



CITY OF KIRKLAND
PLANNING & BUILDING DEPARTMENT
123 5TH AVENUE, KIRKLAND, WA 98033
425.587.3600 ~ www.kirklandwa.gov

MEMORANDUM

To: Kirkland Hearing Examiner

From: Tony Leavitt, Senior Planner
Thang Nguyen, Transportation Engineer
Adam Weinstein, AICP, SEPA Responsible Official

Date: May 7, 2019

File: SEP16-02066

Subject: APPEAL OF STATE ENVIRONMENTAL POLICY ACT (SEPA) DETERMINATION
FOR NORTHWEST UNIVERSITY MASTER PLAN

HEARING EXAMINER DIRECTION

Consider the SEPA Determination Appeal regarding the Northwest University Master Plan Permit and either:

Affirm the decision being appealed; or
Reverse the decision being appealed; or
Modify the decision being appealed.

BACKGROUND

The subject property is the Northwest University campus located along 108th Avenue NE in the Central Houghton Neighborhood (see Enclosure 1). The request is for approval of a 20-year Master Plan for the Northwest University Campus. Elements of the Master Plan include new buildings, additions and campus improvements, totaling 364,910 gross square feet of net new square feet of construction. The improvements proposed are a new 6-Court Indoor Tennis Center, including a new parking garage; a new Gymnasium Pavilion replacing the existing Pavilion, including a new parking garage; a new Welcome Center replacing the existing Pecota Center building, including a new parking garage; a new 300 bed Residence Hall; Athletic Field Improvements including new AstroTurf and lighting with New Field House and bleachers at the athletic fields; additions to the Chapel; a new Fitness Center, including a parking garage; and the new Ness Academic Center replacing the existing Ness Academic Center.

The master plan will also propose use of the athletic fields and tennis center by outside organizations; a reduced setback and planting buffer requirements along shared property lines with the Puget Sound Adventist Academy; alteration of campus access onto NE 53rd by realigning 111th Way NE to the East to accommodate the proposed Tennis Center; modifications to height

limits above Average Building Elevation (ABE); revision to proposed traffic patterns and traffic plan; increase of onsite parking stalls and clarification of the full time equivalent (FTE) cap.

A SEPA Mitigated Determination of Nonsignificance (MDNS) was issued on March 12, 2019. The Environmental Checklist, Determination, and additional environmental information are included as Attachment 1.

A timely appeal of the SEPA Determination was filed on March 26, 2019 by Larry and Marie Toedtli, Todd Gauthier, Jean Krynicki, Crystal Wilson, Karen and Jim Todd, Eun Jung Choi and Jung In Lee, Marie Working (see Enclosure 2).

Due to the underlying Master Plan permit, the Hearing Examiner will conduct a public hearing on the SEPA appeal concurrently with the Master Plan Hearing on May 14, 2019. City staff has concluded the Master Plan review under file ZON16-02063 and has made final recommendations on the proposal.

ANALYSIS

DETERMINATION

The SEPA MDNS, issued on March 16th, determined that the proposal is not likely to cause any significant adverse environmental impact for which mitigation could not be identified. The proposal was changed to include the following measures to mitigate impacts:

1. The University shall contribute \$15,000 to the City of Kirkland Neighborhood Traffic Control Program to be used to mitigate neighborhood traffic impacts in the Houghton Neighborhood in the vicinity of Northwest University.
2. The University shall improve the intersection of 108th Avenue NE/NE 53rd Street to include a new traffic signal and associated intersection improvements (curb ramp, crosswalk, etc.) to the City of Kirkland's standards.
3. In lieu of constructing half-street improvements along the 108th Avenue NE frontage to include a dedicated bus lane as described in the Phase II Transit Queue Jump improvement of the 108th corridor project (PT 0006), the City will require a width of up to 12-feet of right-of-way (ROW) dedication (approximately 880-feet) along the 108th Avenue NE University properties.
4. The University shall sell a width of up to 12-feet of frontage at 6710 108th Avenue NE for the construction of the Phase I Transit Queue Jump improvement of the 108th corridor project (PT 0005).
5. The University shall contribute a proportional share to the intersection improvement of Phase I Transit Queue Jump improvement of the 108th corridor project (PT 0005) not-to-exceed \$266,306 or 14 percent of the total project cost (whichever is lower).
6. The University shall contribute a proportional share to the intersection improvement of Phase II Transit Queue Jump improvement of the 108th corridor project (PT 0006) not-to-exceed \$175,606 or 8 percent of the total project cost (whichever is lower).
7. The University shall contribute a proportional share to the intersection improvement of the NE 68th Street Intersection Improvements/Access Management (TR 0117 004) not-to-exceed \$241,214 or 14 percent of the total project cost (whichever is lower).

8. The University shall submit a parking management plan for staff review and approval prior to final building permit for the first building greater than 5,000 square feet or with public use of the athletic fields.
9. The University will create a parking management plan and monitor events that are anticipated to result in 90 percent of the campus parking supply being occupied.

Many environmental impacts are mitigated by City codes and development regulations. The final recommendation on the Master Plan application establishes a series of Conditions of Approval, through which these impacts are mitigated. Under State law in WAC 197-11-660(1)(e) and (g), City regulations which have been adopted to address an environmental impact are allowed to be considered and utilized in order to achieve sufficient mitigation.

SEPA APPEAL PROCEDURES

The Kirkland Municipal Code establishes the required procedural guidelines for SEPA Appeals in section 24.02.230. KMC Section 24.02.230.b establishes the following parties as able to appeal the SEPA determination: the applicant or proponent; any agency with jurisdiction; and any individual or other entity who is specifically and directly affected by the proposed action. KMC Section 24.02.230.g.2 establishes the applicant or proponent, city staff, and persons who have appealed the threshold determination under KMC 24.02.30.b. are able to participate in the appeal.

The SEPA Appeal Procedures listed in KMC Section 24.02.230.i identify: the matters to be considered and decided upon in the appeal are limited to the matters raised in the notice of appeal; the decision of the responsible official shall be accorded substantial weight; all testimony will be taken under oath; and the decision of the hearing body hearing the appeal shall be the final decision on any appeal of a threshold determination including a Mitigated Determination of Nonsignificance.

The Hearing Examiner will consider the appeal and the testimony received during the public hearing in making her decision to either: affirm the decision being appealed; reverse the decision being appealed; or modify the decision being appealed. Within eight (8) calendar days after the public hearing, the Hearing Examiner will issue a written decision on the appeal.

RESPONSE TO APPELLENT

The following discussion includes the appellant's points of appeal followed by staff response:

1. The mitigation of traffic impacts identified in the MDNS and SEPA Determination is clearly erroneous in being based on inappropriate and inadequate transportation improvements, compared to the identified significant impacts on the area transportation system of the Master Plan during peak commuter travel periods.
2. The SEPA and traffic study did not evaluate potential traffic impacts and associated mitigation of the public use of the sports fields during weekends and evening/night hours.

Staff Response: Public Works Staff has reviewed the applicant's appeal letter and addresses the appellant's contentions in Enclosure 3.

3. The SEPA did not evaluate or disclose the noise impacts of the public use of the sports fields or mitigation of those potential impacts. The lack of such an analysis is clearly erroneous based on proximity to existing single-family residences.

Staff Response: KZC Section 115.95 establishes the maximum environmental noise level pursuant to WAC 173-60. This code section states the following:

WAC 173-60-040 – Maximum Permissible Environmental Noise Levels requires that noise from a park use (Class A EDNA – Environmental Designation for Noise Abatement) cannot exceed 55 dBA when entering residential property (Class A EDNA) during the hours of 7:00 a.m. and 10:00 p.m. Between the hours of 10:00 p.m. and 7:00 a.m., the noise level cannot exceed 45 dBA.

At any hour of the day or night the applicable noise limitations described above may be exceeded for any receiving property by no more than:

- 5 dBA for a total of 15 minutes in any one-hour period; or*
- 10 dBA for a total of 5 minutes in any one-hour period; or*
- 15 dBA for a total of 1.5 minutes in any one-hour period.*

In addition, WAC Sections 173-60-050(4)(a) and (k) exempts sounds created by motor vehicles as well as natural phenomena and unamplified human voices from the maximum noise levels described above.

As part of the Master Plan proposal, the applicant states that they will limit use of the fields to 8am to 9:30pm, ban the use of airhorns and limit the use of speakers.

Any violations of the noise regulations would be addressed through the City's Code Enforcement proceedings.

4. The SEPA determination did not disclose the potential impacts of the lighting of the fields or appropriate mitigation of those potential impacts. The lack of such an analysis is clearly erroneous based on proximity to existing single-family residences.

Staff Response: *As part of the Master Plan, the City will require that the applicant submit a lighting plan and photometric site plan for approval by the Planning Official. KZC Section 115.85.1.c requires that the applicant select, place and direct light sources so that glare produced by any light source, to the maximum extent possible, does not extend to adjacent properties or to the right-of-way.*

CONCLUSION AND RECOMMENDATION

Based on review of the appellant's submittal, staff analysis and response, the City recommends the Hearing Examiner affirm the City's SEPA Mitigated Determination of Nonsignificance.

ENCLOSURES

1. SEPA MDNS with Attachments
2. SEPA Determination Appeal Letter
3. Memo from Thang Nguyen



CITY OF KIRKLAND

Planning and Building Department
123 5th Avenue, Kirkland, WA 98033
www.kirklandwa.gov ~ 425.587.3600

MITIGATED DETERMINATION OF NON-SIGNIFICANCE

Case No.: SEP16-02066

DATE ISSUED: March 12, 2019

Project Name: Northwest University Master Plan

Project Location: Northwest University Kirkland Campus

Project Description: Request for approval of a 20 year Master Plan for the Northwest University Campus. Elements of the Master Plan include buildings, additions and campus improvements, totaling 364,910 gross square feet of net new construction. The improvements proposed are a new 6-Court Indoor Tennis Center, including new parking garages below; a new Gymnasium Pavilion replacing the existing Pavilion, including new parking garage below; a new Welcome Center replacing the existing Pecota Center building, including new parking garage below; a new 300 bed Residence Hall; Athletic Field Improvements including new AstroTurf and lighting with New Field House and bleachers at the athletic fields; additions to the Chapel; a new Fitness Center, including new parking garage below; and the Ness Academic Center to replace 3 existing buildings. The master plan will also propose use of the athletic fields by outside organizations; a reduced setback and planting buffer requirements along shared property lines with the Puget Sound Adventist Academy; alteration of campus access onto NE 53rd by realigning 111th Way NE to the East to accommodate the proposed Tennis Center; modifications to height limits above Average Building Elevation (ABE); revision to proposed traffic patterns and traffic plan; increase of onsite parking stalls and clarification of the FTE cap.

Proponent: Eric Drivdahl, Gellotte Hommas Architects for Northwest University

Project Planner: Tony Leavitt, Senior Planner

Lead agency is the City of Kirkland

The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment. An environmental impact statement (EIS) is not required under RCW 43.21.030 (2)(c). This decision was made after review of a completed environmental checklist and other information on file with the lead agency. This information is available to the public upon request.

Notice is hereby given that on March 12, 2019 the City of Kirkland issued a Determination of Nonsignificance (DNS) in accordance with the State Environmental Policy Act (SEPA) and Chapter 197-11 of the Washington Administrative Code.

The proposal has been changed to include the following measures to mitigate impacts:

1. The University shall contribute \$15,000 to the City of Kirkland Neighborhood Traffic Control Program to be used to mitigate neighborhood traffic impacts in the Houghton Neighborhood in the vicinity of Northwest University.
2. The University shall improve the intersection of 108th Avenue NE/NE 53rd Street to include a new traffic signal and associated intersection improvements (curb ramp, crosswalk, etc.) to the City of Kirkland's standards.

3. In lieu of constructing half-street improvements along the 108th Avenue NE frontage to include a dedicated bus lane as described in the Phase II Transit Queue Jump improvement of the 108th corridor project (PT 0006), the City will require a width of up to 12-feet of right-of-way (ROW) dedication (approximately 880-feet) along the 108th Avenue NE University properties.
4. The University shall sell a width of up to 12-feet of frontage at 6710 108th Avenue NE for the construction of the Phase I Transit Queue Jump improvement of the 108th corridor project (PT 0005).
5. The University shall contribute a proportional share to the intersection improvement of Phase I Transit Queue Jump improvement of the 108th corridor project (PT 0005) not-to-exceed \$266,306 or 14 percent of the total project cost (whichever is lower).
6. The University shall contribute a proportional share to the intersection improvement of Phase II Transit Queue Jump improvement of the 108th corridor project (PT 0006) not-to-exceed \$175,606 or 8 percent of the total project cost (whichever is lower).
7. The University shall contribute a proportional share to the intersection improvement of the NE 68th Street Intersection Improvements/Access Management (TR 0117 004) not-to-exceed \$241,214 or 14 percent of the total project cost (whichever is lower).
8. The University shall submit a parking management plan for staff review and approval prior to final building permit for the first building greater than 5,000 square feet or with public use of the athletic fields.
9. The University will create a parking management plan and monitor events that are anticipated to result in 90 percent of the campus parking supply being occupied.

Responsible official:


Adam Weinstein, Planning & Building Director March 5, 2019
Date

You may appeal this determination to the Planning & Building Department at City of Kirkland, 123 Fifth Avenue, Kirkland, WA 98033 no later than **5:00 PM on March 26, 2019** by a Written Notice of Appeal. You should be prepared to make specific factual objections and reference case number SEP12-01360. Contact Tony Leavitt, Senior Planner in the Planning & Building Department at 425.587.3253 to ask about the procedures for SEPA appeals. See also KMC 24.02.230 Administrative Appeals.

Publish in The Seattle Times on: March 14, 2019

Distribute this notice with a copy of the Environmental Checklist to:

GENERAL NOTICING

- Department of Ecology - Environmental Review
- Muckleshoot Tribal Council - Environmental Division, Tribal Archeologist
- Muckleshoot Tribal Council - Environmental Division, Fisheries Division Habitat
- Cascade Water Alliance – Director of Planning
- Finn Hill and Juanita Neighborhood Associations
- Lake Washington School District No. 414: Budget Manager and Director of Support Services
- Washington State Dept. of Archaeology & Historic Preservation
- King County Dept. of Transportation - Employer Transportation Representative
- Seattle & King County Public Health - SEPA Coordinator

AGENCIES WITH JURISDICTION, AFFECTED AGENCIES, AND/OR INTERESTED PARTIES

- Department of Ecology - Environmental Review Department of Fish and Wildlife – Olympia
- Muckleshoot Tribal Council - Environmental Division, Fisheries Division Habitat Program
- U.S. Army Corps of Engineers - Seattle District
- Eastside Audubon Society
- Parties of Record
- Interested Citizens

cc: Applicant
Planning Department File

Distributed by: _____



(Karin Bayes, Office Specialist)

March 12, 2019

Date



CITY OF KIRKLAND
Planning & Building Department
123 5th Avenue, Kirkland, WA 98033
425.587.3600 ~ www.kirklandwa.gov

MEMORANDUM

To: Adam Weinstein, AICP, SEPA Responsible Official
From: Tony Leavitt, AICP, Senior Planner
Date: March 4, 2019
File: SEP16-02066
Subject: STATE ENVIRONMENTAL POLICY ACT (SEPA) DETERMINATION
NORTHWEST UNIVERSITY MASTER PLAN

GENERAL

The subject property is the Northwest University campus located along 108th Avenue NE in the Central Houghton Neighborhood (see Enclosure 1). The request is for approval of a 20-year Master Plan for the Northwest University Campus. Elements of the Master Plan include new buildings, additions and campus improvements, totaling 364,910 gross square feet of net new square feet of construction. The improvements proposed are a new 6-Court Indoor Tennis Center, including a new parking garage; a new Gymnasium Pavilion replacing the existing Pavilion, including a new parking garage; a new Welcome Center replacing the existing Pecota Center building, including a new parking garage; a new 300 bed Residence Hall; Athletic Field Improvements including new AstroTurf and lighting with New Field House and bleachers at the athletic fields; additions to the Chapel; a new Fitness Center, including a parking garage; and the new Ness Academic Center replacing the existing Ness Academic Center.

The master plan will also propose use of the athletic fields and tennis center by outside organizations; a reduced setback and planting buffer requirements along shared property lines with the Puget Sound Adventist Academy; alteration of campus access onto NE 53rd by realigning 111th Way NE to the East to accommodate the proposed Tennis Center; modifications to height limits above Average Building Elevation (ABE); revision to proposed traffic patterns and traffic plan; increase of onsite parking stalls and clarification of the full time equivalent (FTE) cap.

ANALYSIS

The SEPA "threshold determination" is the formal decision as to whether the proposal is likely to cause a significant adverse environmental impact for which mitigation cannot be identified. If it is determined that a proposal may have a significant adverse impact that cannot be mitigated, an Environmental Impact Statement (EIS) would be required.

Many environmental impacts are mitigated by City codes and development regulations. For example, the Kirkland Zoning Code has regulations that protect sensitive areas, limit noise, provide setbacks, establish height limits, etc. Where City regulations have been adopted to address an environmental impact, it is presumed that such regulations are adequate to achieve sufficient mitigation [WAC 197-11-660(1)(e) and (g)]. Therefore, when requiring project mitigation based on adverse environmental impacts, the City would first consider whether a regulation has been adopted for the purpose of mitigating the environmental impact in question.

I have had an opportunity to visit the subject property and review the following documents:

- Environmental Checklist dated May 27, 2016 (see Enclosure 2)
- Final Transportation Impact Analysis prepared by the Transpo Group dated June 14, 2017 (see Enclosure 3)
- Transportation Impact Analysis Review Memorandum prepared by the City's Transportation Engineer dated December 18, 2018 (See Enclosure 4)
- Public Comments Submitted

It will be necessary to further analyze certain aspects of the proposal to determine if the project complies with all the applicable City codes and policies. That analysis is most appropriately addressed with the Master Plan zoning permit for the project. Mitigation is required as part of a Determination of Nonsignificance issued by the City (lead agency) where the proposal results in significant adverse environmental impacts which are not sufficiently addressed by adopted City codes [WAC 197-11-350(3)].

Below is an analysis of key environmental issues identified by staff or brought up in the public comment submitted for the project. They are all related to transportation.

Traffic Concurrency

The proposed development project passed traffic concurrency. The concurrency test notice is valid until July 23, 2019 at which time the applicant must obtain a development permit and certificate of concurrency or apply and receive an extension prior to the expiration of the concurrency test notice.

Traffic Impact Analysis Review

The scope of traffic impact analysis was approved by the City Transportation Engineer and the traffic report was completed in accordance with the City of Kirkland Traffic Impact Analysis Guidelines (TIAG).

The City's TIAG requires a level of service (LOS) analysis using the Highway Capacity Manual Operational Method for intersections that have a proportionate share equal or greater than 1% as calculated using the method in the TIAG. Based on the proportionate share calculation for the full build-out of the proposed project, thirteen off-site intersections will have 1% or more proportionate share impact and are required to be analyzed for LOS.

The City requires developers to mitigate traffic impacts when one of the following two warranted conditions is met:

1. An intersection level of service is at E and the project has a proportional share of 15% impact or more at the intersection.
2. An intersection level of service is at F and the project has a proportional share of 5% impact or more at the intersection.

It was concluded that six of the intersections analyzed (see Enclosure 4, page 7) are forecasted to be impacted by the project by 5 percent or more and require the mitigations outlined in Enclosure 4.

Parking Impact Review

Staff reviewed the parking study for the project including parking demand for the school, tennis center and athletic fields. It was concluded that the school, tennis center and athletic fields have peak parking demands at different times of the day. Based on the hourly parking demand trends for those uses, the combined average peak parking demand for all three uses is approximately 1,020 stalls occurring at 4 p.m. The cumulative peak parking demand would be approximately 1,296 stalls, which is less than the proposed parking supply of 1,344 stalls.

For on-campus events, the applicant is proposing a parking management plan.

CONCLUSION

Based on my review of all available information and adopted policies of the City, I am recommending issuance of a Mitigated Determination of Nonsignificance (MDNS) including the following mitigating measures. The recommended mitigations have been reviewed and accepted by the project proponent (see Enclosure 5).

Transportation Mitigation

The following conditions of approval are required for the proposed development to mitigate citywide traffic impacts as well as to meet Public Works requirements and standards:

1. The University shall contribute \$15,000 to the City of Kirkland Neighborhood Traffic Control Program to be used to mitigate neighborhood traffic impacts in the Houghton Neighborhood in the vicinity of Northwest University. The University shall make this contribution prior to the first building permit issued for projects included in the subject Master Plan or with public use of the athletic fields.
2. The University shall improve the intersection of 108th Avenue NE/NE 53rd Street to include a new traffic signal and associated intersection improvements (curb ramp, crosswalk, etc.) to the City of Kirkland's standards. The construction of the traffic signal will necessitate the removal of the existing lighted crosswalk (Rectangular Rapid Flashing Beacon) and associated infrastructure located south of the intersection, which will also be done by the University as part of the intersection improvement. The construction of the traffic signal and crosswalk removal will be triggered by the construction of any new building within the Master Plan that is greater than 5,000 square feet gross floor area. The traffic signal and associated intersection improvements shall be constructed and operational prior to the issuance of the building occupancy permit of the first building greater than 5,000 square feet gross floor area or with public use of the athletic fields.
3. In lieu of constructing half-street improvements along the 108th Avenue NE frontage to include a dedicated bus lane as described in the Phase II Transit Queue Jump improvement of the 108th corridor project (PT 0006), the City will require a width of up to 12-feet of right-of-way (ROW) dedication (approximately 880-feet) along the 108th Avenue NE University properties (including the property at 5710 108th Avenue NE and parcel 9353900355amd 935390050). The dedication will occur when the City begins the right-of-way acquisition portion of the 108th Avenue NE corridor improvement project. The value of the land shall be its fair market value based on an independent appraisal to be prepared

when needed by an appraiser agreed upon by both parties, which agreement will not be unreasonably withheld. If the 108th corridor improvement project (PT 0006) becomes a city capacity project to be partly funded by transportation impact fees, then the agreed value of the right-of-way dedication shall be credited against the University Master Plan's transportation impact fee. The City will assume responsibility for maintaining the current infrastructure located within the dedicated areas at the time the property is dedicated. The City will be responsible for relocating and replacing existing utilities structures within the dedicated ROW during construction of the 108th Avenue NE corridor improvement projects including, but not limited to, the existing masonry monuments and signs at the two (2) entry driveways, masonry piers and iron fencing along the property frontage, existing rock retaining wall, associated landscaping along the property frontage, associated lighting and fixtures and any underground utilities that are affected by these relocations. Any replacement of structures and landscaping will be in-kind.

4. The University shall sell a width of up to 12-feet of frontage at 6710 108th Avenue NE for the construction of the Phase I Transit Queue Jump improvement of the 108th corridor project (PT 0005). The City shall pay fair market value for the frontage based on an independent appraisal to be prepared when needed by an appraiser agreed upon by both parties, which agreement will not be unreasonably withheld. The University will sell the property during the right-of-way acquisition portion of the 108th Avenue NE corridor improvement projects. If the City purchases the land dedication prior to the City's planned improvement project, the City will assume responsibility for maintaining the infrastructure and landscaping located within the dedicated areas. This includes landscaping, monument signs, lighting and fixtures and utilities. During construction of the 108th Avenue NE corridor improvement project, the City will also be responsible for relocating and replacing structures or landscaping within the dedicated ROW or outside of the dedication that are impacted by construction. These structures include, but may not be limited to, private sidewalk at face of building, monument signs, associated lighting and fixtures, frontage landscaping, relocation or replacement of existing utility boxes (two (2) power and one (1) cable) such that they do not obstruct the front of the 6710 Building, and any underground utilities that are affected by the ROW dedication and improvements.
5. The University shall contribute a proportional share to the intersection improvement of Phase I Transit Queue Jump improvement of the 108th corridor project (PT 0005) not-to-exceed \$266,306 or 14 percent of the total project cost (whichever is lower). The proportional share contribution shall be made with the construction of the first building within the Master Plan (with the exception of the Chapel and Field House) or with public use of the athletic fields to mitigate the SEPA transportation impact. The payment shall be due at final building permit issuance. If the improvement project is partly funded by transportation impact fees, then the proportional share contribution shall be credited against the University Master Plan transportation impact fee.

6. The University shall contribute a proportional share to the intersection improvement of Phase II Transit Queue Jump improvement of the 108th corridor project (PT 0006) not-to-exceed \$175,606 or 8 percent of the total project cost (whichever is lower). The proportional share contribution shall be made with the construction of the first building within the Master Plan (with the exception of the Chapel and Field House) or with public use of the athletic fields to mitigate the SEPA transportation impact of the Master Plan. The payment shall be due at final building permit issuance or with public use of the athletic fields, as applicable. If the improvement project is partly funded by transportation impact fee, then the proportional share contribution shall be credited against the University Master Plan transportation impact fee.
7. The University shall contribute a proportional share to the intersection improvement of the NE 68th Street Intersection Improvements/Access Management (TR 0117 004) not-to-exceed \$241,214 or 14 percent of the total project cost (whichever is lower). The proportional share contribution shall be made with the construction of more than 100,000 square feet of the Master Plan (with the exception of the Chapel and Field House) or more than 50,000 square feet of the Master Plan (with the exception of the Chapel and Field House) when combined with public use of the athletic fields to mitigate the SEPA transportation impact. The payment shall be due at final building permit issuance or with public use of the athletic fields, as applicable. If the improvement project is partly funded by transportation impact fees, then the proportional share contribution shall be credited against the University Master Plan transportation impact fee.
8. The University shall submit a parking management plan for staff review and approval prior to final building permit for the first building greater than 5,000 square feet or with public use of the athletic fields.
9. The University will create a parking management plan and monitor events that are anticipated to result in 90 percent of the campus parking supply being occupied. The University shall prominently post community contact information on the University website for the University staff person responsible for monitoring events and managing parking. Examples of parking event strategies included in the parking management plan to minimize impacts to the surrounding neighborhoods during times when parking inventories may be constrained or when there is significant impacts to the surrounding neighborhood are:
 - Manage event schedules to minimize concurrent high activity events on-campus.
 - Designate specific event parking lots.
 - Provide way-finding signage to direct visitors to specific parking facilities and pick-up/drop-off area.
 - Active enforcement of parking restrictions.
 - Post no parking sign along NE 53rd Street during events and visually monitor neighborhood parking.
 - Designate a representative from Northwest University to coordinate public use of facilities including parking management associated with the activities.
 - Provide parking monitors and flagger to direct visitors to on-campus parking lots.
 - Provide police traffic control on 108th Avenue NE when traffic flow on 108th Avenue NE is impacted.

The University shall submit the parking management plan to the City's transportation engineer or the Neighborhood Traffic Control Program coordinator for review and approval.

The University shall submit an annual report to the City regarding the operation of the parking management plan. The annual report shall include the number of events for the year and the attendance and parking demand for major events. Every two years, the City and the University shall meet to review the parking management plan and determine whether additional or different measures are necessary to mitigate parking impacts in adjoining neighborhood.

The applicant has reviewed the proposed mitigations and has agreed to incorporate them into the project (see Enclosure 5).

These recommendations are based on adopted goals and policies of the City as found in the City's Comprehensive Plan. Specifically, the following elements of the 2015 Comprehensive Plan support the recommendations described above:

Transportation

Policy T-4.7: Mitigate negative impacts of motor vehicles on neighborhood streets.


Policy T-5.5: Require new development to mitigate site specific and system wide transportation impacts.

ENCLOSURES

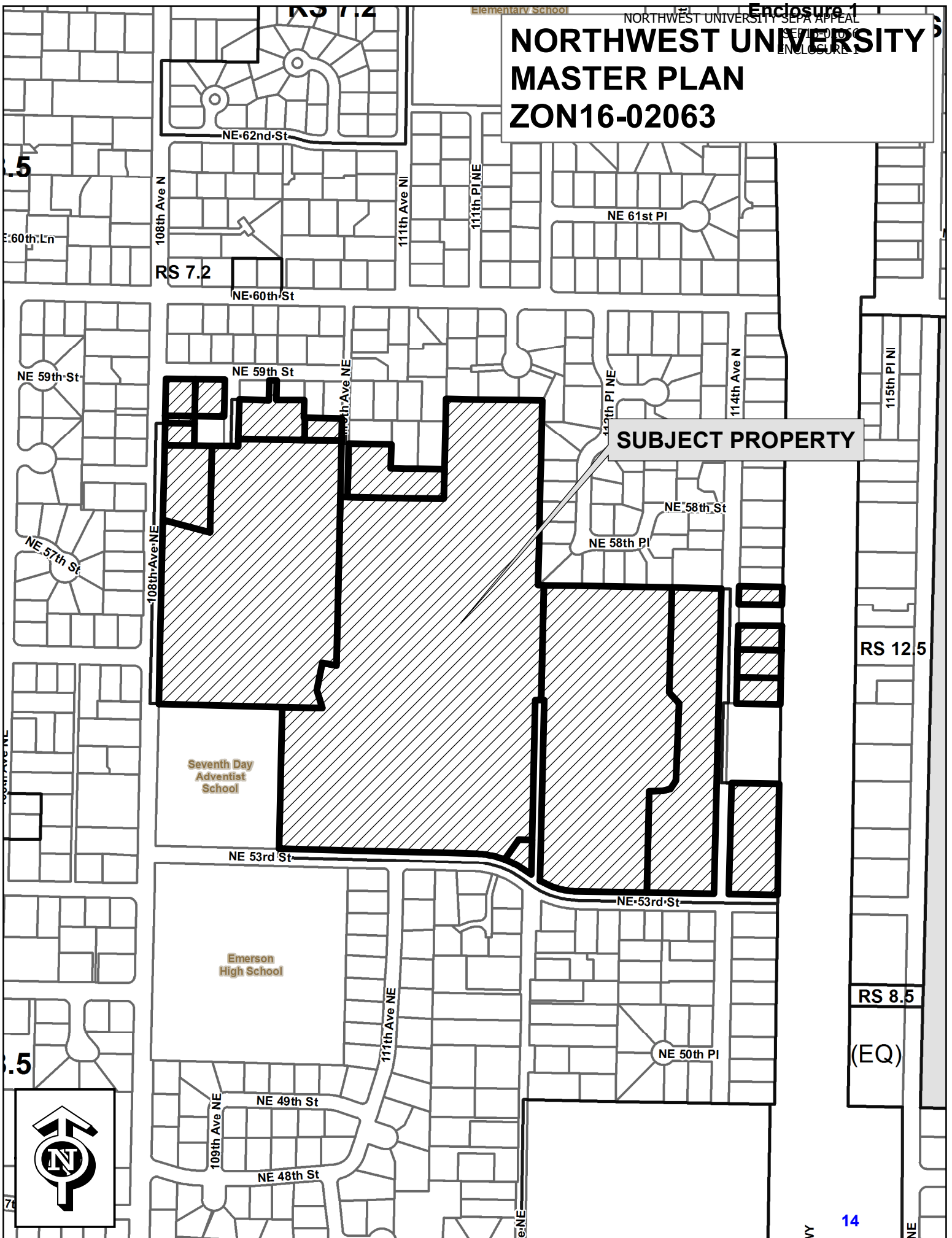
1. Vicinity Map
2. Environmental Checklist
3. Applicant Transportation Impact Analysis dated June 14, 2017
4. City Transportation Impact Analysis Review Memorandum dated December 18, 2018
5. Northwest University Mitigation Approval Letter

☒ I concur ☐ I do not concur

Comments: _____


Adam Weinstein, Planning & Building Director March 5, 2019
Date

NORTHWEST UNIVERSITY MASTER PLAN ZON16-02063



SUBJECT PROPERTY

Seventh Day
Adventist
School

Emerson
High School

RS 12.5

RS 8.5

(EQ)



CITY OF KIRKLAND
Planning and Building Department
123 Fifth Avenue, Kirkland, WA 98033
425.587.3600 - www.kirklandwa.gov

SEPA ENVIRONMENTAL CHECKLIST

UPDATED MAY 2015

Purpose of checklist:

Governmental agencies use this checklist to help determine whether the environmental impacts of your proposal are significant. This information is also helpful to determine if available avoidance, minimization or compensatory mitigation measures will address the probable significant impacts or if an environmental impact statement will be prepared to further analyze the proposal.

Instructions for applicants:

This environmental checklist asks you to describe some basic information about your proposal. Please answer each question accurately and carefully, to the best of your knowledge. You may need to consult with an agency specialist or private consultant for some questions. You may use "not applicable" or "does not apply" only when you can explain why it does not apply and not when the answer is unknown. You may also attach or incorporate by reference additional studies reports. Complete and accurate answers to these questions often avoid delays with the SEPA process as well as later in the decision-making process.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will help describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

Instructions for Lead Agencies:

Please adjust the format of this template as needed. Additional information may be necessary to evaluate the existing environment, all interrelated aspects of the proposal and an analysis of adverse impacts. The checklist is considered the first but not necessarily the only source of information needed to make an adequate threshold determination. Once a threshold determination is made, the lead agency is responsible for the completeness and accuracy of the checklist and other supporting documents.

Use of checklist for nonproject proposals: [\[help\]](#)

For nonproject proposals (such as ordinances, regulations, plans and programs), complete the applicable parts of sections A and B plus the [SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS \(part D\)](#). Please completely answer all questions that apply and note that the words "project," "applicant," and "property or site" should be read as "proposal," "proponent," and "affected geographic area," respectively. The lead agency may exclude (for non-projects) questions in Part B - Environmental Elements –that do not contribute meaningfully to the analysis of the proposal.

A. Background [\[help\]](#)

1. Name of proposed project, if applicable: **Northwest University Master Plan Update**
2. Name of applicant: **Northwest University (NU)**
3. Address and phone number of applicant and contact person:
Northwest University
Contact: John Jordan
5520 108th Ave NE
Kirkland, WA 98033
425-889-7788
4. Date checklist prepared: **May 27, 2016**
5. Agency requesting checklist: **City of Kirkland**
6. Proposed timing or schedule (including phasing, if applicable):

The master plan includes 8 phases (Dates are estimates - While the improvements are characterized as 'phases', the order in which improvements are actually undertaken may vary from the proposed order and dates presented in the master plan submittal & SEPA checklist.):

- **Tennis Center (2017-2020)**
- **Gymnasium (2019-2022)**
- **Welcome Center (2019-2020)**
- **Residence Hall (2021-2024)**
- **Field house & Astroturf fields (2021-2024)**
- **Existing Chapel Additions (2022-2024)**
- **Fitness Center (2029-2032)**
- **Ness Academic Center**
 - **Phase 1 (2031-2034)**
 - **Phase 2 (2033-2036)**
 - **Phase 3 (2035-2037)**

7. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.

Yes. Master plan approval allows NU the ability to move forward with specific permitting for each phase.

8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.

Arborist report - tree survey; Civil - Preliminary storm water calculations

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.

None

10. List any government approvals or permits that will be needed for your proposal, if known.

Zoning permit, Traffic Impact Study, SEPA environmental checklist and individual building permits for each building.

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies may modify this form to include additional specific information on project description.)

The NU master plan includes the following:

- **Tennis Center**
- **Pavilion/Gymnasium (replace existing gym)**
- **Welcome Center (replace Pecota Hall)**
- **Residence Hall (300 beds)**
- **(2) astro turf soccer fields (replace existing fields) with lighting at the south field and a Field House**
- **Existing Chapel Additions**
- **Fitness Center**
- **Ness Academic Building (replace existing building)**
- **Clarify the FTE cap of 1,200 students to be residential students**
- **Public use of the athletic fields**
- **Increase height limits from the average building elevation for the Tennis Center to 50'-0" & Residence Hall to 60'-0"**
- **Reduce the setback buffer between the NU & the Puget Sound Adventist Academy to 10'-0".**

Site size: Approximately 55 acres

Project size: Approximately 365,069 sf of additional aggregate building area inclusive of garages

12. Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.

5520 108th Ave NE, Kirkland, WA 98033, Section: 17, Township: 25, Range: 5

B. ENVIRONMENTAL ELEMENTS [\[help\]](#)

1. Earth [\[help\]](#)

a. General description of the site:

Site gently slopes down from east to west with an overall 6% grade. Adjacent properties have a similar slope. Internally the grade gently undulates mostly due to previous improvement activities.

(circle one): Flat, **rolling**, hilly, steep slopes, mountainous, other _____

b. What is the steepest slope on the site (approximate percent slope)?

Approximately 16% between Argue/HSC building & existing tennis courts. There are steep slopes that occur on the eastern most portion of the campus between the F.I.R.S. housing units and the athletic fields with slopes between 40% and 60% with a maximum toe to top elevation of 16'. These slopes were largely artificially created during the construction of the athletic fields and appear to include engineered stabilization of the slopes. Rockeries and benching of these slopes is evident.

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils. [\[help\]](#)

The site soils are predominantly sandy loam in the eastern half of the campus and loamy sand in the western. These soils are USDA NRCS designation "alderwood" and "indianola"

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe. [\[help\]](#)

No

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill. [\[help\]](#)

There will be very little regrading of the existing site for the proposed construction. The earthwork will be predominantly related to building foundations and underground parking facilities. The majority of the soils work will be excavation for building structures and removal of surplus material off site. The actual quantities will be determined during design of each phase.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe. [\[help\]](#)

No - The construction anticipated by the 2016 Master Plan is all on portions of the Northwest University campus that are historically cleared of native vegetation, graded and finished with stable surfaces. Slopes are moderate or less, and the new construction will serve to further stabilize the site.

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)? [\[help\]](#)

h.

The Master Plan impact area is approximately 13.2 acres of the 55-acre campus. Approximately 52% of the impact area will be impervious surface after the Master Plan project construction.

i. Proposed measures to reduce or control erosion, or other impacts to the earth, if any: [\[help\]](#)

j.

All construction will be done under permits from the City of Kirkland. The City requires full construction phase erosion and sediment control for all projects through the permit process. And all projects will include site finishes that should eliminate the likelihood of post construction erosion.

2. Air [\[help\]](#)

a. What types of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known. [\[help\]](#)

- **Vehicle exhaust – worker’s commuting to site, construction machinery on site, employees & students commuting to site, on-site maintenance vehicles**
- **Dust from earthwork & construction activities**
- **Asphalt prep & construction**
- **Dust from building materials - cutting, grinding**
- **Painting**

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe. [\[help\]](#)

None

c. Proposed measures to reduce or control emissions or other impacts to air, if any: [\[help\]](#)

- **Watering and stabilizing disturbed soils**
- **Dust containment areas for cutting & grinding materials**
- **Recycling solid waste**

3. Water [\[help\]](#)

a. Surface Water:

- 1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. [\[help\]](#)

Yes. College Creek. On subject property all of the creek is in an underground pipe except 150' (adjacent to existing chapel). The creek is spring fed and receives some storm water runoff from the uplands to the east.

- 2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans. [\[help\]](#)

Yes. Approximately 480' of existing underground creek pipe will need to be relocated. Four proposed master plan buildings are within 200' of the exposed creek bed.

- 3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material. [\[help\]](#)

None

- 4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known. [\[help\]](#)

No surface water diversions.

- 5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan. [\[help\]](#)

No

- 6) Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge. [\[help\]](#)

No

b. Ground Water:

- 1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known. [\[help\]](#)

No

- 2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals. . . ; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve. [\[help\]](#)

None

c. Water runoff (including stormwater):

- 1) Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe. [\[help\]](#)

All runoff from the Master Plan impact areas is expected to be from rainfall. The Tennis Center (Phase 1) project is located in a portion of campus that naturally drains to the south and the public drainage system in NE 53nd Street. The project proposes that runoff from this area be captured and detained in a vault located under the building with flow control release to the public system in NE 53nd Street. The remainder of the impact area naturally drains through campus and a previously-constructed regional detention pond that was sized to accommodate

future development. The Master Plan includes allocation of the available detention storage for each phase of the Plan.

2) Could waste materials enter ground or surface waters? If so, generally describe. [\[help\]](#)

No ground water injection is proposed for the projects of the Master Plan, and the proposed construction does not include activities that generate waste materials.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe. [\[help\]](#)

No – the City of Kirkland drainage code requires that historic drainage patterns are maintained after projects are completed, and code-required flow control detention and Best Management Practices (BMPs) for encouraging natural retention of runoff will be implemented.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any: [\[help\]](#)

Proposed measures are expected to include flow control detention vault(s), allocation of portions of the existing regional detention pond, expansion of the pond (if required). And BMPs potentially include raingardens, permeable traffic pavement and pedestrian pavers where possible, and vegetated roof areas. Future building permits will determine.

4. Plants [\[help\]](#)

a. Check the types of vegetation found on the site: [\[help\]](#)

- ☒ deciduous tree: alder, maple, aspen, other
- ☒ evergreen tree: fir, cedar, pine, other
- ☒ shrubs
- ☒ grass
- ☐ pasture
- ☐ crop or grain
- ☐ Orchards, vineyards or other permanent crops.
- ☐ wet soil plants: cattail, buttercup, bullrush, skunk cabbage, other
- ☐ water plants: water lily, eelgrass, milfoil, other
- ☐ other types of vegetation

b. What kind and amount of vegetation will be removed or altered? [\[help\]](#)

Vegetation to be altered includes existing ornamental landscape plantings such as rhododendrons, various deciduous shrubs, ornamental perennials and lawn. Some deciduous and evergreen trees such as Douglas fir, western hemlock, western red cedar, sweetgum, ornamental maples and big leaf maple will be removed.

c. List threatened and endangered species known to be on or near the site. [\[help\]](#)

None known

- d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any: [\[help\]](#)

Proposed vegetation includes native trees, shrubs and groundcover, non-invasive drought tolerant ornamental trees, shrubs and groundcover, as well as Rain garden/biofilter adapted native and ornamental Trees, shrubs, perennials, grasses and groundcover. Some lawn areas disturbed by construction will be replaced with new lawn areas, with a net overall reduction in the amount of lawn. Large trees removed will be replaced per the requirements of the City of Kirkland's Tree Ordinance.

- e. List all noxious weeds and invasive species known to be on or near the site. [\[help\]](#)
Small patches of English ivy and Himalayan blackberry are occasionally found on site in isolated areas

5. Animals [\[help\]](#)

- a. List any birds and other animals which have been observed on or near the site or are known to be on or near the site. [\[help\]](#)

Songbirds, squirrels

Examples include:

birds: hawk, heron, eagle, songbirds, other:

mammals: deer, bear, elk, beaver, other:

fish: bass, salmon, trout, herring, shellfish, other _____

- b. List any threatened and endangered species known to be on or near the site. [\[help\]](#)

None known

- c. Is the site part of a migration route? If so, explain. [\[help\]](#)

No

- d. Proposed measures to preserve or enhance wildlife, if any: [\[help\]](#)

Engineered storm water & water quality facilities to protect off site water courses; Rain garden/biofilter areas to infiltrate runoff will include native plants, other landscape will include native plants. Proposed landscaping will consist largely of native plantings to enhance existing wildlife habitat.

- e. List any invasive animal species known to be on or near the site. [\[help\]](#)

None known

6. Energy and Natural Resources [\[help\]](#)

- a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc. [\[help\]](#)

Electric, natural gas for heating/cooling, lighting, equipment, systems; Potential use of solar power

- b. Would your project affect the potential use of solar energy by adjacent properties?

If so, generally describe. [\[help\]](#)

No

- c. What kinds of energy conservation features are included in the plans of this proposal?

List other proposed measures to reduce or control energy impacts, if any: [\[help\]](#)

Future development actions will clarify features for each proposed phase; Potential features include - Solar panels, Green roofs, heat recovery systems, variable control systems, lighting sensors, ground source geothermal

7. Environmental Health [\[help\]](#)

- a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal?

If so, describe. [\[help\]](#)

Existing Pavilion/Gymnasium has asbestos. Asbestos removal will occur with the proposed replacement of this building.

- 1) Describe any known or possible contamination at the site from present or past uses.

[\[help\]](#)

Asbestos in the existing Pavilion/Gymnasium and in Gray/Beatty residence hall; an underground gas tank is located under one of the NU maintenance buildings

- 2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity. [\[help\]](#)

Removal of asbestos from existing Pavilion/Gymnasium required

- 3) Describe any toxic or hazardous chemicals that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project. [\[help\]](#)

None

- 4) Describe special emergency services that might be required. [\[help\]](#) **None**

- 5) Proposed measures to reduce or control environmental health hazards, if any: [\[help\]](#)

Implement standard asbestos abatement procedures when demolishing the existing Pavilion/Gymnasium.

- b. Noise [\[help\]](#)

- 1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)? [\[help\]](#)

Traffic Noise from I-405. Mild to moderate noise from nearby schools.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site. [\[help\]](#)

Construction: vehicles, equipment - weekdays during normal business hours
Operation: vehicles - primarily during the day weekdays & weekends; athletic fields – weekday afternoons/evenings, weekends day/evenings (until 9:30pm); building mechanical systems - throughout the day

3) Proposed measures to reduce or control noise impacts, if any: [\[help\]](#)

Construction: anticipate site access at one area - future development actions will clarify
Operation: vehicles - none; athletic fields - limit use to predetermined times, maintain landscape buffers; building mechanical systems - locate away from adjacent properties, protect with sound barriers

8. Land and Shoreline Use [\[help\]](#)

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe. [\[help\]](#)

Site: University campus

Adjacent properties to the: North & East - single family residential, South & West - single family residential & schools

Affects to adjacent properties: athletic fields - increased use produces more activity & noise, field lighting extends use into evening hours; proposed buildings - changes visual quality of campus edge, buildings instead of parking lot and trees

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use? [\[help\]](#)

No

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how: [\[help\]](#)

No

c. Describe any structures on the site. [\[help\]](#)

(30) buildings on site: (8) administration, (16) housing, (6) academic

d. Will any structures be demolished? If so, what? [\[help\]](#)

Existing gymnasium/pavilion, Existing student center (Pecota)

e. What is the current zoning classification of the site? [\[help\]](#) **PLA-1**

f. What is the current comprehensive plan designation of the site? [\[help\]](#)

Institutions

g. If applicable, what is the current shoreline master program designation of the site? [\[help\]](#)

N/A

h. Has any part of the site been classified as a critical area by the city or county? If so, specify. [\[help\]](#)

Yes. Where College Creek is day-lighted near the chapel and it's associated buffers. Also some steep slope landslide hazards are mapped on the property but are likely the result of previous grading and development associated with the athletic fields.

i. Approximately how many people would reside or work in the completed project? [\[help\]](#)

Students (residents + commuters):

- Existing: 1,166
- Additional estimated at project completion: 834

On campus residents:

- Existing student capacity: 706
- Existing staff & faculty capacity: 24
- Additional student capacity at project completion: 300

Faculty, Adjunct Faculty, Staff, Administration, Maintenance:

- Existing: 365
- Additional estimated at project completion: 85

j. Approximately how many people would the completed project displace? [\[help\]](#)

None

k. Proposed measures to avoid or reduce displacement impacts, if any: [\[help\]](#)

None

l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any: [\[help\]](#)

None. Proposal expands existing university uses.

m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any: [\[help\]](#)

None

9. Housing [\[help\]](#)

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing. [\[help\]](#)

172 units with a total of 300 beds - student residence halls

- b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing. [\[help\]](#)

None

- c. Proposed measures to reduce or control housing impacts, if any: [\[help\]](#)

None

10. Aesthetics [\[help\]](#)

- a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed? [\[help\]](#)

60'-0" above average building elevation; Cement board siding

- b. What views in the immediate vicinity would be altered or obstructed? [\[help\]](#)

Proposed tennis center along NE 53rd St will replace existing mature trees potentially opening up distant views for some neighbors

- c. Proposed measures to reduce or control aesthetic impacts, if any: [\[help\]](#)

Landscape: proposed earth berm & plantings between NE 53rd St. & tennis center to reduce perceived building height & bulk; new plantings around all buildings and plazas to maintain a park-like setting

Architectural character: Northwest wooded in nature consistent with park-like setting

Building materials: Facades modulated with different materials, patterns & bays to reduce scale

11. Light and Glare [\[help\]](#)

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur? [\[help\]](#)

Exterior security lighting for buildings, plazas, walkways: nighttime

Athletic field lighting: during evening hours up to 9:30pm

Interior building lighting through windows: during evening hours

- b. Could light or glare from the finished project be a safety hazard or interfere with views? [\[help\]](#)

No

- c. What existing off-site sources of light or glare may affect your proposal? [\[help\]](#)

None

- d. Proposed measures to reduce or control light and glare impacts, if any: [\[help\]](#)

Athletic field lighting: use LED fixtures and light shields to reduce/eliminate light spill over on adjacent properties & light pollution

Exterior building lighting: landscape around new facilities, provide light shields to reduce/eliminate light spill over & light pollution

12. **Recreation** [\[help\]](#)

- a. What designated and informal recreational opportunities are in the immediate vicinity? [\[help\]](#)

South: School play fields, park

- b. Would the proposed project displace any existing recreational uses? If so, describe. [\[help\]](#)

No

- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any: [\[help\]](#)

**Propose to open existing athletic fields to public use - expand recreation opportunities
Propose plazas & new walks for pedestrian use - campus walks**

13. **Historic and cultural preservation** [\[help\]](#)

- a. Are there any buildings, structures, or sites, located on or near the site that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe. [\[help\]](#)

Greeley Center, 1962, noted on WISARRD, State Historic Preservation Office determined not eligible

- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources. [\[help\]](#)

None

- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archeology and historic preservation, archaeological surveys, historic maps, GIS data, etc. [\[help\]](#)

Consulted Dept. of Archeology & Historic preservation's WISAARD data base

- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required. [\[help\]](#)

None

14. **Transportation** [\[help\]](#)

- a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any. [\[help\]](#)

The Northwest University campus is located north of NE 53rd Street and east of 108th Avenue NE. Vehicular access to the campus would be maintained at the existing locations including 2 driveways along 108th Avenue NE and 5 driveways along NE 53rd Street. The access along NE 53rd Street at 111th Avenue NE would be realigned to the east to accommodate the proposed tennis center. See additional detail in the attached

Transportation Impact Analysis (TIA) Northwest University Master Plan Kirkland Campus, June 2016 (herein referred to as Transportation Study).

- b. Is the site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop? [\[help\]](#)

The nearest bus stop to the campus is located along 108th Avenue NE approximately 250 feet north of the main driveway at NE 55th Lane. This bus stop serves King County Metro Route 255 and Sound Transit Route 540. An additional bus stop is provided along 108th Avenue NE at NE 53rd Street is served only by Route 255. See additional detail in the Transportation Study.

- c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate? [\[help\]](#)

The master plan would construct between 370 and 470 additional parking spaces and eliminate approximately 120 parking spaces. The net increase in campus parking would be between 250 and 350 parking spaces. Specific, parking supply would be determined during the building permit phase of the Master Plan and would take into consideration projected parking demand based on enrollment and the specific building uses. See Transportation Study.

- d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private). [\[help\]](#)

Frontage improvements required along NE 53rd St. from 111th Way NE to the Seventh Day Adventist school consist of sidewalk, street trees and planting strip; During master plan build out a traffic light will be required at NE 53rd St. & 108th Ave NE (see Transportation Study)

- e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe. [\[help\]](#)

No

- f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and nonpassenger vehicles). What data or transportation models were used to make these estimates? [\[help\]](#)

Build-out of the Master Plan would generate 3,820 net new daily trips to and from the campus. The peak volumes to and from the campus are expected to occur during the weekday PM peak hour with the Master Plan resulting in approximately 460 net new PM peak hour trips. Truck traffic during the peak period is anticipated to be limited. Trip generation estimates were calculated using traffic counts at the existing campus driveways. See additional detail in the Transportation Study.

- g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, generally describe. [\[help\]](#)

No

h. Proposed measures to reduce or control transportation impacts, if any: [\[help\]](#)

The potential mitigation measures include:

- Intersection Improvements
- Traffic Calming
- Parking / Internal Campus Connectivity
- Event Management

Additional detail is provided in the Transportation Study. In addition, the University would be responsible for payment of City of Kirkland transportation impact fees to mitigate general transportation-related impacts of the Master Plan.

15. Public Services [\[help\]](#)

a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe. [\[help\]](#)

Yes. Fire & police protection, energy & utilities due to increased campus populations and building gross square footage

b. Proposed measures to reduce or control direct impacts on public services, if any. [\[help\]](#)

Expand existing on-site security; Potential use of sustainable energy sources, e.g. solar, green roofs; Potential impact fees

16. Utilities [\[help\]](#)

a. Circle utilities currently available at the site: [\[help\]](#)
electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other _____

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed. [\[help\]](#)

Sewer: City of Kirkland - Relocate sewer main under NE 55th Lane (on campus)

Water: City of Kirkland - Relocate water main under NE 111th Way (on campus); Extend new water main under NE 55th Lane (on campus)

Communications: Electric Lighwave - underground existing overhead lines along the frontage of NE 53rd St from SDA school to 111th Lane NE and on campus

Electricity: Puget Sound Energy - underground existing overhead lines along the frontage of NE 53rd St from SDA school to 111th Lane NE and on campus

Storm water: City of Kirkland – Relocate storm line to NE 55th Lane (on campus); Connect to NE 53rd St. main (Tennis Center); New storm line & vault at Athletic fields (on campus)

Natural Gas: Puget Sound Energy – existing service to continue

Refuse & Recycling: Waste Management - existing service to continue

C. Signature [\[help\]](#)

The above answers are true and complete to the best of my knowledge. I understand that the lead agency is relying on them to make its decision.

Signature: _____



Name of signee Eric L. Drivdahl

Position and Agency/Organization Principal, Gelotte Hommas Architecture

Date Submitted: July 11, 2016

Final Transportation Impact Analysis

NORTHWEST UNIVERSITY MASTER PLAN

KIRKLAND MAIN CAMPUS

Prepared for:
Northwest University

June 14, 2017

Prepared by:



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Executive Summary

The transportation analysis scope and study area were identified through coordination with City of Kirkland, input received through multiple public open houses, and public comments on the draft Transportation Impact Analysis (June 2016). In addition to the standard elements of the study required by the City of the Kirkland, the key issues identified through a review of the public comments:

Access to and from NE 53rd Street and potential impacts to neighboring residential uses. Project-related impacts at the 108th Avenue NE/NE 53rd Street intersection could be mitigated by installing a traffic signal. With installation of a traffic signal, this intersection would operate at LOS C or better under 2022 conditions and LOS D or better during 2037 conditions. Vehicle queues along the NE 53rd Street approach of the intersection would be accommodated within the existing 200-feet of turn lane storage. The analysis was conducted evaluating the impacts associated with a shift of 100 percent of the traffic destined to the south from the main campus access on 108th Avenue NE to the NE 53rd Street signalized intersection. This analysis shows that even with a shift in traffic to the new signalized intersection the 108th Avenue NE/NE 53rd Street intersection would operate at LOS D or better and queues would be less than 200-feet. Provision of a signal at this location would likely deter some neighborhood cut-through activity since traffic to and from NE 53rd Street would have less delay.

The new signalized intersection would provide a signalized crossing for pedestrians and would reduce conflicts and facilitate pedestrian activity to and from the schools and transit stops near the 108th Avenue NE/NE 53rd Street intersection. In addition, signalizing the 108th Avenue NE/NE 53rd Street intersection would improve access to and from the neighborhood south of the campus.

Street parking around the exterior of the campus. Data collection for on-street parking within the neighborhood indicates that when school is in session limited campus-related parking is occurring within the neighborhood. It is noted that on weekends campus-related on-street parking is occurring more frequently with services at the Chapel. An event management plan has been identified as mitigation for the Master Plan. Examples of potential measures to minimize on-street parking include:

- Posting of no parking signage along NE 53rd Street during events and visually monitoring neighborhood parking
- Provide a field manager to coordinate public use of the fields and events including parking associated with these activities
- Provision for parking monitors or a flagger to direct visitors to parking lots

Review of public comments on the draft TIA and incorporation of additional information, as appropriate. All public comments have been reviewed and where appropriate additional information has been included in this updated Transportation Impact Analysis.

This section provides an executive summary of the Transportation Impact Analysis through a set of frequently asked questions (FAQs).

Where is the project located and what would be developed?

The focus of the Master Plan is the Northwest University main campus located at 5520 108th Avenue NE in Kirkland, Washington. Key elements of the proposed Master Plan include the addition of 4 new buildings, replacement of 3 existing buildings and associated improvements, addition of parking, and public use of the sports fields. Four of the Master

Plan elements would address athletic program needs including replacement of the gymnasium, new field house, new tennis center, and new fitness center.

The Campus Master Plan is anticipated to be implemented over a 20-year period between 2017 and 2037. Based on information provided by the University, over the next 6-years or by 2022, an increase of approximately 370 students is projected for the Kirkland campus¹ resulting in a total campus population of 1,600 students. In 20-years (2037), the campus student population is anticipated to increase by approximately 770 students for a total of approximately 2,000 students. The growth in student population reflects both on-campus residents and commuters.

What existing public streets will serve the project and where is access proposed?

The Northwest University campus is located north of NE 53rd Street and east of 108th Avenue NE. Two driveways including the main driveway are located along 108th Avenue NE and 5 driveways are located along NE 53rd Street. The Master Plan would not change the number of access points to the Campus.

Is the site currently served by public transit?

Transit service in the study area is provided by King County Metro Transit and Sound Transit. The nearest bus stop to the campus is located along 108th Avenue NE approximately 250 feet north of the main driveway at NE 55th Lane. This bus stop is served by routes 255 and 540. An additional bus stop is provided at the NE 53rd Street intersection with 108th Avenue NE, but only serves route 255.

How many new parking spaces are proposed and how many existing spaces would be eliminated?

The master plan would construct 300 additional parking spaces and eliminate 122 parking spaces. The net increase in campus parking would be 178 parking spaces.

The existing parking supply could accommodate the anticipated future peak parking demand with the Master Plan. With build-out of the Master Plan, parking utilization for the campus would be approximately 90 percent if no new parking was constructed or 73 percent with an additional 178 parking spaces. Provision of parking with the Master Plan would help distribute the location of parking spaces within the campus as well as provide more conveniently located parking for the proposed uses to help minimize off-campus parking.

How many daily vehicular trips would the project generate and when would peak traffic volumes occur?

Build-out of the Master Plan would generate 3,820 net new daily trips to and from the campus. The peak volumes to and from the campus are expected to occur during the weekday PM peak hour with the Master Plan resulting in approximately 460 net new PM peak hour trips.

What Transportation impacts are anticipated, if any?

Intersection impacts are identified at the following locations:

- 116th Avenue NE / NE 70th Place
- 108th Avenue NE / NE 68th Street
- 108th Avenue NE / NE 60th Street
- 108th Avenue NE / NE 53rd Street

¹ The campus student population reflects the total headcount of students who attend classes on the Kirkland campus. It does not include online students or students attending Northwest University at other campus locations.

In addition, the Master Plan could result in neighborhood impacts such as:

- Potential increase in conflicts at 108th Avenue NE/NE 53rd street intersection
- Potential increase in neighborhood cut-through traffic
- Potential for on-street parking within the neighborhood

What measures are proposed to reduce or control traffic impacts?

With each building permit, a traffic review would be conducted and an assessment of potential neighborhood impacts would be included. Potential mitigation measures that may be required at the time of building permit include:

- Intersection Improvements
- Traffic Calming
- Parking / Internal Campus Connectivity
- Event Management

In addition, the University would be responsible for payment of City of Kirkland transportation impact fees to mitigate general transportation related impacts of the Master Plan as well as preparation of a Construction Management Plan.

Intersection Improvements

Intersection improvements could include contribution towards improvements identified as part of the 6th Street Corridor Study and installation of a traffic signal at the 108th Avenue NE/NE 53rd Street intersection. It is anticipated that a traffic signal would be warranted at the 108th Avenue NE/NE 53rd Street intersection with the first phase of the Master Plan, which would require construction of the traffic signal prior to occupancy of the first building.

Traffic Calming

The proposed traffic signal would help reduce neighborhood cut-through traffic by providing better access via NE 53rd Street. In addition, the University could also contribute a proportional share to traffic calming improvements along NE 53rd Street as well as within the neighborhood. Depending on the traffic calming measures that are implemented such as speed humps, speed cushions, curb extension, speed radar or other measures, vehicle speeds are likely to be reduced. Determination of the traffic calming measures to be implemented would follow the City's Neighborhood Traffic Control Program (NTCP) process, which has a defined two-phase approach including outreach, data collection, and evaluation of measures.

Parking/Internal Campus Connectivity

Potential parking impacts to the neighborhood could be mitigated by:

- Providing additional internal pedestrian connections from parking lots to buildings and campus facilities.
- Assigning campus population to specific parking lots to reduce potential parking in the neighborhood or moving vehicles between classes.
- Increasing parking permit costs to deter student driving and potentially increase use of non-motorized and transit modes. This could be coupled with providing a subsidy for transit passes as part of the tuition cost to reduce the potential for students to park within the neighborhood. Adjustment of parking costs would need to be monitored for potential impacts to off-site parking in the neighborhood and may need to be coupled with off-site parking management strategies. In addition, the City has a Neighborhood Traffic Control Program that can be

utilized by the neighbors if parking issues occur and are not being addressed through the NU management strategies. Through this program the City would monitor and investigate the parking issues and work with the community to implement time limits, parking restrictions, or other strategies to reduce the neighborhood parking impacts.

Event Management

Lastly, an event management plan could be implemented to reduce on-campus congestion, excess vehicle circulation by drivers unfamiliar with the campus and the potential for parking within the neighborhood. Potential measures include:

- Management event schedules to minimize concurrent high activity events at multiple venues on-campus
- Assignment of specific event/visitor parking lots
- On-campus wayfinding signage directing drivers to specific parking areas (this is already done by the University during events)
- Active enforcement of any permanent and/or temporary parking restrictions
- Posting of no parking signage along NE 53rd Street during events and monitoring neighborhood parking
- Provision of parking monitors to direct visitors to parking lots

Introduction

The purpose of this transportation impact analysis (TIA) is to identify potential transportation-related impacts to the surrounding roadway network associated with the proposed Northwest University Master Plan. Mitigation measures are identified that would offset or reduce State Environmental Policy Action (SEPA) impacts where required based on City of Kirkland standards.

Northwest University is a regionally accredited, Christian institution awarding associate, bachelor's, master's, and doctoral degrees. The main campus is located in Kirkland's Central Houghton neighborhood with satellite campuses in Kirkland north of the main campus, in Sacramento, California, and Salem, Oregon. In addition, the University offers online programs.

Northwest University also has an extensive sports program. The University is a member of the Cascade Collegiate Conference and the National Association of Intercollegiate Athletics (NAIA). The athletics program currently includes soccer, volleyball, basketball, softball, cross country, and track & field. Many of the existing athletic facilities are in need of upgrades including the gymnasium, which are addressed through the master plan elements.

The focus of the master plan is the Northwest University main campus located at 5520 108th Avenue NE. The main campus offers undergraduate, graduate, and adult evening classes. The current enrollment is approximately 1,230 students with about 900 undergraduates and 300 graduate/adult evening class students. There are approximately 680 students living on-campus. The remaining students commute to campus. Classes are held throughout the day; however, evening classes begin at 6:00 p.m. resulting in student arriving to campus during the weekday evening commute period. Figure 1 illustrates the location of the campus and its surrounding vicinity. Figure 2 shows the existing campus buildings and parking. As noted above, due to the graduate class schedules and evening classes, not all students attend the campus on a daily basis.

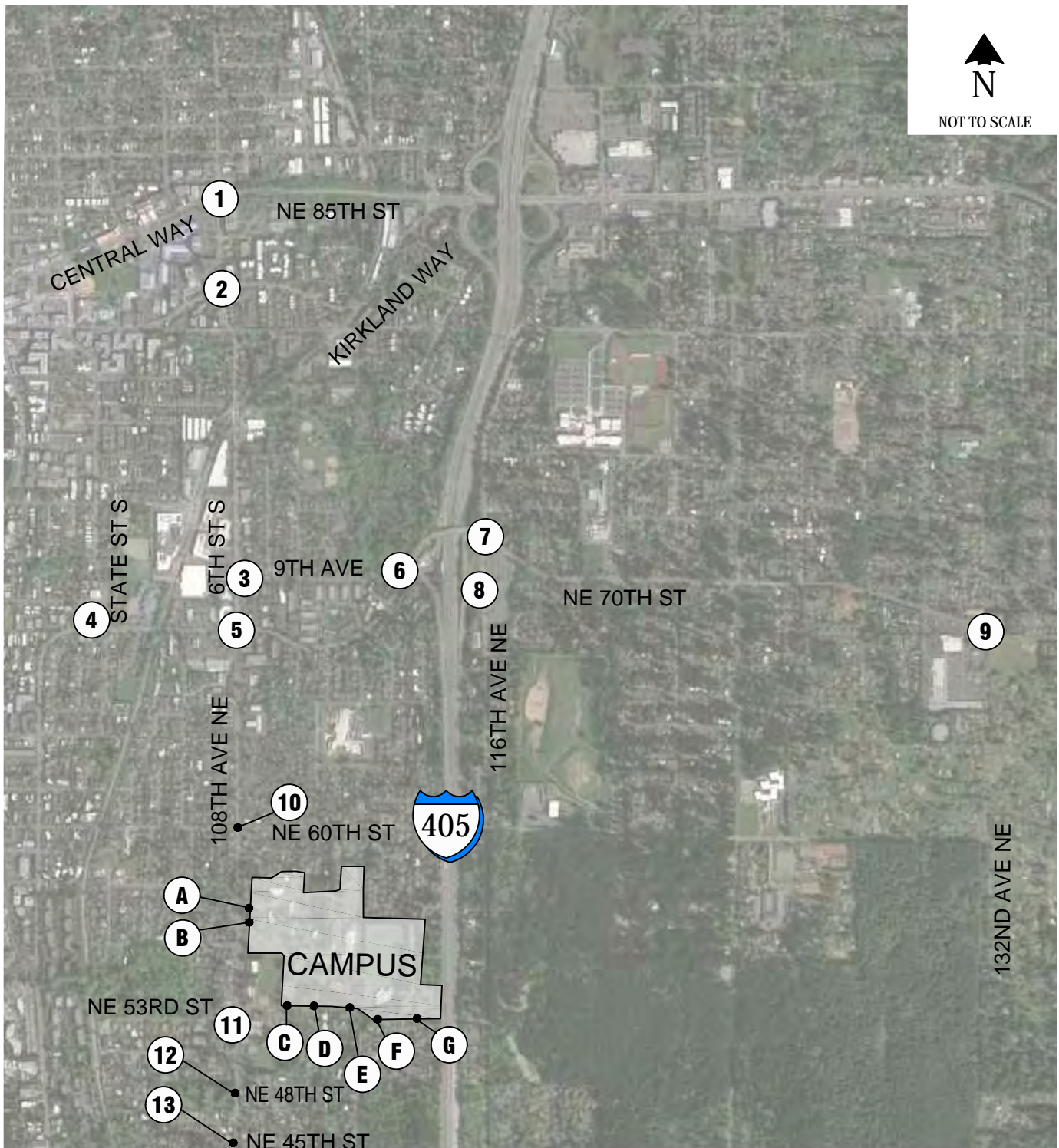
Proposed Master Plan Elements

Key elements of the proposed Master Plan include the addition of 4 new buildings, replacement of 3 existing buildings and associated improvements, addition of parking, and public use of the sports fields. Four of the Master Plan elements would address athletic program needs including replacement of the gymnasium, new field house, new tennis center, and new fitness center.

The Campus Master Plan is anticipated to be implemented over a 20-year period between 2017 and 2037. Based on information provided by the University and assuming growth continues to occur consistent with the current campus trends, over the next 6-years or by 2022, an increase of approximately 370 students is projected for the Kirkland campus² resulting in a total campus enrollment of 1,600 students. In 20-years (2037), the campus student population is anticipated to increase by approximately 770 students for a total of approximately 2,000 students. This growth in student population reflects both on-campus residents and commuters. There are currently 237 full-time equivalent faculty/staff for the campus including online adjunct professors. Campus employees are anticipated to increase proportional to the future student population.

The completion of individual projects within the Master Plan would ultimately depend on funding. Table 1 provides a summary of the existing and proposed buildings as well as parking and approximate timing of development.

² The campus student population reflects the total headcount of students who attend classes on the Kirkland campus. It does not include online students or students attending Northwest University at other campus locations.



Site Vicinity and Study Intersections




Northwest University Master Plan

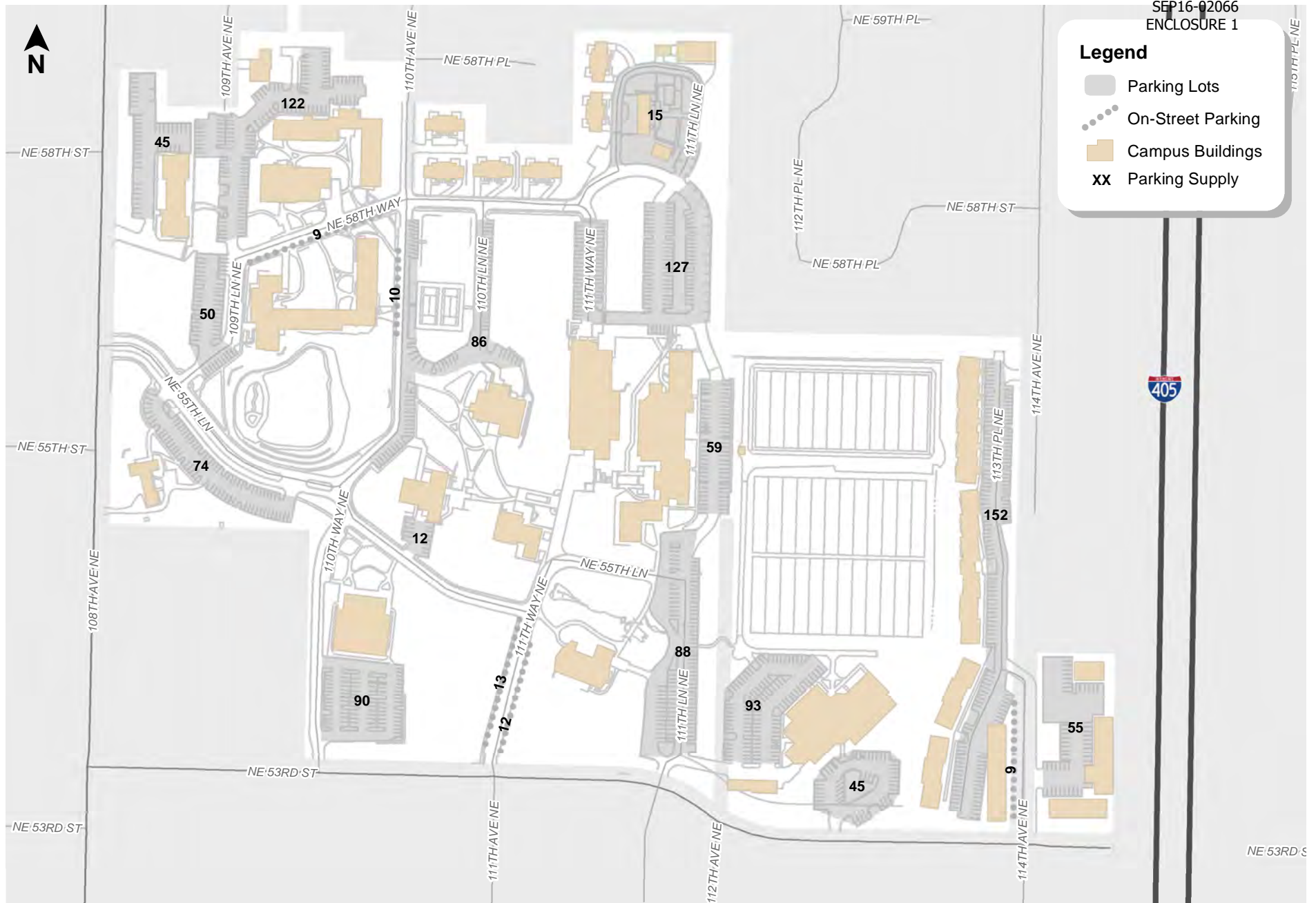
FIGURE

1

39

Legend

-  Parking Lots
-  On-Street Parking
-  Campus Buildings
- xx** Parking Supply



Existing Campus Buildings and Parking

Northwest University Master Plan

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transpogroup 

FIGURE
2

Table 1. Northwest University Master Plan Summary of Existing and Proposed Development

| Building Name | Building (GSF) ¹ | | | Residential Beds | | | Parking (stalls) | | | Estimated Timing ³ |
|------------------------------|-----------------------------|-----------------------|----------------|------------------|-------------|--------------|------------------|-------------|--------------|-------------------------------|
| | Existing | Addition ² | Total | Ex. | Add. | Total | Ex. | Add. | Total | |
| Davis | 16,800 | | 16,800 | | | | 45 | | 45 | |
| Gray/Beatty | 44,400 | | 44,400 | 210 | | 210 | | | | |
| Cafeteria (Dining Hall) | 11,500 | | 11,500 | | | | 188 | | 188 | |
| Crowder, Guy, Perks | 68,400 | | 68,400 | 314 | | 314 | | | | |
| Greely Center | 2,930 | | 2,930 | | | | 74 | | 74 | |
| Family Res. Duplexes | 28,077 | | 28,077 | 14 ⁶ | | 14 | 28 | | 28 | |
| FIRS Apartments | 87,869 | | 87,869 | 78 ⁶ | | 78 | 135 | | 135 | |
| Student Apartments | 24,960 | | 24,960 | 140 | | 140 | 55 | | 55 | |
| Library | 28,200 | | 28,200 | | | | 66 | | 66 | |
| Ness Academic Center | 33,400 | -33,400 | 0 | | | | 59 | | 59 | 2031 to 2037 |
| Pecota Center | 7,400 | -7,400 | 0 | | | | 32 | -32 | 0 | 2019 to 2022 |
| Millard Hall | 15,000 | | 15,000 | | | | 26 | | 26 | |
| Pavilion | 23,460 | -23,460 | 0 | | | | 90 | -90 | 0 | 2021 to 2024 |
| Chapel | 14,334 | +3,000 | 17,334 | | | | 88 | | 88 | 2019 to 2020 |
| Green House | 927 | | 927 | | | | 0 | | 0 | |
| Maintenance / Shop Buildings | 10,639 | | 10,639 | | | | 15 | | 15 | |
| Barton Admin. | 34,704 | | 34,704 | | | | 138 | | 138 | |
| Argue HSC | 45,436 | | 45,436 | | | | 127 | | 127 | |
| Ness Replacement | | +70,910 | 70,910 | | | | | | 0 | 2031 to 2037 |
| Welcome Center | | +43,320 | 43,320 | | | | | +70 | 70 | 2021 to 2024 |
| Pavilion/ Gymnasium | | +37,950 | 37,950 | | | | | +95 | 95 | 2019 to 2022 |
| Residence Hall ⁴ | | +85,060 | 85,060 | | +300 | 300 | | | 0 | 2021 to 2024 |
| Tennis Center | | +63,660 | 63,660 | | | | | +79 | 79 | 2017 to 2020 |
| Fitness Center | | +21,390 | 21,390 | | | | | +56 | 56 | 2029 to 2032 |
| Field House | | +3,500 | 3,500 | | | | | | 0 | 2022 to 2024 |
| Total⁵ | 498,436 | +264,530 | 762,966 | 756 | +300 | 1,056 | 1,166 | +178 | 1,344 | |

Notes: gsf = gross square-feet; Ex. = existing Add. = addition

1. Gross floor areas shown only include useable building area not parking facilities.

2. Additional gsf associated with the proposed Master Plan.

3. The completion of individual projects within the Master Plan would ultimately depend on funding. The approximate timing of the phase was used to estimate trip generation and assignment associated with the 2022 and 2037 horizon years for analysis.

4. New residence hall would include approximately 172 dorm rooms with about 300 beds.

5. The total square-footage is for proposed buildings and excludes proposed parking structures.

6. The Family Resident Duplexes and FIRS Apartments currently house faculty and staff.

As shown in Table 1, the Campus Master Plan proposes a net increase of approximately 260,530 square feet of development³. The new residence hall would include 172 rooms with approximately 300 beds. The existing Family Resident Duplexes and FIRS Apartments currently house faculty and staff and the remaining facilities house students. It is anticipated that the new residence hall would house students.

The Welcome Center would accommodate banquet facilities for up to 500 guests and the gymnasium would have seating for up to 900 people. The banquet facilities would only be available during off-peak hours. The gymnasium is being designed to maximum seating capacity; however, it is not anticipated with the new gymnasium that attendance at typical campus sporting events would increase to this level. The current gymnasium has a maximum seating capacity of approximately 300, which are typically only filled during men's basketballs. These basketball games typically occur on Friday and Saturday evenings starting at 6 or 8 p.m. With additional seats, there could be some increase in attendance at the men's basketballs games, but it is not anticipated to be near 900-persons. The increase in attendance at men's basketballs games would occur outside the weekday commuter periods and would mainly be a result of increased NU student population. The increased seating in the gymnasium will provide the ability for the University to hold occasional student assemblies on-campus; there is no existing facility on-campus that has the capacity to accommodate campus-wide student assemblies. The expansion of the gymnasium is not anticipated to increase tournament or playoff activity for the campus. It is anticipated that large attendance levels where up to 900 seats are utilized would occur at most 15 times per year to accommodate events such as baccalaureate services and convocations. Management of parking and traffic for these events would be addressed through the special event management plan discussed in a subsequent section of this report.

The campus currently has 1,166 parking spaces and parking would be increased by 178 new stalls with buildout of the Master Plan. Most of the proposed parking would be located under new buildings including the tennis center, gymnasium (Pavilion), and Welcome Center. The actual amount of parking developed would be determined in conjunction with construction permitting for individual phases so that the additional parking supply that is constructed takes into consideration any refinements to the project description and any changes to parking needs that may occur over time.

Vehicular access to the campus would be maintained at the existing locations and no new access points are proposed. The 111th Avenue NE access would be realigned to the east to accommodate the proposed tennis center. A campus site plan showing the existing and proposed elements of the Master Plan are included on Figure 3.

Study Area and Scope

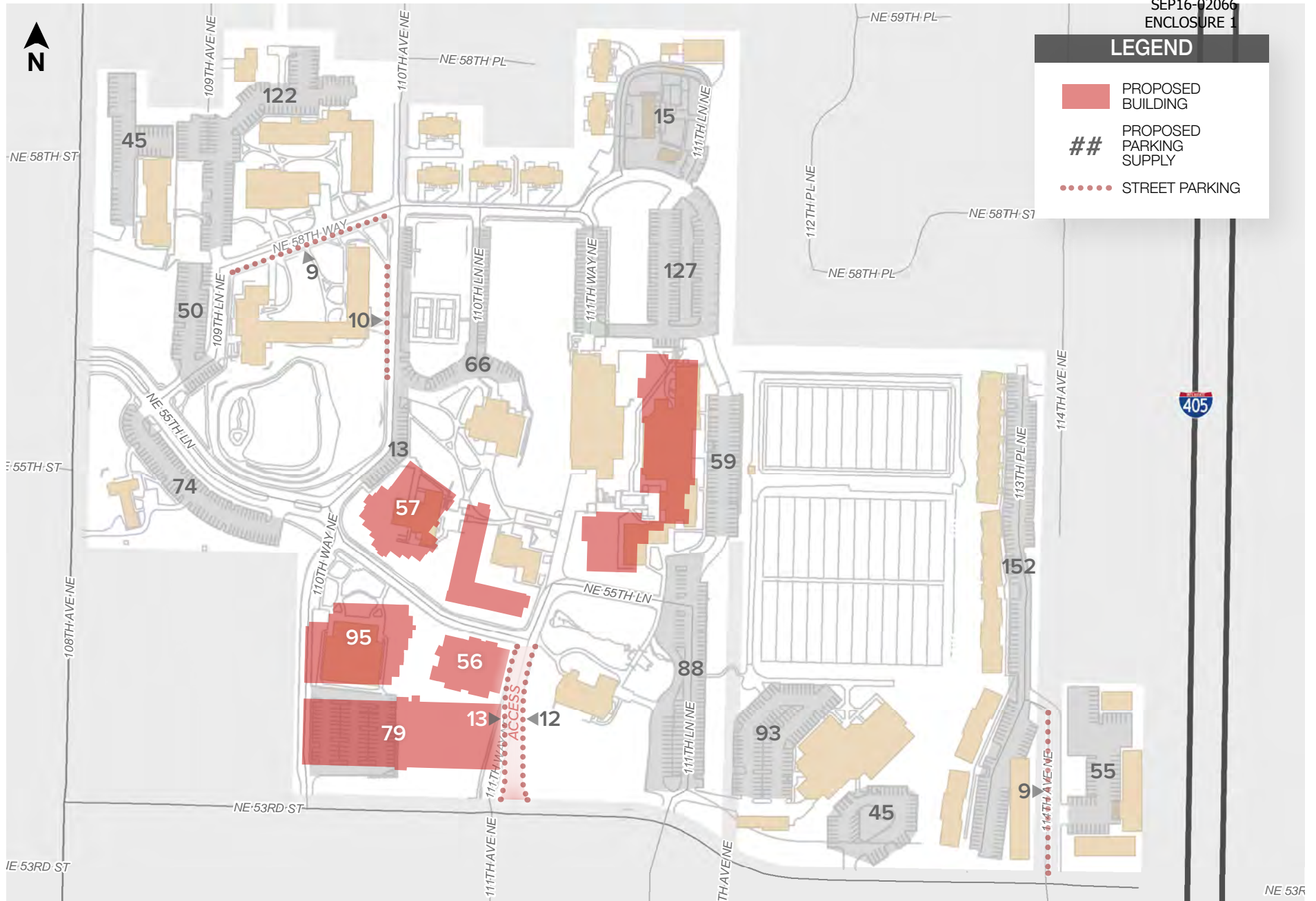
The transportation analysis scope and study area were identified through coordination with City of Kirkland, input received through multiple public open houses and public comments on the draft (June 2016) Transportation Impact Analysis as well as City review criteria. The transportation elements evaluated include:

- Street System
- Traffic Volumes
- Traffic Operations
- Site Access and Neighborhood Context
- Parking
- Traffic Safety
- Non-motorized facilities
- Transit service

³ This square-footage is for buildings only and does not include parking structures. The proposed gross square-footage of development including parking structures is 364,910 square-feet.

In addition to the items noted above, the TIA addresses the following City staff comments:

- Access to and from NE 53rd Street and potential impacts to neighboring residential uses
- Street parking around the exterior of the campus
- Review of public comments on the draft TIA and incorporation of additional information, as appropriate



FIGURE

The study follows the City's *Transportation Impact Analysis Guidelines* (August 2014). The study intersections are those that meet the City's minimum intersection proportional share impact criteria or were identified by City staff or through public comments. Appendix A contains the intersection proportional share calculation worksheets. The off-site study intersections include:

1. 6th Street S / Central Way
2. 6th Street S / Kirkland Way
3. 6th Street S / 9th Avenue S
4. State Street S / NE 68th Street
5. 108th Avenue NE / NE 68th Street
6. I-405 Ramps / NE 70th Street
7. 116th Avenue NE / NE 70th Place
8. 116th Avenue NE / I-405 Ramps
9. 132nd Avenue NE / NE 70th Place / Old Redmond Road
10. 108th Avenue NE / NE 60th Street
11. 108th Avenue NE / NE 53rd Street
12. 108th Avenue NE / NE 48th Street
13. 108th Avenue NE / NE 45th Street

In addition, the 7 NU site access driveways were studied including:

- A. 108th Avenue NE / Davis Driveway
- B. 108th Avenue NE / NE 55th Lane (Main Driveway)
- C. 110th Way / NE 53rd Street
- D. 111th Avenue NE / NE 53rd Street
- E. 111th Lane NE / NE 53rd Street
- F. Barton Driveway / NE 53rd Street
- G. 114th Avenue NE / NE 53rd Street

A review of daily traffic volumes along 108th Avenue NE shows that the highest traffic levels are during the weekday PM peak hour. The weekday midday peak hour traffic volumes along this corridor are approximately 35 to 50 percent less than weekday PM peak hour volumes. In addition, weekend peak hour traffic volumes along 108th Avenue NE are approximately 60 percent less than weekday PM peak hour traffic volumes. Consistent with the City TIA guidelines, the transportation analysis focuses on the weekday AM and PM peak commute periods (7:00 a.m. to 9:00 a.m. and 4:00 to 6:00 p.m.). These periods represent the highest cumulative total traffic for the adjacent street system providing a conservative timeframe for level of service (LOS) analysis.

The analysis summarized in the following sections describes existing (2016) conditions within the project vicinity, forecast future without-project conditions, and future with-project conditions. Future conditions were analyzed for a 2022 horizon year consistent with the City of Kirkland's six-year transportation concurrency horizon and 2037 conditions consistent with the anticipated buildout of the Master Plan. Forecast impacts are identified by comparing without-project impacts (i.e., assuming that student enrollment will remain equal to existing

conditions) to with the master plan impacts with increased campus enrollment and completion of the proposed tennis center and public use of the campus sports fields. The fitness center would serve NU students only and no public use is assumed in this analysis.

Based on additional feedback from the City and community members, a neighborhood focused transportation evaluation was also conducted. The analysis focused on campus-related cut-through traffic north and south of the University and the transportation context and impacts to NE 53rd Street adjacent to the campus.

Existing Conditions

This section describes existing conditions within the identified study area. Characteristics are provided for the street system, traffic volumes, traffic operations, site access and surrounding neighborhood, parking, traffic safety, non-motorized facilities, and transit.

Street System

The Northwest University campus is located north of NE 53rd Street and east of 108th Avenue NE. Table 2 summarizes the characteristics of the major streets in the vicinity of the campus. As shown on Figure 1 and in Table 2, the site is surrounded by neighborhood collectors with sidewalks and bicycle facilities provided in the immediate vicinity of the campus.

Table 2. Study Area Existing Street System Summary

| Roadway | Arterial Classification ¹ | Posted Speed Limit | Number of Travel Lanes | Parking | Sidewalks | Bicycle Facilities |
|-----------------|--------------------------------------|--------------------|------------------------|---------|-----------|--------------------|
| I-405 | Urban Interstate | 60 mph | 10 lanes ² | No | No | No |
| NE 68th Street | Secondary Arterial | 30 mph | 2 to 3 lanes | No | Yes | Yes |
| 132nd Avenue NE | Secondary Arterial | 30 mph | 2 to 3 lanes | No | Yes | Yes |
| 116th Avenue NE | Collector Arterial | 35 mph | 2 to 4 lanes | No | Yes | Yes |
| State Street S | Collector Arterial | 30 mph | 2 lanes | Yes | Yes | Yes |
| 108th Avenue NE | Neighborhood Collector | 30 mph | 2 to 3 lanes | No | Yes | Yes |
| NE 60th Street | Neighborhood Access Street | 25 mph | 2 lanes | Yes | Yes | No |
| NE 53rd Street | Neighborhood Collector | 25 mph | 2 lanes | Yes | Yes | No |
| NE 48th Street | Neighborhood Access Street | 25 mph | 2 lanes | Yes | No | No |
| NE 45th Street | Neighborhood Access Street | 25 mph | 2 lanes | Yes | Yes | No |
| 6th Street S | Secondary Arterial | 30 mph | 2 lanes | Yes | Yes | Yes |

1. Based on Washington State Department of Transportation (WSDOT) and City of Kirkland classifications.

2. A total of 10 lanes with 3 general purpose and 2 high occupancy vehicle/toll lanes are provided in the vicinity of the NE 70th Street interchange.

Traffic Volumes

The City of Kirkland provided existing (2016) weekday PM peak traffic counts at several of the off-site study intersections. Additional weekday PM peak turning movement counts were conducted at the remaining study intersections and driveways in March and April 2016 and late January 2017. Weekday AM peak period traffic counts were also conducted at all study intersections and driveways in March and April 2016 as well as January 2017. Existing weekday AM and PM peak commute hour traffic volumes used for this analysis are summarized on Figure 4 with detailed traffic count data provided in Appendix B.

Traffic Operations

Traffic operations at the off-site study intersections were evaluated and are characterized through an intersection level of service (LOS) analysis. LOS is a widely applied analysis technique for measuring the quality of traffic flow through intersections and comparing resulting traffic operations to adopted standards.

LOS values range from LOS A indicating free-flow traffic to LOS F indicating extreme congestion and long vehicle delays. Existing delays and LOS values were calculated using *Highway Capacity Manual* methods and the Synchro (version 9.1) software program. Appendix C provides a more detailed explanation of intersection LOS. This method uses

peak hour traffic volumes, intersection geometry, intersection control, and roadway characteristics as inputs to evaluate operations. All existing signal timing parameters were provided by the City of Kirkland and Washington State Department of Transportation (WSDOT). Table 3 summarizes the existing AM and PM peak hour intersection operations. Detailed LOS worksheets are provided in Appendix D. The City has an adopted LOS D standard and WSDOT has an adopted Mitigated LOS E⁴ standard in the study area.

Table 3. Existing Weekday Peak Hour Intersection LOS Summary

| Intersection | LOS Standard | AM Peak Hour | | | PM Peak Hour | | |
|---|--------------|------------------|--------------------|-----------------|------------------|--------------------|-----------------|
| | | LOS ¹ | Delay ² | WM ³ | LOS ¹ | Delay ² | WM ³ |
| 1. 6th Street S / Central Way | D | F | 98 | - | C | 31 | - |
| 2. 6th Street S / Kirkland Way | D | C | 17 | - | D | 31 | - |
| 3. 6th Street S / 9th Avenue S | D | E | 46 | WB | F | 57 | WB |
| 4. State Street S / NE 68th Street | D | B | 17 | - | C | 29 | - |
| 5. 108th Avenue / NE 68th Street | D | E | 67 | - | E | 63 | - |
| 6. I-405 Ramps / NE 70th Place | E | E | 78 | - | D | 41 | - |
| 7. 116th Avenue NE / NE 70th Pl | D | D | 54 | - | C | 27 | - |
| 8. 116th Avenue NE / I-405 Ramps ⁴ | E | C | 24 | - | E | 56 | - |
| 9. 132nd Avenue NE / NE 70th Place | D | C | 26 | - | D | 50 | - |
| 10. 108th Avenue NE / NE 60th Street | D | F | 50 | WB | E | 45 | WB |
| 11. 108th Avenue NE / NE 53rd Street | D | F | 63 | WBL | F | 54 | WBL |
| 12. 108th Avenue NE / NE 48th Street | D | C | 23 | WB | C | 21 | WB |
| 13. 108th Avenue NE / NE 45th Street | D | C | 20 | WB | C | 20 | WB |

Note: Shaded intersections operate below City of Kirkland or WSDOT LOS standards.

1. LOS as defined by the HCM (TRB, 2010)

2. Average delay per vehicle in seconds.

3. Worst movement (WM) reported for stop-controlled intersections where WB = westbound approach and WBL = westbound left-turn movement.

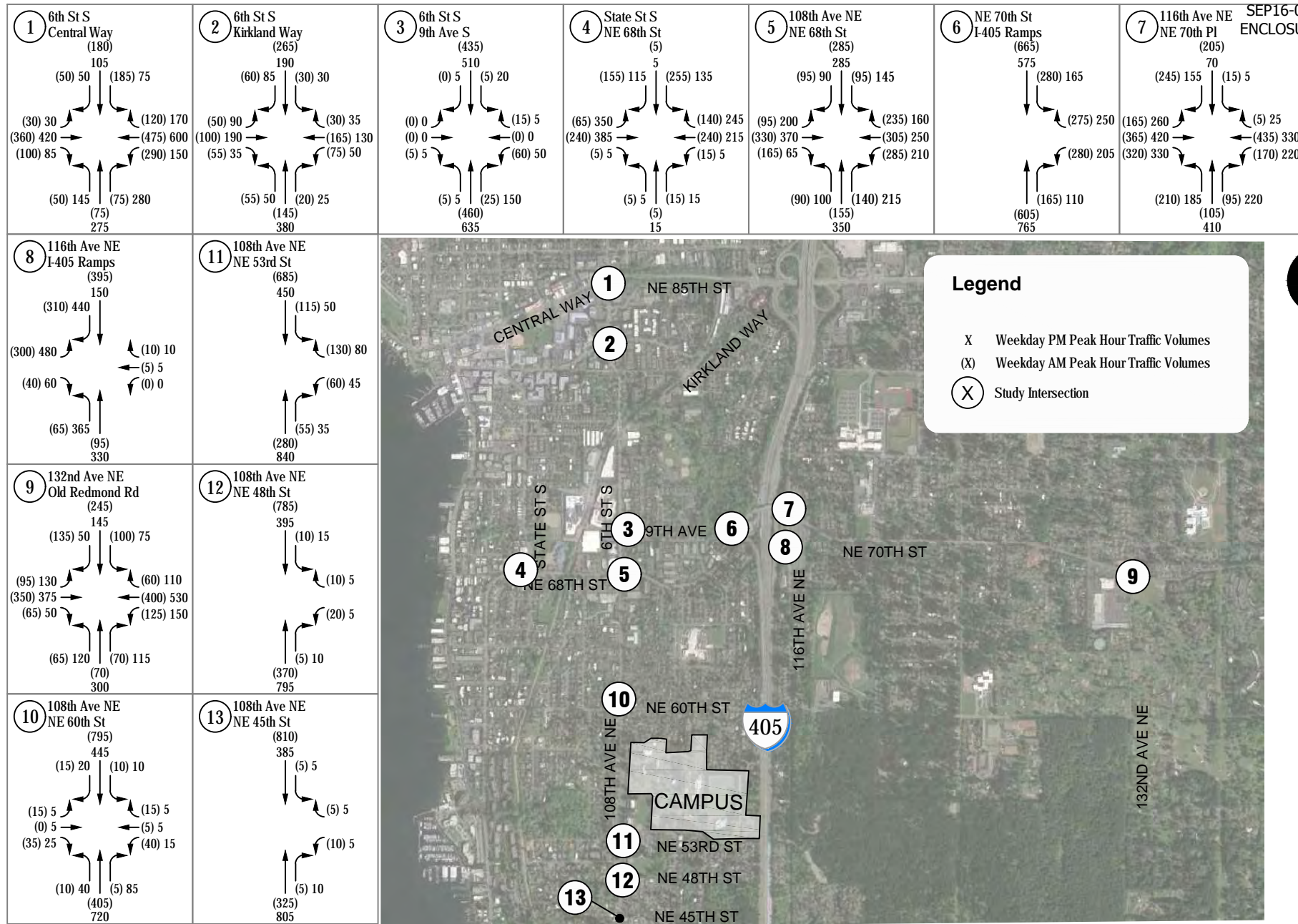
4. Analyzed in HCM 2000 due to intersection configuration and signal phasing.

As highlighted in the above table, several existing intersections operate below City and WSDOT LOS standards under either weekday AM or PM peak hour conditions. These include the 6th Street S/Central Way, 6th Street S/9th Avenue S, 108th Avenue NE/NE 68th Street, 116th Avenue NE/I-405 Ramps, 108th Avenue NE/NE 60th Street, and 108th Avenue NE/NE 53rd Street intersections.

Site Access & Neighborhood Context

The Northwest University Campus is bordered by 108th Avenue to the west and NE 53rd Street to the south. The University currently has 7 driveways with 2 located along 108th Avenue NE and 5 along NE 53rd Street. These driveways are identified as locations A through G on Figure 5. The following sections summarize existing site access traffic volumes, driveway operations, and traffic conditions in the neighborhood surrounding the campus.

⁴ The study area is within a Tier 1 inner urban areas, which is defined as a 3-mile buffer around the most heavily traveled freeways (e.g., I-405) and all designated urban areas. The LOS standard for Tier 1 routes is LOS E/Mitigated meaning that congestion should be mitigated when the weekday PM peak hour LOS falls below E. *Level of Service Standards for Washington State Highways. January 1, 2010.*

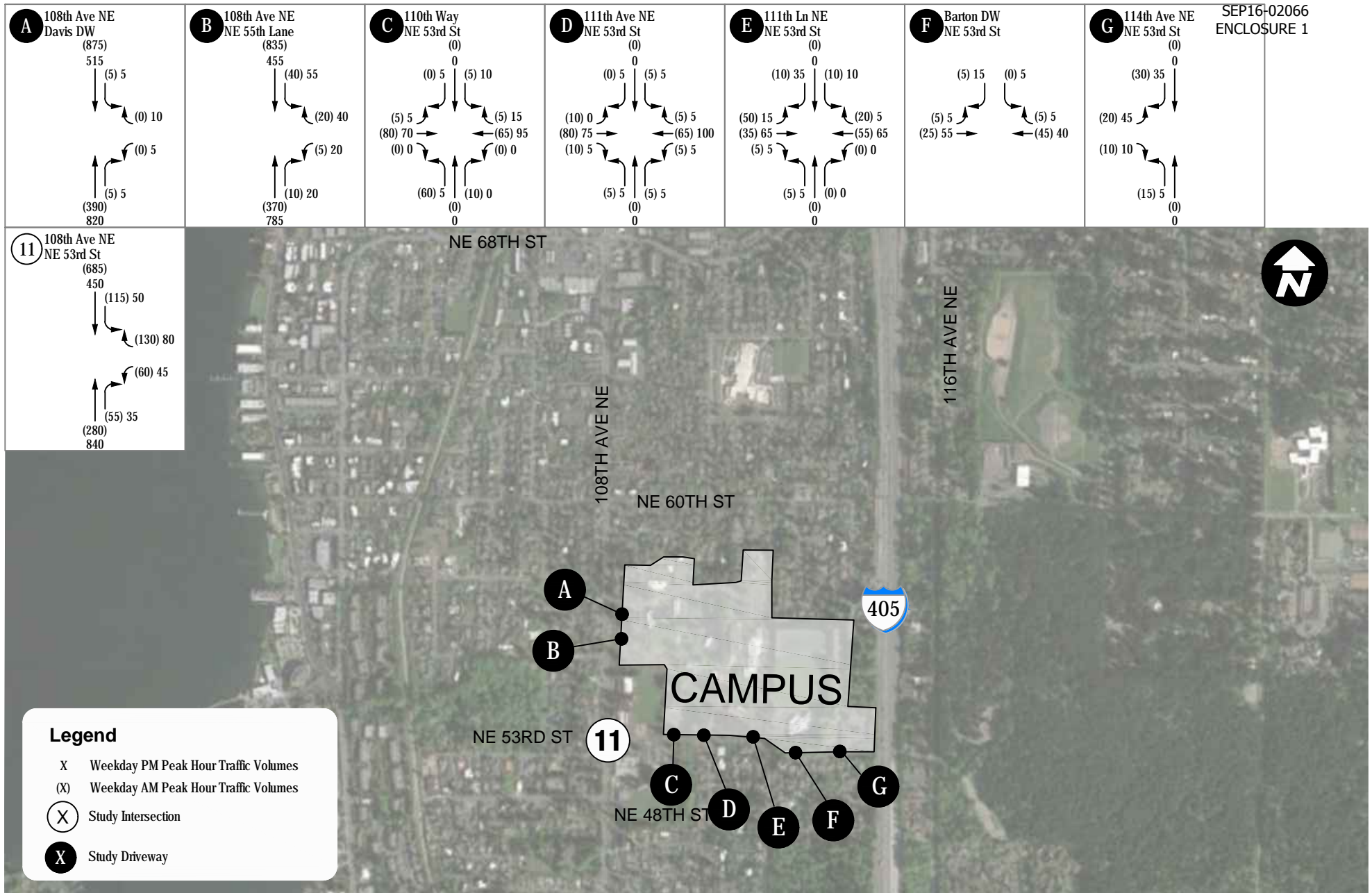


Existing Off-Site AM & PM Peak Hour Traffic Volumes

Northwest University Master Plan

FIGURE

4



Existing Site Access AM & PM Peak Hour Traffic Volumes

Northwest University Master Plan

FIGURE

5

transpogroup **7**
WHAT TRANSPORTATION CAN BE.

Driveway Traffic Volumes

Weekday AM and PM peak hour traffic volumes at the driveways were collected in March and April 2016. Counts were collected over 3 different weekdays in support of forecasting the campus vehicular trip generation that is described in the future with-project section. To provide a conservative analysis, the date when the highest overall campus traffic volumes were observed during the 3 days⁵ of collection was selected for evaluating site access traffic operations. Existing weekday AM and PM peak hour volumes used for this analysis are summarized on Figure 5. Note that the 108th Avenue NE/NE 53rd Street intersection is also shown since this is a primary access intersection to the 5 campus driveways along NE 53rd Street.

Driveway Traffic Operations

Driveway traffic operations were evaluated based on the HCM 2010 methodologies using the Synchro 9.1 software program consistent with the analysis of off-site study intersections. Weekday AM and PM peak hour site access operations are summarized in Table 4.

Table 4. Existing Weekday AM & PM Peak Hour Site Access LOS Summary

| Intersection | AM Peak Hour | | | PM Peak Hour | | |
|---|------------------|--------------------|-----------------|------------------|--------------------|-----------------|
| | LOS ¹ | Delay ² | WM ³ | LOS ¹ | Delay ² | WM ³ |
| A. 108th Avenue NE / Davis Driveway | A | 8 | SBL | C | 18 | WB |
| B. 108th Avenue NE / 55th Lane NE (Main Driveway) | B | 13 | WB | C | 20 | WB |
| C. 110th Way / NE 53rd Street | B | 10 | NB | B | 10 | NB |
| D. 111th Avenue NE / NE 53rd Street | B | 10 | SB | A | 10 | SB |
| E. 111th Lane NE / NE 53rd Street | B | 11 | NB | B | 10 | NB |
| F. Barton Driveway / NE 53rd Street | A | 9 | SB | A | 9 | SB |
| G. 114th Avenue NE / NE 53rd Street | A | 9 | SB | A | 10 | NB |
| 10. 108th Avenue NE / NE 53rd Street | F | 63 | WBL | F | 54 | WBL |

Note: Shaded intersections operate below City of Kirkland LOS standards.

1. LOS as defined by the HCM (TRB, 2010)

2. Average delay per vehicle in seconds.

3. Worst movement (WM) reported for stop-controlled intersections where SBL = southbound left-turn movement, WB = westbound approach, NB = northbound approach, SB = southbound approach, and WBL = westbound left-turn movement.

As shown in Table 4, all existing campus driveways currently operate at LOS C or better during both weekday peak hours. As shown previously in Table 3, the westbound left-turn lane on NE 53rd Street at 108th Avenue NE currently operates at LOS F during the weekday AM and PM peak hours.

Neighborhood Traffic Conditions

Existing traffic conditions in the neighborhood surrounding the campus were reviewed. Specifically, the review included a vehicle speed study along NE 53rd Street, neighborhood cut-through traffic study, and school activity in the vicinity of the NE 53rd Street/108th Avenue NE intersection.

NE 53rd Street Speed Study

Vehicle speeds along NE 53rd Street near the intersection with 111th Avenue NE were measured using a pneumatic tube traffic counter over a 7-day period in April/May 2016.⁶ The

⁵ The highest combined weekday AM and PM peak hour campus generated traffic occurred on Wednesday April 13, 2016.

⁶ April 26 through May 2, 2016.

observed vehicle speeds were then reviewed to identify the median and 85th-percentile speeds to assess whether vehicle speeds are notably greater than the posted speed limit. The posted speed limit along this corridor is 25 mph.

The median speed value is the speed at which 50 percent of all traffic is traveling at or below, and is also known as the 50th-percentile speed. This statistical measure is typically used as a point of reference in understanding the prevailing conditions. The median speeds along a corridor should typically be under the posted speed limit. The 85th percentile speed is often used as a starting point for determining whether a speeding issue is present, and takes into account that 15 percent of drivers may be traveling much faster or slower than the posted speed. Typically, the 85th percentile speed should be approximately 5 mph over or under the posted speed limit.

The median and 85th-percentile speed results of the speed study are summarized in Table 5.

Table 5. NE 53rd Street Speed Study Summary – East of 111th Avenue NE

| Direction | Speed Limit | Median Speed ¹ | 85th Percentile Speed ¹ |
|--------------------------|-------------|---------------------------|------------------------------------|
| Eastbound NE 53rd Street | 25 mph | 28.0 mph | 32.5 mph |
| Westbound NE 53rd Street | 25 mph | 27.3 mph | 31.8 mph |

1. Based on data collected between April 26 and May 2, 2016

As shown, the median speed for both directions is approximately 28 miles per hour, while the 85th percentile speed is approximately 32 miles per hour. The MUTCD generally suggests that the 85th percentile speed be within 5 mph of the posted speed limit. The results show that the 85th percentile speed is approximately 7 mph above the posted speed limit indicating excessive speeds along this section of NE 53rd Street.

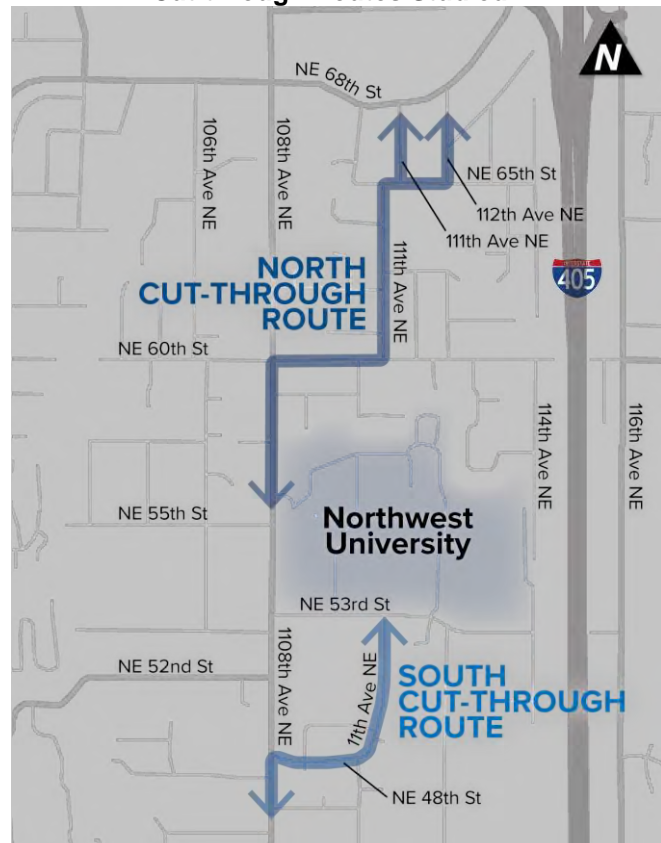
Neighborhood Cut-Through Traffic

With existing congestion and queuing along 108th Avenue NE during weekday AM and PM peak hours, some drivers may choose to use neighborhood streets to avoid this congestion. Based on the neighborhood roadway network east of 108th Avenue NE and south of NE 68th Street, coordination with City staff, and feedback from the neighborhood, two cut-through routes were identified for further review as described and illustrated below.

- **North Cut-Through Route** – NE 60th Street to 111th Avenue NE, then to NE 65th Street and NE 68th Street further north
- **South Cut-Through Route** – 111th Avenue NE to NE 48th Street to 108th Avenue NE

To assess how much of this cut-through traffic is related to the campus, automatic license plate recognition (ALPR) technology was used to conduct this study. Cameras were placed along the NE 48th Street and NE 65th Street as well at the three highest volume campus

Cut-through Routes Studied



driveways and license plates were matched to identify the number of campus drivers using either of the neighborhood cut-through routes. The number of observed cut-through vehicles related to the campus are summarized in Table 6.

| Table 6. Weekday Peak Hour Neighborhood Cut-Through Traffic Volumes Summary | | |
|--|--|--|
| Route | AM Peak Hour Campus Cut-Through¹ | PM Peak Hour Campus Cut-Through¹ |
| <u>North Neighborhood Streets</u> | | |
| Inbound to Campus | 2 vehicles | 4 vehicles |
| Outbound from Campus | 0 vehicles | 4 vehicles |
| <u>South Neighborhood Streets</u> | | |
| Inbound to Campus | 0 vehicles | 1 vehicle |
| Outbound from Campus | 0 vehicles | 0 vehicles |
| 1. Based on data collected for 7-days from April 26 to May 2, 2016 | | |

As shown in Table 6, the observations indicate that neighborhood cut-through traffic specifically related to the campus is relatively minimal. There were fewer than ten vehicles per hour observed traveling between the campus and neighborhood routes to and from the north via 110th Avenue NE during the weekday peak hours. For routes through the neighborhood south of campus, no cut-through traffic was observed during the weekday AM peak hour and only 1 vehicle was observed during the weekday PM peak hour travelling to/from the campus. Based on traffic counts with the neighborhoods, campus related cut-through traffic was observed to be approximately 3 percent or less of the total traffic observed travelling in the same direction on the neighborhood street during the weekday peak hours. In general, these observations show no notable campus traffic volumes that travel these cut-through routes during peak conditions.

108th Avenue NE/NE 53rd Street School Activity

Several school-related facilities exist in the vicinity of the 108th Avenue NE/NE 53rd Street intersection including:

- Lake Washington School District's Emerson K-12 school on the southeast corner
- Puget Sound Adventist Academy private school on the northeast corner
- Kirkland Children's School day care, preschool and kindergarten classes just north of NE 53rd Street on the west side of 108th Avenue NE

The travel activity for these 3 uses generally peak at similar times of day and include walking, passenger car drop-off/pick-up, transit, and school bus activities. The peak periods for activity for these 3 sites typically fall within the morning commute periods when children arrive at these facilities and again in the mid- to late- afternoon hour when they depart. Activities near the 108th Avenue NE/NE 53rd Street intersection that influence transportation conditions at this location include:

- Northbound and southbound 108th Avenue NE bus stops with shelters for King County Metro
- A mid-block crosswalk with overhead flashing warning lights across 108th Avenue NE between the east and west legs of NE 53rd Street
- Observed school bus loading northbound and southbound on 108th Avenue NE immediately south of both east and west legs of 53rd Avenue NE

Activity at this intersection was observed during both the morning peak (approximately 7:30 to 9:00 a.m.) and mid-afternoon peak periods (approximately 2:00 to 4:00 p.m.). The

observations noted various short-term congestion and blockages associated with school-related travel. This includes:

- Northbound Metro buses stopping at NE 53rd Street to load/unload, which results in passenger vehicles driving around stopped northbound transit vehicles
- Westbound NE 53rd Street queues forming from yielding to both 108th Avenue NE vehicle traffic and pedestrians using the mid-block crosswalk
- On-site queuing at the Kirkland Children's School extending onto 108th Avenue NE
- Lake Washington School District buses stopping on 108th Avenue NE south of NE 53rd Street

Parking

On-campus parking and off-campus street parking were reviewed to understand existing conditions. The on-campus parking was reviewed for both typical and event conditions.

On-Campus

Typical Conditions

The existing parking supply was inventoried and on-campus parking utilization was observed in March 2016. The existing campus contains 1,166 parking spaces designated for campus use. Parking is generally unassigned with no specific spaces designated for residents, commuters, or faculty/staff except for 201 parking spaces that are designed for the student apartments, 26 ADA spaces, 22 visitor parking spaces, 12 service vehicles parking spaces, 18 faculty/staff spaces, and 6 carpool spaces for a total of 285 parking spaces or approximately 24 percent of the on-campus spaces assigned. Based on the 2015 Commute Trip Reduction survey for the University employees, approximately 74 percent drive alone to the campus. Parking utilization counts were conducted hourly between 9 a.m. and 1 p.m. during a midweek day when school was in session. This time period represents when Northwest University class attendance is typically greatest. The observed peak campus parking utilization occurred between 10 and 11 a.m. with a total of 638 vehicles parked on campus or approximately 55 percent of the campus parking spaces occupied. Figure 6 summarizes the campus parking utilization during the peak period by lot. As shown on the figure, most of the parking lots are less than 85 percent utilized.

Event Conditions

The highest levels of event activity generally occur weekday evenings, weekends or during periods when the school is not in session. The largest capacity for events is currently the gymnasium, which has 300 seats. Currently, men's basketball has the highest attendance levels. Basketballs games typically occur on Friday or Saturday evenings at about 6 or 8 p.m., which is outside of the typical peak parking period for the Campus. During men's basketball games, the parking demand for the game is approximately 115 to 130 vehicles, which is accommodated in the Pavilion (gym) and Greeley (parking west of the gym and south of NE 55th Lane) parking lots. This results in a parking rate of approximately 0.38 to 0.43 vehicles per seat. There are currently no tournaments on campus and these are not anticipated to occur in the future. The college basketball playoffs are typically one game on-campus at a time with only the two teams playing at the game; therefore, peak parking demand is similar to a basketball game on the high end of the attendance level (i.e., 130 vehicles).

Figure 6. Peak Campus Parking Utilization (10 – 11 a.m.)



On-Street

The campus neighbors have identified potential on-street parking issues. To understand, the level of campus-related on-street parking occurring within the neighborhood on weekdays that street parking was inventoried. The parking inventory was conducted north and south of the campus along NE 48th Street, NE 50th Place, NE 53rd Street, NE 58th Place, NE 59th Street, NE 60th Street, 109th Avenue NE, 110th Avenue NE, 111th Avenue NE, 112th Avenue NE, and 114th Avenue NE. A total of 535 on-street parking spaces were inventoried. Parking data was collected between 9 a.m. and 1 p.m. on two weekdays: (1) when the University was in-session and (2) during the University spring break. The data collection period captures the time when the on-campus parking typically peaks. The parking survey showed approximately 30 to 50 vehicles parked resulting in approximately 5 to 10 percent of the 535 on-street parking spaces utilized.

Comparing the two days of parking surveys provides an understanding of on-street parking characteristics in the study area with and without the University in session, parking demand was higher when school was not in session compared to a school session count which implies an insignificant on-street parking impact. When analyzing only the streets immediately adjacent to the campus along 114th Avenue, NE 50th Street, NE 53rd Street, and NE 59th Street, the parking demand was approximately 5 percent higher (~1-2 vehicles) during the school session counts, which also implies an insignificant impact.

It is noted there is on-street parking occurring on weekends when services and events are occurring at the existing Chapel. Some of the mitigation measures being proposed for event management related to the Master Plan could be applicable to managing parking when the Chapel is being used.

Traffic Safety

The collision history within the study area was reviewed to identify any locations where adverse safety conditions may exist. Collision data provided by WSDOT for the most recent three-year period (January 1, 2013 through December 31, 2015) was reviewed. Table 7 summarizes the number of collisions at each of the study intersections.

Table 7. Three-Year Collision Summary – 2013 to 2015

| Intersection | Control | Number of Collisions | | | Annual Average | Collisions per MEV ¹ | Critical Crash Rate |
|---|------------|----------------------|------|------|----------------|---------------------------------|---------------------|
| | | 2013 | 2014 | 2015 | | | |
| 1. 6th Street S / Central Way | Signalized | 4 | 3 | 1 | 2.7 | 0.31 | 0.78 |
| 2. 6th Street S / Kirkland Way | AWSC | 0 | 2 | 8 | 3.3 | 0.71 | 1.12 |
| 3. 6th Street S / 9th Avenue S | TWSC | 0 | 0 | 0 | 0 | 0.00 | 0.00 |
| 4. State Street S / NE 68th Street | Signalized | 1 | 0 | 0 | 0.3 | 0.04 | 0.80 |
| 5. 108th Avenue / NE 68th Street | Signalized | 8 | 4 | 4 | 5.3 | 0.56 | 0.77 |
| 6. I-405 Ramps / NE 70th Place | Signalized | 2 | 7 | 1 | 3.3 | 0.62 | 0.86 |
| 7. 116th Avenue NE / NE 70th PI | Signalized | 11 | 12 | 4 | 9.0 | 1.01 | 0.78 |
| 8. 116th Avenue NE / I-405 Ramps ⁴ | Signalized | 3 | 5 | 6 | 4.7 | 0.70 | 0.82 |
| 9. 132nd Avenue NE / NE 70th Place | Signalized | 1 | 7 | 3 | 3.7 | 0.47 | 0.80 |
| 10. 108th Avenue NE / NE 60th Street | TWSC | 1 | 1 | 0 | 0.7 | 0.13 | 0.19 |
| 11. 108th Avenue NE / NE 53rd Street | TWSC | 0 | 2 | 1 | 1.0 | 0.18 | 0.18 |
| 12. 108th Avenue NE / NE 48th Street | TWSC | 0 | 0 | 0 | 0.0 | 0.00 | 0.00 |
| 13. 108th Avenue NE / NE 45th Street | TWSC | 0 | 0 | 0 | 0.0 | 0.00 | 0.00 |

Source: WSDOT, 2016.

1. The number of collisions per Million Entering Vehicles (MEV) assuming weekday PM peak hour traffic is approximately 10 percent of daily traffic.

A traffic safety review within the study area was completed by compiling crash rates (i.e., collisions per million entering vehicles) by study intersection to identify locations with potential safety issues. Based on the methodology found in Chapter 4 of the *Highway Safety Manual* (AASHTO, 2010), observed and critical crash rates at each study intersection were compared to identify where observed rates were higher than the calculated critical rate. The study intersections were grouped into three categories for calculating critical crash rates: (1) traffic signals, (2) side-street stop-control, and (3) all-way stop-control intersections. As shown in the table, the 116th Avenue NE / NE 70th Street intersection was the only intersection where the observed crash rate was greater than the critical crash rate.

Of the 27 total collisions that occurred at this location during the three-year period, however only 4 of the collisions occurred in 2015. The most common types were left-turn related (15), followed by rear-end (7), and angled (2). Of the 15 left-turn related collisions, 13 involved the westbound left turn movement. The left-turn signal phasing for this movement is currently protected/permitted. Over the last year collisions at this location have decreased with a total of 4 collisions and only 1 left-turn related collision in 2015. The City regularly monitors traffic safety to understand patterns and the need for safety improvements. Given that collisions, have recently decreased at this location no collision pattern is noted. This intersection would continue to be monitored by the City and if necessary safety improvements such as protected left-turn phasing could be implemented.

None of the reported collisions at this location involved a serious injury or a fatality. There were no pedestrian-related or bicyclist-related collisions that were reported within the study area during this period.

Non-Motorized Facilities

Separated pedestrian facilities are provided throughout the study area. Sidewalks are provided on both 108th Avenue NE and NE 53rd Street within the immediate site vicinity of the campus. Further north of the site, NE 68th Street and 6th Street S also provide sidewalks on both sides of the street. A mid-block crosswalk with an overhead flashing warning lights is provided across 108th Avenue NE between the east and west legs of NE 53rd Street. Marked crosswalks are also provided across NE 53rd Street and 55th Lane NE (the main campus driveway) at 108th Avenue NE.

Separate bicycle lanes are provided along the majority of 108th Avenue NE with shared lanes along some portions where right-of-way is limited. North of NE 68th Street, 6th Street S provides dedicated bicycle lanes on both sides of the street. East of 108th Avenue NE, NE 68th Street also provides bicycle lanes on both sides of the street.

Pedestrian paths, sidewalks, and crosswalks are also provided throughout the campus to connect the campus facilities. There are some areas where connections are limited such as between the existing fields and the parking to the west and between the academic buildings within the lower campus and the FIRS and Student Apartments north of NE 53rd Street.

Transit Service

Transit service in the study area is provided by King County Metro Transit and Sound Transit. The nearest bus stop to the campus is located along 108th Avenue NE approximately 250 feet north of the main driveway at NE 55th Lane. This bus stop is served by routes 255 and 540. An additional bus stop is provided at the NE 53rd Street intersection with 108th Avenue NE, but only serves route 255.

Route 255 provides service from the Brickyard Park-and-Ride to Kirkland Transit Center to Downtown Seattle running 7 days a week. Service is provided on weekdays from approximately 5 a.m. to 11 p.m. with 15-minute headways during the weekday PM peak hour. Weekend service is also provided from approximately 6 a.m. to midnight with 30-minute peak headways.

Route 540 travels between the University District and Kirkland running weekdays only. Service is provided from approximately 7 a.m. to 7:20 p.m. with 15-minute headways during the weekday PM peak hour.

Transportation and Parking Management

Northwest University has an existing commute trip reduction program to encourage employees to use alternative modes to travel to and from campus. Existing campus amenities and program offerings include:

- Commuter information center and annual distribution of commuter information
- Campus Transportation Coordinator
- Bicycle parking and participation of Bike-to-Work Day
- Showers and lockers for employee use
- King County ride share online matching program
- Telecommute opportunities where job would allow
- Email updates on local transportation events and construction zones in the area
- Carpool parking with preferred parking spots for registered carpools

Northwest University issues parking permits for employees, students, and guests including general and carpool parking. Students are currently charged \$70 per academic year for parking permits and employee parking permits are a free benefit provided by the University. Registered carpools get preferred parking spots in either the Barton, Argue HSC, and Davis Building parking lots. There are currently 733 parking permits issued by the University including 136 for the student apartments, 115 faculty/staff and 482 for commuters and dorm residents. Campus security currently monitors the parking lots and tickets vehicles parked without permits. Vehicles operated or parked by a non-employee or non-student are not required to display a parking permit; however, guest vehicles can be registered with the University.

Future Without-Project Conditions

This section describes future without-project conditions within the identified study area. Future conditions were analyzed for a 2022 horizon year consistent with the City of Kirkland's six-year transportation concurrency horizon and 2037 conditions consistent with the anticipated buildout of the Master Plan. The following sections summarize the planned changes to the street system, future forecasted traffic volumes, traffic operations, site access and the neighborhood context.

Street System

The adopted Kirkland *2015-2020 Capital Improvement Program* (CIP) and current project website were reviewed to identify funded transportation improvements in the study area that would be completed by 2022 or 2037. In addition, the City of Kirkland's adopted *Transportation Master Plan*, November 2015, *City of Kirkland 2015 Comprehensive Plan Update & Totem Lake Planned Action – Final Environmental Impact Statement*, November 2015 and *City of Kirkland 2015 Comprehensive Plan Update & Totem Lake Planned Action – Draft Environmental Impact Statement* (DEIS), June 2015 were also reviewed to understand potential long-range improvements that could impact 2037 conditions in the study area.

Planned funded improvements are along 6th Street in the study area at intersections with 9th Street S, Kirkland Way, and Central Way. The 6th Street S intersections at 9th Street and Kirkland Way are expected to be signalized by the end of 2016. Phase 2 improvements to the 6th Street S/Central Way intersection are planned for construction in 2017. The intersection improvements include a second westbound left-turn lane, a bicycle lane, and pedestrian improvements. These improvements were reflected in the evaluation of future 2022 and 2037 traffic operations.

In addition to these specific improvements described above, the CIP also includes funding for the 6th Street South Corridor Study, which will also include the 6th Street Corridor Study and Houghton/Everest Neighborhood Center Plan. The City has hired a consultant for this work and is in the process of scoping the study. This study will develop a corridor and neighborhood plan including transportation solutions to accommodate growth in the study area. These solutions may include policies (e.g., parking policies), projects (e.g., intersection improvements) and programs (e.g., bike share). Given constraints along the corridor project will generally focus on transit, bicycle, and pedestrian facilities and consider safety, geometrics, and other transportation conditions along the corridor.

The *Transportation Master Plan* identifies, as part of this long-range plan, that the City should engage with WSDOT to discuss improvements of the existing interchanges including at NE 70th Street. In addition, the 2015 Comprehensive Plan Update DEIS notes a potential improvement to the 116th Avenue NE/NE 70th Street (NE 72nd Place) intersection to provide a dedicated southbound right-turn pocket.

Traffic Volumes

Future (2022) weekday traffic volumes were forecast based on information provided by the City of Kirkland. City staff provided the 2022 weekday PM peak hour volumes at eight of the ten study intersections based on the City's travel demand model. Forecast at the 2 remaining off-site study intersections⁷ were developed by applying a 2 percent per year growth rate to existing traffic volumes and adjusting results to account for balancing along the 6th Street, NE 68th Street, and 108th Avenue NE corridors to forecasts 2022 conditions. The City's

⁷ 6th Street/9th Avenue S and 108th Avenue NE/NE 53rd Street forecasts were developed based on a 2 percent per year growth rate.

travel demand model does not include weekday AM peak hour forecasts. Future weekday AM peak hour traffic volumes were determined by applying a growth rate to the existing AM peak hour volumes. The growth rate was determined based on the weekday PM peak hour forecasts from the City's travel demand model. Forecast (2022) without-project weekday AM and PM peak hour traffic volumes are summarized on Figure 7.

Future 2037 traffic volumes were forecast based on growth rate of 1.3 percent per year estimated by comparing existing 2016 traffic counts and 2035 traffic forecast from the City's adopted Transportation Master Plan, 2015. This growth rate was then applied to the 2022 traffic volume forecasts to forecast 2037 weekday AM and PM peak hour traffic volumes. Forecast (2037) weekday AM and PM peak hour off-site study intersection traffic volumes are summarized on Figure 8. The resulting forecasts are similar to those being evaluated in the 6th Street Corridor Study under modest change in growth scenario and approximately 2 percent less than the highest development scenario⁸.

Traffic Operations

Traffic operations were evaluated for the forecast 2022 and 2037 without-project conditions using the LOS method described previously for existing conditions. All existing signal timing settings remained unchanged from existing conditions with the exception of the 6th Street intersections where the City has planned improvements. With completion of the planned second westbound-left lane at 6th Street/Central Way, traffic signal timing settings were optimized. The timing settings for the planned new traffic signals at 6th Street/Kirkland Way and 6th Street/9th Street S were also optimized.

Table 8 summarizes forecast 2022 without-project AM and PM peak hour intersection operations and Table 9 shows forecast 2037 operations. Detailed LOS worksheets are provided in Appendix D.

⁸ Based on a comparison of the 108th Avenue NE/NE 68th Street intersection forecasts.

Table 8. Existing & Future Without-Project Weekday Peak Hour LOS Summary

| Intersection | LOS Standard | 2016 | | | 2022 Without-Project | | |
|---|-----------------|------------------|--------------------|-----------------|----------------------|--------------------|-----------------|
| | | LOS ¹ | Delay ² | WM ³ | LOS ¹ | Delay ² | WM ³ |
| <u>Weekday AM Peak Hour</u> | | | | | | | |
| 1. 6th Street S / Central Way | D | F | 98 | - | C | 30 | - |
| 2. 6th Street S / Kirkland Way | D | C | 17 | - | A | 10 | - |
| 3. 6th Street S / 9th Avenue S | D | E | 46 | WB | A | 7 | - |
| 4. State Street S / NE 68th Street | D | B | 17 | - | B | 17 | - |
| 5. 108th Avenue / NE 68th Street | D | E | 67 | - | F | 108 | - |
| 6. I-405 Ramps / NE 70th Place | E | E | 78 | - | F | 168 | - |
| 7. 116th Avenue NE / NE 70th PI | D | D | 54 | - | F | 114 | - |
| 8. 116th Avenue NE / I-405 Ramps ⁴ | E | C | 24 | - | B | 20 | - |
| 9. 132nd Avenue NE / NE 70th Place | D | C | 26 | - | D | 41 | - |
| 10. 108th Avenue NE / NE 60th Street | D | F | 50 | WB | F | 142 | WB |
| 11. 108th Avenue NE / NE 53rd Street | D | F | 63 | WBL | F | >180 | WBL |
| 12. 108th Avenue NE / NE 48th Street | D | C | 23 | WB | E | 37 | WB |
| 13. 108th Avenue NE / NE 45th Street | D | C | 20 | WB | D | 28 | WB |
| <u>Weekday PM Peak Hour</u> | | | | | | | |
| 1. 6th Street S / Central Way | D | C | 31 | - | D | 48 | - |
| 2. 6th Street S / Kirkland Way | D | D | 31 | - | B | 11 | - |
| 3. 6th Street S / 9th Avenue S | D | F | 57 | WB | A | 7 | - |
| 4. State Street S / NE 68th Street | D | C | 29 | - | D | 52 | - |
| 5. 108th Avenue / NE 68th Street | D | E | 63 | - | E | 76 | - |
| 6. I-405 Ramps / NE 70th Place | E | D | 41 | - | E | 73 | - |
| 7. 116th Avenue NE / NE 70th PI | D | C | 27 | - | C | 35 | - |
| 8. 116th Avenue NE / I-405 Ramps ⁴ | E | E | 56 | - | F | 81 | - |
| 9. 132nd Avenue NE / NE 70th Place | D | D | 50 | - | E | 79 | - |
| 10. 108th Avenue NE / NE 60th Street | D | E | 45 | WB | F | 82 | WB |
| 11. 108th Avenue NE / NE 53rd Street | D | F | 54 | WBL | F | 128 | WBL |
| 12. 108th Avenue NE / NE 48th Street | D | C | 21 | WB | D | 27 | WB |
| 13. 108th Avenue NE / NE 45th Street | D | C | 20 | WB | D | 27 | WB |

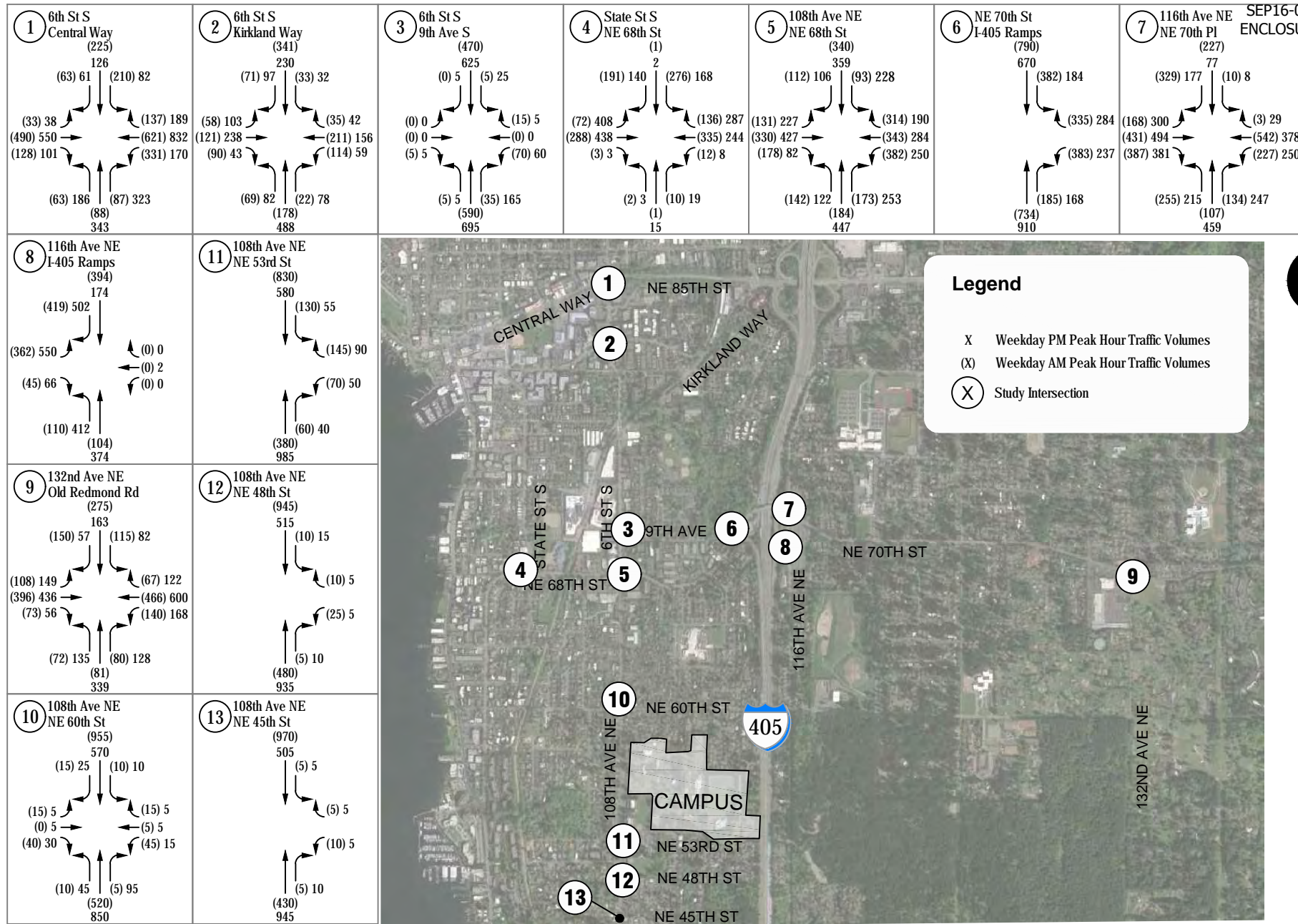
Notes: Shaded intersections operate below City of Kirkland LOS D or WSDOT Mitigated LOS E standards.

1. LOS as defined by the HCM (TRB, 2010)

2. Average delay per vehicle in seconds.

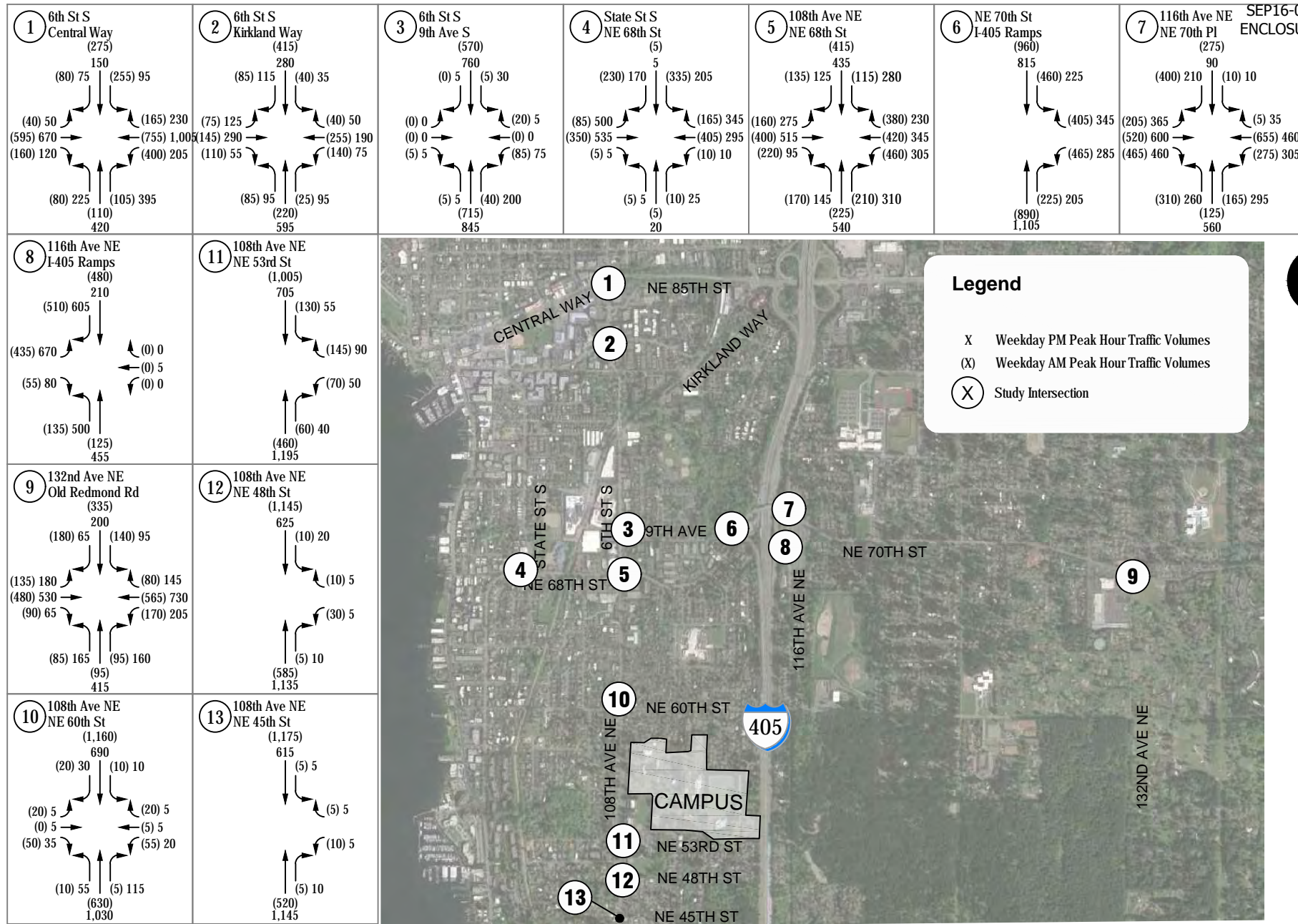
3. Worst movement (WM) reported for stop-controlled intersections where WB = westbound approach and WBL = westbound left-turn movement.

4. Analyzed in HCM 2000 due to intersection configuration and signal phasing.



2022 Without-Project Off-Site AM & PM Peak Hour Traffic Volumes

FIGURE



2037 Without-Project Off-Site AM & PM Peak Hour Traffic Volumes

Northwest University Master Plan

FIGURE

8

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As shown in Table 8, with future planned improvements by 2022, LOS at 2 of the study intersections along 6th Street would improve compared to existing conditions during the weekday AM and PM peak hour.

In addition, in 2022 without the Master Plan, traffic operations are anticipated to worsen at 6 study intersections during the weekday AM peak hour and 7 study intersections during the weekday PM peak hour compared to existing conditions. The following off-site study intersections would operate below their applicable LOS standard under forecast 2022 conditions:

- NE 70th Street / I-405 Ramps
- 116th Avenue NE / NE 70th Place
- 108th Avenue NE / NE 68th Street
- 116th Avenue NE / I-405 Ramps⁴
- 132nd Avenue NE / NE 70th Place
- 108th Avenue NE / NE 60th Street
- 108th Avenue NE / NE 53rd Street
- 108th Avenue NE / NE 48th Street

Table 9. Future Without-Project 2037 Weekday AM & PM Peak Hour LOS Summary

| Intersection | LOS Standard | AM Peak Hour | | | PM Peak Hour | | |
|---|--------------|------------------|--------------------|-----------------|------------------|--------------------|-----------------|
| | | LOS ¹ | Delay ² | WM ³ | LOS ¹ | Delay ² | WM ³ |
| 1. 6th Street S / Central Way | D | D | 54 | - | F | 88 | - |
| 2. 6th Street S / Kirkland Way | D | B | 12 | - | B | 14 | - |
| 3. 6th Street S / 9th Avenue S | D | B | 10 | - | B | 11 | - |
| 4. State Street S / NE 68th Street | D | B | 17 | - | F | 96 | - |
| 5. 108th Avenue / NE 68th Street | D | F | 151 | - | F | 103 | - |
| 6. I-405 Ramps / NE 70th Place | E | F | >180 | - | F | 142 | - |
| 7. 116th Avenue NE / NE 70th PI | D | F | >180 | - | E | 66 | - |
| 8. 116th Avenue NE / I-405 Ramps ⁴ | E | C | 25 | - | F | 141 | - |
| 9. 132nd Avenue NE / NE 70th Place | D | F | 88 | - | F | 145 | - |
| 10. 108th Avenue NE / NE 60th Street | D | F | >180 | WB | F | >180 | WB |
| 11. 108th Avenue NE / NE 53rd Street | D | F | >180 | WBL | F | >180 | WBL |
| 12. 108th Avenue NE / NE 48th Street | D | F | 76 | WB | E | 41 | WB |
| 13. 108th Avenue NE / NE 45th Street | D | E | 43 | WB | E | 39 | WB |

Notes: Shaded intersections operate below City of Kirkland LOS D or WSDOT Mitigated LOS E standards.

1. LOS as defined by the HCM (TRB, 2010)

2. Average delay per vehicle in seconds.

3. Worst movement (WM) reported for stop-controlled intersections where WB = westbound approach and WBL = westbound left-turn movement.

4. Analyzed in HCM 2000 due to intersection configuration and signal phasing.

As shown in Table 9, eleven of the thirteen off-site study intersections are forecast to operate below their applicable LOS standard under either weekday AM or PM peak hour conditions with long-term growth projected by 2037. The results of the 2037 analysis are consistent with the City's *Transportation Master Plan*, which identified congestion and poor intersections operations with anticipated growth levels along key corridors including 6th Street, Central Way, and the area of the NE 70th Street interchange.

Site Access & Neighborhood Context

The following sections summarize forecast site access traffic volumes, driveway operations, and traffic conditions in the neighborhood surrounding the campus.

Driveway Traffic Volumes

As described in the analysis scope description, future without-project traffic conditions were assumed to include no growth in on-campus student enrollment. The impacts of future student growth, facilitated by the proposed expansion of the campus infrastructure is documented in the Project Impact section of this study. Based on this no growth assumption, traffic volumes travelling to and from the campus were assumed to remain unchanged from existing conditions and background traffic volumes on NE 53rd Street and 108th Avenue NE were assumed to increase as previously described for the off-site study intersections.

Forecast weekday AM and PM peak hour traffic volumes at the site access driveways based on these assumptions are summarized on Figure 9 for 2022 conditions and Figure 10 for 2037 conditions.

Driveway Traffic Operations

Traffic operations under forecast future traffic volumes were evaluated consistent with the methodology previously described. Table 10 summarizes the 2022 forecast without-project AM and PM peak hour intersection operations for the campus driveways and Table 11 summarizes 2037 forecast operations. Although not a direct access to the campus, the 108th Avenue NE/NE 53rd Street intersection has been repeated in the table due to its use as a primary access connection.

Table 10. Future Without-Project 2022 Weekday AM & PM Peak Hour Site Access LOS Summary

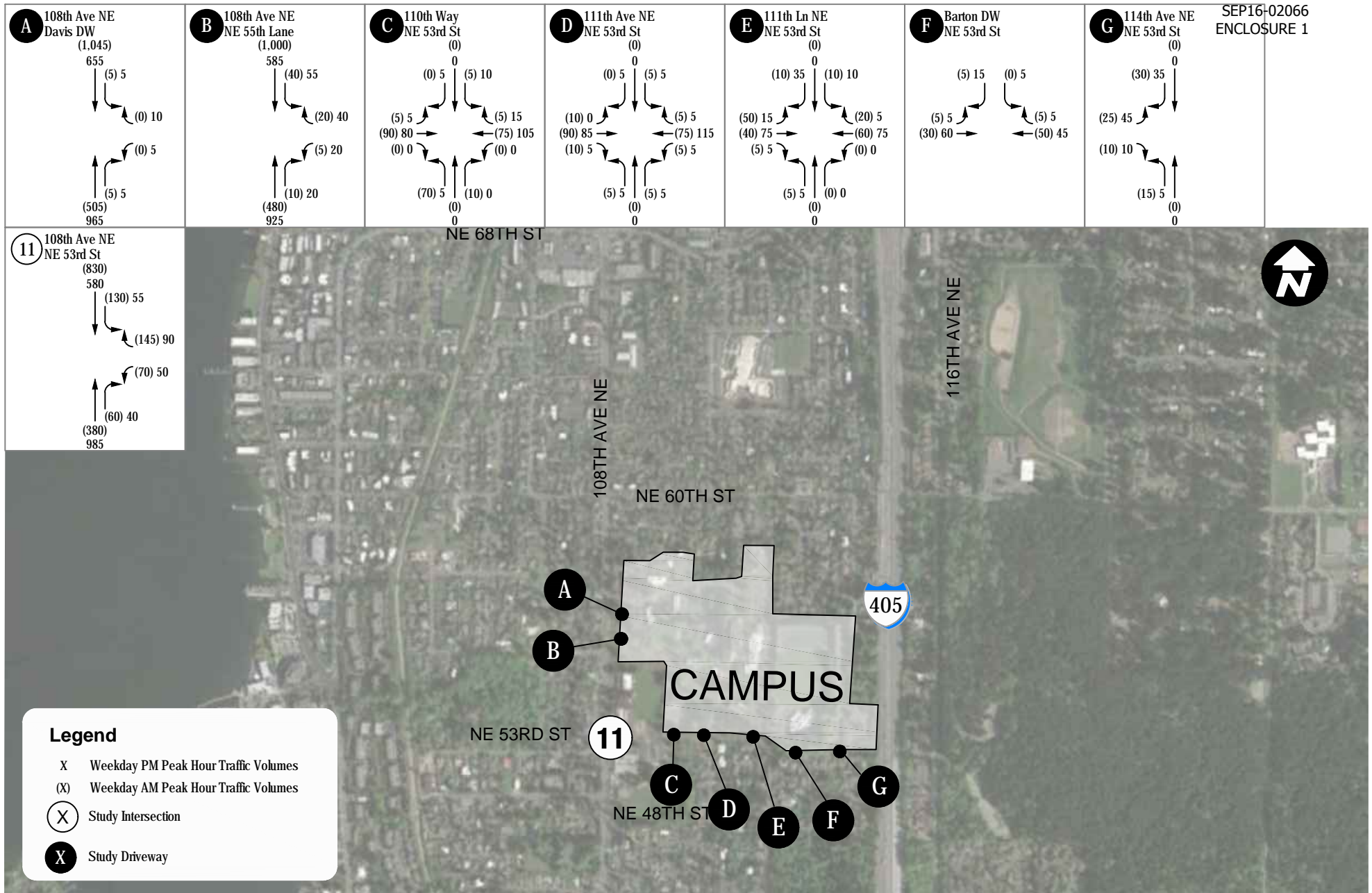
| Intersection | AM Peak Hour | | | PM Peak Hour | | |
|---|------------------|--------------------|-----------------|------------------|--------------------|-----------------|
| | LOS ¹ | Delay ² | WM ³ | LOS ¹ | Delay ² | WM ³ |
| A. 108th Avenue NE / Davis Driveway | A | 9 | SBL | C | 21 | WB |
| B. 108th Avenue NE / 55th Lane NE (Main Driveway) | B | 15 | WB | D | 28 | WB |
| C. 110th Way / NE 53rd Street | B | 11 | NB | B | 10 | NB |
| D. 111th Avenue NE / NE 53rd Street | B | 10 | SB | A | 10 | SB |
| E. 111th Lane NE / NE 53rd Street | B | 11 | NB | B | 10 | NB |
| F. Barton Driveway / NE 53rd Street | A | 9 | SB | A | 9 | SB |
| G. 114th Avenue NE / NE 53rd Street | A | 10 | NB | A | 10 | SB |
| 11. 108th Avenue NE / NE 53rd Street | F | >180 | WBL | F | 128 | WBL |

Note: Shaded intersections operate below City of Kirkland LOS standards.

1. LOS as defined by the HCM (TRB, 2010)

2. Average delay per vehicle in seconds.

3. Worst movement (WM) reported for stop-controlled intersections where SBL = southbound left-turn movement, WB = westbound approach, NB = northbound approach, SB = southbound approach, and WBL = westbound left-turn movement.



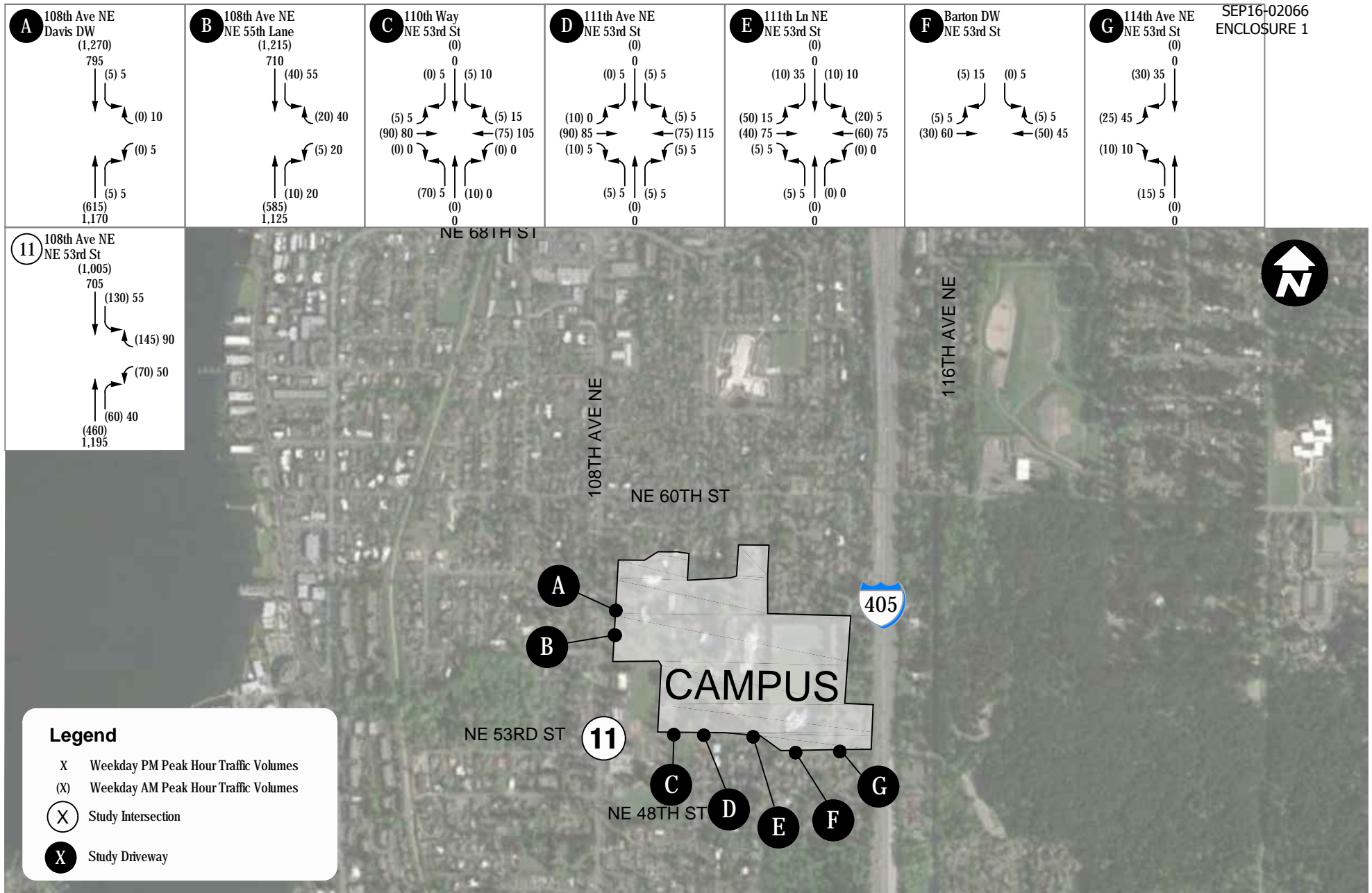
2022 Without-Project Site Access AM and PM Peak Hour Traffic Volumes

Northwest University Master Plan

FIGURE

9

transpogroup **7**
WHAT TRANSPORTATION CAN BE.



2037 Without-Project Site Access AM & PM Peak Hour Traffic Volumes

Northwest University Master Plan

FIGURE

10

transpogroup **7**
WHAT TRANSPORTATION CAN BE.

Table 11. Future Without-Project 2037 Weekday AM & PM Peak Hour Site Access LOS Summary

| Intersection | AM Peak Hour | | | PM Peak Hour | | |
|---|------------------|--------------------|-----------------|------------------|--------------------|-----------------|
| | LOS ¹ | Delay ² | WM ³ | LOS ¹ | Delay ² | WM ³ |
| A. 108th Avenue NE / Davis Driveway | A | 9 | SBL | D | 27 | WB |
| B. 108th Avenue NE / 55th Lane NE (Main Driveway) | C | 17 | WB | E | 35 | WB |
| C. 110th Way / NE 53rd Street | B | 11 | NB | B | 10 | NB |
| D. 111th Avenue NE / NE 53rd Street | B | 10 | SB | A | 10 | SB |
| E. 111th Lane NE / NE 53rd Street | B | 11 | NB | B | 10 | NB |
| F. Barton Driveway / NE 53rd Street | A | 9 | SB | A | 9 | SB |
| G. 114th Avenue NE / NE 53rd Street | A | 10 | NB | A | 10 | NB |
| 11. 108th Avenue NE / NE 53rd Street | F | >180 | WBL | F | >180 | WBL |

Note: Shaded intersections operate below City of Kirkland LOS standards. The City's LOS standard does not apply to unsignalized site access driveways.

1. LOS as defined by the HCM (TRB, 2010)

2. Average delay per vehicle in seconds.

3. Worst movement (WM) reported for stop-controlled intersections where SBL = southbound left-turn movement, WB = westbound approach, NB = northbound approach, SB = southbound approach, and WBL = westbound left-turn movement.

As summarized in Table 10 and Table 11, all site access driveways are forecasted to operate at LOS C or better in both peak hours under 2022 conditions assuming no on-campus student enrollment growth. With further background traffic growth by 2037 and no campus growth, the 108th Avenue NE/55th Lane NE intersection is forecasted to operate at LOS E on the eastbound campus driveway approach during the weekday PM peak hour. In addition, as noted in the previous section, the 108th Avenue NE/NE 53rd Street intersection, which provides access to the campus driveways along NE 53rd Street, would operate at LOS F during both the AM and PM peak hours under 2022 and 2037 conditions.

Neighborhood Traffic Conditions

Transportation-related conditions within the neighborhood immediately surrounding the campus are likely to remain similar to existing conditions under 2022 and 2037 without-project conditions. While some redevelopment is possible, the surrounding neighborhood is expected to generally remain single-family homes and no specific changes to the locations or operations of the schools located near the 108th Avenue NE/NE 53rd Street intersection are anticipated. As a result, the speeds, cut-through, and school conditions are likely to be similar to those identified previously in the existing neighborhood context section.

The existing cut-through studies north and south of campus show campus related cut-through traffic was approximately 3 percent or less of the total traffic observed travelling in the same direction on the neighborhood street during the weekday peak hours or 0 to 8 campus-related vehicles observed in the neighborhood. As traffic volumes increase in the future, the campus-related cut-through traffic in the neighborhood could increase. Based on the traffic forecasts and assuming campus-related cut-through represents 3 percent of the neighborhood traffic, future cut-through north of the campus could be up to 12 vehicles during the weekday peak hour in 2022 and up to 17 vehicles in 2037 and south of campus cut-through traffic could be up to 2 vehicles during the weekday peak hour.

Non-Motorized Facilities

The City of Kirkland's *Transportation Master Plan* recommends pedestrian and bicycle facility improvements throughout the City to improve connectivity, access, and safety. As discussed previously, these improvements are generally unfunded but are part of the City's Transportation Master Plan recommendations in the immediate vicinity of the University. This includes creating a greenway along NE 52nd Street, NE 53rd Street and 114th Avenue NE to

facilitate bicycle access. This greenway would connect to the Cross Kirkland Corridor (major north-south separated non-motorized corridor that crosses the City) at NE 52nd Street and connect to the recommended NE 60th Street greenway via 114th Avenue NE.

Project Impacts

This section documents project-generated impacts on the transportation system in the vicinity of the Northwest University campus associated with the proposed Master Plan. First, weekday commute peak hour vehicular traffic generation is estimated for the forecast campus enrollment growth, tennis center, and public use of the sports fields, and is then distributed and assigned to the study area. Next, future traffic volumes with the Master Plan are determined and potential traffic volume and operations impacts are identified. Lastly, potential impacts to the neighborhood, parking, traffic safety, non-motorized facilities and transit are addressed.

Trip Generation

The anticipated growth in vehicle trip travel to and from the campus are generally associated with the on-campus student population. No individual development phase is anticipated to directly result in increased campus student enrollment; however, Northwest University does anticipate enrollment growth over the Master Planning analysis period and the additional buildings are intended to serve the general growth in campus population. Approximately 1,230 students attended classes on the Northwest University campus. This student enrollment includes undergraduate/graduate students living on-campus, undergraduate/graduate commuters, and adult evening class students. The enrollment does not include students enrolled in online classes or at other Northwest University campuses since these do not generate traffic or parking associated with the Kirkland main campus.

Based on information provided by Northwest University, over the next 6-years or by 2022, an increase of approximately 370 students is projected for the Kirkland campus⁹ resulting in a total campus population of 1,600 students. In 20-years (2037), the campus student population is anticipated to increase by approximately 770 students for a total of approximately 2,000 students. The growth in student population reflects both on-campus residents and commuters. There are approximately 660 residential students on the existing campus, which is about 54 percent of the total 1,230 campus student population. The proposed residence hall would increase the students living on-campus in the next 6-years by 290 students resulting in a total of 950 students living on-campus, which is approximately 59 percent of the total campus student population living on-campus by 2022. With the decrease in commuter students and increase in residential student, the campus trip generation rate during peak periods could decrease. As a conservative estimate of potential traffic associated with the campus, the analysis assumes trip generation rates would remain consistent with current conditions.

In addition to increases in campus student population over the analysis period, the Master Plan includes some public uses of the proposed tennis center and sports fields as well as the proposed banquet facility within the Welcome Center. The public use of the tennis center and sports fields would likely generate traffic on a regular basis during the weekday periods while the banquet facility use would be intermittent. With intermittent use of the banquet facilities, this is not included as part of the typical weekday traffic projections; however, it has been evaluated independently to confirm adequate parking would exist for an event. As described above, banquet facility would only be available during off-peak hours. The following sections describe the method used to forecast vehicle trips for increases in campus student enrollment, and public use of the tennis center and sports fields.

⁹ The campus student population reflects the total headcount of students who attend classes on the Kirkland campus. It does not include online students or students attending Northwest University at other campus locations.

Campus Trip Generation

The trip generation rates used to forecast the additional vehicle trips generated by increased Northwest University campus enrollment were determined based on traffic counts conducted at the existing campus driveways. Vehicular turning movement counts at the existing Northwest University access driveways were collected during weekday AM (7-9 a.m.) and PM (4-6 p.m.) peak periods on three separate days. Appendix E provides a summary of the campus-wide trip generation during weekday AM and PM peak hour and detailed count worksheets for the three days at each driveway location. The data showed trip generation varied from day-to-day; therefore, as a conservative estimate of trip generation, the existing trip generation rate was based on the highest AM and PM peak hour traffic volume observed.

Weekday daily vehicular trip generation was estimated based on data provided by automated vehicle counters placed at the two highest volume campus driveways over a seven-day period. Detailed count worksheets are also provided in Appendix E. Weekday daily and peak hour traffic volumes from the automated counters were used to identify factors that were applied to the weekday AM and PM peak hour vehicular trip generation rates to estimate a daily trip generation rate. Factoring the AM peak hour trip rate provides the greatest estimate weekday daily vehicular trip rate.¹⁰

Table 12 provides a summary of the weekday daily and peak hour trip generation rates, and summarizes the inbound distribution. Vehicle trip rates were based on the total on-campus student enrollment, which is reflective of undergraduate, graduate, and evening class students. As noted in existing conditions, evening classes begin at 6 p.m. so arrivals occur during the weekday evening commute period. A review of daily traffic patterns to and from the campus shows evening arrivals to campus are highest between approximately 3 and 6 p.m. and after this period.

Table 12. Campus Vehicular Trip Generation Rates and Distribution

| Time Period | Vehicular Trip Rate¹ | Percent Inbound Trips |
|----------------------|--|------------------------------|
| Weekday Daily | 4.22 vehicles/student ² | 50% |
| Weekday AM Peak Hour | 0.23 vehicles/student | 60% |
| Weekday PM Peak Hour | 0.32 vehicles/student | 50% |

1. Identified trip rate is based on the existing Kirkland campus student headcount of 1,230 students including undergraduate, graduate and adult evening classes. Online students or those attending classes at other campuses are not included.
2. Calculated by factoring the AM peak hour trip rate; Weekday AM peak hour volumes are 5.4 percent of daily volumes at the two highest volume campus driveways while PM peak hour volumes are 9 percent of daily volumes.

Compared to national data sets for colleges/universities trip rates published in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual* (9th Edition), the observed rates are higher. The ITE trip rates are 0.17 vehicle trips per student during both the weekday AM or PM peak hours and 1.71 trips per student each weekday. Table 13 summarizes the forecast new vehicle trip generation for the increase on-campus student enrollment.

¹⁰ Weekday AM peak hour volumes are 5.4 percent of daily volumes at the two highest volume campus driveways while PM peak hour volumes are 9.0 percent of daily volumes.

Table 13. Campus New Vehicular Trip Generation¹

| Time Period | Trip Rate ¹ | 2022 (+370 students) | | | 2037 (+770 students) | | |
|----------------------|------------------------|-------------------------|-----|-----|-------------------------|-------|-------|
| | | Total | In | Out | Total | In | Out |
| Weekday Daily | 4.22 per student | 1,560 | 780 | 780 | 3,250 | 1,625 | 1,625 |
| Weekday AM Peak Hour | 0.23 per student | 85 | 51 | 34 | 177 | 106 | 71 |
| Weekday PM Peak Hour | 0.32 per student | 118 | 59 | 59 | 246 | 123 | 123 |

1. Reflective on the on-campus student enrollment. No student enrollment at other Northwest University campuses or online courses were included.

Tennis Center Trip Generation

The proposed on-campus tennis center would be available to Northwest University as well as accommodate uses that are currently occurring at the Eastside Tennis Center. Use of the tennis center by on-campus University students and staff would not generate additional off-site trips as their trips were assumed to originate on-campus.

The Eastside Tennis Center is located at 10822 117th Place NE. Vehicle counts were collected at the current facility's doorway entrance on three weekdays during the weekday PM commute peak period. All tennis courts were occupied during the data collection period. Detailed count data is provided in Appendix E. The observations showed an average 43 weekday PM peak hour vehicular trips with 23 inbound and 20 outbound vehicles. The existing tennis center has 12 courts resulting in a vehicle trip rate of 3.58 trips per court with a distribution of 58 percent inbound trips. This vehicular trip generation is greater than published in *Trip Generation* for the Racket/Tennis Club land use (LU #491)¹¹. The proposal would reduce the number of courts to 6 resulting in 22 weekday PM peak hour vehicle trips (12 inbound, 10 outbound).

Eastside Tennis Center classes currently operate at capacity during weekday PM peak period and below capacity during weekday AM peak period. To provide a conservative forecast of potential tennis center traffic, weekday AM peak hour tennis center trips were assumed to be equal to PM peak hour trips. However, a 50 percent inbound trip distribution consistent with *Trip Generation* information for a fitness center (LU #492), a similar type of use, was assumed since directional trip information is not available for the *Trip Generation* tennis/racket club land use (LU #491).

Weekday daily trips were estimated by factoring the observed PM trips using trip generation rates for Racket/Tennis Club published in *Trip Generation*.¹² This results in approximately 250 weekday daily vehicle trips. Tennis center trip generation for these time periods is summarized in Table 14. Tennis center would be operated throughout the day. The trip generation shown during the peak hours is when all tennis courts are occupied; therefore, it is anticipated under typical operations hourly trip generation throughout the day would be similar to or less than shown in Table 14. The tennis center has limited viewing areas and there is not seating to watch matches; therefore, it is not anticipated that there would be tournament activity at this location.

¹¹ LU #491 – 3.35 vehicles per tennis court during the weekday PM peak hour of the adjacent street.

¹² Weekday daily vehicle trips for LU #491 = 38.70 per tennis court.

Table 14. Campus Tennis Center New Vehicular Trip Generation

| Time Period | Trip Rate ^{1,2} | Total | In | Out |
|----------------------------|--------------------------|-------|-----|-----|
| Weekday Daily ³ | 38.7 per court | 250 | 125 | 125 |
| Weekday AM Peak Hour | 3.58 per court | 22 | 11 | 11 |
| Weekday PM Peak Hour | 3.58 per court | 22 | 12 | 10 |

1. Weekday rate based on Institute of Transportation Engineers *Trip Generation*, 9th Edition tennis/racket club land use (#491).
2. Based on data collection at the Eastside Tennis Center in Kirkland in April 2016 for the weekday AM and PM peak hour trip generation rate.
3. Trip generation rounded up.

Public Sports Field Use Trip Generation

Public use of the sports fields could include a variety of organizations to support community sports. Northwest University would have first priority for field use; therefore, public field use would generally occur in the evenings or on weekends. The sports fields would be configured to accommodate a variety of team sports including baseball, softball, soccer, and lacrosse. Based on a review of the potential sports that may use the field, youth soccer (under 8 years old) is likely to be the worst-case weekday peak trip generator and has been used to estimate potential weekday PM peak hour vehicular trip generation for public use of the sports fields.¹³ Adult soccer has more players on a team but the fields would only provide for up to 4 teams whereas youth soccer could accommodate up to 16 teams; therefore, an evaluation of youth soccer provides a worst-case estimate of weekday activity. Public use of the sports fields would typically occur after 5 p.m. In total, 128 children and 32 coaches could be on-site during practice. This assumes up to 16 teams could practice concurrently. Assuming approximately 25 percent of parent drop-off their children and the remaining stay to watch the practice, this results in an estimated 160 inbound and 32 outbound vehicle trips, or 192 total weekday PM peak hour vehicle trips.

Weekday daily trips associated with the youth soccer accounts for parents returning to pick-up their children and assumes only one youth soccer session during the weekday. Forecast weekday PM peak hour and daily vehicular trip generation associated with public use of the Northwest University ball fields is summarized in Table 15. Since public use of the sports fields during mid-week periods would only occur during evening time periods, no AM peak hour trips would occur.

Table 15. Public Sports Field Use Vehicular Trip Generation (Youth Soccer)

| Team Member | Weekday PM Peak Hour | | | Weekday Daily | | |
|--------------------------|----------------------|------------------|------------|---------------|------------|------------|
| | In | Out ¹ | Total | In | Out | Total |
| 32 Coaches | 32 | 0 | 32 | 32 | 32 | 64 |
| 128 Players with Parents | 128 | 32 | 160 | 160 | 160 | 320 |
| Total | 160 | 32 | 192 | 192 | 192 | 384 |

1. Assumes 25 percent of the players' parents drop them off to practice and then return to pick them up during the weekday PM peak hour.

¹³ Based on the field size, up to 16 teams could practice at one time with 8 players per team and 2 coaches per team resulting in 160 people. Adult soccer would have 4 teams at one time with about 17 players (including substitutes) and potentially 2 coaches per team resulting in 84 people.

Trip Generation Summary

Table 16 provides a summary of the trip generation for the proposed Master Plan for both 2022 and 2037 future scenarios.

| Table 16. Master Plan Estimated New Vehicular Trip Generation | | | | | | | | |
|---|--|--------------------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Land Use | Size | Trip Rate ^{1,2} | 2022 | | | 2037 | | |
| | | | Total | In | Out | Total | In | Out |
| <u>Weekday Daily</u> | | | | | | | | |
| Northwest University Campus | +370 students (2022) +770 students (2037) | 4.22 per student | 1,560 | 780 | 780 | 3,250 | 1,625 | 1,625 |
| Tennis Center ³ | 6 courts | 38.70 per court | 250 | 125 | 125 | 250 | 125 | 125 |
| Public Sports Field Use | - | = | <u>320</u> | <u>160</u> | <u>160</u> | <u>320</u> | <u>160</u> | <u>160</u> |
| Total | | | 2,130 | 1,065 | 1,065 | 3,820 | 1,910 | 1,910 |
| <u>Weekday AM Peak Hour</u> | | | | | | | | |
| Northwest University Campus | +370 students (2022) +770 students (2037) | 0.23 per student | 85 | 51 | 34 | 177 | 106 | 71 |
| Tennis Center | 6 courts | 3.58 per court | 22 | 11 | 11 | 22 | 11 | 11 |
| Public Sports Field Use | - | = | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> |
| Total | | | 107 | 62 | 45 | 199 | 117 | 82 |
| <u>Weekday PM Peak Hour</u> | | | | | | | | |
| Northwest University Campus | +370 students (2022) +770 students (2037) | 0.32 per student | 118 | 59 | 59 | 246 | 123 | 123 |
| Tennis Center | 6 courts | 3.58 per court | 22 | 12 | 10 | 22 | 12 | 10 |
| Public Sports Field Use | - | = | <u>192</u> | <u>160</u> | <u>32</u> | <u>192</u> | <u>160</u> | <u>32</u> |
| Total | | | 332 | 231 | 101 | 460 | 295 | 165 |
| 1. Site specific trip rates calculated based on field observations for the campus daily and peak hour conditions and Eastside Tennis Center peak hour conditions. Daily trip rate for tennis center based on Institute of Transportation Engineers <i>Trip Generation</i> , 9th Edition tennis/racket club land use (#491). | | | | | | | | |
| 2. Trip generation for the sports fields is based on use of the fields for youth soccer. | | | | | | | | |
| 3. Trip generation rounded up. | | | | | | | | |

As summarized in the table, the campus master plan is estimated to generate 2,130 daily trips, 107 AM peak hour trips, and 332 PM peak hour trips in 2022. In year 2037, the master plan is estimated to generate 3,820 daily trips, 199 AM peak hour trips, and 480 PM peak hour trips.

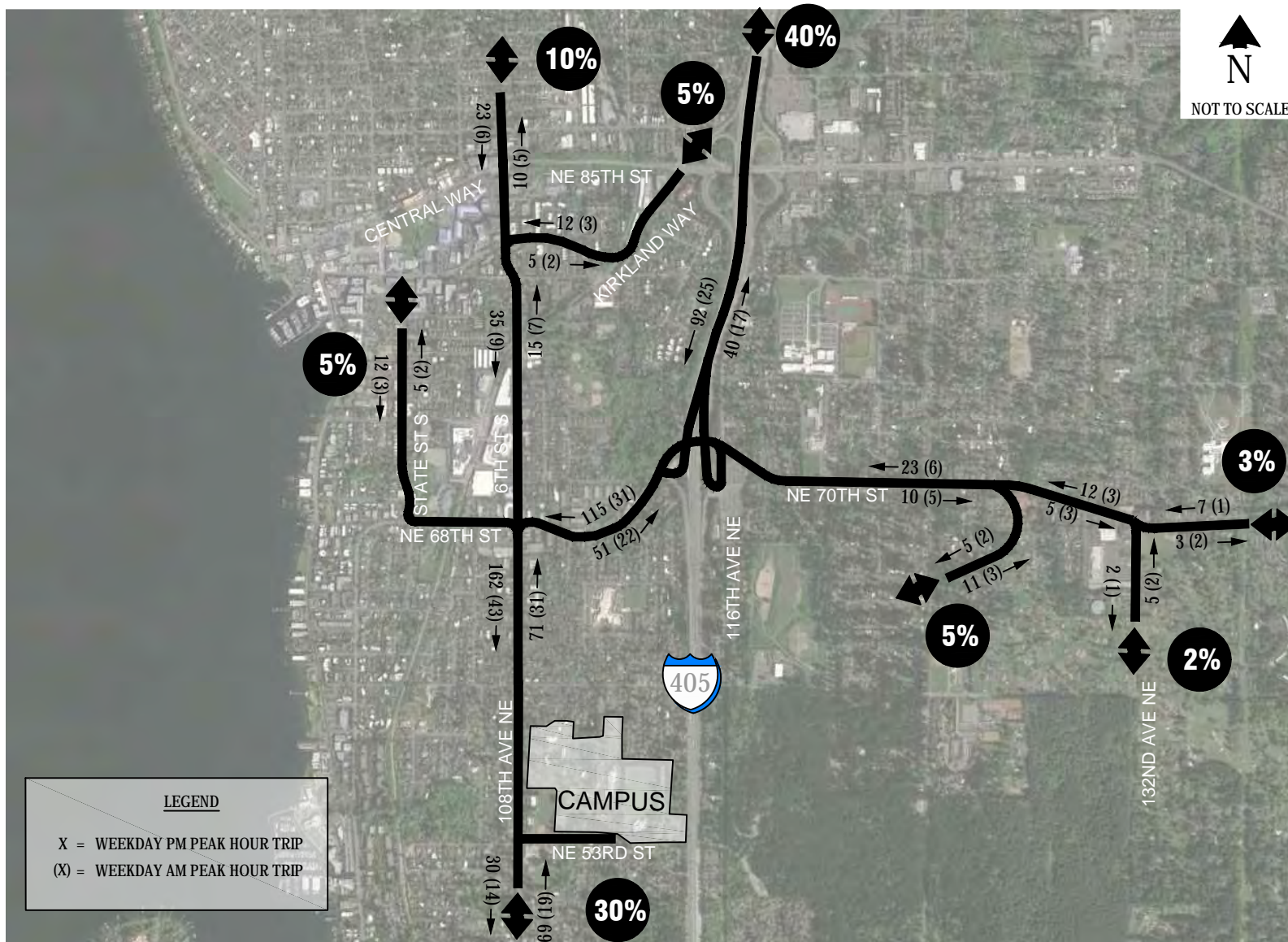
Trip Distribution and Assignment

The distribution of project traffic was based on a combination of information provided by the City of Kirkland, existing travel patterns at the study intersections, and analysis of the off-campus students' zip codes. Figure 11 through Figure 14 summarizes the distribution pattern and project trip assignment for all proposed land uses and analysis years 2022 and 2037 respectively.

As shown, approximately 30 percent of the on-campus student enrollment generated traffic was forecast to/from the south on 108th Avenue NE, 10 percent to/from the east on NE 70th Street east of I-405, 40 percent northbound on I-405, and the remaining 20 percent to/from the north on State Street and 6th Street S. When assigning trips to the campus driveways, future school generated trips were assumed to distribute proportionally based on the existing driveway distribution.

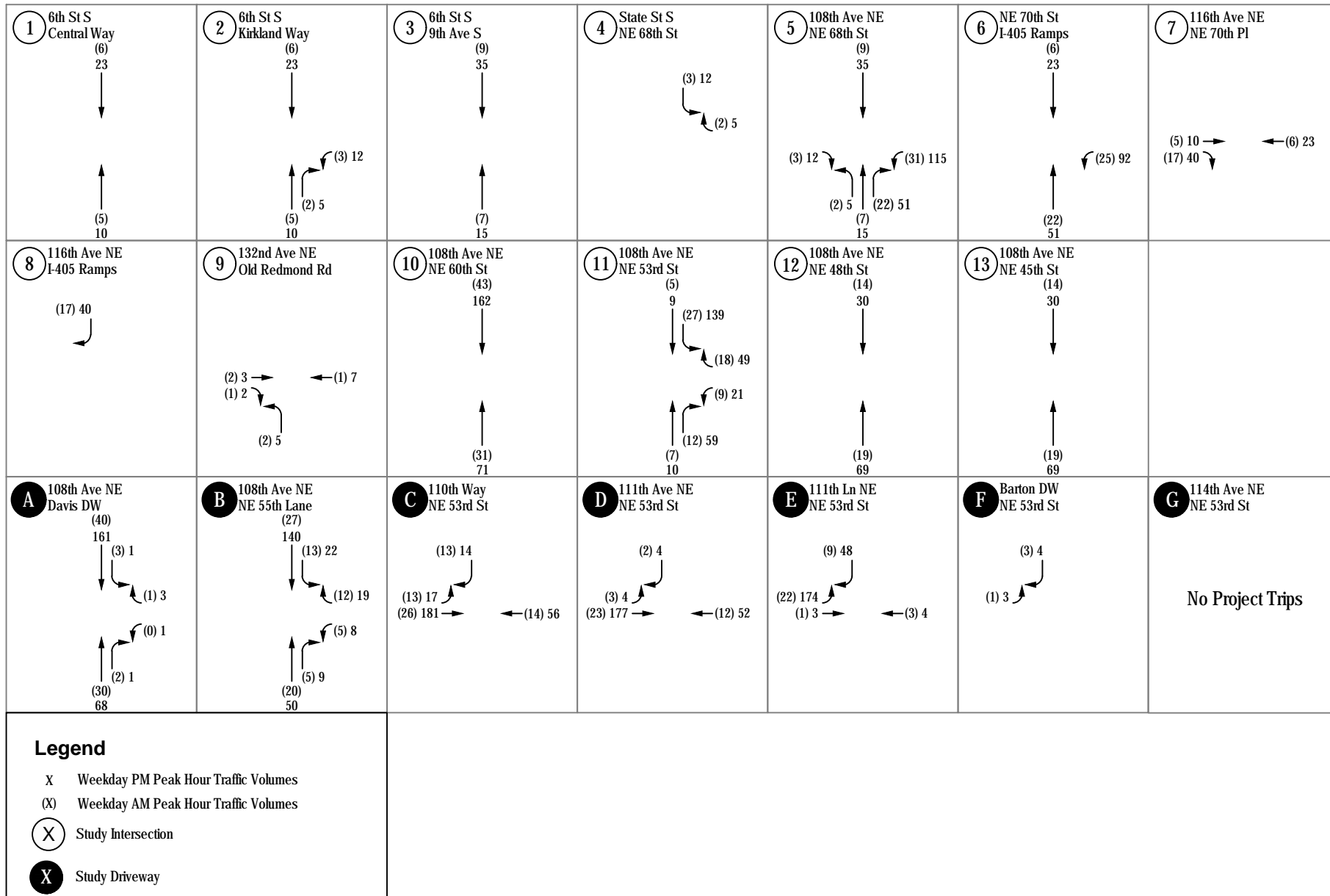
The tennis center trips were assigned exclusively to the 110th Way NE driveway due to location of the proposed tennis center and parking garage. Lastly, trips generated by public

use of the ball fields were assigned exclusively to the 111th Lane NE driveway due to its proximity to the sports fields and large parking lots. Master Plan-related vehicle trips were added to the future 2022 and 2037 without-project traffic volumes to form the basis of the with-project analysis. Figure 15 shows the 2022 forecast with-project weekday AM and PM peak hour traffic volumes at the off-site study intersections and 2037 with-project traffic volumes are shown in Figure 16.



2022 Project Trip Distribution

Northwest University Master Plan

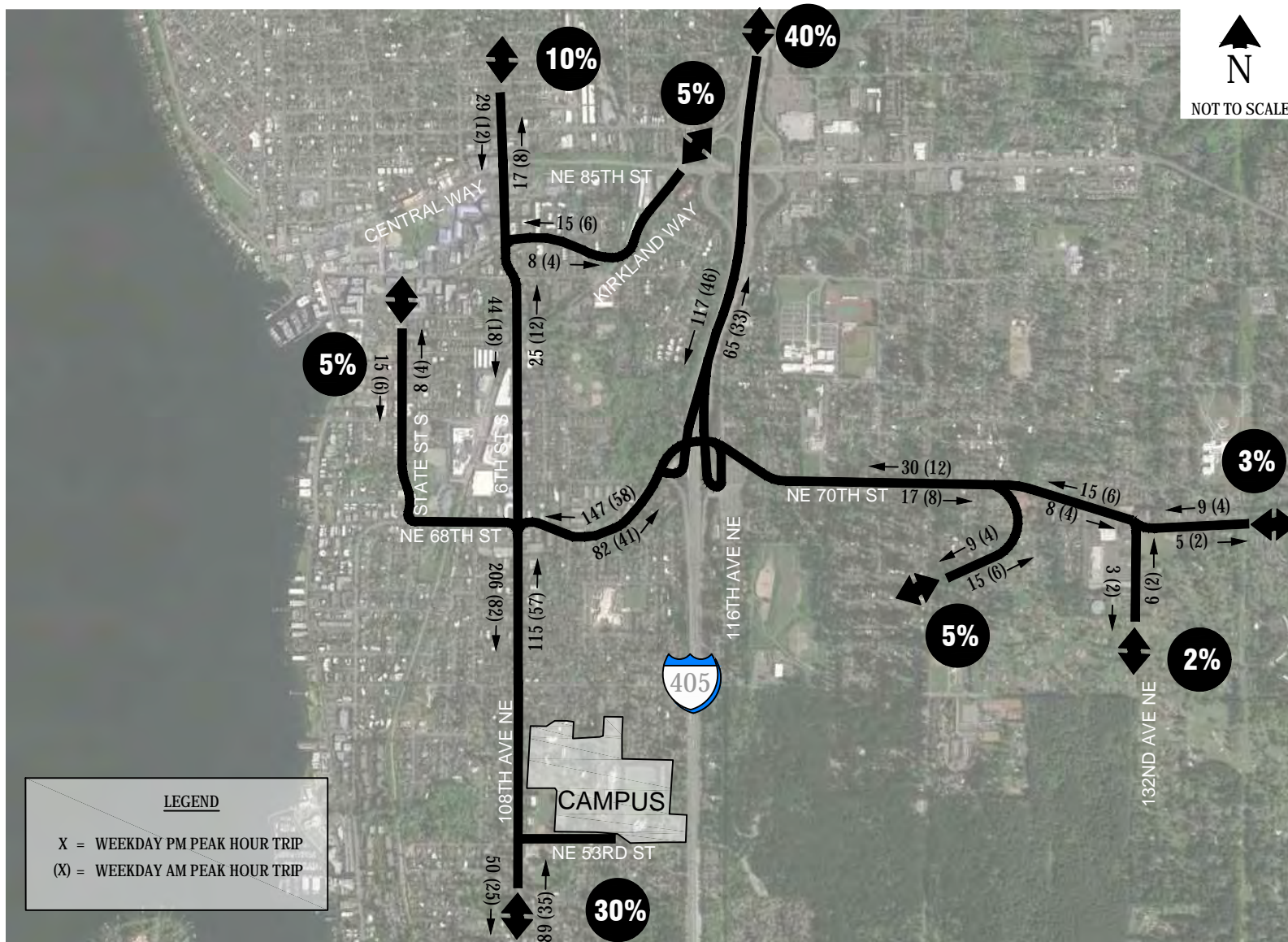


2022 Project Trip Assignment

Northwest University Master Plan

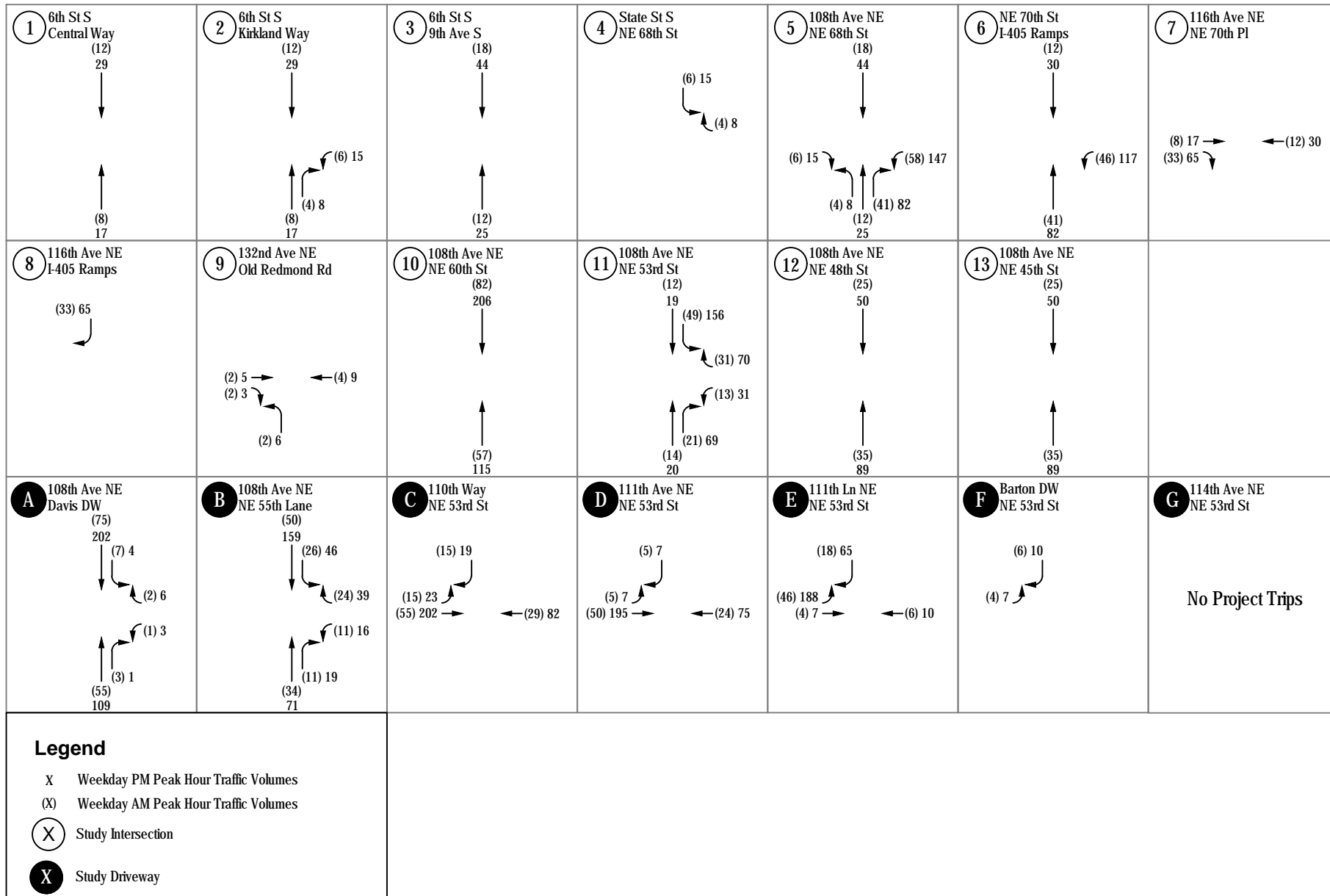
FIGURE

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2037 Project Trip Distribution

Northwest University Master Plan

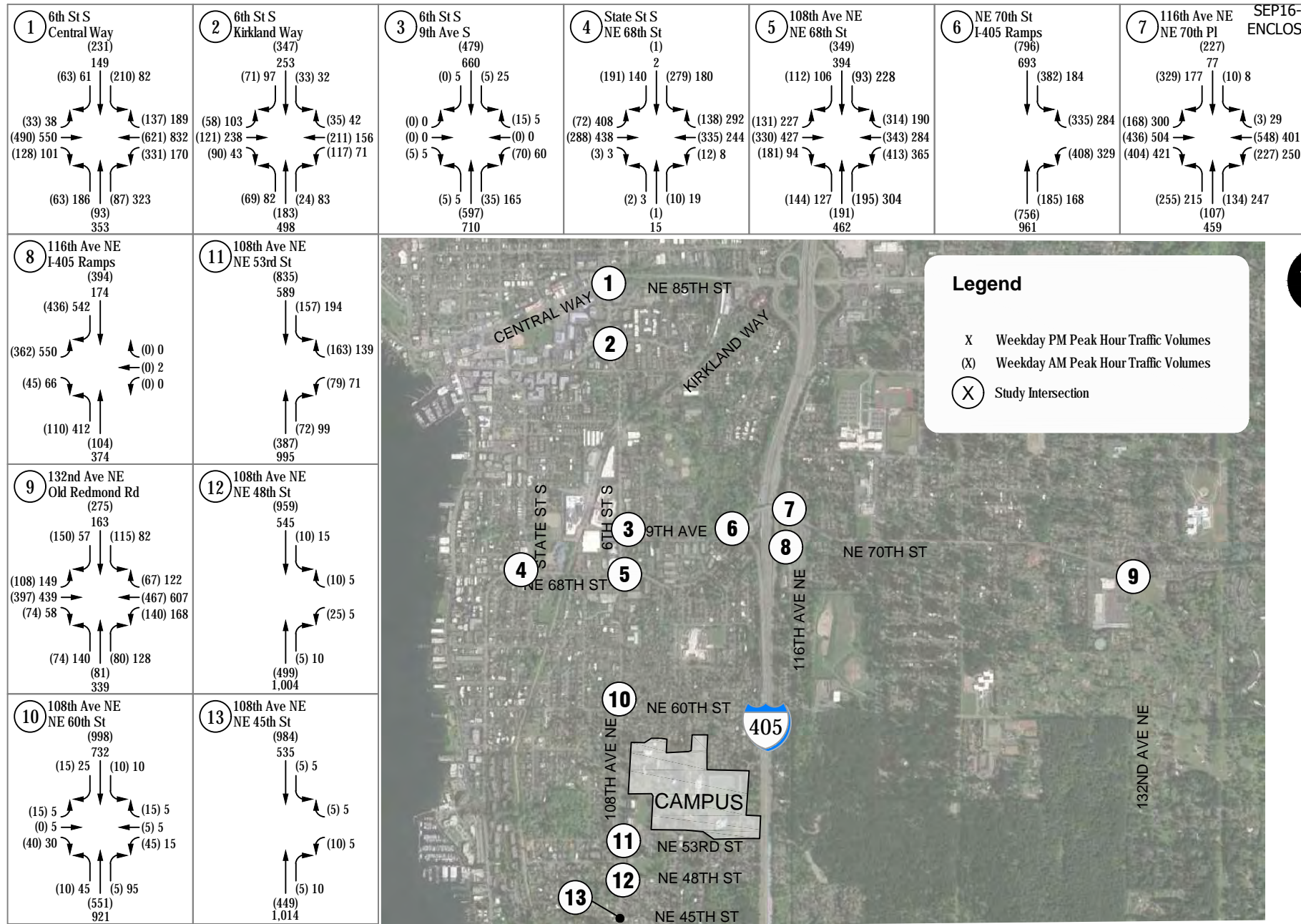


2037 Project Trip Assignment

Northwest University Master Plan

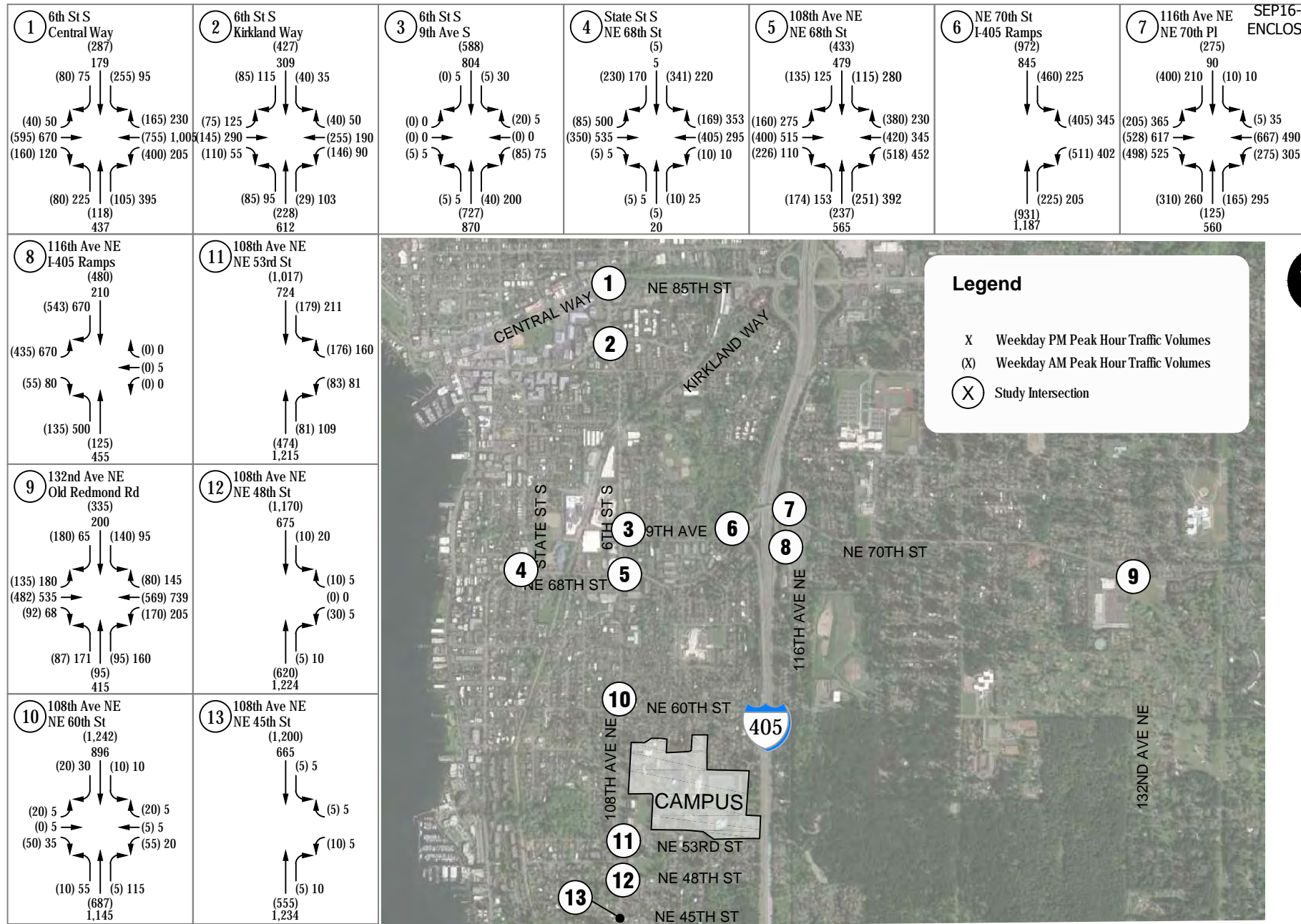
FIGURE

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2022 With-Project Off-Site AM & PM Peak Hour Traffic Volumes

Northwest University Master Plan



2037 Off-Site With-Project AM & PM Peak Hour Traffic Volumes

Northwest University Master Plan

Future With-Project Traffic Operations

An operational analysis was conducted at the study intersections to evaluate the future (2022) weekday AM and PM peak hour conditions with the project. The results of the with-project analysis were compared to the without-project conditions to identify the potential project impacts. Table 17 summarizes the future with and without-project LOS for the forecast 2022 weekday AM and PM peak hour. Table 18 summarizes the LOS results for 2037 without and with-project conditions. The Master Plan's intersection proportionate share based on the City of Kirkland method is also shown in the tables. Detailed LOS worksheets are included in Appendix D. The shaded intersections are those operating below the current LOS standard.

Table 17. Future 2022 Weekday Peak Hour LOS Summary

| Intersection | Jurisdiction | LOS Standard | 2022 Without-Project | | | 2022 With-Project | | | Proportionate Share ⁵ |
|---|--------------|--------------|----------------------|--------------------|-----------------|-------------------|--------------------|-----------------|----------------------------------|
| | | | LOS ¹ | Delay ² | WM ³ | LOS ¹ | Delay ² | WM ³ | |
| <u>Weekday AM Peak Hour</u> | | | | | | | | | |
| 1. 6th Street S / Central Way | Kirkland | D | C | 30 | - | C | 30 | - | 2.1% |
| 2. 6th Street S / Kirkland Way | Kirkland | D | A | 10 | - | A | 10 | - | 2.2% |
| 3. 6th Street S / 9th Avenue S | Kirkland | D | A | 7 | - | A | 7 | - | 1.0% |
| 4. State Street S / NE 68th Street | Kirkland | D | B | 17 | - | B | 17 | - | 0.6% |
| 5. 108th Avenue / NE 68th Street | Kirkland | D | F | 108 | - | F | 121 | - | 7.7% |
| 6. I-405 Ramps / NE 70th Place | WSDOT | E | F | 168 | - | F | >180 | - | 5.5% |
| 7. 116th Avenue NE / NE 70th PI | Kirkland | D | F | 114 | - | F | 117 | - | 7.2% |
| 8. 116th Avenue NE / I-405 Ramps ⁴ | WSDOT | E | B | 20 | - | B | 20 | - | 4.1% |
| 9. 132nd Avenue NE / NE 70th PI | Kirkland | D | D | 41 | - | D | 42 | - | 0.9% |
| 10. 108th Avenue NE / NE 60th St | Kirkland | D | F | 142 | WB | F | >180 | WB | 4.5% |
| 11. 108th Avenue NE / NE 53rd St | Kirkland | D | F | >180 | WBL | F | >180 | WBL | 12.8% |
| 12. 108th Avenue NE / NE 48th St | Kirkland | D | E | 37 | WB | E | 40 | WB | 1.9% |
| 13. 108th Avenue NE / NE 45th St | Kirkland | D | D | 28 | WB | E | 38 | WB | 1.9% |
| <u>Weekday PM Peak Hour</u> | | | | | | | | | |
| 1. 6th Street S / Central Way | Kirkland | D | D | 48 | - | D | 49 | - | 2.1% |
| 2. 6th Street S / Kirkland Way | Kirkland | D | B | 11 | - | B | 11 | - | 2.2% |
| 3. 6th Street S / 9th Avenue S | Kirkland | D | A | 7 | - | A | 7 | - | 1.0% |
| 4. State Street S / NE 68th Street | Kirkland | D | D | 52 | - | D | 52 | - | 0.6% |
| 5. 108th Avenue / NE 68th Street | Kirkland | D | E | 76 | - | F | 105 | - | 7.7% |
| 6. I-405 Ramps / NE 70th Place | WSDOT | E | E | 73 | - | F | 113 | - | 5.5% |
| 7. 116th Avenue NE / NE 70th PI | Kirkland | D | C | 35 | - | D | 36 | - | 7.2% |
| 8. 116th Avenue NE / I-405 Ramps ⁴ | WSDOT | E | F | 81 | - | F | 83 | - | 4.1% |
| 9. 132nd Avenue NE / NE 70th PI | Kirkland | D | E | 79 | - | E | 80 | - | 0.9% |
| 10. 108th Avenue NE / NE 60th St | Kirkland | D | F | 82 | WB | F | 154 | WB | 4.5% |
| 11. 108th Avenue NE / NE 53rd St | Kirkland | D | F | 128 | WBL | F | >180 | WBL | 12.8% |
| 12. 108th Avenue NE / NE 48th St | Kirkland | D | D | 27 | WB | D | 31 | WB | 1.9% |
| 13. 108th Avenue NE / NE 45th St | Kirkland | D | D | 27 | WB | D | 30 | WB | 1.9% |

Notes: Shaded intersections operate below City of Kirkland LOS D or WSDOT Mitigated LOS E standards.

1. LOS as defined by the HCM (TRB, 2010)

2. Average delay per vehicle in seconds.

3. Worst movement (WM) reported for stop-controlled intersections where WB = westbound approach and WBL = westbound left-turn movement.

4. Analyzed in HCM 2000 due to intersection configuration and signal phasing.

5. City of Kirkland proportionate share calculation methodology. Proportional share is calculated based on the current enrollment projections and potential phasing of the Master Plan. The Master Plan will be phased over a 20-year period.

Table 18. Future 2037 Weekday Peak Hour LOS Summary

| Intersection | Jurisdiction | LOS Standard | 2037 Without-Project | | | 2037 With-Project | | | Proportionate Share ⁵ |
|---|--------------|--------------|----------------------|--------------------|-----------------|-------------------|--------------------|-----------------|----------------------------------|
| | | | LOS ¹ | Delay ² | WM ³ | LOS ¹ | Delay ² | WM ³ | |
| <u>Weekday AM Peak Hour</u> | | | | | | | | | |
| 1. 6th Street S / Central Way | Kirkland | D | D | 54 | - | E | 55 | - | 3.8% |
| 2. 6th Street S / Kirkland Way | Kirkland | D | B | 12 | - | B | 13 | - | 4.0% |
| 3. 6th Street S / 9th Avenue S | Kirkland | D | B | 10 | - | B | 11 | - | 1.7% |
| 4. State Street S / NE 68th Street | Kirkland | D | B | 17 | - | B | 17 | - | 1.2% |
| 5. 108th Avenue / NE 68th Street | Kirkland | D | F | 151 | - | F | 177 | - | 13.8% |
| 6. I-405 Ramps / NE 70th Place | WSDOT | E | F | >180 | - | F | >180 | - | 9.9% |
| 7. 116th Avenue NE / NE 70th PI | Kirkland | D | F | >180 | - | F | >180 | - | 13.0% |
| 8. 116th Avenue NE / I-405 Ramps ⁴ | WSDOT | E | C | 25 | - | C | 26 | - | 7.3% |
| 9. 132nd Avenue NE / NE 70th PI | Kirkland | D | F | 88 | - | F | 90 | - | 1.6% |
| 10. 108th Avenue NE / NE 60th St | Kirkland | D | F | >180 | WB | F | >180 | WB | 8.0% |
| 11. 108th Avenue NE / NE 53rd St | Kirkland | D | F | >180 | WBL | F | >180 | WBL | 22.9% |
| 12. 108th Avenue NE / NE 48th St | Kirkland | D | F | 76 | WB | F | 88 | WB | 3.4% |
| 13. 108th Avenue NE / NE 45th St | Kirkland | D | E | 43 | WB | E | 47 | WB | 3.4% |
| <u>Weekday PM Peak Hour</u> | | | | | | | | | |
| 1. 6th Street S / Central Way | Kirkland | D | F ⁴ | 88 | - | F | 88 | - | 3.8% |
| 2. 6th Street S / Kirkland Way | Kirkland | D | B | 14 | - | B | 15 | - | 4.0% |
| 3. 6th Street S / 9th Avenue S | Kirkland | D | B | 11 | - | B | 13 | - | 1.7% |
| 4. State Street S / NE 68th Street | Kirkland | D | F | 96 | - | F | 97 | - | 1.2% |
| 5. 108th Avenue / NE 68th Street | Kirkland | D | F | 103 | - | F | 146 | - | 13.8% |
| 6. I-405 Ramps / NE 70th Place | WSDOT | E | F | 142 | - | F | >180 | - | 9.9% |
| 7. 116th Avenue NE / NE 70th PI | Kirkland | D | E | 66 | - | E | 75 | - | 13.0% |
| 8. 116th Avenue NE / I-405 Ramps ⁴ | WSDOT | E | F | 141 | - | F | 147 | - | 7.3% |
| 9. 132nd Avenue NE / NE 70th PI | Kirkland | D | F | 145 | - | F | 149 | - | 1.6% |
| 10. 108th Avenue NE / NE 60th St | Kirkland | D | F | >180 | WB | F | >180 | WB | 8.0% |
| 11. 108th Avenue NE / NE 53rd St | Kirkland | D | F | >180 | WBL | F | >180 | WBL | 22.9% |
| 12. 108th Avenue NE / NE 48th St | Kirkland | D | E | 41 | WB | E | 49 | WB | 3.4% |
| 13. 108th Avenue NE / NE 45th St | Kirkland | D | E | 39 | WB | E | 47 | WB | 3.4% |

Notes: Shaded intersections operate below City of Kirkland LOS D or WSDOT Mitigated LOS E standards.

1. LOS as defined by the HCM (TRB, 2010)

2. Average delay per vehicle in seconds.

3. Worst movement (WM) reported for stop-controlled intersections where WB = westbound approach and WBL = westbound left-turn movement.

4. Analyzed in HCM 2000 due to intersection configuration and signal phasing.

5. City of Kirkland proportionate share calculation methodology. Proportional share is calculated based on the current enrollment projections and potential phasing of the Master Plan. The Master Plan will be phased over a 20-year period.

As discussed previously, the City adopted standard is LOS D and WSDOT's is LOS E mitigated with the study area. As shown in Table 17 and Table 18, several of the study intersections already operate at LOS E or F and this is anticipated to continue for both 2022 and 2037 weekday AM and PM peak hour conditions with the project. In addition, intersection operations would degrade to LOS E or F at the following locations:

- NE 70th Street/I-405 Ramps – degrades from LOS E to LOS F with the project in 2022 during the weekday PM peak hour
- 108th Avenue NE/NE 68th Street – degrades from LOS E to LOS F with the project in 2022 during the weekday PM peak hour
- 6th Street S/Central Way – degrades from LOS D to LOS E with the project in 2037 during the weekday AM peak hour

- 116th Avenue NE/I-405 Ramps – degrades from LOS D to LOS E with the project in 2037 during the weekday PM peak hour
- 108th Avenue NE/NE 45th Street – degrades from LOS D to LOS E with the project in 2022 during the weekday AM peak hour

Based on the City's *Traffic Impact Analysis Guidelines* (August 2014), the City defines a SEPA impact requiring mitigation at signalized and unsignalized locations where the project's proportional share of daily intersection traffic related to the capacity of the intersection represents the following:¹⁴

- More than 15 percent at intersections operating at LOS E
- More than 5 percent at intersections operating at LOS F

Table 17 and Table 18 summarize the proportionate share at each off-site study intersection. Appendix A contains the proportional share calculation worksheets for each intersection under 2022 and 2037 conditions.

Based on the adopted LOS standards, forecast traffic operations, and the proportionate share calculations, mitigation would be required to address project impacts at four City of Kirkland study intersections under either 2022 or 2037 conditions:

- 116th Avenue NE / NE 70th Place
- 108th Avenue NE / NE 68th Street
- 108th Avenue NE / NE 60th Street
- 108th Avenue NE / NE 53rd Street

Mitigation measures to address intersection impacts of the Master Plan are summarized in Mitigation and Recommendations section of this study.

For WSDOT locations, based on the *Development Services Manual*, April 2016 when a development affects a highway intersection where LOS is already below the applicable threshold, then the pre-development LOS is the condition that is preserved. WSDOT also notes that mitigation must be reasonably related and proportional to the development's impacts. As described in the future without-project section, LOS F conditions at the NE 70th Street/116th Avenue NE/I-405 ramps were previously identified in the City's 2015 *Transportation Master Plan*. No specific improvements have been identified at this location but the City recognizes the need to coordinate with WSDOT on improvements at this interchange.

In addition to intersection LOS, the City's 2015 Comprehensive Plan also reviewed traffic operations for key corridors during the weekday PM peak hour including 108th Avenue NE-6th Street. The EIS Alternatives were studied for a 2035 horizon year and a review of traffic volumes shows that the 2037 forecasts were generally higher than the EIS Alternative 1. The 2037 108th Avenue NE-6th Street corridor operations would be LOS E consistent with the 2015 Comprehensive Plan.

¹⁴ See Table 1 of the City of Kirkland *Traffic Impact Analysis Guidelines*, Revised August 2014.

Site Access & Neighborhood Context

The following sections summarize future site access traffic volumes, driveway operations, and traffic conditions in the neighborhood surrounding the campus.

Driveway Traffic Volumes

Forecast 2022 and 2037 site access driveway traffic volumes were forecast consistent with the previously described methodologies. The assignment of future project trips to the campus driveways assumed a distribution based on the existing driveway travel patterns and the location of future Master Plan uses. The tennis center trips were assigned exclusively to the 110th Way NE driveway and trips generated by public use of the sports fields were assigned exclusively to the 111th Lane NE driveway. Master Plan-related vehicle trips were then added to the future 2022 and 2037 without-project traffic volumes to form the basis of the with-project analysis. Figure 17 shows the 2022 forecast with-project weekday AM and PM peak hour traffic volumes at the campus driveways and 2037 traffic volumes are shown on Figure 18.

Driveway Traffic Operations

Traffic operations under forecast future with-project traffic volumes were evaluated consistent with the methodology previously described for existing and future without-project conditions. Table 19 summarizes the 2022 forecast without-project AM and PM peak hour intersection operations for the campus driveways and Table 20 summarizes 2037 forecast operations.

Table 19. Future 2022 With-Project Weekday Peak Hour Site Access LOS Summary

| Intersection | AM Peak Hour | | | PM Peak Hour | | |
|---|------------------|--------------------|-----------------|------------------|--------------------|-----------------|
| | LOS ¹ | Delay ² | WM ³ | LOS ¹ | Delay ² | WM ³ |
| A. 108th Avenue NE / Davis Driveway | B | 12 | WB | C | 24 | WB |
| B. 108th Avenue NE / 55th Lane NE (Main Driveway) | C | 17 | WB | D | 34 | WB |
| C. 110th Way / NE 53rd Street | B | 12 | NB | B | 14 | NB |
| D. 111th Avenue NE / NE 53rd Street | B | 10 | SB | B | 11 | SB |
| E. 111th Lane NE / NE 53rd Street | B | 10 | NB | C | 17 | NB |
| F. Barton Driveway / NE 53rd Street | A | 9 | SB | A | 9 | SB |
| G. 114th Avenue NE / NE 53rd Street | A | 10 | NB | A | 10 | NB |
| 11. 108th Avenue NE / NE 53rd Street | F | >180 | WBL | F | >180 | WBL |

Note: Shaded intersections operate below City of Kirkland LOS standards. The City's LOS standard does not apply to unsignalized site access driveways

1. LOS as defined by the HCM (TRB, 2010)

2. Average delay per vehicle in seconds.

3. Worst movement (WM) reported for stop-controlled intersections where WBL = westbound left-turn movement and EB = eastbound approach.

Table 20. Future 2037 With-Project Weekday Peak Hour Site Access LOS Summary

| Intersection | AM Peak Hour | | | PM Peak Hour | | |
|---|------------------|--------------------|-----------------|------------------|--------------------|-----------------|
| | LOS ¹ | Delay ² | WM ³ | LOS ¹ | Delay ² | WM ³ |
| A. 108th Avenue NE / Davis Driveway | C | 22 | WB | D | 35 | WB |
| B. 108th Avenue NE / 55th Lane NE (Main Driveway) | C | 24 | WB | F | 91 | WB |
| C. 110th Way / NE 53rd Street | B | 13 | NB | C | 15 | NB |
| D. 111th Avenue NE / NE 53rd Street | B | 10 | SB | B | 12 | SB |
| E. 111th Lane NE / NE 53rd Street | B | 13 | NB | C | 18 | NB |
| F. Barton Driveway / NE 53rd Street | A | 9 | SB | A | 9 | SB |
| G. 114th Avenue NE / NE 53rd Street | A | 10 | NB | A | 10 | NB |
| 11. 108th Avenue NE / NE 53rd Street | F | >180 | WBL | F | >180 | WBL |

Note: Shaded intersections operate below City of Kirkland LOS standards. The City's LOS standard does not apply to unsignalized site access driveways.

1. LOS as defined by the HCM (TRB, 2010)

2. Average delay per vehicle in seconds.

3. Worst movement (WM) reported for stop-controlled intersections where WBL = westbound left-turn movement and EB = eastbound approach.

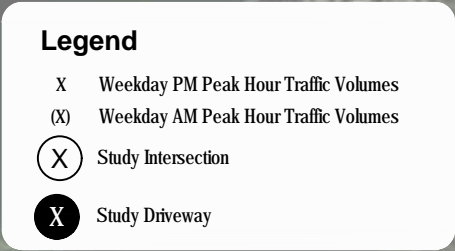
As shown in Table 19, all site access driveways are forecasted to operate at LOS D or better in both peak hours under 2022 with the forecast on-campus student enrollment growth. With additional background traffic growth and the Master Plan and enrollment growth by 2037, as shown in Table 20, the 108th Avenue NE/55th Lane NE intersection is forecasted to operate at LOS F during the weekday PM peak hour. In addition, as discussed previously, the 108th Avenue NE/NE 53rd Street intersection, which provides access to the campus driveways along NE 53rd Street, would operate at LOS F. Improvements to address potential operations issues and impacts are described in the Mitigation and Recommendations section of this study.

Driveway Configuration and Spacing

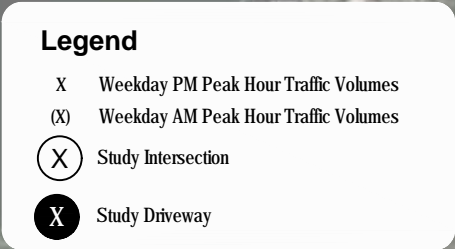
As discussed previously, the Master Plan does not propose any new driveways; however, it does propose to realign the 111th Avenue NE driveway to accommodate the proposed tennis center. The City of Kirkland's *Policy R-4: Driveway Policy*, April 2016 outlines the standards for driveway configuration and spacing. The proposed driveway improvements were reviewed against this policy.

The proposed realignment would create an offset intersection by moving 111th Avenue NE to the east or right of the existing driveway south of NE 53rd Street. Based on City Policy R-4, the City prefers new driveways be aligned with existing opposing driveways or be offset to the left of the existing opposing driveway in order to minimize left turn conflicts on the streets. The current proposed realignment of the 111th Avenue NE driveway would result in new left-turn conflicts with the existing opposing southern leg of 111th Avenue NE. In order to minimize these conflicts, consistent with the City's Policy R-4, it is recommended that left-turns be restricted to and from the Northwest University 111th Avenue NE access.

The proposed driveway realignment would meet the City of Kirkland driveway spacing requirements. The City requires a driveway spacing of 50-feet along collectors, such as NE 53rd Street, for non-residential use.



FIGURE



FIGURE

Neighborhood Traffic Conditions

The Master Plan and growth in student enrollment would result in additional traffic to and from the campus. Resulting project neighborhood impacts would include:

- **Contribution to Speeding Traffic along NE 53rd Street.** As noted in existing conditions, there are speeding issues along NE 53rd Street and with the additional traffic due to the Master Plan the number of vehicles travelling above the posted speed limit would likely increase.
- **Increase Conflicts at 108th Avenue NE/NE 53rd Street Intersection.** As traffic volumes increase, the number of conflicts between various modes would increase. This would include an increase in conflicts with the school-related activity already occurring at this intersection.
- **Increase in Neighborhood Cut-Through Traffic.** The review of existing neighborhood cut-through traffic to and from the campus showed very few vehicles related to Northwest University travelled within the neighborhood. With increases in traffic volumes and congestion in the study area, there could be some increase in neighborhood cut-through traffic including for vehicles associated with the campus.

Mitigations to address these neighborhood impacts are discussed in the Mitigation and Recommendations section.

Parking

This section summarizes the anticipated Master Plan parking supply and demand.

Supply

The master plan would construct 300 additional parking spaces and eliminate 122 parking spaces. The net increase in campus parking would be 178 parking spaces. Under the initial redevelopment anticipated by 2022, a net increase of approximately 120 additional parking stalls are anticipated after accounting for demolished and reconstructed parking spaces/garages. At 2037 buildout the further addition of 56 parking stalls is anticipated for a total increased parking supply of approximately 178 parking stalls. Figure 3, shown previously, illustrates the location of the proposed parking supply.

Peak Demand

Similar to trip generation, changes in parking demand with the Master Plan would be associated with increases in enrollment, the tennis center, public use of the sports fields as well as events on campus related to the banquet facilities. Parking demand for Northwest University is anticipated to be highest midday on a weekday when classes are in session.

Campus Parking

As described previously, the current campus contains 1,166 parking spaces and the existing peak parking demand is 638 vehicles occurring between 10 and 11 a.m. The Kirkland campus currently enrolls approximately 1,230 students, which would equate to 0.52 vehicles/student during the peak weekday parking period. Parking demand associated with faculty, staff, and visitors is reflected in the existing demand and thus included in the rate.

As discussed previously, the University is projected to increase campus enrollment by 370 students by 2022 and 770 students by 2037. Table 21 summarizes the campus projected weekday peak parking demand for 2022 and 2037 conditions.

Table 21. Peak On-Campus Parking Summary

| Year | On-Campus Enrollment | Peak Parking Demand Rate | Peak Parking Demand | Campus Parking Supply |
|-------------|----------------------|--------------------------|---------------------|-----------------------|
| 2015 / 2016 | 1,230 students | 0.52 veh / student | 638 vehicles | 1,166 stalls |
| 2022 | 1,600 students | 0.52 veh / student | 832 vehicles | 1,288 stalls |
| 2037 | 2,000 students | 0.52 veh / student | 1,040 vehicles | 1,344 stalls |

As shown in Table 21, parking demand is estimated to increase by 194 vehicles by 2022 and an additional 208 vehicles by 2037. In addition, it is anticipated that campus parking supply would increase by 142 stalls by 2022 and 178 stalls by 2037. In addition to students, faculty and staff, the campus parking would also accommodate parking demands associated with the tennis center and public field use. The following describes these additional parking demands and how the parking demand for all the proposed uses would be accommodated on-campus.

Tennis Center Parking

Estimated weekday tennis center peak parking demand was calculated based on ITE *Parking Generation*, 4th Edition. The racquet/tennis club (LU 491) average parking demand rate was used to estimate the tennis center parking demand. A weekday peak parking demand of 21 vehicles is anticipated at approximately 7 p.m. It is anticipated that at 10 a.m. when the University parking peaks, the tennis center parking demand would be 11 vehicles.

There are limited viewing areas and there is no seating to view matches at the tennis center. It is anticipated that there would be little to no tournaments at the tennis center. There are lounges similar to other athletic facilities. These lounges accommodate parents waiting for players and provide a transition area as players arrive and depart the facility; this is accounted for in the parking demand for typical weekday conditions. If there are tournaments in the future the parking demand is anticipated to be limited to mostly players and coaches since there would be very limited viewing areas in the proposed tennis center; assuming 2 players and 2 coaches per court, there could be up to 48 people at the tennis center plus there may be a handful of spectators and other facilities management. The tennis center would have approximately 79 spaces associated with it and other parking could be shared on-campus. Parking for the tennis center and the rare occurrence of a tournament would be accommodated on-campus and event management strategies including signage, monitoring, and directing visitors outlined in the mitigations section would be utilized.

Public Field Use

The public sports field is anticipated to start operations after 4 p.m. and not expected to produce parking demand between the 10 to 11 a.m. Based on similar assumptions as applied to trip generation (where under 8 youth soccer would have the highest level of weekday activity), peak parking demand for the public use of the sports fields assumes 128 children and 32 coaches with practice starting at 5:00 p.m. It assumes all the coaches and 90 percent of the children would arrive between 4-5 p.m. and 25 percent of the parents would leave after dropping off the children. All the coaches are assumed to drive alone and parents are assumed only to have only one child in a vehicle. The resulting peak parking demand is 160 vehicles and would occur at approximately 7 p.m.

Similar to the tennis center, the frequency of tournaments for the sports fields is anticipated to be low. Parking for tournaments would be accommodate on-campus and event management strategies including signage, monitoring, and directing visitors outlined in the mitigations section would be utilized.

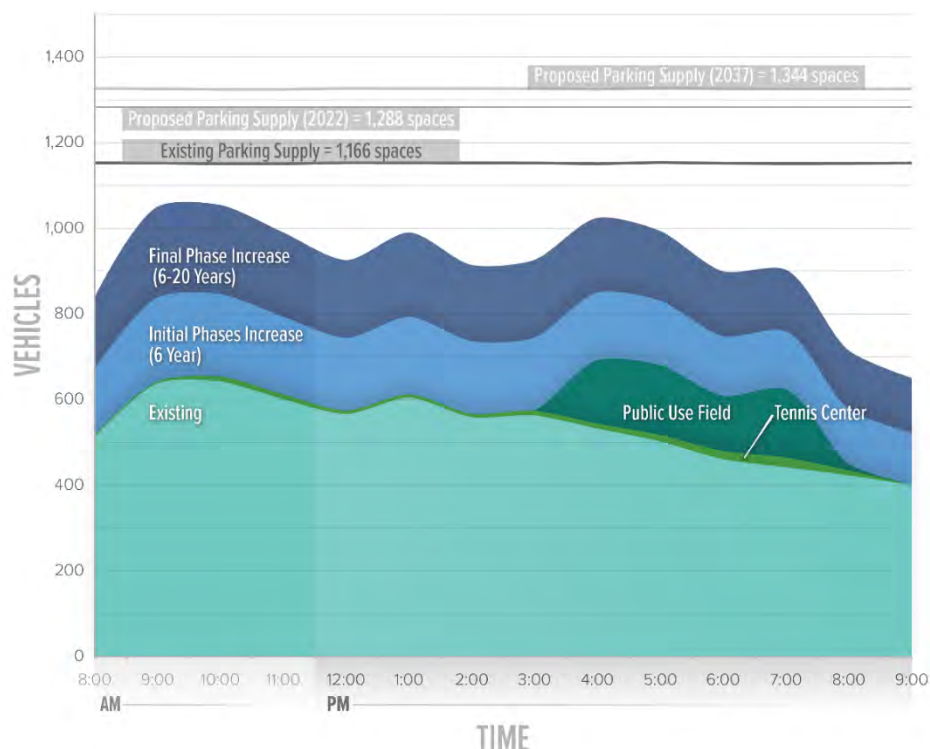
Shared Parking Demand

Parking demand associated with general University operations would peak at a different time of the day compared to the tennis center and public use of the field. The hourly parking demand for the campus was reviewed to determine the adequacy of the campus parking supply. Appendix F provides a summary of the projected hourly parking demand for the site. Hourly parking distributions for the Master Plan uses are based on:

- **Campus-Related Population Demand** – Hourly parking data collected in March 2016 and ITE *Parking Generation*, 4th Edition data for the University/College (LU 550)
- **Tennis Center** – ITE *Parking Generation*, 4th Edition data for the Racquet/Tennis Club (LU 491)
- **Public Use of Sports Fields** – Assuming all the coaches and 90 percent of the children would arrive between 4-5 p.m., 25 percent of the parents would leave after dropping off the children, practice is only 1-hour and only one soccer practice session would occur during the weekday evening.

The project Master Plan weekday hourly parking demand is illustrated on Figure 19. As shown on the figure, the peak parking demand for the campus occurs at approximately 10 a.m. consistent with existing conditions and would be 1,051 vehicles. The existing parking supply could accommodate the anticipated future peak parking demand with the Master Plan for both 2022 (6-year) and 2037 (6-20 year) conditions. With build-out of the Master Plan, parking utilization for the campus would be approximately 90 percent if no new parking was constructed or 78 percent with an additional 178 parking spaces. As shown in the existing conditions section, there are some parking lots on campus that are highly utilized and others that have very low utilization. This shows that there is sufficient parking on campus; however, it may not be in the most convenient location. If parking is not located within a reasonable proximity of the site use, then campus-related traffic may be more likely to park on-street. The provision of parking with the Master Plan would help distribute the location of parking spaces within the campus as well as provide more conveniently located parking for the proposed uses.

Figure 19. Weekday Hourly Master Plan Parking Demand



Event Parking Demand

Tournaments are anticipated to be very limited; the tennis center has no seating and very limited viewing areas and the public fields and gymnasium are not anticipated to have frequent tournaments. As described previously, assuming 2 players and 2 coaches per court, there could be up to 48 people at the tennis center plus there may be a handful of spectators and other facilities management. The tennis center would have approximately 79 spaces associated with it and other parking could be shared on-campus. Parking for the tennis center and the rare occurrence of a tournament would be accommodated on-campus and event management strategies including signage, monitoring, and directing visitors outlined in the mitigations section would be utilized.

The Master Plan includes a banquet facility and gymnasium with up to 900 seats that could have event demands. These events are anticipated to occur during off-peak periods on either weekends or evenings when the overall campus parking demand is low. The following describes potential event parking demand associated with these facilities.

Banquet Facility

The proposed banquet facility within the Welcome Center would accommodate up to 450 guests and be constructed by 2037. It is anticipated that the banquet facilities would be available for evening use. Based hourly parking demand presented on Figure 19 and with the proposed parking supply of 1,344 campus spaces, there would be approximately 355 parking spaces available on-campus at 5 p.m. and parking availability would continue to increase throughout the evening. The proposed parking supply would accommodate the anticipated banquet facility parking needs.

Gymnasium

The increased seating in the gymnasium will provide the ability for the University to hold occasional student assemblies on-campus; there is no existing facility on-campus that has the capacity to accommodate campus-wide student assemblies. The expansion of the gymnasium is not anticipated to increase tournament or playoff activity for the campus. It is anticipated that large attendance levels where up to 900 seats are utilized would occur at most 15 times per year to accommodate events such as baccalaureate services and convocations.

The largest attendance draw for events at the gymnasium is men's basketball games. With additional seats, there could be some increase in attendance at the men's basketball games, but it is not anticipated that the attendance levels would be 900-persons. The increase in attendance at men's basketball games would occur outside the weekday commuter periods and would mainly be a result of increased University student population. The college basketball playoffs are typically one game on-campus at a time with only the two teams playing the game. As described previously, parking demand for men's basketball is typically 0.38 and 0.43 vehicles per seat. Assuming the proposed 900 seats are filled, the parking demand would be 342 to 387 vehicles. It is anticipated that the gymnasium would be constructed by 2022 and the parking supply would be 1,288 stalls on-campus. Basketball games with higher attendance levels typically occur on Friday and Saturday evenings starting at 6 or 8 p.m. As shown in Figure 19, overall campus parking demand would be lower during these periods and approximately 400 to 600 spaces would be available to accommodate the additional parking demand.

Parking would be managed for the banquet facility and gymnasium through event management. Scheduling strategies would be used to manage use of the tennis center, gym, fields and banquet facility such that high activities are not scheduled on the same day. It is anticipated that large attendance levels where up to 900 seats are utilized would occur at

most 15 times per year to accommodate events such as baccalaureate services and convocations.

Traffic Safety

Traffic generated by the proposed master plan would likely result in a proportionate increase in the probability of collisions. As noted previously, the 116th Avenue NE / NE 70th Street intersection was the only intersection where the observed crash rate was greater than the critical crash rate. However, recently collisions have been decreasing at this location. The City regularly monitors major intersections for safety issues and if a pattern of collisions is identified potential safety improvements are reviewed.

Non-Motorized Facilities

The non-motorized facilities in the area as well as the linkages to the existing transit stops are adequate to support the current and future increases in activity. As part of the Master Plan, improvements would be made to pedestrian connectivity to help better utilize parking and reduce driving between portions of the campus. The existing pedestrian path between the lower campus and the FIRS and Student Apartments would be improved and a new staircase would be constructed that provides a more direct connection to the lower campus instead of the existing circuitous route. A new staircase would also be constructed between the fields and the lower parking lot to the west.

As discussed previously, the City's *Transportation Master Plan* recommends NE 53rd Street as a future greenway to accommodate bicycle activity and facilitate connectivity of the City's bicycle network. The proposed Master Plan would not preclude development of this greenway.

Transit Services

It is anticipated that existing transit services would be able to accommodate increases in ridership as a result of the Master Plan and increases in enrollment. As previously described, the nearest transit is located along 108th Avenue NE.

Transportation Concurrency

A transportation concurrency test was completed for this project by the City of Kirkland on May 25, 2016. The proposed project passed the concurrency test based on the forecasted person trip generation shown in the May 25, 2016 memorandum to Tony Leavitt, Senior Planner from Thang Nguyen, Transportation Engineer subjected *NW University Master Plan Traffic Concurrency Test Notice, Tran16-00967*. Appendix G contains the transportation concurrency test notice. The concurrency test notice shall expire and a new concurrency test application is required unless:

- A complete SEPA checklist, traffic impact analysis and all required documentation are submitted to the City within 90 calendar days of the concurrency test notice.
- A Certificate of Concurrency is issued or an extension is requested and granted by the Public Works Department within one year of issuance of the concurrency test notice. (A Certificate of Concurrency is issued at the same time a development permit or building permit is issued if the applicant holds a valid concurrency test notice.)
- A Certificate of Concurrency shall expire six years from the date of issuance of the concurrency test notice unless all building permits are issued for buildings approved under the concurrency test notice.

Mitigation and Recommendations

With each building permit, a traffic review would be conducted including an assessment of potential neighborhood impacts and mitigation measures. Potential mitigation measures are described below. The basic framework of the mitigation plan includes recommendations with respect to:

- Intersection Improvements
- Traffic Calming
- Parking / Internal Campus Connectivity
- Event Management

In addition, the University would be responsible for payment of City of Kirkland transportation impact fees to mitigate general transportation related impacts of the Master Plan.

Intersection Improvements

Based on the traffic operations impacts at the study intersections, potential mitigation measures were identified at the following locations:

- 116th Avenue NE / NE 70th Place
- 108th Avenue NE / NE 68th Street
- 108th Avenue NE / NE 60th Street
- 108th Avenue NE / NE 53rd Street

116th Avenue NE/NE 70th Place

Traffic operations at the 116th Avenue NE/NE 70th Place intersection are forecast to operate at LOS F with the anticipated increase in on-campus student enrollment under either 2022 or 2037 conditions. These operations are also consistent with the 2015 Comprehensive Plan DEIS findings, which identifies a southbound right-turn pocket at this intersection. The right-turn would not improve intersection operations to pre-project conditions and the feasibility of this improvement would need to be further explored. This intersection is generally built out and payment of transportation impact fees supporting transportation improvements throughout the City would mitigate project-related impacts at this location.

Mitigation would be triggered at the 116th Avenue NE/NE 70th Place intersection when the Master Plan's intersection proportional share is greater than 5 percent, which is anticipated to occur with a net increase of approximately 840 new daily trips.

108th Avenue NE/NE 68th Street

Under both 2022 and 2037 conditions, the 108th Avenue NE/NE 68th Street intersection operates at LOS F either without or with the addition of project traffic and is consistent with the Comprehensive Plan findings. As with other City intersections, this intersection is generally built out with no public right-of-way available to construct additional lanes at the intersection. The City's 2015-2020 *Capital Improvement Program* includes the 6th Street Corridor Study and Houghton/Everest Neighborhood Plan, which is underway. This study will develop a corridor and neighborhood plan including transportation solutions to accommodate growth in the study area. These solutions may include policies (e.g., parking policies), projects (e.g., intersection improvements) and programs (e.g., bike share). Given constraints along the corridor, the plan will generally focus on transit, bicycle, and pedestrian facilities and consider safety, geometrics, and other transportation conditions.

Project-related impacts at the 108th Avenue NE/NE 68th Street intersection could be mitigated by Northwest University contributing towards improvements identified in the 6th Street Corridor Study. The City has not developed final solutions for improving the 108th Avenue NE/NE 68th Street intersection; however, improvements that are currently being reviewed include transit signal priority, transit lanes and queue jump lanes, 6th Street corridor signal coordination, bicycle lanes and improved trail access, access management through consolidating and closing driveways, and pedestrian safety improvements with wider sidewalks and removal of crosswalks in conflict areas.

Mitigation would be triggered at the 108th Avenue NE/NE 68th Street intersection when the Master Plan's intersection proportional share is greater than 5 percent, which is anticipated to occur with a net increase of approximately 700 new daily trips.

108th Avenue NE/NE 60th Street

A review of the 4-hour and 8-hour volume warrants from the *Manual on Uniform Traffic Control Devices* (MUTCD), 2009 indicates a traffic signal would not be warranted at this intersection. The 108th Avenue NE/NE 60th Street intersection is being studied in the 6th Street Corridor Study. Project-related impacts at the 108th Avenue NE/NE 60th Street intersection could be mitigated by Northwest University contributing towards identified improvements at this intersection. The City has not developed final solutions for improving the 108th Avenue NE/NE 60th Street intersection; however, improvements that are currently being reviewed include enhanced pedestrian and bicycle access for the 60th Street Neighborhood Greenway and new east-west connection across I-405 and connection to Lakeview Drive and the Houghton Park-and-Ride facility.

Mitigation would be triggered at the 108th Avenue NE/NE 60th Street intersection when the Master Plan's intersection proportional share is greater than 5 percent, which is anticipated to occur with a net increase of approximately 2,400 new daily trips.

108th Avenue NE/NE 53rd Street

Project-related impacts at the NE 108th Avenue//NE 53rd Street intersection could be mitigated by installing a traffic signal. A review of the 4-hour and 8-hour volume warrants from the *Manual on Uniform Traffic Control Devices* (MUTCD), 2009 indicates a traffic signal would be warranted in 2022.

An analysis of mitigated conditions was conducted assuming an actuated uncoordinated signal with no roadway channelization changes at the 108th Avenue NE/NE 53rd Street. In addition, the intersection improvement could also result in campus traffic from the NE 55th Street (Main) driveway shifting to the NE 53rd Street signalized intersection especially during weekday peak periods when making westbound left-turn movements may be difficult from an unsignalized location. Given the difficulty of making a westbound left-turn during the weekday peak periods and as a worse case assessment of potential vehicle queues and increases in traffic volumes at the 108th Avenue NE/NE 53rd Street intersection, this evaluation assumes all westbound left-turns at the NE 55th Street driveway shift from the 108th Avenue NE/NE 53rd Street intersection. Table 22 summarizes the resulting LOS with the proposed mitigation and the traffic shift.

Table 22. Future With-Project With and Without Mitigation Weekday Peak Hour LOS Summary

| Intersection | 2022 | | | | | | 2037 | | | | | |
|---|--------------------|--------------------|-----------------|------------------|--------------------|-----------------|--------------------|--------------------|-----------------|------------------|--------------------|-----------------|
| | Without Mitigation | | | With Mitigation | | | Without Mitigation | | | With Mitigation | | |
| | LOS ¹ | Delay ² | WM ³ | LOS ¹ | Delay ² | WM ³ | LOS ¹ | Delay ² | WM ³ | LOS ¹ | Delay ² | WM ³ |
| <u>Weekday AM Peak Hour</u> | | | | | | | | | | | | |
| 11. 108th Ave NE / NE 53rd St | F | >180 | WBL | A | 9 | - | F | >180 | WBL | B | 11 | - |
| B. 108th Ave NE / 55th Ln NE (Main Driveway) ⁴ | C | 17 | WB | B | 13 | WB | C | 24 | WB | B | 15 | WB |
| <u>Weekday PM Peak Hour</u> | | | | | | | | | | | | |
| 11. 108th Ave NE / NE 53rd St | F | >180 | WBL | C | 26 | - | F | >180 | WBL | D | 54.8 | - |
| B. 108th Ave NE / 55th Ln NE (Main Driveway) ⁴ | D | 34 | WB | C | 24 | WB | F | 91 | WB | E | 42 | WB |

Notes: Shaded intersections operate below City of Kirkland LOS D or WSDOT Mitigated LOS E standards.

1. LOS as defined by the HCM (TRB, 2010)
2. Average delay per vehicle in seconds
3. Worst movement (WM) reported for stop-controlled intersections where WB = westbound approach and WBL = westbound left-turn movement
4. The evaluation assumes 100 percent of the westbound left-turns at this location shift to the 108th Avenue NE/NE 53rd Street intersection. It is likely that vehicles that choose to continue to utilize this driveway would experience LOS E or F operations during the weekday PM peak hour conditions in 2037. For all other periods, the traffic operations would be LOS D or better during the weekday peak hours.

When analyzed as an actuated non-coordinated signal with no roadway channelization changes, this intersection would operate at LOS C or better under 2022 conditions and LOS D or better during 2037 conditions, improving operations to meet City of Kirkland LOS standards. The 95th percentile vehicle queues along the NE 53rd Street approach of the intersection would be approximately 200-feet or less during the weekday peak hours under both 2022 and 2037 conditions with the proposed Master Plan. These queues would be fully accommodated within the existing 200-foot westbound turn lane storage. The 95th percentile queue represents the vehicle queue that would only be exceed 5 percent of the time. This analysis conservatively assumes all campus traffic at the NE 55th Street driveway shifts to the new signalized intersection and a lesser shift would result in queues and delays at the 108th Avenue NE/NE 53rd Street intersection decreasing. It is unlikely that all traffic from the main access point would shift to the new signal; providing a signal at the 108th Avenue NE/NE 53rd Street intersection could result in additional gaps in traffic along 108th Avenue NE to facilitate access to and from the NE 55th Street access. Vehicles shifting to the new signalized intersection would improve operations of the main driveway.

As part of the signalization of the 108th Avenue NE/NE 53rd Street intersection the existing mid-block crosswalk immediately south of this intersection would be removed and the crosswalk would be relocated to the NE 53rd Street intersection. Provision of a signal at this location would likely deter some neighborhood cut-through activity since traffic to and from NE 53rd Street would have less delay. In addition, the signalized crossing would reduce conflicts and facilitate pedestrian activity to and from the schools and transit stops near the 108th Avenue NE/NE 53rd Street intersection.

Mitigation of this intersection would be required when signal warrants are met. It is anticipated that a signal would be warranted with a net new increase of approximately 250 daily trips or 20 weekday PM peak hour trips. This trip generation would likely occur with the first phase of development and construction of the traffic signal would be required prior to occupancy of the first building.

Traffic Calming

A review of 85th-percentile speeds along NE 53rd Street show there is a speeding issue on this corridor and some additional impact could occur with the Master Plan. Potential adverse impacts to the NE 53rd Street corridor could be mitigated through Northwest University support of the City's neighborhood traffic calming program. The University could contribute a proportional share to traffic calming improvements along NE 53rd Street as well as within the neighborhood. The traffic calming program would be facilitated by the City and the neighborhood would make decisions related to specific improvements and locations. Consideration would need to be given to the recommended greenway along NE 53rd Street that is part of the City's *Transportation Master Plan*. Depending on the traffic calming measures that are implemented such as speed humps, speed cushions, curb extension, speed radar, or other measures,¹⁵ vehicle speeds are likely to be reduced. Providing traffic calming would require following the City's Neighborhood Traffic Control Program (NTCP) process, which has a defined two-phase approach including outreach, data collection, and evaluation of measures.

Parking / Internal Campus Connectivity

As previously described, the existing parking would be adequate to serve the anticipated Master Plan parking demand; however, it may not be in a convenient location. If parking is not located within reasonable proximity of destinations, then campus-related users may be more likely to park on-street. Parking impacts could be minimized by implementing management strategies as well as providing improved internal pedestrian connectivity. The parking mitigations could include:

- Providing additional internal pedestrian connections from parking lots to buildings and campus facilities. This would include providing a pedestrian connection on the east and west side of the sports fields to serve the adjacent parking facilities and the campus apartments.
- Assigning campus population to specific parking lots to reduce potential parking in the neighborhood or moving vehicles between classes.
- Increasing parking permit costs to deter student driving and potentially increase use of non-motorized and transit modes. This could be coupled with providing a subsidy for transit passes as part of the tuition cost to reduce the potential for students to park within the neighborhood. In addition, the City has a Neighborhood Traffic Control Program that can be utilized by the neighbors if parking issues occur and are not being addressed through the NU management strategies. Through this program the City would monitor and investigate the parking issues and work with the community to implement time limits, parking restrictions, or other strategies to reduce the neighborhood parking impacts.

Event Management

With the forecast increases in student enrollment and existing and potential on-campus special events and activities such as receptions or sporting events, on-site parking and special event management processes could be implemented to reduce isolated on-campus parking congestion, excess vehicle circulation by drivers unfamiliar with the campus and the potential for parking within the neighborhood. Examples of potential measures include:

¹⁵ City of Kirkland Traffic Calming Devices
www.kirklandwa.gov/depart/Public_Works/Transportation_and_Traffic/Traffic_Calming_Devices.htm

- Management event schedules to minimize concurrent high activity events at multiple venues on-campus
- Assignment of specific event/visitor parking lots
- On-campus wayfinding signage directing drivers to specific parking areas (this is already done by the University during events)
- Active enforcement of any permanent and/or temporary parking restrictions
- Posting of no parking signage along NE 53rd Street during events and visually monitoring neighborhood parking
- Provide a field manager to coordinate public use of the fields and events including parking associated with these activities
- Provision parking monitors or a flagger to direct visitors to parking lots

Transportation Impact Fees

The proponent would be required to pay the City of Kirkland transportation impact fees to mitigate general transportation-related project impacts throughout the City. Table 23 shows the preliminary fee estimate for the proposed project based on the currently adopted impact fee rate (effective 1/1/2016). These fees are provided as estimates only and would be finalized by the City upon review.

| Table 23. Preliminary Estimate of Transportation Impact Fee | | | |
|--|-------------------------|-------------------------|------------------|
| Land Use | Student Increase | Rate¹ | Fee |
| 2022 Conditions University / College (6-Year) | +370 Students | \$553 / student | \$204,610 |
| 2037 Conditions University / College (6-20 Year) | <u>+400 Students</u> | \$553 / student | <u>\$221,200</u> |
| Total | +770 Students | | \$425,810 |

Source: Transpo Group, 2016
1. Based on City of Kirkland Transportation Impact Fee Schedule (Chapter 27.04 KMC) as of January 1, 2016.

Construction

A Construction Management Plan (CMP) would be developed prior to beginning construction for each phase of development. The CMP would describe procedures for construction activity including such items as truck routes, hours of operation, and site parking. The following measures would be included in the construction management plan to mitigate potential impacts of construction activity:

- Construction activities would be scheduled so that the most intensive activities in terms of construction traffic are spread out over time and avoid the peak periods of traffic congestion.
- Safe pedestrian, bicycle and vehicular circulation would be provided adjacent to the construction site through the use of temporary walkways, signs, and manual traffic control (flaggers), as appropriate.
- Construction material delivery vehicles would be prohibited from leaving or entering the site during the weekday AM and PM peak hours.
- Truck routes would be identified.



CITY OF KIRKLAND

Department of Public Works

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MEMORANDUM

To: Tony Leavitt, Senior Planner

From: Thang Nguyen, Transportation Engineer
Joel Pfundt, Transportation Manager

Date: December 18, 2018

Subject: NW University Master Plan Development TIA Review

This memo summarizes my review of the traffic impact analysis (TIA) memorandum dated June 14, 2017 *Final Traffic Impact Analysis- Northwest University Master Plan* submitted by the Transpo Group for the proposed Northwest University Master Plan update. My findings and recommendations are summarized below, followed by my review comments in response to the traffic impacts documented in the traffic impact analysis memorandum.

STAFF FINDINGS

The proposed project will create significant SEPA traffic impacts that warrant off-site transportation mitigation. The off-site SEPA mitigation measures and Public Works conditions below are required to mitigate the project transportation impacts.

STAFF RECOMMENDATIONS

Off-site SEPA Mitigation

Staff recommends the following SEPA traffic mitigation to mitigate the transportation impacts created by the proposed master plan.

1. The University shall contribute \$15,000 to the City of Kirkland Neighborhood Traffic Control Program to be used to mitigate neighborhood traffic impacts in the Houghton Neighborhood in the vicinity of Northwest University. The University shall make this contribution prior to the first building permit issued for projects included in the subject Master Plan or with public use of the athletic fields.
2. The University shall improve the intersection of 108th Avenue NE/NE 53rd Street to include a new traffic signal and associated intersection improvements (curb ramp, crosswalk, etc.) to the City of Kirkland's standards. The construction of the traffic signal will necessitate the removal of the existing lighted crosswalk (Rectangular Rapid Flashing Beacon) and associated infrastructure located south of the intersection, which will also be done by the University as part of the intersection improvement. The construction of the traffic signal and crosswalk removal will be triggered by the construction of any new building within the Master Plan that is greater than 5,000 square feet gross floor area. The traffic signal and associated intersection improvements shall be constructed and operational prior to the issuance of the building occupancy permit of the

first building greater than 5,000 square feet gross floor area or with public use of the athletic fields.

3. In lieu of constructing half-street improvements along the 108th Avenue NE frontage to include a dedicated bus lane as described in the Phase II Transit Queue Jump improvement of the 108th corridor project (PT 0006), the City will require a width of up to 12-feet of right-of-way (ROW) dedication (approximately 880-feet) along the 108th Avenue NE University properties (including the property at 5710 108th Avenue NE and parcel 9353900355amd 935390050). The dedication will occur when the City begins the right-of-way acquisition portion of the 108th Avenue NE corridor improvement project. The value of the land shall be its fair market value based on an independent appraisal to be prepared when needed by an appraiser agreed upon by both parties, which agreement will not be unreasonably withheld. If the 108th corridor improvement project (PT 0006) becomes a city capacity project to be partly funded by transportation impact fees, then the agreed value of the right-of-way dedication shall be credited against the University Master Plan's transportation impact fee.

The City will assume responsibility for maintaining the current infrastructure located within the dedicated areas at the time the property is dedicated. The City will be responsible for relocating and replacing existing utilities structures within the dedicated ROW during construction of the 108th Avenue NE corridor improvement projects including, but not limited to, the existing masonry monuments and signs at the two (2) entry driveways, masonry piers and iron fencing along the property frontage, existing rock retaining wall, associated landscaping along the property frontage, associated lighting and fixtures and any underground utilities that are affected by these relocations. Any replacement of structures and landscaping will be in-kind.

4. The University shall sell a width of up to 12-feet of frontage at 6710 108th Avenue NE for the construction of the Phase I Transit Queue Jump improvement of the 108th corridor project (PT 0005). The City shall pay fair market value for the frontage based on an independent appraisal to be prepared when needed by an appraiser agreed upon by both parties, which agreement will not be unreasonably withheld. The University will sell the property during the right-of-way acquisition portion of the 108th Avenue NE corridor improvement projects. If the City purchases the land dedication prior to the City's planned improvement project, the City will assume responsibility for maintaining the infrastructure and landscaping located within the dedicated areas. This includes landscaping, monument signs, lighting and fixtures and utilities. During construction of the 108th Avenue NE corridor improvement project, the City will also be responsible for relocating and replacing structures or landscaping within the dedicated ROW or outside of the dedication that are impacted by construction. These structures include, but may not be limited to, private sidewalk at face of building, monument signs, associated lighting and fixtures, frontage landscaping, relocation or replacement of existing utility boxes (two (2) power and one (1) cable) such that they do not obstruct the front of the 6710 Building, and any underground utilities that are affected by the ROW dedication and improvements.

5. The University shall contribute a proportional share to the intersection improvement of Phase I Transit Queue Jump improvement of the 108th corridor project (PT 0005) not-to-exceed \$266,306 or 14 percent of the total project cost (whichever is lower). The proportional share contribution shall be made with the construction of the first building within the Master Plan (with

the exception of the Chapel and Field House) or with public use of the athletic fields to mitigate the SEPA transportation impact. The payment shall be due at final building permit issuance. If the improvement project is partly funded by transportation impact fees, then the proportional share contribution shall be credited against the University Master Plan transportation impact fee.

6. The University shall contribute a proportional share to the intersection improvement of Phase II Transit Queue Jump improvement of the 108th corridor project (PT 0006) not-to-exceed \$175,606 or 8 percent of the total project cost (whichever is lower). The proportional share contribution shall be made with the construction of the first building within the Master Plan (with the exception of the Chapel and Field House) or with public use of the athletic fields to mitigate the SEPA transportation impact of the Master Plan. The payment shall be due at final building permit issuance or with public use of the athletic fields, as applicable. If the improvement project is partly funded by transportation impact fee, then the proportional share contribution shall be credited against the University Master Plan transportation impact fee.

7. The University shall contribute a proportional share to the intersection improvement of the NE 68th Street Intersection Improvements/Access Management (TR 0117 004) not-to-exceed \$241,214 or 14 percent of the total project cost (whichever is lower). The proportional share contribution shall be made with the construction of more than 100,000 square feet of the Master Plan (with the exception of the Chapel and Field House) or more than 50,000 square feet of the Master Plan (with the exception of the Chapel and Field House) when combined with public use of the athletic fields to mitigate the SEPA transportation impact. The payment shall be due at final building permit issuance or with public use of the athletic fields, as applicable. If the improvement project is partly funded by transportation impact fees, then the proportional share contribution shall be credited against the University Master Plan transportation impact fee.

8. The University shall submit a parking management plan for staff review and approval prior to final building permit for the first building greater than 5,000 square feet or with public use of the athletic fields.

9. The University will create a parking management plan and monitor events that are anticipated to result in 90 percent of the campus parking supply being occupied. The University shall prominently post community contact information on the University website for the University staff person responsible for monitoring events and managing parking. Examples of parking event strategies included in the parking management plan to minimize impacts to the surrounding neighborhoods during times when parking inventories may be constrained or when there is significant impacts to the surrounding neighborhood are:

- Manage event schedules to minimize concurrent high activity events on-campus.
- Designate specific event parking lots.
- Provide way-finding signage to direct visitors to specific parking facilities and pick-up/drop-off area.
- Active enforcement of parking restrictions.
- Post no parking sign along NE 53rd Street during events and visually monitor neighborhood parking.

- Designate a representative from Northwest University to coordinate public use of facilities including parking management associated with the activities.
- Provide parking monitors and flagger to direct visitors to on-campus parking lots.
- Provide police traffic control on 108th Avenue NE when traffic flow on 108th Avenue NE is impacted.

The University shall submit the parking management plan to the City's transportation engineer or the Neighborhood Traffic Control Program coordinator for review and approval.

The University shall submit an annual report to the City regarding the operation of the parking management plan. The annual report shall include the number of events for the year and the attendance and parking demand for major events. Every two years, the City and the University shall meet to review the parking management plan and determine whether additional or different measures are necessary to mitigate parking impacts in adjoining neighborhood.

Public Works Conditions

The following condition of approval is required for the proposed development to mitigate citywide traffic impacts and meet Public Works standards:

1. Pay Transportation Impact Fee to mitigate system-wide transportation impacts.
2. As part of each building permit, submit a construction management plan for any new building within the Master Plan that is greater than 5,000 square feet gross floor area to the City's development engineers for review and approval for each building. All construction parking shall be located on-campus.

Project Description

The project site is located at 5520 108th Avenue NE. Currently, there are 1,230 students that attend classes at the campus. The University estimates the day-time student enrollment at the campus will increase by approximately 370 students by 2022 and 770 students by 2037. It is estimated that there will be a total of 1,600 students in 2022 and 2,000 students in 2037. The staff population is anticipated to grow in proportion to the total student enrollment. Table 1 summarizes the student and staff population.

The University is proposing an 8-phase development of the campus as summarized in Table 2. Approximately 250 to 350 new parking spaces are proposed to be located in a parking garage under the tennis center, gymnasium and Welcome Center. The University is not proposing any additional driveways. The full build-out of the proposed master plan will build approximately 340,915 net new gross floor area within eight buildings. The residence building will have approximately 172 dormitory rooms with approximately 300 beds. A new tennis center will have six courts and the sport field will accommodate 16 youth soccer teams.

Table 1. Student and Staff Population Summary

| | Total Enrollment | Day Time Students | Evening Students | On-campus Student Residents | Full-time Staff/Faculty |
|----------|---------------------|----------------------|---------------------|-----------------------------------|----------------------------|
| Existing | 1,230 | 910 | 320 | 680 | 237 |
| 2022 | 1,600 | 1,250 | 350 | 680 | 308 |
| 2037 | 2,000 | 1,500 | 500 | 1,056 | 385 |

Table 2. Development Program Summary

Northwest University Master Plan Summary of Existing and Proposed Development

| Building Name | Building (GSF) ¹ | | | Residential Beds | | | Parking (stalls) | | | Estimated Timing ³ |
|------------------------------|-----------------------------|-----------------------|----------------|------------------|-------------|--------------|------------------|-------------|--------------|-------------------------------|
| | Existing | Addition ² | Total | Ex. | Add. | Total | Ex. | Add. | Total | |
| Davis | 16,800 | | 16,800 | | | | 45 | | 45 | |
| Gray/Beatty | 44,400 | | 44,400 | 210 | | 210 | | | | |
| Cafeteria (Dining Hall) | 11,500 | | 11,500 | | | | 188 | | 188 | |
| Crowder, Guy, Perks | 68,400 | | 68,400 | 314 | | 314 | | | | |
| Greely Center | 2,930 | | 2,930 | | | | 74 | | 74 | |
| Family Res. Duplexes | 28,077 | | 28,077 | 14 ⁶ | | 14 | 28 | | 28 | |
| FIRS Apartments | 87,869 | | 87,869 | 78 ⁶ | | 78 | 135 | | 135 | |
| Student Apartments | 24,960 | | 24,960 | 140 | | 140 | 55 | | 55 | |
| Library | 28,200 | | 28,200 | | | | 66 | | 66 | |
| Ness Academic Center | 33,400 | -33,400 | 0 | | | | 59 | | 59 | 2031 to 2037 |
| Pecota Center | 7,400 | -7,400 | 0 | | | | 32 | -32 | 0 | 2019 to 2022 |
| Millard Hall | 15,000 | | 15,000 | | | | 26 | | 26 | |
| Pavilion | 23,460 | -23,460 | 0 | | | | 90 | -90 | 0 | 2021 to 2024 |
| Chapel | 14,334 | +3,000 | 17,334 | | | | 88 | | 88 | 2019 to 2020 |
| Green House | 927 | | 927 | | | | 0 | | 0 | |
| Maintenance / Shop Buildings | 10,639 | | 10,639 | | | | 15 | | 15 | |
| Barton Admin. | 34,704 | | 34,704 | | | | 138 | | 138 | |
| Argue HSC | 45,436 | | 45,436 | | | | 127 | | 127 | |
| Ness Replacement | | +70,910 | 70,910 | | | | | | 0 | 2031 to 2037 |
| Welcome Center | | +43,320 | 43,320 | | | | | +70 | 70 | 2021 to 2024 |
| Pavilion/ Gymnasium | | +37,950 | 37,950 | | | | | +95 | 95 | 2019 to 2022 |
| Residence Hall ⁴ | | +85,060 | 85,060 | | +300 | 300 | | | 0 | 2021 to 2024 |
| Tennis Center | | +63,660 | 63,660 | | | | | +79 | 79 | 2017 to 2020 |
| Fitness Center | | +21,390 | 21,390 | | | | | +56 | 56 | 2029 to 2032 |
| Field House | | +3,500 | 3,500 | | | | | | 0 | 2022 to 2024 |
| Total⁵ | 498,436 | +264,530 | 762,966 | 756 | +300 | 1,056 | 1,166 | +178 | 1,344 | |

Notes: gsf = gross square-feet; Ex. = existing Add. = addition

1. Gross floor areas shown only include useable building area not parking facilities.

2. Additional gsf associated with the proposed Master Plan.

3. The completion of individual projects within the Master Plan would ultimately depend on funding. The approximate timing of the phase was used to estimate trip generation and assignment associated with the 2022 and 2037 horizon years for analysis.

4. New residence hall would include approximately 172 dorm rooms with about 300 beds.

5. The total square-footage is for proposed buildings and excludes proposed parking structures.

6. The Family Resident Duplexes and FIRS Apartments currently house faculty and staff.

Trip Generation

Currently, the University is generating approximately 5,191 daily trips, 283 AM peak hour trips, 394 PM peak hour trips, and 482 PM peak person trips. Based on the trip generation calculations, the project is forecasted to generate 2,130 net new daily trips, 107 net new AM peak hour trips and 332 net new PM peak hour trips in 2022; 3,820 net new daily trips, 199 net new AM peak hour trips and 460 net new PM peak hour trips in 2037. Overall, the University will generate

9,012 daily trips, 482 AM peak hour trips, 854 PM peak hour trips, and 1,141 PM peak hour person trips in 2037.

Table 3 summarizes the trip generation for the proposed project. A more detailed explanation of the trip generation is provided in appendix E of the Northwest University Master Plan Final Transportation Impact Analysis report prepared by Transpo Group dated June 2017.

Table 3. Trip Generation Summary (Net New Trips)

| Land Use | Size | Trip Rate ^{1,2} | 2022 | | | 2037 | | | 2037 ⁴ |
|-----------------------------|--|--------------------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------------|
| | | | Total | In | Out | Total | In | Out | Total Person Trip |
| <u>Weekday Daily</u> | | | | | | | | | |
| Northwest University Campus | +370 students (2022) +770 students (2037) | 4.22 per student | 1,560 | 780 | 780 | 3,250 | 1,625 | 1,625 | n/a |
| Tennis Center ³ | 6 courts | 38.70 per court | 250 | 125 | 125 | 250 | 125 | 125 | n/a |
| Public Sports Field Use | - | = | <u>320</u> | <u>160</u> | <u>160</u> | <u>320</u> | <u>160</u> | <u>160</u> | <u>n/a</u> |
| Total Net New | | | 2,130 | 1,065 | 1,065 | 3,820 | 1,910 | 1,910 | |
| Existing | | | 5,192 | 2,596 | 2,596 | 5,192 | 2,596 | 2,596 | |
| Total Gross Trips | | | 7,322 | 3,661 | 3,661 | 9,012 | 4,479 | 4,470 | |
| <u>Weekday AM Peak Hour</u> | | | | | | | | | |
| Northwest University Campus | +370 students (2022) +770 students (2037) | 0.23 per student | 85 | 51 | 34 | 177 | 106 | 71 | n/a |
| Tennis Center | 6 courts | 3.58 per court | 22 | 11 | 11 | 22 | 11 | 11 | n/a |
| Public Sports Field Use | - | = | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>0</u> | <u>n/a</u> |
| Total Net New | | | 107 | 62 | 45 | 199 | 117 | 82 | n/a |
| Existing | | | 283 | 170 | 113 | 283 | 170 | 113 | n/a |
| Total Gross Trips | | | 390 | 232 | 158 | 482 | 287 | 195 | n/a |
| <u>Weekday PM Peak Hour</u> | | | | | | | | | |
| Northwest University Campus | +370 students (2022) +770 students (2037) | 0.32 per student | 118 | 59 | 59 | 246 | 123 | 123 | 301 |
| Tennis Center | 6 courts | 3.58 per court | 22 | 12 | 10 | 22 | 12 | 10 | 38 |
| Public Sports Field Use | - | = | <u>192</u> | <u>160</u> | <u>32</u> | <u>192</u> | <u>160</u> | <u>32</u> | <u>320</u> |
| Total Net New | | | 332 | 231 | 101 | 460 | 295 | 165 | 659 |
| Existing | | | 394 | 197 | 197 | 394 | 197 | 197 | 482 |
| Total Gross Trips | | | 726 | 428 | 298 | 854 | 492 | 362 | 1,141 |

1. Site specific trip rates calculated based on field observations for the campus daily and peak hour conditions and Eastside Tennis Center peak hour conditions. Daily trip rate for tennis center based on Institute of Transportation Engineers *Trip Generation*, 9th Edition tennis/racket club land use (#491).
2. Trip generation for the sports fields is based on use of the fields for youth soccer.
3. Trip generation rounded up.
4. Person trip is only relevant to PM peak hour for concurrency testing.

TRAFFIC CONCURRENCY

The proposed development project passed traffic concurrency. The concurrency test notice is valid until July 23, 2019 at which time the applicant must obtain a development permit and

certificate of concurrency or apply and receive an extension prior to the expiration of the concurrency test notice.

TRAFFIC IMPACT ANALYSIS

The scope of analysis was approved by the City Transportation Engineer and the traffic report was completed in accordance with the City of Kirkland Traffic Impact Analysis Guidelines (TIAG).

The citywide trip distribution was determined by using the Bellevue-Kirkland-Redmond (BKR) traffic model.

The City's TIAG requires a level of service (LOS) analysis using the Highway Capacity Manual Operational Method for intersections that have a proportionate share equal or greater than 1% as calculated using the method in the TIAG. Based on the proportionate share calculation for the full build-out of the proposed project, thirteen off-site intersections will have 1% or more proportionate share impact and are required to be analyzed for LOS. Those intersections are listed in Table 4.

Table 4. Significantly Impacted Off-site Intersections

| Intersection | Jurisdiction | LOS Standard | Proportional Share Impact | LOS That Warrants Mitigation | 2037 Levels of Service | Mitigation Required? |
|------------------------------------|--------------|--------------|---------------------------|------------------------------|------------------------|----------------------|
| 1. 6th Street S / Central Way | Kirkland | D | 3.8% | Not Warranted | LOS-F | No |
| 2. 6th Street S / Kirkland Way | Kirkland | D | 4.0% | Not Warranted | LOS-B | No |
| 3. 6th Street S / 9th Avenue S | Kirkland | D | 1.7% | Not Warranted | LOS-B | No |
| 4. State Street S / NE 68th Street | Kirkland | D | 1.2% | Not Warranted | LOS-F | No |
| 5. 108th Avenue / NE 68th Street | Kirkland | D | 13.8% | LOS-F | LOS-F | Yes |
| 6. I-405 Ramps / NE 70th Place | WSDOT | E | 9.9% | LOS-F | LOS-F | Yes |
| 7. 116th Avenue NE / NE 70th Pl | WSDOT | E | 13.0% | LOS-F | LOS-F | Yes |
| 8. 116th Avenue NE / I-405 Ramps | WSDOT | E | 7.3% | LOS-F | LOS-F | Yes |
| 9. 132nd Avenue NE / NE 70th Pl | Kirkland | D | 1.6% | Not Warranted | LOS-F | No |
| 10. 108th Avenue NE / NE 60th St | Kirkland | D | 8.0% | LOS-F | LOS-F | Yes |
| 11. 108th Avenue NE / NE 53rd St | Kirkland | D | 22.9% | LOS-E | LOS-F | Yes |
| 12. 108th Avenue NE / NE 48th St | Kirkland | D | 3.4% | Not Warranted | LOS-F | No |
| 13. 108th Avenue NE / NE 45th St | Kirkland | D | 3.4% | Not Warranted | LOS-E | No |

Traffic Mitigation Threshold

The City requires developers to mitigate traffic impacts when one of the following two warranted conditions is met:

1. An intersection level of service is at E and the project has a proportional share of 15% impact or more at the intersection.
2. An intersection level of service is at F and the project has a proportional share of 5% impact or more at the intersection.

Off-site Traffic Impacts

Six of the intersections analyzed (highlighted) are forecasted to be impacted by the project by 5% or more. Based on the fact that these intersection are forecasted to have an intersection LOS of F, the impacts from the master plan trigger the requirement for transportation mitigations. Intersections #6, #7, and #8 are within the jurisdiction of the Washington State Department of Transportation (WSDOT). WSDOT have reviewed the traffic study and are satisfied with Transpo's responses to their comments. WSDOT is not requiring transportation mitigation for those intersections.

Based on the mitigation requirements of the previous master plan, the University was required to signalize the intersection of 108th Avenue NE/NE 53rd Street (Intersection #11) when the intersection meets signal warrants. The intersection was determined to meet signal warrants with Phase I of this master plan. In addition, the intersection is operating at LOS-F with more than 5% of the proportional share impact with Phase I of the master plan. Therefore, a traffic signal will be required by the construction of any building greater than 5,000 square feet gross floor area. With the installation of a traffic signal, the intersection will operate at a LOS-D or better during the AM and PM peak hours. Therefore, no additional mitigation is required for the intersection.

The intersections of 108th Avenue NE/NE 60th Street (Intersection #10) and 108th Avenue NE/NE 68th Street (Intersection #5) are calculated to operate at LOS-F and warrant mitigation. The transportation impact analysis report did not identify specific transportation mitigations for the intersections of 108th Avenue NE/NE 60th Street and 108th Avenue NE/NE 68th Street. The City has completed a corridor study and has identified improvements to the 108th Avenue NE corridor to improve traffic flow, safety and person moving capacity. The proposed 108th Avenue NE corridor improvements include installing transit priority signals at the intersection of 108th Avenue NE/NE 68th Street and 108th Avenue NE/NE 60th Street, a new traffic signal at the intersection of 108th Avenue NE/NE 60th Street, widening of 108th Avenue NE to provide for a transit queue by-pass lane, and installing bicycle facility improvements along 108th Avenue NE. Subsequent to the TIA report, the applicant worked with the City to identify the appropriate mitigations to offset the project's impacts.

The applicant has agreed to the following mitigating measures to offset the SEPA transportation impacts:

1. The University shall contribute \$15,000 to the City of Kirkland Neighborhood Safety Program. The University shall make this contribution prior to the first building permit issued for projects included in the subject Master Plan or with public use of the athletic fields.
2. The University shall construct a new traffic signal and associated intersection improvements at the intersection of 108th Avenue NE/NE 53rd Street. The construction of the traffic signal will necessitate the removal of the existing crosswalk and associated infrastructure located south of the intersection, which will also be done by the University. The construction of the traffic signal and crosswalk removal will be triggered by the construction of any new building within the Master Plan that is greater than 5,000 square feet gross floor area or with public use of the athletic fields. The traffic signal shall be constructed and operational prior to the issuance of

the building occupancy permit of the first building greater than 5,000 square feet gross floor area or with public use of the athletic fields.

3. In lieu of constructing half-street improvements along the 108th Avenue NE frontage to include a dedicated bus lane as described in the Phase II Transit Queue Jump improvement of the 108th corridor project (PT 0006), the University will dedicate a width of up to 12-feet of right-of-way (ROW) dedication (approximately 880-feet) along the 108th Avenue NE University properties (including the property at 5710 108th Avenue NE).

4. The University shall sell a width of up to 12-feet of frontage at 6710 108th Avenue NE for the construction of the Phase I Transit Queue Jump improvement of the 108th corridor project (PT 0005).

5. Table 5 provides a summary list of the proportional share SEPA off site mitigations for the proposed master plan. The University shall contribute a proportional share to the intersection improvement of Phase I Transit Queue Jump improvement of the 108th corridor project (PT 0005) not-to-exceed \$266,306 or 14 percent of the total project cost (whichever is lower). The proportional share contribution shall be made with the construction of the first building within the Master Plan (with the exception of the Chapel and Field House) or with public use of the athletic fields to mitigate the SEPA transportation impact of the Master Plan.

6. The University shall contribute a proportional share to the intersection improvement of Phase II Transit Queue Jump improvement of the 108th corridor project (PT 0006) not-to-exceed \$175,606 or 8 percent of the total project cost (whichever is lower). The proportional share contribution shall be made with the construction of the first building within the Master Plan (with the exception of the Chapel and Field House) to mitigate the SEPA transportation impact of the Master Plan. The proportional share shall be paid with the permit of any new building greater than 5,000 square feet or with public use of the athletic fields.

7. The University shall contribute a proportional share to the intersection improvement of the NE 68th Street Intersection Improvements/Access Management (TR 0117 004) not-to-exceed \$241,214 or 14 percent of the total project cost (whichever is lower). The proportional share contribution shall be made with the construction of more than 100,000 square feet of the Master Plan (with the exception of the Chapel and Field House) or more than 50,000 square feet of the Master Plan (with the exception of the Chanpel and Field House) combined with public use of the athletic fields to mitigate the SEPA transportation impact.

Table 5. Proportional Share Mitigation for 108th Avenue NE

| CIP Project Number | CIP Project Title | Proportional Share based on Proportional Share Impact Calculation ¹ | NW University Proportional Share ² | Intersection/signal Improvements/Construction ² | Total Corridor Widening Project Cost |
|--------------------|--|--|---|--|--------------------------------------|
| PT 0005 | 68th/108th Avenue NE transit Queue Jump Phase I | 14.0% | \$ 266,306 | \$ 1,902,189 | \$ 4,875,000 |
| PT 0006 | 60th/108th Avenue NE transit Queue Jump Phase II | 8.0% | \$ 175,606 | \$ 2,195,077 | \$ 5,640,000 |
| TR 0117 004 | 68th/108th Avenue NE transit Queue Jump Phase I (SB right-turn lane) | 14.0% | \$ 241,214 | \$ 1,722,959 | \$ 4,375,000 |
| | Total | | \$ 683,127 | \$ 4,097,266 | \$ 14,890,000 |

1. Proportional Share Impact calculation in the NW University Master Plan Transportation Impact Analysis report.

WSDOT Intersections

I-405 Ramps / NE 70th Place

The intersection of I-405 Ramps / NE 70th Place is forecasted to degrade from LOS-E to LOS-F in 2037 with completion of the master plan. WSDOT staff has raised concerns about how the queuing at the intersection would impact traffic flow on I-405. Subsequently, a queue analysis was completed by the consultant and the result indicates that the queue would not extend beyond the 700-foot transition area of the off-ramp and would not impact the traffic flow on I-405. WSDOT has review the subsequent queue analysis and is satisfied with the analysis and will not require transportation mitigation.

116th Avenue NE / NE 70th PI

The intersection of 116th Avenue NE / NE 70th PI is forecasted to operate at LOS-F during both AM and PM peak hours in 2037 with and without the master plan. When warranted, WSDOT requires mitigation to bring the intersection level of service back to the condition without the project impact. Since the level of service does not change, WSDOT is satisfied with the analysis and will not require transportation mitigation.

116th Avenue NE / I-405 Ramps

The intersection of 116th Avenue NE / I-405 Ramps is forecasted to operate at LOS-F during the PM peak hour in 2037 with and without the master plan. When warranted, WSDOT requires mitigation to bring the intersection level of service back to the condition without the project impact. Since the level of service does not change, WSDOT is satisfied with the analysis and will not require transportation mitigation.

Site Access Operation

With the exception of the intersection of 108th Avenue NE/55th Lane NE (Main Driveway) all other project driveways into the site are forecasted to operate at LOS-D or better. Based on the City's mitigation guideline, transportation mitigation is not warranted for those intersections operating at LOS-D or better.

The intersection of 108th Avenue NE/55th Lane NE is forecasted to operate at LOS-F in 2037 with the full build out of the Master Plan. Staff anticipates the new signal at the intersection of 108th Avenue NE/NE 53rd Street would redistribute traffic volumes, resulting in some traffic shifting from 55th Lane NE to NE 53rd Street. The 95th percentile queue length for westbound traffic at

55th Lane NE ranges from two to four vehicles in the PM peak hour; this queue length is typical during the PM peak hour. The forecasted traffic volume would not meet signal warrant. Therefore, no specific mitigation is required.

Neighborhood Cut-through Traffic

Based on the TIA report, there were less than 10 peak hour trips cutting through the neighborhood. It is anticipated that the amount of cut-through traffic would be proportionally equal to the traffic growth resulting from the expansion of the campus. It is forecasted that there would be less than 20 peak hour trips cutting through the neighborhood. This amount of cut-through traffic is not significant to warrant mitigation. The applicant proposes to contribute \$15,000 to the City's Neighborhood Traffic Control Program (NTCP). If the City determines that cut-through traffic is significant in the future, various traffic calming measures could be implemented to mitigate the cut-through. The City's NTCP would evaluate the needs for traffic calming.

NE 53rd Street Traffic Impact

Based on the TIA report, the 85th-percentile speed on NE 53rd Street is higher than the posted speed. The report indicates that there is a speeding issue on NE 53rd Street. As mentioned above, the applicant is proposing to contribute \$15,000 to the City's Neighborhood Traffic Control Program (NTCP), this contribution will mitigate the traffic calming on NE 53rd Street to reduce speed on this street. The appropriate traffic calming will be determined through the City NTCP process.

Parking and Neighborhood Parking Impact

Student/Staff/Faculty Parking Demand

Parking data were collected during school to determine peak parking rates and hourly parking trends. Based on the data, the peak parking demand occurs between 10 and 11 a.m. at a rate of 0.52 parking stalls per student (this parking rate includes the staff/faculty population). Based on the parking rate of 0.52 parking stalls per student, it is forecasted that 832 parking stalls will be required in 2022 (1,600 students x 0.52 parking stalls per student); and 1,040 parking stalls will be required in 2037 (2,000 students x 0.52 parking stalls per student). Currently, there are 1,166 parking stalls on campus and the applicant proposes to provide 1,288 parking stalls in 2022 and 1,344 parking stalls in 2037. There will be 304 more parking stalls in 2037 than the parking demand during the regular school hours without special sporting and community events.

Tennis Center Parking Demand

Based on the traffic impact analysis report, the tennis center will have 6 courts and no seating area for spectators. The tennis center will have a lounge area to accommodate parents waiting for players and will serve as a transition area for players and coaches. Seventy nine (79) parking spaces will be within the parking garage under the tennis center. The tennis center parking demand was based on data collected at the Eastside Tennis Center. There are twelve courts at the Eastside Tennis Center and its peak parking demand is 21 parking stalls during regular use (non-tournament). The hourly parking trend for the tennis center was based on the hourly parking trend of an athletic club use documented in the Institute of Transportation Engineers (ITE) Parking Generation, 4th Edition. Based on ITE data, the peak demand is at 7 p.m.

According to the school, there are no plans to hold major tournament events at the school. However, there may be local tournament from local tennis organizations. Nevertheless, the parking demand would be low because there is no spectator viewing area. Therefore, the parking demand would only be generated by the coaches, players and parents of the players. Given that there is no spectator viewing area, either the parent would drive the players or the players would drive themselves. A worst case (atypical) scenario is a double tournament with 12 teams playing at the same time during the weekday and everyone driving alone to the tennis center. Each court would have four players and two coaches. With everyone driving alone, the parking demand would be approximately 36 spaces (6 players and coaches x 6 courts). For double tournaments, it is likely that players would carpool; therefore, the parking demand would be the same. In addition, if two leagues were to be scheduled to play one after the other and there is an overlap, the peak demand would occur during the transition time when one league is transitioned to leave while the other arrives. During this short transition period, the parking demand would double to 72 parking stalls which would be accommodated in the tennis parking garage. In addition, at 7 P.M., there is a surplus of over 400 parking spaces and can accommodate any overflow of parking from the tennis center. Since there are no classes during the weekend, the 1,344 parking spaces is more than adequate to accommodate the tennis center.

Athletic Fields Parking Demand

The public use of the sport fields by organized sport clubs such as kids or adult soccer may increase the parking demand. Soccer is most likely to have the largest parking demand as compared to other team sports. The highest parking demand would be generated from kids soccer because their play field is smaller than the adult field, therefore; more fields and teams can be accommodated by the school athletic fields (4 adult teams vs. 16 kids teams). The use of the field by outside organizations is expected to occur after 4 p.m. which is outside of the school peak parking demand (10 to 11 a.m.). The team sizes, the field sizes and the number of fields that can be accommodated at the school athletic field are summarized in Table 6. Based on Table 6, the peak parking demand is 160 parking stalls assuming that the players and coaches all arrives separately (25% of the parents would stay to watch the practice). Based on the future forecast of student enrollment and the parking demand hourly profile, it is estimated that there would be more than 300 parking spaces available for the athletic field use.

Tournaments would most likely occur during the weekend. During tournament, the number of teams would double; therefore, the parking demand would also double resulting in a parking demand of 320 spaces. Since there are no classes during the weekend, most of the 1,344 parking spaces will be available to accommodate the parking demand for the soccer tournament.

Table 6. Worst-case Weekday Peak Parking Demand during Practice

| Grade | # Players per Team | Field Size (Yards) | Number of Fields | Number of Teams | Number of Players | Number of Coaches | Parking Demand |
|-----------------|--------------------|--------------------|------------------|-----------------|-------------------|-------------------|----------------|
| K | 6 | 20 x 30 | 16 | 16 | 96 | 32 | 128 |
| 1 st | 8 | 20 x 30 | 16 | 16 | 128 | 32 | 160 |
| 2 nd | 10 | 40 x 60 | 8 | 8 | 80 | 16 | 96 |
| 3 rd | 12 | 40 x 60 | 8 | 8 | 96 | 16 | 112 |

| | | | | | | | |
|-------------------------------------|----|----------|---|---|----|---|----|
| 4 th | 14 | 50 x 75 | 4 | 4 | 56 | 8 | 64 |
| 5 th | 14 | 50 x 75 | 4 | 4 | 56 | 8 | 64 |
| 6 th to 12 th | 18 | 75 x 112 | 2 | 2 | 36 | 4 | 40 |

Cumulative Parking Demand

The school, tennis center and athletic fields have peak parking demands at different times of the day. Based on the hourly parking demand trends for those uses, the combined average peak parking demand for all three uses is approximately 1,020 stalls occurring at 4 p.m. However, if we assume the worse-case scenario (combining the individual peak demands of those uses and assuming they occur at the same time), the cumulative peak parking demand would be approximately 1,296 stalls which is less than the proposed parking supply of 1,344 stalls. Table 7 summarizes the worse-case scenario for 2022 and 2037.

Table 7. Worst-case Peak Parking Demand Summary

| | Student/Staff/Faculty (Stalls) | Tennis Center (Stalls) | Athletic Fields (Stalls) | Total Demand | Parking Supply (Stalls) | Net Differences (Stalls) |
|-------------|---|---------------------------------------|---|-------------------------|--|---|
| 2022 | 832 | +96 | +160 | 1,097 | 1,288 | +191 |
| 2037 | 1,040 | +96 | +160 | 1,296 | 1,344 | +48 |
| | | | | | | |
| | | | | | | |

Special Events Parking

Banquet Facility

The proposed banquet facility is planned to be constructed by 2037. The facility will accommodate approximately 450 guests and would be available during the evening (after 5 p.m.). The school parking demand after 5 p.m. is 881 stalls or less; resulting in 485 vacant parking stalls. Assuming the worst case that all guests drive alone, the capacity after 5 p.m. is sufficient to accommodate the banquet facility.

Gymnasium

The largest attendance for the gymnasium that occurs as part of the University's regular activity is men's basketball games and the highest attendance generally occur during Friday and Saturday evenings at 6 P.M. or 8 P.M. At this time, it is estimated that there are 400 to 600 vacant spaces on campus (after accounting for the parking demand from the tennis center and the athletic fields). The parking rate for men's basketball is 0.43 parking spaces per seat. Assuming full attendance (900 seats), the parking demand is 387 spaces. Therefore, it is anticipated that there will be adequate parking to accommodate the basketball parking demand.

Another use for the gymnasium that may have full occupancy is baccalaureate services or student assembly. During student assembly, the students are already on campus, therefore it is not anticipated that there would be significantly more parking demand than the school regular peak. Baccalaureate services often occur outside when class and school sporting events are not in session. The only other activity that may occur concurrently is the athletic field use by the public

(with a parking demand of 160 spaces). It is anticipated that 1,100 on-site parking spaces would be vacant ($1,344 - 160$). Given that seating is limited to 900 it is not anticipated that the parking demand would be much more than 900 spaces (this assumes everyone drives alone).

On-street Parking Demand

An on-street parking utilization study was done to determine the impact of the students parking on the neighborhood streets that connect to the University campus. Based on the traffic study, there are 375 legal on-street parking spaces on those streets that have direct path to the campus. The peak on-street parking utilization when school was in session was 39 parking spaces and the peak on-street parking utilization when school was not in session was 62 spaces. Figure 1 shows the parking utilization when school was in session and Figure 2 shows the parking utilization when school was not in session. The data indicate that the impact to on-street parking by the school is not significant. The future parking supply is more than the demand, therefore it is not anticipated that the school parking would spill over onto the neighboring streets more than it is currently.

Figure 1. On-street Parking On School Day

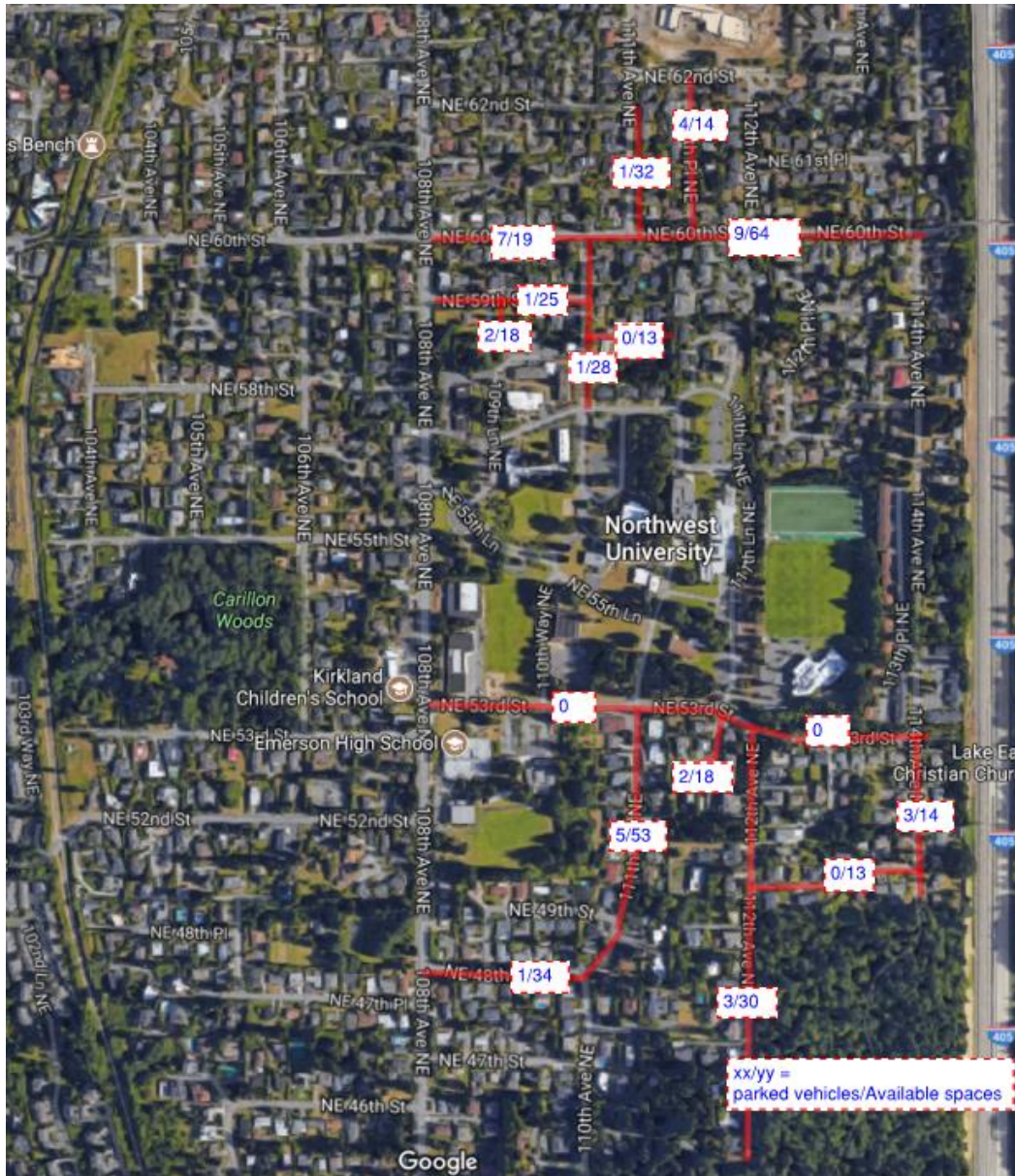
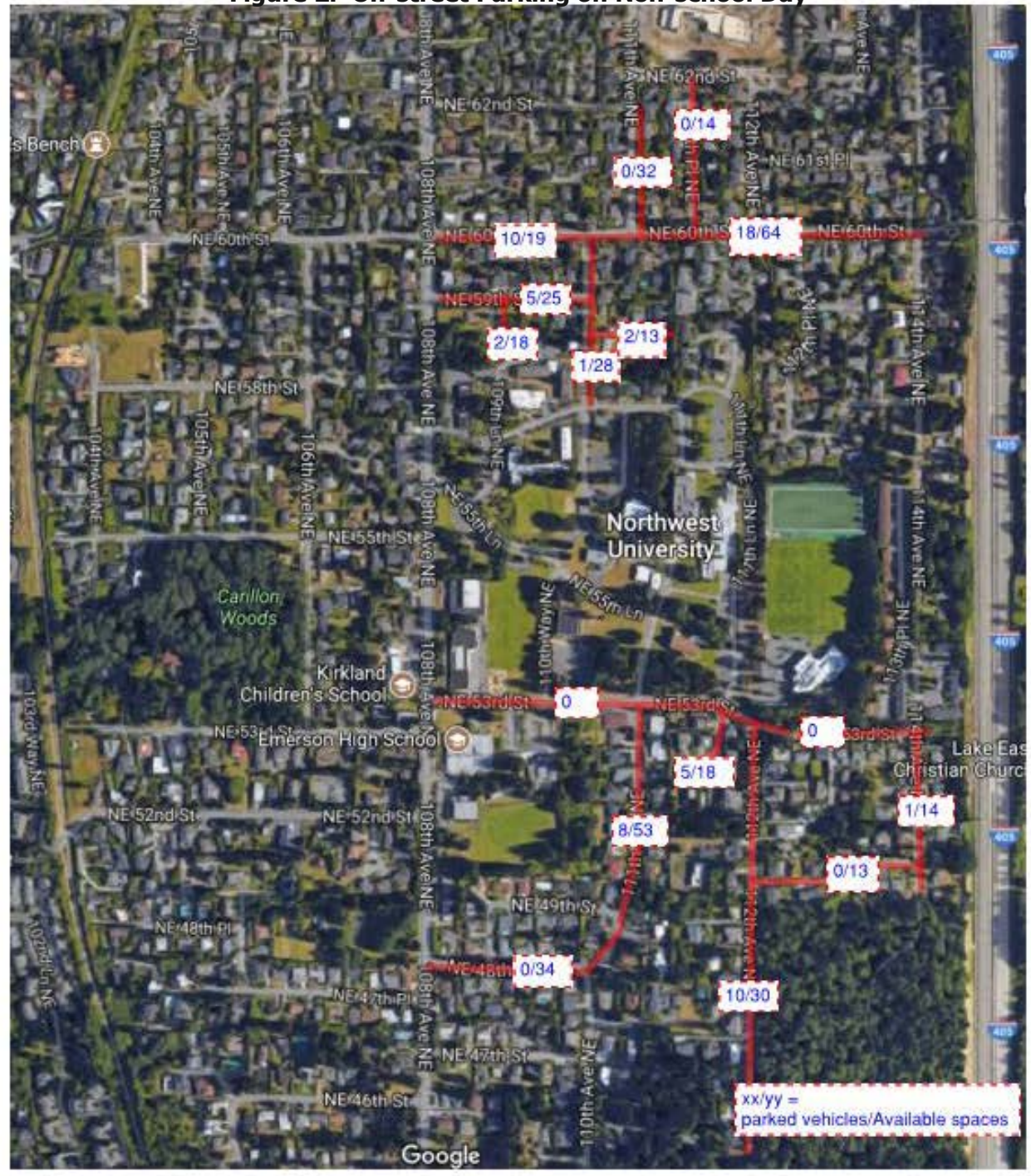


Figure 2. On-street Parking on Non-school Day



Traffic Safety

Based on the TIA report, the 116th Avenue NE/NE 70th Street intersection was the only intersection where the observed crash rate was greater than the critical crash rate. However, recent collisions have been decreasing at this location. The City will continue to monitor the intersection and will work with WSDOT to improve the intersection safety.

Event Management

The University will monitor all events and create a parking management plan for on-campus events. The University will implement the following strategies to minimize impacts to the surrounding neighborhoods:

- Management event schedules to minimize concurrent high activity events on-campus.
- Designate specific parking lots for visitors for specific events.
- Provide way-finding signage to direct visitors to specific
- Active enforcement of parking restrictions.
- Post no parking sign along NE 53rd Street during events and visually monitor neighborhood parking.
- Provide a field manager to coordinate public use of the fields and events including parking management associated with the activities.
- Provide parking monitors and flagger to direct visitors to on-campus parking lots.

The University shall submit the parking management plan to the City's transportation engineer or the Neighborhood Traffic Control Program coordinator for review and approval.

Construction Impacts

Construction management plans for construction of any new building within the Master Plan that is greater than 5,000 square feet gross floor area shall be submitted to the City's development engineers for review and approval. All construction parking shall be located on-campus.

cc: Stefanie Herzstein, PE, PTOE, Transpo Group
John Burkhalter, Development Engineer Manager
Joel Pfundt, Transportation Engineer Manager

Mr. Tony Leavitt
Senior Planner
City of Kirkland
Department of Public Works
123 Fifth Avenue
Kirkland, WA 98033

Dear Mr. Leavitt,

We are in receipt of the December 18, 2018 memorandum from Thang Nguyen, Transportation Engineer and Joel Pfundt, Transportation Manager regarding the Northwest University Master Plan Development TIA Review. We are writing to let you know we agree with the staff recommendations and traffic impact analysis that is contained in the memorandum.

Should you have any questions please feel free to direct them to me. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "John Jordan", followed by a long horizontal line extending to the right.

John Jordan
Chief Financial Officer
Northwest University

March 26, 2019

City of Kirkland
Environmental Coordinator
123 5th Avenue
Kirkland, WA 98033

Notice of Appeal SEP16-02066; Northwest University Master Plan SEPA Determination

Statement of Matter Being Appealed

The undersigned parties are submitting this appeal of the City of Kirkland's Mitigated Determination of Non-Significance (MDNS) for the Northwest University Master Plan (SEP16-02066).

Specific Components or Aspects Being Appealed

The MDNS notes that the recommended transportation mitigations are incorporated into the project. Our appeal is based on:

- The mitigation of traffic impacts identified in the MDNS and SEPA Determination is clearly erroneous in being based on inappropriate and inadequate transportation improvements, compared to the identified significant impacts on the area transportation system of the Master Plan during peak commuter travel periods.
- The SEPA and traffic study did not evaluate potential traffic impacts and associated mitigation of the public use of the sports fields during weekends and evening/night hours.
- The SEPA did not evaluate or disclose the noise impacts of the public use of the sports fields or mitigation of those potential impacts. The lack of such an analyses is clearly erroneous based on proximity to existing single-family residences.
- The SEPA determination did not disclose the potential impacts of the lighting of the fields or appropriate mitigation of those potential impacts. The lack of such an analyses is clearly erroneous based on proximity to existing single-family residences.

Rationale or Contentions of Appeal

The following outlines our rationale for determining that the proposed transportation mitigation is not appropriate or adequate compared to significant traffic impacts of the proposed Master Plan.

1. **108th Avenue NE is Significantly Congested** – The *6th Street Corridor Study* and the City's adopted *Transportation Master Plan* show 108th Avenue NE currently operating at LOS E or F during the weekday PM peak commute period with extensive northbound traffic queues. These plans show extensive growth in traffic by 2035 which will significantly increase congestion and traffic queues along 108th Avenue NE, even without additional traffic associated with the Northwest University Master Plan.
2. **Significant Traffic Impacts on 108th Avenue NE are Projected** – The staff findings in the December 18, 2018 *NW University Master Plan Development TIA Review* memo from Thang Nguyen and Joel Pfundt to Tony Leavitt states that the "proposed project will create significant traffic impacts that warrant off-site transportation mitigation."

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3. **The Basis for Mitigating Project Impacts on 108th Avenue NE Is Not Appropriate** – The City's TIA review and subsequent MDNS and associated documents identifies nine traffic mitigations for the off-site transportation impacts of the Master Plan. Three of the nine mitigation measures require the applicant to contribute a proportional share of the costs of future transportation projects that were identified through the *6th Street Corridor Study* which was prepared by the City in 2016/2017 and adopted in early 2018. These projects are identified as:
- CIP Project PT 0005 - Phase I Transit Queue Jump at 108th Avenue NE/NE 60th Street
 - CIP Project PT 0006 - Phase II Transit Queue Jump at 108th Avenue NE/NE 68th Street
 - CIP Project TR 0117 004 – NE 68th Street Intersection Improvement/Access Management
 - The identified improvements from the *6th Street Corridor Study* are not an appropriate basis for defining the mitigation for the Northwest University Master Plan because traffic associated with the Master Plan was specifically excluded from the *Corridor Study*. The significant increase in traffic from the Master Plan would be additive to the severe congestion and traffic queues forecast in the *Corridor Study* and the City's current *Transportation Master Plan*. The recommended improvements from the *6th Street Corridor Study* did not evaluate the additional traffic impacts of the Master Plan on future levels of congestion, traffic queues, cut-through traffic, and safety and therefore, use of these improvements as the primary basis for mitigation of the project traffic impacts on the corridor is clearly erroneous.
 - Two of the above improvements to 108th Avenue NE are solely focused on improving the speed and reliability of transit service. These two improvements will not directly or even indirectly adequately mitigate the significant traffic impact of the Master Plan on the 108th Avenue NE corridor. In addition, approximately 50 percent of the increase in traffic generation under the Master Plan proposal is associated with outside use of the sports fields and tennis center which would not likely be transit users. Therefore, using these improvements as the primary basis of traffic mitigation on the congested corridor is clearly erroneous.
4. **Proportional Share of Improvement Costs is in Error** – The City's estimated cost of the three improvements is \$14.85 million per the City's 2019-2024 Capital Improvement Program (CIP) and are shown as fully unfunded. However, the proposed proportional share cost is based on the costs of the three projects with a total cost of \$4.1 million (Table 5 of December 18, 2018 TIA Review memo). The December 18, 2018 TIA review memo states that the applicant's mitigation for each of these improvements is a percent *of total project costs* (emphasis added). No rationale is provided for using a lower cost estimate. Nor would a lower cost actually result in the transportation improvement results identified in the *6th Street Corridor Study*.

The MDNS states that the maximum proposed Master Plan mitigation for these three locations totals \$682,000, or 4.6 percent of the total cost. Calculating the proportional share

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contribution based on the full estimated improvement costs of \$14.85 million would result in over \$1.7 million in mitigation costs required by the Master Plan.

5. **Contributing a Small Share of the Costs Does Not Adequately Mitigate the Project's Traffic Impacts** – The applicant would be required to make the proportional share payments to the City at the time of the first building permit for the Master Plan or with public use of the athletic fields. This would then allow the full 20-year Master Plan to develop without any assurances that the other 95 percent of the cost of these projects would ever materialize to design and construct the improvements. This would result in the traffic impacts of the Master Plan not being mitigated in a timely manner or possibly not being mitigated at all.
6. **Evaluation and Mitigation of Cut-through Traffic Impacts is Flawed and Clearly Erroneous** – The Traffic Impact Analysis does not fully disclose or adequately mitigate the impacts of the proposed Master Plan related to increases of cut-through traffic on neighborhood streets both south and north of the campus.
7. **Transportation Management Program Results are Not Disclosed** – The TIA does not disclose the results of the University's existing Transportation Management Program in relationship to its required goals. The TIA does not anticipate any significant increase in transit use under the Master Plan nor does it include any requirements to reduce its trip generation through an update of its Transportation Management Program to meet the adopted goals for reducing traffic impacts of the campus (existing and proposed) Master Plan.
8. **Weekend and Evening Traffic Impacts of Public Use of Sports Fields** – If approved as submitted, the Master Plan application would allow extensive public use of the athletic fields between 8:00 am and 9:30 pm seven days a week. This would allow practices, games, and sports tournaments to be held, similar to those at other parks in the region. The potential transportation and parking impacts of these uses needs to be disclosed and adequately mitigated. Not including such an evaluation is clearly erroneous because it fails to disclose potential impacts and needed mitigation.
9. **Noise Impacts of Public Use of Fields** – The potential noise impacts on the adjacent residential neighborhoods associated with non-University uses of the sports fields during weekdays, evenings, and on weekends needs to be disclosed and mitigated.
10. **Visual/Glare Impacts of Lighting of the Fields** – The proposed lighting of the athletic field will likely result in visual impacts to the surrounding community. The lights will be taller than all of the buildings on campus, including the apartments along 114th Avenue NE. However, the SEPA contains no analyses of those potential impacts or associated mitigation of those resulting impacts.

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Conclusion

The lack of disclosing and mitigating the above traffic, noise, and visual impacts will result in significant impacts that are not adequately mitigated by the proposed SEPA conditions. Additional studies are needed to fully evaluate the potential impacts of these elements of the Master Plan. Based on those studies appropriate mitigation, including potentially reducing or capping the traffic generation of the Master Plan, restricting the types of allowed uses, and restricting the days and hours of certain uses.

Statement Demonstrating Standing to Appeal

The below appellants are all residents of the City of Kirkland and reside in the immediate proximity of Northwest University. Five of the appellants directly border the north side of the campus. The other two reside along 111th Avenue NE, within 400 feet of the south side of the Northwest University Campus. We all travel the roadways that will be significantly impacted by the increased traffic on arterials, collectors, and local streets. We will be affected by the glare of the lighting of the fields and the additional noise of the field use.

Supplemental Information

We would like to share the following information in support of our appeal:

1. Larry Toedtli, one of the appellants is a registered engineer in the State of Washington. He recently retired as a principal at Transpo Group. During his over 30 years at Transpo Group he prepared traffic impact analyses for several large Master Plan developments, as well as traffic studies to support institutional master plans. He also directed Transpo's efforts in preparing and updating GMA-based transportation plans, transportation financing strategies, and concurrency programs, including working on the City of Kirkland's *Transportation Master Plan*. Larry also assisted local agencies in reviewing traffic impact studies for developments within and outside of their jurisdiction.
2. The appellants have participated in the Northwest University's Master Plan processes, even before the application was submitted to the City. We have previously shared our concerns about traffic impacts and other issues so they could be addressed in the final Master Plan proposal but have not yet been adequately addressed.

Appellants

We are submitting this appeal statement on behalf of ourselves and on behalf and consent of the below listed appellants.



Larry and Marie Toedtli
11201 NE 58th Street
Kirkland, WA 98033

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Appellants Continued

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MEMORANDUM

To: Tony Leavitt, Senior Planner

From: Thang Nguyen, Transportation Engineer

Date: May 5, 2019

Subject: Staff Response to the Appeal of the Proposed NW University Master Plan

This memorandum provides a response to the appeal letter dated March 26, 2019 by the appellants.

1. The Basis for Mitigation Project impacts on 108th Avenue NE is Not Appropriate

In addition to the transportation impact fee that is required of all development to fund transportation capacity improvement projects, there are several SEPA mitigation options that are available to an applicant when the development impacts trigger the level of service standards. Those options are:

1. The applicant can propose specific intersection improvements to mitigate the level of service and development's impact.
2. If the City has a planned improvement that would help to mitigate the development's impact and then the applicant has the option to pay a proportional share towards the specific improvement that is required to mitigate the development's impact.
3. If the City has a planned improvement that would help to mitigate the development impact but the improvement plans are not anticipated to be funded within 6 years of the full buildout of the development or master plan and the project is unfunded, then the applicant is required to construct the necessary improvements to mitigate the level of service.
4. If the intersection being impacted cannot be improved because the right-of-way is not available or physical improvements are not feasible, then the applicant may propose contributions to other nearby planned transportation improvements that would help improve the ability to move people through a transportation corridor.
5. The applicant can choose to delay the development or phases of the development until additional capacity is constructed.

Since the 6th Street corridor improvement plan does provide intersection operation efficiency, improves the level of service and creates a multimodal corridor improvement, staff believe that it is an appropriate mitigation option for the NW University Master Plan.

After staff have identified the proportional share contribution by the expansion of the NW University Master Plan, the 6th Street Corridor improvements have been incorporated into the

2019-2024 Capital Facilities Plan as unfunded projects. Furthermore, they have been identified as transportation impact fee funded projects.

The NW University Master Plan and other large development such as the SRM Office development were not included in the 6th Street Corridor study because they are not approved project. Development projects that are not approved are typically not included in a corridor study. Nevertheless, staff believes that the inclusion of the NW University Master Plan would not add additional improvements beyond what is currently proposed for the 6th Street corridor.

If a large development was proposed today and had the similar impacts as the NW University Master Plan, staff would require that development to pay similar proportional shares toward the same planned improvements identified in the 6th Street Corridor study.

The 6th Street Corridor improvement goal is to improve speed and reliability of transit service as well as reduce congestion and queues at the intersections. The City of Kirkland has adopted a multimodal concurrency system and the City of Kirkland Transportation Master Plan goal is to build a multimodal transportation system to move people rather than vehicles. By providing a multimodal transportation system that can move more people efficiently, it will reduce the single occupancy vehicle travel and thus, reduce congestion and queues. The proportional share used to calculate the University pro-rata share was calculated by accounting trips from all uses within the master plan, including the trips from the sports fields. Therefore, the transportation impact from the sport field is being mitigated.

2. Proportional Share of Improvement Costs is in Error

The proportional share of improvement costs was calculated based on the total cost of necessary intersection improvements that is needed to mitigate the University Master Plan transportation impact to those intersections. Bullet 5, 6 and 7 under the heading Off-site SEPA Mitigation of the staff report memo dated December 18, 2018 states that the University shall contribute a proportional share to the intersection improvements of the 6th Street corridor project. The total project costs within those bullets mean the total costs of the intersection improvements and not total costs of the corridor projects that include those intersections. Table 5 within the December 18, 2018 staff report identified the corridor widening project costs, the intersection improvements' total costs and the proportional shares toward the intersection improvements' total costs. The total mitigation that includes the total intersection proportional share plus the frontage dedication is approximately \$1,218,500.

3. Contributing a Small Share of the Costs Does Not Adequately Mitigate the Project's Traffic Impacts

The total costs of the 6th Street Corridor project is to mitigate the impact of the 20-year land use growth of the City. By law, the City cannot require the NW University to contribute more than its proportional share of impacts. There is no assurance that the master plan would be fully developed in the near future. By collecting all the proportional share mitigation with the

first building permit or use of the athletic field and acquiring the frontage dedication at the preliminary design phase of the corridor project, it guarantees that the City has the funding and commitment to improve the 6th Street corridor. Furthermore, the City can use the mitigations from the University to improve the ability to leverage local, state and federal funding for the corridor improvement. The City's goal is to construct all projects that are on the Capital Facility Plan.

4. Evaluation and Mitigation of Cut-through Traffic Impacts is Flawed and Clearly Erroneous

Data from the traffic impact analysis for the University Master Plan indicate that currently there is little cut-through by the University related traffic in the neighborhood north and south of the University by the University. The study indicated that approximately 3% of the neighborhood traffic (8 vehicle per hour of University related trips) are cut through traffic to/from the University. There is no long-term forecast methodology that can accurately determine the amount of cut-through traffic by the University. It is difficult to accurately forecast the amount of cut-through traffic specific to the University in 2037 since the increase in the amount of cut through traffic depends on many factors such as the actual development of the 20-year land use growth forecast, traffic congestions on I-405 and Lake Washington Boulevard, cut through traffic generated by background growth and the congestion relief and new traffic patterns due to future transportation improvements. The staff acknowledges that, assuming the University cut- through traffic would grow by 100% (double) along with the similar increase in student population is only an estimate.

5. Transportation Management Program Results are Not Disclosed

The Transportation Management Program (TMP) is a requirement of the Master Plan approval and will be required outside of the SEPA evaluation. The City is currently reviewing the current Master Plan's TMP and the University's CTR mode split report and will require additional measures to reduce trips generated by the University. At the minimum, the staff will require the University to provide all employees and students with an Orcas Business transit pass or a transit pass equivalent to a two-zone bus pass to encourage the use of transit.

6. Weekend and Evening Traffic Impacts of Public Use of Sports Fields

The parking impacts of the sport fields were analyzed in the traffic report. Figure 19 within the traffic report illustrates the parking demand for the weekday and the highest peak occur before 6 P.M. The highest parking demand relates to university students and staff coming to the University when classes are in sessions. Since regular classes are not in session on the weekend, the parking demand would be significantly lower. The parking demand from the combination of the sports field use and tennis center during the weekend will be significantly less than the parking demand during the weekdays. There will be a surplus of parking that would more than adequately accommodate the parking demand of the sport fields.

The ITE Trip Generation manual indicates that the trip generation for a University is 30% higher on the weekday than the weekends. Similarly, peak hour street traffic during the weekday is significantly higher than during weekends. The weekend use of the sport fields will likely include morning periods, but it is not anticipated that the weekend evening use of the fields will be more than the weekday evening because the weekday evening analysis already assumed the full capacity use of the fields. It is most unlikely that traffic impacts on the weekends will be worse than the weekdays. Therefore, staff does not believe analyzing the weekend traffic would result in additional traffic impacts that would require additional mitigation above those already assessed for the weekday AM and PM peak periods.