

Seattle Pacific University

**Major Institution Master Plan (MIMP) Environmental
Impact Statement (EIS) Process**

November 2, 2022

Transportation Discipline Report (TDR)

- **Scope** – What we studied
- **Methodology** – How we performed our study
- **Findings** – What we found

TDR Scope

CIRCULATION

What changes to circulation are proposed as it relates to vehicular, non-motorized, and transit modes?

TRIP GENERATION

How many trips are generated?

TRAFFIC VOLUMES

How does new vehicular traffic travel through the roadway network?

TRAFFIC OPERATIONS

How does the additional traffic impact operations of the roadway network?

MULTIMODAL IMPACTS

How do new trips impact multimodal operations?

SAFETY

How does the project impact multimodal safety?

PARKING

How does the proposed parking supply meet demand?

TRANSPORTATION MGMT

What measures are proposed to single-occupancy vehicles?

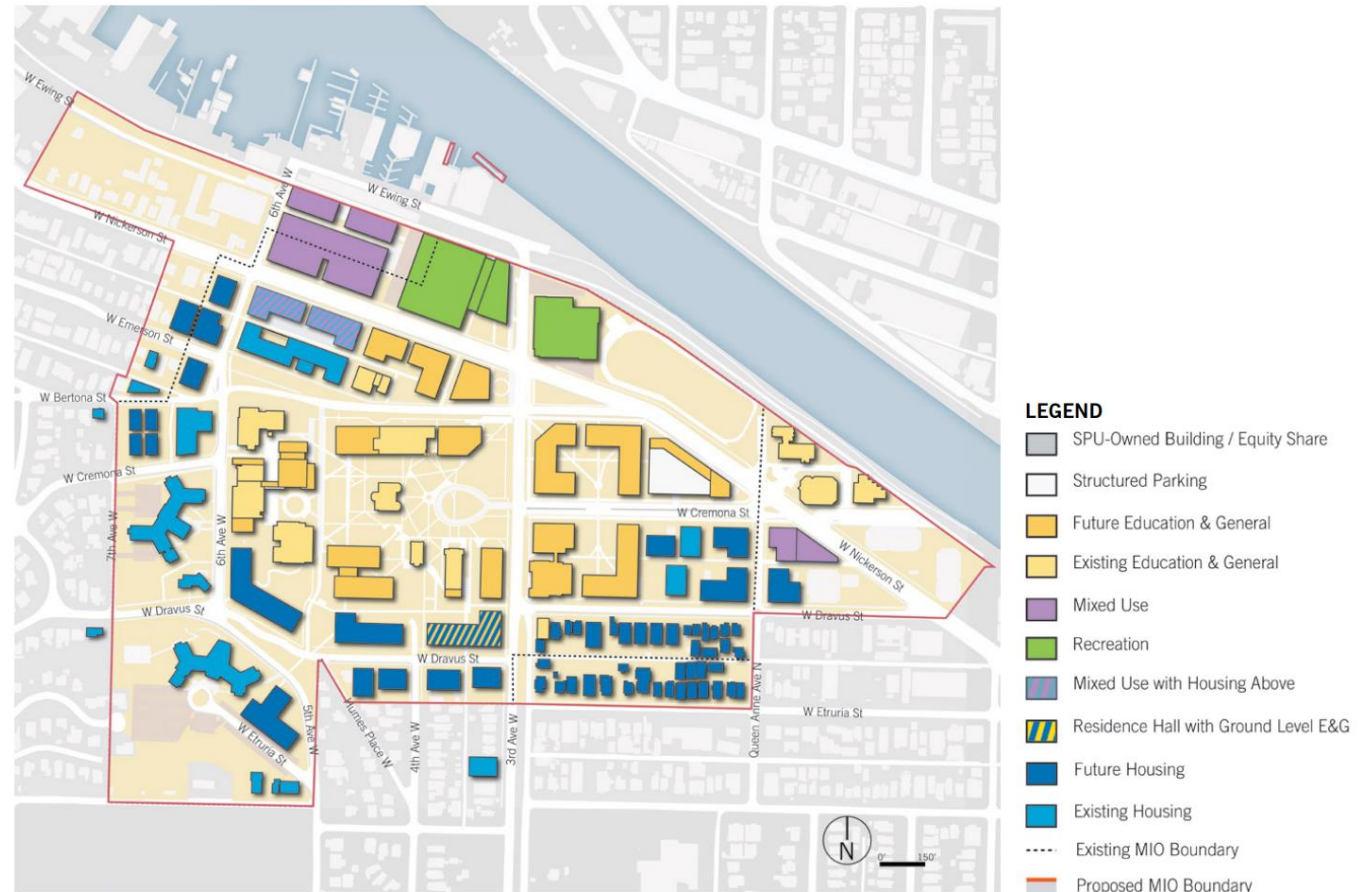
SITE DESIGN

What considerations are made for loading, curbside management and special events?

Action Alternatives

Summary of Action Alternatives

Alternative	Proposed MIMP Elements					
	Boundary Expansions	New Campus Development	Mixed-Use Development	Repurpose Existing Facilities	Increased Height Limits	Street Vacations
No Action Alternative						
Proposed MIMP	X	X	X	X	X	X
Action Alternative 2		X	X	X		X
Action Alternative 3	X	X	X	X		X
Action Alternative 4		X	X	X	X	X
Action Alternative 5	X	X	X	X	X	



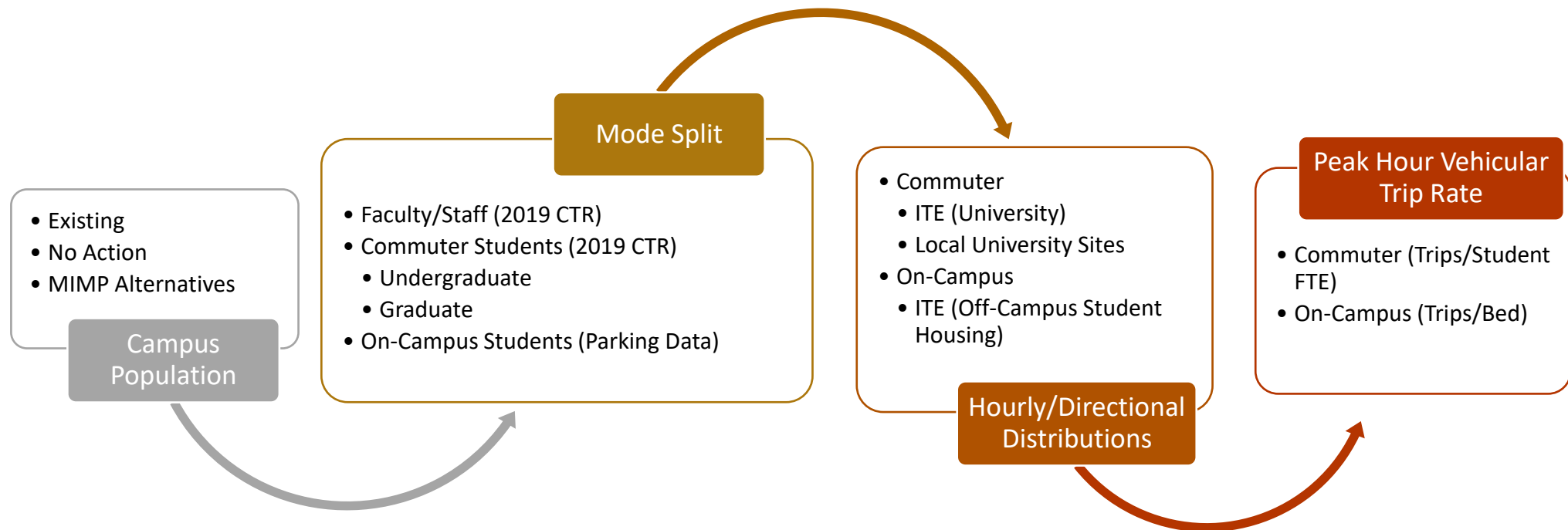
Long-Term Building Uses

Study Area/Traffic Volumes

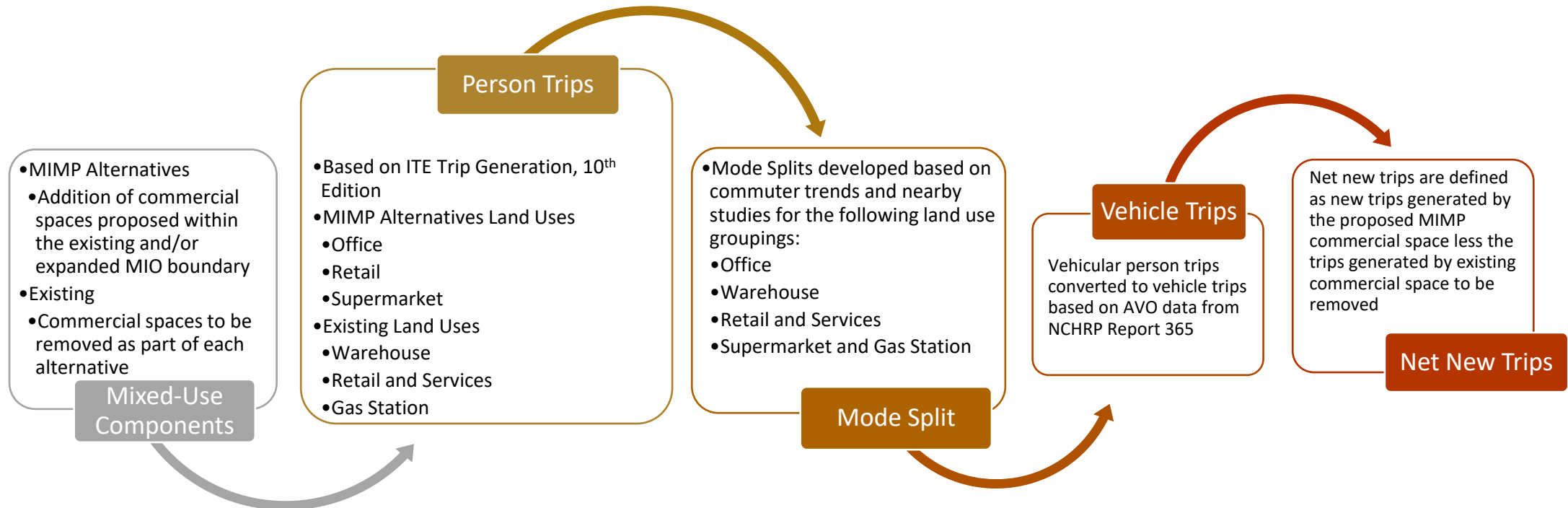


- **Existing Volumes**
 - Historic Counts
 - 2021 Counts
 - Applied adjustments
- **No Action Volumes**
 - 1 percent annual growth
 - Pipeline projects
- **MIMP Alternatives Volumes**
 - Campus Growth
 - Mixed-Use Development

Campus Trip Generation Methodology



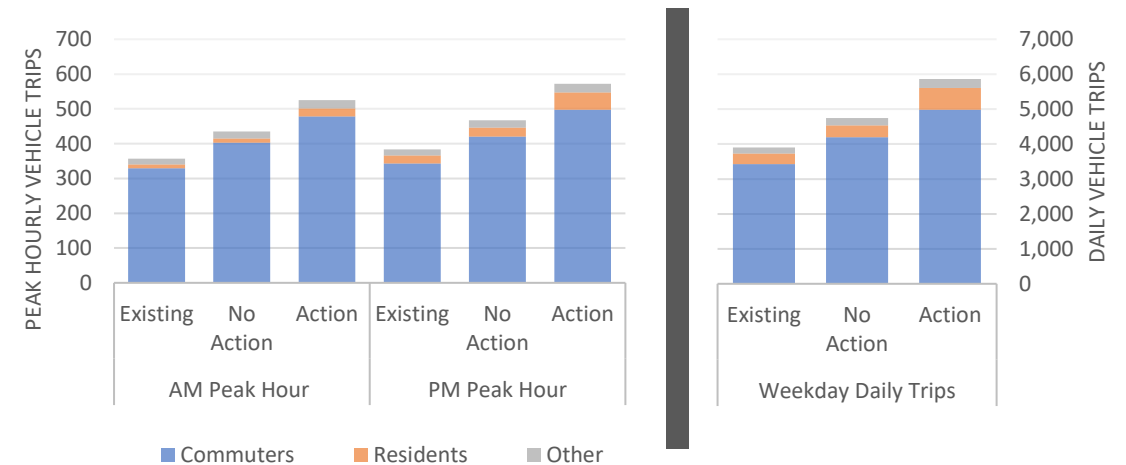
Mixed-Use Development Trip Generation Methodology



Trip Generation Summary

Summary of Cumulative Net New Trip Generation By Alternative

Time Period	Total Net New Vehicle Trips	Trip Generation Change from Proposed MIMP
Proposed MIMP		
Daily	2,356	--
AM Peak Hour	113	--
PM Peak Hour	199	--
Action Alternative 2		
Daily	2,552	+196
AM Peak Hour	133	+20
PM Peak Hour	193	-6
Action Alternative 3		
Daily	2,172	-184
AM Peak Hour	114	+1
PM Peak Hour	177	-22
Action Alternative 4		
Daily	2,634	+278
AM Peak Hour	133	+20
PM Peak Hour	204	+5
Action Alternative 5		
Daily	2,306	-50
AM Peak Hour	113	--
PM Peak Hour	194	-5



Summary of Campus Trip Generation

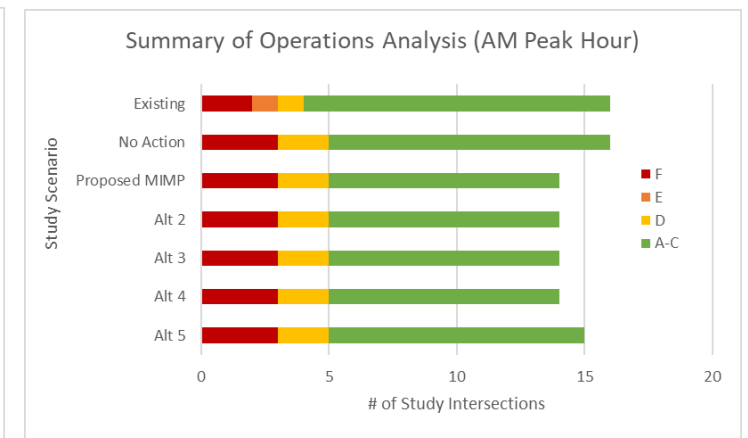
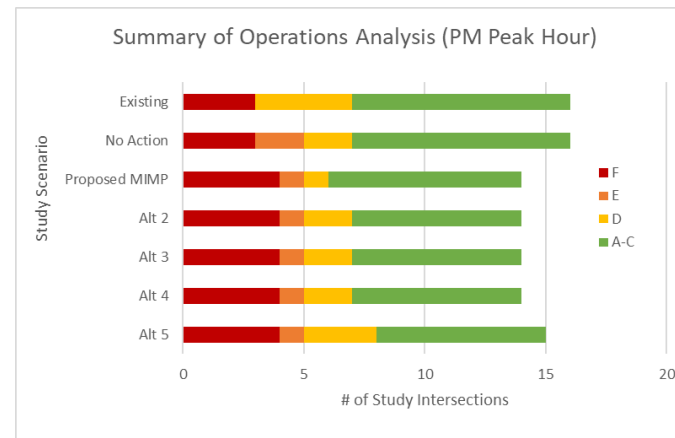
- All Alternatives assume the same campus growth and have relatively consistent net new commercial square footage
- Proposed MIMP, Alt 3, and Alt 5 are projected to generate fewer net new trips due to the removal of existing uses within the proposed boundary expansion that are higher trip generators (such as a gas station)

Future Traffic Volumes

- Trip distribution/assignment assumptions based on:
 - 2019 Student Commute Survey
 - OnTheMap (web-based application)
 - 2019 CTR Employer Survey Report
 - Existing travel patterns and recent studies
- Routing Assumptions
 - Some existing trips to/from campus rerouted to account for the proposed distribution of on-campus parking
 - Mixed-Use Development trips routed to proposed building locations assuming access from lowest volume street
 - Trips rerouted to account for proposed street vacations assumed to utilize a parallel route
- Most study intersections experience similar growth in traffic as a result of each alternative
- Differences in traffic growth are a result of differences in trip generation, circulation and location of mixed-use development

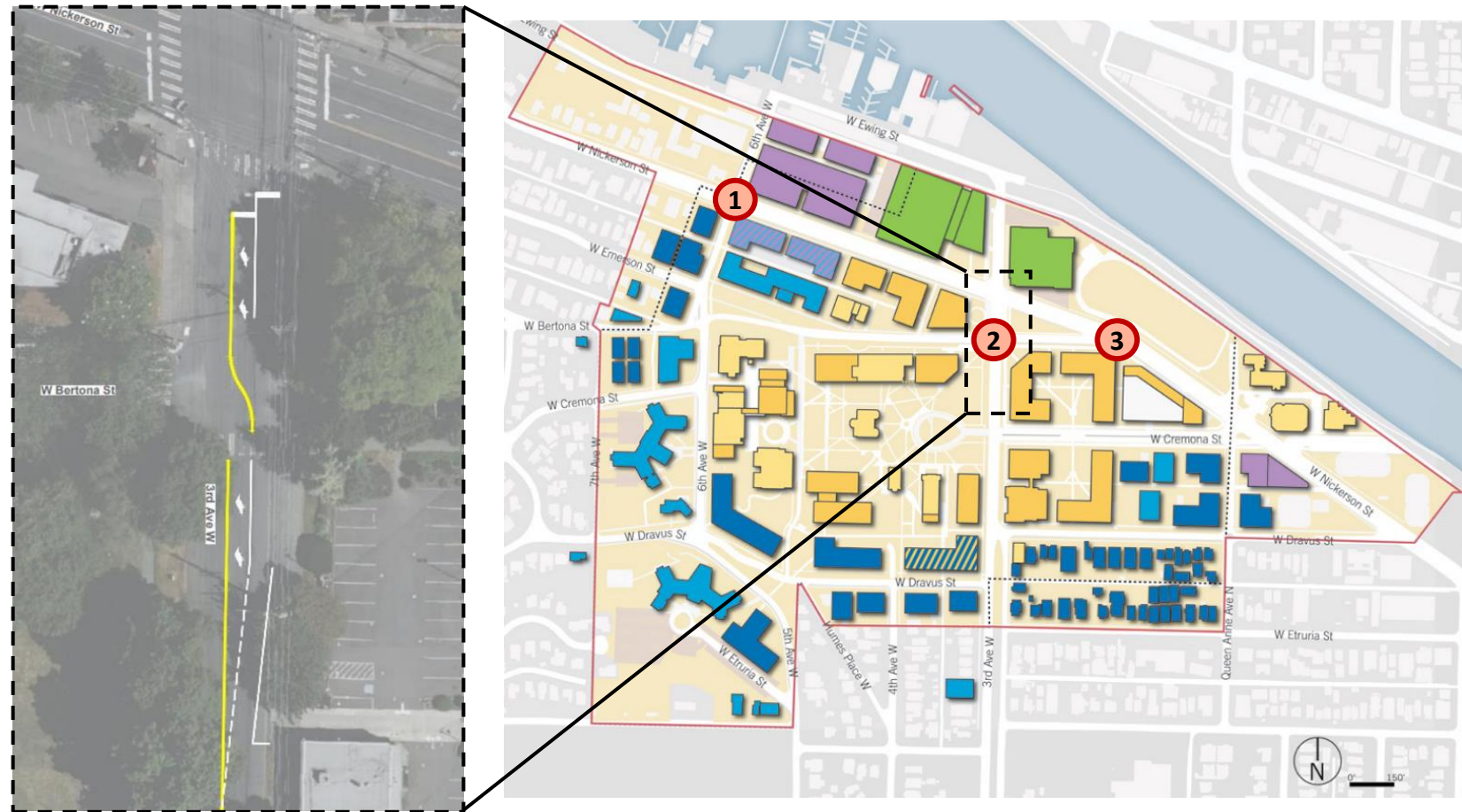
Traffic Operations

- Traffic operations (LOS and queues) evaluated based on Highway Capacity Manual (HCM) methodology and using Synchro 11 software
- 5 intersections would operate at unacceptable conditions under all Action Alternatives:
 1. 6th Ave W/W Nickerson St (AM, PM)
 2. 3rd Ave W/W Bertona St (PM)
 3. W Cremona St/W Nickerson St (AM, PM)
 4. 3rd Ave N/W Florentia St/W Nickerson St (PM)
 5. Fremont Ave N/W Nickerson St (AM, PM)



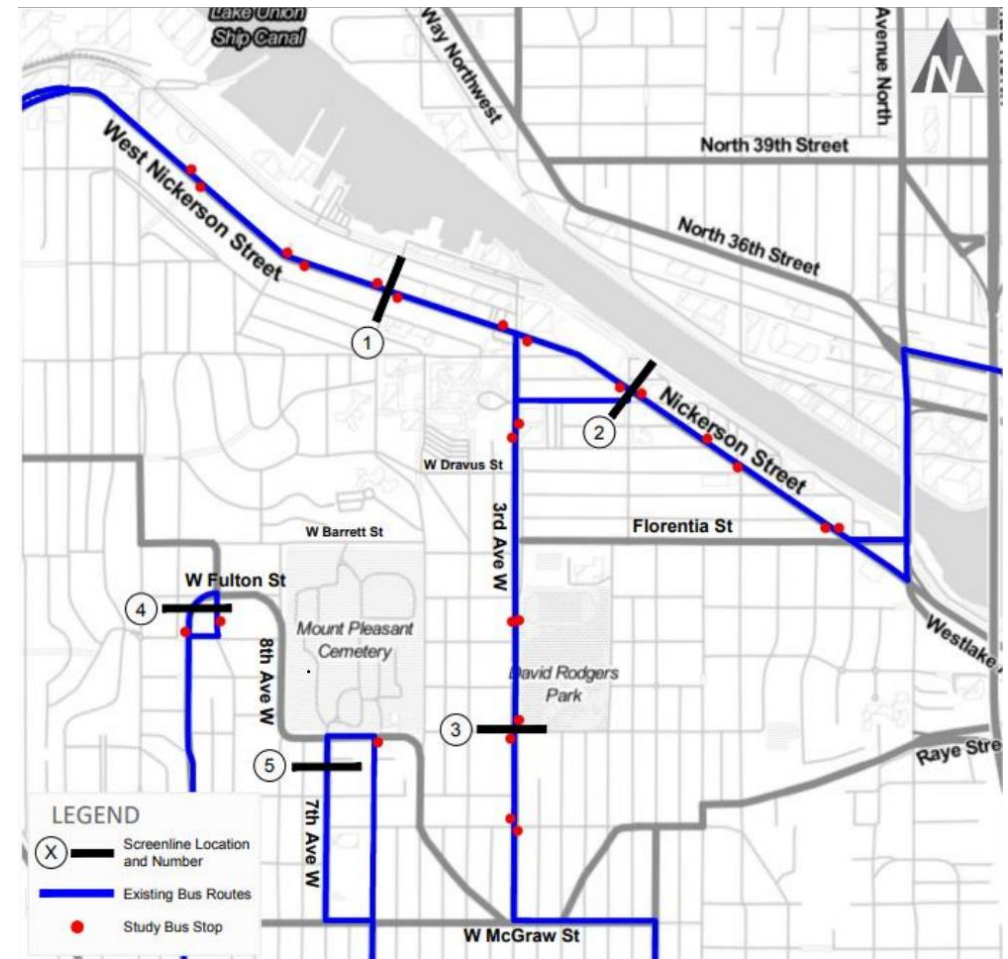
Proposed Mitigation Measures

- Necessary mitigation measures would be consistent across all alternatives
- Proposed Mitigation Measures
 1. 6th Ave W/W Nickerson St
 - Traffic Signal
 2. 3rd Ave W/W Bertona St
 - Turn restrictions along WB 3rd Ave
 - In conjunction, incorporate a NB left-turn lane at the 3rd Ave W/W Nickerson St signal
 - Leading Pedestrian Intervals
 3. W Cremona St/W Nickerson St
 - Traffic Signal
- No mitigation measures identified for the following:
 - 3rd Ave N/W Florentia St/W Nickerson St (PM)
 - Fremont Ave N/W Nickerson St (AM, PM)



Multimodal Improvements

- Pedestrian Improvements
 - W Cremona Street streetcape enhancements
 - W Bertona Street traffic calming
 - Street vacations (all Action Alternatives except Alt 5)
 - New and enhanced crosswalks
 - Traffic signals along W Nickerson Street (as part of proposed mitigation measures)
 - Leading Pedestrian Intervals at 6th/Nickerson
- Bicycle Improvements
 - Replacement of aging on-site bicycle amenities
 - Short- and long-term parking at new buildings
 - Specific amenities to be evaluated as part of the future MUP processes
- Transit Analysis
 - Transit capacity/demand evaluated at key screenlines based on Fall 2019 average weekday AM and PM peak period ridership and service frequency for each route
 - Under existing conditions onboard utilization ranges between 2 and 39 percent
 - Sufficient capacity exists along all nearby routes to absorb new transit trips



Parking Supply/Demand Analysis

- Peak parking demand rates based on pre-pandemic on-campus/on-street parking counts and number of residential decals distributed
- On-site parking supply will meet demand for all alternatives
- The MIMP outlines the maximum parking supply obtainable, but the parking supply will ultimately be within the min/max defined in the SMC
- Future parking supply and demand will be re-evaluated as part of future MUP processes for each future project.

Type	Size	Unit	Peak Parking Demand Rate ²	Projected Peak Parking Demand (Spaces)	Parking Supply	Estimated Peak Utilization
<u>Proposed MIMP; Action Alt. 3/5</u>						
Commuter	3,710	Commuter Population	0.33	1,225		
Residential	3,150	Beds	0.22	693		
Total	4,893			1,918	2,670	72%
<u>Action Alt. 2/4</u>						
Commuter	3,710	Commuter Population	0.33	1,225		
Residential	3,150	Beds	0.22	693		
Total	4,893			1,918	2,703	71%

Campus/Building Design Considerations

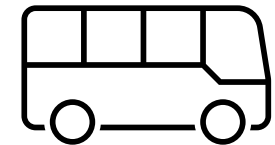
- Each building will provide loading facilities that meet SMC requirements and accommodate practical demand
- Curbside management will be evaluated at an individual building level to determine if temporary loading zones or entrance zones are appropriate
- Loading and curbside management needs will be reevaluated as part of future project MUP processes
- Special events will be managed on a case-by-case basis (consistent with existing operations)

Transportation Management

- A campus wide SOV goal of 29 percent is established
- Comparison between 2000 and 2020 TMP shown below

TMP Element	Included in the 2000 TMP	Included in the 2022 TMP
<u>Program Management & Encouragement Activities</u>		
Appoint Transportation Coordinator (TC)		
TC participation in Transportation Mgmt Assoc.		
Produce/distribute transportation information		
Encourage participation in the TMP		
Conduct surveys of TMP effectiveness		
Submit TMP reports to the City		
<u>Physical Features/Elements</u>		
Bike storage/amenities		
Construct transit/bike/ped infrastructure improvements		
Reduce vehicle parking supply below market demand		
Enhance on-site bicycle parking		
Provide on-site commuter showers/lockers		
Provide micro-mobility parking/charging hubs		
Provide on-site business centers		
Provide on-campus EV charging stations		
<u>Additional Employer-based Incentives for SOV Trip Reduction</u>		
Offer telecommuting		
Promote flexible working hours		
Supplement public transit with shuttle		

TMP Element	Included in the 2000 TMP	Included in the 2022 TMP
<u>Parking Management</u>		
Pricing structures that discourage SOV use		
Unbundle parking from leases		
Free/reserved spaces for vanpools		
Discounted spaces for carpools		
Designated carshare spaces		
Parking tools for space management		
Reduce parking in the surrounding neighborhood		
<u>Transit, Carpool & Vanpool Programs</u>		
Provide transit pass subsidy to employees		
Provide ride-match information		
Guaranteed ride home program		
On-site transportation options for non-drivers		
Support transit service/transit service improvements		
<u>Bicycle/Walking Programs</u>		
Bike commuter incentives		
Bicycle safety training/maintenance		
Subsidize shared micro-mobility		
Provided shared bicycles/micro-mobility devices		
Offer safety programs		



Summary of Findings/Areas of Focus

- Necessary vehicular mitigation measure requirements consistent for all alternatives including intersection improvements and TMP
- Street vacations did identify significant impacts, but would be evaluated in more detail at the project level
- Projected parking demand can be accommodated on-site and building-level supply and demand will be evaluated as part of future MUP processes
- Non-motorized improvements include:
 - New and enhanced crosswalks
 - Leading Pedestrian Intervals
 - Traffic calming
 - Street vacations
 - Bike parking
- Unavoidable impacts at:
 - 3rd Ave N/W Florentia St/W Nickerson St (PM) *(insignificant)*
 - Fremont Ave N/W Nickerson St (AM, PM) *(significant)*