

## **[D3f] Decipher Traffic Reports**

v. February 23, 2021

### **General Comments –**

- Traffic Studies are required for subdivisions, site plans, master plans and Comprehensive Plan map amendment applications. (per BDC 4.7.200)
- Traffic studies can be very technical and this guide is not intended to consider all possible analysis or outcomes. This guide will try to highlight the key elements.
- A thorough understanding of traffic study requirements would require a complete reading of the applicable development code sections and/or seeking help from professionals.

### **BDC 4.8 Transportation and Parking Demand Management Plan (TPDM)**

- The purpose of the TPDM is to increase walking, biking, transit use and reduce single-occupant vehicle trips and parking demand.
- BDC 4.8.500 Submittal Requirements Key element-
  - BDC 4.8.500(I)(1) allows for a maximum trip generation reduction rate of 25% for peak hour use for measures listed in table 4.8.500.

*[Note – Measures listed in BDC’s Table 4.8.500 allows up to a maximum of 20% reduction in the minimum parking requirements in BDC Table 3.3.300. However, this reduction criteria is redundant with the parking credits listed in BDC 3.3.300. An application cannot apply both the credits of Chapter 3.3 and the rate reductions of Chapter 4.8]*

- BDC 4.8.900 states that at the request of the City, a report documenting the TPDM plan’s activities undertaken to implement the approved measures and their results must be submitted to the Development Service Director. *[Not sure if the city has ever made the request.]*

**BDC 4.7 Transportation Analysis –** The following summary follows the content of this critical chapter with highlighting of critical elements:

4.7.100 – Purpose: “Consistency with the Bend Comprehensive Plan”

4.7.200 – Applicability

4.7.300 – Process

(A) Step #1 - Applicant submits the Transportation Facility Report according to BDC 4.7.400

(B) Step #2 - City Engineer reviews Transportation Facility Report to determine if a Transportation Impact Analysis Report is required.

(C) Step #3 - If required, applicant submits a Transportation Impact Analysis per 4.7.500.

(D) Step #4 - If no significant impacts are identified, the applicant can proceed with application submittal and must pay a proportionate share contribution required under 4.7.700. If significant impacts are identified, the applicant required to propose mitigation in compliance with 4.7.600.

#### **BDC 4.7.400 Transportation Facilities Report (TFR)**

A. Preparation

B. Contents of TFR

1. Description of Contents

2. Trip generation

- a. Trip credits [from existing on-site development or from separate development approval]
- b. Trip generation rates from Institute of Transportation Engineers (ITE)
- c. [addition requirements for] Bend Comprehensive Plan amendments
- d. Pass-by Trips - **Pass-by trips** are a subset of **trips** traveling on a road that stops by a near-by commercial development. They are not new **trips**. This subset can reduce the trip generation of a commercial development.
- e. Site internalization/trip sharing - Site internalized trips are a subset of trips which remain with a mixed-use development instead of being applied to adjacent street. Trip Sharing is a subset of trips where two or more individuals share one vehicle instead using separate vehicles. Utilizing this subset will reduce the trip generation of a commercial development.

3. TPDM [reductions in trip generation rates earned from implementing measures per BDC 4.8]

4. Identify Major Intersections

5. Trip Distribution [Engineer makes an educated guess where trips go.]

6. Transportation Facilities Evaluation of:

- a. Any transportation system elements from city's five-year Capital Improvement Program
- b. Right-of-way information
- c. Access information
- d. On-site circulation and/or street plan access information

- e. [Identify existing] Walking, biking and transit facilities
- f. Truck circulation

7. Safety Evaluation

8. Walking, Biking and Transit analysis

C. City Review and evaluation includes:

1. Look for any missing or substandard infrastructure or facilities required to be upgraded.

2. Notify applicant if report is complete and if a Transportation Impact Analysis (TIA) is required on the following criteria:

- a. Operations
- b. Safety
- c. Walking, Biking and Transit facilities

3. A TIA must be submitted if:

- a. Considers modification, installation or removal of any traffic control device [traffic signal]
- b. Forecasts net increase in site traffic volumes greater than 700 average daily vehicle trips or off-site major intersections within one mile are impacted by 50 or more peak-hour vehicle trips, or
- c. Contains a safety issue

4. No off-site improvements will be required as a condition of approval when a TIA is not required.

**BDC 4.7.500 Transportation Impact Analysis**

A. Preparation

B. Contents include:

- 1. Study Area
- 2. Study analysis years
- 3. Study time periods
- 4. Traffic counts
- 5. Future traffic counts
- 6. [Intersection] Operations Analysis Methodology [this section must be read.]
  - a. Operations analysis must include.....
  - b. Operations must include existing facility conditions and committed funded future facilities.....
  - c. Operations standards

d. Projects are considered to have significant impacts if.....

**[These are called “Mobility Standards”]**

i. *Two-Way Stop Control. Average delay for the critical lane group for any major intersection with greater than 100 peak hour trips is greater than or equal to 50 seconds during the peak hour;*

ii. *All-way Stop Control. Average delay for any major intersection as a whole is greater than or equal to 80 seconds during the peak hour;*

iii. *If the ninety-fifth percentile queue exceeds the existing available storage or is projected to block nearby critical systems elements such as adjacent traffic signals, roundabouts, or at-grade rail crossings, or line of sight safety impacts are identifiable;*

iv. *For signalized intersections under the jurisdiction of the City, the volume-to-capacity ratio for the intersection as a whole is greater than or equal to 1.0 during the peak hour; or*

v. *For roundabout intersections under the jurisdiction of the City, the volume-to-capacity ration for the critical movement is greater than or equal to 1.0 during the peak hour.*

e. Intersections under ODOT jurisdiction [ODOT has lower mobility standards.....volume-to-capacity ratio greater than or equal to 0.85, i.e. the city standards allows for more congestion before a intersection is identified as failing.]

7. Arterial and Collector Left Turn, Median Refuge, and Right Turn Assessment
8. Safety review
9. Walking, biking and Transit
10. Proportionate share Contribution in compliance with BDC 4.7.700

**BDC 4.7.600 Significant Impacts and Mitigations Measures** – There is no good way to summarize this section. It should be read. However, its last statement is worth noting:

4.7.600(F)(2)(e) The city manager may suspend the mobility standard under certain conditions.

**BDC 4.7.700 Proportional Share Contributions**

Proportionate share =  $\frac{\text{Net New Trips}}{\text{Existing trips}} \times \text{estimated construction cost}$