Traffic Study Checklist

A Traffic Report is required for any development that is expected to generate more than 100 vehicles per peak hour, or a change in use. Developments with an extraordinary amount of trip generations (i.e. power center, big box, large amount of high density residential, etc) may be required to expand the study area in order to evaluate the impact of the development. The report shall be signed and stamped by a Colorado P.E.

DESCRIPTION	PROVIDED (Engineer)	N/A	COMMENTS
Submittal Format			
All reports shall be electronic and shall include the seal and signature of the Professional Engineer	☐	☐	
All reports shall include the conformance statement as noted in city Standards and Specifications.	☐	☐	
Title Page			
A cover sheet with the subdivision name, date published, publishing entity, development name, and key map	☐	☐	
Background Information			
Provide site drawing as part of report	☐	☐	
Discussion of development location with adjacent/vicinity roadway characteristics (i.e. speed limit, cross section, exiting accesses, level of service, etc). Vicinity includes to the next closest arterial in each direction, not counting the arterial that may front the property	☐	☐	
Copy of the applicable sections of the Transporation and Mobility Master Plan (TMMP) with development location shown and shall include a comparison of the TMMP to the report's projections.	☐	☐	
Proposed types of development land use for the site.	☐	☐	
Study area (all intersections within 1/4 mile of development extents or to next arterial, confirm with city prior to conducting counts)	☐	☐	
The building site layout with square footage for each type of proposed land use (commercial only) and/or number of homes and type of residential units	☐	☐	
Base Assumptions (Confirm base assumptions with the city prior to conducting counts)	☐	☐	
Land Use Codes from Institue of Transportation Engineers (ITE)	☐	☐	
Growth rate utilized for Short Term and Long Term	☐	☐	
Pass-by Trips (for commercial only)	☐	☐	
Multi-Use reduction	☐	☐	
General existing traffic conditions			
Include roadway classifications	☐	☐	
Description of the existing roadway and intersection configurations (number of lanes, existing speed limit, lane designations)	☐	☐	
Traffic Counts (AM/PM peak hr & ADT, 24-hour count data, 15-minute increments, counts shall be valid at time of approval. The date and time should be selected to ensure that the data collected is relevant, i.e. not collected in incliment weather, when school is not in session). Counts will be valid for 1 year following CSP approval unless otherwise agreed by the Traffic Engineer	☐	☐	
Turning movement counts (peak hour as appropriate)	☐	☐	
Data on the gaps in traffic for pedestrians and the number of pedestrians in the peak hour.	☐	☐	
Level-of-service analysis of existing conditions per the Highway Capacity Manual	☐	☐	
Site Characteristics			
Location of all existing and proposed accesses, including geometric layout.	☐	☐	
Proposed improvements/speed limit of roadways in the vicinity of proposed development	☐	☐	
Trip generation rates (both daily and peak hour, per ITE Trip Generation Manual or other sources identified and provided as backup)	☐	☐	
Distribution of generated traffic (List all assumptions used in the distribution of generated traffic loading)	☐	☐	
Discuss distribution with Development Engineering prior to submitting Traffic Study			
Daily and peak hour on to the adjacent streets. Distribution method(s) used.	☐	☐	
Daily and peak hour in existing and proposed zoning or land use	☐	☐	

DESCRIPTION	PROVIDED (Engineer)	N/A	COMMENTS
Traffic Assignments and Off-Site Traffic Analysis			
On-site and Off-site traffic distribution and assumptions made	☐	☐	
Tables (this is to include any development that is currently under review by the City or construction within	☐	☐	
one (1) mile radius of the proposed development)			
Existing peak hour traffic on adjacent streets	☐	☐	
Traffic developed by site during the street peak hour	☐	☐	
Resulting peak hour with development	☐	☐	
List all intersections that will need to be or could be signalized with the proposed development at the build	☐	☐	
out of the development and within 20 years of existing scenario (supporting analysis, per the latest			
edition of the MUTCD, shall be included)			
Traffic signal progression by analysis of existing streets and the impact by the proposed access(es). (Existing	☐	☐	
signal timing shall be utilized as a base for the analysis)			
Critical lanes and intersection analysis for all intersections adjacent to the development that are major	☐	☐	
collectors and arterials.			
Level-of-service analysis per the Highway Capacity Manual	☐	☐	
Short term background volumes of study area intersections combined with volumes generated by	☐	☐	
the development			
Long term background volumes of study area intersections combined with anticipated future volumes	☐	☐	
generated by the development.			
Short Term (ST) and Long Term (LT) Analysis (short term is defined as the time it takes for project to buildout,			
long term is defined as 20 years from existing scenario)			
Map	☐	☐	
Include the current site plan showing the assumptions for ST Trip Distribution on a larger scale	☐	☐	
Include the assumptions for LT Trip Distribution on a larger scale	☐	☐	
Exhibit showing traffic volumes at site buildout and proposed access (AM/PM peak hour & ADT)	☐	☐	
Site Generated	☐	☐	
Background	☐	☐	
Total	☐	☐	
Exhibit if change in land use is proposed to show comparison (when applicabale)	☐	☐	
Traffic Signal Warrant Analysis at site buildout and proposed year of construction.	☐	☐	
Include long term ITE trip generation and distribution for undeveloped parcels within study area	☐	☐	
LOS of all unsignalized and signalized intersections	☐	☐	
Exhibit showing left/right turn/through movement storage vs. 95th percentile queues (check for impact to	☐	☐	
adjacent existing/proposed access)			
Double lefts shall be utilized for turning movements over 300 vph	☐	☐	
Progression Analysis	☐	☐	
Include current cycle length if warrants are met (in the form of a time-space diagram)	☐	☐	
Include ultimate cycle length, for all warrants met (See below for requirements)	☐	☐	
(in the form of a time-space diagram)			
Roundabout traffic analysis using Rodel and Vissim or equivalent	☐	☐	

DESCRIPTION	PROVIDED (Engineer)	N/A	COMMENTS
Synchro Output (or City-approved equivalent) / Progression Analysis			
Cross street through and main street through minimum green time should be compared to travel time of	☐	☐	
pedestrians (measured at a walking speed 3.5 feet per second).			
The minimum green time (8 sec) + amber time (3.5 sec) should be 11.5 seconds			
All red time shall be 1 second	☐	☐	
Protected lefts shall be utilized for all double lefts, with the protected phase leading	☐	☐	
Protected/permissive lefts shall be used for all single lefts with the protected phase leading	☐	☐	
In concert with 3 and 4, the Lead/Lag Optimize should be blank	☐	☐	
Recall mode shall be C-Max for the major roadway through movements. No recall for all other movements	☐	☐	
A minimum of 100 seconds and a maximum of 120 second cycle lengths shall be utilized for 2030 analyses.	☐	☐	
(Longer or shorter may be required at the discretion of the City)			
Speeds shall be constant	☐	☐	
The Short Term Signal Progression Analysis shall extend to the nearest major intersection in each direction of	☐	☐	
the proposed site. The Developer shall request the Synchro information from the City.			
(City may expand the minimum area.)			
Turn Bay lengths shall match the proposed design and/or the minimum as required by our specs, and be	☐	☐	
larger than the Queue Length (95th)			
Link Speed should match the existing posted speed limit or as outlined in the Standards and Specs	☐	☐	
if a new street			
Lane widths should match the lane widths identified in the Standards and Specs, and/or what is	☐	☐	
currently constructed			
Lane Configurations match the proposed design and the Transportation Plan	☐	☐	
Additional Study Requirements			
School Developments	☐	☐	
NCDOT calculator spreadsheet required for queuing analysis on school sites	☐	☐	

In accordance with the provisions of Section 501 of the Model Traffic Code for Colorado and in compliance with the City of Thornton Ordinance No. 3139 amending sections 38-521 and 38-523 of City Municipal Code, when official signs are erected giving notice thereof, no person shall operate a vehicle with a weight in excess of the amounts specified herein at any time upon any of the following streets or parts of streets:

Name of Street	**Portion Affected**	**Pound Limit (Gross/Empty Weight)**
100th Avenue	McKay Road to Riverdale Road WB & EB	7,000 LBS.
102nd Avenue	Ura Lane to 101st Avenue EB	7,000 LBS.
112th Avenue	Holly Street to Riverdale Road EB	Ten Tons
124th Avenue	Colorado Boulevard to Claude Court EB & WB	7,000 LBS.
128th Avenue	Washington Street to Claude Court EB & WB	Ten Tons
128th Avenue	Claude Court to Colorado Boulevard EB & WB	7,000 LBS.
168th Avenue	Bridge over Big Dry Creek west of Holly Street	Weight Limit 23 Tons
Badding Drive	Washington Street to 99th Place WB	No Trucks
Holly Street	152nd Avenue to Colorado 7 NB & SB (Adams County)	Eight Tons
McKay Road	104th Avenue to City Limits SB	7,000 LBS
Oneida Street	300 feet north of 128th Place to 130th Avenue NB	7,000 LBS
Quivas Street	100th Avenue to 102nd Avenue NB & SB	7,000 LBS
Riverdale Road	McKay Road to Quebec NB (Adams County)	Ten Tons
Riverdale Road	Yosemite Street to 128th Avenue	Ten Tons
Ura Lane	103rd Avenue to 100th Avenue SB	No Trucks
York Street	156th Avenue to Colorado 7 NB & SB	Eight Tons
York Street	163rd Avenue to 168th Avenue NB & SB	Eight Tons