



Columbia County

Guidelines for Transportation Impact Analysis

September 2016



This document describes the County’s required content for a Transportation Impact Analysis (TIA). In general terms, TIA applies to developments that are presumed to have a transportation impact.

A professional engineer must prepare the TIA and must use appropriate data, methods, and standards as documented in the Columbia County Guidelines for Transportation Impact Analysis.

Purpose

The purpose of this section is to implement Sections 660-012-0045(2)(b) and -0045(2)(e) of the State Transportation Planning Rule (TPR), which require the County to adopt performance standards and a process to apply conditions to land use proposals in order to minimize impacts on and protect transportation facilities.

The preparation of the TIA report is the responsibility of the land owner or applicant. Columbia County assumes no liability for any costs or time delays (either direct or inconsequential) associated with the TIA report preparation and review. The applicant can choose any qualified professional engineer. All TIA reports shall be reviewed by the County Roads Department (referred to as “County” in this document). Studies that do not address these guidelines adequately shall be returned to the applicant for modification. It is the responsibility of the applicant to coordinate with local agencies and/or the Oregon Department of Transportation (ODOT) for any potential impacts to city roadways or state highways.



When is this Analysis Required?

A TIA may be required to be submitted to the County with a land use application at the request of the Roads Department Director or if the proposal is expected to involve one (1) or more of the following:

1. Changes in land use designation, or zoning designation that will generate more vehicle trip ends.
2. Projected increase in trip generation of 25 or more trips during either the AM or PM peak hour, or more than 400 daily trips.
3. Potential impacts to intersection operations.
4. Potential impacts to residential areas or local roadways, including any non-residential development that will generate traffic through a residential zone.
5. Potential impacts to pedestrian and bicycle routes, including, but not limited to school routes and multimodal roadway improvements identified in the TSP.
6. The location of an existing or proposed access driveway does not meet minimum spacing or sight distance requirements, or is located where vehicles entering or leaving the property are restricted, or such vehicles are likely to queue or hesitate at an approach or access connection, thereby creating a safety hazard.
7. A change in internal traffic patterns may cause safety concerns.
8. A TIA is required by ODOT pursuant with OAR 734-051.
9. Projected increase of five trips by vehicles exceeding 26,000-pound gross vehicle weight (13 tons) per day, or an increase in use of adjacent roadways by vehicles exceeding 26,000-pound gross vehicle weight (13 tons) by 10 percent.



Process

A landowner or developer seeking to develop/redevelop property shall contact the County at the project's outset. The County will review existing transportation data to establish whether a TIA is required. It is the responsibility of the applicant to provide enough detailed information for the County to make a determination. An applicant should have the following prepared, preferably in writing:

- Type of uses within the development
- The size of the development
- The location of the development
- Proposed new accesses or roadways
- Estimated trip generation and source of data
- Proposed study area

If the County cannot properly evaluate a proposed development's impacts without a more detailed study, a TIA will be required. Within a reasonable time following the initial contact, the County will establish whether a TIA is required. The County will provide a scoping summary detailing the study area and any special parameters or requirements beyond the requirements set forth in this document when preparing the TIA.



Requirements

The following sections detail the TIA requirements.

TIA Requirements

The following requirements shall be included in each TIA submitted to the County. Additional information specified by the County in the scoping summary or through other project meetings shall also be included.

1. The TIA shall be prepared by or prepared under the direct supervision of a Registered Professional Engineer who shall sign and stamp the TIA.
2. Study Area: The TIA should include all roadways adjacent to and through the site (e.g., all roadways used to access the site), and any roadway with a functional classification of minor collector and above within one-mile of the site. Study intersections will generally include site-access points, and intersections of two roadways with a functional classification of minor collector and above within one-mile of the site with an expected increase of 20 peak hour trips generated from the proposed project. The intersection with a State Highway closest to the site should also be included (if not already required), regardless of the distance or generated trip thresholds identified above.
3. The TIA should include the following horizon years:
 - Existing Year
 - Background Conditions in Project Completion Year. The conditions in the year in which the proposed project will be completed and occupied, but without the expected traffic from the proposed project.
 - Full Build-out Conditions in Project Completion Year. The background condition plus traffic from the proposed project assuming full build-out and occupancy.
 - Phased Years of Completion. If the project involves construction or occupancy in phases, the applicant shall assess the expected roadway and intersection conditions resulting from major development phases.
4. Analysis Periods: The TIA should analyze the weekday (Tuesday through Thursday) AM and/or PM peak periods in which the proposed project is expected



to generate 50 or more trips. Additional periods may be required depending upon the proposed project and/or surrounding land uses. Turning movement counts during the weekday AM peak period should typically be between 7:00 AM and 9:00 AM, and 4:00 PM and 6:00 pm during the weekday PM peak period. Historical turning movement counts may be used if the data is not more than 12 months old. Historical counts shall be factored accordingly to meet the existing traffic conditions.

5. Trip Generation: The proposed trip generation should be based on similar land uses reported in the latest version of the ITE Trip Generation Manual.
6. Trip Distribution and Assignment: Estimated site generated traffic for the proposed project should be distributed and assigned to the existing or proposed arterial and collector roadway network. Trip distribution methods should be based on a reasonable assumption of local travel patterns and the locations of off-site origin/destination points within the site vicinity. An analysis of local traffic patterns and intersection turning movement counts can be used as long as the data has been gathered within the previous 12 months.
7. Background Traffic Growth Rate: A 1.5 percent annual traffic growth rate shall be applied to all movements at study intersections along arterial roadways, and 0.5 percent to all movements at study intersections along non-arterial roadways to develop background traffic growth for the horizon years. An applicant may propose an alternative background growth rate with appropriate documentation and references.
8. In-Process Developments: The TIA should include the trips generated at study intersections from approved, but un-occupied developments at the time traffic count data was collected. The County will provide the applicant with approved developments in the scoping summary. Should the completed TIA not be submitted to the County within 12 months of the scoping summary, additional approved developments could be required.



TIA Content

The following content should typically be included in each TIA submitted to the County. Additional information specified by the County in the scoping summary or through other project meetings shall also be included.

Section 1: Introduction

- Proposed project summary, including site location, zoning, project size, and project scope. This should include a figure showing the project site and vicinity map, including any roadway with a functional classification of minor collector and above within one-mile of the site and all study intersections.

Section 2: Existing Conditions

- Study area description, including a figure showing the project site, key roadways, and study intersections.
- Existing site conditions, current zoning, and adjacent land uses.
- Roadway characteristics of important transportation facilities and modal opportunities located within the study area, including roadway functional classifications, roadway cross-section (e.g., lane width, shoulder width, surface type, drainage), roadway condition, posted speeds, bicycle and pedestrian facilities, and transit facilities.
- Existing lane configurations and traffic control devices at the study area intersections.
- Existing traffic volumes and operational analysis of the study area roadways and intersections. This should include a figure of existing peak hour turn movement volumes.
- Roadway and intersection crash history analysis (most recent five years).

Section 3: Assumptions and Methodologies

- Project description, including site location, zoning, project size, and project scope, and map showing the proposed site, building footprint, access driveways, and parking facilities.
- Transportation standards (e.g., roadway and access spacing standards, mobility targets). These can be found in the Columbia County Transportation System



Plan, Volume 1.

- Site access, including access spacing and site distance review at site driveways, and summary of roadway grades and other vertical or horizontal obstructions.
- Site frontage improvements, including provisions for pedestrians and bicyclists.
- Trip generation summary. This section should also include a summary of the expected vehicles exceeding 26,000-pound gross vehicle weight (13 tons) that the proposed project will generate.
- Trip distribution assumptions, including a figure showing the trip distribution percentages.
- Background traffic growth.
- In-process developments, if applicable.
- Funded transportation improvements in the study area, if applicable.
- Future analysis years and scenarios (Background Conditions in Project Completion Year, Full Build-out Conditions in Project Completion Year, and Phased Years of Completion, if necessary).
- Future traffic volumes. This should include a figure showing the future traffic volumes broken down by existing traffic volumes, background traffic growth, in-process trip growth (if applicable), project traffic growth, and total traffic volumes.

Section 4: Future Conditions

- Background traffic volumes and operational analysis.
- Full buildout traffic volumes and intersection operational analysis. This should also include a summary of roadway segment conditions with full buildout traffic volumes (e.g., roadway volumes, roadway condition and width).
- Signal and turn lane warrant analysis at site access points, if applicable.
- Intersection and site-access driveway queuing analysis.
- Impacts of non-residential traffic through a residential zone.
- Impacts from vehicles exceeding 26,000-pound gross vehicle weight (13 tons), including turning movements.
- Site circulation and parking.



Section 5: Recommendations

- Recommended roadway and intersection improvements (if necessary).
- Pedestrian, bicycle, and transit improvements.

Appendix

- Traffic count data.
- Crash analysis data.
- Traffic operational analysis worksheets, with detail to review capacity calculations.
- Signal, left-turn, and right-turn lane warrant evaluation calculations.
- Other analysis summary sheets, such as queuing.