



COMMUNITY DEVELOPMENT DEPARTMENT
501 Delta Avenue ♦ Marysville, WA 98270 ♦ (360) 363-8000

May 23, 2024

Joe Hopper
LDC, Inc.
1851 Central Place South, Suite 101
Kent, WA 98030

Re: M-51 Industrial – *Technical Review 2*
PA 23014

Dear Joe,

After reviewing the revised application materials for the above referenced proposal, the following comments have been prepared:

City of Marysville Community Development – Planning Division

Chris Holland, Planning Manager
360.363.8207
cholland@marysvillewa.gov

1. **TR1 Comment:** See attached comments from Snohomish County PUD related to access to the existing power lines.
TR1 Response: Noted
TR2 Comment: According to the PUD, language in the 50' Easement recorded under AFN 201002230776, access is required from the parent parcels (APNs 31052700301100 & 31052700301100) to the easement for maintenance. The proposed detention facility blocks all access to the easement.
2. The site plan shall be amended, as follows:
 - a. **New Comment:** Amend the pedestrian connection from the buildings to 51st Avenue NE and 59th Avenue NE so that they are 5' inside the drive land to provide a separation from motor vehicles.
 - b. **New Comment:** Because truck parking is proposed west of Buildings 1 & 3 and visible from 51st Avenue NE, a minimum 10' L1 buffer shall be required to be installed to ensure visibility of the truck parking is screened.
 - c. **TR1 Comment:** Provide impervious surface calculations demonstrating compliance with the MMC.
TR1 Response: Provided impervious surface calculations.
TR2 Comment: Impervious surface calculations not found in the plan set.
 - d. Prior to civil construction plan approval, a parking lot illumination plan in accordance with [MMC 22C.130.050\(3\)\(d\)](#) and [MMC 22C.020.245\(4\)\(c\)](#).

e. **TR1 Comment:** Provide a detail, and top and toe height of all proposed walls, including the proposed wall around APN 31052700200800.

TR1 Response: Added wall information and details as noted.

TR2 Comment: Wall information not found in the plan set.

3. Developments are required to comply with the design standards outlined in [MMC 22C.020.245 Industrial site and building design standards](#). The applicant shall provide a narrative demonstrating compliance with the site design standards. The following are some items that will need to be addressed.
 - a. Define the street edge with buildings, landscaping or other features. Since a portion of Building A and Building B are not located along the street edge, enhanced landscaping shall be required, including use of ornamental and other decorative features such as boulders to enhance the streetscape.
 - b. Parking should be located behind or to the side of buildings.
 - c. Amenities for employees and visitors such as benches, weather protected seating areas, covered walkways, or other features shall be integrated into the site design. On-site open space is encouraged to be provided. The number and type of amenities shall be approved by the director based on site acreage, layout, and end users.
 - d. Attractive landscape transition to adjoining properties shall be provided.
 - e. See [MMC 22C.020.245\(4\)\(a\) & \(b\)](#) for landscape and site treatment and street landscaping requirements.
 - f. An illumination plan shall be provided that complies with [MMC 22C.020.245\(4\)\(c\)](#).
 - g. See [MMC 22C.020.245](#) (6), (7) & (9) related to building design, material and entrance requirements.
 - h. See [MMC 22C.020.245](#) (8) for blank wall requirements.
4. Comments on the landscape plans will be provided once the site plan is closer to approval. A final landscape plan will be required to be approved, prior to civil construction plan approval.

City of Marysville Public Works – Engineering Services

Shane Whitney, Civil Plan Reviewer
360.363.8227
swhitney@marysvillewa.gov

Some of the original comments will stay as they will not change for the life of the project. New comments or existing comments that still need to be addressed will be ***bold/italic***.

5. Existing Utilities:
 - a. Sanitary sewer: The sewer main in 51st is shown on record drawing S41.
 - b. Water: The water main in 51st is shown on record drawing W775.
 - c. Storm: There are no conveyance structures fronting the project.
6. Per MMC 14.03.250, utilities are to be extended along the street frontages of the proposed project.
 - a. Sewer and water mains currently front the project on 51st, both will need to be installed within future 59th.

- b. Storm drainage will need to be provided for both the widening of 51st, and future 59th.
7. Frontage Improvements: Frontage improvements are required per MMC 12.02A.090 on all projects. Frontage improvements are described as curbs, gutters, and sidewalks; underground storm drainage facilities; patching the street from its preexisting edge to the new curb line; and overlayment of the existing public street to its centerline. Frontage improvements shall be completed in accordance with the Comp Plan.
 - a. 51st Avenue NE is to be constructed per SP 3-201-004 and an allowance for the expansion to a 5 lane roadway.
 - b. 59th Avenue NE full buildout is to be per SP 3-201-005, at a minimum half street construction is required.
8. Dedication Requirements:
 - a. A 25 foot dedication is required for 51st Ave NE. **A 25 foot dedication is being shown on the supplied plans.**
 - b. A 50 foot dedication will be necessary for 59th Ave. **It was noted in the response memo that a total of 65 feet will be dedicated between this project and the project to the east. As a 12 multi-use path will be on both sides, total right-of-way width will need to be 80 feet.**
9. Access:
 - a. The spacing of the future accesses onto the arterials must be compliant with the guidelines detailed in section 3-301 of the EDDS.
 - b. The minimum width of a commercial driveway is 24-feet and the maximum is 40-feet.
 - c. The portion of 59th abutting this project will need to be constructed as part of this application. Construction could possibly be delayed to coincide with the adjacent project.
10. Drainage: All projects in the city of Marysville must comply with requirements stipulated under the MMC 14.15.040 and 14.15.050.
 - a. Stormwater drainage: The city has adopted the 2019 Ecology Manual. The project must demonstrate compliance with minimum requirements 1 – 9. The following modifications need to be made to the report:
 - i. The project will need to incorporate some LID features. With gaining separation from the groundwater table, there will be an opportunity to use methods of infiltration. **The submitted report has demonstrated general compliance with the Ecology manual. It must be noted that at time of civil submittal on-site LID features will be required to be implemented to the maximum extent feasible. Please revise the report as necessary at that time.**
 - ii. A conveyance analysis will be necessary at time of civil review of the project.
 - b. A geotechnical report has been supplied.
11. The onsite grading and placement of any retaining walls must be compliant with section 22D.050.030 of the MMC.
12. A right of way use permit for all work proposed within City right of way is required. Cost for the ROW permit is \$250.00. ROW permit fees must be paid before right of way permit issuance.

13. The applicant is responsible for identifying any existing well or septic systems on site or on adjacent properties. If there are any existing septic systems on site they need to be decommissioned based on the Snohomish Health District standards. If there are any wells on site they need to be decommissioned based on Department of Ecology standards.
14. The onsite utility mains must be placed within an easement, which is shown, however placement of those utilities must be such that they can be worked on while staying within the easement. Those easements shall be in place prior to any occupancy of the future buildings.
15. In looking at some of the fire hydrant leads, those in excess of 50 feet in length must be 8 inch lines.
16. Engineering construction plan review fees are required in accordance with MMC 22G.030.020. \$976 plus a \$2000 deposit are due for submittal of the grading permit. Review fees of \$130 per hour will be charged against the deposit.
17. Engineering construction inspection fees are required in accordance with MMC 22G.030.020. Inspection is charged at \$130 per hour with a \$2,500 deposit required.
18. All civil construction plan submittals are to be routed directly to Kacey Simon, Civil Plan Reviewer. The first *civil construction* plan submittal is to consist of a completed grading permit application, a plan set, a copy of the drainage report and a copy of the geotechnical report. Once the documents are ready to be submitted, we will provide you a link to where the materials can be uploaded to. The following review times apply:
 - a. First review = 5 weeks
 - b. Subsequent reviews = 3 weeks
19. Please be advised these comments are in reference to specific items and do not imply a full review of the proposed application. Additional comments which may change the design requirements will be provided during the civil construction plan review process.

City of Marysville Public Works – Engineering

Jesse Birchman, PE, PTOE, Transportation & Parks Maintenance Manager

360.363.8161

jbirchman@marysvillewa.gov

Jesse L. Hannahs, PE, Traffic Engineering Manager

360.363.8287

jhannahs@marysvillewa.gov

20. May 2023 TIA comments – Although addressing the following comments is not anticipated to change the conclusions of the TIA, the following should be addressed for approval and resulting traffic concurrency determination.
 - a. A review of existing and new transportation facilities, and collision evaluation shall be included consistent with the 6/5/23 TIA Guidelines provided in the 9/1/23 review comments.
 - b. The estimated trip generation is approved and resulting impact fees for City and County impacts appear correct.
 - c. Year of opening (2026) trip distribution patterns should match the City’s “MIC North-Existing” trip distribution figures previously provided along with TIA Guidelines during the previous review. The TIA’s distribution sends a substantially greater percentage of traffic north of the site. This modification does not appear likely to alter the TIA conclusions but should be updated for consistency with other development proposals and City planning documents.

- d. Existing traffic volumes at SPB/156th St and 51st Ave/152nd St for the William Industrial TIA (PA 23-025) were collected in June 2023, shortly after those presented in this TIA (March 2023). June '23 volumes are notably higher at both locations. The higher traffic counts should be used to provide a conservative and consistent evaluation since both TIAs currently remain under review. Alternatively, additional counts may be collected at these locations and an average across the three counts used for the evaluation. A PDF copy of the full William Industrial TIA with count data is attached for use.
 - e. As noted in the TIA Guidelines, future traffic volumes *may* be forecast using a 2% annual growth rate with the addition of pipeline development trips as described. This may reduce the project's forecast traffic impacts beyond that documented. The 3% growth presented is acceptable.
 - f. Signalization improvements to the 51st Ave NE/160th St NE are required to be constructed to achieve concurrency. Signalization shall account for the ultimate intersection design so that signal poles will not be required to be relocated in the future. Intersection build-out channelization appears unlikely to be required but is subject to any revised TIA conclusions (i.e. addressing other comments above).
 - i. These are creditable towards the required traffic impact fees, along with the required frontage improvements.
 - ii. 51st Ave NE/152nd St NE is and/or will be a condition for approval of multiple other development proposals; however, this also is a condition of approval of the M-51 proposal and the responsible proposal will be whichever development first draws a building permit. Coordination and possible cost-sharing with other development applicants is encouraged.
21. Previous frontage improvement comments have been addressed. Any further frontage improvements are provided within the Civil Reviewer's comments.
22. Access driveways shown on the preliminary civil plans meet access management standards (EDDS 3-301). Signalization shall be assumed for purposes of access management standards at all public street intersections within/fronting proposed development. Location of future 51st Ave NE & 165th ST NE intersection to be located north of existing RV Park shall be shown on plans.
23. Conceptual street lighting shown on 51st Ave NE on combined utility sheet is highly inconsistent compared to previously provided typical spacing. No conceptual street lighting is shown on 59th Ave NE but will be required. This is acceptable for planning approval but shall be finalized during construction plan review.
- a. Street lighting shall be designed as minor arterial utilizing 250 watt equivalent LED fixtures.
 - b. Spacing of fixtures should be approximately 180'-220'.
 - c. As part of civil construction approval proposed PUD street lighting locations shall be provided by the City for incorporation into the PUD site electrical plans.
 - d. The Snohomish County PUD contact for more information regarding PUD design has recently changed to Mike Fleming at (425) 783-8276 or mpfleming@snopud.com.

Marysville Fire District

Brian Merkley, Deputy Fire Marshal
360.363.8500
bmerkley@mfdrrfa.org

General:

24. The project shall comply with all currently adopted fire code requirements including WA State and local City of Marysville amendments to the fire code. Any fire code required construction permits are obtained through Marysville Community Development.
25. Fire marshal approval of fire access and fire hydrant/water supply systems is required as part of the civil construction plan review and approval process.

Water Issues:

26. Fire hydrants with approved water supply must be in service prior to building construction.
27. It is the developer's responsibility to see that adequate water for fire protection is attainable. The minimum required fire flow is determined using IFC Appendix B, and depends upon building sizes, construction types, and sprinkler systems. Proof of fire flow will be required. Arrange flow testing with the city Public Works Dept. *Letter received and shows adequate fire flow.*
28. The number of fire hydrants shall be determined on an average spacing of 300 feet computed on an imaginary line parallel to and not less than 50 feet from the structure. All hydrants are to be accessible to fire department pumpers over roads capable of supporting such fire apparatus (City EDDS 2-060). *All hydrants and FDC's need to be at least 50 feet away from the building. Hydrants also need to be provided along Drive D to meet minimum spacing requirements surrounding each of the buildings.*
29. When the required fire flow is 2500 gpm or more, the fire hydrants shall be served by a main which loops around the building or complex of buildings and reconnects back into the distribution main. (City EDDS 2-060). *Plans show hydrant loop around the building.*
30. Unobstructed access to hydrants and FDC's shall be maintained at all times. The fire department shall not be deterred or hindered from gaining immediate access to fire protection equipment or fire hydrants (2021 IFC 507.5.4). *Hydrants and FDC's shall be located in areas where they will not be obstructed by anything (parking spaces, etc...).*
31. Fire hydrant coverage shall be provided along all roads and at intersections. "Fire hydrants meeting city specifications shall be installed on all extensions of the city water system at the time such extensions are constructed. All hydrants shall be owned and maintained by the city. The location and frequency of fire hydrants shall be specified by the city utility department and fire department; provided, that fire hydrants in commercial and industrial zones shall be spaced not more than 300 feet apart" (MMC 14.03.050).
32. Fire hydrants shall comply with city Water Design Standard 2-060 Hydrants, including 5" Storz fittings, with blue reflective hydrant markers to be provided in the roadways, located four inches off the centerline on the hydrant side of the road.

Access Issues:

33. An adequate access route for fire apparatus must be in service prior to any building construction.
34. A minimum 26 foot wide fire apparatus access is required within 20 feet on both sides of fire hydrants.

35. A minimum 26' wide aerial fire apparatus access roads are required in the immediate vicinity of any building more than 30' in height for ladder truck operations, with the near edge of the access located within 15'- 30' of the building, positioned parallel to at least one entire side of the building (MMC 9.04.503.1.4). *Aerial access appears adequate.*
36. Roadways shall be marked "NO PARKING – FIRE LANE" where needed to maintain unobstructed emergency access. Please show on civil drawings for approval. (2021 IFC 503.3).
37. Fire department vehicle access to buildings used for high-piled combustible storage shall comply with the applicable provisions in IFC Chapter 32 (2021 IFC 503.1.3).
38. Access for firefighting operations along all sides of all buildings is required. A minimum 10' wide access is required for commercial and industrial buildings. All parts of building exteriors should be accessible for firefighting by an approved route around the building, and be within 150 feet of a minimum 26' wide fire apparatus access.

Fire Protection Systems & Equipment:

39. Fire sprinkler and alarm systems will be required. Fire hose standpipe systems may be required. A fire pump system may be required. Emergency Responder Radio Coverage may be required. Building plans should show fire equipment locations. Separated rooms with exterior access doors are required for fire equipment.
40. A fire line permit(s) will be required prior to construction.
41. A location in the sprinkler riser room is required for the DCDA backflow prevention for the fire sprinkler system. Contact Water Quality Specialist, at 360-363-8141 for fire sprinkler system backflow prevention device information. PIV's are not acceptable.
42. FDC's shall be located 3 to 10 feet from hydrants.
43. The location of fire hydrants and FDCs requires approval on civil plans. Plans for underground fire sprinkler piping shall be shown on civil construction water plans, and submitted for fire marshal review and approval.
44. Where a fire pump is required for fire protection water supply it shall be diesel driven, or if electric motor driven shall have an approved backup power generator (diesel, LP, NG fuel).
45. Pump and riser room size shall be in accordance with MMC 9.04.901.4.6 requirements.
46. Emergency responder radio coverage shall comply with MMC 9.04.510 requirements.
47. A radio signal strength survey of the bare ground should be completed prior to construction to determine the existing signal strength for compliance with IFC 510 Emergency Responder Radio Coverage requirements. Additional testing is required after sheetrock and glass has been installed, and required for final building acceptance.
48. Fire extinguishers are required in approved locations- minimum 2A-10B-C UL rated.
49. If vehicle impact protection is deemed required for protection of any equipment it shall comply with IFC Section 312. Guard posts (bollards) are typically required for protection of gas piping, electrical equipment, fire protection piping and hydrants / FDC's located where they could be subject to vehicular damage.

After you have had an opportunity to review the technical review comments, please let me know what technical review comments you need clarification on. Once received I can set up a Zoom meeting with all of the applicable city and agency representatives. If you have any questions, please contact me at 360.363.8207, or by e-mail at cholland@marysvillewa.gov.

Sincerely,

Chris Holland

Chris Holland
Planning Manager

e-copy: Haylie Miller, CD Director
Mark Mowat, M-51 Industrial LLC

Attachments: Pages from Exhibit 017 – Distribution & TIA Guidelines

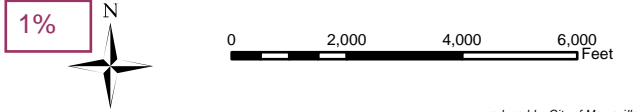
MIC NORTH - EXISTING



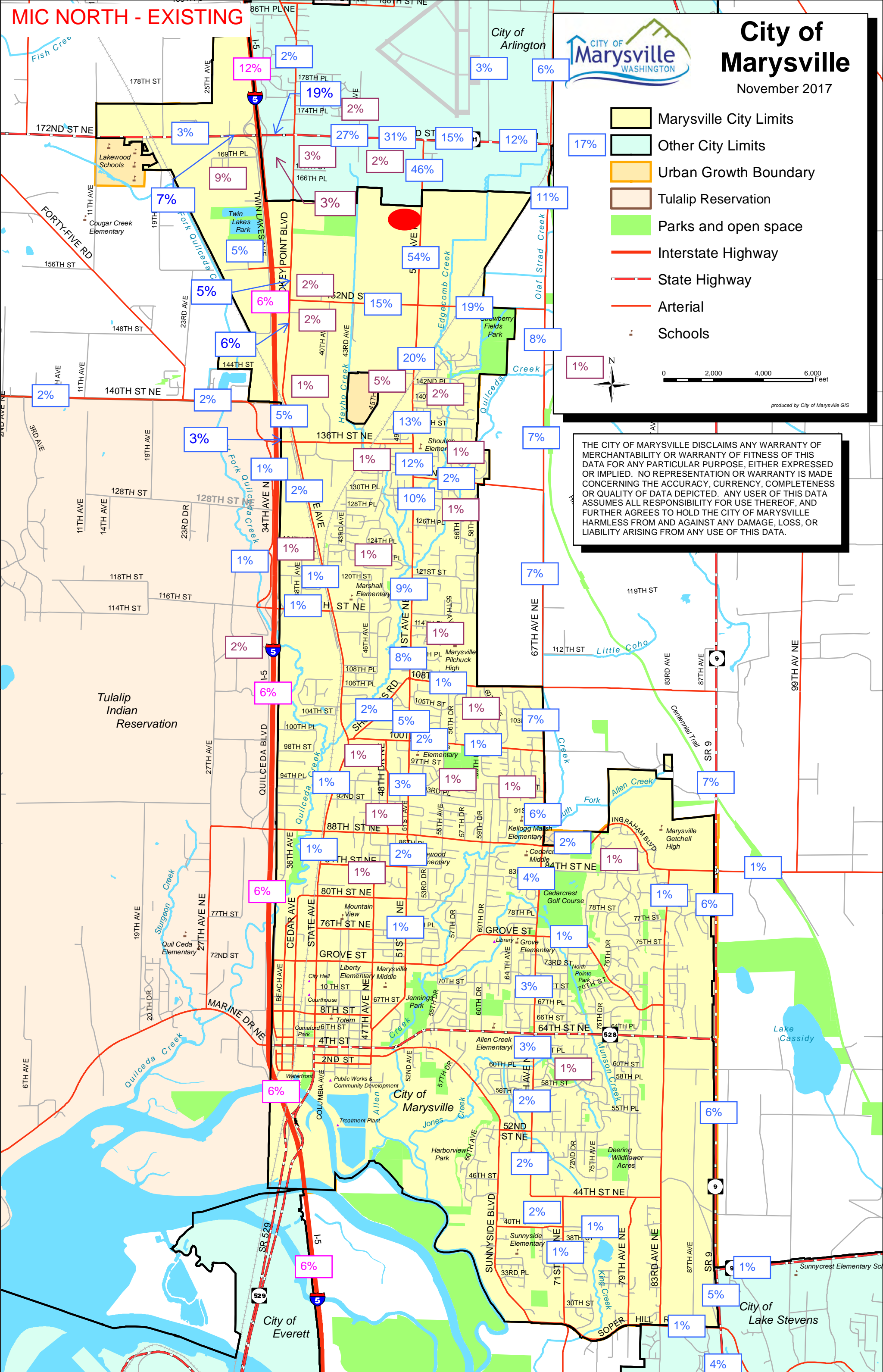
City of Marysville

November 2017

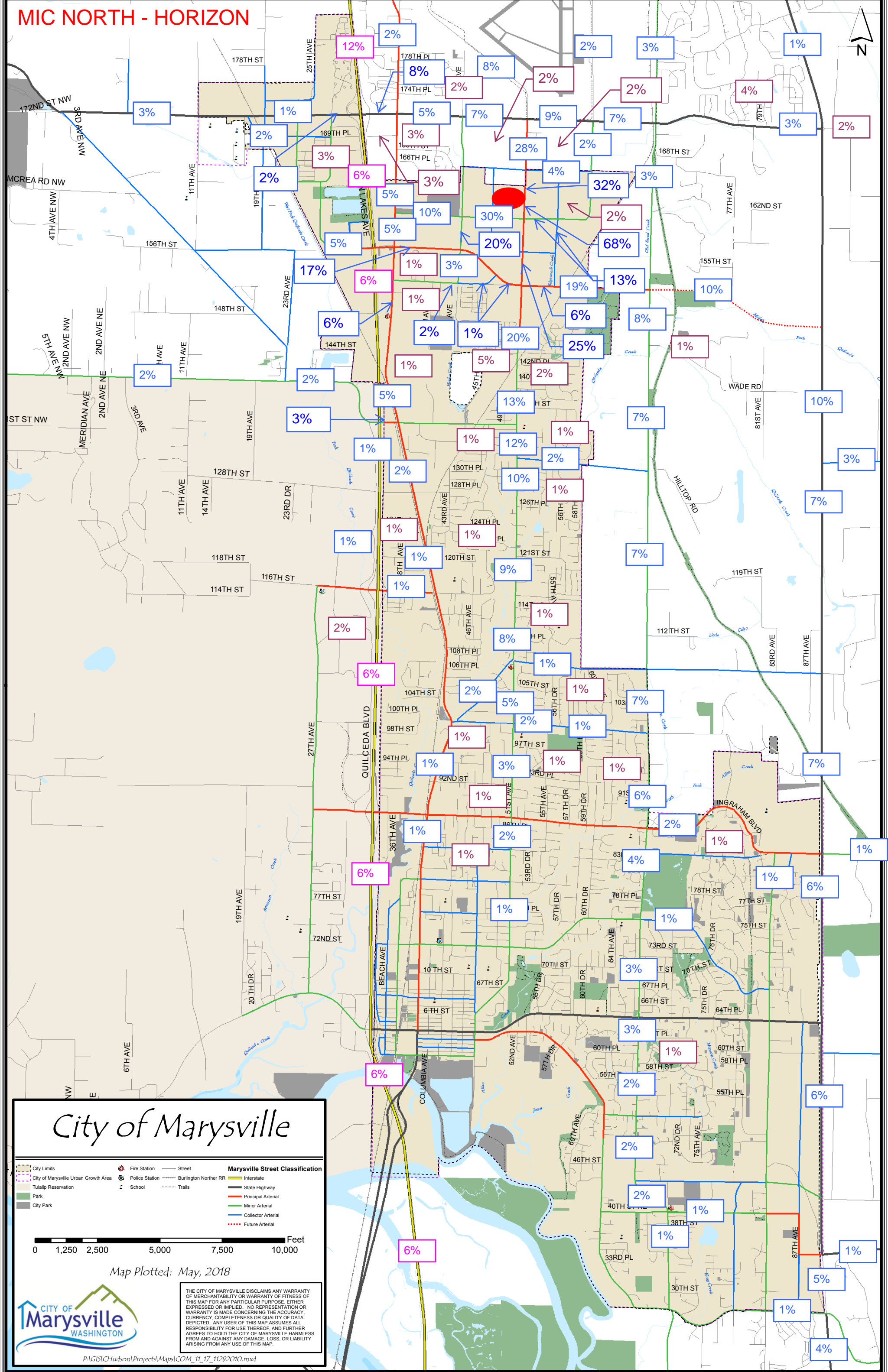
- Marysville City Limits
- Other City Limits
- Urban Growth Boundary
- Tulalip Reservation
- Parks and open space
- Interstate Highway
- State Highway
- Arterial
- Schools



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MIC NORTH - HORIZON



City of Marysville

			Marysville Street Classification

0 1,250 2,500 5,000 7,500 10,000 Feet

Map Plotted: May, 2018

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MEMORANDUM

FROM: Jesse Hannahs, Traffic Engineering Manager
Jesse Birchman, Transportation & Parks Maintenance Manager

DATE: June 5, 2023

SUBJECT: Traffic Impact Analysis Guidelines

All major new developments within City boundaries will require a Traffic Impact Analysis (TIA). Developments generating trips greater than defined Impact Thresholds shall have a TIA prepared to analyze impacts to the transportation system and to identify appropriate mitigation measures, if necessary.¹ All documents submitted in support of a TIA shall be prepared under the direction of a Professional Engineer with experience in traffic engineering licensed in the State of Washington. Final documents shall bear the seal of the responsible Professional Engineer. All direction and approvals are by the City Traffic Engineering Manager.

1) Definitions

- a) *Major Developments* generate ten (10) or more weekday p.m. peak hour trips or other hours as defined by the City Traffic Engineer during scoping.
- b) *Minor Development* generate less than ten (10) peak hour trips shall provide trip generation during project scoping only unless other distribution and analysis is necessary, such as proximity to other jurisdictions, known inadequate roadway condition, etc.
- c) *Impact* is defined as any intersection or site access driveway serving twenty five (25) or more peak hour project trips.
- d) *Opening Year* is defined as the anticipated year in which the development will be complete and open to the public.
- e) *Horizon Year* is the future year at which without and with-project traffic conditions are compared to forecast project impacts. The horizon year for each phase of the development shall be six (6) years from anticipated opening/completion of the development.
- f) *Mitigation Measures* are street improvements or a reduction of development trips to satisfy concurrency requirements of SEPA impacts.

¹ Documentation of trip generation or greater as at least a Minor Development is required when the City anticipates three or more new weekday PM peak hour trips will be generated by a proposal ([MMC 22D.030.060](#)).

- 2) Scoping
 - a) Describe the site's location, proposed and existing land uses and quantities, opening year, and any constraints.

 - b) Estimate the forecast increase in vehicular weekday p.m. peak hour trip generation and other periods as directed (e.g. daily, a.m. peak hour).
 - i) Required use of the most current edition of *Trip Generation Manual* published by the Institute of Transportation Engineers, or other approved methodology.
 - (1) All study sites used to develop a local trip rate must be reviewed and approved by City staff.
 - (2) Diverted Link Trips are not allowed
 - (3) Pass-By Trip shall use rates in the latest version of the ITE Trip Generation Manual or from the currently adopted Public Works Rules for Snohomish County Chapter 30.66B.²
 - (4) The ITE Trip Generation Manual multi-use (internal capture) methodology may only be used for projects
 - a) over 100,000 square footage of total floor space constructed at one time by a single owner conforming to criteria cited in ITE (multiple, differing land uses with applicable capture rates), or
 - b) For projects having mixed use zoning with multiple land-use types.
 - (5) Relocation of Existing Business:
 - a) A development project that relocates from an existing building to a new building shall not receive traffic mitigation credits if the existing building is not demolished or removed.
 - b) Credits shall be based on the trip generation methods described elsewhere in this document.
 - ii) Other non-vehicular trip generation estimates may be required when potentially greater than 25 peak hour trips. Trip generation values for City TIF and other fee calculations shall be carried to one (1) decimal point. Values for operational analysis should be rounded to the nearest whole number.

 - c) Identify the TIA Study Area & Peak Hour Analysis Periods – Arterial/arterial,³ signalized, or roundabout transportation facilities impacted by twenty five (25) or more peak hour project trips are required to

² See "Concurrency and Road Impact Mitigation Requirements of Chapter 30.66B SCC" at <https://www.snohomishcountywa.gov/1095/Public-Works-DPW-Rules>.

³ Major, minor, or collector

evaluated, regardless of travel mode, day of the week, or time of day. If less than 10 trips are forecast, summarize that no TIA is necessary.

- i) Typically the weekday PM peak hour is required. Other required periods may include weekday AM peak hour, generator peaks, Saturday, or Sunday peaks.
- ii) Trips shall be distributed using the distribution maps provide in Attachment A and proposal-specific distribution & assignment provided.
 - (1) Note that the construction of the 156th St NE interchange is currently funded to occur after 2030 and typically should not be assumed. Assuming this only with City approval.
- iii) Intersections and roadways shall be included except:
 - (1) Development having a total net building square footage of greater than 1 million square feet and/or
 - (2) Any peak hour required for analysis having greater than 1,000 development generated trips after determination of any acceptable trip reductions.

Developments meeting these criteria may be allowed to utilize the following to determine intersections for Intersection Analysis:

- a) Intersections beyond 3 roadway centerline miles from the development's boundary serving 50 or more peak hour trips
 - b) Intersections beyond 5 roadway centerline miles from the development's boundary serving 100 or more peak hour trips
 - c) Intersections with Traffic Impact Fee improvements beyond 3 roadway centerline miles from the development's boundary unless otherwise directed.
- iv) The following WSDOT intersections shall be evaluated when serving 25 vehicles during any one-hour period:
 - (1) SR529/State Avenue/Smokey Point Blvd. Corridor
 - (2) State Route 528 (4th Street/64th Street NE)
 - (3) State Route 531 (172nd St NE)
 - (4) All other intersections of two arterial/arterial or functionally classified streets on signalized or roundabout intersections
 - v) Snohomish County intersections and roadway segments serving three (3) or more weekday a.m. or p.m. peak hour trips are required to provide trip assignment figures and tables.⁴

- d) Provide an estimate of the required Traffic Impact Fee. Contact the City's Planner for current fee rate. Any Snohomish County traffic mitigation fee shall also be estimated.^{2,4}

⁴ See <https://www.snohomishcountywa.gov/888/Traffic-Mitigation-Concurrency>.

- 3) Transportation Impact Analysis
- a) Describe the site's location, proposed and existing land uses and quantities, opening year and horizon years, and any constraints.
 - b) Existing & Forecast Without-Project Conditions
 - i) Describe all existing transportation infrastructure and funded changes impacted by 25 or more project trips during any peak one-hour period. This may include but is not limited to roadways, driveways, sidewalks, transit stops and transit service rates, bicycle facilities, and multi-use trails. This shall include the impacted street network by functional classification, speed, geometry, and non-motorized facilities.
 - (1) Planned improvements by other entitled developments shall be identified. These shall not be assumed when evaluating horizon year without-project traffic operations.
 - ii) Summarize existing and forecast travel volumes for each mode of travel with specific numbers identified used for the operational analysis.
 - (1) This typically focuses on vehicular volumes but volumes of other travel modes shall be at least generally described.
 - (2) Traffic counts shall be no more than 12 months old⁵ and should include bicycles, pedestrians, peak hour factors and percentage of trucks.
 - (3) A general growth rate of 2% per year shall be used for operational analysis. A growth rate of 3% per year shall be used where pipeline data does not exist.
 - (4) The City will supply pipeline traffic data from previously entitled land use approvals add.
 - a) Pipeline data are for approved development projects distributing 25 or more trips to an arterial/arterial or signalized intersections.
 - (5) Note that previous permitted diversion of 25% of non-pipeline development background traffic volumes on 172nd St NE east of 19th Ave NE for Horizon Year analysis is typically not permitted. Construction of the 156th St NE interchange is currently funded to occur after 2030.

⁵ 12 months at the time of first TIA submittal. Up to 24 months is permitted for TIA updates/corrections up to land-use permit approval. New/updated counts TIA are required if permit approval before counts are 24 months old.

- iii) Vehicular traffic operations shall use the most recent version of the *Highway Capacity Manual* except roundabout operations shall use the most recent version of the WSDOT's Sidra policy/protocol.
 - (1) Detailed software output sheets shall be provided for all intersections and analysis scenarios to permit review or input and out analysis values.
 - (2) All City TIF and WSDOT capital projects funded to be constructed by the horizon year should be included but otherwise should be excluded.
 - (3) Planned improvements by other entitled developments shall not be assumed when evaluating horizon year without-project traffic operations unless construction permits have been issued.
 - (4) Vehicular LOS standards
 - a) LOS D for all City intersections except LOS E for those along:
 - (i) SR 529/State Avenue/Smokey Point Boulevard
 - (ii) 4th Street/64th Street NE (SR 528)
 - (iii) 88th Street NE east of I-5 to 67th Avenue
 - b) SEPA evaluation of roundabout v/c and queues are required.
 - c) The LOS standard applicable to each study intersection should be included for easy comparison in any summary tables.
 - (5) Signal Timing
 - a) Existing signal timings must be used for existing conditions. Timings shall be optimized for future conditions with cycle length between 60-180 seconds in 10 second intervals.
 - b) Minimum phase lengths for future operational analysis shall allow for adequate pedestrian crossing time per MUTCD/ITE standards.
 - (i) Citywide All Red time is 1.0 seconds.
 - (ii) Yellow Clearance intervals are determined based upon ITE methodology and range from 3.0 to 4.5 seconds.
 - c) Left Turn Phasing:
 - (i) Minimum phase lengths for future operational analysis shall allow for a minimum of 15 seconds for protected only left turns.
 - (ii) Minimum phase lengths for future operational analysis shall allow for a minimum of 10 seconds for protected/permitted left turns.
 - (iii) Lead/lag optimization shall only be allowed for coordinated systems at intersections with flashing yellow arrow (FYA) or protected only left turn phasing.

- (6) Ideal saturation flow rates greater than 1900 vehicles per hour of green per lane should not be used unless otherwise measured in the project vicinity.
- (7) Peak Hour Factors (PHF) shall be for the entire intersection consistent with traffic counts used for the existing analysis, or use a PHF = 1.00 and multiply the peak 15 minute period traffic volumes by 4.
- (8) Queuing:
 - a) Queuing analysis may be required in areas of known queue constraints and land uses with drive-through windows. If so, all study intersections shall be analyzed.
 - b) Queue lengths shall be calculated at the 95th percentile.
- iv) Summarize the most recent three (3) calendar years of WSDOT-provided roadway and intersection data.
 - (1) Patterns related to serious injuries, travel modes, all fatalities, or high collision locations shall be described.
 - (2) A rate of more than 1.0 collisions per million entering vehicles at an intersection and 10.0 collisions per million entering vehicles on a roadway segment are locations requiring more detailed review.
- c) Forecast With-Project Conditions
 - i) Estimate the forecast increase in vehicular weekday p.m. peak hour trip generation and other periods as directed (e.g. daily, a.m. peak hour).
 - ii) Trips shall be distributed as approved through scoping.
 - iii) Vehicular traffic operations shall be summarized.
 - iv) Impacts to roadways, driveways, sidewalks, transit stops and service rates, bicycle facilities, and multi-use trails should be described.
 - v) Impacts potentially increasing safety risks shall be evaluated. This includes adding any traffic to locations requiring detailed review (see 4.b above).
 - vi) Mitigation is required when the project results in or worsens operations below adopted standards, or worsens existing adverse safety conditions (e.g. intersection sight distance or stopping sight distance).
 - (1) Any required mitigation improvements included in the Traffic Impact Fee project list or other Local Improvement District project list are credited toward these fees.
 - (2) New or Modified Traffic Signals:
 - a) Shall meet at least one MUTCD warrant in the applicable horizon year.
 - b) Flashing yellow arrow (FYA) or protected left-turn phasing shall be provided where left turn lanes are present or warranted.

- c) Right-turn overlap phasing shall be provided where an exclusive right-turn lane is provided complementary to left-turn phasing.
 - d) All approaches with two-way center left-turn lanes, when signalized shall include dedicated left turn lanes with FYA signal displays.
- (3) Unsignalized turn lanes
 - a) Left-turn lanes - WSDOT Design Manual 1310.03(2) or other approved Exhibit used for storage length.
 - b) Right-turn Lanes - WSDOT Design Manual 1310.03(3) should be used for right turn lanes at unsignalized intersections. The note exempting multi-lane approaches for Exhibit 1310-21 should be ignored.
- (4) The use of traffic control devices to reduce impacts on residential streets is required by City EDDS 3-525. Traffic calming devices should be negotiated with City staff with the goal of reducing neighborhood infiltration of development generated spillover traffic.
 - a) City policy does not allow installation of new speed humps however allows for speed tables, traffic circles, curb bulb outs, etc.
- d) Required supporting information and data preferably provided in appendices include:
 - i) Maps not contained in the body of the report.
 - ii) Count data used for analysis.
 - iii) Level Of Service (LOS) calculations
 - (1) Summary sheets showing all signal timing and HCM inputs is required, including signal progression/coordination (e.g. green band figure).
 - iv) Warrant worksheets for signals, all-way stops, protected turn phasing, right and left turn lanes, intersection sight distance, etc.
- 4) Concurrency
 - a) The Public Works Department shall make a concurrency determination for each development application and the applicant shall provide an acceptance letter unless in disagreement with plans to appeal to the Hearing Examiner. Any change in the development after approval will be resubmitted to the director and re-evaluated for concurrency.