

Snohomish County Traffic Worksheet and Traffic Study Requirements for City Developments Impacting County Roads

Snohomish County (the “County”), through an interlocal agreement (ILA) with the City of Bothell (the “City”), may request traffic mitigation measures from any new development in the City (“City Development”) that impact County roads. The City will impose the requested mitigation measures to the extent the City determines that the mitigation is reasonably related to the impacts of the development.

To determine impacts and reasonable mitigation measures, the County requires a traffic study from any City development that impacts County roads. This ‘traffic study’ may be as simple as completing Sections One and Two of the County traffic worksheet below, or having a professional traffic engineer conduct a formal traffic study to assess site specific issues consistent with the requirements in Section Three below. A City development must pay traffic mitigation fees to the County based on either the “Area Averages” methodology or by determining the impacts to specific County cost fee basis projects using PM peak hour trip generation and distribution. (See Section IV H in the ILA).

- **Option A.** If a development generates less than ten peak-hour trips and the applicant chooses Option A for mitigation payment (standard payment by percent of County impact fee), then the applicant will generally only have to fill out the first two sections of this traffic worksheet and complete a mitigation offer (see Section Two below).
- **Option B.** If a development generates more than ten peak-hour trips, or if the applicant chooses Option B for mitigation payment (comprehensive impact analysis), then the applicant will have to fill out the Section One of this worksheet, complete a separate traffic study consistent with the requirements in Section Three, and complete a mitigation offer (see Section Three below).
- **Submittal of Documents.** Applicants should submit all documents to the City.
- **Supplemental Information.** Following review of the documents submitted, the County may request supplemental information and analysis as necessary to determine the impacts of the development in accordance with the City/County ILA. The City will require the proposed development to submit the supplemental information and analysis to the extent that the City determines that it is necessary to determine the impacts of the development.
- **Impacts on Access or Circulation.** The County may request improvements to existing County roads to provide safe and efficient access and/or circulation. In some instances, the County might request provisions for future County roads identified in the Comprehensive Plan. If so, the County will request specific additional information through the City.
- **Frontage Improvements, Right of Way, and Access Point Requirements.** Any City development which takes access from a County road or fronts on a County right-of-way of may also be required to provide frontage improvements, dedicate or deed right-of-way, and meet access-point requirements consistent with County standards. If either applies, provide appropriate analysis and documentation to enable the City and the County to determine what standards and requirements to apply.
- **Traffic mitigation offer.** The applicant shall complete a traffic mitigation offer to the County that summarizes the mitigation identified in the County traffic worksheet and any additional traffic impacts. This will facilitate timely review of the development and processing of the application. The form to use for the mitigation offer is titled “Traffic Mitigation Offer to the County.” This form is typically provided to all applicants along with this traffic study checklist. In addition, copies are available from either the County or City. See Section Four below.

2(b). Determining whether or not an additional traffic study is necessary

Will the development generate more than fifty (50) peak-hour trips *or* are there other impacts that need to be addressed, e.g., level of service, safety, or access and circulation?

- _____ No. Skip Section Three and go to Section Four.
_____ Yes. Read the introduction to Section Three and skip to Section 3 (b).

Section Three (3) Traffic Study Requirements

Introduction: This section outlines requirements for traffic studies for impacts on County roads. If an applicant chooses (or is required) to complete a traffic study, then it should be submitted along with this worksheet and a mitigation offer. For projects generating more than 50 PM peak hour trips the County requires the developer to provide a future level-of-service forecast with the traffic study.

(Note on Author's Qualifications: A traffic study under this section must be conducted by an engineer licensed to practice in the state of Washington with special training and experience in traffic engineering and, preferably, membership in the institute of transportation engineers. Individuals or firms not on the County's approved list shall, with the traffic study, provide the County the credentials of the individual or firm performing the traffic study certifying compliance with these qualifications.)

3(a). Proportionate share impact mitigation based on comprehensive traffic study

1. Development's Trip Generation and Distribution. Determine the PM peak-hour trip generation and distribution for the development consistent with Section 3(b) below.
2. Impacted Improvements. Determine which of the road sections with planned improvements in the County's impact fee cost basis (Transportation Needs Report Appendix D) are impacted by three or more development-generated Directional Peak Hour Trips in the developments PM peak hour (PM PHT).
3. Current Counts. For each impacted improvement, provide current traffic counts to determine the PM PHT.
4. Reserve Capacity. Determine "reserve capacity" for each impacted improvement by subtracting the current PM PHT from the maximum service volume (MSV) for the existing facility. Reserve capacity is set to zero if current PM PHT exceeds the MSV. For MSVs see County DPW Rule 4224.
5. New Capacity. New capacity is the incremental increase in PHT that could be accommodated with the planned improvement. Determine the new capacity of each impacted improvement by subtracting the current MSV from the future MSV after the improvement.
6. Chargeable Capacity. For each impacted improvement, add the reserve capacity to the new capacity.
7. Final Adjusted Cost. Find the cost of each impacted improvement and make any adjustments used by the County for tax credits (see Transportation Needs Report Appendix D).
8. Capacity Cost per Peak-Hour Trip. For each impacted improvement, determine the capacity cost per PM PHT by dividing the final adjusted improvement cost by the chargeable capacity.
9. Traffic Impacts. From step one above, take the *total* number of PM PHT (in both directions) impacting each planned improvement.
10. Proportionate Share. For each impacted improvement, determine the proportionate share impact mitigation by multiplying the capacity cost per peak-hour trip by the number of PM PHT impacting the improvement.

3(b) Trip Generation and AM and PM Peak Hour Trip Distribution and Assignment

Calculate the AM, PM and Daily trip generation consistent with the ITE Trip Generation Handbook and Snohomish County Public Works Rule 4220. Determine the trip distribution and assignments consistent

with the County’s document titled “Format for Trip Distributions” available at County web site identified in the section below titled “Additional Information”.

1. Within the developments Transportation Service Area (TSA) the distributions will be carried out to each key intersection at which the approach or departure volumes on any leg is three (3) or more peak hour trips. Trips should be distributed onto the road system as it is expected to be in six years. You may obtain the most current list of key intersections on the County web site identified in the section below titled “Additional Information”.
2. The distribution should be a schematic map showing the broad distributions of trips in terms of percentages on different roads. Show all City boundaries.
3. The assignment should be a schematic map with the impacted key intersections identified by ID# and turning movements for each shown in separate diagrams on the same page or on different pages. The assignment should also be presented in tabular form listing each intersection by the intersection ID#, and the number of trips at each movement.

3(c). Additional Analysis for Developments Generating More Than Fifty (50) Peak Hour Trips

For developments generating more than 50 peak-hour trips the County may request a future level of service forecast to analyze the City Developments impacts on the level of service of County roads. The County may also request any City Development provide additional analysis on documented safety locations (the County calls such locations “inadequate road conditions (IRCs)” or “deficient road condition (DRC)”), and access or circulation. The traffic study requirements below are intended to disclose impacts. Based on this information the County may request through the City that the applicant provide additional information showing possible mitigation measures. If any off-site improvements were needed for mitigation the County would work with the applicant to determine requirements for right-of-way, construction plans, right-of-way use permits, construction/maintenance bonds, and other issues.

Impacts on Level of Service (LOS) of County Arterials

Contact a PDS Traffic Development Reviewer for the most current list of arterial units in arrears and critical arterial units. Identify any arterial units in arrears or critical arterial units impacted by three or more directional peak-hour trips.

Impacts on Inadequate Road Conditions

Contact a PDS Traffic Development Reviewer for a list of the current IRCs. Identify any IRCs impacted by three or more peak-hour trips.

Note: Unlike LOS impacts any three peak hour trips added to IRC locations are considered an impact for which disclosure is necessary (e.g., 2 westbound plus 1 eastbound).

Impacts on Access or Circulation

The County may request improvements to existing County roads to provide safe and efficient access and/or circulation. In some instances, the County may request provisions for future County roads identified in the Comprehensive Plan or in Small Area Transportation Studies. If so, the County will request specific additional information through the City.

Section Four (4) Traffic Mitigation Offer to the County

The applicant should complete a traffic mitigation offer to the County that summarizes the mitigation identified in the County traffic worksheet and any additional traffic study analysis. This will facilitate timely review of the development and processing the application. The form to use for the offer is titled “Traffic Mitigation Offer to Snohomish County”. This form is typically provided to all applicants along with this traffic study checklist. In addition, copies are available from the County contacts or on the County’s web site shown in Section Five below.

Section Five (5) County and City Contact Information

5(a) County Contact information

The Snohomish County Public Works Department has a web site with many of the documents related to traffic studies and mitigation requirements for developers. The web address is:

County Contact Information

PDS Traffic Reviewers 425-388-3311

Mark Brown, mark.brown@snoco.org

Ann Goetz, ann.goetz@snoco.org

DPW Traffic 425-388-3184

Elbert Esparza, elbert.esparza@snoco.org

County Web Site www.snohomishcountywa.gov/888/Traffic-Mitigation-Concurrency

If the link does not work:

- Go to the County’s web site at “www.Snohomishcountywa.gov/”
- Click on the “Your Government” on the upper left side of the screen
- Under Community & Business Services click on the “Public Works” link
- Click on the “Roads Central” link on the left side of the screen
- Click on the “Transportation & Environmental Services on the left side of the screen
- Click on the “Traffic Mitigation & Concurrency link on the left side of the screen and scroll down to find the appropriate map or document
- To find the Bothell Reciprocal Traffic Mitigation Agreements, Forms & Information, click on the link titled “Reciprocal Traffic Mitigation Agreements, Forms & Information”, then scroll down to the section for Bothell.

5(b) City Contact information

<p>Wasim Khan, P.E. Transportation Engineer City of Bothell 18415 101st Ave NE Bothell, WA 98011</p> <p>(425) 806-6773</p> <p>wasim.khan@bothellwa.gov</p>	<p>City Web Site: http://www.bothellwa.gov/CityServices/PublicWorks/TransportationIssues.ashx?p=1289</p> <p>If the link doesn’t work:</p> <ul style="list-style-type: none"> • Go to the City’s web site at http://www.bothellwa.gov, • Click City Services • Click Public Works • Click Transportation • Click Transportation Impact Fee Program
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Section Six (6) Traffic Percentage Influence Area Table and Map for City Development

Table 1: Estimated Percentage of Trips from City Developments Impacting County Roads

City Subarea ID#	City Mitigation Subareas	%
City Area 1	South of SR 524, North/East of I-405, North of 233 rd St SE	40%
City Area 2	South/West of I-405, North of County Line	20%
City Area 3	East of I-405, South of 233 rd St SE, North of SR 522	25%
City Area 4	West of I-405, West of 124 th Ave NE (to the south of SR 522), South of County Line	10%

* Percentages different than those shown may be considered on a case-by-case basis based on a traffic study.

County and City Development Traffic Percentage Influence Area Map

- Percentage of Trips from County Development Impacting City Streets.
- Percentage of Trips from City Development Impacting County Roads.

Snohomish County Mitigation Subareas



