

# Traffic Mitigation Payments

This document provides methodology for determining developer mitigation payments. It is meant to be used by WSDOT Development Services Staff and Developers.

Methodology is provided herein for determining a developer contribution to a WSDOT intersection project and a corridor improvement project. The methodology and calculations presented highlight the need to be as simple as possible, so all parties can understand it and support the outcomes.

[Design Manual Chapter 1130](#) presents threshold criteria WSDOT uses to determine if a development would cause significant adverse impacts to the state transportation system. If criteria are triggered by a proposed development, work with the lead agency to formalize mitigation.

If that mitigation is to take the form a financial contribution to a WSDOT project, use this guidance document in collaboration with the lead agency / developer to determine a reasonable and proportionate developer financial contribution.

It is up to each Region if to determine if mitigation should be a financial contribution or a developer constructed mitigation project, or a combination, as well as any needed right of way donation by the developer. Considerations may include but not be limited to:

- **Minimum vehicle thresholds for fee-based mitigation.** If a development will add 10 or more two-way vehicle trips to the state highway, WSDOT can recommend fee-based mitigation.
- **WSDOT Programmed Projects.** There must be an available WSDOT programmed project (funded or nearly funded) on the state transportation system affected by the development, to which the developer would contribute funds.
- **Time limits** on allocation/expenditure of developer contributions.

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### 1.0 Obtaining Mitigation from a Developer

Mitigation for traffic impacts is usually provided through one of two methods:

- **Fee-based mitigation.** A Traffic mitigation payment to a planned and/or programmed WSDOT project or local agency project, (purpose of this guidance document.)
- **Non-fee-based mitigation.** This is a developer constructed highway improvement at the developer's expense. This is covered in *Design Manual* Chapter 1130. This may also entail dedication/donation of property to WSDOT for right of way; provision of an easement such as a slope, drainage, or sight distance easement; or developer mitigation credits.

### 2.0 Traffic Mitigation Payment

A traffic mitigation payment is a monetary contribution by a developer to a planned and/ or programmed WSDOT project.

Often a development's traffic impacts will affect a section of the state highway that is already programmed (funded or nearly funded) for improvement by WSDOT. In such cases, WSDOT may choose to have the developer mitigate its traffic impact by contributing monetarily towards the cost of the WSDOT project on a proportionate share basis. Such payments also are known as "pro-rata" or "fair-share" payments.

### 3.0 Which WSDOT Projects are Candidates for a Traffic Mitigation Payment?

SEPA allows for the collection of a traffic mitigation payment if the payment goes toward a project that will mitigate the probable significant adverse impacts of the land use proposal. The project candidate must be:

- A mobility project that is included in the WSDOT Region's Program Management project list(?), such as two-lane to four-lane highway widening projects, Roundabout or Signal construction, etc., or,
- A safety project.
- Consider Preservation Projects as described below.

Preservation projects, such as asphalt overlay projects, may qualify if the development adds new trips to the highway or an intersection; since additional vehicle loading on any roadway accelerates its deterioration.

It is becoming more common for WSDOT and our local partners to view pavers as an opportunity to optimize the roadway and right of way for all users. WSDOT should try to pilot applying mitigation to these projects if the local agency and WSDOT have similar community goals.

In some contexts, WSDOT and the local agency could collaborate in advance of programmed work to determine if multimodal space allocations could be realized in conjunction with the paving project. In

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these instances, WSDOT and Local agency may find that optimizing the right of way for all modes is an achievable goal and developer mitigation could apply to agreed-upon multimodal accommodations. An example could be a multilane highway where WSDOT and the local agency have collaborated for a road diet or lane narrowing such that space can be allocated for bicyclists and pedestrians.

The WSDOT typically will not seek a traffic mitigation payment contribution toward Mega projects or other major regional projects. WSDOT will consider developer-funded modifications to these types of highway projects if a land use proposal warrants changes to the projects. For example, a land use proposal may warrant additional intersection improvements, such as more turn lanes and/or a traffic signal; more lanes on a freeway on- or off-ramp; or other highway improvements beyond what is funded in the WSDOT project.

Some large land use proposals, such as a regional shopping mall or huge housing development, will warrant stand-alone improvements, such as a new local agency roads, intersections, or freeway interchange (these are only examples). Such improvements are typically funded entirely by the developer.

Each region should maintain a list of WSDOT projects that qualify for receiving traffic mitigation payments, especially in locales of new developments.

The per-vehicle fee (see Section 9.0) should be established as soon as possible so developers know what WSDOT expectations are for traffic mitigation payment purposes. Predetermination of traffic mitigation payments streamlines the development review process for WSDOT and local agency staff and helps developers determine the total costs of development.

## 4.0 Which WSDOT Project Costs Should Be Used?

Usually, the WSDOT project cost will include design, right-of-way, and construction costs. Unless required otherwise by a local agency or in a SEPA hearing, only the State funded portion of the project cost is eligible for assessment of a traffic mitigation payment. Federal and local funds are exempt in calculating project costs. The local agency may also be collecting its own traffic mitigation payment. These funds may be applied to the local agency's contribution to the WSDOT project. Therefore, the local agency contribution to the project costs also must be exempt in calculating project costs.

Note: SEPA specifically precludes the duplication of impact fees; therefore, it is important to make sure that the WSDOT's and local agency's impact assessments do not overlap.

## 5.0 How are Traffic Mitigation Payments Collected by the WSDOT?

Traffic mitigation payments are usually collected by one of two means. They are:

- Mitigation Agreement, or
- Local Mitigation Agreement (LM Agreement).

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### **Developer Mitigation Agreement: Collection of Pro Rata Share for Contribution Toward a WSDOT Project.**

This would be a non-standard agreement that establishes a contract between WSDOT and the developer whereby the developer contributes toward a programmed WSDOT project to mitigate impacts to the state highway system. This agreement can be modified to include a third-party when the WSDOT has a joint project with a city or county. The amount to be collected is usually determined during the SEPA review stage of the project.

### **Local Agency Participating Agreement - Developer Mitigation (Commonly called LM Agreement)** ([Form 224-015](#))

This agreement is a two-party contract between the Local agency and WSDOT and is WSDOT standard form.

- The Local Agency has collected developer mitigation payments pursuant to [RCW 82.02.020](#) that have an expiration date of five (5) years from date of collection.
- The Local Agency desires to transmit these funds to WSDOT for use in constructing the above referenced project.
- WSDOT has programmed and budgeted the subject project.
- All funds collected and transferred are going exclusively to the WSDOT project(s) specified in the agreement.

## 6.0 Time Limits on Collection and/or allocation of Traffic Mitigation Payments

### Time limits on collection

In most cases WSDOT will stop requesting SEPA-conditioned traffic mitigation payments upon the Award of the WSDOT project for which the payment was requested.

However, on some bigger projects where construction will occur over an extended length of time, it may be appropriate to request mitigation payments throughout the project's construction phase up to the "Substantial Completion Date." In those cases, it is desirable to request the mitigation payment on a sliding or proportionate scale. This method assesses traffic mitigation costs against 100 percent of the project costs at the award date of the project, diminishing to zero at the anticipated completion date of the project (Substantial Completion Date). Some local agencies will only agree to a sliding scale if the original assessment proportionality will not change even if construction delays occur, and the project lasts longer than anticipated.

### Time limits on allocation/expenditure

Local agencies collect Traffic Mitigation Payment in accordance to [RCW 82.02](#) (Excise Taxes) as follows:

- 1) 5-Year limit under SEPA: While SEPA doesn't specify a time limit, the local agencies use a 5-year limitation, according to subsection [RCW 82.02.020](#), for allocation of Traffic Mitigation

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Payments for Voluntary Agreements and SEPA applications. The 5-year allocation/expenditure limitation must also be used by WSDOT as it has authority under SEPA to request mitigation. If the funds are not allocated within 5 years after being received, they must be returned to the developer.

- 2) 6-Year limit under GMA: If local agencies collect Traffic Mitigation Payment under GMA, Subsection [82.02.70](#), they have a 6-year limitation for allocation of the funds. However, state highways are exempt from collection of Traffic Impact Fees under GMA. Therefore, WSDOT cannot apply the 6-year limitation on allocation of the Traffic Mitigation Payment funds.

## 7.0 When Should a Traffic Mitigation Payment be Collected?

Normally, during SEPA review, WSDOT will request that the traffic mitigation payment is collected at Final Plat approval or at issuance of the building permit. In some cases, payment of the traffic mitigation funds may be a condition of issuance of the occupancy permit, but it is more desirable to tie the payment to the building permit.

## 8.0 Consistency is Important

Statewide experience with local agencies shows that there is no standard formula for assessing and collecting traffic mitigation payments. Formulas may be based on peak hour traffic or Average Daily Traffic (ADTs). They may be based on existing traffic volumes or projected traffic at a future design year. Formulas also may be based on the criteria and thresholds of an area's metropolitan transportation plan.

Therefore, it is important that WSDOT is uniform and consistent statewide on how we determine a traffic mitigation payment. Unless there is an interlocal agreement that specifies another methodology or formula for determining the mitigation payment, then the following assessment methods should be used to determine a traffic mitigation payment.

## 9.0 How to Calculate an Intersection Traffic Mitigation Payment

Once a decision has been made to collect Traffic Mitigation Payments for a particular WSDOT intersection project, the next step is to determine what that payment should be. As mentioned in previous sections, determining a reasonable and proportionate amount is critical to the success of the request.

Shown below is a methodology that is rather simple and easy to explain. The basic formula is the intersection's improvement project cost times the percent of new traffic the development will be adding to the intersection. For example, if a development will be adding 5 percent more traffic to an intersection, then that development should contribute 5 percent towards the cost of the intersection improvement.

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### The basic intersection formula:

TMP = Traffic Mitigation Payment

TMP = (A / B) x C where:

A = Total development generated PM peak-hour volume (2-way) that will use each affected state intersection (truck traffic should be converted to passenger car equivalents per the *Highway Capacity Manual*.)

B = Total intersection volume that allows conditions to operate at or better than the deficiency threshold as calculated in the *Highway Capacity Manual*.

Note: If the intersection is already failing or below the established LOS threshold, the pre-development LOS shall be used.

C = WSDOT project cost (including design, right-of-way, and construction)

Establishing the acceptable intersection LOS volume - Denominator B in the equation above - can be a complicated analysis. Intersection LOS is based on average vehicle delay: total vehicle delay for unsignalized intersections and average vehicle delay for a single movement on signalized intersections. Therefore, a development's trip generation, trip distribution and trip assignment onto the road network are critical factors on both types of intersections and signal phasing is critical on signalized intersections. Forecasts of background traffic for the horizon year is also a critical factor. This issue can be simplified by using the Transportation Impact Assessment's projection of total volumes entering the intersection in the horizon year for the Denominator B, rather than an idealized estimate of volumes at the threshold level of service, which could be a very subjective exercise. If the Transportation Impact Assessment (TIA) is reasonable, this simplified estimate of traffic volumes is usually acceptable to both WSDOT and the developer.

The drawback to using a TIA's horizon year volume for a given development is that these volumes vary as other developments impact an intersection with their respective traffic projections and horizon years. Background and pipeline volumes change as well. However, a TIA's estimate of horizon year volumes is often the best estimate available and is usually acceptable for the purpose of determining a reasonable intersection traffic mitigation payment.

## 10.0 How to Calculate a Highway Corridor Traffic Mitigation Payment

The methodology to be used is similar to the intersection formula, but due to the variables involved, greater care must be used or the traffic mitigation payment may end up unrealistically high. This is because corridor projects are usually significantly more expensive than intersection projects. The terrain encountered, whether the project is in an urban or rural area, the amount of right-of-way needed, stormwater requirements, and the length of the project are just a few of the factors that can significantly increase the cost of the WSDOT project and subsequently the traffic mitigation payment request.

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If the resulting mitigation payment is not reasonable and proportionate to the proposed land use project, then there is a significantly greater chance the request will be not supported by the SEPA lead agency or reduced or even denied by the Hearing Examiner. Therefore, on some bigger corridor projects it might be desirable to only use the estimated construction costs rather than including design, right-of-way, and construction cost.

The corridor formula derived below is based on a few considerations.

- Make it simple and easy to understand. If the developer, or even the local lead agency or the Hearing Examiner for that matter, can't understand the reasons for the mitigation request, then it is less likely to be approved.
- The objective is to collect an equitable contribution from a particular development that is fair to both WSDOT and the developer.

As a result, the methodology below is not exact in that more precise numbers could be used that would undoubtedly increase the size of the traffic mitigation payment being requested. However, experience has shown that the more precise and exact the formula becomes, it increases the likelihood that the developer, the lead agency, and/or the Hearing Examiner will question the methodology.

As a result, the methodology below only uses through trips on the mainline state highway and does not count side street traffic that only crosses the state highway. It also uses the *Highway Capacity Manual* ideal conditions when determining the mainline Denominator B service flow rate. While most WSDOT projects would not obtain the ideal conditions service flow rate due to topography or traffic signals or access connections, the ideal service flow rate allows for a better statewide consistency as well as simplicity. It also allows for an easier defense of the WSDOT request if the methodology can be shown to slightly favor the developer. Using numbers that slightly favor the development can go a long way toward the WSDOT ultimately obtaining the traffic mitigation payment request.

Each Region is responsible to determine which highway corridor projects they will request traffic mitigation payments for as well as how the baseline cost per trip is established.

The basic corridor formula is as follows:

TMP = Traffic Mitigation Payment

$TMP = (A / B) \times C$  where:

A = Total proposal generated new PM peak hour trips both directions on a highway segment (truck traffic should be converted to passenger car equivalents per the *Highway Capacity Manual*).

B = Applicable maximum service flow rate for all through lanes both directions for ideal conditions per the *Highway Capacity Manual* at the highways LOS deficiency threshold (see *Highway Capacity Manual*).

C = WSDOT project cost (usually including design, right-of-way, and construction).

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### Details to consider

When using this formula on a WSDOT highway project, it is usually desirable to break the cost down into highway segments.

Since the traffic mitigation payment is based on the through movements only, major intersections that have significant turning volumes will make a good segment break.

In addition, the highway corridor traffic mitigation payment will be based on any segment that has 10 or more PM peak hour new trips in both directions. In addition, for any segment that has 10 or more trips, all trips are counted toward the mitigation calculation.

### Example highway corridor traffic mitigation payment determination

Here is an example of a highway corridor traffic mitigation payment determination:

The WSDOT has a 2.5-mile long corridor mobility project that will widen an existing two-lane highway to four through lanes with a two way left turn lane. The project is designed to have a 50-MPH speed limit when completed and is in an urban area with an estimated cost of:

Design = \$1,000,000

Right-of-way = \$5,000,000

Construction = \$14,000,000

Total = \$20,000,000

There are three major intersections along the route. The first major intersection is at the beginning of the project, the next major intersection is 3/4 mile into the project, and the third major intersection is two miles into the project.

Based on the above information the project can be divided into three segments based on the three major intersections. Therefore, the first segment to be used for determining a traffic mitigation payment is 3/4 mile long, the second segment is 1 1/4 miles long, and third segment is 1/2 mile long. From the Traffic Impact Analysis prepared for the project, the proposal will add 25 new both direction through trips to the first segment, 30 to the second, and 40 new trips to the last segment.

From the *Highway Capacity Manual* for a 50 MPH highway the service flow rate per the *Highway Capacity Manual* Table 7-1 is 1670 vehicles per hour per lane. Since the project will result in four through lanes, the applicable "B" becomes 4 x 1670, or 6680 VPH. It should be noted as mentioned above that this figure could be reduced to include factors such as topography, land widths, signal spacing, etc, but for the sake of making this an easier request to defend in a Hearing the maximum service flow rate for ideal non-interrupted conditions is used.

Therefore, based on the above information the maximum cost per trip for the whole corridor project can be determined to be:

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TMP = (A / B) x C where:

Cost per trip = (1 trip / 4 x 1670 or 6680) x \$20,000,000 = \$2994 rounded to \$3,000 per trip over the whole corridor.

TMP = Cost per trip x A

Based on the above the maximum cost per trip over the whole corridor is \$3,000. Actual costs per trip will ultimately be less since not all new trips travel the whole corridor. However, the main point to make here is that this is a reasonable request in most jurisdictions. Should the Region or the lead SEPA agency feel \$3,000 is not a reasonable request, then maybe just the construction costs could be used to reduce cost per trip to a more acceptable figure.

However, should \$3,000 per trip be acceptable, then the ultimate traffic mitigation for this developer proposal would be:

TMP = (A / B) x C where:

Segment 1 cost per trip = (1 / B) x C = (1 / 6680) x (0.75 / 2.5) x \$20,000,000 = \$898 per trip rounded to \$900 or TMP1 = 25 x \$900 = \$22,500

Segment 2 cost per trip = (1 / B) x C = (1 / 6680) x (1.25 / 2.5) x \$20,000,000 = \$1497 per trip rounded to \$1500 or TMP2 = 30 x \$1500 = \$45,000

Segment 3 cost per trip = (1 / B) x C = (1 / 6680) x (0.50 / 2.5) x \$20,000,000 = \$598 per trip rounded to \$600 or TMP3 = 40 x \$600 = \$24,000

Therefore, the total traffic mitigation that will be requested from this example development is \$22,500 + \$45,000 + \$24,000 = \$91,500 which when broken down by the maximum number of trips on any segment is \$91,500 / 40 trips = \$2,287 per trip.