

Supporting Documents

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NOTICE OF PUBLIC HEARING CLARK COUNTY COUNCIL

NOTICE IS HEREBY GIVEN that the Clark County Council will conduct a public hearing on **November 12, at 10:00 a.m.,** at the Public Services Center, 1300 Franklin Street, Hearing Room, 6th Floor, Vancouver, Washington to consider the following:

1) CPZ2019-00032 – Growth Management Act Compliance (Rural Industrial Land Bank): A proposal to amend the Clark County Comprehensive Growth Management Plan 2015-2035, zoning maps and Clark County Unified Development Code as a response to the Growth Management Hearings Board Final Decision and Order regarding the Rural Industrial Land Bank (RILB).

Staff Contact: Gary Albrecht, Gary.Albrecht@clark.wa.gov or (564) 397-4318

2) CPZ2019-00031 - I-5/NE 179th St. Area Urban Holding Overlay removal: A proposal to amend the Comprehensive Plan and Zoning maps to remove the urban holding overlays from approximately 2,200 acres near the I-5/NE 179th Street Interchange area. An amendment to the Comprehensive Plan text is also proposed to remove the procedural guidelines associated with urban holding in the Vancouver Urban Growth Area.

Staff Contact: Matt Hermen, Matt.Hermen@clark.wa.gov or (564) 397-4343

3) CPZ2019-00017 – Capital Facilities Plan Amendments and Traffic Impact Fees: A proposal to amend the Clark County transportation 20-year Capital Facilities Plan and update the associated traffic impact fees.

Staff Contact: Matt Hermen, Matt. Hermen@clark.wa.gov or (564) 397-4343

The staff report, related materials, and hearing agenda will be available 15 days prior to the hearing date on the county's web page at https://www.clark.wa.gov/community-planning/housing-initiative. Copies of materials are also available at Clark County Community Planning, 1300 Franklin Street, 3rd Floor, Vancouver, Washington. For other formats, contact the Clark County ADA Office at ADA@clark.wa.gov, voice 564-397-2322, Relay 711 or 800-833-6388, or Fax 564-397-6165.

Anyone wishing to attend this hearing should appear at the time and place stated above. Spoken testimony regarding this matter may be given there. Written testimony can be provided by e-mailing the clerk of the council at Rebecca.Messinger@clark.wa.gov or via US Postal Service to the Clark County Councilors, c/o Rebecca Messinger, PO Box 5000, Vancouver, WA 98666-5000. Written testimony may also be submitted for the record during the hearing. Please ensure that testimony is received at least two (2) business days before the hearing if you would like staff to forward it to the County Council before the hearing.

Approved as to Form only:

CLARK COUNTY COUNCIL

Clerk of the Board

Approved as to Form only: ANTHONY F. GOLIK

Prosecuting Attorney

Senior Deputy Prosecuting Attorney

PLEASE PUBLISH:

Monday, October 28, 2019

Please Bill:

Clark County Community Planning Attn: Sonja Wiser, Program Assistant P. O. Box 9810 Vancouver, WA 98666-9810

Columbian Account 70914

Clark County Planning Commission



Karl Johnson, Chair Ron Barca, Vice Chair Rick Torres Steve Morasch Matt Swindell Bryan Halbert

CLARK COUNTY PLANNING COMMISSION TUESDAY, OCTOBER 8, 2019

6:30 P.M. - PUBLIC HEARING

CC HEARING ROOM, 6TH FLOOR PUBLIC SERVICES BUILDING 1300 FRANKLIN STREET VANCOUVER, WA

<u>AGENDA</u>

- I. CALL TO ORDER
- II. ROLL CALL & INTRODUCTION OF GUESTS
- III. GENERAL & NEW BUSINESS
 - A. Approval of Agenda for October 3, 2019
 - B. Communications from the Public
- IV. PUBLIC HEARING ITEMS:

CPZ2019-00017 – Capital Facilities Plan Amendments and Traffic Impact Fees Amendments to the Clark County transportation 20-year Capital Facilities Plan and associated traffic impact fees primarily to support the removal of the Urban Holding Overlay near the I-5/NE179th St. interchange.

CPZ2019-00031 – I-5/NE 179th St. Area Urban Holding Overlay Removal
An amendment to the Comprehensive Growth Management Plan 2015-2035 and zoning
map to remove the Urban Holding Overlay near the I-5/NE 179th St. interchange.
Staff Contact: Matt Hermen at (564) 397-4343 or Matt.hermen@clark.wa.gov
Alternate Staff Contact: Oliver Orjiako at (564)397-4112
or Oliver.orjiako@clark.wa.gov

- V. OLD BUSINESS
- VI. NEW BUSINESS

VII. COMMENTS FROM MEMBERS OF THE PLANNING COMMISSION

VIII. ADJOURNMENT

STAFF REPORT AND RECOMMENDATIONS:

Staff recommendations to the Planning Commission will be available 14 days prior to the hearing date listed above. Staff reports and other information can be accessed on the following web page at: https://www.clark.wa.gov/community-planning/planning-commission-hearings-and-meeting-notes

Contact Sonja Wiser, Program Assistant at (564) 397-2280, ext. 4558, or e-mail Sonja.wiser@clark.wa.gov

SUBMISSION OF WRITTEN TESTIMONY:

If you bring written testimony to read at the hearing, the Planning Commission would request submission of at least ten copies for the record (seven copies for Planning Commission and three copies for staff).

E-MAIL TESTIMONY:

PLEASE NOTE: All e-mails need to be received no later than 48 hours prior to the hearing and need to include full name, address, city, zip code, and phone number to be included as parties of record. Testimony can be e-mailed to the above-listed planners or to Sonja.wiser@clark.wa.gov

ACCOMMODATION OF PHYSICAL IMPAIRMENTS:

The Public Service Center is wheelchair accessible. If you need auxiliary aids or services in order to attend, contact the Clark County ADA Office. **Relay** (800) 833-6384 or 711; **E-mail** ADA@clark.wa.gov.

HEARING COVERAGE:

Coverage of this evening's hearing may be cable cast live on Clark/Vancouver television channel 23 or 21, on cable television systems. For replay dates and times, please check your local television guide or www.cvtv.org.

Web Page at: https://www.clark.wa.gov/community-planning/planning-commission-hearings-and-meeting-notes

Staff Report

TO: Clark County Planning Commission

FROM: Oliver Orjiako, Director

PREPARED BY: Matt Hermen, AICP, Planner III

DATE: October 8, 2019

SUBJECT: CPZ2019-00017 TRANSPORTATION CAPITAL FACILITIES PLAN

AMENDMENT

PROPOSED ACTION

Clark County Public Works is requesting an amendment to the Comprehensive Growth Management Plan 2015-2035 Transportation Capital Facilities Plan (CFP) to add, delete and amend transportation projects in the 20-year list. The proposed amendments to the CFP include:

2020 Change	Road	From	То	Total Project Costs	
Deletion	NE 119th St.	NE 72nd Ave.	NE 87th Ave.	\$23,655,000	
Deletion	NE 47th Ave. and NE 78th	St. Intersection		\$2,623,000	
Deletion	NE 94th Ave.	NE Padden Pkwy.	NE 99th St.	\$8,973,000	
Deletion	NE 119th St.	NE 50th Ave.	NE 72nd Ave.	\$6,994,000	
Deletion	NE 10th Ave.	NE 154th St.	NE 164th St.	\$22,751,000	
Deletion	Traffic Signal Optimization	1		\$6,000,000	
Cost Amendment	NE 179th St.	NE Delfel Rd.	NE 15th Ave.	\$13,100,000 \$ 12,367,000	
Cost Amendment	NE 182nd Ave and SR-50	0 (Fourth Plain Blvd.)	Intersection	\$3,000,000 \$5,600,000	
Addition	NE 179th St.	NE 15th Ave	NE 50th Ave.	\$48,690,000	
Addition	NE 179th St.	NW 11th Ave	Delfel Rd.	\$27,480,000	
Addition	NE 10th Ave.	NE 164th St.	Amphitheater Entrance	\$7,130,000	
Addition	NW 11th Ave.	NW 139th St.	NW 149th St.	\$13,640,000	
Addition	Delfel Rd.	NE 179th St.	NE 189th St.	\$15,000,000	
Addition	NE 137th/132nd Ave.	NE 99th St.	NE 119th St	\$20,000,000	
Addition	NE 99th St.	NE 72nd Ave.	NE 94th Ave.	\$20,000,000	
Addition	NE 10th Ave. and NE 139	\$5,000,000			
Deletion	NE 179th St. and 29th Ave	NE 179th St. and 29th Ave. and 50th Ave. Intersections			
Cost Amendment	NE 179th St. and 29th Ave	\$9,000,000			
Cost Amendment	mendment NE 179th St. and 50th Ave. Intersection \$6,000,000				

The proposed amendments directly adjust the Traffic Impact Fee (TIF) rates for Clark County's four TIF districts. The proposed changes to the four Clark County TIF district rates are:

TIF District	2019 Rates	Proposed Rates	Increase
Hazel Dell	\$ 382	\$517	+\$135
Mount Vista	\$ 605	\$930	+\$325
Orchards	\$ 354	\$428	+\$74
Rural	\$ 298	\$412	+\$114

All TIF districts that represent portions of unincorporated Clark County are proposed for rate increase. Several projects are regional projects that serve and benefit countywide transportation trips. These regional projects include NE 179th St., from NE 15th Avenue to NE 50th Avenue, NE 179th Street, from NW 11th Avenue to Delfel Road, Delfel Road, from NE 179th Street to NE 189th Street, NE 10th Avenue from NE 164th Street to the Amphitheater Entrance, NE 11th Ave from NW 139th Ave to NW 149th Ave, NE 99th Street, from NE 72nd Avenue to NE 94th Ave and NE 10th Avenue at the intersection for NE 139th St. The costs of the regional projects are distributed to all TIF districts based on the districts' shares of trips on the road segment. Transportation projects that serve and benefit the district the project is located within are identified as local projects. The TIF associated with local projects is collected only within the district. Local projects include the extension of NE 132nd/137th Avenue, from NE 99th Street to NE 119th Street and the intersections of NE 179th Street with NE 29th Avenue and NE 50th Avenue.

BACKGROUND

The Growth Management Act (RCW 36.70A) requires that the comprehensive plan include a transportation element that contains a multiyear financing plan based on the needs identified by the comprehensive plan. Clark County's transportation CFP serves as a 20-year transportation plan that identifies the capital projects needed to serve the forecasted population and economic development. The projects identified in the CFP address existing capital deficiencies, maintain existing capacity, are necessary for development, enhance the quality of life in the community, or meet other needs.

The County Council adopted the current CFP as part of the Clark County 20-Year Comprehensive Growth Management Plan 2015-2035 was by Ordinance No. 2016-06-12 on June 28, 2016. Since 2016, several transportation projects included in the existing CFP have been completed or revised. The need for other projects has increased as development has expanded in the unincorporated county. New transportation projects need to be added to the CFP to provide an efficient and safe transportation system.

On December 11, 2018, Clark County Council approved Resolution 2018-12-08, authorizing a development agreement between Clark County and SJO LO 90 B LLC. The resolution committed the county to evaluate whether a road connection on NE 132nd Avenue/NE 137th Avenue between NE 99th Street and NE 119th Street warrants inclusion on the Clark County CFP. Staff evaluated the extension and proposes to add the connection of NE 132nd Avenue/NE137th Ave, from NE 99th Street to NE 119th Street to the CFP. The extension will add a new capital facility and allow a better distribution of vehicles throughout the transportation network.

On April 21, 2015, Clark County approved an agreement and covenant to rezone certain property and require transportation mitigation measures prior to the issuance of building permits for properties identified by numbers 185796000, 185700000, 185672000, 185726000 and 185727000, which are located in the vicinity of the NE 139th Street and NE 10th Avenue intersection.. The concomitant rezone agreement is recorded by the Clark County Auditor as document number 5170404. On December 19, 2018, Clark County Council directed staff to evaluate and analyze whether the conditions required by this concomitant rezone agreement warrant inclusion on the Clark County CFP. Staff hired the Kittleson and Associates engineering firm to conduct the analysis and report their findings. The analysis concluded that "capacity mitigation will be needed at the intersection of NE 139th Street and NE 10th Avenue to satisfy Clark County Code standards. As such, adding capacity mitigations at the intersection to the CFP is both reasonable and appropriate." The analysis also concluded that "modifying the north leg of NE 10th Avenue to include a northbound right-turn lane between NE 139th Street and NE 141st Street is an appropriate mitigation in conjunction with development of the concomitant rezone parcels but does not appear necessary as a CFP project." The NE 139th Street and NE 10th Ave intersection is proposed to be added to the CFP, based on the findings of the Kittleson and Associates analysis.

On August 20, 2019, Clark County Council approved Resolution 2019-08-05, selecting a public financing plan for public infrastructure in the vicinity of NE 179th Street and authorized entry into Developer Agreements between Clark County and owners of real property in the vicinity of NE 179th Street. Several Clark County Council decisions are necessary to implement the public financing plan, including: approval of the 2020-2025 Transportation Improvement Program (TIP), approval of the proposed funding package for the 2020 budget, amending the CFP, increasing TIF, and declaration of the critical links and intersection improvements necessary to remove urban holding are "reasonably funded". Amending the CFP and increasing TIF is necessary to remove the urban holding overlays from the I-5/NE 179th Street area.

SUMMARY OF PUBLIC INVOLVEMENT PROCESS

A draft of the proposed changes to the Comprehensive Growth Management Plan 2015-2035 Map and zoning map was sent to the Department of Commerce on August 6, 2019 in compliance with RCW 36.70A.106. A Notice of Determination of Non-Significance and SEPA Environmental Checklist were published in the Columbian newspaper on September 6, 2019. An open house was held on September 10, 2019 at Alki Middle School to inform area residents of the necessary transportation projects and urban holding removal. A legal notice was published for the Planning Commission hearing on September 18, 2019. All public comments are included in the Planning Commission Hearing binder.

APPLICABLE CRITERIA, EVALUATION AND FINDINGS

CRITERIA FOR CAPITAL FACILITIES PLAN CHANGES

The county shall review capital facilities plan and updates at a minimum every four (4) years in Type IV public hearings for those facilities subject to county jurisdiction. In updating capital facilities plans, policies, and procedures, the county must determine that these updates are

¹ 10th Avenue Capital Facilities Plan Review. Kittleson and Associates. July 31, 2019. Pages 6-7.

consistent with applicable provisions of the GMA and WAC, and policies and implementation measures of the comprehensive plan, and in conformance with the purposes and intent of the applicable interjurisdictional agreements. [CCC 40.560.010.M]

Growth Management Act (GMA) and Washington Administrative Code (WAC)

The GMA goals set the general direction for the county in adopting its framework plan and comprehensive plan policies. The following statutes and regulations apply to this proposal:

Goal #12 speaks directly to public facilities and services. The goal guides local jurisdictions to "ensure that those public facilities and services necessary to support development shall be adequate to serve the development at the time the development is available for occupancy and use without decreasing current service levels below locally established minimum standards." [RCW 36.70A.020(12)].

RCW 36.70A.070(6) and WAC 365-196-415 (Capital Facilities Element section) provides requirements and recommendations for meeting the GMA goal. WAC 365-196-415, requires that the capital facilities element of a comprehensive plan must contain an inventory of existing capital facilities owned by public entities, a forecast of the future needs for such capital facilities based on the land use element of the comprehensive plan, the proposed locations and capacities of expanded or new facilities, at least a six-year plan that will finance such capital facilities within projected funding capacities, and a requirement to reassess the land use element if probable funding falls short of meeting existing needs.

Finding: On June 28, 2016, the Clark County Councilors approved Ordinance No. 2016-06-12. The ordinance adopted the 2016 Clark County 20-Year Comprehensive Growth Management Plan 2015-2035 (2016 Comp Plan), implementing the GMA requirement to "review and revise, if needed" the county's growth plan. The 2016 Comp Plan included an inventory of existing transportation capital facilities, a forecast of the future needs for transportation facilities, and the proposed locations and capacities of expanded or new facilities. Clark County adopts a 6year transportation improvement program (TIP) annually. The TIP is financially constrained and balances expenditures with revenues. The 2020-2025 TIP is scheduled to be considered by the Clark County Council on November 5, 2019. The 2016 Comp Plan identifies strategies to balance the CFP, if probable funding falls short of meeting expenditures; including increasing TIF rates [2016 Comp Plan, Page 162-163]. This proposal to amend the CFP will increase the TIF rates for all the Hazel Dell, Mt. Vista, Orchards and Rural TIF districts. This proposal to amend the CFP will add, revise and delete transportation projects from the CFP approved in 2016. The projects proposed to be added have been identified to ensure safety and mobility for meeting the needs of the growing community. The projects proposed to be revised have been refined in scope or costs. The projects proposed to be deleted have completed construction.

Comprehensive Growth Management Plan 2015-2035 (2016 Plan)

The 20-year Comprehensive Growth Management Plan contains many policies that guide urban form and efficient land use patterns. The most relevant goals and policies applicable to this application are as follows:

"Goal: Ensure that necessary and adequate capital facilities and services are provided to all development in Clark County in a manner consistent with the 20-Year Plan."

"Goal: Ensure that capital facilities and services are provided in as cost efficient manner as possible and are consistent with the land use objectives of the 20-Year Plan and State Growth Management Act."

- 6.1.1 Continue to plan for and provide capital facilities and services as necessary to support development consistent with the 20-Year Plan and coordinate and facilitate the planning and provision of such facilities and services by other public or private entities.
- 6.10.1 Coordinate land use planning and decisions with capital facilities planning and service provision. [2016 Plan, pages 186 and 192]

<u>Finding:</u> Amending the Transportation CFP is directly related to CPZ2019-00031, a proposal to allow urban density development by removing Urban Holding Overlays. The proposal will add and amend projects that are necessary to improve safety and mobility for urban development in the I-5/NE 179th St. Interchange Area On August 20, 2019, Clark County Council approved resolution No. 2019-08-05 selecting a financial plan for public infrastructure and ultimately remove the urban holding overlays in the vicinity of NE 179th Street. The resolution requires future Council actions to implement the financial plan. This proposal, amending the CFP, is one of those actions necessary for the selected financial plan to be put into effect. The proposed CFP amendment is consistent with polices in the 2016 Comp Plan.

<u>Conclusion:</u> The proposed amendment to the CFP and TIF rates is necessary to serve urban development while maintaining the county's level-of-service standards. The amended CFP meets the state requirements (RCW 36.70A.070(6) and WAC 365-196-415), satisfying Goal 12 of the GMA. The proposal is consistent with the 2016 Comp Plan, planning for capital facilities to meet the demands of future growth while maintaining established level of service standards. The criterion applicable for this proposal has been met.

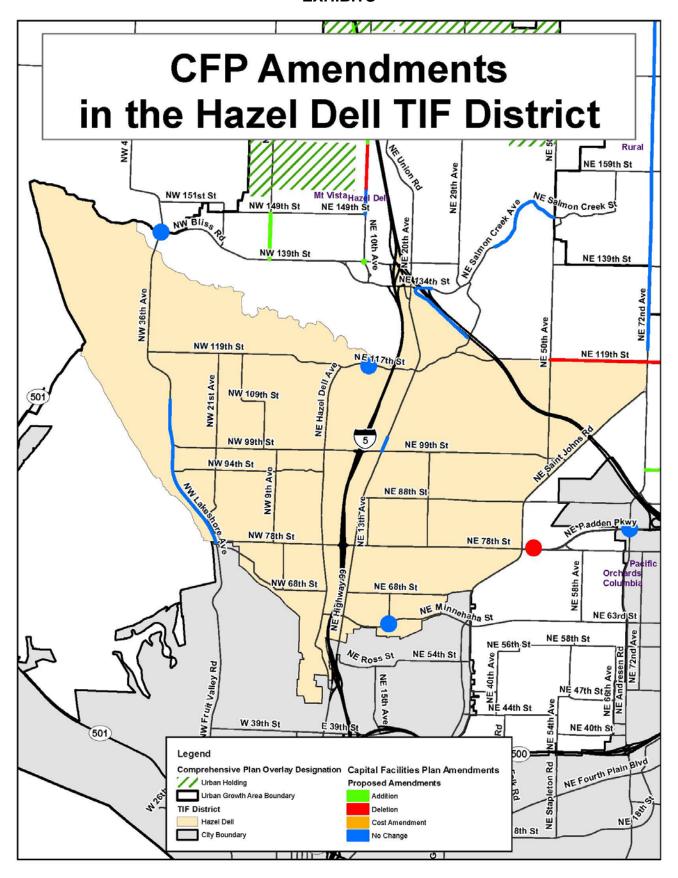
RECOMMENDATION AND CONCLUSIONS

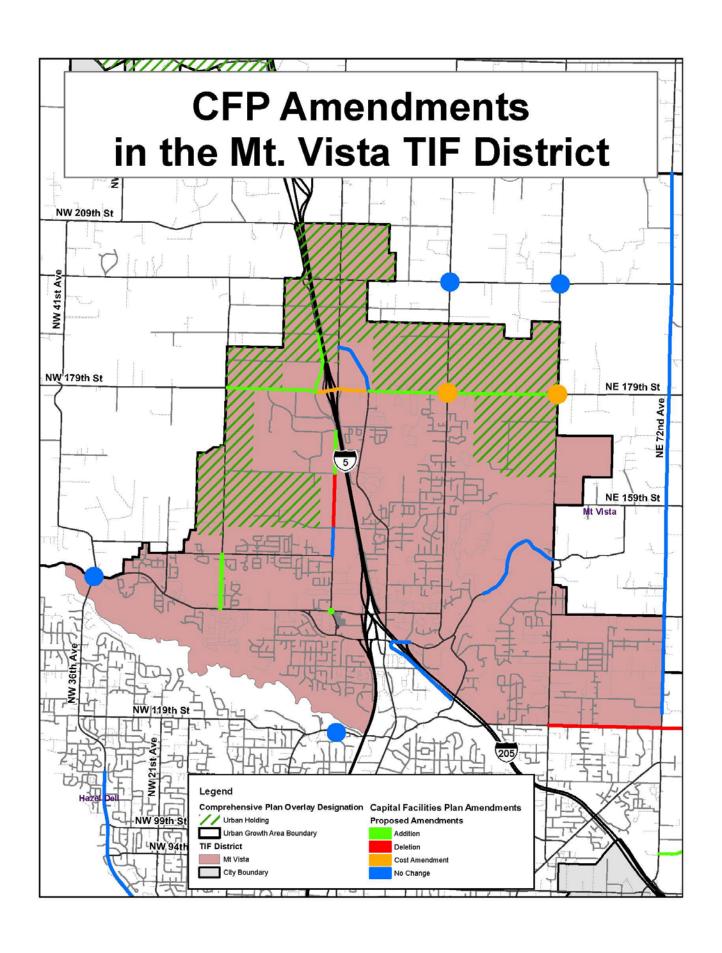
Based on the information presented in this report, staff recommends that the Planning Commission forward a recommendation of **APPROVAL** to Clark County Councilors.

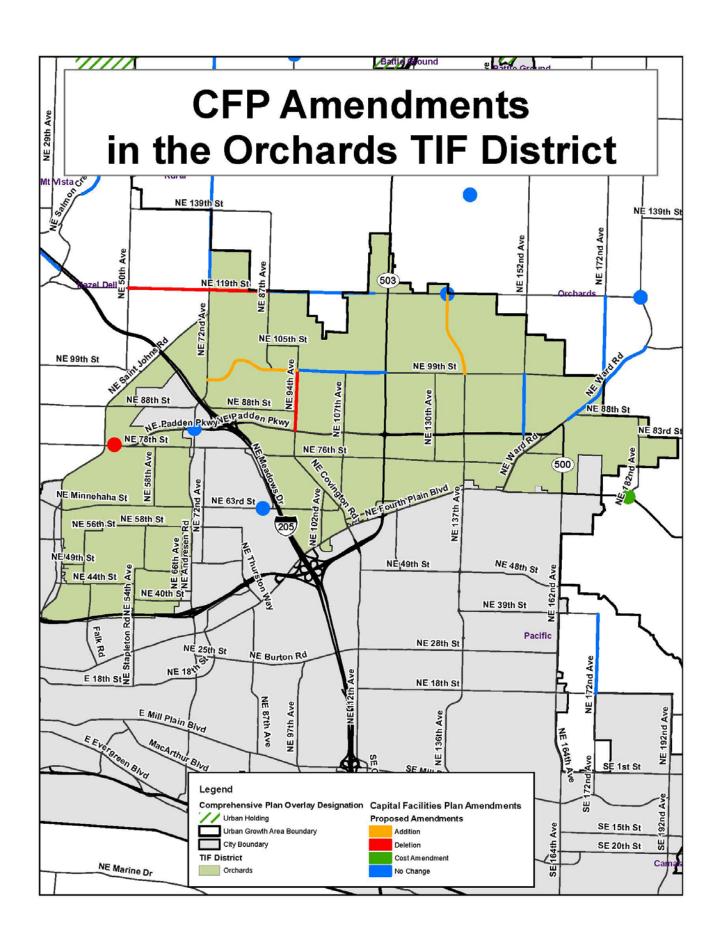
The following table lists the applicable criterion and summarizes the findings of the staff report for CPZ2019-00017. The Planning Commission findings will be added to the table after public deliberation at the Planning Commission hearing scheduled for this application.

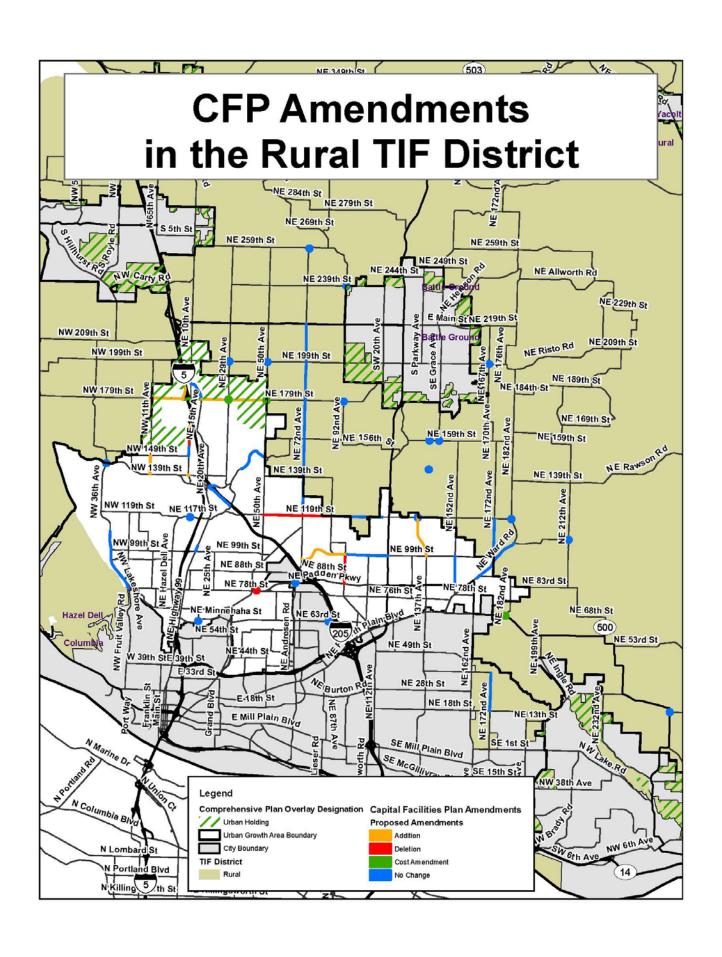
COMPLIANCE WITH APPLICABLE CRITERIA				
Criteria Met?				
Criterion for Policy/Text Amendments	Staff Report	Planning Commission Findings		
Consistency with GMA and WAC	Yes			
20-Year Comprehensive Plan	Yes			
Recommendation:	Approval			

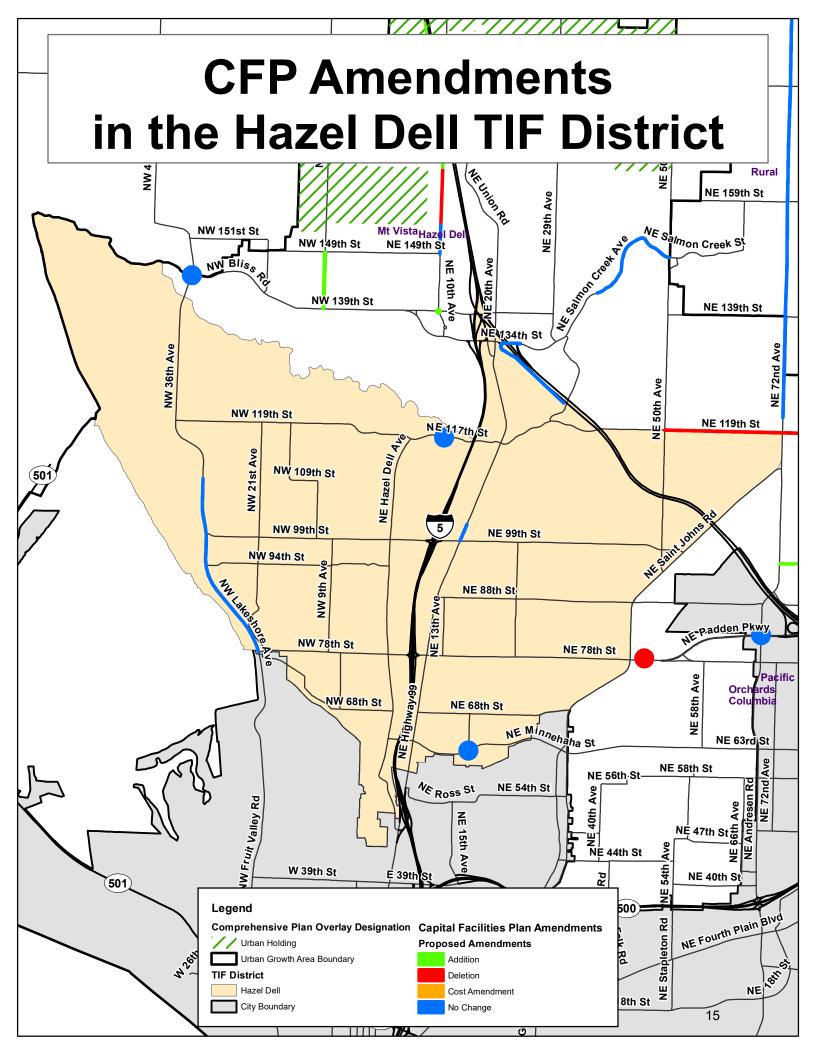
EXHIBITS

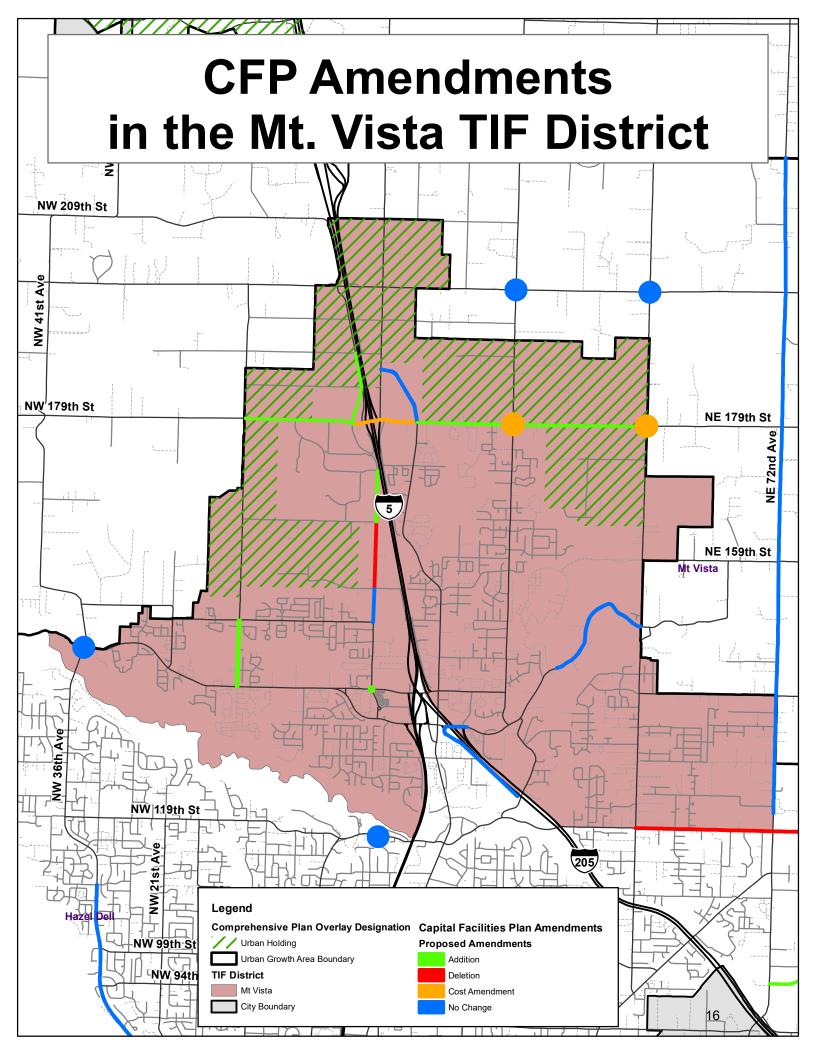


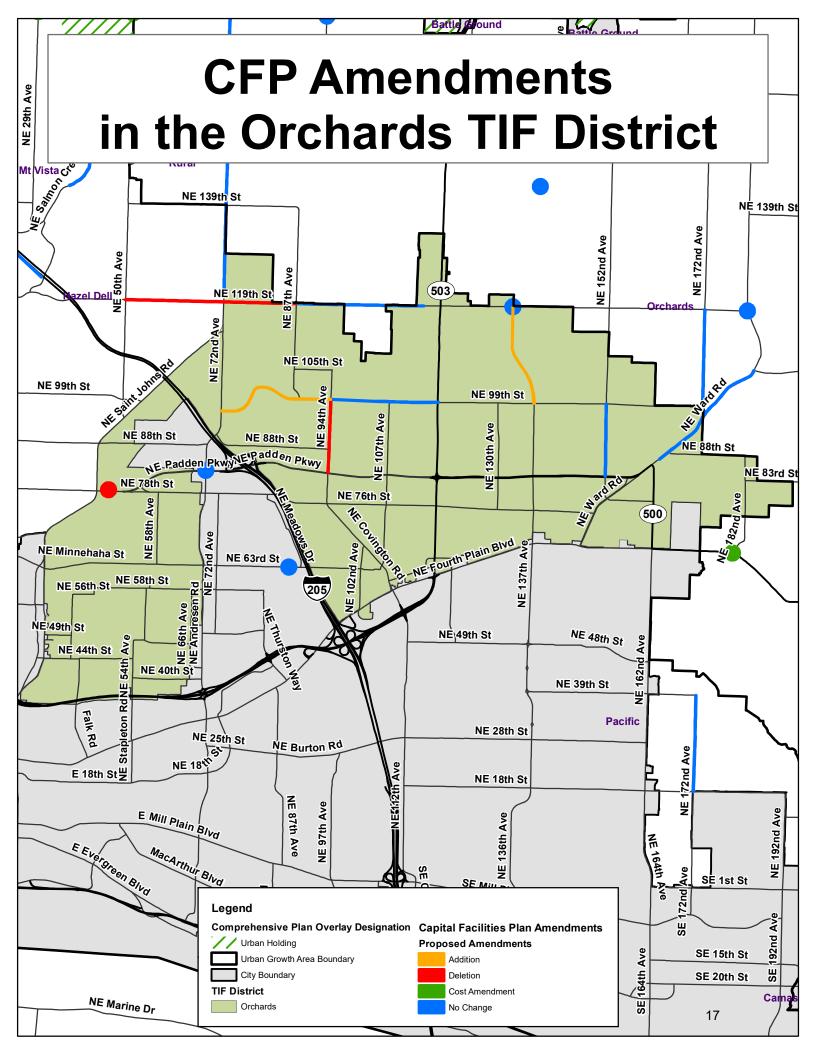


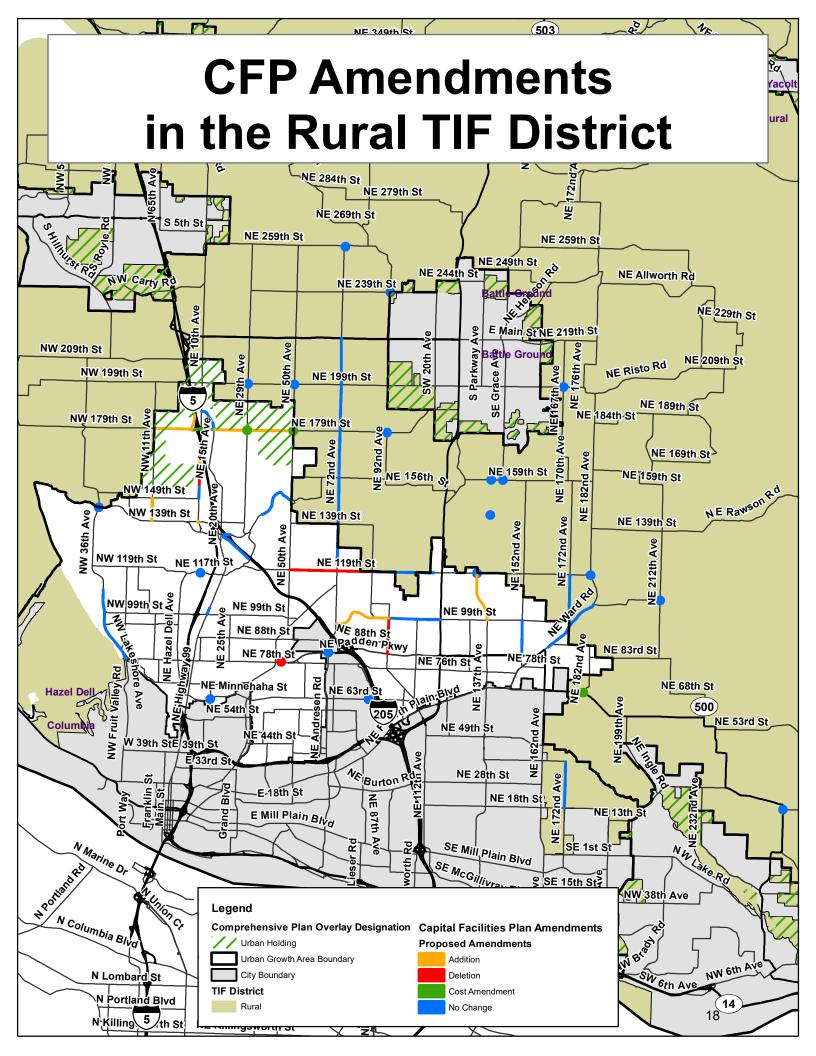












DRAFT TRAFFIC IMPACT FEE (TIF) RATES -2020

Traffic Impact Fee Districts	Existing Rates	Proposed Rates
Hazel Dell	\$382	\$487
Mount Vista	\$605	\$930
Orchards	\$354	\$421
Rural	\$298	\$352

PROPOSED 2020 CAPITAL FACILITIES PLAN

2020 Change	Road	From	То	Total Project Costs	
Deletion	NE 119th St	NE 72nd Ave	NE 87th Ave	·	
Deletion	NE 47th Ave @ NE 78th St	Intersection			
Deletion	NE 94th Ave	NE Padden Pkwy	NE 99th St		
No Change	TSO Projects (5)	Various		\$ 4,986,00	
No Change	Highway 99	NE 99th St	Intersection	\$ 4,869,00	
No Change	NE 99th St	NE 94th Ave	NE 117th Ave	\$ 15,869,00	
Deletion	NE 119th St	NE 50th Ave	NE 72nd Ave	, , , , , , ,	
Deletion	NE 10th Ave	NE 154th St	NE 164th St		
No Change	NE 10th Ave	NE 149th St	NE 154th St	\$ 11,535,00	
Cost Amendment	NE 179th St	NE Delfel Rd	NE 15th Ave	\$ 12,367,00	
No Change	NE 119th St	NE 87th Ave	NE 112th Ave	\$ 12,395,00	
No Change	NE 15th Ave	NE 179th St	NE 10th Ave	\$ 15,000,00	
No Change	NE 72nd Ave	NE 122nd St	NE 133rd St	\$ 10,800,00	
No Change	NE 152nd Ave	Padden Pkwy	NE 99th St	\$ 8,100,00	
No Change	NE 119th St	NE 132nd Ave	Intersection	<u> </u>	
No Change	Ward Road Ward Road	NE 162nd Ave	NE 172nd Ave NE Davis Rd		
No Change		NE 172nd Ave		\$ 7,000,000 \$ 9,000,000	
No Change	NE 72nd Ave	NE 133rd St	NE 219th St	\$ 9,000,00	
			Street & NE 17th Avenue	_	
			venue & NE 63rd Street	⊢	
No Change	Urban Arterial Intersections		Street & NE Stutz Road	\$ 15,000,00	
			Avenue & Bliss Road		
			treet & NE 92nd Avenue		
No Change	NE 172nd Ave	NE Ward Rd	NE 119th St	\$ 6,000,00	
No Change	NE 172nd Ave	NE 18th St	NE 39th St	\$ 4,000,00	
No Change	Salmon Creek Avenue	WSU Enterance	West of 50th Ave	\$ 18,062,00	
No Change	NW Lakeshore Ave	NW 78th St	NW 109th St	\$ 15,000,00	
Addition	NE 179th St.	NE 15th Ave	NE 50th Ave	\$ 48,690,00	
Addition	NW 179th St.	NW 11th Ave	Delfel Rd.	\$ 27,480,00	
Addition	NE 10th Ave.	NE 164th St.	Ampitheater Enterance	\$ 7,130,00	
Addition	NW 11th Ave.	NW 139th St.	NW 149th St.	\$ 13,640,00	
Addition	Delfel Rd.	NE 179th St.	NE 189th St.	\$ 15,000,00	
Addition	NE 137th/132nd Ave	NE 99th St.	NE 119th St	\$ 20,000,00	
Addition	NE 99th St	NE 72nd Ave	NE 94th Ave	\$ 20,000,00	
Addition	NE 10th Ave & NE 139th St. Intersection		•	\$ 5,000,00	
No Change	SCIP Phase 2			\$ 17,500,00	
Cost Amendment	NE 182nd Ave @ SR-500 ¹			\$ 5,600,00	
Deletion	NE 179th St@29th Ave and @50th Ave			7,77,77	
Addition	NE 179th St. and 29th Ave Intersection			\$ 9,000,00	
Addition	NE 179th St. and 50th Ave Intersection			\$ 6,000,00	
No Change	Advanced Right-of-Way Program			\$ 200,00	
No Change	Bridge Repair/Rehab			\$ 20,886,66	
	0 10 11	å 150 F05 55			
No Change No Change	Road Preservation Rural Road Improvement Program	\$ 160,586,66			
No Change	Sidewalks and ADA	\$ 49,680,00			
No Change	Transportation Safety Imp.	\$ 49,080,00			
	Urban Development Road Prgm				
No Change Deletion	Traffic Signal Optimization	\$ 13,316,66° \$ -			
reterror 4-tame signal optimization 5 -					
	Total Project	Costs		\$ 720,193,00	

OFFICE 360.699.4771 FAX 360.694.6413

LeAnne M. Bremer, P.C. leanne.bremer@millernash.com 360.619.7002 direct line

December 17, 2018

VIA E-MAIL

Clark County Board of County Councilors 1300 Franklin Street Vancouver WA 98660

Subject: Skyview Station: Request for Addition of System Improvements to Docket

for 2019 Annual Review

Dear Chairman Boldt and Councilors:

On behalf of Hurley Development, LLC, I am submitting this request to the Board for approval of the addition of the following transportation improvements to the 2019 annual review docket, for a capital facilities plan amendment, because they are system improvements that should be TIF creditable:

- 1. A westbound right-turn lane on NE 139th Street at NE 10th Avenue with an overlap phase.
- 2. A turn lane on northbound NE 10th Avenue between NE 139th Street and access to tax parcel nos. 185726-000 and 185727-000.
- 3. Improvements to southbound NE 10th Avenue to NE 139th Street to provide either: (1) a second southbound left turn lane; or (2) a shared through-left center lane and split phasing with the northbound approach.
- 4. Improvements to southbound NE 23rd Avenue approach to NE 134th Street to provide either: (1) a shared left-right lane (converted from the existing left only lane) with the existing exclusive right turn lane; or (2) an overlap phase for the existing right turn lane.

Hurley Development is in the process of seeking development approval for Skyview Station, which will provide a significant economic boost in the Salmon Creek

Clark County Board of County December 17, 2018 Page 2

area through the development of additional quality commercial. Please see the attached site plan for Skyview Station that illustrates the 10th Avenue improvements. The fourth improvement is off-site and east of I-205.

These improvements are contained in a covenant running against land, recorded under Clark County Auditor's File No 5170404 in 2015, which means that the owner of the property subject to the covenant is required to install all of these extensive improvements prior to pulling its first building permit for any development on the property. A fifth improvement listed in the covenant, a signal at 10th Avenue and the site access, is a project improvement that is not appropriate for the County's capital facilities plan. Hurley Development accepts that it would have to install the signal at its own cost as a condition of development approval.¹

The covenant arose in 2015 in conjunction with the rezoning of the Skyview Station site, and other property to the east, from industrial to commercial. As part of the rezone action, the County made a legislative decision that these system improvements would be required to serve commercial development on the subject parcels and serve the area in general. "System improvements" are public facilities that are included in the capital facilities plan and are designed to provide service to service areas within the community at large, in contrast to project improvements. RCW 82.02.090.

It is also important to note that the County's Fee Holiday Program was in effect in 2015 when the covenant was recorded. It has since expired and TIFs are anticipated to be at least \$1,500,000.00 for development of Skyview Station. If the above improvements are not listed in the capital facilities plan and TIF creditable, the developer will be required to contribute both significant improvements and significant fees without reimbursement for improvements that provide a community-wide benefit, not just a project benefit.

Hurley Development understands that placement of these improvements on the docket does not automatically ensure that they will be included in the capital facilities plan, but respectfully requests that the Board add these improvements to the docket to allow it to further make the case for why it is appropriate to add these

¹ Hurley Development is currently pursuing a partial modification of the covenant because its onerous requirements are not triggered by the impacts of its proposed development. If the improvements become part of the capital facilities plan and are TIF creditable, Hurley Development will withdraw its application to modify the covenant.

Clark County Board of County December 17, 2018 Page 3

improvements to the capital facilities plan. Hurley Development is willing to undertake the necessary traffic analysis to support this request (indeed, it already has generated a significant amount of analysis as part of the pending covenant release and site plan applications). We appreciate the Board's consideration of this request at your earliest opportunity. We have been working closely with staff on these issues and look forward to continuing to work through the docket and site plan application processes with them.

Very truly yours,

LeAnne M. Bremer, P.C.

cc: Shawn Henessee
Oliver Orjiako
Susan Ellinger
Richard Daviau
Taylor Hallvik
Ryan Hurley
Chad Stewart
Brent Ahrend
Kurt Stonex



September 18, 2019

Clark County Public Works Attention: Matt Hermen 1300 Franklin Street Vancouver, WA 98660

Re: Skyview Station

*NE 10th Avenue TIP Recommendation*Project Number 2170410.01

Dear Mr. Hermen,

Mackenzie has prepared this letter to request the inclusion of the northbound right-turn lane on NE 10th Avenue between NE 139th Street and NE 141st Street in the upcoming 2020-2025 Clark County Transportation Improvement Program (TIP).

INTRODUCTION

The Growth Management Act requires the County to adopt a 20-year Capital Facilities Plan (CFP) for transportation projects that must include, among other things, a list of public improvements needed to address projected transportation needs in the County. Within the plan, the Board annually adopts a 6-Year Transportation Improvement Plan (TIP), which includes a specific list of system improvements anticipated to be built over the 6-year period, with their expected funding sources. "System improvements" are defined as "public facilities that are included in the capital facilities plan and are designed to provide service to areas within the community at large, in contrast to project improvements" per RCW 82.02.090(9).

The additional northbound lane on NE 10th Avenue was originally required as a condition of the amended Concomitant Rezone Agreement (CRA) for the properties located northeast of the NE 139th Street/NE 10th Avenue intersection per the January 15, 2015 Clark County planning commission recommendation. The need for the lane was based on concurrency standards for NE 10th Avenue. A January 15, 2015 staff report noted concurrency on NE 10th Avenue failed based on year 2035 projections presented in the zone change analysis for the post-decision review.

Kittelson & Associates submitted a July 31, 2019 letter to Clark County regarding the "10th Avenue Capital Facilities Plan Review." The letter evaluated three (3) mitigation options identified for NE 139th Street and NE 10th Avenue including modifying the northbound approach at the NE 10th Avenue/NE 141st Street intersection to include an additional northbound lane between NE 139th Street and NE 141st Street. Volumes utilized in the analyses of the mitigation options were based on the previous industrial zoning and did not reflect retail trips for the properties subject to the CRA, yet found the volumes exceed the concurrency standard. The letter concluded the northbound right-turn lane was not found to be necessary as a TIP project.

Based on the two analyses noted above, we believe the additional lane should be added to the County's TIP because it is a system improvement as defined by law. Our justification is addressed below.



Clark County Public Works Skyview Station Project Number 2170410.01 September 18, 2019 Page 2

ROADWAY CAPACITY

NE 10th Avenue is designated a two-lane collector with a center left-turn lane and bike lanes (C-2cb). The designated capacity of C-2cb facilities is 900 vehicles per hour per single direction, as presented in Table 40.350.020-1 of the Clark County Code. Clark County has established a maximum volume-to-capacity (v/c) standard of 0.90 for each direction of travel on all County facilities which corresponds to a single-direction volume threshold of 810 for NE 10th Avenue.

2035 Roadway Conditions

The northbound right-turn lane on NE 10th Avenue between NE 139th Street and NE 141st Street was originally required by Clark County as part of the amended 2015 CRA related to the rezone of the properties northeast of the NE 139th Street/NE 10th Avenue intersection. The need for this turn lane was based on capacity results presented in an October 3, 2014 zone change traffic analysis comparing future 2035 conditions with the existing Light Industrial (IL) zoning and future 2035 conditions with the proposed General Commercial (GC) zoning. Future 2035 volumes were estimated using the 2035 travel demand model provided by the Southwest Washington Regional Transportation Council (RTC). Staff noted NE 10th Avenue between NE 139th Street and NE 141st Street was projected to fail concurrency standards with both the existing IL and proposed GC zoning designations with a projected 2035 v/c of 1.06 and 1.36, respectively.

A revised zone change traffic analysis was prepared August 7, 2018 presenting a "reasonable worst case" scenario for the proposed zone change. This zone change analysis also presented volume projections made using the 2035 RTC model. Based on the results of this zone change analysis, Clark County staff identified the northbound right-turn lane as a requirement and noted this lane will improve the northbound directional v/c ratio by removing right turns from the mainline through movement in the October 24, 2018 Covenant Release report.

The northbound right-turn lane at NE 141st Street was not identified as a requirement for adequate operations at the NE 10th Avenue/NE 141st Street/Site Access intersection as presented in the October 31, 2018 transportation impact study (TIS) for the proposed Skyview Station retail development. However, County staff has continued to identify this additional lane as a need for adequate operations based on the October 2014 zone change traffic analysis results and the 2015 CRA.

2040 Roadway Conditions

The July 2019 Kittelson letter evaluated three (3) mitigation options on NE 139th Street and NE 10th Avenue including the additional northbound through lane on NE 10th Avenue between NE 139th Street and NE 141st Street. The letter concluded this improvement was not found to be necessary as a County TIP project. However, this conclusion was made on an evaluation of v/c ratios developed using 2040 model volumes provided by RTC. This is inconsistent with the methodology presented in the same letter for the evaluation of the other two mitigation options which relied on 2040 post-processed volumes at the NE 139th Street/NE 10th Avenue intersection.

The letter included Vistro intersection capacity calculation sheets presenting future 2040 AM and PM peak-hour volume projections at the NE 139th Street/NE 10th Avenue intersection. These volume estimates were made by combining 2040 model volumes provided by RTC and 2018 existing turning movement counts. Kittelson noted the 2040 RTC model assumed zoning of the properties subject to the CRA as industrial rather than retail. Based on this assessment, RTC has not updated the 2040 regional travel model to account for the 2015 CRA.

Clark County Public Works Skyview Station Project Number 2170410.01 September 18, 2019 Page 3

Using Kittelson's intersection volumes as presented in the Vistro intersection capacity calculation sheets, we calculated roadway volumes on NE 10th Avenue between NE 139th Street and NE 141st Street for 2040 AM and PM peak-hour conditions. We also calculated the corresponding v/c ratios for both peak hours. The 2040 volumes obtained from Kittelson's letter and corresponding v/c ratios are presented in Table 1.

TABLE 1 – NE 10TH AVENUE ROADWAY CAPACITY ANALYSIS						
Roadway Segment			Classification	Capacity	2040 Future (Kittelson & Associates)	
From	То	Direction			Volume	v/c
		AM	Peak Hour			
NE 139th	NE 141st	NB	C-2cb	000	409	0.45
Street	Street	SB	C-2cb 900	900	770	0.86
PM Peak Hour						
NE 139th	NE 141st	NB	C 2-b	900	869	0.97
Street	Street	SB	C-2cb	900	847	0.94

As presented in Table 1, the NE 10th Avenue segment between NE 139th Street and NE 141st Street is projected to operate above capacity during the PM peak hour under future year 2040 conditions. The volumes presented in Table 1 assume the properties subject to the CRA to be zoned industrial and therefore reflect conditions without any retail development. Therefore, the additional northbound lane will be required regardless of whether or not retail development is constructed on the properties subject to the CRA.

The volumes north of NE 141st Street on NE 10th Avenue are expected to be over 810 during the PM peak hour as the traffic entering and exiting to and from the properties subject to the CRA will likely be more than 59 PM peak-hour trips in the northbound direction and more than 37 PM peak-hour trips in the southbound direction, regardless of whether the property is zoned IL or GC.

We will note the v/c ratios presented in the attachments of the Kittelson letter are much lower because they were not based on 2040 post-processed volumes and instead were based on 2040 volumes directly derived from the RTC model.

CONCLUSION

The northbound right-turn lane on NE 10th Avenue between NE 139th Street and NE 141st Street was required as part of the 2015 Concomitant Rezone Agreement (CRA) to address the projected v/c ratio on NE 10th Avenue by removing northbound traffic that is destined for the properties subject to the CRA from the mainline through movement. This system improvement is needed regardless of the zone change as established by the earlier analyses. Further, we have shown the segment of NE 10th Avenue north of NE 141st Street will not meet the Concurrency standards as well. The lane is not a typical right-turn lane that would be warranted simply based on the volume of vehicles turning into the site, but is needed because the volume of through traffic exceeds the county's Concurrency standard. The County's requirement that the lane extend to the intersection with NE 139th Street, as opposed to a standard right-turn lane that would not begin at the

Clark County Public Works Skyview Station Project Number 2170410.01 September 18, 2019 Page 4

intersection, is indicative of the need to address roadway capacity and not the project impacts. Because the improvement is needed to address the County's concurrency standard on NE 10th Avenue regardless of the retail development, and is a true system improvement, it should be added to the upcoming 2020-2025 Clark County TIP.

Please contact me if you have any questions or comments regarding the information presented in this letter.

Sincerely,

Brent Ahrend, PE

Associate Principal | Traffic Engineer

c: Chad Stewart – Hurley Development LeAnne Bremer – Miller Nash Graham & Dunn LLP Janet Jones – Mackenzie

Capital Facilities Plan Amendment and Traffic Impact Fee Update

CPZ2019-00017

Matt Hermen, Public Works

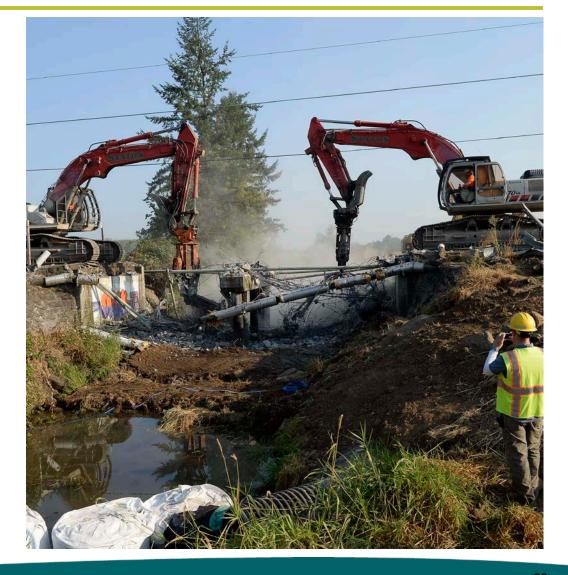
October 8, 2019 – 6:30 p.m.

Planning Commission Public Hearing 6th Floor Training Room 1300 Franklin St. Vancouver, WA 98660



Proposal & Criteria

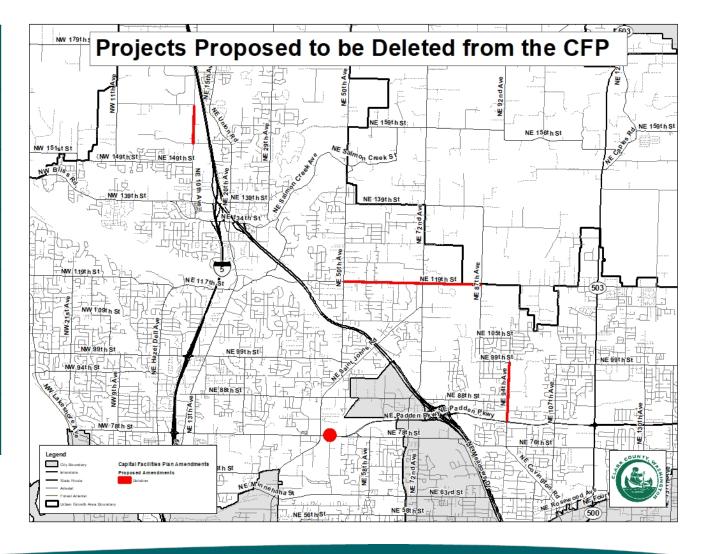
- Amend the Transportation Capital Facilities Plan (CFP) to add, delete and amend transportation projects in the 20-year list.
- Adjust the Traffic Impact Fee (TIF) rates for Clark County's four TIF districts.
- An Amendment to the CFP must be consistent with applicable provisions:
 - GMA and WAC (RCW 36.70A.070(6) and WAC 365-196-415), and
 - policies and implementation measures of the comprehensive plan.





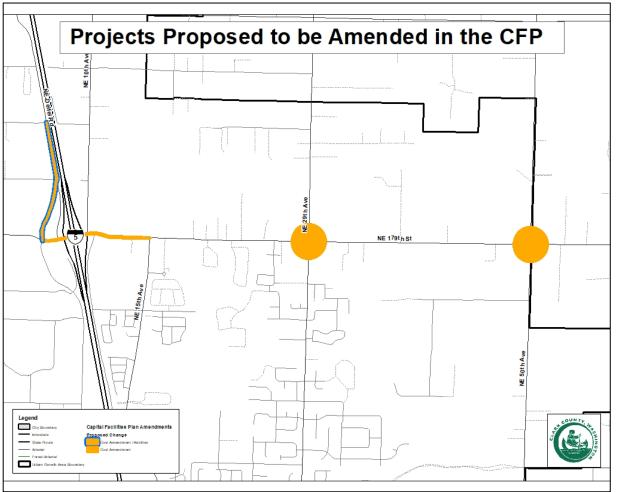
Projects Proposed to be Deleted from the CFP

Road	From	То	Total Project Costs	Reason
NE 119th St.	NE 72nd Ave.	NE 87th Ave.	\$23,655,000	Completed
NE 47th Ave. and NE	78th St. Intersection	\$2,623,000	Completed	
NE 94th Ave.	NE Padden Pkwy.	NE 99th St.	\$8,973,000	Completed
NE 119th St.	NE 50th Ave.	NE 72nd Ave.	\$6,994,000	Completed
NE 10th Ave.	NE 154th St.	NE 164th St.	\$22,751,000	Completed
Traffic Signal Optimi	zation	\$6,000,000	Completed	





Projects Proposed to be Amended in the CFP



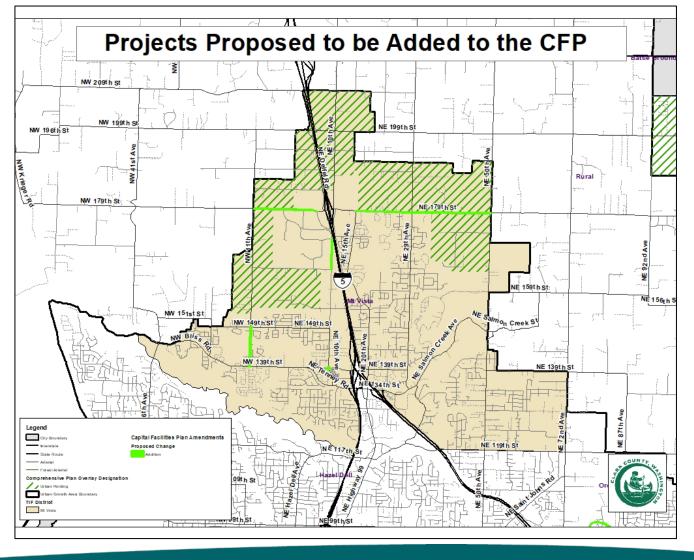
David	F	T .	Total Project Costs	
Road	From	То		
			\$ 27,367,000	
NE 179th St.	NE Delfel Rd.	NE 15th Ave.	<u>\$ 12,367,000</u>	
Delfel Rd.	NE 179th St.	NE 189th St.	<u>\$15,000,000</u>	
NE 179th St. and 29th	\$15,000,000			
NE 179th St. and 29th Ave. Intersection \$9,000,000				
NE 179th St. and 50th	\$6,000,000			
	\$3,000,000			
NE 182nd Ave and SF	R-500 (Fourth Plain	Blvd.) Intersection	<u>\$ 5,600,000</u>	





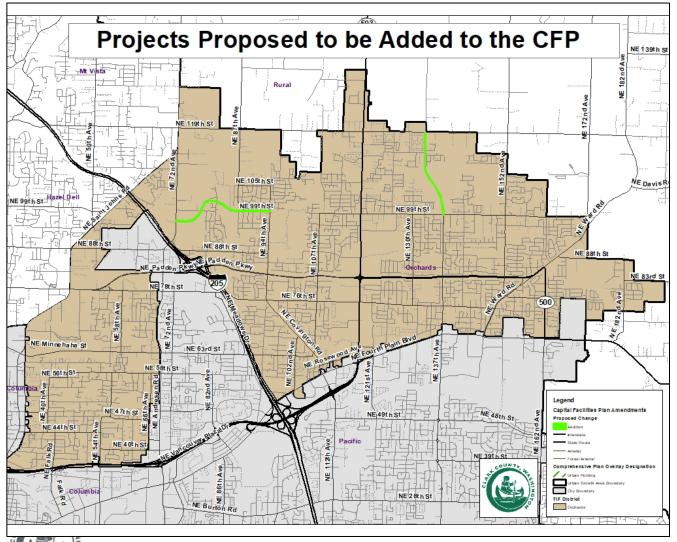
Project Proposed to be Added to the CFP in Mt. Vista

Road	From	То	Total Project Costs
NE 179th St.	NE 15th Ave	NE 50th Ave.	\$48,690,000
NE 179th St.	NW 11th Ave	Delfel Rd.	\$27,480,000
NE 10th Ave.	NE 164th St.	Amphitheater Entrance	\$7,130,000
	NW 139th St.	NW 149th St.	
NW 11th Ave.	\$13,640,000		
NE 10th Ave. and	\$5,000,000		



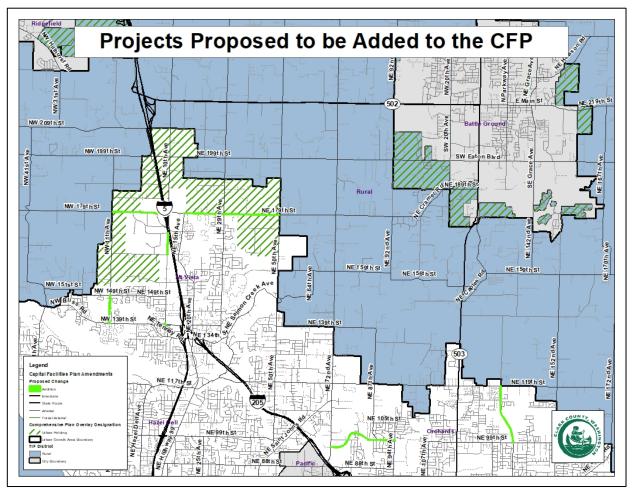


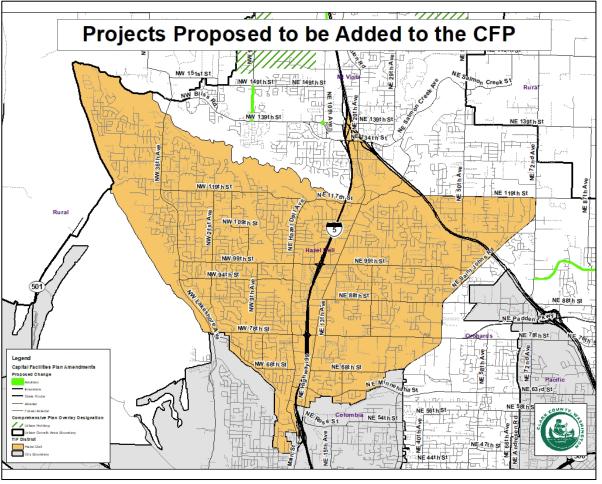
Project Proposed to be Added to the CFP in Orchards



Road	From	То	Total Project Costs
NE 137th/132nd Ave.	NE 99th St.	NE 119th St	\$20,000,000
NE 99th St.	NE 72nd Ave.	NE 94th Ave.	\$20,000,000

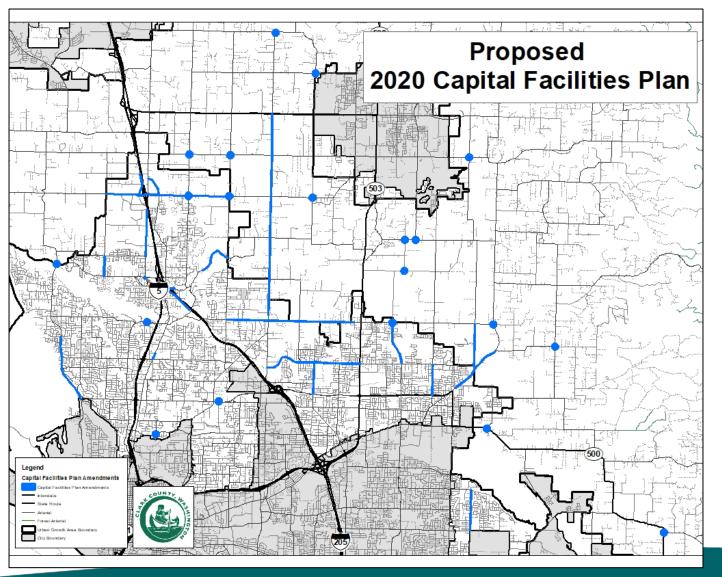
Project Proposed to be Added to the CFP in Hazel Dell and the Rural Area







2020 Capital Facilities Plan





Proposed 2020 Capital Facilities Plan

2020 Change	Road	From	То	Total Project Costs
Deletion	NE 119th St	NE 72nd Ave	NE 87th Ave	
Deletion	NE 47th Ave @ NE 78th St	Intersection	-	_
Deletion	NE 94th Ave	NE Padden Pkwy	NE 99th St	-
No Change	TSO Projects (5)	Various		\$ 4,986,000
No Change	Highway 99	NE 99th St	Intersection	\$ 4,869,000
No Change	NE 99th St	NE 94th Ave	NE 117th Ave	\$15,869,000
Deletion	NE 119th St	NE 50th Ave	NE 72nd Ave	-
Deletion	NE 10th Ave	NE 154th St	NE 164th St	
No Change	NE 10th Ave	NE 149th St	NE 154th St	\$11,535,000
Cost Amendment	NE 179th St	NE Delfel Rd	NE 15th Ave	\$12,367,000
No Change	NE 119th St	NE 87th Ave	NE 112th Ave	\$12,395,000
No Change	NE 15th Ave	NE 179th St	NE 10th Ave	\$15,000,000
No Change	NE 72nd Ave	NE 122nd St	NE 133rd St	\$10,800,000
No Change	NE 152nd Ave	Padden Pkwy	NE 99th St	\$ 8,100,000
No Change	NE 119th St	NE 132nd Ave	Intersection	\$ 8,000,000
No Change	Ward Road	NE 162nd Ave	NE 172nd Ave	\$ 6,000,000

2020 Change	Road	From	То	Total Project Costs
No Change	Ward Road	NE 172nd Ave	NE Davis Rd	\$ 7,000,000
No Change	NE 72nd Ave	NE 133rd St	NE 219th St	\$ 9,000,000
	Urban Arterial Intersections	Minnehaha Street & N NE 87th Avenue & NI NE 117th Street & NE NW 36th Avenue & B	E 63rd Street Stutz Road	\$ 15,000,000
No Change		NE 239th Street & NE	92nd Avenue	
No Change	NE 172nd Ave	NE Ward Rd	NE 119th St	\$ 6,000,000
No Change	NE 172nd Ave	NE 18th St	NE 39th St	\$ 4,000,000
No Change	Salmon Creek Avenue	WSU Entrance	West of 50th Ave	\$ 18,062,000
No Change	NW Lakeshore Ave	NW 78th St	NW 109th St	\$ 15,000,000
Addition	NE 179th St.	NE 15th Ave	NE 50th Ave	\$ 48,690,000
Addition	NW 179th St.	NW 11th Ave	Delfel Rd.	\$ 27,480,000
Addition	NE 10th Ave.	NE 164th St.	Ampitheater Enterance	\$ 7,130,000
Addition	NW 11th Ave.	NW 139th St.	NW 149th St.	\$ 13,640,000
Addition	Delfel Rd.	NE 179th St.	NE 189th St.	\$ 15,000,000
Addition	NE 137th/132nd Ave	NE 99th St.	NE 119th St	\$ 20,000,000
Addition	NE 99th St	NE 72nd Ave	NE 94th Ave	\$ 20,000,000
Addition	NE 10th Ave & NE 139th	th St. Intersection		\$ 5,000,000

Proposed 2020 Capital Facilities Plan (continued)

2020 Change	Program	Total Project Costs
No Change	Salmon Creek Interchange Project (Phase 2)	\$ 17,500,000
Cost Amendment	NE 182nd Ave @ SR-500	\$ 5,600,000
Deletion	NE 179th St@29th Ave and @50th Ave	\$
Addition	NE 179th St. and 29th Ave Intersection	\$ 9,000,000
Addition	NE 179th St. and 50th Ave Intersection	\$ 6,000,000
No Change	Advanced Right-of-Way Program	\$ 200,000
No Change	Bridge Repair/Rehab	\$ 20,886,667
No Change	Road Preservation	\$ 160,586,667
No Change	Rural Road Improvement Program	\$ 24,500,000
No Change	Sidewalks and ADA	\$ 49,680,000
No Change	Transportation Safety Imp.	\$ 72,000,000
No Change	Urban Development Road Prgm	\$ 13,316,667
Deletion	Traffic Signal Optimization	\$ -
	Total Project Costs	\$ 720,193,000



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CFP Projects in the 6-Year TIP

Project Location	From	То	Cost (Millions)
NE 10 th Ave.	NE 154 th St.	NE 164 th St.	\$23
NE 10 th Ave.	NE 149 th St.	NE 154 th St.	\$13
NE 15 th Ave.	NE 179 th St.	NE 10 th Ave.	\$15
NE 179 th St.	NE 29 th Ave. Int	ersection	\$9
NE 179 th St.	NE 50 th Ave. Inte	rsection	\$6
NE 179 th St.	NE Delfel Rd.	NE 15 th Ave.	\$12
NE Delfel Rd.	NE 179 th St.	NE 189 th St.	\$15
NE 119 th St.	NE 87 th Ave.	NE 112 th St.	\$15
NE 119 th St. and N	NE 152 nd Ave. Inter	section	\$3
NE 119 th St. and N	NE 132 nd Ave. Inter	section	\$4-5
NE 68 th St. East Sidewalk	Hwy. 99	City of Vancouver	\$4
NE 99 th St.	NE 94 th Ave.	SR-503	\$22
Hwy. 99 and 99th	St. Intersection		\$3

Project Location	From	То	Cost (Millions)
Hwy 99 Preservation	NE 78 th St.	NE 134 th St.	\$5
NE 182 nd Ave. and SR-	500 Intersection		\$3-4
STEVE 2 Traffic Signal	Optimization		\$0.5
Lehto, Salmon Creek, S	Smith Bridges		\$2
Davis Bridge Replacem	ent		\$1.5
NE Mason Creek Culve	rt at NE 102 nd Ave.		\$1
NE Manley Rd.	NE 244 th St.	NE 82 nd Ave.	
NE Blair Rd.	SR-500	Milepost 2.47	\$3
Klineline Sidewalk	NE 122 nd St.	NE 129 th St.	\$0.6
NE Munch Rd.	\$1		
Ward Rd.	NE 162 nd Ave. NE 172 nd Ave.		\$6
NE 152 nd Ave.	Padden Pkwy.	NE 99 th St.	\$8-12
NE 72 nd Ave.	NE 122 nd St.	NE 179 th St.	\$20-25



Traffic Impact Fee Rates

TIF District	2019 Rates	Proposed Rates	Increase
Hazel Dell	\$ 382	\$517	+\$135
Mount Vista	\$ 605	\$930	+\$325
Orchards	\$ 354	\$428	+\$74
Rural	\$ 298	\$412	+\$114



Staff Recommendation

APPROVE the proposed amendment to the Clark County Transportation Capital Facilities Plan.

Applicable Criteria	Criteria Met?
1. Compliance with GMA and WAC	Yes
2. Compliance with the 20-year Comprehensive Plan	Yes



Thank you!

Comments and questions

Clark County Public Service Center

1300 Franklin Street • PO Box 5000

Vancouver, WA 98666-5000



Capital Facilities Plan Amendment and Traffic Impact Fee Update

CPZ2019-00017

Matt Hermen

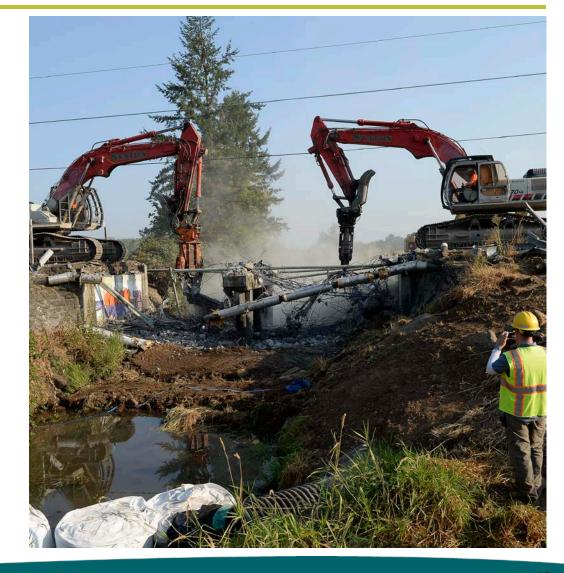
September 19, 2019 – 5:30 p.m.

Planning Commission Worksession 6th Floor Training Room 1300 Franklin St. Vancouver, WA 98660



Proposal & Criteria

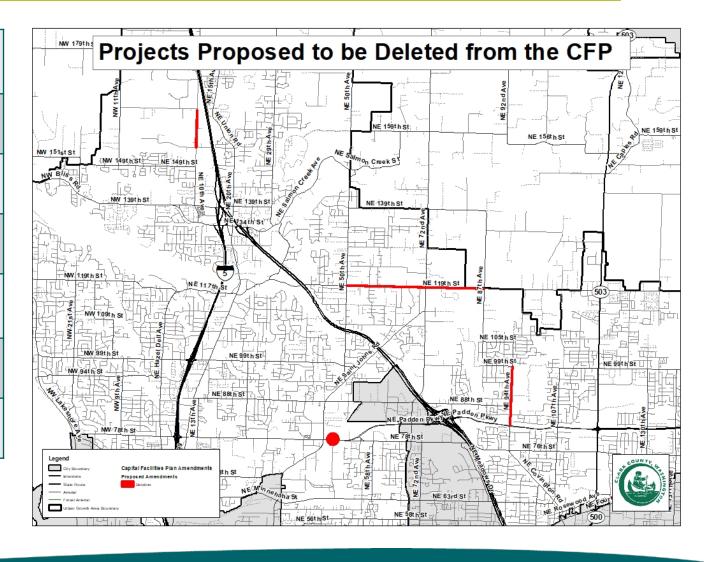
- Amend the Transportation Capital Facilities Plan (CFP) to add, delete and amend transportation projects in the 20-year list.
- Adjust the Traffic Impact Fee (TIF) rates for Clark County's four TIF districts.
- An Amendment to the CFP must be consistent with applicable provisions:
 - GMA and WAC (RCW 36.70A.070(6) and WAC 365-196-415), and
 - policies and implementation measures of the comprehensive plan.





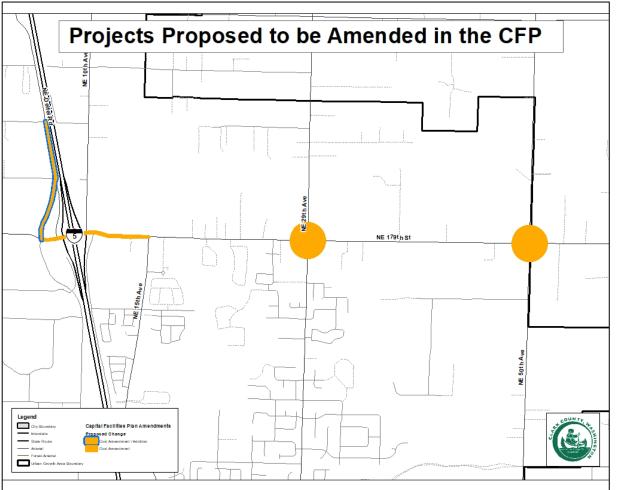
Projects Proposed to be Deleted from the CFP

Road	From	То	Total Project Costs	Reason
NE 119th St.	NE 72nd Ave.	NE 87th Ave.	\$23,655,000	Completed
NE 47th Ave. and NE	78th St. Intersection	\$2,623,000	Completed	
NE 94th Ave.	NE Padden Pkwy.	NE 99th St.	\$8,973,000	Completed
NE 119th St.	NE 50th Ave.	NE 72nd Ave.	\$6,994,000	Completed
NE 10th Ave.	NE 154th St.	NE 164th St.	\$22,751,000	Completed
Traffic Signal Optimi	ization	\$6,000,000	Completed	





Projects Proposed to be Amended in the CFP



			Total Project
Road	From	То	Costs
			\$27,367,000
NE 179th St.	NE Delfel Rd.	NE 15th Ave.	<u>\$ 12,367,000</u>
Delfel Rd.	NE 179th St.	NE 189th St.	<u>\$15,000,000</u>
NE 179th St. and 29th	. Intersections	\$15,000,000	
NE 179th St. and 29th	\$9,000,000		
NE 179th St. and 50th	\$6,000,000		
	\$3,000,000		
NE 182nd Ave and SF	R-500 (Fourth Plain	Blvd.) Intersection	<u>\$ 5,600,000</u>

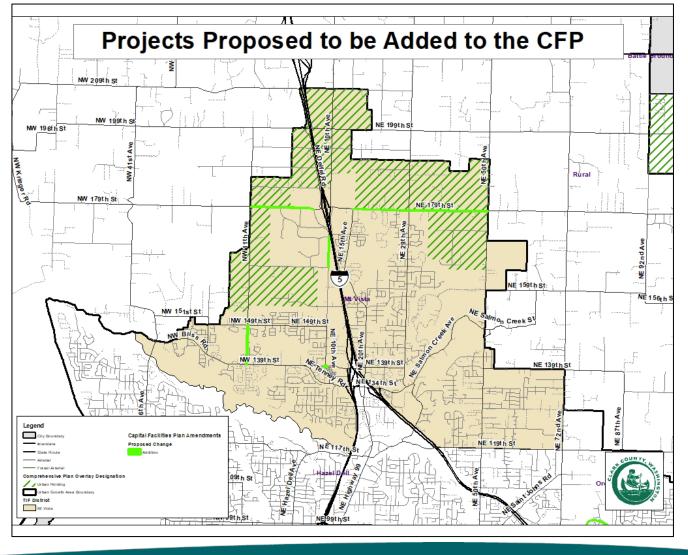




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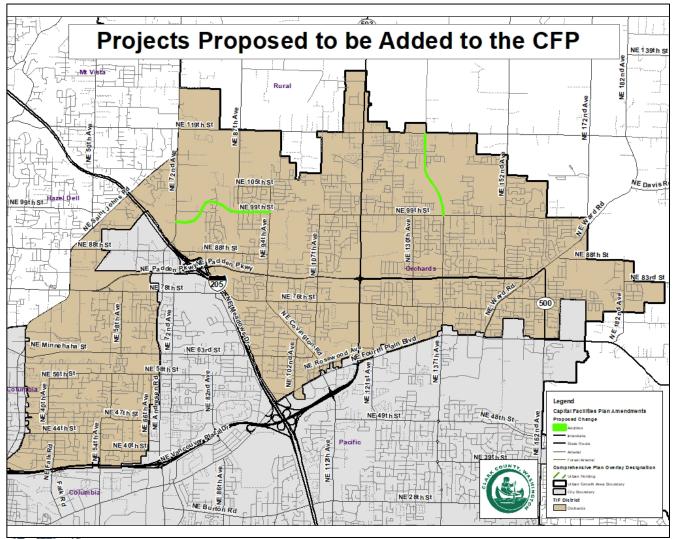
Project Proposed to be Added to the CFP in Mt. Vista

Road	From	То	Total Project Costs
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NE 179th St.	NE 15th Ave	NE 50th Ave.	\$48,690,000
NE 179th St.	NW 11th Ave	Delfel Rd.	\$27,480,000
NE 10th Ave.	NE 164th St.	Amphitheater Entrance	\$7,130,000
			, ,
NW 11th Ave.	NW 139th St.	NW 149th St.	\$13,640,000
NE 10th Ave. and	NE 139th St. Inte	rsection	\$5,000,000



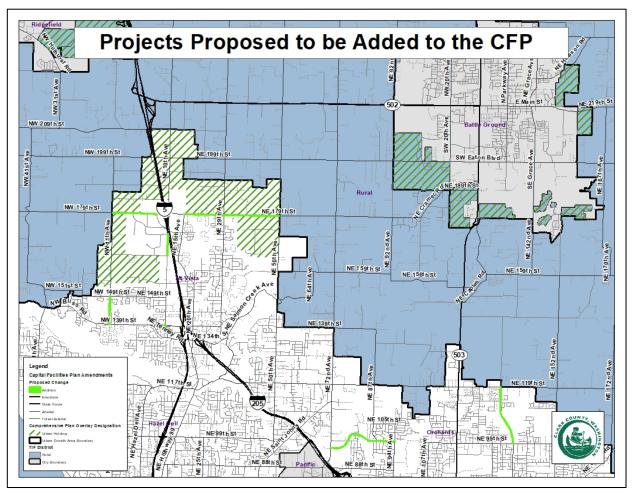


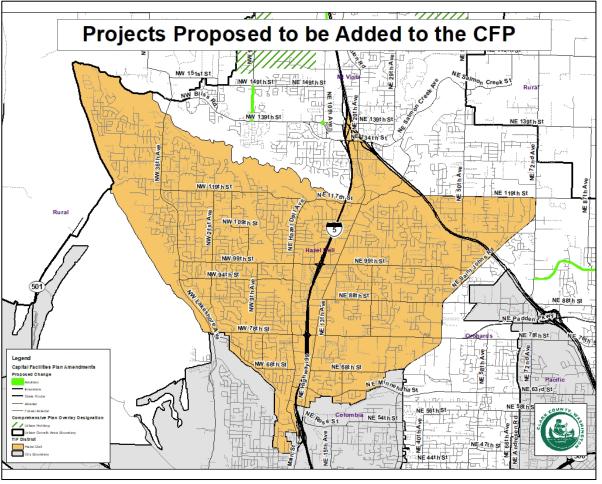
Project Proposed to be Added to the CFP in Orchards



Road	From	То	Total Project Costs
NE 137th/132nd Ave.	NE 99th St.	NE 119th St	\$20,000,000
NE 99th St.	NE 72nd Ave.	NE 94th Ave.	\$20,000,000

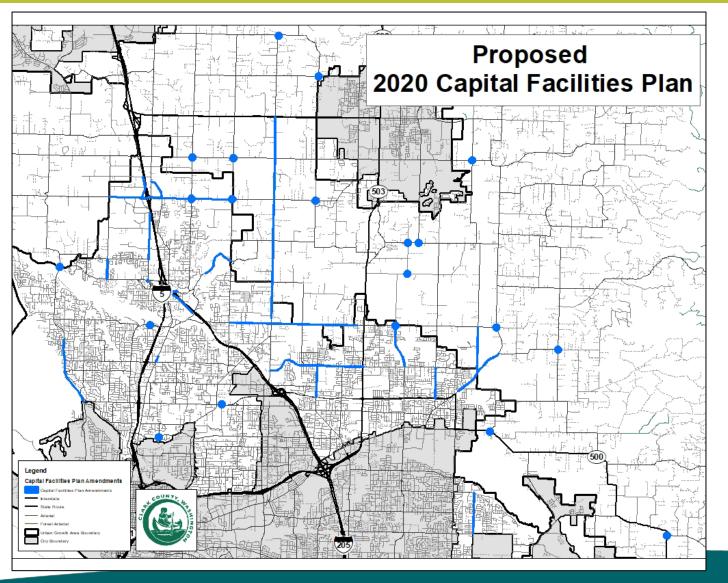
Project Proposed to be Added to the CFP in Hazel Dell and the Rural Area







2020 Capital Facilities Plan





Proposed 2020 Capital Facilities Plan

2020 Change	Road	From	То	Total Project Costs
Deletion	NE 119th St	NE 72nd Ave	NE 87th Ave	
Deletion	NE 47th Ave @ NE 78th St	Intersection	-	-
Deletion	NE 94th Ave	NE Padden Pkwy	NE 99th St	-
No Change	TSO Projects (5)	Various		\$ 4,986,000
No Change	Highway 99	NE 99th St	Intersection	\$ 4,869,000
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No Change	NE 15th Ave	NE 179th St	NE 10th Ave	\$15,000,000
No Change	NE 72nd Ave	NE 122nd St	NE 133rd St	\$10,800,000
No Change	NE 152nd Ave	Padden Pkwy	NE 99th St	\$ 8,100,000
No Change	NE 119th St	NE 132nd Ave	Intersection	\$ 8,000,000
No Change	Ward Road	NE 162nd Ave	NE 172nd Ave	\$ 6,000,000

2020 Change	Road	From	То	Total Project Costs
No Change	Ward Road	NE 172nd Ave	NE Davis Rd	\$ 7,000,000
No Change	NE 72nd Ave	NE 133rd St	NE 219th St	\$ 9,000,000
		Minnehaha Street & NE 17	7th Avenue	
		NE 87th Avenue & NE 63rd Street		\$ 15,000,000
	Urban Arterial Intersections	NE 117th Street & NE Stutz Road		
		NW 36th Avenue & Bliss Road		
No Change		NE 239th Street & NE 92r	nd Avenue	
No Change	NE 172nd Ave	NE Ward Rd	NE 119th St	\$ 6,000,000
No Change	NE 172nd Ave	NE 18th St	NE 39th St	\$ 4,000,000
No Change	Salmon Creek Avenue	WSU Enterance	West of 50th Ave	\$ 18,062,000
No Change	NW Lakeshore Ave	NW 78th St	NW 109th St	\$ 15,000,000
Addition	NE 179th St.	NE 15th Ave	NE 50th Ave	\$ 48,690,000
Addition	NW 179th St.	NW 11th Ave	Delfel Rd.	\$ 27,480,000
Addition	NE 10th Ave.	NE 164th St.	Ampitheater Enterance	\$ 7,130,000
Addition	NW 11th Ave.	NW 139th St.	NW 149th St.	\$ 13,640,000
Addition	Delfel Rd.	NE 179th St.	NE 189th St.	\$ 15,000,000
Addition	NE 137th/132nd Ave	NE 99th St.	NE 119th St	\$ 20,000,000
Addition	NE 99th St	NE 72nd Ave	NE 94th Ave	\$ 20,000,000
Addition	NE 10th Ave & NE 139th St.	Intersection		\$ 5,000,000

Proposed 2020 Capital Facilities Plan (continued)

2020 Change	Program	Total Project Costs
No Change	Salmon Creek Interchange Project (Phase 2)	\$ 17,500,000
Cost Amendment	NE 182nd Ave @ SR-500	\$ 5,600,000
Deletion	NE 179th St@29th Ave and @50th Ave	\$
Addition	NE 179th St. and 29th Ave Intersection	\$ 9,000,000
Addition	NE 179th St. and 50th Ave Intersection	\$ 6,000,000
No Change	Advanced Right-of-Way Program	\$ 200,000
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No Change	Sidewalks and ADA	\$ 49,680,000
No Change	Transportation Safety Imp.	\$ 72,000,000
No Change	Urban Development Road Prgm	\$ 13,316,667
Deletion	Traffic Signal Optimization	\$ -
	Total Project Costs	\$ 720,193,000



Traffic Impact Fee Rates

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Mount Vista	\$ 605	\$930	+\$325
Orchards	\$ 354	\$428	+\$74
Rural	\$ 298	\$412	+\$114



Thank you!

Comments and questions

Clark County Public Service Center

1300 Franklin Street • PO Box 5000

Vancouver, WA 98666-5000



NOTICE OF DETERMINATION OF NON SIGNIFICANCE (DNS)

NOTICE IS HEREBY GIVEN that the following proposal has been determined to have no probable significant adverse impact on the environment, and that an environmental impact statement is not required under RCW 43.21C.030(2)(c). Written comments on the following proposal, or DNS, may be submitted to the Responsible Official by **October 1, 2019**.

DESCRIPTION:

This is a non-project action per WAC197-11-704(2)(b).

CPZ2019-00017 – Capital Facilities Plan Amendments and Traffic Impact Fees Amendments to the Clark County transportation 20-year Capital Facilities Plan and associated traffic impact fees primarily to support the removal of the Urban Holding Overlay near the I-5/NE179th St. interchange.

CPZ2019-00031 – I-5/NE 179th St. Area Urban Holding Overlay removal An amendment to the Comprehensive Growth Management Plan 2015-2035 and zoning map to remove the Urban Holding Overlay near the I-5/NE 179th St. interchange.

ACTION REQUESTED: Clark County is proposing to amend the Clark County Comprehensive Growth Management Plan 2015-2035 and zoning map to remove the Urban Holding Overlay near the I-5/NE179th St. interchange, amend the 20-year Capital Facilities Plan, and update the traffic impact fees.

RESPONSIBLE OFFICIAL:

Oliver Orjiako, Director
Clark County Community Planning
PO Box 9810
Vancouver WA 98666-9810
oliver.orjiako@clark.wa.gov

BILL TO:

Sonja Wiser, Program Assistant Clark County Community Planning PO Box 9810 Vancouver, WA 98666-9810 (564) 397-4558 Sonja.wiser@clark.wa.gov

PUBLICATION DATE: September 6, 2019

PLEASE E-MAIL OR CALL TO CONFIRM RECEIPT AND PUBLICATION DATE



DETERMINATION OF NON-SIGNIFICANCE

Description of Proposal: Clark County is proposing to amend the Clark County Comprehensive Growth Management Plan 2015-2035 and zoning map to remove the Urban Holding Overlay near the I-5/NE179th St. interchange, amend the transportation 20-year Capital Facilities Plan, and update the traffic impact fees. The proposed amendment is a non-project action. Project ID: CPZ2019-00031 and CPZ2019-00017, respectively.

Proponent: Clark County Community Planning

Location of proposal, including street address, if any: I-5/ NE 179th St. area.

Lead Agency: Clark County, Washington

This proposed amendment is a non-project action. CPZ2019-00017 is a proposed amendment to the Clark County transportation 20-year Capital Facilities Plan and associated traffic impact fees. CPZ2019-00031 is a proposed map amendment to remove the Urban Holding Overlay from the Comprehensive Growth Management Plan 2015-2035 (2016 Plan) and zoning maps. The two proposals are directly related to each other due to the identified lack of transportation capacity to serve future urban development in the urban holding area. The amendments to the Capital Facilities Plan and associated traffic impact fees satisfy the requirements to remove the Urban Holding Overlay. The lead agency for this proposal has determined that it does not have a probable significant adverse impact on the environment for CPZ2019-00017 and CPZ2019-00031.

The land designated under urban holding was evaluated in 2007 during the Comprehensive Growth Management Plan 2004-2024 (2007 Plan) update. At that time, the Vancouver Urban Growth Area was expanded to include the properties designated with an Urban Holding Overlay. A Final Environmental Impact Analysis (FEIS) was completed in 2007 that covered all of unincorporated Clark County within a "maximum study area" (MSA). The 2016 Plan periodic update did not amend the Vancouver Urban Growth Area previously studied in 2007. Due to the lack of growth in the county since the 2007 Plan was adopted, the county relied on the 2007 FEIS and provided a supplemental analysis for the 2016 Plan update, pursuant to WAC 197-11-620.

An environmental impact statement (EIS) is not required under RCW 43.21C.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 on request.

This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal for 14 days from the date below. This is a non-project action per WAC197-11-704(2)(b). Adoption by ordinance of the amendments by the Clark County Council is expected in February 2020. Individual project actions that may occur following these amendments are subject to applicable project level environmental review under Title 40, Clark County Unified Development Code.

Comments must be submitted by: October 1, 2019

Responsible Official: Oliver Orjiako

Position/title: Director

Address: **RE: SEPA Comments**

> Clark County Community Planning 1300 Franklin Street: 3rd Floor

P.O. Box 9810

Vancouver, WA 98666-9810

Date: 8-29-19 Signature: State Gyraks

The staff contact person and telephone number for any questions on this review is Matt Hermen, Planner III, (564) 397-4343.

For other formats, contact the Clark County ADA Office at ADA@clark.wa.gov.



Clark County SEPA Environmental Checklist Washington Administrative Code (WAC) 197-11-960

A. BACKGROUND

1. Name of proposed project, if applicable:

CPZ2019-00017- Clark County 20-year Capital Facilities Plan amendment and Traffic Impact Fees and CPZ2019-00031- I-5/NE179th St. Area Urban Holding Overlay

2. Name of applicant:

Clark County Community Planning

3. Address and phone number of applicant and contact person.

Oliver Orjiako, Director Clark County Community Planning P.O. Box 9810 Vancouver, WA 98666-9810 (564) 397- 4112

4. Date checklist prepared:

August 29, 2019

5. Agency requesting checklist:

Clark County, WA

6. Proposed timing or schedule (including phasing, if applicable):

The Planning Commission hearing is scheduled for October 3, 2019. The Clark County Council hearing is scheduled for November 12, 2019. If approved by Clark County Council the effective date to remove the Urban Holding Overlay, update the 20-year Capital Facilities Plan (CFP) and associated Traffic Impact Fee (TIF) rates is February 28, 2020.

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

No. The proposal is a non-project action. Any future amendments of the 20-year transportation Capital Facilities Plan or Traffic Impact Fees will be required to conduct an environmental review and issue a SEPA threshold determination at that time. There is no further activity connected to removing the Urban Holding Overlays.

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

The proposal to remove the Urban Holding Overlays is located within the Vancouver Urban Growth Area.

In 2007, Clark County adopted the Comprehensive Growth Management Plan 2004-2024 (2007 Plan). The approval of the 2007 Plan expanded the Vancouver Urban Growth Area in the Mt. Vista Traffic Impact Fee District.

A Final Environmental Impact Analysis (FEIS) was issued in 2007 that addressed the Vancouver UGA expansion of 4,062 acres. The proposal for removing the Urban Holding Overlays (CPZ2019-00031) is a subset of the 2007 Vancouver UGA expansion. The 2007 FEIS addressed the environmental impacts of the Vancouver UGA developing at urban densities based on the new urban land use designations.

On April 27, 2016, Clark County issued its Final Supplemental Environmental Impact Statement (FSEIS) on the 2016 Comprehensive Growth Management Plan 2015-2035 (2016 Plan). The Vancouver UGA did not expand in the 2016 Plan update. The FSEIS updated baseline information provided in the 2007 FEIS and documented changes in impacts, if any. One of the documented changes in the FSEIS was amending zoning designations in the Discovery/Fairgrounds and Salmon Creek/University District planning areas.

The Discovery/Fairgrounds planning effort recognized the environmental constraints in the area and recommended changing most of the Industrial (ML) zoning to Business Park uses (an area of approximately 1,100 acres). The new zoning designations allow for more environmentally compatible site design while allowing for more jobs per acre.

The Salmon Creek/University District planning effort of approximately 465 acres recommended changing urban low density residential to accommodate a mix of uses. The FSEIS noted that the moderate impacts to adjacent land would be mitigated on a project by project basis consistent with the Washington State University Master Plan and City of Vancouver's vision for future development.

The removal of the Urban Holding Overlay would apply the underlying urban zoning that was addressed in the 2016 FSEIS.

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.

Yes. Although this is a non-project action, the removal of the Urban Holding Overlay requires the critical links and intersections improvements to be reasonably funded in the 6-year Transportation Improvement Program (TIP). In order to deem the critical links and intersection improvements reasonably funded, several Council decisions are required, including:

- Approving 4 Developer Agreements,
- Approving the 6-year Transportation Improvement Program 2020-2025,
- Amending the 20-year Capital Facilities Plan,
- Updating Traffic Impact Fees, and
- Approving the 2020 budget.
- **10.** List any government approvals or permits that will be needed for your proposal, if known.

Yes. Although this is a non-project action, Clark County Council approval is required to remove the Urban Holding Overlay and deem the critical links and intersection improvements reasonably funded.

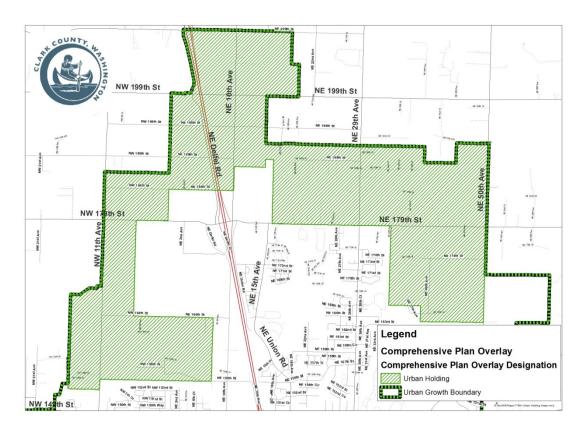
11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. (Lead agencies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

CPZ2019-00017 and CPZ2019-00031 are non-project actions that are reviewed and evaluated together due to their relationship.

CPZ2019-00017 - Clark County 20-year Capital Facilities Plan amendment and Traffic Impact Fees will add, amend, and delete certain transportation projects in the 20-year Capital Facilities Plan. Clark County collects traffic impact fees from new developments based on the developments' projected impact on the transportation system. Proceeds from the program are used to fund capital improvements that accommodate growth, improve safety, and provide additional capacity to the transportation system. Amending the Capital Facilities Plan and the capital improvements that accommodate growth will adjust the traffic impact fee rates.

CPZ2019-00031- I-5/NE179th St. Area Urban Holding Overlay will remove the land use plan and zoning overlays from approximately 2,200 acres. Removing the Urban Holding Overlays will allow the land to develop according to the underlying urban zoning.

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.



This non-project action area removes the Urban Holding Overlay on 570 assessor parcels. The area is generally bounded by NW 18th Ave. on the west, NE 209th St. to the north, NE 50th Ave. to the east, and NE 154th St. to the south.

B. ENVIRONMENTAL ELEMENTS

1. Earth

a.	General description of the site:
	(circle one): Flat, rolling, hilly, steep slopes, mountainous,
	other

This is a non-project action. This Urban Holding Overlay area includes terrain ranging from flat, rolling, hilly and steep slopes.

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

This is a non-project action. The steepest slope in the Urban Holding Overlay area is in the slope class that includes slopes between 40 – 100 percent as shown in <u>Figure 7</u> <u>Slopes Map</u>, Comprehensive Growth Management Plan 2015-2035.

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.

This is a non-project action. General types of soil in this area include CvA, GeB, HcB, HoB, HoC, HoG, OdB, SIB, SID. A description of the soil types is as follows:

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CvA – Hydric soil - poor forest soils and poor agricultural soils
GeB – Non-Hydric soil – prime forest soil; prime agricultural soil
HcB – Non-Hydric soil – prime forest soil; prime agricultural soil
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HoB- Non-Hydric soil – prime forest soil; prime agricultural soil

HoC- Non-Hydric soil-prime forest soil; good agricultural soil

HoG -Non-Hydric soil-prime forest soil; poor agricultural soil

OdB - Hydric soil - fair to poor forest soils; fair agricultural soils

SIB - Non-Hydric - good forest soils; prime agricultural soils

SID - Non-Hydirc - good forest soils; good agricultural soils

For a complete description of the soil types; see the <u>Soil Survey of Clark County</u>, <u>Washington</u>

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

This is a non-project action. However, certain areas include potential instability as indicated in <u>Figure 8 Land Slide Hazard Map</u>, Comprehensive Growth Management Plan 2015-2035.

e. Describe the purpose, type, total area, and approximate quantities, and total affected area of any filling or grading proposed. Indicate source of fill.

This is a non-project action. No development is anticipated as part of this application. Individual project actions that may occur following these amendments are subject to applicable project level environmental review under Title 40, Clark County Unified Development Code.

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe.

This is a non-project action. There is no erosion occurring related to this non-project action. Future impacts are project based and will be evaluated on a project-by-project basis as required in Title 40, Clark County Unified Development Code.

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

This is a non-project action.

h. Proposed measures to reduce or control erosion, or other impacts to the earth, if any:

This is a non-project action. Site-specific measures and any mitigation measures will be developed during the development review process as required in Title 40, Clark County Unified Development Code.

2. Air

a. What types of emissions to the air would result from the proposal (i.e., dust, automobile, odors, industrial wood smoke) during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known.

Non-project action proposed. No emissions will result from this proposal. At the time of development, protection of air quality is regulated through federal and state regulations during construction, operation, and maintenance when development is completed. The 2016 Plan recognizes the importance of maintaining good air quality and contains policies in the Transportation, Economic Development, and Environmental Elements to

mitigate impacts to air quality. Future project actions are required to comply with Title 40, Clark County Unified Development Code.

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe.

Non-project action proposed. No off-site emissions will result from this proposal.

c. Proposed measures to reduce or control emissions or other impacts to air, if any:

Non-project action proposed. No proposed measures to reduce or control emissions are necessary. Site-specific measures and any mitigation measures, if needed, will be developed during the development review process as required by Title 40, Clark County Unified Development Code.

3. Water

a. Surface:

 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.

This is a non-project action. This area includes the following creeks: Gee Creek, unnamed tributary of Mill Creek, Packard Creek, and Whipple Creek. These creeks drain into the Columbia River.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described water? If yes, please describe and attach available plans.

No. This is a non-project action.

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.

This is a non-project action and not applicable to this proposal. Development standards in Subtitle 40.4 Critical Areas and Shorelines regulate filling and dredging material of surface water and wetlands and other applicable standards in Title 40, Clark County Unified Development Code.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

None, this is a non-project action.

5) Does the proposal lie within a 100-year flood plain? If so, note location on the site plan.

This is a non-project action. There are no known flood plains within the Urban Holding Overlay area as shown in <u>Figure 5 Major Floodplains</u>, Comprehensive Growth Management Plan, 2015-2035.

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.

The proposal is a non-project action. No surface water withdrawal is associated with this proposal.

b. Ground Water:

1) Will ground water 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.

This is a non-project action. The area described above is located within the Clark Public Utilities service boundary for urban water.

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.

This is a non-project action. The area described above is located within the Clark Regional Wastewater District service area for urban sewer service.

c. Water Runoff (including storm water):

 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.

This is a non-project action. Future development projects will be required to address storm water runoff identified in CCC Chapter 40.386 Storm water and Erosion Control, and other applicable standards in Title 40, Clark County Unified Development Code.

2) Could waste materials enter ground or surface waters? If so, generally describe.

This is a non-project action. Future development projects will be required to address storm water runoff identified in CCC Chapter 40.410 Critical Aquifer Recharge Areas and Chapter 40.386 Storm water and Erosion Control, and other applicable standards in Title 40, Clark County Unified Development Code.

3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe.

This is a non-project action. Future development projects will be required to address storm water runoff identified in CCC Chapter 40.410 Critical Aquifer Recharge Areas and Chapter 40.386 Storm water and Erosion Control and other applicable standards in Title 40, Clark County Unified Development Code.

d. Proposed measures to reduce or control surface, ground, and runoff water, and drainage pattern impacts, if any:

This is a non-project action. Site-specific measures and any mitigation measures will be developed during the development review process required in Title 40, Clark County Unified Development Code.

4. Plants

١.	Check or circle types of vegetation found on the site.
	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

Not applicable. This is a non-project action.

b. What kind and amount of vegetation will be removed or altered?

This is a non-project action. Future development projects within the Urban Holding Overlay area will require a development review under Title 40, Clark County Unified Development Code.

c. List threatened or endangered species known to be on or near the site.

This is a non-project action.

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any;

This is a non-project action. Site-specific measures and any mitigation measures, if needed, will be developed during the development review process as required by Title 40, Clark County Unified Development Code.

e. List all noxious weeds and invasive species known to be on or near the site.

Not applicable. This is a non-project action.

5. Animals

a. Circle any birds and animals which have been observed on or near the site or are known to be on or near the site:

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

mammals: <u>deer</u>, bear, elk, beaver, other:

fish: bass, <u>salmon</u>, trout, herring, shellfish, other: Winter Steelhead

Not applicable. This is a non-project action.

b. List any threatened and endangered species known to be on or near the site.

This is a non-project action. Development projects will require a development review that will identify any birds and animals which have been observed on or near the site as required by Title 40, Clark County Unified Development Code.

c. Is the site part of a migration route? If so, explain.

This is a non-project action. Clark County is part of the Pacific flyway migration route.

d. Proposed measures to preserve or enhance wildlife, if any:

Not applicable. This is a non-project action.

e. List any invasive animal species known to be on or near the site.

Not applicable. This is a non-project action.

6. Energy and Natural Resources

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.

Not applicable. This is a non-project action.

b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.

Not applicable. This is a non-project action.

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:

Not applicable. This is a non-project action.

7. Environmental Health

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.

None, this is a non-project action.

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

This is a non-project action; not applicable.

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.

Not applicable.

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.

Not applicable.

4) Describe special emergency services that might be required.

Not applicable.

5) Proposed measures to reduce or control environmental health hazards, if any:

Not applicable.

b. Noise

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

Not applicable.

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.

Not applicable.

3) Proposed measures to reduce or control noise impacts, if any:

Not applicable.

8. Land and Shoreline Use

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.

This is a non-project action. The Urban Holding Overlay area is primary rural in character with single family homes on acreage, an elementary school, religious facilities, and rural commercial nodes at NE 179th St./Delfel Rd. and NE 199th St./NE 10th Ave.

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?

Not applicable, this is a non-project action. The Urban Holding Overlay and associated property was included in expansion of the Vancouver Urban Growth Area in 2007.

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:

Not applicable, this is a non-project action.

c. Describe any structures on the site.

Not applicable, this is a non-project action.

d. Will any structures be demolished? If so, what?

No structures will be demolished as a result of this non-project action.

e. What is the current zoning classification of the site?

The Urban Holding Overlay area includes the following current underlying zoning classifications: Single Family Residential (R1-6); (R1-7.5); (R1-10); (R1-20); Multi-Family

Residential (R-12); Office Residential (OR-22); Mixed Use (MX), Business Park (BP); Light Industrial (IL); and Community Commercial (CC).

f. What is the current comprehensive plan designation of the site?

The Urban Holding Overlay area includes the following underlying comprehensive plan designations: Urban Low Density Residential, Urban Medium Density Residential, Mixed Use, Industrial, Commercial, and Park/Open Space.

g. If applicable, what is the current shoreline master program designation of the site?

There is no current Shoreline Master Program designation within the Urban Holding Overlay area.

h. Has any part of the site been classified as a critical area by the city or county? If so, specify.

This is a non-project action. The Urban Holding Overlay area contains hydric soils, landslide area, priority habitat, riparian habitat and wetlands.

i. Approximately how many people would reside or work in the completed project?

Unknown.

j. Approximately how many people would the completed project displace?

None.

k. Proposed measures to avoid or reduce displacement impacts, if any:

None, this is a non-project action.

I. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any:

None, non-project action.

m. Proposed measures to reduce or control impacts to agricultural and forest lands of long-term commercial significance, if any:

None, non-project Action.

9. Housing

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.

Some areas are zoned for mixed use, low density and medium density housing. The number of units is unknown at this time.

b. Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.

No housing units would be eliminated as a result of this non-project action.

c. Proposed measures to reduce or control housing impacts, if any:

None, non-project action.

10. Aesthetics

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

None, non-project action.

b. What views in the immediate vicinity would be altered or obstructed?

None, non-project action.

c. Proposed measures to reduce or control aesthetic impacts, if any:

None, non-project action.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

None, non-project action.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

None, non-project action.

c. What existing off-site sources of light or glare may affect your proposal?

None, non-project action.

d. Proposed measures to reduce or control light and glare impacts, if any:

None, non-project action.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

None, non-project action. The Clark County Fairgrounds and the Fairgrounds Community Park are adjacent to the Urban Holding Overlay area.

b. Would the proposed project displace any existing recreational uses? If so, describe.

None, non-project action.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any:

None, non-project action.

13. Historic and Cultural Preservation

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? If so, specifically describe.

Yes, this non-project action includes 183 buildings that are over 45 years old. None of these properties are currently listed in national, state or local preservation registers. See Exhibit 1 for a list of assessor parcel numbers.

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.

Clark County's Archaeological Predictive Model indicates that the subject area includes High and Moderate-High predictive model indicators. Development projects will require a development review that will identify any landmarks, features, or other evidence of Indian or historic use of occupation which have been observed on or near the site as required by Title 40, Clark County Unified Development Code.

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.

Geographic Information System (GIS), Archaeological Predictive Model, Historic Site.

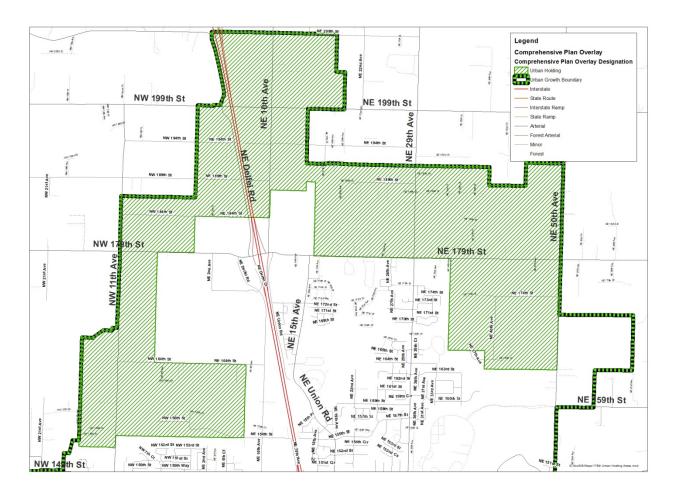
d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required.

Not Applicable. The proposal is a non-project action.

14. Transportation

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.

This is a non-project action. The Urban Holding Overlay area is served by Interstate 5 and many public streets as shown on the following map:



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?

The site of the proposal and affected area is not served by public transit. However, CTRAN does provide limited special event shuttles to/from the Clark County Fairgrounds adjacent to the Urban Holding Overlay area.

c. How many additional parking spaces would the completed project or nonproject proposal have? How many would the project or proposal eliminate?

The non-project action would not create additional parking spaces. Any additional parking spaces and their impacts will be evaluated at the time of the development application process.

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).

Requirements for any new roads or improvements will be addressed as part of any future land development project.

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

No, non-project action.

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?

The proposal for lifting the Urban Holding Overlay would allow more intense urban development to occur. An average of 76,000 daily trips is forecasted upon full buildout of the Urban Holding Overlay area. The forecasted trips were estimated using Clark County's Vacant Buildable Lands Model and applying trip generation rates to the housing and job forecasts.

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.

The proposal will not interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area.

h. Proposed measures to reduce or control transportation impacts, if any:

The 2016 Plan Procedural Guidelines chapter, page 272 identifies the criteria necessary to be met in order to remove the Urban Holding Overlay. The Vancouver UGA West Fairgrounds and East Fairgrounds area states that the "determination that the completion of localized critical links and intersection improvements are reasonably funded as shown on the county 6-year Transportation Improvement Plan or through developer agreement."

Clark County has identified \$66.5 million of transportation projects that are necessary to remove the Urban Holding Overlay. The Clark County Council is scheduled to make several funding decisions that have to be concurrently approved with the removal of the Urban Holding Overlay in order to reasonably fund the \$66.5 Million transportation projects. The funding decisions include 1) an updated Capital Facilities Plan that will add projects to the 20-year project list that benefit the urban holding area by improving safety and mobility, 2) an increase in the Mt. Vista Traffic Impact Fee, 3) approving 4 Developer

Agreements, 5) approve the 2020 budget to include a dedication of REET 2 funding, and 6) approve the 6-year Transportation Improvement Program 2020-2025.

15. Public Services

a. Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? if so, generally describe.

None, non-project action. The Urban Holding Overlay area is rural in nature. As developments occur, an increase in all public services will be required.

b. Proposed measures to reduce or control direct impacts on public services, if any.

None, non-project action.

16. Utilities

a. Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other.

None, non-project action. The Urban Holding Overlay area is rural in nature and includes electricity, some public water/wells, septic systems, and telephone.

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.

None, non-project action. As development occurs, urban services will be provided.

C. SIGNATURE

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: Math	Leimen
Name of signee:	Matt Hermen_
Position and Agency/Org	anizationPlanner III, Clark County Public Works
Date Submitted: August	29. 2019

D. SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS

Because these questions are very general, it may be helpful to read them in conjunction with the list of the elements of the environment. When answering these questions, be aware of the extent of the proposal, or the types of activities likely to result from the proposal, would affect the item at a greater intensity or at a faster rate than if the proposal were not implemented. Respond briefly and in general terms.

1. How would the proposal be likely to increase discharge to water; emissions to air; production, storage, or release of toxic or hazardous substances; or production of noise?

The removal of the Urban Holding Overlay will open up approximately 2,200 for urban development. The area will see the construction of new transportation improvements and an increase in public services such as water, sewer, fire, schools and law enforcement. Future development will be urban in nature and more intensive than the rural development that currently exists. All future development will have to comply with development standards in Title 40, Clark County Unified Development Code.

2. How would the proposal be likely to affect plants, animals, fish or marine life?

The removal of the Urban Holding Overlay will open up approximately 2,200 for urban development. Future development will be urban in nature and more intensive than the rural development that currently exists. All future development will have to comply with development standards in Title 40, Clark County Unified Development Code protecting critical and habitat areas.

3. How would the proposal be likely to deplete energy or natural resources?

The removal of the Urban Holding Overlay will open up approximately 2,200 for urban development. Future development will be urban in nature and more intensive than the rural development that currently exists. All future development will have to comply with development standards in Title 40, Clark County Unified Development Code.

4. How would the proposal be likely to use or affect environmentally sensitive areas or areas designated (or eligible or under study) for governmental protection: such as parks, wilderness, wild and scenic rivers, threatened or endangered species habitat, historic or cultural sites, wetlands, floodplains, or prime farmlands?

The removal of the Urban Holding Overlay will open up approximately 2,200 for urban development. Future development will be urban in nature and more intensive than the rural development that currently exists. All future development will have to comply with

development standards in Title 40, Clark County Unified Development Code such as protecting wetlands, historic, critical and habitat areas.

5. How would the proposal be likely to affect land and shoreline use, including whether it would allow or encourage land or shoreline uses incompatible with existing plans?

There are no shorelines uses in this area. Future development will be urban in nature and more intensive than the rural development that currently exists. All future development will have to comply with development standards in Title 40, Clark County Unified Development Code.

6. How would the proposal be likely to increase demands on transportation or public services and utilities?

Future development will be urban in nature and more intensive than the rural development that currently exists. An average of 76,000 daily trips is forecasted upon full buildout of the Urban Holding Overlay area. In order to accommodate additional trips, several transportation projects are necessary to be constructed in order to maintain concurrency. Clark County has identified \$66.5 million of transportation projects that are necessary to remove the Urban Holding Overlay. The Clark County Council is scheduled to make several funding decisions that have to be concurrently approved with the removal of the Urban Holding Overlay in order to reasonably fund the \$66.5 Million transportation projects.

Water and Sewer service are also necessary to serve future urban development. Clark Public Utilities District and the Clark Regional Wastewater District have demonstrated in their Capital Facilities Plans that capacity is present to serve the urban development.

7. Identify, if possible, whether the proposal may conflict with local, state, or federal laws or requirements for the protection of the environment.

Future development will be urban in nature and more intensive than the rural development that currently exists. All future development will have to comply with federal, state, and county development standards in Title 40, Clark County Unified Development Code such as protecting wetlands, historic, critical and habitat areas.

EXHIBIT 1
Parcels with structures over 45-year old

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From: Sidorov, Larisa
Cc: Hermen, Matt

Bcc: "Chehalis Tribal Council"; "Chinook Nation/Indian Country"; "Columbia River Inter-Tribal Fish Commission";

"Confederated Tribes of Grand Ronde"; "Confederated Tribes of Warm Springs"; "Cowlitz Indian Tribe"; "KPDX Fox 49"; "Nisqually Indian Tribe"; "Port of Vancouver"; City Parks and Recreation; "Woodland School District #404"; Guardino, Corrie; "CCAR"; "Development Review"; "SWCA"; "Tribal Historic Office"; Eldred, Chris; <u>"Stephan Abramson"; "Houston Aho"; Albrecht, Gary; "Marnie Allen"; "Milada Allen"; "Randy Anrahamson";</u> "Joe Arndt"; Brooks, Gordon; "Keith Pat Baird"; "Jeff Barsness"; "Sandra Bennett"; Berg, Jo Anne; "Ken Berg"; "Bill Bjerke"; "Mike Bomar"; "Phil Bourquin"; "Phil Bourquin"; "Patty Boyden"; "Naomi Brandenfels"; "Tim Brewer"; "David Brownell"; "Cgrustue BrownSilva"; "Christie BrownSilva"; "Christie BrownSilva"; "Rex Buck"; "Annette Bullchild"; "Judy Bumbarger-Enright"; "Ken Burgstahler"; "Dave Burlingame"; "Bobby Burns"; "Barb Cabe"; "Larry Campbell"; Carlson, Linda; Carnes, Mike; "Amber Carter"; "Lisa Cartwright"; "Neil Chambers"; "Chris Chandler"; "Public Library City of Camas"; "Mark Collier"; Cook, Christine; David, Lynda; "Earl Davis"; Dunaway, Jon; "Dennis R. Dykes"; Eiken, Chad; "Eric Eisemann"; "J Eldridge"; "Roger Entrekin"; "Roger Entrekin"; "Heric Eisemann"; "Jackie Ferry"; "Christy Finnie"; "Vicki Fitzsimmons"; "Vicki Fitzsimmons"; "Rhonda Foster"; "Ricky Frasier"; "Eric Fuller"; "David Gilroy"; "Jode Goudy"; Green, Jerry External; "Brent Grening"; "Suzanne Grover"; "Ken Hadley"; "Jennifer Halleck"; "Jennifer Halleck"; "Ken Handley"; "Cecile Hansen"; Hansen, Steve (Public Works); "Don Hardy"; "Wuanita Herron"; "Dave Holmes"; "Todd Horenstein"; "James Howsley"; "James Howsley"; "Robert Hubenthal"; Jackson, Mike; "Justine James"; "Joseph Jefferson"; "Larry Jennings"; "Roy Johnson"; "Kevin Jolma"; "Ben Joseph"; "Norma Joseph"; "John Karpinski"; "Justin Keeler"; "Jennifer Keene"; "Denny Kiggins"; "Randy Kline"; Klug. Rob; "Mitch Kneipp"; "Larry Knight"; "Russell Knutson"; "Marc Krsul"; "Kent C. Landerholm"; "Carol Levanen"; "Dennis Lewarch"; "Andrew lundgren"; "Patti Lundgren"; "Jason Lyon"; "Kevin Lyons"; "Kerry Lyste"; "Ryan Mackinster"; "Steven Manlow"; "Danny K Marshall"; "Pam Mason"; "Robert Maul"; McCall, Marilee; "Nathan McCann"; "Sean McGill"; "Mike Means"; "Barbara Meisenheimer"; "Johnson Meninick"; "Johnson Meninick"; "Jordan Mercier"; "Michael Merlino"; "Aaron Miles"; "Carey Miller"; "Kris Miller"; "Latasha Miller"; "Steve Mullen"; "Laura Murphy"; "Barbara Murray"; "Christine Myers"; "Kathy Neary"; "Charlene Nelson"; "John Nohr"; "SEPA Notifications"; "Ike Nwankwo"; Ron Onslow; "adam Osbekoff"; "Dan Penn"; "Judith Perez"; "John Peterson"; "David Powell"; "Randall Printz"; "Randall Printz"; "Stormy Purser"; Ransom, Matt; "Nick Redinger"; Redline, Tina; "Lisa Renan"; "County Reporters"; "SEPA REVIEW"; "Nathan Reynolds"; "Brandon Reynon"; "David Ripp"; "Bambi Rodriguez"; "Heidi Rosenberg"; "Mark Ross"; "Earngy Sanstrom"; "Paul Scarpelli"; "Scott Schuyler"; "Bridget Schwarz"; "Stacey Shields"; "Robin Shoal"; "Terry Smith"; Snodgrass, Bryan; "Dave Socolofsky"; Sorenson, Scott; Cnty Health CCPH LandUse; "Ila Stanek"; "Lua Stanek"; "Joe Steinbrenner"; "Joe Steinbrenner"; "Susan Steinbrenner"; "Steve Stuart"; "George Swanaset Jr"; "Nick Swinhart"; "David Taylor"; "Eric Temple"; "Mary Templeton"; "Jeffrey Thomas"; "Kristen Tiede"; "Richard Till"; Messinger, Rebecca; "Teresa Torres"; "Kate Valdez"; "Lynn Valenter"; Vial, Dave; "Tyson Vogeler"; "Jackie" Wall"; "Swall"; "Leroy Ward"; "Denny Waters"; "Steven T. Webb"; "Bill White"; "Robert Whitlam"; "Jerry

Winters"; "Doug Woodruff"; "Sandra Yager"; "Shawn Yanity"; "Richard Young"

Subject: Clark County SEPA DNS: Urban Holding and Capital Facilities Plan

Date: Friday, August 30, 2019 8:32:14 AM
Attachments: DNS and SEPA Checklist final.pdf

Greetings,

Clark County is proposing to amend the Clark County Comprehensive Growth Management Plan 2015-2035 and zoning map to remove the Urban Holding Overlay near the I-5/NE179th St. interchange, amend the transportation 20-year Capital Facilities Plan, and update the traffic impact fees. The proposed amendment is a non-project action. Project ID: CPZ2019-00031 and CPZ2019-00017, respectively.

This DNS is issued under WAC 197-11-340(2); the lead agency will not act on this proposal for 14 days from the date below. This is a non-project action per WAC197-11-704(2)(b). Adoption by ordinance of the amendments by the Clark County Council is expected in February 2020. Individual project actions that may occur following these amendments are subject to applicable project level environmental review under Title 40, Clark County Unified Development Code.

Comments are due by: Tuesday, October 1, 2019

For more information, contact Matt Hermen at (564) 397-4343 or matt.hermen@clark.wa.gov



Matt Hermen Planner III **PUBLIC WORKS**

360.397.4343







BOARD OF COUNTY COUNCILORS COUNTY OF CLARK, STATE OF WASHINGTON

Resolution No. <u>2018-12</u>-08

A Resolution of the Clark County Council authorizing entry into a Developer Agreement between Clark County and SJO LO 90 B LLC, a Washington limited liability company; AH Devco, Inc., a Washington corporation

WHEREAS, RCW 36.70B.170 through .200 authorize the County to enter into Developer Agreements with persons or entities having ownership or control of real property within the County; and

WHEREAS, SJO LO 90 B LLC and AH Devco, Inc. ("Owners") own certain real property described in the proposed Development Agreement attached hereto as Exhibit A, which property is located in Clark County, Washington; and

WHEREAS, at the direction of Council, County Staff has worked with the Owners to prepare the proposed Developer Agreement, which details an exchange of valuable consideration;

WHEREAS, the Council considered this matter at a duly advertised public hearing; and

WHEREAS, the Council concluded that approval of the proposed Developer Agreement will further the public welfare; now therefore,

NOW THEREFORE, BE IT RESOLVED BY THE BOARD OF CLARK COUNTY COUNCILORS:

1. The Clark County Council approves the proposed Developer Agreement between Clark County, Washington and SJO LO 90 B LLC and AH Devco, Inc., attached hereto as Exhibit A.

ADOPTED on this Uth day of Occin	<u>nber</u> , 2018.
Attest: Clerk to the Board	BOARD OF COUNTY COUNCIL) CLARK COUNTY, WASHINGTON By: Marc Boldt, Chair
Approved as to form only: ANTHONY F. GOLIK Prosecuting Attorney	By:
By: Deputy Prosecuting Attorney	By:
	By: John Blom, Councilor
	By: Eileen Quiring, Councilor



MAIL TAX STATEMENTS TO:

AFTER RECORDING RETURN TO:

Jordan Ramis PC

Attn: James D. Howsley

1499 S.E. Tech Center Place, Suite 380

Vancouver, WA 98683

This space provided for recorder's use.

INSTRUMENT TITLE:

DEVELOPMENT AGREEMENT

GRANTOR(S):

SJO LO 90 B LLC, a Washington limited liability

company; AH Devco, Inc., a Washington corporation

GRANTEE:

Clark County, a Washington municipal corporation

ABBREVIATED LEGAL DESC:

FULL LEGAL DESC:

See EXHIBIT A to This Document

ASSESSOR'S PROPERTY TAX

PARCEL ACCOUNT NUMBER(S): 200372000; 200306000; 200373000; 200312000;

986038270; 986038271

REFERENCE NUMBER OF

RELATED DOCUMENTS:

None

DEVELOPMENT AGREEMENT

Effective Date:	12-11	,2018
DITOUTION DUCO.		, 2010

PARTIES:

SJO LO 90 B LLC, a Washington limited liability company owns APNs 986038270 and 986038271 and AH Devco, Inc., a Washington corporation (both collectively ("Owner")(owns APNs 200372000; 200306000; 200373000; and 200312000, ("Property"), located to the north of NE 99th Street, near the intersection of NE 137th Avenue and NE 99th Street in Clark County, Washington. The legal description for the Property is attached as **EXHIBIT A**.

Clark County is a Washington municipal corporation ("County"), and is responsible for land use planning and permitting pursuant to the Growth Management Act.

Grantor and County are collectively referred to as the Parties.

RECITALS:

Whereas, pursuant to RCW 36.70B.170, a development agreement may set forth the development standards and other provisions that will apply to, govern and vest the development, use and mitigation of the development of real property for the duration specified in the agreement, which statute provides:

(1) A local government may enter into a Development Agreement with a person having ownership or control of real property within its jurisdiction. A city may enter into a development agreement for real property outside its boundaries as part of a proposed annexation or a service agreement. A development agreement must set forth the development standards and other provisions that will apply to and govern and vest the development, use, and mitigation of the development of the real property for the duration specified in the agreement. A development agreement will be consistent with applicable development regulations adopted by a local government planning under chapter 36.70A RCW:

Whereas, the legislative findings supporting the enactment of this section provide:

The legislature finds that the lack of certainty of the approval of development projects can result in a waste of public and private resources, escalate housing costs for consumers and discourage the commitment to comprehensive planning which would make maximum efficient use of resources at the least economic cost to the public. Assurance to a development project applicant that upon government approval the project may proceed in accordance with existing policies and regulations, and subject to conditions of approval, all as set forth in a development agreement, will strengthen the public planning process, encourage private, participation and comprehensive planning, and reduce the economic cost of development. Further, the lack of public facilities and services is a serious impediment to development of new housing and commercial uses. Project applicants and local governments may include provisions and agreements whereby applicants are reimbursed over time for financing public facilities. It is the intent of the legislature by RCW 36.70B.170 through 36.70B.210 to allow local governments and owners and developers of real property to enter into development agreements;

WHEREAS, the County has agreed to consider whether a road connector segment between NE 137th and NE 132nd warrants inclusion on the Clark County Capital Facilities Plan; and

WHEREAS, Owner agrees to dedicate additional right of way to facilitate future development of the 137th Avenue and 132nd Avenue corridor if a road connector segment between NE 137th and NE 132nd is added to the Clark County Capital Facilities Plan; and

WHEREAS, Owner and County agree that in the event that a road connector segment between NE 137th and NE 132nd is added to the Clark County Capital Facilities Plan, Owner's eligibility for Traffic Impact Fee Credits will be limited to \$500,000 pursuant to the terms of this agreement.

AGREEMENT

NOW, THEREFORE, the Parties agree as follows:

- Section 1. Development Agreement. This Development Agreement is a development agreement to be implemented under the authority of and in accordance with RCW 36.70B.170 210. It will become a contract between the Parties upon its approval by ordinance or resolution following a public hearing as provided in RCW 36.70B.170 and execution by the Parties.
- Section 2. Term of Agreement. This Development Agreement will commence on the effective date and will remain in effect for ten (10) years, unless extended, amended or terminated by mutual written consent of the Parties.
- Section 3. County Agreement to Consider Adding NE 137th to the Capital Facilities Plan. The County agrees to consider, as a part of the 2019 docket review process, whether the

portion of NE 137th Avenue to be constructed by the Developer as part of the project warrants inclusion on the Clark County Capital Facilities Plan (CFP).

Section 4. Traffic Impact Fee (TIF) Cap Applicable to NE 137th. In the event that the portion of NE 137th to be constructed by the Developer as a part of this project is included on the CFP, and as consideration for the County's agreement to consider such inclusion, the Developer agrees that it's eligibility for Traffic Impact Fee (TIF) credits will be limited to five hundred thousand (\$500,000) dollars and will be subject to Clark County's standard TIF credit application and review process. Developer understands and agrees that the capped TIF credits will be applied on a first in time basis and that once the capped TIF credit for the development has been exhausted, it will be responsible for payment of any TIF that are due and owing.

Section 5. 137th Avenue Right of Way Dedication. In the event that the portion of NE 137th to be constructed by The Developer as a part of this project is included on the CFP, and as consideration for the County's agreement to consider such inclusion, the Developer agrees to dedicate to the County the additional right of way for the future 137th Avenue/ 132nd Avenue arterial, the approximate route of the dedication is depicted in Exhibit D. Developer and Clark County Public Works will work to refine the route of the right of way dedication following the execution of this agreement. The Clark County Public Works Director is authorized to negotiate and agree to the exact route of the subject right of way dedication on behalf of the County. The County and Developer must mutually agree upon exact route of the dedication as a precondition for Developer applying for any TIF Credits in connection with NE 137th. As a term of this agreement and notwithstanding whether NE 137th is added to the CFP, Developer agrees that it will be ineligible to receive any TIF Credits for the construction of NE 137th unless and until the County and Developer mutually agree upon the exact route of the right of way dedication.

Section 6. TIF Security and Escrow Provisions: The County agrees that this Agreement will satisfy the security requirements under the Traffic Impact Fee Installment Agreement portion of code CCC 40.630.040(B); provided that the Developer has deposited an amount equal to the TIF into an escrow account prior to issuance of a building permit. The Developer is permitted to apply for building permits against the \$500,000 in TIF Credits that are contingently contemplated by this agreement only upon producing itemized accounting and documentation that the amount deposited into escrow is equal to or greater than the TIF that is owing for the building permits that have been applied for and previously issued. Notwithstanding the terms of this agreement, the Owner will comply with Clark County's standard building permit application process and meet all approval criteria provided by Clark County Code prior to issuance of any building permit.

The above referenced escrow account and accompanying terms must be approved by Clark County Community Development Department prior to being used to securitize the TIF pursuant to this agreement. The escrow terms shall include provisions specifying that: (1) In the event that NE 137th is not added to the CFP by February 1, 2020, the amount paid into escrow by the Developer will be immediately payable to Clark County; and (2) In the event that NE 137th is added to the CFP by February 1, 2020, the amount paid into escrow by the Developer will be

refunded to the Developer subject to the standard TIF Credit approval process and limitations contained in Section 4.

Section 6. Concomitant Re-Zone Agreement. Owner intends to seek a release of the concomitant rezone agreement on the property through an appropriate County process to amend the comprehensive plan. County agrees that the Owner may, at its own risk, apply for land use approvals that are contingent upon the release of the concomitant re-zone agreement. The Owner understands that the County is not obligated to approve a release of the concomitant re-zone agreement and that Owner bears the risk associated with this outcome.

MISCELLANEOUS PROVISIONS

Recitals. Each of the Recitals contained herein are intended to be, and are incorporated as, covenants between the Parties and will be so construed.

Counterparts. This Agreement may be executed in counterparts; however all signature pages will be recorded together, and the complete recorded Agreement will constitute the final instrument.

Effective Date. This Agreement is effective upon recording, which shall occur within thirty (30) days of County Council approval by Resolution, or the terms herein shall be null and void.

Termination. This Agreement will terminate upon the mutual agreement of the Parties in writing, which will be recorded, or upon expiration of the Term, whichever first occurs.

County's Reserved Authority. Notwithstanding anything in this Agreement to the contrary, the County will have the authority to impose new or different regulations to the extent required by a serious threat to public health and safety as required by RCW 36.70B; provided, however that traffic congestion is not a serious threat to public health and safety, and that such action will only be taken by legislative act of the Clark County Council after appropriate public process.

Authorization. The persons executing this Agreement on behalf of County and Developer are authorized to do so and, upon execution by such parties, this Development Agreement will be a valid and binding obligation of such parties in accordance with its terms. The Parties have each obtained any and all consents required to enter into this Agreement and to consummate or cause to be consummated the transactions contemplated hereby.

Run with the Land. This Agreement will run with the land and be binding on the Parties' successors and assigns, and will be recorded with the Clark County Auditor.

Public Hearing. The Clark County Council has approved execution of this Agreement by resolution after a public hearing.

Dispute Resolution. Should a disagreement arise between the Parties, the Parties agree to attempt to resolve the disagreement by first meeting and conferring. If such meeting proves unsuccessful to resolve the dispute, the disagreement may be resolved by a civil action.

Venue. This Agreement will be construed in accordance with the laws of the State of Washington, and venue is in the Clark County Superior Court.

Attorneys' Fees. If a suit, action, or other proceeding of any nature whatsoever (including any proceeding under the U. S. Bankruptcy Code) is instituted in connection with any controversy arising out of this Agreement or to interpret or enforce any rights or obligations hereunder, the prevailing party will be entitled to recover its attorney, paralegal, accountant, and other expert fees and all other fees, costs, and expenses actually incurred and reasonably necessary, as determined by the court at trial or on any appeal or review, in addition to all other amounts provided by law.

Performance. Failure by any Party at any time to require performance by the other Parties of any of the provisions hereof will not affect the Parties' rights hereunder to enforce the same, nor will any waiver by a Party of the breach hereof be held to be a waiver of any succeeding breach or a waiver of this clause.

Severability. If any portion of this Agreement will be invalid or unenforceable to any extent, the validity of the remaining provisions will not be affected thereby. If a material provision of this Agreement is held invalid or unenforceable such that a Party does not receive the benefit of its bargain, then the other Parties will renegotiate in good faith terms and provisions that will effectuate the spirit and intent of the Parties' agreement herein.

Inconsistencies. If any provisions of the Camas Municipal Code and land use regulations are deemed inconsistent with this Agreement, the provisions of this Agreement will prevail, excepting the County's reserved authority described above.

Amendments. This Agreement may only be amended by mutual written agreement of the Parties, and all amendments will be recorded in the Clark County deed records.

Survival. Any covenant or condition set forth in this Agreement, the full performance of which is not specifically required prior to the expiration or earlier termination but which by its terms is to survive the termination of this Agreement, will survive the expiration or earlier termination of this Agreement and will remain fully enforceable thereafter.

No Benefit to Third Parties. The Parties are the only parties to this Agreement and are the only parties entitled to enforce its terms, except as otherwise specifically provided in this Agreement. There are no third-party beneficiaries.

Entire Agreement. This Agreement constitutes the entire agreement between the Parties as to the subject matter.

Notices. All notices will be in writing and may be delivered by personal delivery, by overnight courier service, or by deposit in the United States Mail, postage prepaid, as certified mail, return receipt requested, and addressed as follows:

County

Board of County Councilors Attn. Taylor Hallvik Chief Civil Deputy Prosecuting Attorney 1300 Franklin Street 3rd Floor Vancouver, WA 98666 Grantor

SJO LO 90 B LLC 915 W 11th Street Vancouver, WA 98660

Grantor

AH Devco, Inc, Inc. 915 W. 11th Street Vancouver, WA 99660

With a copy to:

Jordan Ramis, PC

Attn: James D. Howsley

1499 SE Tech Center Place, Suite 380

Vancouver, WA 98683

Notices will be deemed received by the addressee upon the earlier of actual delivery or refusal of a party to accept delivery thereof. The addresses to which notices are to be delivered may be changed by giving notice of such change in address in accordance with this notice provision.

Non-waiver. Waiver by any Party of strict performance of any provision of this Agreement will not be deemed a waiver of or prejudice a Party's right to require strict performance of the same or any other provision in the future. A claimed waiver must be in writing and signed by the Party granting a waiver. A waiver of one provision of this Agreement will be a waiver of only that provision. A waiver of a provision in one instance will be a waiver only for that instance, unless the waiver explicitly waives that provision for all instances.

Headings, Table of Contents. The section headings are for convenience in reference and are not intended to define or limit the scope of any provision of this Agreement.

Interpretation of Agreement; Status of Parties. This Agreement is the result of arm's-length negotiations between the Parties and will not be construed against any Party by reason of its preparation of this Agreement. Nothing contained in this Agreement will be construed as creating the relationship of principal and agent, partners, joint venturers, or any other similar relationship between the Parties.

Future Assurances. Each of the Parties will promptly execute and deliver such additional documents and will do such acts that are reasonably necessary, in connection with the performance of their respective obligations under this Agreement according to the Schedule so as to carry out the intent of this Agreement.

Signatures appear on the following pages.

SJO LO 90 B LLC

By: Steven I OHVE Its: Member	12/15/18 Date
AH Devco, INC.	
By. Joynua Oliva Its: President	12 15 18 Date
Attest: Clerk to the Council	CLARK COUNTY COUNCIL FOR CLARK COUNTY, WASHINGTON By Mare-Boldt, Chair
Approved as to Form Only: Anthony F. Golik Prosecuting Attorney By: Taylor Hallvik Deputy Prosecuting Attorney	By: Jeanne E. Stewart, District 1 By: Julie Olson, District 2 By: John Blom, District 3 By: Eileen Quiring, District 4

State of Washington)) ss.	
County of)	.*
person who appeared on oath stated that s/h	before me, and said pose was authorized to ex	is the erson acknowledged that s/he signed this instrument accute the instrument and acknowledged it as the the free and voluntary act of such party for the uses
Dated: 121	<u>'/8</u> , 2018.	Signature Signature
(Seel or stemp)		My Commission Expires: 7/3//2019
(Seal or stamp)		Notary Public
State of Washington	ý	State of Washington
	,	GARY A STECHER
_) ss.	MY COMMISSION EXPIRES
County of)	JULY 31, 2019
person who appeared on oath stated that s/h	before me, and said pose was authorized to executor. The	is the erson acknowledged that s/he signed this instrument accurate the instrument and acknowledged it as the the free and voluntary act of such party for the uses
Dated: 121	, 2018.	
		Signature My Commission Expires: 7/3//9
(Seal or stamp)		
		Notary Public State of Washington, GARY A STECHER

State of Washington)
) ss.
County of)

I certify that I know or have satisfactory evidence that Marc Bold+ is the person who appeared before me, and said person acknowledged that s/he signed this instrument, on oath stated that s/he was authorized to execute the instrument and acknowledged it as the Cty. Chair of Clark County to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

	000 11	l
Dated:	Dec. 1	, 2018.

Γ	REBECCA L MESSINGER
l	NOTARY PUBLIC
l	STATE OF WASHINGTON
l	COMMISSION NUMBER 3715
ļ	COMMISSION EXPIRES APRIL 26, 2021

Rebecca L Messinger
Signature
My Commission Expires: 4/26/2021

EXHIBIT INDEX

EXHIBIT INDEX

EXHIBIT A – Legal Description

EXHIBIT B – Proposed Development Map

EXHIBIT C – Traffic Improvement Map

EXHIBIT D – Additional Right of Way Dedication



AKS ENGINEERING & FORESTRY VANCOUVER 9600 NE 126th Avenue, Suite 2520, Vancouver, WA 98682 P: (360) 882-0419 F: (360) 882-0426

OFFICES IN: TUALATIN, OR - VANCOUVER, WA - SALEM-KEIZER, OR

FOR SJO LO 90 B, LLC

PARCEL 3

Being a portion of the Southwest quarter of Section 35, Township 3 North, Range 2 East, Willamette Meridian, Clark County, Washington, described as follows:

COMMENCING at a Brass Cap in concrete marking the Southwest corner of Section 35 as shown in Book 56 of Surveys, Page 75, Clark County Auditor's Files;

- Thence North 01° 54′ 47″ East, along the West line of the southwest quarter of Section 35 (Survey 56-75) for a distance of 40.00 feet to the North right-of-way line of Northeast 99th Street as described under Clark County Auditors File No. 4569094 and shown in Book 62 of Surveys, Page 17;
- Thence South 89° 32′ 32″ East, along the North right-of-way of Northeast 99th Street (Survey 62-17) for a distance of 1020.03 feet;

Thence North 00° 27' 28" East, leaving said North right-of-way line for a distance of 341.00 feet and the TRUE POINT OF BEGINNING;

Thence South 89° 32' 32" East, parallel with the North right-of-way of Northeast 99th Street for a distance of 258.00 feet;

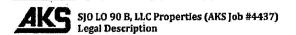
Thence North 00° 27' 28" East, for a distance of 338.00 feet;

Thence North 89° 32' 32" West, for a distance of 773.00 feet;

Thence South 00° 27' 28" West, for a distance of 338.00 feet;

Thence South 89° 32' 32" East, for a distance of 515.00 feet to the TRUE POINT OF BEGINNING.

Contains approximately 6.0 acres.



January 31, 2018 Page 1 Together with and subject to easements and restrictions of record.

ADJUSTED PARCEL 74 (2)

Being a portion of the Southwest quarter of Section 35, Township 3 North, Range 2 East, Willamette Meridian, Clark County, Washington, described as follows:

COMMENCING at a Brass Cap in concrete marking the Southwest corner of Section 35 as shown in Book 56 of Surveys, Page 75, Clark County Auditor's Files;

Thence North 01° 53′ 45″ East, along the West line of the Southwest quarter of Section 35 as shown in Jenkins Meadow, recorded in Book 311 of Plats, Page 693 and Norwegian Hollow recorded in Book 311 of Plats, Page 716, and Abbey Glen, recorded in Book 311 of Plats, Page 827, Clark County Auditor's Records, for a distance of 40.01 feet to the North right-of-way line of Northeast 99th Street as described under Clark County Auditor's Records and the **POINT OF BEGINNING**;

Thence continuing North 01° 53′ 45″ East, along said West line, for a distance of 1434.53 feet;

Thence leaving said West line, South 89° 24′ 10" East, for a distance of 79.03 feet;

Thence along the arc of a 45.00-foot radius curve to the Left, through a central angle of 18° 14′ 50″ (the long chord bears North 81° 28′ 25″ East, 14.27 feet) for an arc distance of 14.33 feet;

Thence along the arc of a 50.00-foot radius curve to the Right, through a central angle of 127° 47′ 35″ (the long chord bears South 43° 45′ 13″ East, 89.80 feet) for an arc distance of 111.52 feet;

Thence along the arc of a 45.00-foot radius curve to the Left, through a central angle of 18° 14′ 50″ (the long chord bears South 11° 01′ 10″ West, 14.27 feet) for an arc distance of 14.33 feet;

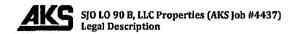
Thence South 01° 53' 45" West, for a distance of 56.78 feet;

Thence South 88° 05' 13" East, for a distance of 299.76 feet;

Thence North 01° 54′ 41″ East, for a distance of 537.92 feet:

Thence South 69° 32′ 10" East, for a distance of 163.14 feet;

Thence South 35° 25' 08" East, for a distance of 27.92 feet;



January 31, 2018 Page 3 Thence South 89° 36' 00" East, for a distance of 333.00 feet;

Thence North 00° 24' 00" East, for a distance of 164.00 feet;

Thence South 89° 36′ 00" East, for a distance of 200.27 feet to the East line of the SJO LO 90B, LLC tract as described in Exhibit C under Clark County Auditors File No. 5273644;

Thence South 01° 54′ 53″ West, along the East line of said Exhibit C, for a distance of 444.22 feet to the SE Corner of said Exhibit C;

Thence South 89° 36′ 00" East, along the most Northerly South line of Falcon's Nest (311-614), for a distance of 581.43 feet to an internal corner thereof;

Thence South 01° 43′ 00" West, along the most Easterly West line of Falcon's Nest (311-614), for a distance of 893.00 feet, to the most Easterly Southwest corner of Falcon's Nest (311-614), being on the North line of the Clark County Tract as described under Clark County Auditor's File No. 9404200183;

Thence North 89° 32′ 10″ West, along the North line of said Clark County Tract, for a distance of 7.00 feet to the Northwest corner thereof;

Thence South 01° 54′ 53″ West, along the West line of said Clark County Tract and the West line of Cherry Lane Estates, recorded in Book H of Plats, Page 975, Clark County Auditor's Records, for a distance of 274.29 feet;

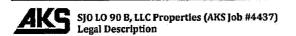
Thence South 89° 32′ 05″ East, along the most northerly South line of Cherry Lane Estates (H-975), for a distance of 5.47 feet to the Northwest corner of Phoenicia, recorded in Book 311 of Plats, Page 547, Clark County Auditor's Records;

Thence South 01° 50′ 01″ West, along the West line of Phoenicia (311-547), for a distance of 306.79 feet, to the North right-of-way line of Northeast 99th Street per Clark County Auditor's File No. 4569094;

Thence North 89° 32′ 32″ West, along said North right-of-way line of Northeast 99th Street, for a distance of 349.37 feet;

Thence North 44° 32′ 32″ West, along said North right-of-way line of Northeast 99th Street, for a distance of 35.36 feet;

Thence North 89° 32′ 32″ West, along said North right-of-way line of Northeast 99th Street, for a distance of 80.00 feet;



January 31, 2018 Page 4 Thence South 45° 27′ 31″ West, along said North right-of-way line of Northeast 99th Street, for a distance of 8.49 feet;

Thence North 00° 27′ 28" East, along the East line of Parcel 1 and Parcel 3 as recorded in Clark County Auditor's File No. 5248447, for a distance of 660.01 feet to the Northeast corner of said Parcel 3;

Thence North 89° 32′ 32″ West, along the North line of said Parcel 3, for a distance of 773.00 feet to the Northwest corner thereof;

Thence South 00° 27′ 28″ West, along the West line of said Parcel 3, for a distance of 338,00 feet to the Southwest corner of Parcel 3, being on the North line of Parcel 2, Clark County Auditor's File No. 5248447;

Thence North 89° 32′ 32″ West, along the North line of Said Parcel 2, for a distance of 124.00 feet to the Northwest corner thereof;

Thence South 00° 27′ 28″ West, along the West line of said Parcel 2, for a distance of 341.01 feet, to the Southwest corner of Parcel 2, being on the North right-of-way line of Northeast 99th Street per Clark County Auditor's File No. 4569094;

Thence North 89° 32′ 32″ West, along said North right-of-way line of Northeast 99th Street, for a distance of 381.03 feet to the **POINT OF BEGINNING.**

Contains approximately 49.76 acres.

Together with and subject to easements and restrictions of record.

ADJUSTED PARCEL 74-B (2)

Being a portion of the Southwest quarter of Section 35, Township 3 North, Range 2 East, Willamette Meridian, Clark County, Washington, described as follows:

COMMENCING at a Brass Cap in concrete marking the Southwest corner of Section 35 as shown in Book 56 of Surveys, Page 75, Clark County Auditor's Files;

Thence North 01° 53′ 45″ East, along the West line of the Southwest quarter of Section 35 as shown in Jenkins Meadow, recorded in Book 311 of Plats, Page 693 and Norwegian Hollow recorded in Book 311 of Plats, Page 716, and Abbey Glen, recorded in Book 311 of Plats, Page 827, Clark County Auditor's Records, for a distance of 40.01 feet to the North right-of-way line of Northeast 99th Street as described under Clark County Auditor's Records and the **POINT OF BEGINNING**;

Thence continuing North 01° 53′ 45″ East, along said West line, for a distance of 1434.53 feet;

Thence leaving said West line South 89° 24' 10" East, for a distance of 79.03 feet;

Thence along the arc of a 45.00-foot radius curve to the Left, through a central angle of 18° 14′ 50″ (the long chord bears North 81° 28′ 25″ East, 14.27 feet) for an arc distance of 14.33 feet;

Thence along the arc of a 50.00-foot radius curve to the Right, through a central angle of 127° 47′ 35″ (the long chord bears South 43° 45′ 13″ East, 89.80 feet) for an arc distance of 111.52 feet;

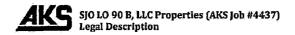
Thence along the arc of a 45.00-foot radius curve to the Left, through a central angle of 18° 14′ 50″ (the long chord bears South 11° 01′ 10″ West, 14.27 feet) for an arc distance of 14.33 feet:

Thence South 01° 53' 45" West, for a distance of 56.78 feet;

Thence South 88° 05' 13" East, for a distance of 299.76 feet;

Thence North 01° 54′ 41" East, for a distance of 537.92 feet to the POINT OF BEGINNING;

Thence South 69° 32′ 10″ East, along the Southerly line of Parcel 74-B for a distance of 163.14 feet;



January 31, 2018 Page 6 Thence continuing along said Southerly line, South 35° 25′ 08" East, for a distance of 27.92 feet;

Thence South 89° 36' 00" East, for a distance of 333.00 feet;

Thence North 00° 24' 00" East, for a distance of 164.00 feet;

Thence South 89° 36′ 00" East, for a distance of 200.27 feet to the East line of the SJO LO 90B, LLC tract as described in Exhibit C under Clark County Auditors File No. 5273644;

Thence North 01° 54′ 53″ East, along the West line of Falcon's Nest (311-614) and the East line of said Parcel 74-B for a distance of 194.93 feet to the Northeast corner of said Exhibit C;

Thence South 89° 22′ 49″ East, along the North line of Exhibit C for a distance of 1154.98 feet to the Northwest corner thereof, being on the West line of the Southwest quarter of Section 35 as shown in Book 56 of Surveys, Page 75, Clark County Auditor's Records;

Thence South 01° 54′ 47″ West, along the West line of the Southwest quarter of Section 35, for a distance of 229.24 feet;

Thence South 88° 05′ 13" East, leaving said East line for a distance of 324.59 feet;

Thence South 69°32 '10" East, for a distance of 136.86 feet to the POINT OF BEGINNING.

Contains 7.37 acres.

Together with and subject to easements and restrictions of record.

PARCEL 74-C

Being a portion of the Southwest quarter of Section 35, Township 3 North, Range 2 East, Willamette Meridian, Clark County, Washington, described as follows:

COMMENCING at a Brass Cap in concrete marking the Southwest corner of Section 35 as shown in Book 56 of Surveys, Page 75, Clark County Auditor's Files;

Thence North 01° 54′ 47″ East, along the West line of the Southwest quarter of Section 35 (Survey 56-75), for a distance of 40.01 feet to the North right-of-way line of Northeast 99th. Street as described under Clark County Auditor's File No. 4569094 and shown in Book 62 of Surveys, Page 17, Clark County Auditor's Records;

Thence continuing North 01° 54′ 47″ East, along said West line, for a distance of 2116.00 feet to the **POINT OF BEGINNING**;

Thence South 89° 22′ 49″ East, parallel with the North line of said Southwest quarter of Section 35, for a distance of 1154.98 feet to the East line of Parcel III of the "Kelly" tract as described under Clark County Auditor's File No. 9412160411;

Thence North 01° 54′ 53″ East, along said East line, for a distance of 500.00 feet to the North line of the Southwest quarter of said Section 35;

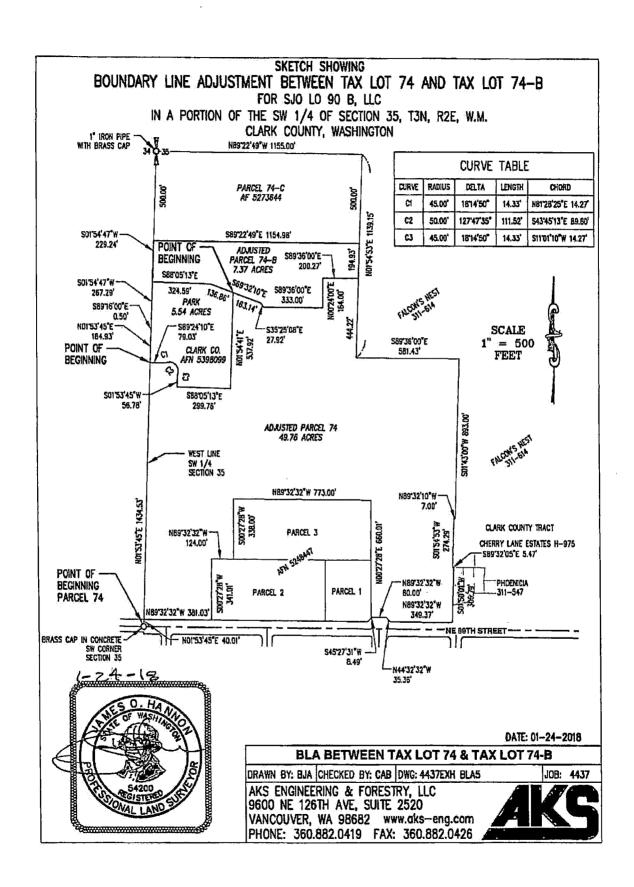
Thence North 89° 22′ 49″ West, along said North line, for a distance of 1155.00 feet to the Northwest corner of said Southwest quarter, being marked by a 1″ iron pipe with Brass Cap as shown Survey 56-75;

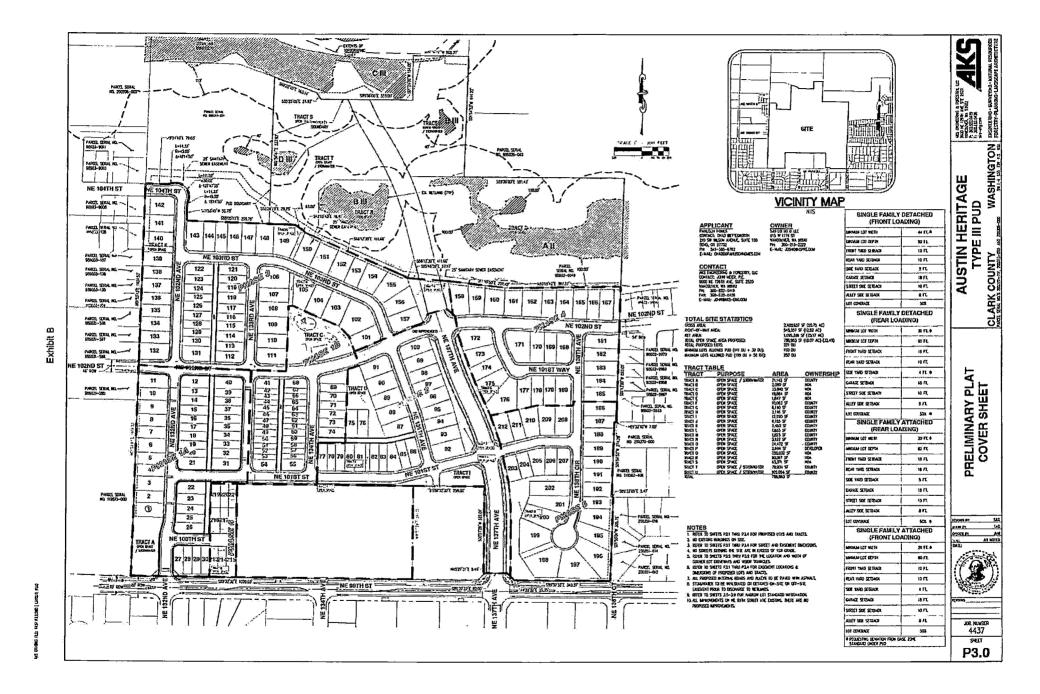
Thence South 01° 54′ 47″ West, along the West line of said Southwest quarter, for a distance of 500.00 feet to the **POINT OF BEGINNING**;

Contains approximately 13.25 acre.

TOGETHER with and SUBJECT to easements and restrictions of record.







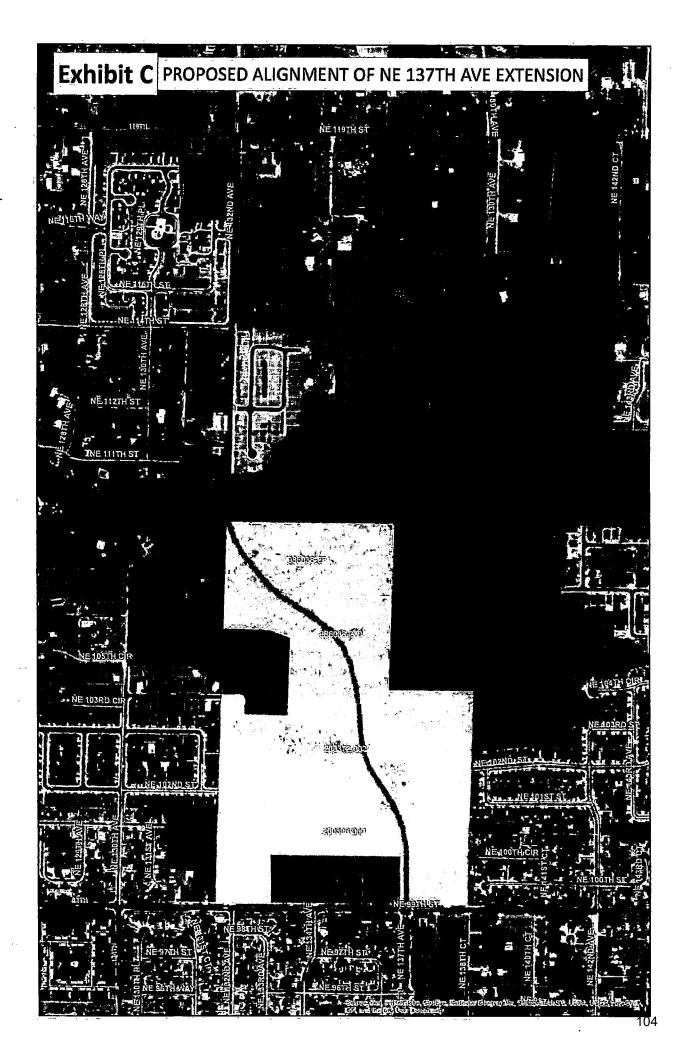
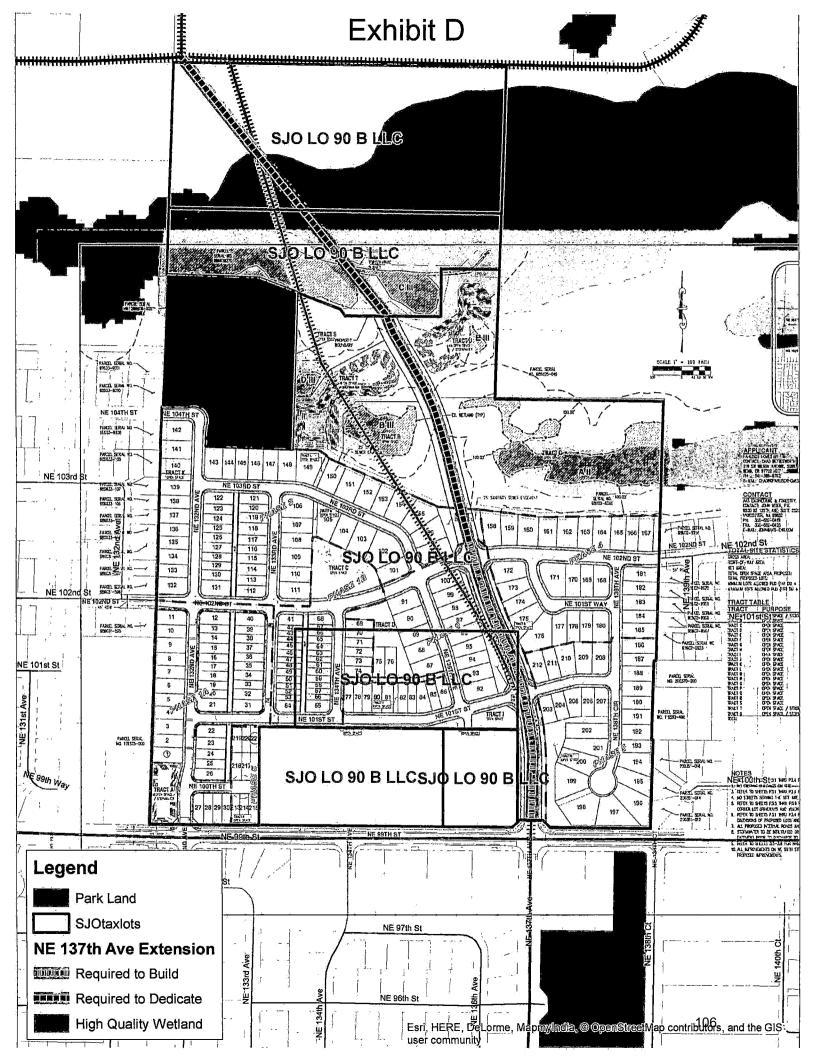


EXHIBIT D

Additional Right of Way Dedication





July 31, 2019 Project #: 20717.13

Matt Hermen, AICP, CTP Clark County Community Planning 1300 Franklin Street Vancouver, WA 98666-9810

RE: 10th Avenue Capital Facilities Plan Review

Dear Matt,

This letter documents a turn lane capacity needs assessment at the NE 10th Avenue/NE 139th Street intersection. The assessment was prepared to determine whether previously identified mitigations at the intersection should be included in the County's Capital Facilities Plan (CFP) based on long-term projections of regional transportation demand, or if the capacity needs are specifically related to accommodating site-generated traffic associated with properties on the northeast corner of the intersection. The development of these properties is subject to a previously approved Concomitant Rezone Agreement that changed the zoning designations from industrial to commercial.

As described herein, the assessment evaluated three turn lane mitigations previously identified for the NE 10th Avenue/NE 139th Street intersection, including:

- Construction of a westbound right turn lane on NE 139th Street and provision of a right-turn signal overlap phase (allowing protected westbound right turns concurrent with the protected southbound left-turn movement).
- Providing either (1) a second southbound left-turn lane; or (2) a southbound shared through-left center lane (converted from the existing through only lane). If the shared through-left option is selected, the north-south signal phasing will need to be "split" whereas if a second southbound left-turn lane is added, the north-south signal phasing should continue to provide for protected left-turns.
- Modify the northbound NE 10th Avenue approach between NE 139th Street and the commercial site access (NE 141st Street) to include a northbound right-turn lane for the entire street segment.

The assessment revealed that one of the three identified mitigations is needed to support growth in regional travel through the year 2040, irrespective of the zone change. Accordingly, adding the following mitigation to the CFP is both reasonable and appropriate:

Modify the southbound NE 10th Avenue approach to NE 139th Street to provide either (1) a second southbound left-turn lane; or (2) a southbound shared through-left center lane (converted from the existing through only lane). If the shared through-left option is

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selected, the north-south signal phasing will need to be "split" whereas if a second southbound left-turn lane is added, the north-south signal phasing should continue to provide for protected left-turns.

Providing additional southbound left-turn capacity through either of the two options identified would benefit intersection operations. By comparison, the alternative creating a second southbound left-turn lane operates more efficiently than the option to develop a shared through/right lane with north-south split phasing but also requires more pavement widening and associated costs.

This study further found that construction of a westbound right turn lane at the intersection with a right-turn signal overlap phase would benefit corridor and intersection operations but is not essential to ensuring the year 2040 signal operations meet Clark County Code delay standards. However, this mitigation would reduce westbound queuing and delay on NE 139th Street that could otherwise impact long-term weekday PM peak hour Salmon Creek Park & Ride bus driveway operations (the C-Tran bus driveway is located approximately 390 feet east of the NE 139th Street westbound stop bar). Although not required to satisfy County Code delay standards, we believe the turn lane addition to the CFP is reasonable and could be justified from a corridor operations and safety perspective.

The third mitigation option, modifying the northbound NE 10th Avenue approach between NE 139th Street and NE 141st Street to include left-turn lane(s) for the entire street segment does not appear necessary as a CFP project.

Further documentation of our analysis methodology and findings is presented herein.

ANALYSIS METHODOLOGY

This section describes Clark County performance standards, analysis tools used, and the development of projected long-term intersection volumes.

Clark County Signalized Intersection Operations Standards

Clark County Code (CCC) Section 40.350.020.G defines the County's performance standards for roadway segments and signalized intersections.

Roadway Segments

Per CCC Section 40.350.020.G.1.a: "The maximum volume to capacity ratio for each roadway segment shall not exceed nine-tenths (0.9), when measured independently for each direction of travel."

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Signalized Intersections

Per CCC Section 40.350.020.G.1.b: "Individual movements at each signalized intersection of regional significance in the unincorporated county shall not exceed an average of two (2) cycle lengths or two hundred forty (240) seconds of delay (whichever is less)."

The signalized intersection operations analyses described in this report were performed in accordance with the procedures stated in the *2010 Highway Capacity Manual* (HCM 2010) using Vistro software. Peak 15-minute flow rates were used in the evaluation of all intersection levels of service to provide analyses based on a reasonable worst-case scenario. For this reason, the analyses reflect conditions that are only likely to occur for 15 minutes out of each average peak hour.

Year 2040 Traffic Volume Development

Future operations of the study intersection are predicated on turning movement volumes at the intersection. Year 2040 traffic volumes were estimated using a combination of recent intersection turn movement counts conducted at the intersection and year 2040 traffic demand estimates obtained from the Southwest Washington Regional Transportation Council (RTC) travel demand model. Our review revealed that the land use assumptions for the concomitant rezone properties are based on development in accordance with the industrial zoning (as opposed to the potential commercial development possible under the Concomitant Rezone Agreement).

Weekday AM and PM peak hour turn movements counts completed in April 2018 reflect existing conditions at the intersection. RTC provided year base year 2015 and future year 2040 weekday AM and PM peak hour roadway segment volumes surrounding the intersection. The travel demand forecasts and existing traffic counts were used to develop year 2040 turning movement volumes based on the methodology outlined in the National Cooperative Highway Research Program Report 765 Highway Traffic Data for Urbanized Area Project Planning and Design (NCHRP 765) methodology (an updated procedure stemming from NCHRP Report 255).

The resultant projected turning and through volumes at the intersection reflect conditions with development of the concomitant rezone property as an industrial use and, as such, intersection capacity needs modeled reflect conditions prior to the potential commercial site development.

Year 2040 Intersection Capacity Analysis

Future year 2040 intersection operations were assessed assuming the existing intersection geometry and lane configurations, followed by incremental addition of the identified mitigation measures associated with the concomitant rezone approval. Table 1 summarizes the operations analysis results and includes a mitigation identification for cross-reference purposes to the technical appendix analysis. Appendix 1 includes the Vistro analysis worksheets.

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Table 1. NE 10th Avenue/NE 139th Street Intersection Operations Summary

		AM Peak Hour		PM Peak Hour					
Scenario	Critical Movement Delay (sec/veh)	Intersection Delay (sec)	Exceed Movement Delay Standards (240 seconds)?	Critical Movement Delay (sec/veh)	Intersection Delay (sec)	Exceed Movement Delay Standards (240 seconds)?			
Year 2040 (no-build)	61.4 (SBL)	36.8	No	378.9 (SBL)	88.4	Yes			
Year 2040 Mitigated with Addition of a WBR Lane with Overlap Phasing (Mitigation A)	61.4 (SBL)	34.4	No	378.9 (SBL)	81.6	Yes			
Year 2040 Mitigated with Addition of a Second Southbound Left Lane (Mitigation B)	58.0 (NBL)	34.0	No	67.9 (NBL)	40.8	No			
Year 2040 Mitigated with Conversion of Southbound Through to a Shared Southbound Through Left Lane with Split Phase (Mitigation C)	66.3 (SBL)	42.0	No	88.9 (SBL)	59.7	No			
Year 2040 Mitigation B <i>and</i> Addition of a Westbound Right-turn Lane with Overlap Phasing (Mitigation B2)			67.8 (NBL)	34.2	No				
Year 2040 Mitigation C <i>and</i> Addition of a Westbound Right-turn Lane with Overlap Phasing (Mitigation C2)	66.3 (SBL)	39.5	No	88.9 (SBL)	44.6	No			

As shown in Table 1, year 2040 weekday PM peak hour intersection operations are projected to exceed the County's 240-second movement delay standard assuming the industrial zoning remains and existing intersection configuration remain in-place. To address the projected deficiency, we evaluated a range of geometric options at the signalized intersection that could provide acceptable operations in the future. These are outlined below.

Westbound Right-turn Lane Mitigation Considerations

The first mitigation evaluated was the provision of a westbound right-turn lane and the addition of right-turn overlap phasing at the signal. As shown in Table 1, this improves overall intersection delay slightly but does not address the critical southbound left-turn movement delay projected under year 2040 weekday PM peak hour conditions.

Southbound Dual Left-turn Lane Mitigation Considerations

To address the critical southbound left-turn movement, we evaluated two potential solutions: (1) providing a second southbound left-turn lane; or (2) providing a southbound shared through-left center lane (converted from the existing through only lane). If the shared through-left option is selected, the north-south signal phasing will need to be "split" whereas if a second southbound left-turn lane is added, the north-south signal phasing should continue to provide for protected left-turns. As shown in Table 1, either left-turn mitigation option would enable County standards to be met under year 2040

Kittelson & Associates, Inc. Portland, Oregon conditions. Further, creating a second southbound left-turn lane operates more efficiently (with 67.9 seconds of southbound left-turn delay) than the option to develop a shared through/right lane with north-south split phasing (with 88.9 seconds of southbound left-turn delay) but also requires more pavement widening and intersection reconstruction than the restriping/split phase option. As such, the minimum level of improvement needed in the CFP per the analysis summarized herein is the provision of additional southbound left-turn capacity through one of the two options evaluated.

Table 1 also shows that the addition of a westbound right-turn lane in combination with either of the two southbound left-turn capacity mitigations would provide additional operational benefits but is not needed to satisfy minimum County delay standards.

Additional Mitigation Considerations

In addition to overall intersection and by movement delay, it is also helpful to understand potential queuing at the intersection and how it may affect adjacent access points and/or intersections. In particular, we reviewed the potential for impacts to the Salmon Creek Park & Ride access located approximated 390 feet east of the intersection on NE 139th Street given no access to this facility is provided along NE 10th Avenue (additional access is provided 3 blocks to the south via NE 136th Street). As such, Table 2 summarizes projected 95th percentile queues (rounded to the nearest 5 feet) in the westbound shared through/right-turn lane along NE 139th Street under the various mitigation options considered.

Table 2. NE 10th Avenue/NE 139th Street Intersection Weekday PM Peak Hour 95th Percentile Queues

	95 th Percentile	Queue (feet)
Scenario	Westbound Shared Through/Right-Turn Lane	Mitigated Separate Right-Turn Lane
Year 2020 (no-build)	450	
Year 2040 (no-build)	655	
Year 2040 Mitigated with Addition of a WBR Lane with Overlap Phasing (Mitigation A)		380
Year 2040 Mitigated with Addition of a Second Southbound Left Lane (Mitigation B)	645	
Year 2040 Mitigated with Conversion of Southbound Through to a Shared Southbound Through Left Lane with Split Phase (Mitigation C)	875	
Year 2040 Mitigation B <i>and</i> Addition of a Westbound Right-turn Lane with Overlap Phasing (Mitigation B2)		380
Year 2040 Mitigation C and Addition of a Westbound Right-turn Lane with Overlap Phasing (Mitigation C2)		385

As shown in Table 2, the addition of a westbound right-turn lane with or without southbound left-turn lane capacity mitigations would benefit corridor operations by reducing westbound queuing that could otherwise affect access to the Salmon Creek Park & Ride bus driveway 390 feet east of the intersection. Note that weekday AM peak hour queues are not projected to impact the Salmon Creek Park & Ride bus driveway.

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While not required to satisfy County Code delay standards, the westbound right-turn capacity mitigation would substantially reduce queuing and delay on the westbound approach to the intersection. As shown in Table 2, without a separate right-turn lane, the 95th percentile westbound right-turn queue on NE 139th Street is projected to extend between 645 feet and 875 feet depending on the southbound dual left-turn mitigation implemented, reaching through and past the C-Tran Park & Ride bus driveway and approximately halfway to the NE 139th Street/I-5 interchange southbound ramp terminal. Providing a separate westbound right-turn lane with an overlap phase is projected to reduce the 95th percentile westbound right-turn queue to 385 feet or less (again dependent on the southbound left-turn mitigation selected). As such, we believe the turn lane addition to the CFP is reasonable and could be justified from a corridor operations and safety perspective.

NE 10th Avenue Northbound Turn Lane Mitigation Considerations

Modifying the northbound NE 10th Avenue approach between NE 139th Street and NE 141st Street to include a northbound right turn lane for the entire street segment as required of the concomitant rezone approval was not identified as being necessary from a CFP project perspective given the southbound left-turn and westbound right-turn mitigations identified above.

Year 2040 Roadway Segment Capacity Analysis

Clark County Code requires that roadway segments operate with a volume-to-capacity (V/C ratio) less than 0.90 as previously cited. Roadway segment V/C ratio plots were generated using the RTC travel demand model for year 2015 base and year 2040 future weekday PM peak hour conditions.

The year 2040 weekday AM peak hour plots indicate the maximum V/C for any road segment entering or departing the NE 10th Avenue/NE 139th Street intersection is 0.79 (southbound 10th Avenue approaching NE 139th Street). Further, the year 2040 weekday PM peak hour plots indicate the maximum V/C for any road segment entering or departing the NE 10th Avenue/NE 139th Street intersection is 0.81 (northbound 10th Avenue departing NE 139th Street). Accordingly, no additional mitigation needs were identified to satisfy the County V/C standards based on the segment level capacity analysis.

Appendix 2 provides the RTC V/C ratio plots.

CONCLUSIONS

This study found that capacity mitigation will be needed at the intersection to satisfy Clark County Code standards in the year 2040 prior to rezoning the northeast quadrant property to commercial. As such, adding capacity mitigations at the intersection to the CFP is both reasonable and appropriate.

At a minimum, modification of the southbound NE 10th Avenue approach to NE 139th Street to provide either (1) a second southbound left-turn lane; or (2) a southbound shared through-left center lane (converted from the existing through only lane) is appropriate to add to the CFP. Construction of a

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westbound right turn lane at the intersection with a right-turn signal overlap phase in addition to the southbound left-turn mitigation would benefit intersection and corridor operations, further reducing both queuing and delay at the intersection and at the Salmon Creek Park & Ride access on NE 139th Street. As such, we believe the westbound turn lane addition to the CFP is reasonable for County staff to consider.

The third mitigation option, modifying the north leg of NE 10th Avenue to include a northbound right-turn lane between NE 139th Street and NE 141st Street is an appropriate mitigation in conjunction with development of the concomitant rezone parcels but does not appear necessary as a CFP project.

We trust this letter provides Clark County staff with sufficient documentation to complete the CFP project review. Please contact us if you have questions and/or if you wish to further discuss.

Sincerely,

KITTELSON & ASSOCIATES, INC.

Chris Brehmer, PE

Senior Principal Engineer

Julia Kuhn, PE

Senior Principal Engineer

ATTACHMENTS

Appendix 1: Vistro Analysis Worksheets

Appendix 2: RTC Segment V/C Ratio Plots

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Appendix 1 Vistro Analysis Worksheets

Year 2040 Traffic Conditions

NE 10th Avenue & NE 139th Street

Weekday AM Peak Hour

HCM 2010

Intersection Level Of Service Report Intersection 1: NE 139th St/NE 10th Ave

Control Type:SignalizedDelay (sec / veh):36.8Analysis Method:HCM 2010Level Of Service:DAnalysis Period:15 minutesVolume to Capacity (v/c):0.592

Intersection Setup

Name													
Approach	١	Northboun	d	S	outhboun	d	E	Eastbound	t t	Westbound			
Lane Configuration		٦١٢			пiг			٦١٢			٦١٢		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Lane Width [ft]	12.00	12.00 12.00 12.00			12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
No. of Lanes in Pocket	1	0	1	1	1 0 1			1 0 0			0	0	
Pocket Length [ft]	400.00	100.00	240.00	285.00	285.00 100.00 190.00			100.00	100.00	385.00	100.00	100.00	
Speed [mph]		30.00			30.00			30.00		30.00			
Grade [%]	0.00				0.00			0.00		0.00			
Crosswalk		Yes		Yes				Yes		Yes			

Name												
Base Volume Input [veh/h]	36	137	59	330	345	95	81	338	41	49	361	191
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	137	59	330	345	95	81	338	41	49	361	191
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	38	16	92	96	26	23	94	11	14	100	53
Total Analysis Volume [veh/h]	40	152	66	367	383	106	90	376	46	54	401	212
Presence of On-Street Parking	No		No									
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]		5			5			6			6	
Bicycle Volume [bicycles/h]		0			0			0			1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	79.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	1	7	4	5	5	2	0	1	6	0
Auxiliary Signal Groups			1,8			4,5						
Lead / Lag	Lead	-	-									
Minimum Green [s]	5	5	5	5	5	5	5	5	0	5	5	0
Maximum Green [s]	30	30	30	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.6	3.0	3.0	3.6	3.0	3.0	3.6	0.0	3.0	3.6	0.0
All red [s]	2.4	2.2	2.4	2.4	2.5	2.4	2.4	2.6	0.0	2.4	2.6	0.0
Split [s]	30	25	25	30	25	25	25	30	0	25	30	0
Vehicle Extension [s]	2.0	2.0	1.5	1.2	2.0	1.2	1.2	1.2	0.0	1.5	1.2	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	15	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	3.4	3.8	3.4	3.4	4.1	3.4	3.4	4.2	0.0	3.4	4.2	0.0
Minimum Recall	No	No	No	No	No	No	No	Yes		No	Yes	
Maximum Recall	No	No	No	No	No	No	No	No		No	No	
Pedestrian Recall	No	No	No	No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



Year 2040 Traffic Conditions

NE 10th Avenue & NE 139th Street

Weekday AM Peak Hour HCM 2010

Lane Group Calculations

Lane Group	L	С	R	L	С	R	L	С	С	L	С	С
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	5.40	5.80	5.40	5.40	6.10	5.40	5.40	6.20	6.20	5.40	6.20	6.20
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.40	3.80	0.00	3.40	4.10	0.00	3.40	4.20	4.20	3.40	4.20	4.20
g_i, Effective Green Time [s]	4	12	23	25	33	46	7	45	45	5	43	43
g / C, Green / Cycle	0.03	0.11	0.21	0.22	0.30	0.42	0.07	0.41	0.41	0.04	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.02	0.08	0.04	0.21	0.21	0.07	0.05	0.12	0.12	0.03	0.18	0.18
s, saturation flow rate [veh/h]	1757	1845	1568	1740	1827	1546	1740	1827	1756	1740	1827	1584
c, Capacity [veh/h]	58	208	329	389	549	653	116	754	724	77	712	618
d1, Uniform Delay [s]	52.68	47.23	35.92	42.07	34.09	19.71	50.59	21.53	21.55	51.93	24.90	25.08
k, delay calibration	0.04	0.04	0.04	0.22	0.06	0.04	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.28	1.85	0.11	19.31	0.97	0.04	4.15	0.95	1.00	4.34	2.08	2.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

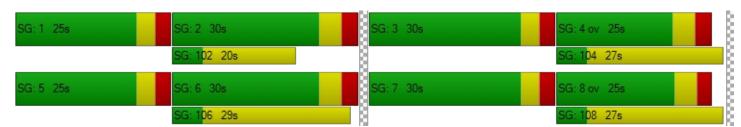
X, volume / capacity	0.69	0.73	0.20	0.94	0.70	0.16	0.78	0.28	0.29	0.70	0.45	0.47
d, Delay for Lane Group [s/veh]	57.96	49.09	36.03	61.38	35.06	19.76	54.74	22.47	22.55	56.27	26.98	27.62
Lane Group LOS	E	D	D	E	D	В	D	С	С	E	С	С
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.18	4.12	1.48	11.78	9.11	1.69	2.57	3.85	3.75	1.56	6.60	6.02
50th-Percentile Queue Length [ft/ln]	29.45	103.11	36.95	294.62	227.77	42.24	64.24	96.26	93.76	39.03	164.96	150.44
95th-Percentile Queue Length [veh/ln]	2.12	7.42	2.66	17.41	14.06	3.04	4.63	6.93	6.75	2.81	10.81	10.04
95th-Percentile Queue Length [ft/In]	53.00	185.60	66.52	435.37	351.53	76.03	115.63	173.26	168.77	70.25	270.27	251.02

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	57.96	49.09	36.03	61.38	35.06	19.76	54.74	22.51	22.55	56.27	27.10	27.62
Movement LOS	E	D	D	E	D	В	D	С	С	E	С	С
d_A, Approach Delay [s/veh]	47.12 44.45 28.18											
Approach LOS		D D C					С					
d_I, Intersection Delay [s/veh]						36	.80					
Intersection LOS						Γ)					
Intersection V/C	0.592											

Sequence

			_													
Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	ı	-	-	-
Ring 2	2 5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	3 -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4		-	-	-	-	-	-	_	-	-	-	-	-	-	-	-



Year 2040 Mitigated with Addition of a WBR Lane with Overlap Phasing (Mitigation A)

Generated with PTV VISTRO Version 7.00-05

Year 2040 Traffic Conditions: Scenario 1

Weekday AM Peak Hour

NE 10th Avenue & NE 139th Street

HCM 2010

Intersection Level Of Service Report Intersection 1: NE 139th St/NE 10th Ave

Control Type:SignalizedDelay (sec / veh):34.3Analysis Method:HCM 2010Level Of Service:CAnalysis Period:15 minutesVolume to Capacity (v/c):0.517

Intersection Setup

Name													
Approach	١	lorthboun	d	s	outhboun	d	E	Eastbound	d	V	Westbound		
Lane Configuration		٦١٢			пiг			٦١٢		•	1 r		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Lane Width [ft]	12.00 12.00 12.00			12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
No. of Lanes in Pocket	1	0	1	1	1 0 1			0	0	1	0	1	
Pocket Length [ft]	400.00	100.00	240.00	285.00	285.00 100.00 190.00			100.00	100.00	385.00	100.00	310.00	
Speed [mph]	30.00				30.00			30.00			30.00		
Grade [%]	0.00				0.00			0.00		0.00			
Crosswalk	Yes			Yes				Yes		Yes			

Name												
Base Volume Input [veh/h]	36	137	59	330	345	95	81	338	41	49	361	191
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	137	59	330	345	95	81	338	41	49	361	191
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	38	16	92	96	26	23	94	11	14	100	53
Total Analysis Volume [veh/h]	40	152	66	367	383	106	90	376	46	54	401	212
Presence of On-Street Parking	No		No									
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]		5			5			6			6	
Bicycle Volume [bicycles/h]		0			0			0			1	



Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	79.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	3	8	1	7	4	5	5	2	0	1	6	7
Auxiliary Signal Groups			1,8			4,5						6,7
Lead / Lag	Lead	-	-									
Minimum Green [s]	5	5	5	5	5	5	5	5	0	5	5	5
Maximum Green [s]	30	30	30	30	30	30	30	30	0	30	30	30
Amber [s]	3.0	3.6	3.0	3.0	3.6	3.0	3.0	3.6	0.0	3.0	3.6	3.0
All red [s]	2.4	2.2	2.4	2.4	2.5	2.4	2.4	2.6	0.0	2.4	2.6	2.4
Split [s]	30	25	25	30	25	25	25	30	0	25	30	30
Vehicle Extension [s]	2.0	2.0	1.5	1.2	2.0	1.2	1.2	1.2	0.0	1.5	1.2	1.2
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	15	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.4	3.8	3.4	3.4	4.1	3.4	3.4	4.2	0.0	3.4	4.2	3.4
Minimum Recall	No	No	No	No	No	No	No	Yes		No	Yes	No
Maximum Recall	No	No	No	No	No	No	No	No		No	No	No
Pedestrian Recall	No	No	No	No	No	No	No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



HCM 2010

Lane Group Calculations

Lane Group	L	С	R	L	С	R	L	С	С	L	С	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	5.40	5.80	5.40	5.40	6.10	5.40	5.40	6.20	6.20	5.40	6.20	5.40
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.40	3.80	0.00	3.40	4.10	0.00	3.40	4.20	4.20	3.40	4.20	0.00
g_i, Effective Green Time [s]	4	12	23	25	33	46	7	45	45	5	43	74
g / C, Green / Cycle	0.03	0.11	0.21	0.22	0.30	0.42	0.07	0.41	0.41	0.04	0.39	0.67
(v / s)_i Volume / Saturation Flow Rate	0.02	0.08	0.04	0.21	0.21	0.07	0.05	0.12	0.12	0.03	0.12	0.14
s, saturation flow rate [veh/h]	1757	1845	1568	1740	1827	1546	1740	1827	1756	1740	3478	1515
c, Capacity [veh/h]	58	208	329	389	549	653	116	754	724	77	1357	1015
d1, Uniform Delay [s]	52.68	47.23	35.92	42.07	34.09	19.71	50.59	21.53	21.55	51.93	23.16	6.98
k, delay calibration	0.04	0.04	0.04	0.22	0.06	0.04	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.28	1.85	0.11	19.31	0.97	0.04	4.15	0.95	1.00	4.34	0.56	0.47
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

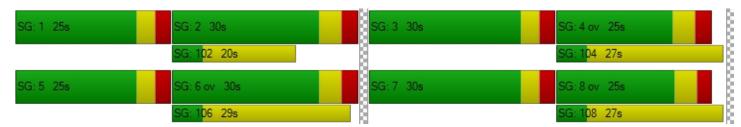
X, volume / capacity	0.69	0.73	0.20	0.94	0.70	0.16	0.78	0.28	0.29	0.70	0.30	0.21
d, Delay for Lane Group [s/veh]	57.96	49.09	36.03	61.38	35.06	19.76	54.74	22.47	22.55	56.27	23.72	7.45
Lane Group LOS	E	D	D	E	D	В	D	С	С	E	С	Α
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.18	4.12	1.48	11.78	9.11	1.69	2.57	3.85	3.75	1.56	3.67	1.90
50th-Percentile Queue Length [ft/ln]	29.45	103.11	36.95	294.62	227.77	42.24	64.24	96.26	93.76	39.03	91.83	47.58
95th-Percentile Queue Length [veh/ln]	2.12	7.42	2.66	17.41	14.06	3.04	4.63	6.93	6.75	2.81	6.61	3.43
95th-Percentile Queue Length [ft/ln]	53.00	185.60	66.52	435.37	351.53	76.03	115.63	173.26	168.77	70.25	165.29	85.65

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	57.96	49.09	36.03	61.38	35.06	19.76	54.74	22.51	22.55	56.27	23.72	7.45
Movement LOS	E	D	D	E	D	В	D	С	С	E	С	Α
d_A, Approach Delay [s/veh]		47.12			44.45			28.18			21.18	
Approach LOS		D			D			С			С	
d_I, Intersection Delay [s/veh]						34	.35					
Intersection LOS						(C					
Intersection V/C						0.5	517					

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Year 2040 Mitigated with Addition of a Second Southbound Left Lane (Mitigation B)

Generated with PTV VISTRO Version 7.00-05

Year 2040 Traffic Conditions Scenario 2B

Weekday AM Peak Hour

NE 10th Avenue & NE 139th Street

HCM 2010

Intersection Level Of Service Report Intersection 1: NE 139th St/NE 10th Ave

Control Type:SignalizedDelay (sec / veh):34.0Analysis Method:HCM 2010Level Of Service:CAnalysis Period:15 minutesVolume to Capacity (v/c):0.524

Intersection Setup

Name													
Approach	١	lorthboun	d	s	outhboun	d	E	Eastbound	d	V	Westbound		
Lane Configuration		٦١٢		+	1716	•		٦١٢		٦iF			
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
No. of Lanes in Pocket	1	0	1	2	0	1	1	0	0	1	0	0	
Pocket Length [ft]	400.00	100.00	240.00	285.00	100.00	190.00	370.00	100.00	100.00	385.00	100.00	100.00	
Speed [mph]	30.00				30.00			30.00		30.00			
Grade [%]	0.00			0.00				0.00		0.00			
Crosswalk	Yes			Yes				Yes		Yes			

Name												
Base Volume Input [veh/h]	36	137	59	330	345	95	81	338	41	49	361	191
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	137	59	330	345	95	81	338	41	49	361	191
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	38	16	92	96	26	23	94	11	14	100	53
Total Analysis Volume [veh/h]	40	152	66	367	383	106	90	376	46	54	401	212
Presence of On-Street Parking	No		No									
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]		5			5			6			6	
Bicycle Volume [bicycles/h]		0			0			0			1	



Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	79.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	1	7	4	5	5	2	0	1	6	7
Auxiliary Signal Groups			1,8			4,5						6,7
Lead / Lag	Lead	-	-									
Minimum Green [s]	5	5	5	5	5	5	5	5	0	5	5	5
Maximum Green [s]	30	30	30	30	30	30	30	30	0	30	30	30
Amber [s]	3.0	3.6	3.0	3.0	3.6	3.0	3.0	3.6	0.0	3.0	3.6	3.0
All red [s]	2.4	2.2	2.4	2.4	2.5	2.4	2.4	2.6	0.0	2.4	2.6	2.4
Split [s]	30	25	25	30	25	25	25	30	0	25	30	30
Vehicle Extension [s]	2.0	2.0	1.5	1.2	2.0	1.2	1.2	1.2	0.0	1.5	1.2	1.2
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	15	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
l2, Clearance Lost Time [s]	3.4	3.8	3.4	3.4	4.1	3.4	3.4	4.2	0.0	3.4	4.2	3.4
Minimum Recall	No	No	No	No	No	No	No	Yes		No	Yes	
Maximum Recall	No	No	No	No	No	No	No	No		No	No	
Pedestrian Recall	No	No	No	No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



Lane Group Calculations

Lane Group	L	С	R	L	С	R	L	С	С	L	С	С
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	5.40	5.80	5.40	5.40	6.10	5.40	5.40	6.20	6.20	5.40	6.20	6.20
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.40	3.80	0.00	3.40	4.10	0.00	3.40	4.20	4.20	3.40	4.20	4.20
g_i, Effective Green Time [s]	4	15	26	14	25	39	7	53	53	5	51	51
g / C, Green / Cycle	0.03	0.14	0.23	0.13	0.23	0.35	0.07	0.49	0.49	0.04	0.46	0.46
(v / s)_i Volume / Saturation Flow Rate	0.02	0.08	0.04	0.11	0.21	0.07	0.05	0.12	0.12	0.03	0.18	0.18
s, saturation flow rate [veh/h]	1757	1845	1568	3379	1827	1545	1740	1827	1756	1740	1827	1586
c, Capacity [veh/h]	58	255	367	429	419	543	116	885	851	75	843	731
d1, Uniform Delay [s]	52.68	44.58	33.74	47.07	41.38	24.88	50.59	16.57	16.59	52.03	19.42	19.56
k, delay calibration	0.04	0.04	0.04	0.04	0.06	0.04	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.28	0.84	0.09	1.92	5.21	0.06	4.15	0.65	0.68	4.72	1.32	1.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

<u>-</u>												
X, volume / capacity	0.69	0.60	0.18	0.85	0.91	0.20	0.78	0.24	0.24	0.72	0.38	0.40
d, Delay for Lane Group [s/veh]	57.96	45.42	33.82	48.99	46.60	24.94	54.74	17.21	17.27	56.74	20.75	21.16
Lane Group LOS	Е	D	С	D	D	С	D	В	В	E	С	С
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.18	3.95	1.43	5.02	10.63	1.94	2.57	3.27	3.19	1.57	5.63	5.13
50th-Percentile Queue Length [ft/In]	29.45	98.72	35.64	125.43	265.81	48.53	64.24	81.83	79.69	39.22	140.87	128.22
95th-Percentile Queue Length [veh/ln]	2.12	7.11	2.57	8.69	15.98	3.49	4.63	5.89	5.74	2.82	9.53	8.84
95th-Percentile Queue Length [ft/ln]	53.00	177.70	64.15	217.26	399.50	87.35	115.63	147.30	143.45	70.59	238.19	221.07

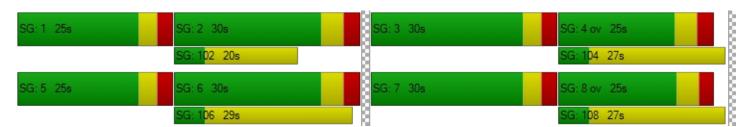
Movement, Approach, & Intersection Results

Generated with PTV VISTRO

d_M, Delay for Movement [s/veh]	57.96	45.42	33.82	48.99	46.60	24.94	54.74	17.24	17.27	56.74	20.83	21.16
Movement LOS	E	D	С	D	D	С	D	В	В	E	С	С
d_A, Approach Delay [s/veh]		44.40			44.94			23.83			23.84	
Approach LOS		D			D			С			С	
d_I, Intersection Delay [s/veh]						34	.03					
Intersection LOS						(C					
Intersection V/C						0.5	524					

Sequence

			_													
Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	ı	-	-	-
Ring 2	2 5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	3 -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4		-	-	-	-	-	-	_	-	-	-	-	-	-	-	-



Year 2040 Mitigated with Conversion of Southbound Through to a Shared Southbound Through Left Lane with Split Phase (Mitigation C)

Generated with PTV VISTRO Version 7.00-05

Year 2040 Traffic Conditions Scenario 3B

Weekday AM Peak Hour

NE 10th Avenue & NE 139th Street

HCM 2010

Intersection Level Of Service Report Intersection 1: NE 139th St/NE 10th Ave

Control Type:SignalizedDelay (sec / veh):42.0Analysis Method:HCM 2010Level Of Service:DAnalysis Period:15 minutesVolume to Capacity (v/c):0.592

Intersection Setup

Name													
Approach	١	lorthboun	d	s	outhboun	d	ı	Eastbound	d	V	Westbound		
Lane Configuration	יור			•	717			٦lh		7 			
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	0	
Pocket Length [ft]	400.00	100.00	240.00	285.00	100.00	190.00	370.00	100.00	100.00	385.00	100.00	100.00	
Speed [mph]		30.00			30.00			30.00		30.00			
Grade [%]	0.00				0.00			0.00		0.00			
Crosswalk		Yes			Yes			Yes		Yes			

Name												
Base Volume Input [veh/h]	36	137	59	330	345	95	81	338	41	49	361	191
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	137	59	330	345	95	81	338	41	49	361	191
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	38	16	92	96	26	23	94	11	14	100	53
Total Analysis Volume [veh/h]	40	152	66	367	383	106	90	376	46	54	401	212
Presence of On-Street Parking	No		No									
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]		5			5			6			6	
Bicycle Volume [bicycles/h]		0			0			0			1	



Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	79.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	1	7	4	5	5	2	0	1	6	7
Auxiliary Signal Groups			1,8			4,5						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	5	0	5	5	5	5	0	5	5	0
Maximum Green [s]	0	30	30	0	30	30	30	30	0	30	30	0
Amber [s]	0.0	3.6	3.0	0.0	3.6	3.0	3.0	3.6	0.0	3.0	3.6	0.0
All red [s]	0.0	2.2	2.4	0.0	2.5	2.4	2.4	2.6	0.0	2.4	2.6	0.0
Split [s]	0	25	25	0	30	25	25	30	0	25	30	0
Vehicle Extension [s]	0.0	2.0	1.5	0.0	2.0	1.2	1.2	1.2	0.0	1.5	1.2	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	15	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.8	3.4	0.0	4.1	3.4	3.4	4.2	0.0	3.4	4.2	0.0
Minimum Recall		No	No		No	No	No	Yes		No	Yes	
Maximum Recall		No	No		No	No	No	No		No	No	
Pedestrian Recall		No	No		No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	L	С	R	L	С	R	L	С	С	L	С	С
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	5.80	5.80	5.40	6.10	6.10	5.40	5.40	6.20	6.20	5.40	6.20	6.20
I1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	0.00	4.10	4.10	0.00	3.40	4.20	4.20	3.40	4.20	4.20
g_i, Effective Green Time [s]	12	12	23	24	24	56	7	45	45	5	43	43
g / C, Green / Cycle	0.11	0.11	0.21	0.22	0.22	0.50	0.07	0.41	0.41	0.04	0.39	0.39
(v / s)_i Volume / Saturation Flow Rate	0.03	0.08	0.04	0.21	0.21	0.07	0.05	0.12	0.12	0.03	0.18	0.18
s, saturation flow rate [veh/h]	1398	1845	1568	1740	1827	1547	1740	1827	1756	1740	1827	1584
c, Capacity [veh/h]	202	209	329	378	397	781	116	753	724	77	712	617
d1, Uniform Delay [s]	46.18	47.20	35.89	42.76	42.69	14.48	50.59	21.55	21.58	51.93	24.93	25.10
k, delay calibration	0.04	0.04	0.04	0.21	0.20	0.04	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.18	1.83	0.11	23.53	21.49	0.03	4.15	0.95	1.00	4.34	2.09	2.55
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.20	0.73	0.20	0.97	0.97	0.14	0.78	0.28	0.29	0.70	0.45	0.47
d, Delay for Lane Group [s/veh]	46.36	49.03	36.00	66.29	64.18	14.51	54.74	22.50	22.58	56.28	27.01	27.65
Lane Group LOS	D	D	D	E	E	В	D	С	С	E	С	С
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.03	4.12	1.48	12.26	12.57	1.40	2.57	3.85	3.75	1.56	6.60	6.02
50th-Percentile Queue Length [ft/ln]	25.70	103.05	36.94	306.48	314.21	35.07	64.24	96.32	93.82	39.03	165.07	150.55
95th-Percentile Queue Length [veh/ln]	1.85	7.42	2.66	18.00	18.38	2.53	4.63	6.94	6.76	2.81	10.82	10.05
95th-Percentile Queue Length [ft/ln]	46.26	185.48	66.49	450.04	459.56	63.13	115.63	173.38	168.88	70.26	270.43	251.16

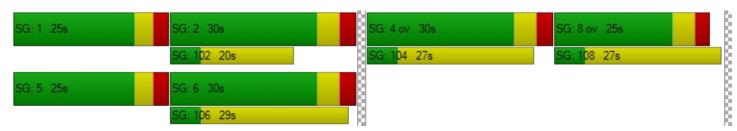


Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.36	49.03	36.00	66.29	64.18	14.51	54.74	22.53	22.58	56.28	27.14	27.65	
Movement LOS	D	D	D	E	E	В	D	С	С	E	С	С	
d_A, Approach Delay [s/veh]		45.28			58.93			28.20					
Approach LOS		D			E			С					
d_I, Intersection Delay [s/veh]						42	.02						
Intersection LOS						Γ)						
Intersection V/C						0.5	592						

Sequence

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Year 2040 Mitigation B and Addition of a Westbound Right-turn Lane with Overlap Phasing (Mitigation B2)

Generated with PTV **VISTRO** Version 7.00-05

Year 2040 Traffic Conditions: Scenario 2

Weekday AM Peak Hour

С

NE 10th Avenue & NE 139th Street

HCM 2010

Intersection Level Of Service Report Intersection 1: NE 139th St/NE 10th Ave

Control Type: Signalized Delay (sec / veh): 32.4 HCM 2010 Analysis Method: Level Of Service: Analysis Period: 15 minutes Volume to Capacity (v/c): 0.453

Intersection Setup

Name												
Approach	١	lorthboun	d	s	outhboun	d	E	Eastbound	d	V	Vestboun	d
Lane Configuration		٦١٢		+	1716	•		٦١٢		•	1 r	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00 12.00 12.00			12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	2	0	1	1	0	0	1	0	1
Pocket Length [ft]	400.00	100.00	240.00	285.00	285.00 100.00 190.00		370.00 100.00 100.00			385.00	100.00	310.00
Speed [mph]	30.00				30.00		30.00				30.00	
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes		Yes			Yes			Yes			

Name												
Base Volume Input [veh/h]	36	137	59	330	345	95	81	338	41	49	361	191
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	137	59	330	345	95	81	338	41	49	361	191
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	38	16	92	96	26	23	94	11	14	100	53
Total Analysis Volume [veh/h]	40	152	66	367	383	106	90	376	46	54	401	212
Presence of On-Street Parking	No		No									
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	5		5		6			6				
Bicycle Volume [bicycles/h]		0			0			0			1	



Intersection Settings

Located in CBD	No	
Signal Coordination Group	-	
Cycle Length [s]	110	
Coordination Type	Time of Day Pattern Isolated	
Actuation Type	Fully actuated	
Offset [s]	79.0	
Offset Reference	LeadGreen	
Permissive Mode	SingleBand	
Lost time [s]	12.00	

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	3	8	1	7	4	5	5	2	0	1	6	7
Auxiliary Signal Groups			1,8			4,5						6,7
Lead / Lag	Lead	-	-									
Minimum Green [s]	5	5	5	5	5	5	5	5	0	5	5	5
Maximum Green [s]	30	30	30	30	30	30	30	30	0	30	30	30
Amber [s]	3.0	3.6	3.0	3.0	3.6	3.0	3.0	3.6	0.0	3.0	3.6	3.0
All red [s]	2.4	2.2	2.4	2.4	2.5	2.4	2.4	2.6	0.0	2.4	2.6	2.4
Split [s]	30	25	25	30	25	25	25	30	0	25	30	30
Vehicle Extension [s]	2.0	2.0	1.5	1.2	2.0	1.2	1.2	1.2	0.0	1.5	1.2	1.2
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	15	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
l2, Clearance Lost Time [s]	3.4	3.8	3.4	3.4	4.1	3.4	3.4	4.2	0.0	3.4	4.2	3.4
Minimum Recall	No	No	No	No	No	No	No	Yes		No	Yes	No
Maximum Recall	No	No	No	No	No	No	No	No		No	No	No
Pedestrian Recall	No	No	No	No	No	No	No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



Lane Group Calculations

Lane Group	L	С	R	L	С	R	L	С	С	L	С	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	5.40	5.80	5.40	5.40	6.10	5.40	5.40	6.20	6.20	5.40	6.20	5.40
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.40	3.80	0.00	3.40	4.10	0.00	3.40	4.20	4.20	3.40	4.20	0.00
g_i, Effective Green Time [s]	4	15	26	14	25	39	7	53	53	5	51	71
g / C, Green / Cycle	0.03	0.14	0.23	0.13	0.23	0.35	0.07	0.49	0.49	0.04	0.46	0.65
(v / s)_i Volume / Saturation Flow Rate	0.02	0.08	0.04	0.11	0.21	0.07	0.05	0.12	0.12	0.03	0.12	0.14
s, saturation flow rate [veh/h]	1757	1845	1568	3379	1827	1545	1740	1827	1756	1740	3478	1515
c, Capacity [veh/h]	58	253	365	432	419	543	116	885	851	75	1604	978
d1, Uniform Delay [s]	52.68	44.68	33.81	46.98	41.38	24.88	50.59	16.57	16.59	52.02	18.07	8.05
k, delay calibration	0.04	0.04	0.04	0.04	0.06	0.04	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	5.28	0.85	0.09	1.82	5.21	0.06	4.15	0.65	0.68	4.70	0.37	0.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

PF, progression factor

1.00

1.00

1.00

X, volume / capacity	0.69	0.60	0.18	0.85	0.91	0.20	0.78	0.24	0.24	0.72	0.25	0.22
d, Delay for Lane Group [s/veh]	57.96	45.53	33.90	48.80	46.60	24.94	54.74	17.22	17.27	56.73	18.44	8.55
Lane Group LOS	E	D	С	D	D	С	D	В	В	E	В	Α
Critical Lane Group	Yes	No	No	No	Yes	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.18	3.95	1.43	5.01	10.63	1.94	2.57	3.27	3.19	1.57	3.15	2.09
50th-Percentile Queue Length [ft/ln]	29.45	98.86	35.69	125.16	265.81	48.53	64.24	81.84	79.70	39.21	78.87	52.32
95th-Percentile Queue Length [veh/ln]	2.12	7.12	2.57	8.68	15.98	3.49	4.63	5.89	5.74	2.82	5.68	3.77
95th-Percentile Queue Length [ft/ln]	53.00	177.95	64.24	216.89	399.49	87.35	115.63	147.31	143.46	70.58	141.96	94.17

1.00

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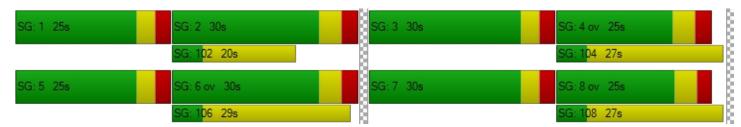
NE 10th Avenue & NE 139th Street

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	57.96	45.53	33.90	48.80	46.60	24.94	54.74	17.24	17.27	56.73	18.44	8.55
Movement LOS	E	D	С	D	D	С	D	В	В	E	В	Α
d_A, Approach Delay [s/veh]		44.48			44.86			23.83			18.40	
Approach LOS		D			D			С		В		
d_I, Intersection Delay [s/veh]						32	.42					
Intersection LOS						(C					
Intersection V/C						0.4	153					

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Year 2040 Mitigation C and Addition of a Westbound Right-turn Lane with Overlap Phasing (Mitigation C2)

Generated with PTV VISTRO Version 7.00-05

Year 2040 Traffic Conditions: Scenario 3

Weekday AM Peak Hour

NE 10th Avenue & NE 139th Street

HCM 2010

Intersection Level Of Service Report Intersection 1: NE 139th St/NE 10th Ave

Control Type:SignalizedDelay (sec / veh):39.5Analysis Method:HCM 2010Level Of Service:DAnalysis Period:15 minutesVolume to Capacity (v/c):0.517

Intersection Setup

Name												
Approach	١	lorthboun	d	s	outhboun	d	E	Eastbound	d	V	Vestboun	d
Lane Configuration		٦١٢		•	<u> </u>			٦١٢		•	1 r	
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00 12.00 12.00			12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Pocket Length [ft]	400.00	100.00	240.00	285.00	285.00 100.00 190.00			370.00 100.00 100.00			100.00	310.00
Speed [mph]	30.00				30.00		30.00				30.00	
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes		Yes				Yes		Yes			

Name												
Base Volume Input [veh/h]	36	137	59	330	345	95	81	338	41	49	361	191
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	3.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	36	137	59	330	345	95	81	338	41	49	361	191
Peak Hour Factor	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000	0.9000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	10	38	16	92	96	26	23	94	11	14	100	53
Total Analysis Volume [veh/h]	40	152	66	367	383	106	90	376	46	54	401	212
Presence of On-Street Parking	No		No									
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	5			5				6		6		
Bicycle Volume [bicycles/h]		0		0			0			1		



Version 7.00-05

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	110
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	79.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	3	8	1	7	4	5	5	2	0	1	6	4
Auxiliary Signal Groups			1,8			4,5						4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	5	0	5	5	5	5	0	5	5	5
Maximum Green [s]	0	30	30	0	30	30	30	30	0	30	30	30
Amber [s]	0.0	3.6	3.0	0.0	3.6	3.0	3.0	3.6	0.0	3.0	3.6	3.6
All red [s]	0.0	2.2	2.4	0.0	2.5	2.4	2.4	2.6	0.0	2.4	2.6	2.5
Split [s]	0	25	25	0	30	25	25	30	0	25	30	30
Vehicle Extension [s]	0.0	2.0	1.5	0.0	2.0	1.2	1.2	1.2	0.0	1.5	1.2	2.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	22	0	0	22	0	0	15	0	0	24	22
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
l2, Clearance Lost Time [s]	0.0	3.8	3.4	0.0	4.1	3.4	3.4	4.2	0.0	3.4	4.2	4.1
Minimum Recall		No	No		No	No	No	Yes		No	Yes	No
Maximum Recall		No	No		No	No	No	No		No	No	No
Pedestrian Recall		No	No		No	No	No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



Lane Group Calculations

Lane Group	L	С	R	L	С	R	L	С	С	L	С	R
C, Cycle Length [s]	110	110	110	110	110	110	110	110	110	110	110	110
L, Total Lost Time per Cycle [s]	5.80	5.80	5.40	6.10	6.10	5.40	5.40	6.20	6.20	5.40	6.20	6.10
I1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.80	3.80	0.00	4.10	4.10	0.00	3.40	4.20	4.20	3.40	4.20	0.00
g_i, Effective Green Time [s]	12	12	23	24	24	56	7	45	45	5	43	73
g / C, Green / Cycle	0.11	0.11	0.21	0.22	0.22	0.50	0.07	0.41	0.41	0.04	0.39	0.66
(v / s)_i Volume / Saturation Flow Rate	0.03	0.08	0.04	0.21	0.21	0.07	0.05	0.12	0.12	0.03	0.12	0.14
s, saturation flow rate [veh/h]	1398	1845	1568	1740	1827	1547	1740	1827	1756	1740	3478	1515
c, Capacity [veh/h]	202	209	329	378	397	781	116	753	724	77	1355	1005
d1, Uniform Delay [s]	46.18	47.20	35.89	42.76	42.69	14.48	50.59	21.55	21.58	51.93	23.19	7.26
k, delay calibration	0.04	0.04	0.04	0.21	0.20	0.04	0.04	0.50	0.50	0.04	0.50	0.04
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.18	1.83	0.11	23.53	21.49	0.03	4.15	0.95	1.00	4.34	0.56	0.04
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

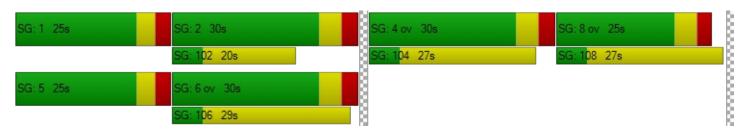
X, volume / capacity	0.20	0.73	0.20	0.97	0.97	0.14	0.78	0.28	0.29	0.70	0.30	0.21
d, Delay for Lane Group [s/veh]	46.36	49.03	36.00	66.29	64.18	14.51	54.74	22.50	22.58	56.28	23.74	7.30
Lane Group LOS	D	D	D	E	E	В	D	С	С	E	С	Α
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	1.03	4.12	1.48	12.26	12.57	1.40	2.57	3.85	3.75	1.56	3.68	1.83
50th-Percentile Queue Length [ft/ln]	25.70	103.05	36.94	306.48	314.21	35.07	64.24	96.32	93.82	39.03	91.89	45.81
95th-Percentile Queue Length [veh/ln]	1.85	7.42	2.66	18.00	18.38	2.53	4.63	6.94	6.76	2.81	6.62	3.30
95th-Percentile Queue Length [ft/In]	46.26	185.48	66.49	450.04	459.56	63.13	115.63	173.38	168.88	70.26	165.40	82.46

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	46.36	49.03	36.00	66.29	64.18	14.51	54.74	22.53	22.58	56.28	23.74	7.30
Movement LOS	D	D	D	E	Е	В	D	С	С	E	С	Α
d_A, Approach Delay [s/veh]		45.28			58.93			28.20			21.15	
Approach LOS		D			E			С			С	
d_I, Intersection Delay [s/veh]						39	.54					
Intersection LOS						[)					
Intersection V/C	0.517											

Sequence

			_													
Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	ı	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Year 2040 Traffic Conditions

NE 10th Avenue & NE 139th Street

Weekday PM Peak Hour

HCM 2010

Intersection Level Of Service Report Intersection 1: NE 139th St/NE 10th Ave

Control Type:SignalizedDelay (sec / veh):88.4Analysis Method:HCM 2010Level Of Service:FAnalysis Period:15 minutesVolume to Capacity (v/c):0.908

Intersection Setup

Name													
Approach	١	lorthboun	d	s	outhboun	d	E	Eastbound	d	V	Westbound		
Lane Configuration		٦١٢			пiг			٦١٢		нiн			
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Lane Width [ft]	12.00	12.00 12.00 12.00			12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
No. of Lanes in Pocket	1	0	1	1 0 1			1 0 0			1	0	0	
Pocket Length [ft]	400.00	100.00	240.00	285.00	285.00 100.00 190.00			100.00	100.00	385.00	100.00	100.00	
Speed [mph]		30.00			30.00			30.00		30.00			
Grade [%]		0.00		0.00				0.00		0.00			
Crosswalk		Yes		Yes				Yes		Yes			

Name												
Base Volume Input [veh/h]	16	135	113	429	327	91	152	448	32	84	511	582
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	135	113	429	327	91	152	448	32	84	511	582
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	36	30	114	87	24	40	119	9	22	136	155
Total Analysis Volume [veh/h]	17	144	120	456	348	97	162	477	34	89	544	619
Presence of On-Street Parking	No		No									
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	16			16				1		1		
Bicycle Volume [bicycles/h]		0			0			0			1	

Intersection Settings

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	37.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	1	7	4	5	5	2	0	1	6	0
Auxiliary Signal Groups			1,8			4,5						
Lead / Lag	Lead	-	-									
Minimum Green [s]	5	5	5	5	5	5	5	5	0	5	5	0
Maximum Green [s]	30	30	30	30	30	30	30	30	0	30	30	0
Amber [s]	3.0	3.6	3.0	3.0	3.6	3.0	3.0	3.6	0.0	3.0	3.6	0.0
All red [s]	2.4	2.2	2.4	2.4	2.5	2.4	2.4	2.6	0.0	2.4	2.6	0.0
Split [s]	35	25	25	25	35	25	25	35	0	25	35	0
Vehicle Extension [s]	2.0	2.0	1.5	1.2	2.0	1.2	1.2	1.2	0.0	1.5	1.2	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	15	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
l2, Clearance Lost Time [s]	3.4	3.8	3.4	3.4	4.1	3.4	3.4	4.2	0.0	3.4	4.2	0.0
Minimum Recall	No	No	No	No	No	No	No	Yes		No	Yes	
Maximum Recall	No	No	No	No	No	No	No	No		No	No	
Pedestrian Recall	No	No	No	No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



Year 2040 Traffic Conditions
NE 10th Avenue & NE 139th Street

Weekday PM Peak Hour

HCM 2010

Lane Group Calculations

Lane Group	L	С	R	L	С	R	L	С	С	L	С	С
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	5.40	5.80	5.40	5.40	6.10	5.40	5.40	6.20	6.20	5.40	6.20	6.20
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.40	3.80	0.00	3.40	4.10	0.00	3.40	4.20	4.20	3.40	4.20	4.20
g_i, Effective Green Time [s]	2	12	28	20	29	49	14	65	65	10	62	62
g / C, Green / Cycle	0.02	0.09	0.22	0.15	0.23	0.38	0.10	0.50	0.50	0.08	0.47	0.47
(v / s)_i Volume / Saturation Flow Rate	0.01	0.08	0.08	0.25	0.18	0.06	0.09	0.14	0.14	0.05	0.29	0.40
s, saturation flow rate [veh/h]	1774	1863	1583	1792	1881	1598	1792	1881	1833	1792	1881	1539
c, Capacity [veh/h]	33	177	343	271	423	603	188	943	919	139	891	729
d1, Uniform Delay [s]	63.25	57.74	43.15	55.21	47.92	26.86	57.24	18.74	18.75	58.24	25.34	30.13
k, delay calibration	0.04	0.04	0.04	0.49	0.04	0.04	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.63	3.47	0.23	323.72	1.55	0.05	4.37	0.72	0.74	1.84	3.11	11.82
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.52	0.82	0.35	1.69	0.82	0.16	0.86	0.27	0.28	0.64	0.61	0.85
d, Delay for Lane Group [s/veh]	67.87	61.21	43.38	378.92	49.47	26.91	61.62	19.45	19.49	60.08	28.45	41.95
Lane Group LOS	E	E	D	F	D	С	E	В	В	E	С	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.60	4.82	3.32	33.19	10.90	2.03	5.47	4.71	4.62	2.92	13.10	19.07
50th-Percentile Queue Length [ft/ln]	15.04	120.58	83.03	829.63	272.51	50.84	136.82	117.75	115.48	73.05	327.46	476.80
95th-Percentile Queue Length [veh/ln]	1.08	8.43	5.98	51.59	16.31	3.66	9.31	8.27	8.14	5.26	19.03	26.23
95th-Percentile Queue Length [ft/In]	27.06	210.63	149.46	1289.86	407.87	91.50	232.73	206.73	203.60	131.48	475.85	655.86



Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	67.87 61.21 43.38			378.92	49.47	26.91	61.62	19.47	19.49	60.08	28.45	41.95
Movement LOS	E	E	D	F	D	С	E	В	В	E	С	D
d_A, Approach Delay [s/veh]		54.00			213.78			29.62		37.37		
Approach LOS		D			F			С		D		
d_I, Intersection Delay [s/veh]						88	.35					
Intersection LOS	F											
Intersection V/C	0.908											

Sequence

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Year 2040 Mitigated with Addition of a WBR Lane with Overlap Phasing (Mitigation A)

Generated with PTV **VISTRO** Version 7.00-05

Year 2040 Traffic Conditions: Scenario 1

Weekday PM Peak Hour

F

NE 10th Avenue & NE 139th Street

HCM 2010

Intersection Level Of Service Report Intersection 1: NE 139th St/NE 10th Ave

Control Type: Signalized Delay (sec / veh): 81.6 Analysis Method: HCM 2010 Level Of Service: Analysis Period: 15 minutes Volume to Capacity (v/c): 0.833

Intersection Setup

Name													
Approach	١	lorthboun	d	s	Southbound			Eastbound	d	Westbound			
Lane Configuration		٦١٢		Пr				٦١٢		Hir			
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Lane Width [ft]	12.00	12.00 12.00 12.00			12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	1	
Pocket Length [ft]	400.00	100.00	240.00	285.00	100.00	190.00	370.00	100.00	100.00	385.00	100.00	310.00	
Speed [mph]		30.00			30.00			30.00			30.00		
Grade [%]		0.00			0.00			0.00			0.00		
Crosswalk		Yes			Yes			Yes		Yes			

Name												
Base Volume Input [veh/h]	16	135	113	429	327	91	152	448	32	84	511	582
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	135	113	429	327	91	152	448	32	84	511	582
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	36	30	114	87	24	40	119	9	22	136	155
Total Analysis Volume [veh/h]	17	144	120	456	348	97	162	477	34	89	544	619
Presence of On-Street Parking	No		No									
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	16			16				1		1		
Bicycle Volume [bicycles/h]		0			0			0		1		

Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	37.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	3	8	1	7	4	5	5	2	0	1	6	7
Auxiliary Signal Groups			1,8			4,5						6,7
Lead / Lag	Lead	-	-									
Minimum Green [s]	5	5	5	5	5	5	5	5	0	5	5	5
Maximum Green [s]	30	30	30	30	30	30	30	30	0	30	30	30
Amber [s]	3.0	3.6	3.0	3.0	3.6	3.0	3.0	3.6	0.0	3.0	3.6	3.0
All red [s]	2.4	2.2	2.4	2.4	2.5	2.4	2.4	2.6	0.0	2.4	2.6	2.4
Split [s]	35	25	25	25	35	25	25	35	0	25	35	25
Vehicle Extension [s]	2.0	2.0	1.5	1.2	2.0	1.2	1.2	1.2	0.0	1.5	1.2	1.2
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	15	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.4	3.8	3.4	3.4	4.1	3.4	3.4	4.2	0.0	3.4	4.2	3.4
Minimum Recall	No	No	No	No	No	No	No	Yes		No	Yes	No
Maximum Recall	No	No	No	No	No	No	No	No		No	No	No
Pedestrian Recall	No	No	No	No	No	No	No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



NE 10th Avenue & NE 139th Street

HCM 2010

Lane Group Calculations

Lane Group	L	С	R	L	С	R	L	С	С	L	С	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	5.40	5.80	5.40	5.40	6.10	5.40	5.40	6.20	6.20	5.40	6.20	5.40
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.40	3.80	0.00	3.40	4.10	0.00	3.40	4.20	4.20	3.40	4.20	0.00
g_i, Effective Green Time [s]	2	12	28	20	29	49	14	65	65	10	62	87
g / C, Green / Cycle	0.02	0.09	0.22	0.15	0.23	0.38	0.10	0.50	0.50	0.08	0.47	0.67
(v / s)_i Volume / Saturation Flow Rate	0.01	0.08	0.08	0.25	0.18	0.06	0.09	0.14	0.14	0.05	0.15	0.40
s, saturation flow rate [veh/h]	1774	1863	1583	1792	1881	1598	1792	1881	1833	1792	3582	1548
c, Capacity [veh/h]	33	177	343	271	423	603	188	943	919	139	1697	1040
d1, Uniform Delay [s]	63.25	57.74	43.15	55.21	47.92	26.86	57.24	18.74	18.75	58.24	21.24	11.63
k, delay calibration	0.04	0.04	0.04	0.49	0.04	0.04	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.63	3.47	0.23	323.72	1.55	0.05	4.37	0.72	0.74	1.84	0.50	2.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

X, volume / capacity	0.52	0.82	0.35	1.69	0.82	0.16	0.86	0.27	0.28	0.64	0.32	0.59
d, Delay for Lane Group [s/veh]	67.87	61.21	43.38	378.92	49.47	26.91	61.62	19.45	19.49	60.08	21.74	14.14
Lane Group LOS	E	E	D	F	D	С	E	В	В	E	С	В
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.60	4.82	3.32	33.19	10.90	2.03	5.47	4.71	4.62	2.92	5.28	9.94
50th-Percentile Queue Length [ft/ln]	15.04	120.58	83.03	829.63	272.51	50.84	136.82	117.75	115.48	73.05	132.10	248.60
95th-Percentile Queue Length [veh/ln]	1.08	8.43	5.98	51.59	16.31	3.66	9.31	8.27	8.14	5.26	9.05	15.12
95th-Percentile Queue Length [ft/In]	27.06	210.63	149.46	1289.86	407.87	91.50	232.73	206.73	203.60	131.48	226.35	377.89

Generated with PTV VISTRO

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	67.87	61.21	43.38	378.92	49.47	26.91	61.62	19.47	19.49	60.08	21.74	14.14
Movement LOS	E	E	D	F	D	С	E	В	В	E	С	В
d_A, Approach Delay [s/veh]		54.00			213.78			29.62		20.71		
Approach LOS		D			F			С			С	
d_I, Intersection Delay [s/veh]												
Intersection LOS	F											
Intersection V/C	0.833											

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Year 2040 Mitigated with Addition of a Second Southbound Left Lane (Mitigation B)

Generated with PTV VISTRO Version 7.00-05

Year 2040 Traffic Conditions Scenario 2B

Weekday PM Peak Hour

NE 10th Avenue & NE 139th Street

HCM 2010

Intersection Level Of Service Report Intersection 1: NE 139th St/NE 10th Ave

Control Type:SignalizedDelay (sec / veh):40.8Analysis Method:HCM 2010Level Of Service:DAnalysis Period:15 minutesVolume to Capacity (v/c):0.772

Intersection Setup

Name													
Approach	١	lorthboun	d	s	outhboun	d	ı	Eastbound	d	V	Westbound		
Lane Configuration		٦١٢		+	17/1	•		٦lh		чIР			
Turning Movement	Left	Left Thru Right			Thru	Right	Left	Thru	Right	Left	Thru	Right	
Lane Width [ft]	12.00	12.00 12.00 12.00			12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
No. of Lanes in Pocket	1	0	1	2	0	1	1	0	0	1	0	0	
Pocket Length [ft]	400.00	100.00	240.00	285.00 100.00 190.00			370.00	100.00	100.00	385.00	100.00	100.00	
Speed [mph]		30.00			30.00			30.00		30.00			
Grade [%]	0.00			0.00				0.00		0.00			
Crosswalk		Yes			Yes			Yes		Yes			

Volumes

Name												
Base Volume Input [veh/h]	16	135	113	429	327	91	152	448	32	84	511	582
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	135	113	429	327	91	152	448	32	84	511	582
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	36	30	114	87	24	40	119	9	22	136	155
Total Analysis Volume [veh/h]	17	144	120	456	348	97	162	477	34	89	544	619
Presence of On-Street Parking	No		No									
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0 0 0			0 0 0			0	0	0	0 0 0		
Pedestrian Volume [ped/h]	16			16				1		1		
Bicycle Volume [bicycles/h]	0			0				0		1		



Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	37.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	1	7	4	5	5	2	0	1	6	7
Auxiliary Signal Groups			1,8			4,5						6,7
Lead / Lag	Lead	-	-									
Minimum Green [s]	5	5	5	5	5	5	5	5	0	5	5	5
Maximum Green [s]	30	30	30	30	30	30	30	30	0	30	30	30
Amber [s]	3.0	3.6	3.0	3.0	3.6	3.0	3.0	3.6	0.0	3.0	3.6	3.0
All red [s]	2.4	2.2	2.4	2.4	2.5	2.4	2.4	2.6	0.0	2.4	2.6	2.4
Split [s]	35	25	25	25	35	25	25	35	0	25	35	25
Vehicle Extension [s]	2.0	2.0	1.5	1.2	2.0	1.2	1.2	1.2	0.0	1.5	1.2	1.2
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	15	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
l2, Clearance Lost Time [s]	3.4	3.8	3.4	3.4	4.1	3.4	3.4	4.2	0.0	3.4	4.2	3.4
Minimum Recall	No	No	No	No	No	No	No	Yes		No	Yes	
Maximum Recall	No	No	No	No	No	No	No	No		No	No	
Pedestrian Recall	No	No	No	No	No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



Lane Group Calculations

Lane Group	L	С	R	L	С	R	L	С	С	L	С	С
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	5.40	5.80	5.40	5.40	6.10	5.40	5.40	6.20	6.20	5.40	6.20	6.20
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.40	3.80	0.00	3.40	4.10	0.00	3.40	4.20	4.20	3.40	4.20	4.20
g_i, Effective Green Time [s]	2	12	28	19	28	48	14	66	66	10	62	62
g / C, Green / Cycle	0.02	0.09	0.22	0.14	0.22	0.37	0.10	0.51	0.51	0.08	0.48	0.48
(v / s)_i Volume / Saturation Flow Rate	0.01	0.08	0.08	0.13	0.18	0.06	0.09	0.14	0.14	0.05	0.29	0.40
s, saturation flow rate [veh/h]	1774	1863	1583	3479	1881	1598	1792	1881	1833	1792	1881	1540
c, Capacity [veh/h]	33	177	343	505	412	593	188	954	930	139	902	738
d1, Uniform Delay [s]	63.25	57.74	43.15	54.70	48.65	27.37	57.24	18.29	18.31	58.24	24.78	29.45
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.63	3.45	0.23	2.53	1.85	0.05	4.37	0.70	0.72	1.84	2.98	10.98
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

X, volume / capacity	0.52	0.81	0.35	0.90	0.84	0.16	0.86	0.27	0.27	0.64	0.60	0.84
d, Delay for Lane Group [s/veh]	67.87	61.19	43.37	57.23	50.51	27.42	61.62	18.99	19.03	60.08	27.76	40.43
Lane Group LOS	E	E	D	E	D	С	E	В	В	E	С	D
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.60	4.82	3.32	7.52	11.02	2.06	5.47	4.64	4.55	2.92	12.91	18.70
50th-Percentile Queue Length [ft/ln]	15.04	120.56	83.03	188.11	275.56	51.40	136.82	116.06	113.83	73.05	322.76	467.62
95th-Percentile Queue Length [veh/ln]	1.08	8.42	5.98	12.02	16.47	3.70	9.31	8.18	8.05	5.26	18.80	25.80
95th-Percentile Queue Length [ft/ln]	27.06	210.60	149.45	300.58	411.68	92.51	232.73	204.40	201.31	131.48	470.08	644.94

NE 10th Avenue & NE 139th Street HCM 2010

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	67.87	61.19	43.37	57.23	50.51	27.42	61.62	19.01	19.03	60.08	27.76	40.43
Movement LOS	E	E	D	E	D	С	E	В	В	Е	С	D
d_A, Approach Delay [s/veh]		53.99			51.42			29.26				
Approach LOS		D			D			С			D	
d_I, Intersection Delay [s/veh]												
Intersection LOS	D											
Intersection V/C	0.772											

			_													
Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	ı	-	-	-
Ring 2	2 5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	3 -	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4		-	-	-	-	-	-	_	-	-	-	-	-	-	-	-



Year 2040 Mitigated with Conversion of Southbound Through to a Shared Southbound Through Left Lane with Split Phase (Mitigation C)

Generated with PTV VISTRO Version 7.00-05

Year 2040 Traffic Conditions Scenario 3B

Weekday PM Peak Hour

NE 10th Avenue & NE 139th Street

HCM 2010

Intersection Level Of Service Report Intersection 1: NE 139th St/NE 10th Ave

Control Type: Signalized Delay (sec / veh): 59.7

Analysis Method: HCM 2010 Level Of Service: E

Analysis Period: 15 minutes Volume to Capacity (v/c): 0.875

Intersection Setup

Name													
Approach	١	lorthboun	d	s	outhboun	d	ı	Eastbound	d	V	Vestbound	d	
Lane Configuration		٦١٢		•	<u> </u>			٦lh			٦١٢		
Turning Movement	Left	- 			Thru	Right	Left	Thru	Right	Left	Thru	Right	
Lane Width [ft]	12.00	12.00 12.00 12.00			12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	0	
Pocket Length [ft]	400.00	100.00	240.00	285.00	285.00 100.00 190.00			370.00 100.00 100.00			385.00 100.00 100.00		
Speed [mph]		30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00		0.00				
Crosswalk	Yes		Yes				Yes		Yes				

Volumes

Name												
Base Volume Input [veh/h]	16	135	113	429	327	91	152	448	32	84	511	582
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	135	113	429	327	91	152	448	32	84	511	582
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	36	30	114	87	24	40	119	9	22	136	155
Total Analysis Volume [veh/h]	17	144	120	456	348	97	162	477	34	89	544	619
Presence of On-Street Parking	No		No									
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]		16			16			1			1	
Bicycle Volume [bicycles/h]		0			0			0			1	



Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	37.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Permiss
Signal Group	3	8	1	7	4	5	5	2	0	1	6	7
Auxiliary Signal Groups			1,8			4,5						
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	5	0	5	5	5	5	0	5	5	0
Maximum Green [s]	0	30	30	0	30	30	30	30	0	30	30	0
Amber [s]	0.0	3.6	3.0	0.0	3.6	3.0	3.0	3.6	0.0	3.0	3.6	0.0
All red [s]	0.0	2.2	2.4	0.0	2.5	2.4	2.4	2.6	0.0	2.4	2.6	0.0
Split [s]	0	35	25	0	35	25	25	35	0	25	35	0
Vehicle Extension [s]	0.0	2.0	1.5	0.0	2.0	1.2	1.2	1.2	0.0	1.5	1.2	0.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	15	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	0.0
I2, Clearance Lost Time [s]	0.0	3.8	3.4	0.0	4.1	3.4	3.4	4.2	0.0	3.4	4.2	0.0
Minimum Recall		No	No		No	No	No	Yes		No	Yes	
Maximum Recall		No	No		No	No	No	No		No	No	
Pedestrian Recall		No	No		No	No	No	No		No	No	
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



Lane Group Calculations

Lane Group	L	С	R	L	С	R	L	С	С	L	С	С
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	5.80	5.80	5.40	6.10	6.10	5.40	5.40	6.20	6.20	5.40	6.20	6.20
I1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.80	3.80	0.00	4.10	4.10	0.00	3.40	4.20	4.20	3.40	4.20	4.20
g_i, Effective Green Time [s]	12	12	28	29	29	67	14	55	55	10	52	52
g / C, Green / Cycle	0.10	0.10	0.22	0.22	0.22	0.51	0.11	0.42	0.42	0.08	0.40	0.40
(v / s)_i Volume / Saturation Flow Rate	0.01	0.08	0.08	0.22	0.22	0.06	0.09	0.14	0.14	0.05	0.29	0.40
s, saturation flow rate [veh/h]	1412	1863	1583	1792	1868	1598	1792	1881	1832	1792	1881	1534
c, Capacity [veh/h]	173	179	345	398	415	823	189	797	776	139	744	607
d1, Uniform Delay [s]	55.37	57.62	43.03	50.60	50.23	16.27	57.21	25.05	25.07	58.24	33.43	39.32
k, delay calibration	0.04	0.04	0.04	0.36	0.34	0.04	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.09	3.22	0.22	39.41	30.59	0.02	4.25	1.08	1.12	1.82	6.25	41.71
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

X, volume / capacity	0.10	0.81	0.35	1.00	0.97	0.12	0.86	0.32	0.33	0.64	0.73	1.02
d, Delay for Lane Group [s/veh]	55.46	60.84	43.25	90.01	80.81	16.30	61.46	26.13	26.19	60.06	39.68	81.03
Lane Group LOS	E	E	D	F	F	В	E	С	С	Е	D	F
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.53	4.81	3.32	17.26	16.54	1.52	5.47	5.60	5.49	2.92	15.77	26.03
50th-Percentile Queue Length [ft/ln]	13.13	120.25	82.95	431.54	413.44	37.98	136.68	140.01	137.34	73.05	394.31	650.63
95th-Percentile Queue Length [veh/ln]	0.95	8.41	5.97	24.13	23.21	2.73	9.30	9.48	9.34	5.26	22.29	34.90
95th-Percentile Queue Length [ft/ln]	23.63	210.17	149.30	603.27	580.17	68.36	232.54	237.04	233.44	131.49	557.13	872.58

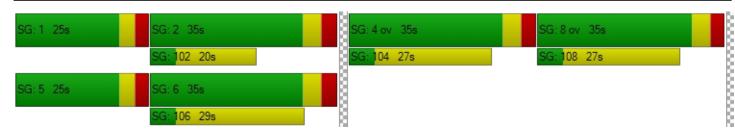


NE 10th Avenue & NE 139th Street HCM 2010

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	55.46	60.84	43.25	88.91	80.81	16.30	61.46	26.16	26.19	60.06	39.68	81.03
Movement LOS	Е	E	D	F	F	В	E	С	С	E	D	F
d_A, Approach Delay [s/veh]		53.00			77.95			34.66				
Approach LOS		D			E			С				
d_I, Intersection Delay [s/veh]						59						
Intersection LOS	E											
Intersection V/C						3.0	375					

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Year 2040 Mitigation B and Addition of a Westbound Right-turn Lane with Overlap Phasing (Mitigation B2)

Generated with PTV VISTRO
Version 7.00-05

Year 2040 Traffic Conditions: Scenario 2

Weekday PM Peak Hour

NE 10th Avenue & NE 139th Street

HCM 2010

Intersection Level Of Service Report Intersection 1: NE 139th St/NE 10th Ave

Control Type:SignalizedDelay (sec / veh):34.2Analysis Method:HCM 2010Level Of Service:CAnalysis Period:15 minutesVolume to Capacity (v/c):0.697

Intersection Setup

Name												
Approach	١	lorthboun	d	s	outhboun	d	E	Eastbound	d	Westbound		
Lane Configuration		٦١٢		+	1716	•		٦١٢		•	1 r	
Turning Movement	Left	- 			Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00 12.00 12.00			12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	2	0	1	1	0	0	1	0	1
Pocket Length [ft]	400.00	100.00	240.00	285.00	100.00	190.00	370.00	100.00	100.00	385.00	100.00	310.00
Speed [mph]	30.00				30.00			30.00		30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes		Yes				Yes		Yes			

Volumes

Name												
Base Volume Input [veh/h]	16	135	113	429	327	91	152	448	32	84	511	582
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	135	113	429	327	91	152	448	32	84	511	582
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	36	30	114	87	24	40	119	9	22	136	155
Total Analysis Volume [veh/h]	17	144	120	456	348	97	162	477	34	89	544	619
Presence of On-Street Parking	No		No									
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]		16			16			1			1	
Bicycle Volume [bicycles/h]		0			0			0			1	



Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	37.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Protecte	Permiss	Overlap	Protecte	Permiss	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	3	8	1	7	4	5	5	2	0	1	6	7
Auxiliary Signal Groups			1,8			4,5						6,7
Lead / Lag	Lead	-	-									
Minimum Green [s]	5	5	5	5	5	5	5	5	0	5	5	5
Maximum Green [s]	30	30	30	30	30	30	30	30	0	30	30	30
Amber [s]	3.0	3.6	3.0	3.0	3.6	3.0	3.0	3.6	0.0	3.0	3.6	3.0
All red [s]	2.4	2.2	2.4	2.4	2.5	2.4	2.4	2.6	0.0	2.4	2.6	2.4
Split [s]	35	25	25	25	35	25	25	35	0	25	35	25
Vehicle Extension [s]	2.0	2.0	1.5	1.2	2.0	1.2	1.2	1.2	0.0	1.5	1.2	1.2
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	0
Pedestrian Clearance [s]	0	22	0	0	22	0	0	15	0	0	24	0
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	3.4	3.8	3.4	3.4	4.1	3.4	3.4	4.2	0.0	3.4	4.2	3.4
Minimum Recall	No	No	No	No	No	No	No	Yes		No	Yes	No
Maximum Recall	No	No	No	No	No	No	No	No		No	No	No
Pedestrian Recall	No	No	No	No	No	No	No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



NE 10th Avenue & NE 139th Street

Lane Group Calculations

Lane Group	L	С	R	L	С	R	L	С	С	L	С	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	5.40	5.80	5.40	5.40	6.10	5.40	5.40	6.20	6.20	5.40	6.20	5.40
I1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.40	3.80	0.00	3.40	4.10	0.00	3.40	4.20	4.20	3.40	4.20	0.00
g_i, Effective Green Time [s]	2	12	28	20	29	49	14	65	65	10	62	87
g / C, Green / Cycle	0.02	0.09	0.22	0.15	0.23	0.38	0.10	0.50	0.50	0.08	0.47	0.67
(v / s)_i Volume / Saturation Flow Rate	0.01	0.08	0.08	0.13	0.18	0.06	0.09	0.14	0.14	0.05	0.15	0.40
s, saturation flow rate [veh/h]	1774	1863	1583	3479	1881	1598	1792	1881	1833	1792	3582	1548
c, Capacity [veh/h]	33	177	343	525	423	603	188	943	919	139	1697	1040
d1, Uniform Delay [s]	63.25	57.74	43.15	53.94	47.92	26.86	57.24	18.74	18.75	58.24	21.24	11.63
k, delay calibration	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.63	3.47	0.23	1.75	1.55	0.05	4.37	0.72	0.74	1.84	0.50	2.51
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

X, volume / capacity	0.52	0.82	0.35	0.87	0.82	0.16	0.86	0.27	0.28	0.64	0.32	0.59
d, Delay for Lane Group [s/veh]	67.87	61.21	43.38	55.69	49.47	26.91	61.62	19.45	19.49	60.08	21.74	14.14
Lane Group LOS	Е	E	D	E	D	С	E	В	В	E	С	В
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.60	4.82	3.32	7.42	10.90	2.03	5.47	4.71	4.62	2.92	5.28	9.94
50th-Percentile Queue Length [ft/ln]	15.04	120.58	83.03	185.44	272.51	50.84	136.82	117.75	115.48	73.05	132.10	248.60
95th-Percentile Queue Length [veh/ln]	1.08	8.43	5.98	11.88	16.31	3.66	9.31	8.27	8.14	5.26	9.05	15.12
95th-Percentile Queue Length [ft/In]	27.06	210.63	149.46	297.11	407.87	91.50	232.73	206.73	203.60	131.48	226.35	377.89



NE 10th Avenue & NE 139th Street

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	67.87	61.21	43.38	55.69	49.47	26.91	61.62	19.47	19.49	60.08	21.74	14.14
Movement LOS	E E		<u> </u>		D	С	E	В	В	E	С	В
d_A, Approach Delay [s/veh]		54.00			50.18			29.62				
Approach LOS		D			D			С				
d_I, Intersection Delay [s/veh]	34.20											
Intersection LOS				С								
Intersection V/C	0.697											

Ring 1	1	2	3	4	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	7	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	_	-	-	-	_	-	_	_	-	-	-	_	-	_	-	_



Year 2040 Mitigation C and Addition of a Westbound Right-turn Lane with Overlap Phasing (Mitigation C2)

Generated with PTV VISTRO Version 7.00-05

Year 2040 Traffic Conditions: Scenario 3

Weekday PM Peak Hour

NE 10th Avenue & NE 139th Street

HCM 2010

Intersection Level Of Service Report Intersection 1: NE 139th St/NE 10th Ave

Control Type:SignalizedDelay (sec / veh):44.6Analysis Method:HCM 2010Level Of Service:DAnalysis Period:15 minutesVolume to Capacity (v/c):0.767

Intersection Setup

Name												
Approach	١	orthboun	d	s	outhboun	d	E	Eastbound	d	Westbound		
Lane Configuration		٦١٢		•	<u> </u>			٦١٢		•	1 r	,
Turning Movement	Left	- 			Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00 12.00 12.00			12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	1	0	1	1	0	1	1	0	0	1	0	1
Pocket Length [ft]	400.00	100.00	240.00	285.00	100.00	190.00	370.00	100.00	100.00	385.00	100.00	310.00
Speed [mph]	30.00				30.00			30.00		30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	Yes		Yes				Yes		Yes			

Volumes

Name												
Base Volume Input [veh/h]	16	135	113	429	327	91	152	448	32	84	511	582
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Growth Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	16	135	113	429	327	91	152	448	32	84	511	582
Peak Hour Factor	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400	0.9400
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	4	36	30	114	87	24	40	119	9	22	136	155
Total Analysis Volume [veh/h]	17	144	120	456	348	97	162	477	34	89	544	619
Presence of On-Street Parking	No		No									
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]		16			16			1			1	
Bicycle Volume [bicycles/h]		0			0			0			1	



Located in CBD	No
Signal Coordination Group	-
Cycle Length [s]	130
Coordination Type	Time of Day Pattern Isolated
Actuation Type	Fully actuated
Offset [s]	37.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	12.00

Phasing & Timing

Control Type	Split	Split	Overlap	Split	Split	Overlap	Protecte	Permiss	Permiss	Protecte	Permiss	Overlap
Signal Group	3	8	1	7	4	5	5	2	0	1	6	4
Auxiliary Signal Groups			1,8			4,5						4,6
Lead / Lag	-	-	-	-	-	-	Lead	-	-	Lead	-	-
Minimum Green [s]	0	5	5	0	5	5	5	5	0	5	5	5
Maximum Green [s]	0	30	30	0	30	30	30	30	0	30	30	30
Amber [s]	0.0	3.6	3.0	0.0	3.6	3.0	3.0	3.6	0.0	3.0	3.6	3.6
All red [s]	0.0	2.2	2.4	0.0	2.5	2.4	2.4	2.6	0.0	2.4	2.6	2.5
Split [s]	0	35	25	0	35	25	25	35	0	25	35	35
Vehicle Extension [s]	0.0	2.0	1.5	0.0	2.0	1.2	1.2	1.2	0.0	1.5	1.2	2.0
Walk [s]	0	5	0	0	5	0	0	5	0	0	5	5
Pedestrian Clearance [s]	0	22	0	0	22	0	0	15	0	0	24	22
Rest In Walk		No			No			No			No	
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	0.0	2.0	2.0	2.0	2.0	0.0	2.0	2.0	2.0
l2, Clearance Lost Time [s]	0.0	3.8	3.4	0.0	4.1	3.4	3.4	4.2	0.0	3.4	4.2	4.1
Minimum Recall		No	No		No	No	No	Yes		No	Yes	No
Maximum Recall		No	No		No	No	No	No		No	No	No
Pedestrian Recall		No	No		No	No	No	No		No	No	No
Detector Location [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [ft]	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0



NE 10th Avenue & NE 139th Street

Lane Group Calculations

Lane Group	L	С	R	L	С	R	L	С	С	L	С	R
C, Cycle Length [s]	130	130	130	130	130	130	130	130	130	130	130	130
L, Total Lost Time per Cycle [s]	5.80	5.80	5.40	6.10	6.10	5.40	5.40	6.20	6.20	5.40	6.20	6.10
I1_p, Permitted Start-Up Lost Time [s]	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
I2, Clearance Lost Time [s]	3.80	3.80	0.00	4.10	4.10	0.00	3.40	4.20	4.20	3.40	4.20	0.00
g_i, Effective Green Time [s]	12	12	28	29	29	67	14	55	55	10	52	87
g / C, Green / Cycle	0.10	0.10	0.22	0.22	0.22	0.51	0.11	0.42	0.42	0.08	0.40	0.67
(v / s)_i Volume / Saturation Flow Rate	0.01	0.08	0.08	0.22	0.22	0.06	0.09	0.14	0.14	0.05	0.15	0.40
s, saturation flow rate [veh/h]	1412	1863	1583	1792	1868	1598	1792	1881	1832	1792	3582	1547
c, Capacity [veh/h]	173	179	345	398	415	823	189	797	776	139	1417	1030
d1, Uniform Delay [s]	55.37	57.62	43.03	50.60	50.23	16.27	57.21	25.05	25.07	58.24	28.02	12.14
k, delay calibration	0.04	0.04	0.04	0.36	0.34	0.04	0.04	0.50	0.50	0.04	0.50	0.50
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.09	3.22	0.22	39.41	30.59	0.02	4.25	1.08	1.12	1.82	0.79	2.60
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

X, volume / capacity	0.10	0.81	0.35	1.00	0.97	0.12	0.86	0.32	0.33	0.64	0.38	0.60
d, Delay for Lane Group [s/veh]	55.46	60.84	43.25	90.01	80.81	16.30	61.46	26.13	26.19	60.06	28.81	14.73
Lane Group LOS	E	E	D	F	F	В	E	С	С	Е	С	В
Critical Lane Group	No	Yes	No	Yes	No	No	Yes	No	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	0.53	4.81	3.32	17.26	16.54	1.52	5.47	5.60	5.49	2.92	6.22	10.20
50th-Percentile Queue Length [ft/ln]	13.13	120.25	82.95	431.54	413.44	37.98	136.68	140.01	137.34	73.05	155.58	255.09
95th-Percentile Queue Length [veh/ln]	0.95	8.41	5.97	24.13	23.21	2.73	9.30	9.48	9.34	5.26	10.31	15.44
95th-Percentile Queue Length [ft/ln]	23.63	210.17	149.30	603.27	580.17	68.36	232.54	237.04	233.44	131.49	257.87	386.05

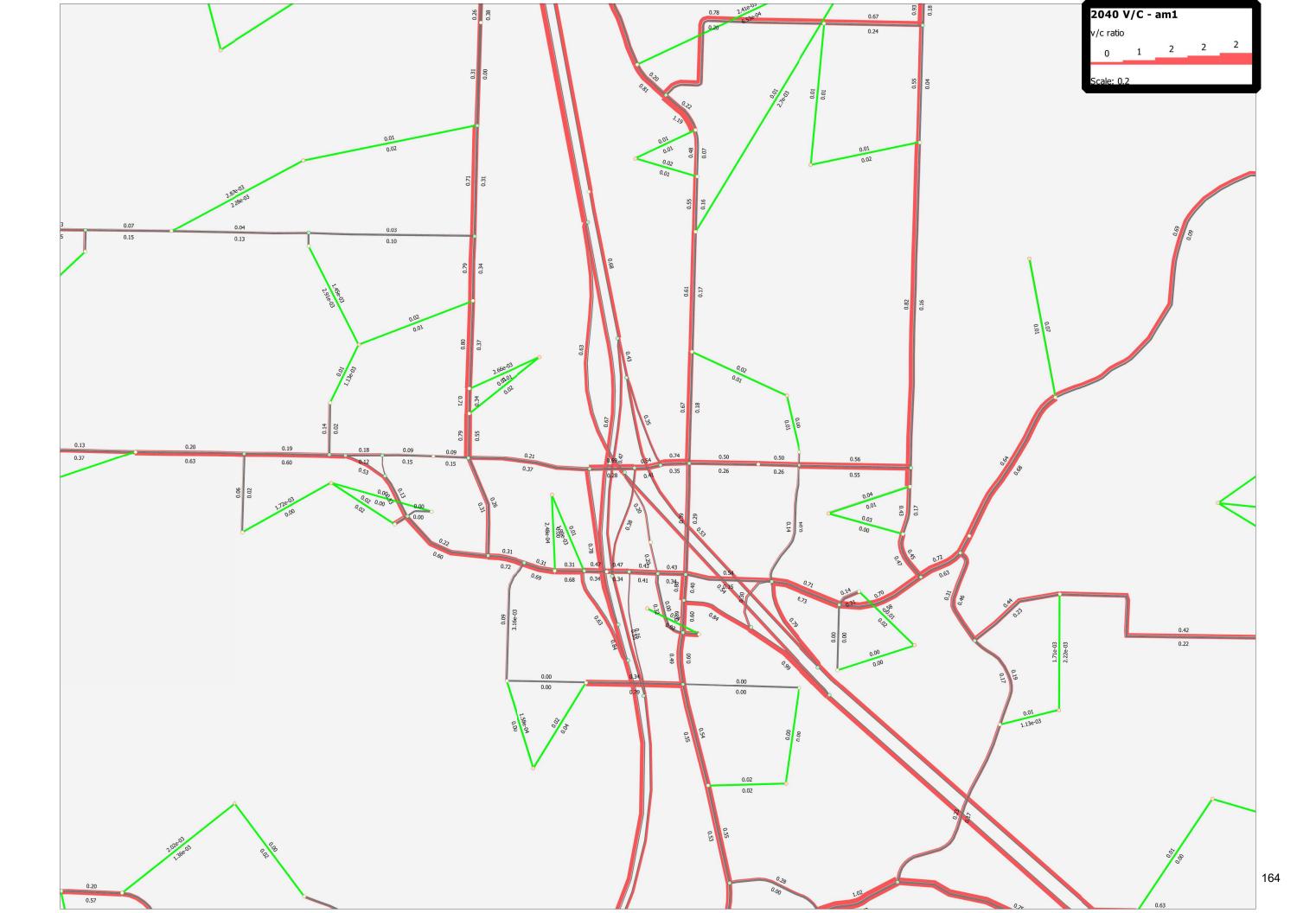
Movement, Approach, & Intersection Results

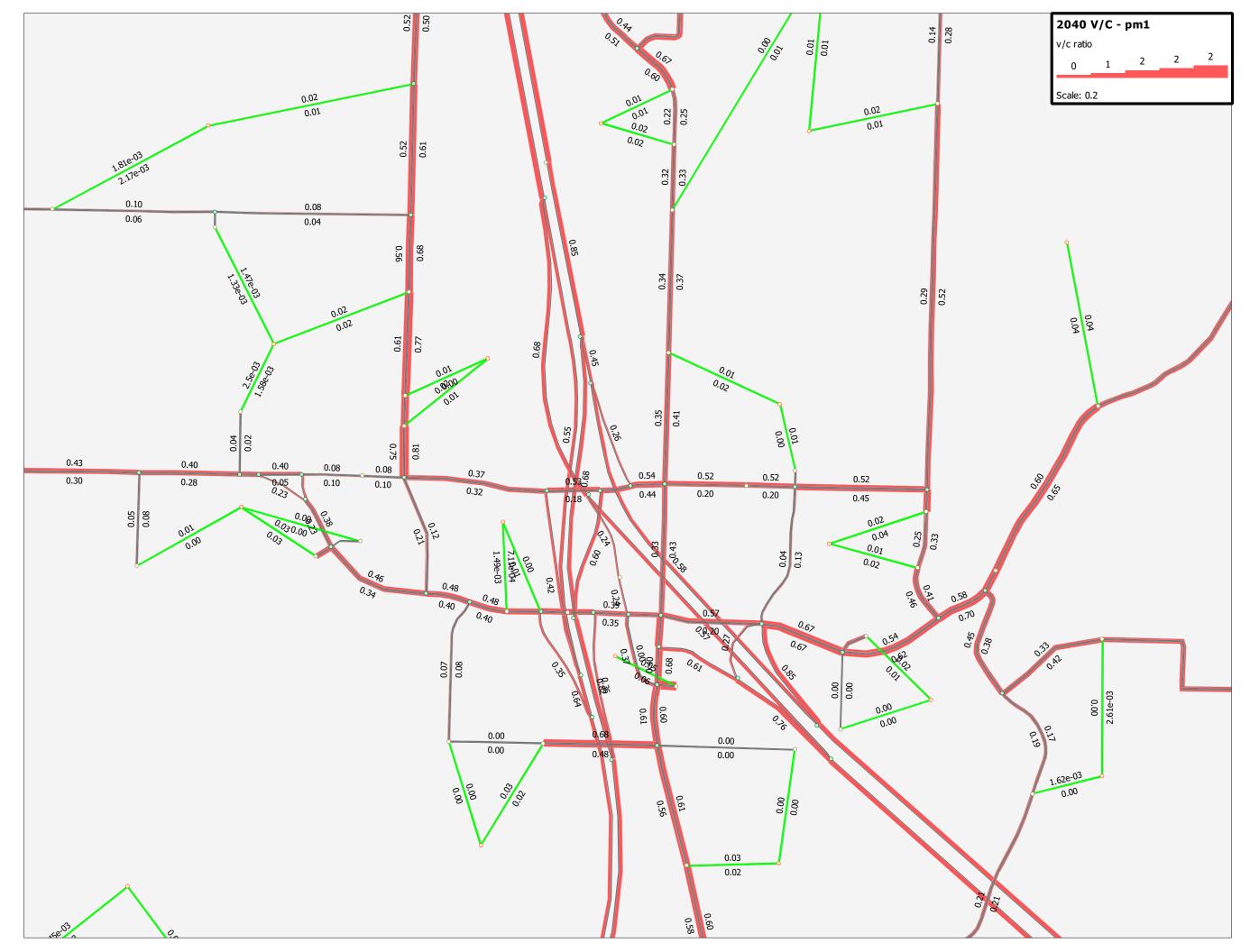
d_M, Delay for Movement [s/veh]	55.46	60.84	43.25	88.91	80.81	16.30	61.46	26.16	26.19	60.06	28.81	14.73
Movement LOS	E	E E D		F	F	В	E	С	С	E	С	В
d_A, Approach Delay [s/veh]		53.00			77.95			34.66		24.07		
Approach LOS		D			E			С		С		
d_I, Intersection Delay [s/veh]						44	.60					
Intersection LOS		D										
Intersection V/C		0.767										

Ring 1	1	2	4	8	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Appendix 2 RTC Segment V/C Ratio Plots







STATE OF WASHINGTON DEPARTMENT OF COMMERCE

1011 Plum Street SE • PO Box 42525 • Olympia, Washington 98504-2525 • (360) 725-4000 www.commerce.wa.gov

08/12/2019

Mr. Matt Hermen Planner III Clark County 1300 Franklins Street Post Office Box 9810 Vancouver, WA 98666-9810

Sent Via Electronic Mail

Re: Clark County--2019-S-494--60-day Notice of Intent to Adopt Amendment

Dear Mr. Hermen:

Thank you for sending the Washington State Department of Commerce (Commerce) the 60-day Notice of Intent to Adopt Amendment as required under RCW 36.70A.106. We received your submittal with the following description.

Proposed Amendment to remove the Comprehensive Plan and zoning urban holding overlays in the I-5/NE 179th St. area. The proposal to remove the urban holding overlays will be accompanied with a Transportation Capital Facilites Plan (CFP) amendments and subsequent Traffic Impact Fee (TIF) adjustments.

We received your submittal on 08/06/2019 and processed it with the Submittal ID 2019-S-494. Please keep this letter as documentation that you have met this procedural requirement. Your 60-day notice period ends on 10/08/2019.

We have forwarded a copy of this notice to other state agencies for comment.

Please remember to submit the final adopted amendment to Commerce within ten days of adoption.

If you have any questions, please contact Growth Management Services at reviewteam@commerce.wa.gov, or call Ike Nwankwo, (360) 725-2950.

Sincerely,

Review Team Growth Management Services

NOTICE OF PUBLIC HEARING CLARK COUNTY PLANNING COMMISSION

NOTICE IS HEREBY GIVEN that the Clark County Planning Commission will conduct a public hearing on **Tuesday, October 8, 2019 at 6:30 p.m.** at the Public Services Center, 1300 Franklin Street, BOCC Hearing Room, 6th Floor, Vancouver, Washington to consider the following:

CPZ2019-00017 – Capital Facilities Plan Amendments and Traffic Impact Fees Amendments to the Clark County transportation 20-year Capital Facilities Plan and associated traffic impact fees primarily to support the removal of the Urban Holding Overlay near the I-5/NE179th St. interchange.

CPZ2019-00031 – I-5/NE 179th St. Area Urban Holding Overlay removal An amendment to the Comprehensive Growth Management Plan 2015-2035 and zoning map to remove the Urban Holding Overlay near the I-5/NE 179th St. interchange.

Staff Contact: Matt Hermen at (564) 397-4343 or

Matt.hermen@clark.wa.gov

Alternate Staff Contact: Oliver Orjiako at (564)397-4112 or

Oliver.orjiako@clark.wa.gov

The staff reports, related materials and hearing agenda will be available 15 days prior to the hearing date on the county's web page at https://www.clark.wa.gov/community-planning/planning-commission-hearings-and-meeting-notes

Copies are also available at Clark County Community Planning, 1300 Franklin Street, 3rd Floor, Vancouver, Washington. For other formats, contact Clark County ADA Office at <u>ADA@clark.wa.gov</u>, voice 564-397-2322, relay 711 or 800-833-6388, fax 564-397-6155.

Anyone wishing to give spoken testimony in regard to this matter should appear at the time and place stated above. Written testimony can be provided to the Clark County Planning Commission by e-mailing the clerk of the commission at Sonja.Wiser@clark.wa.gov or via US Postal Service to the Clark County Planning Commission, c/o Sonja Wiser, PO Box 9810, Vancouver, WA 98666-9810. Written testimony may also be submitted for the record during the hearing. Please ensure that testimony is received at least two (2) business days before the hearing if you would like staff to forward it to the Planning Commission before the hearing.

Approved as to Form only:

Anthony Golik

Prosecuting Attorney

By: Christine Cook

Senior Deputy Prosecuting Attorney

PLEASE PUBLISH:

Please Bill:

Wednesday, September 18, 2019 Clark County Community Planning

Attn: Sonja Wiser, Program Assistant

P. O. Box 9810 Vancouver, WA 98666-9810

Columbian Account 70914