the Highway Capacity Manual, Sixth Edition, Transportation Research Board, 2016.

Study Results – Level of Service

Table 3 – 96th Avenue & Tower Road (#1) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2023 Existing	27.5	C	23.9	C
2027 Background	32.0	C	28.5	C
2027 Background Plus Project	39.3	D	32.7	C
2045 Background #	56.6	E	52.1	D
2045 Background Plus Project ##	52.4	D	44.5	D

 # = Three northbound and southbound through lanes
= # + dual northbound left turn lanes

Table 4 – 96th Avenue & E-470 Southbound Ramp (#2) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2023 Existing				
Westbound Left	7.7	A	7.6	A
Southbound Approach	9.3	A	9.6	A
2027 Background				
Westbound Left	7.7	A	7.7	A
Southbound Approach	9.4	A	9.7	A
2027 Background Plus Project				
Westbound Left	7.7	A	7.7	A
Southbound Approach	9.5	A	9.8	A
2045 Background				
Westbound Left	8.0	A	7.9	A
Southbound Approach	10.1	B	10.6	B
2045 Background Plus Project				
Westbound Left	8.0	A	8.0	A
Southbound Approach	10.2	B	10.7	B

Table 5 – 96th Avenue & E-470 Northbound Ramp (#3) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2023 Existing				
Northbound Left/Through	10.2	B	11.0	B
Northbound Right	8.6	A	8.5	A
Eastbound Left	7.5	A	7.6	A
2027 Background				
Northbound Left/Through	10.4	B	11.3	B
Northbound Right	8.7	A	8.5	A
Eastbound Left	7.5	A	7.6	A
2027 Background Plus Project				
Northbound Left/Through	10.6	B	11.9	B
Northbound Right	8.7	A	8.5	A
Eastbound Left	7.6	A	7.7	A
2045 Background				
Northbound Left/Through	11.2	B	13.0	B
Northbound Right	8.8	A	8.6	A
Eastbound Left	7.7	A	7.8	A
2045 Background Plus Project				
Northbound Left/Through	11.4	B	13.9	B
Northbound Right	8.8	A	8.6	A
Eastbound Left	7.7	A	7.8	A

Study Results – Level of Service

Table 6 – Pena Boulevard Westbound Ramp & Tower Road (#4) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2023 Existing	11.4	B	12.8	B
2027 Background	11.8	B	13.8	B
2027 Background Plus Project	11.8	B	16.0	B
2045 Background	17.2	B	67.2	E
2045 Background Plus Project #	18.4	B	38.1	C

 # = Three northbound through lanes

Table 7 – Pena Boulevard Eastbound Ramp & Tower Road (#5) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2023 Existing	19.3	B	26.4	C
2027 Background	19.4	B	28.9	C
2027 Background Plus Project	19.8	B	27.2	C
2045 Background	38.7	D	112.0	F
2045 Background Plus Project #	25.9	C	45.4	D

 # = Three northbound through lanes and triple eastbound left turn lanes

Table 8 – Project Access Level of Service Results

Intersection	2027 Total				2045 Total			
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS	Delay (sec/ veh)	LOS
Tower Road & New Road (#6)	14.8	B	25.5	C	# 18.8	# B	# 27.1	# C
Tower Road Access (#7)					#	#	#	#
Westbound Approach	0.0	A	0.0	A	0.0	A	0.0	A
Southbound Left	9.9	A	35.2	E	11.9	B	48.7	E

 # = Three northbound and southbound through lanes

Study Results – Lane Queuing

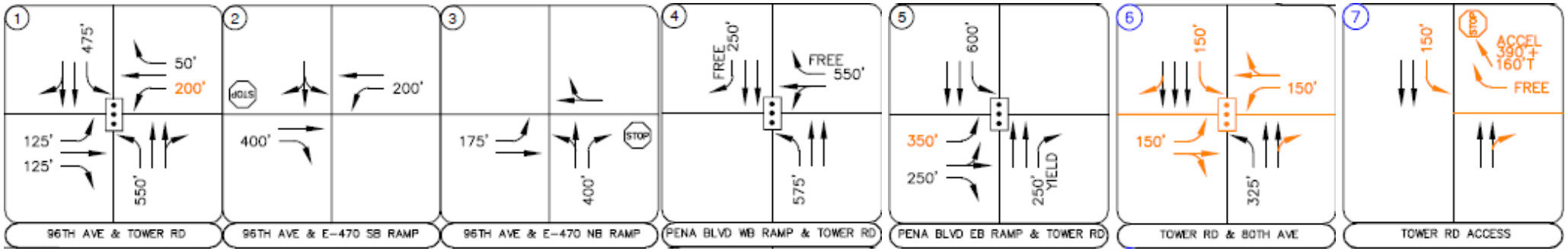
Table 9 – Turn Lane Queuing Analysis Results

Intersection Turn Lane	Existing Turn Lane Length (feet)	2027 Calculated Queue (feet)	2027 Recommended Length (feet)	2045 Calculated Queue (feet)	2045 Recommended Length (feet)
96th Ave & Tower Rd (#1)					
Eastbound Left	125'	47'	125'	61'	125'
Eastbound Right	125'	124'	125'	422'	425'
Westbound Left	125'	178'	200'	189'	200'
Westbound Right	50'	25'	50'	25'	50'
Northbound Left	550'	327'	550'	359' DL	550' DL
Southbound Left	475'	26'	475'	50'	475'
96th Ave & E-470 SB Ramp (#2)					
Eastbound Right	400'	25'	400'	25'	400'
Westbound Left	200'	25'	200'	25'	200'
96th Ave & E-470 NB Ramp (#3)					
Eastbound Left	175'	25'	175'	25'	175'
Northbound Right	400'	25'	400'	25'	400'
Pena Blvd WB Ramp & Tower Rd (#4)					
Westbound Right	550'	25'	550'	25'	550'
Northbound Left	575'	66'	575'	168'	575'
Southbound Right	250'	25'	250'	909'	C
Pena Blvd EB Ramp & Tower Rd (#5)					
Eastbound Left	325'/C DL	349' DL	350'/C DL	393' TL	400'/C TL
Eastbound Right	250'	96'	250'	168'	250'
Northbound Right	250'	192'	250'	320'	325'
Southbound Left	600'	325'	600'	448'	600'
80th Avenue & Tower Rd (#6)					
Northbound Left	325'	166'	325'	166'	325'
Southbound Left	DNE	40'	150'	35'	150'
Eastbound Left	DNE	28'	150'	28'	150'
Westbound Left	DNE	86'	150'	86'	150'
Tower Rd Access (#7)					
Southbound Left	DNE	25'	150'	25'	150'

C = Continuous; Red Text = Storage Deficiency; Blue Text = Recommendation; DL = Dual Left Turn Lanes, TL =Triple Left Turn Lanes

Study Results – 2027 Recommendations

- EXTEND westbound left turn lane at the intersection of 96th Avenue/Tower Road from 125 feet to 200 feet through restriping.
- EXTEND outside eastbound left turn lane at the intersection of Pena Boulevard Eastbound Ramp/Tower Road from 325 feet to 350 feet. Requires reconstruction of the eastbound right turn lane taper.
- CONSTRUCT new roadway, named 80th Avenue, along the east side of Tower Road and along the north side of the project site.
  - Signalized intersection with left turn lanes provided on all four approaches
  - Minimum 150-foot southbound, eastbound, and westbound left turn lanes be constructed and designated
- CONSTRUCT new roadway east of Tower Road approximately 970 feet south of 80th Avenue.
  - Stop controlled approach from access road to Tower Road
  - 390-foot northbound acceleration lane from the westbound right turn
  - 150-foot southbound left turn lane be designated on Tower Road



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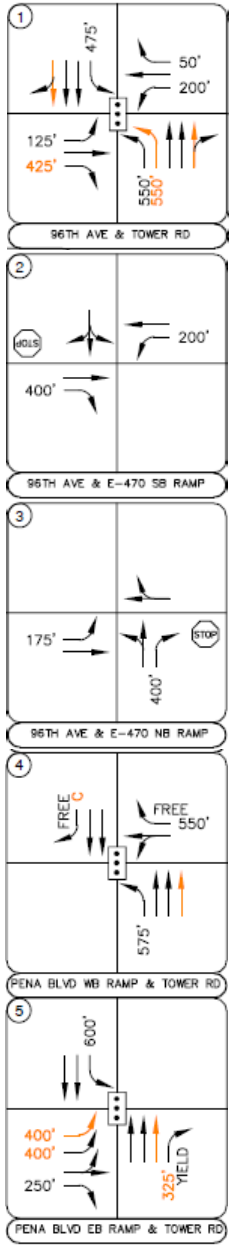
Study Results – 2045 Recommendations

- According to the City of Commerce City C3 Vision Transportation Plan, Tower Road is anticipated to provide three northbound and southbound through lanes by 2035. It is believed that the six-lane section of Tower Road would continue to the Pena Boulevard interchange.
- At the Pena Boulevard interchange, designate three through lanes northbound created from the recommended eastbound triple lefts at the Pena Boulevard Eastbound offramp. Third outside southbound through lane can terminate as a continuous forced right turn to the Pena Boulevard Westbound onramp, with two through lanes continuing through the interchange southbound.
- At the 96th Avenue/Tower Road intersection, a second northbound left turn lane may be needed if future traffic volume projections are realized. Potential for Eastbound right turn lane extension from 125 to 425 feet.
- Pena Boulevard Westbound Ramp/Tower Road intersection's southbound right turn lane may need to be a continuous lane, which can be the termination point for the third southbound through lane along Tower Road to the north.
- Third eastbound left turn lane may need to be constructed at the Pena Boulevard Eastbound Ramp/Tower Road intersection. If constructed, recommend two outside eastbound left turn lanes be designated to a length of 400 feet. The northbound right turn lane may need to be increased from 250 to 325 feet.



Questions, Discussion & Feedback

Thank You