

Traffic Impact Study

2024-02-02 (DJK) reviewed, several comments to address including directional distribution, adding highlights to LOS/Delay chart, statement regarding Tower's additional northbound through lane, signalization warrant worksheets required for 32nd & Full Access intersections

Thank you for your review and responses provided to the traffic study for the Majestic Tower Crossings Retail project. Please see comment responses throughout this document.

Majestic Tower Crossings Retail

Aurora, Colorado

Prepared for:

Commerce Construction Co., L.P.

Kimley»Horn

T R A F F I C I M P A C T S T U D Y

Majestic Tower Crossings Retail

Aurora, Colorado

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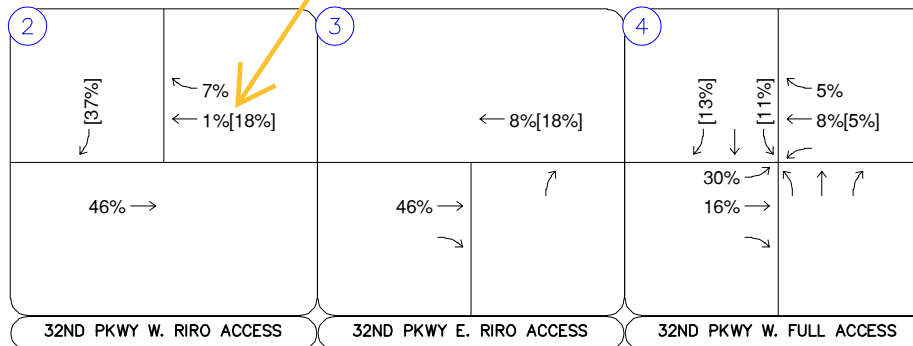
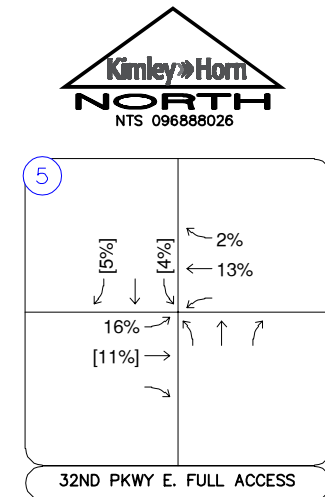
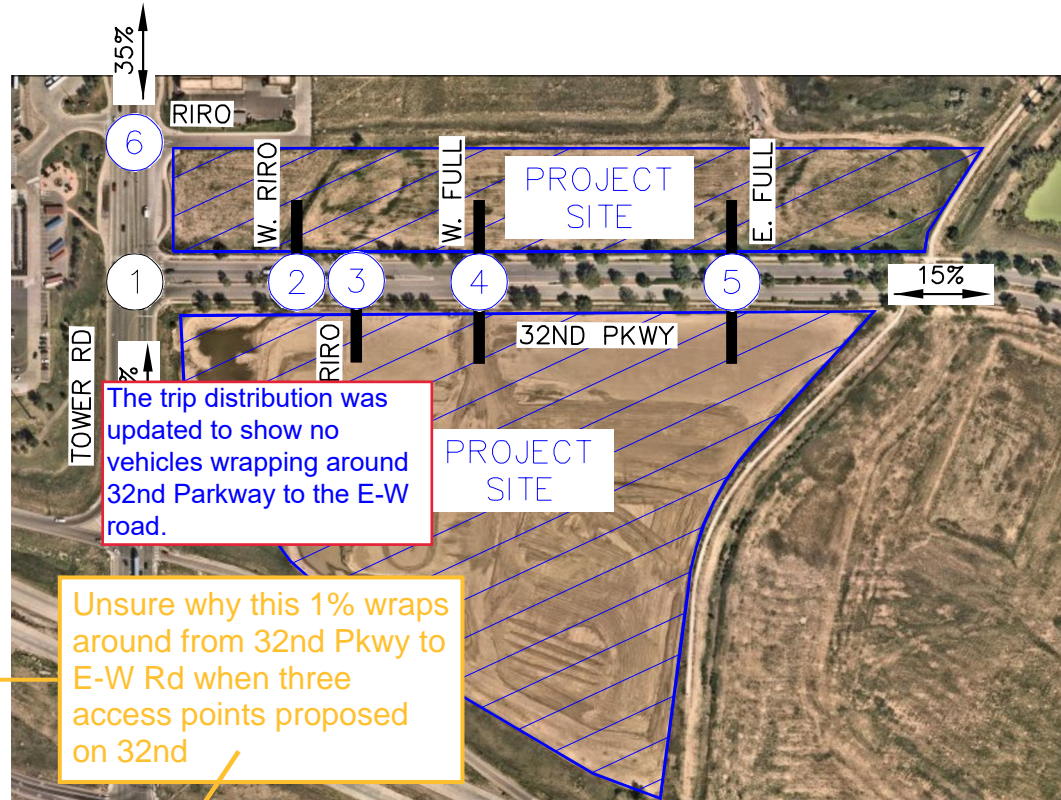
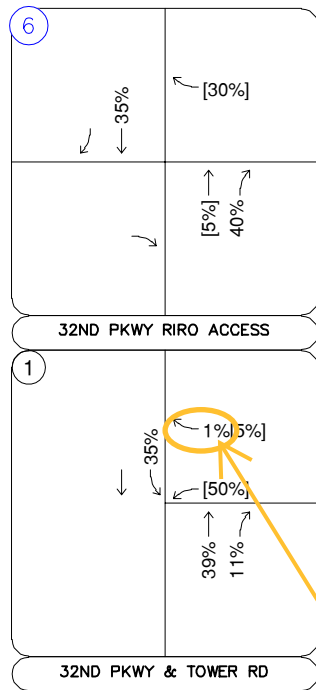


FIGURE 6
MAJESTIC TOWER CROSSINGS RETAIL
AURORA, COLORADO
PROJECT TRIP DISTRIBUTION – NORTH SITE

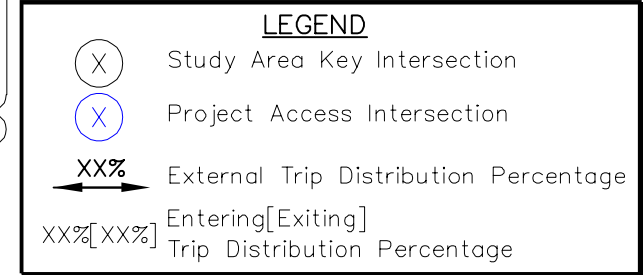


Table 3 – 32nd Parkway & Tower Road (#1) LOS Results

Scenario	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
2022 Existing	12.9	B	14.9	B
Westbound Left	54.4	D	54.7	D
Westbound Right	47.0	D	45.9	D
Northbound Through	9.4	A	12.0	B
Northbound Right	8.0	A	8.5	A
Southbound Left	6.6	A	9.7	A
Southbound Through	4.7	A	5.9	A
2025 Background	14.5	B	18.9	B
Westbound Left	54.7	D	57.2	E
Westbound Right	45.6	D	42.9	D
Northbound Through	11.1	B	15.6	B
Northbound Right	11.7	B	11.2	B
Southbound Left	10.0	B	14.6	B
Southbound Through	5.6	A	8.1	A
2025 Background Plus Project	38.4	D	39.7	D
Westbound Left	69.0	E	65.9	E
Westbound Right	36.9	D	36.5	D
Northbound Through	34.2	C	51.8	E
Northbound Right	48.1	D	30.2	C
Southbound Left	75.2	E	64.8	E
Southbound Through	10.4	B	12.7	B
2040 Background	20.0	B	28.8	C
Westbound Left	57.0	E	69.3	E
Westbound Right	42.7	D	40.3	D
Northbound Through	18.0	B	31.7	C
Northbound Right	17.3	B	15.8	B
Southbound Left	38.0	D	53.7	D
Southbound Through	8.9	A	12.4	B
2040 Background Plus Project #	42.4	D	46.6	D
Westbound Left	72.0	E	66.4	E
Westbound Right	34.6	C	31.9	C
Northbound Through	43.9	D	57.9	E
Northbound Right	66.5	E	35.9	D
Southbound Left	70.6	E	106.8	F
Southbound Through	15.0	B	19.8	B

= Three Northbound Through Lanes

Based on this analysis, the site traffic generates the need for the additional through lane in 2040

Without site traffic

Highlight E/F LOSs and delays

LOS E/F was highlighted throughout the report. Although, it should be noted that movement LOS E is considered acceptable whereas, overall LOS E is not considered acceptable at signalized intersections.

It should be noted the 2040 horizon is for planning level purposes only as this horizon included baseline growth for 18 years plus several other known projects in the area. With signal timing modifications, LOS D has been achieved for the northbound through movement in the updated traffic study. It should be noted that movement LOS E is considered acceptable whereas, overall intersection LOS E would be considered failing at signalized intersections. Of note, the Tower Center project only contributes 7.6 percent of traffic to the northbound through movement. Project contributions for the third northbound through lane should be worked out as part of a developer's agreement.

buildout year 2025 and the 2040 long term horizons with the recommended lane configurations. The signalized 32nd Parkway West Access (#4) is anticipated to operate acceptably at LOS C and B during the morning and afternoon peak hours throughout 2040 with the recommendations. By 2026, the eastbound right turn movement at the Tower Road Right-In/Right-Out Access (#6) is anticipated to operate with long vehicle delays. Of note, project traffic does not contribute to this movement; therefore, the City of Aurora may implement alternative improvements in the future if traffic volumes warrant, such as a southbound acceleration lane from the eastbound right turn movement. By 2045, a third northbound through lane is recommended along Tower Road.

Therefore, it is recommended that the northbound approach at the Tower Road Right-In/Right-Out Access (#6) consist of three through lanes with the outside lane being a shared through/right turn lane.

Table 4 – Project Access Level of Service Results

Based on volumes and 'background' vs with site, this project needs to provide the extra through lane

It should be noted the 2040 horizon is for planning level purposes only as this horizon included baseline growth for 18 years plus several other known projects in the area. With signal timing modifications, LOS D has been achieved for the northbound through movement in the updated traffic study. It should be noted that movement LOS E is considered acceptable whereas, overall intersection LOS E would be considered failing at signalized intersections. Of note, the Tower Center project only contributes 7.6 percent of traffic to the northbound through movement. Project contributions for the third northbound through lane should be worked out as part of a developer's agreement.

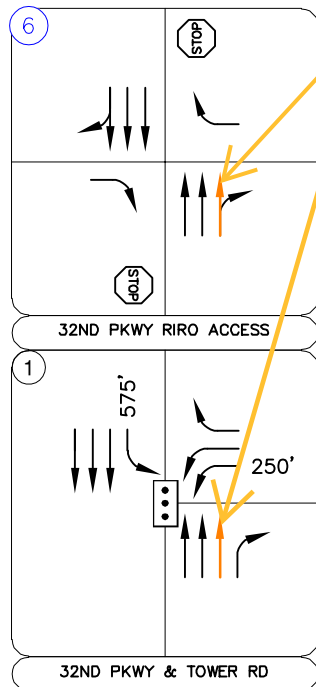
32nd Pkwy & W. RIR								
Southbound Approach								
32nd Pkwy & E. RIR								
Northbound Approach								
32nd Pkwy & W. Full Access (#4)								
Northbound Left	>300	F	84.8	F	-	-	-	-
Northbound Through/Right	13.1	B	10.7	B	-	-	-	-
Eastbound Left	9.8	A	10.8	B	-	-	-	-
Westbound Left	12.3	B	9.6	A	-	-	-	-
Southbound Left	26.4	D	27.2	D	-	-	-	-
Southbound Through/Right	11.3	B	12.3	B	-	-	-	-
32nd Pkwy & W. Full Access (#4) #	20.6	C	15.7	B	21.0	C	16.3	B
32nd Pkwy & E. Full Access (#5)								
Northbound Left	18.7	C	17.2	C	24.2	C	20.6	C
Northbound Through/Right	10.6	B	9.3	A	11.4	B	9.7	A
Eastbound Left	9.1	A	10.0	B	9.9	A	11.2	B
Westbound Left	8.9	A	8.2	A	9.7	A	8.4	A
Southbound Left	16.7	C	20.7	C	20.8	C	27.4	D
Southbound Through/Right	10.5	B	11.6	B	11.4	B	12.8	B
Tower Rd & RIRO Access (#6)								
Eastbound Right	29.7	D	66.2	F	64.2	F	>300	F
Westbound Right	13.3	B	16.1	C	13.6	B	16.2	C

Signalized with dual northbound left turn lanes

Three northbound through lanes

Highlight F LOSs and delays

LOS E/F was highlighted throughout the report. Although it should be noted that LOS E is acceptable for individual movements at intersections.



Need due to site specific traffic

It should be noted the 2040 horizon is for planning level purposes only as this horizon included baseline growth for 18 years plus several other known projects in the area. With signal timing modifications, LOS D has been achieved for the northbound through movement at the 32nd Parkway and Tower Road intersection in the updated traffic study. It should be noted that movement LOS E is considered acceptable whereas, overall intersection LOS E would be considered failing at signalized intersections. Of note, the Tower Center project only contributes 7.6 percent of traffic to the northbound through movement. Project contributions for the third northbound through lane should be worked out as part of a developer's agreement.

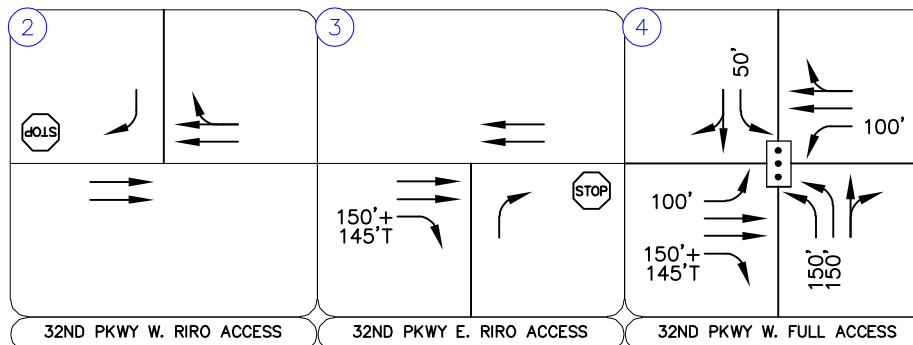
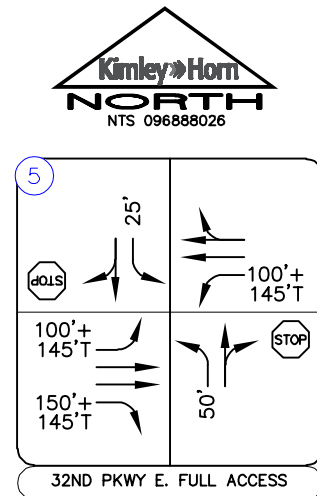
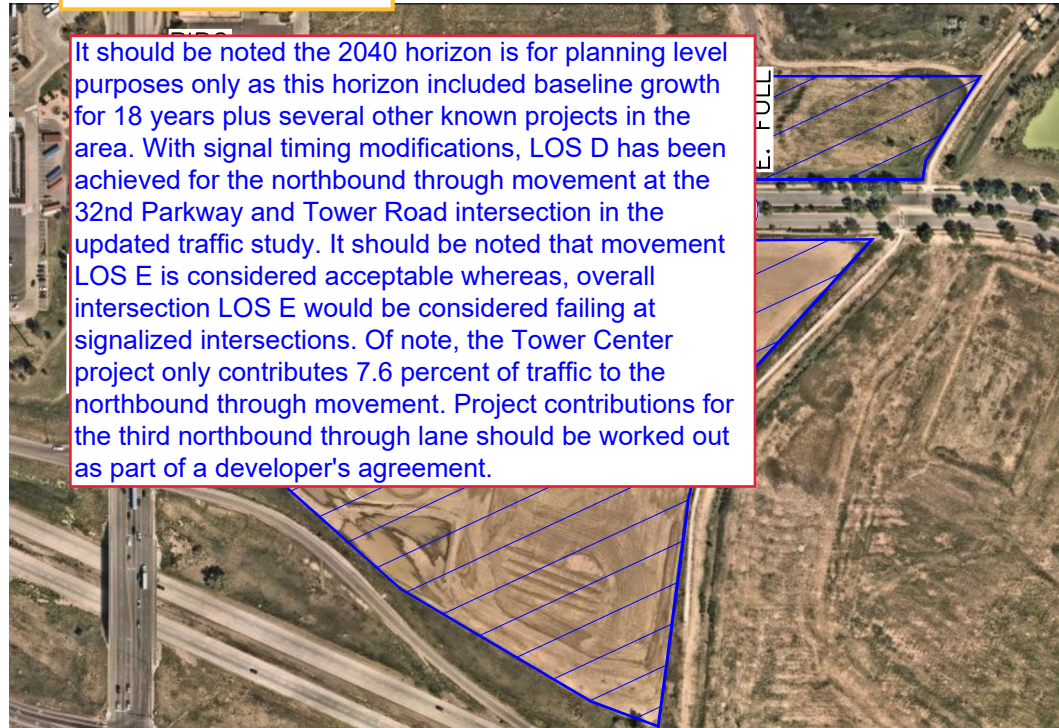
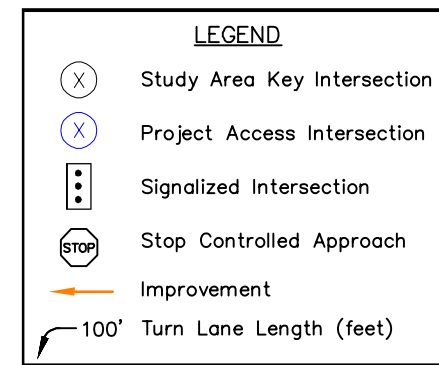
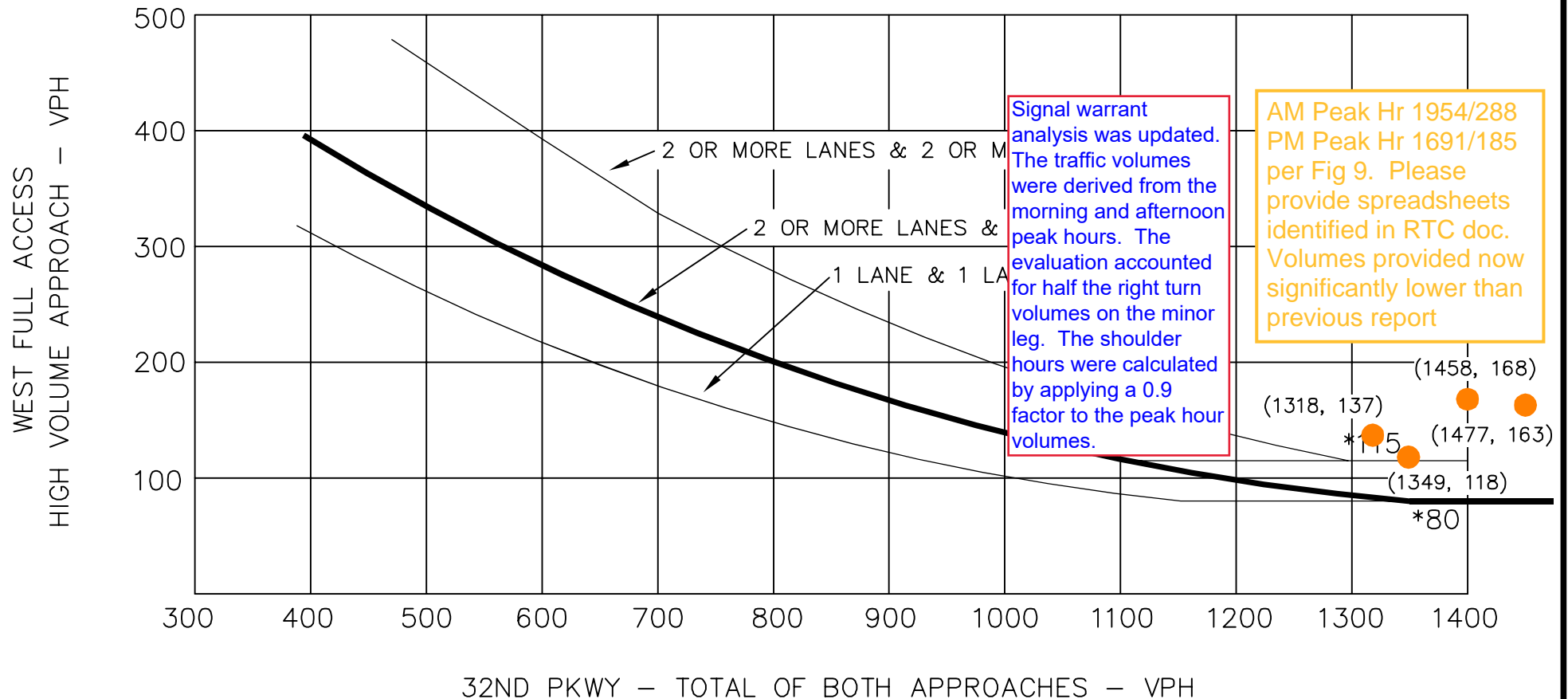


FIGURE 12
MAJESTIC TOWER CROSSINGS RETAIL
AURORA, COLORADO
2040 RECOMMENDED GEOMETRY AND CONTROL



WARRANT 2 - FOUR HOUR VEHICULAR VOLUME



* NOTE: 115 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACH WITH TWO OR MORE LANES AND 80 VPH APPLIES AS THE LOWER THRESHOLD VOLUME FOR A MINOR STREET APPROACHING WITH ONE LANE.

32ND PKWY W. FULL ACCESS
SIGNAL WARRANT ANALYSIS
FOUR HOUR VOLUME WARRANT

● 2025 TOTAL TRAFFIC DATA POINT

Source: Manual of Uniform Traffic Control Devices 2009