

SEATTLE CENTER ARENA RENOVATION PROJECT

VOLUME 2: Appendices to the Draft Environmental Impact Statement

PREPARED FOR
City of Seattle Department of Construction and Inspections

IN COOPERATION WITH
Seattle Center, Office of Economic Development,
and Seattle Department of Transportation

PREPARED BY
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VOLUME 2: APPENDICES

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APPENDIX A: 2020 BACKGROUND CONDITIONS – REASONABLY FORESEEABLE PROJECTS

APPENDIX A:

2020 BACKGROUND CONDITIONS – REASONABLY FORESEEABLE PROJECTS

Background conditions for the No Action Alternative, Alternative 1, and Alternative 2 were developed based on reasonably foreseeable projects that would be in place by 2020; these projects are listed in Table A-1.

Table A-1. 2020 Background Conditions

| Project Description |
|---|
| Buildings¹ |
| The rebuilt Opera at Seattle Center will be completed in 2018 |
| 714 1st Ave W - 6-story, 50-unit apartment building |
| 631 Queen Anne Ave N - 8-story, 95-unit apartment building |
| 225 Roy St - 2 apartment buildings with 269 units |
| 350 1st Ave W - 7-story, 71-unit apartment building |
| Transportation - Roadway |
| SR 99 Tunnel open to traffic with tolls using the most recently available information from WSDOT |
| Alaskan Way Viaduct closure/demolition |
| Harrison St connected across SR 99 – 2 lanes each direction |
| Thomas St connected across SR 99 – Right turns only from Thomas St to Aurora Ave N |
| John St connected across SR 99 |
| Adaptive signal control on Denny Way and north-south connections to Mercer St |
| SR 520 HOV lanes to Montlake Blvd NE |
| 2 nd Ave south of Denny Way – Convert left/through lane to left turn/parking lane |
| Eastbound bus lane on Denny Way between Fairview Ave N and Stewart St – single WB lane, three EB lanes with transit only in middle lane |
| Transportation – Bicycle |
| Bike lanes on Thomas St from 5 th Ave N to Dexter Ave N |
| 2 nd Ave protected bike lane (PBL) from Pike St to Denny Way |
| 8th Ave PBL from Pike St to Bell St |
| 9th Ave PBL from Denny Way to Westlake Ave N |
| Roy St PBL from Dexter Ave N to 9th Ave N |
| Dexter Ave N PBL from Mercer St to Roy St |
| 4 th Ave PBL from Vine St to Main St |
| Broad St PBL from Elliott Bay Trail to 5 th Ave |
| Bell St and/or Blanchard St PBL from 2 nd Ave to 8 th /9 th Ave |
| Bike facility on Vine St / Taylor Ave / Taylor Ave N from 2 nd Ave to Thomas St |
| Alaskan Way PBL from Elliott Bay Trail to Virginia St |

| Project Description |
|---|
| Transportation - Transit Service |
| Aurora RapidRide Improvements – Numerous small and medium sizes projects to support RR service from Shoreline to Downtown |
| Eastbound bus lane on Denny Way between Fairview Ave N and Stewart St – Single WB lane, three EB lanes with transit only in middle lane |
| Madison BRT with 6-minute peak headways and 15-minute off-peak headways |
| RapidRide H: Burien Transit Center – South Lake Union via Delridge. Ten-minute peak headways and 15–30 minute off-peak headways. |
| Center City Connector Streetcar constructed from 6 th Ave/Stewart St to 1 st Ave/ S Jackson St |
| Buses shift from Downtown transit tunnel to surface streets |

Source: Fehr & Peers, 2018. Technical Memorandum #3. Year 2020 and 2035 Background Transportation Network for Seattle Center Arena Transportation Impact Study. Prepared for the Seattle Center Arena Renovation Project, for Seattle Department of Construction and Inspections.

¹Other developments may occur in the area that are not listed here.



APPENDIX B: LAND USE

APPENDIX B: LAND USE

Table B-1. Apartments and Condominiums in the Land Use Study Area

| Building Name | Street Address | Number of Units |
|----------------------------|---------------------------|-----------------|
| Expo | 118 Republican St | 190 |
| Vivid | 219 1 st Ave N | 45 |
| Astro | 315 1 st Ave N | 211 |
| 306 Queen Anne | 306 Queen Anne Ave N | 53 |
| The Queen Anne | Thomas St | 30 |
| Aperture on Fifth | 206 5 th Ave N | 45 |
| Centre Court | 116 Warren Ave N | 19 |
| Elliott Bayview Apartments | 151 John St | 41 |
| The Century | 101 Taylor Ave N | 100 |
| Puget Vista Apartments | 411 Republican St | 30 |
| Dalmasso | 26 Harrison St | 20 |
| Queen's Court | 129 Warren Ave N | 23 |
| 300 Queen Anne | 300 Queen Anne Ave N | 42 |
| Lumen Condominiums | 22 John St | 95 |
| Uptowner Apartments | 229 1 st Ave N | 22 |
| Axis | 123 2 nd Ave N | 116 |
| Pittsburgh Condominiums | 123 John St | 8 |
| 7 Harrison St | 7 Harrison St | 35 |
| La Vie Apartments | 229 Queen Anne Ave N | 30 |
| 326 Queen Anne | 326 Queen Anne Ave N | 26 |
| The Bernard | 115 Warren Ave N | 49 |
| 101 John St | 101 John St | 20 |
| The Athena | 323 Queen Anne Ave N | 97 |
| The Kenneth | 307 Queen Anne Ave N | 24 |
| 100 Republican St | 100 Republican St | 275 |
| TOTAL UNITS | | 1,646 |

Source: Prepared by ESA.

Table B-2. Programming for Religious Institutions in the Vicinity of the Project Site

| Religious Institution/Shelter | Programming | Time of Programming |
|---|--|---|
| Sacred Heart of Jesus Catholic Church | Holy Mass and Other Religious Services | <p>Monday - Friday 8:00 am in the Adoration Chapel 12:10 pm in the Church 5:30 pm Tuesdays only</p> <p>Saturday 8:00 am, 5:30 pm (Vigil) 4:00 pm to 5:00 pm</p> <p>Sunday 9:00 am, 11:00 am, and 5:30 pm</p> <p>Devotions Our Mother of Perpetual Help</p> <p>Tuesday - After all masses Adoration of the Eucharist</p> <p>First Friday - After the 12:10 pm Mass</p> |
| Sacred Heart of Jesus Catholic Church | Rectory Living Quarters | Residence year round 24/7 |
| Sacred Heart of Jesus Catholic Church | Children's Program | Sunday through Thursday 7:00–8:30 pm |
| Sacred Heart of Jesus Catholic Church | Office and Volunteer Hours | Monday through Friday 9:00 am to 6:00 pm. |
| Sacred Heart of Jesus Catholic Church | Food Program On-Site | Monday through Friday 5:00–7:00pm |
| Sacred Heart of Jesus Catholic Church | Overnight Shelter (6 units with 9 beds) | Operates year round 24/7 |
| First United Methodist Church | Religious Services | Sunday 10:30 am |
| First United Methodist Church Blaine Center | 60-bed men's shelter beneath First Church parking garage on Warren and Denny | Daily 6:30 pm to 7:00 am |
| First United Methodist Church | Shared Breakfast Preparation and Serving | Sunday 6:45–8:45 am |
| First United Methodist Church | Food Distribution Program | Distribution Schedule: Meal Program: Mon–Thursday 8:30 to 11:30 am Pack Program: Friday 9:00 to 11:00 am Grocery Program: Thursday 2:00–4:00 pm Farm Fresh Fridays: Fridays June through October 11:00 am to 12:30 pm. |
| First United Methodist Church | Office Hours | Monday through Thursday 10 am to 4:30 pm |

Source: <http://firstchurchseattle.org/>; <https://www.sacredheartseattle.com/>; and personal communication between Pam Xander, ESA, and Debbie Girard, Sacred Heart, March 13, 2018

Table B-3. Activities and Events that Used Vacated 2nd Ave N on Seattle Center Campus in 2017

| Date | Name | Producer | Location | Start | End |
|---------------|--|----------------------------|------------------------|----------|----------|
| 365 Days | Campus Deliveries - Public Access | Campus Deliveries | Grounds | 7:00 AM | 11:00 AM |
| 1/1/17-1/2/17 | Winterfest Ice Rink | Seattle Center Productions | Fisher Pavilion | 11:00 AM | 10:00 PM |
| 1/3 | Winterfest Ice Rink (Load Out) (Drain glycol) | Seattle Center Productions | Fisher Pavilion | 7:00 AM | 6:00 PM |
| 1/4 | Winterfest Ice Rink (Load Out) (Drain glycol) | Seattle Center Productions | Fisher Pavilion | 7:00 AM | 6:00 PM |
| 1/5 | Winterfest Ice Rink (Load Out) (Chiller & Pump Skid pick up) | Seattle Center Productions | Fisher Pavilion | 7:00 AM | 6:00 PM |
| 1/6 | Winterfest Ice Rink (Load Out - Complete) | Seattle Center Productions | Fisher Pavilion | 7:00 AM | 6:00 PM |
| 1/14 | 43rd Annual Model Railroad Show | Pacific Science Center | Pacific Science Center | 10:00 AM | 6:00 PM |
| 1/15 | 43rd Annual Model Railroad Show | Pacific Science Center | Pacific Science Center | 10:00 AM | 6:00 PM |
| 1/15 | Festál Turns 20 Fête | Seattle Center Productions | Fisher | 6:00 PM | 9:00 PM |
| 1/16 | 43rd Annual Model Railroad Show | Pacific Science Center | Pacific Science Center | 10:00 AM | 5:00 PM |
| 1/20 | Têt Festival (load in) | Seattle Center Productions | Armory Main Floor | 8:00 AM | 7:00 PM |
| 1/21 | Têt Festival | Seattle Center Productions | Armory Main Floor | 11:00 AM | 7:00 PM |
| 1/21 | Women's March on Seattle | Free Speech | Grounds | 8:00 AM | 2:00 PM |
| 1/22 | Têt Festival | Seattle Center Productions | Armory Main Floor | 11:00 AM | 6:00 PM |
| 1/25 | Zulily Birthday Party | Zulily | Fisher Pavilion | 5:00 PM | 7:00 PM |
| 1/26 | Slow Wine & Food Expo | Colangelo & Partners | Fisher Pavilion | 1:00 PM | 5:00 PM |
| 1/27 | Coffee Con | | Armory | 12:00 PM | 5:00 PM |
| 1/28 | Belgian Fest | Washington Beer Commission | Fisher Pavilion | 12:00 PM | 9:30 PM |
| 1/28 | Coffee Con | | Armory | 9:00 AM | 4:00 PM |
| 2/11 | John Hay PTA Dinner & Auction | John Hay PTA | Fisher Pavilion | 5:00 PM | 11:00 PM |
| 2/23 | Artist Trust (load in) | Artist Trust | Fisher Pavilion | 8:00 AM | 5:00 PM |
| 2/24 | Artist Trust (load in) | Artist Trust | Fisher Pavilion | 8:00 AM | 5:00 PM |
| 2/25 | Artist Trust | Artist Trust | Fisher Pavilion | 5:00 PM | 11:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|--|-----------------------------|-----------------|----------|----------|
| 2/25 | Pacific NW Regional Yo-Yo Championships | Seattle Center Productions | Armory | 9:00 AM | 6:00 PM |
| 2/26 | Artist Trust (load out) | Artist Trust | Fisher Pavilion | 10:00 AM | 5:00 PM |
| 3/11 | Irish Fest | Seattle Center Productions | Armory | 9:00 AM | 8:00 PM |
| 3/12 | Irish Fest | Seattle Center Productions | Armory | 9:00 AM | 8:00 PM |
| 3/15 | Chocolate for Choice | NARAL Pro Choice Washington | Fisher Pavilion | 6:00 PM | 9:00 PM |
| 3/19 | Seattle's French Fest: A Celebration of French-Speaking Cultures | Seattle Center Productions | Armory | 11:00 AM | 6:00 PM |
| 3/24 | Citizen University National Conference | Citizen University | Fisher Pavilion | 6:00 PM | 9:00 PM |
| 3/25 | Citizen University National Conference | Citizen University | Fisher Pavilion | 8:00 AM | 6:30 PM |
| 3/26 | BIKECITEMENT! | Bike Works | Fisher Pavilion | 5:00 PM | 9:30 PM |
| 3/31 | Cues & Tattoos Tribal Bellydance Festival | Cues & Tattoos Tribal | Armory Loft | 7:00 AM | 9:00 PM |
| 3/31 | Seattle Center Whirligig! Inflatable Rides | Seattle Center Productions | Armory | 11:00 AM | 6:00 PM |
| 4/1 | Cues & Tattoos Tribal Bellydance Festival | Cues & Tattoos Tribal | Armory Loft | 11:00 AM | 10:30 PM |
| 4/1 | Seattle Center Whirligig! Inflatable Rides | Seattle Center Productions | Armory | 11:00 AM | 6:00 PM |
| 4/2 | Cues & Tattoos Tribal Bellydance Festival | Cues & Tattoos Tribal | Armory Loft | 10:00 AM | 9:00 PM |
| 4/2 | Seattle Center Whirligig! Inflatable Rides | Seattle Center Productions | Armory | 11:00 AM | 6:00 PM |
| 4/3 | Seattle Center Whirligig! Inflatable Rides | Seattle Center Productions | Armory | 11:00 AM | 6:00 PM |
| 4/4 | Seattle Center Whirligig! Inflatable Rides | Seattle Center Productions | Armory | 11:00 AM | 6:00 PM |
| 4/5 | Seattle Center Whirligig! Inflatable Rides | Seattle Center Productions | Armory | 11:00 AM | 6:00 PM |
| 4/6 | Seattle Center Whirligig! Inflatable Rides | Seattle Center Productions | Armory | 11:00 AM | 6:00 PM |
| 4/7 | Seattle Center Whirligig! Inflatable Rides | Seattle Center Productions | Armory | 11:00 AM | 6:00 PM |
| 4/8 | Seattle Center Whirligig! Inflatable Rides | Seattle Center Productions | Armory | 11:00 AM | 6:00 PM |
| 4/9 | Seattle Center Whirligig! Inflatable Rides | Seattle Center Productions | Armory | 11:00 AM | 6:00 PM |
| 4/10 | Seattle Center Whirligig! Inflatable Rides | Seattle Center Productions | Armory | 11:00 AM | 6:00 PM |
| 4/11 | Seattle Center Whirligig! Inflatable Rides | Seattle Center Productions | Armory | 11:00 AM | 6:00 PM |
| 4/12 | Seattle Center Whirligig! Inflatable Rides | Seattle Center Productions | Armory | 11:00 AM | 6:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|---|----------------------------|--|----------|----------|
| 4/13 | Seattle Center Whirligig! Inflatable Rides | Seattle Center Productions | Armory | 11:00 AM | 6:00 PM |
| 4/14 | International Children's Friendship Festival (load in) | Seattle Center Productions | Fisher Pavilion & Lawn | 8:00 AM | 5:00 PM |
| 4/14 | Seattle Center Whirligig! Inflatable Rides | Seattle Center Productions | Armory | 11:00 AM | 6:00 PM |
| 4/15 | Black Lives Matter March | Free Speech | Grounds | 9:00 AM | 3:00 PM |
| 4/15 | International Children's Friendship Festival | Seattle Center Productions | Fisher Pavilion & Lawn | 11:00 AM | 5:00 PM |
| 4/15 | Seattle Center Whirligig! Inflatable Rides | Seattle Center Productions | Armory | 11:00 AM | 6:00 PM |
| 4/16 | International Children's Friendship Festival | Seattle Center Productions | Fisher Pavilion & Lawn | 11:00 AM | 5:00 PM |
| 4/16 | Seattle Center Whirligig! Inflatable Rides | Seattle Center Productions | Armory | 11:00 AM | 6:00 PM |
| 4/17 | International Children's Friendship Festival (load out) | Seattle Center Productions | Fisher Pavilion & Lawn | 8:00 AM | 2:00 PM |
| 4/20 | Seattle Cherry Blossom Festival (load in) | Seattle Center Productions | Armory, Fisher Pavilion & Grounds | 8:00 AM | 6:00 PM |
| 4/21 | Seattle Cherry Blossom Festival | Seattle Center Productions | Armory, Fisher Pavilion & Grounds | 10:00 AM | 6:00 PM |
| 4/22 | March for Science | Free Speech | Grounds | 11:00 AM | 1:00 PM |
| 4/22 | Seattle Cherry Blossom Festival | Seattle Center Productions | Armory, Fisher Pavilion & Grounds | 10:00 AM | 6:00 PM |
| 4/23 | Seattle Cherry Blossom Festival | Seattle Center Productions | Armory, Fisher Pavilion & Grounds | 10:00 AM | 6:00 PM |
| 4/28 | World Rhythm Festival | Seattle Center Productions | Armory, Fisher Pavilion, Mural & Grounds | 12:00 PM | 11:00 PM |
| 4/29 | World Rhythm Festival | Seattle Center Productions | Armory, Fisher Pavilion, Mural & Grounds | 12:00 PM | 11:00 PM |
| 4/30 | World Rhythm Festival | Seattle Center Productions | Armory, Fisher Pavilion, Mural & Grounds | 12:00 PM | 7:00 PM |
| 5/5 | March of Dimes March for Babies (load in) | March of Dimes | Fisher Pavilion & Lawn | 7:00 AM | 5:00 PM |
| 5/6 | iFest | Seattle Center Productions | Armory | 11:00 AM | 3:00 PM |
| 5/6 | LightReal Music Festival (load in) | LightReal | Mural | 8:00 AM | 8:00 PM |
| 5/7 | Asian Pacific Islander | Seattle Center Productions | Armory | 11:45 AM | 5:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|---|-----------------------------------|---------------------------------|----------|----------|
| 5/7 | Carry 5 Walk For Water | Carry 5 | Intn'l Fountain Mall | 1:00 PM | 4:00 PM |
| 5/7 | Seattle Brain Cancer Walk | Swedish Medical Center | Fisher Pavilion & Lawn | 7:30 AM | 12:00 PM |
| 5/10 | UW School of Nursing Recognition Banquet | UW School of Nursing | Fisher Pavilion | 6:00 PM | 9:00 PM |
| 5/11 | American Seafood Company | American Seafood Company | Armory Loft | 7:00 AM | 5:00 PM |
| 5/12 | Women in Trades 38th Annual Career Fair | WA Women in Trades Association | Fisher Pavilion, Lawn & Grounds | 9:00 AM | 2:00 PM |
| 5/13 | Spirit of Africa | Seattle Center Productions | Armory & Mural | 12:00 PM | 8:00 PM |
| 5/18 | SIFF Gala After Party | SIFF | Fisher Pavilion | 9:00 PM | 12:00 AM |
| 5/19 | SIFF Gala After Party (load out) | SIFF | Fisher Pavilion | 8:00 AM | 6:00 PM |
| 5/20 | "Numinous" A Series of Illumination | N/A | Grounds | 7:00 PM | 11:00 PM |
| 5/20 | A Glimpse of China | Seattle Center Productions | Armory | 10:00 AM | 6:00 PM |
| 5/21 | "Numinous" A Series of Illumination | N/A | Grounds | 7:00 PM | 11:00 PM |
| 5/21 | Great Strides for Cystic Fibrosis Seattle | Great Strides for Cystic Fibrosis | Mural | 12:00 PM | 3:00 PM |
| 5/21 | NW Folklife Festival (load in) | NW Folklife | Grounds | 7:00 AM | 7:00 PM |
| 5/21 | NW Folklife Festival (load out) | NW Folklife | Grounds | 8:00 AM | 6:00 PM |
| 5/22 | NW Folklife Festival (load in) | NW Folklife | Grounds | 7:00 AM | 7:00 PM |
| 5/22 | NW Folklife Festival (load out) | NW Folklife | Grounds | 7:00 AM | 6:00 PM |
| 5/23 | NW Folklife Festival (load in) | NW Folklife | Grounds | 7:00 AM | 7:00 PM |
| 5/24 | NW Folklife Festival (load in) | NW Folklife | Grounds | 7:00 AM | 8:00 PM |
| 5/25 | NW Folklife Festival (load in) | NW Folklife | Grounds | 7:00 AM | 9:00 PM |
| 5/26 | NW Folklife Festival | NW Folklife | Grounds | 11:00 AM | 10:00 PM |
| 5/27 | NW Folklife Festival | NW Folklife | Grounds | 11:00 AM | 10:00 PM |
| 5/28 | NW Folklife Festival | NW Folklife | Grounds | 11:00 AM | 10:00 PM |
| 5/29 | NW Folklife Festival | NW Folklife | Grounds | 11:00 AM | 10:00 PM |
| 5/30 | NW Folklife Festival (load out) | NW Folklife | Grounds | 7:00 AM | 6:00 PM |
| 5/31 | NW Folklife Festival (load out) | NW Folklife | Grounds | 7:00 AM | 6:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|--|----------------------------|--|----------|----------|
| 6/1 | NW Folklife Festival (load out) | NW Folklife | Grounds | 7:00 AM | 6:00 PM |
| 6/1 | Pagdiriwang Philippine Festival (load in) | Seattle Center Productions | Armory & Mural | 11:00 AM | 7:00 PM |
| 6/2 | Pagdiriwang Philippine Festival (load in) | Seattle Center Productions | Armory & Mural | 11:00 AM | 7:00 PM |
| 6/2 | Susan G. Komen Race for the Cure (load in) | Susan G. Komen | Seattle Center Pavilion, Fisher Pavilion & Lawn, Int'l Fountain Pavers | 7:00 AM | 6:00 PM |
| 6/3 | Pagdiriwang Philippine Festival | Seattle Center Productions | Armory & Mural | 11:00 AM | 7:00 PM |
| 6/3 | Susan G. Komen Race for the Cure | Susan G. Komen | Seattle Center Pavilion, Fisher Pavilion & Lawn, Int'l Fountain Pavers | 7:00 AM | 6:00 PM |
| 6/4 | Pagdiriwang Philippine Festival | Seattle Center Productions | Armory & Mural | 11:00 AM | 7:00 PM |
| 6/5 | Pagdiriwang Philippine Festival (load out) | Seattle Center Productions | Armory & Mural | 11:00 AM | 7:00 PM |
| 6/7 | Voices for Children Awards Luncheon | Voices for Children | Fisher Pavilion | 11:00 AM | 1:30 PM |
| 6/10 | "Numinous" A Series of Illumination | N/A | Grounds | 7:00 PM | 11:00 PM |
| 6/10 | Festival Sundiata: Black Arts Fest | Seattle Center Productions | Armory & Mural | 11:00 AM | 8:00 PM |
| 6/11 | "Numinous" A Series of Illumination | N/A | Grounds | 7:00 PM | 11:00 PM |
| 6/11 | Festival Sundiata: Black Arts Fest | Seattle Center Productions | Armory & Mural | 12:00 PM | 6:00 PM |
| 6/11 | National Pride March | Free Speech | Intn'l Fountain Mall Pavers | 1:00 PM | 3:00 PM |
| 6/13 | Stella Artois (load in) | Stella Artois | Fisher Pavilion | 7:00 AM | 6:00 PM |
| 6/14 | Stella Artois (load in) | Stella Artois | Fisher Pavilion | 7:00 AM | 6:00 PM |
| 6/14 | Summer Yoga at the Park | Seattle Center Productions | Grounds | 7:00 PM | 8:00 PM |
| 6/15 | Stella Artois | Stella Artois | Fisher Pavilion | 5:00 PM | 10:00 PM |
| 6/16 | Seattle Retro Gaming Expo (load in) | Seattle Retro Gaming | Fisher Pavilion | 9:00 AM | 6:00 PM |
| 6/17 | Seattle Bot Battles 15 | Seattle Center Productions | Armory Stage | 11:00 AM | 5:00 PM |
| 6/17 | Seattle Retro Gaming Expo | Seattle Retro Gaming | Fisher Pavilion | 9:00 AM | 8:00 PM |
| 6/18 | Rock & Roll Marathon | Competitor Group | Off Campus - Downtown impact* | 5:00 AM | 10:00 AM |

| Date | Name | Producer | Location | Start | End |
|------|---|--------------------------------|------------------------|----------|----------|
| 6/18 | Seattle Bot Battles 15 | Seattle Center Productions | Armory Stage | 11:00 AM | 5:00 PM |
| 6/18 | Seattle Retro Gaming Expo | Seattle Retro Gaming | Fisher Pavilion | 10:00 AM | 5:00 PM |
| 6/24 | Spirit of Indigenous People | Seattle Center Productions | Armory & Mural | 8:30 AM | 5:00 PM |
| 6/26 | Pridefest (load out) | Pridefest | Grounds | 8:00 AM | 6:00 PM |
| 7/1 | Swedish Multiple Sclerosis Center 8th Annual Art Show | Swedish Medical Center | Armory South Court | 9:00 AM | 6:00 PM |
| 7/2 | Swedish Multiple Sclerosis Center 8th Annual Art Show | Swedish Medical Center | Armory South Court | 9:00 AM | 6:00 PM |
| 7/4 | Naturalization Celebration | Seattle Center Productions | Fisher Pavilion | 10:30 AM | 2:00 PM |
| 7/6 | Seattle International Beerfest (load in) | Seattle International Beerfest | Fisher Pavilion & Lawn | 7:00 AM | 8:00 PM |
| 7/7 | Seattle International Beerfest | Seattle International Beerfest | Fisher Pavilion & Lawn | 12:00 PM | 10:00 PM |
| 7/8 | Polish Festival Seattle | Seattle Center Productions | Armory | 12:00 PM | 8:00 PM |
| 7/8 | Seattle International Beerfest | Seattle International Beerfest | Fisher Pavilion & Lawn | 12:00 PM | 10:00 PM |
| 7/8 | Seattle Sikh Turban Day | Sikh Youth Association | Intn'l Fountain Mall | 11:30 AM | 6:00 PM |
| 7/9 | Seattle International Beerfest | Seattle International Beerfest | Fisher Pavilion & Lawn | 12:00 PM | 7:00 PM |
| 7/12 | BMGF Summer Picnic (load in) | BMGF | Fisher Pavilion & Lawn | 8:00 AM | 8:00 PM |
| 7/13 | BMGF Summer Picnic | BMGF | Fisher Pavilion & Lawn | 4:00 PM | 8:00 PM |
| 7/15 | Arab Festival | Seattle Center Productions | Armory & Mural | 11:00 AM | 7:00 PM |
| 7/15 | Bite of Seattle (load in) | Bite of Seattle | Grounds | 8:00 AM | 6:00 PM |
| 7/15 | Slalom Family Picnic 2017 | Slalom | Fisher Pavilion | 11:00 AM | 2:00 PM |
| 7/16 | Arab Festival | Seattle Center Productions | Armory & Mural | 11:00 AM | 7:00 PM |
| 7/16 | Bite of Seattle (load in) | Bite of Seattle | Grounds | 8:00 AM | 6:00 PM |
| 7/17 | Bite of Seattle (load in) | Bite of Seattle | Grounds | 8:00 AM | 6:00 PM |
| 7/18 | Bite of Seattle (load in) | Bite of Seattle | Grounds | 7:00 AM | 7:00 PM |
| 7/19 | Bite of Seattle (load in) | Bite of Seattle | Grounds | 7:00 AM | 8:00 PM |
| 7/20 | Bite of Seattle (load in) | Bite of Seattle | Grounds | 7:00 AM | 9:00 PM |
| 7/21 | Bite of Seattle | Bite of Seattle | Grounds | 11:00 AM | 9:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|--|------------------------------------|------------------------|----------|----------|
| 7/22 | Bite of Seattle | Bite of Seattle | Grounds | 11:00 AM | 9:00 PM |
| 7/23 | Bite of Seattle | Bite of Seattle | Grounds | 11:00 AM | 9:00 PM |
| 7/24 | Bite of Seattle (load out) | Bite of Seattle | Grounds | 7:00 AM | 6:00 PM |
| 7/25 | Bite of Seattle (load out) | Bite of Seattle | Grounds | 7:00 AM | 6:00 PM |
| 7/29 | Movies at the Mural | Seattle Center Productions | Mural | 9:00 PM | 11:30 PM |
| 7/30 | Shakespeare in the Park - Much Ado About Nothing | Shakespeare in the Park - Much Ado | Fisher Pavilion & Lawn | 6:00 PM | 8:00 PM |
| 7/30 | Shakespeare in the Park - Pericles | Shakespeare in the Park - Much Ado | Fisher Pavilion & Lawn | 2:00 PM | 4:00 PM |
| 8/18 | Seattle Tattoo Expo | Connors & Co | Fisher Pavilion & Lawn | 2:00 PM | 10:00 PM |
| 8/19 | Movies at the Mural | Seattle Center Productions | Mural | 9:00 PM | 11:30 PM |
| 8/19 | Seattle Tattoo Expo | Connors & Co | Fisher Pavilion & Lawn | 12:00 PM | 10:00 PM |
| 8/20 | BrasilFest | Seattle Center Productions | Armory & Mural | 12:00 PM | 7:00 PM |
| 8/20 | Seattle Tattoo Expo | Connors & Co | Fisher Pavilion & Lawn | 12:00 PM | 8:00 PM |
| 8/24 | Cascade Public Media screening: The Vietnam War | Cascade Public Media screening | Mural Amphitheatre | 8:00 PM | 9:30 PM |
| 8/25 | Bumbershoot (load in) | One Reel | Grounds | 7:00 AM | 6:00 PM |
| 8/25 | Tibet Fest (load in) | Seattle Center Productions | Armory | 4:00 PM | 9:00 PM |
| 8/26 | Bumbershoot (load in) | One Reel | Grounds | 7:00 AM | 6:00 PM |
| 8/26 | Movies at the Mural | Seattle Center Productions | Mural | 9:00 PM | 11:30 PM |
| 8/26 | Tibet Fest | Seattle Center Productions | Armory & Grounds | 11:00 AM | 5:00 PM |
| 8/27 | Bumbershoot (load in) | One Reel | Grounds | 7:00 AM | 6:00 PM |
| 8/27 | Tibet Fest | Seattle Center Productions | Armory & Grounds | 11:00 AM | 5:00 PM |
| 8/28 | Bumbershoot (load in) | One Reel | Grounds | 7:00 AM | 7:00 PM |
| 8/29 | Bumbershoot (load in) | One Reel | Grounds | 7:00 AM | 8:00 PM |
| 8/30 | Bumbershoot (load in) | One Reel | Grounds | 7:00 AM | 9:00 PM |
| 8/31 | Bumbershoot (load in) | One Reel | Grounds | 7:00 AM | 11:59 PM |
| 9/1 | Bumbershoot | One Reel | Grounds | 2:00 PM | 11:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|---------------------------------------|------------------------------|---|----------|----------|
| 9/2 | Bumbershoot | One Reel | Grounds | 2:00 PM | 11:00 PM |
| 9/3 | Bumbershoot | One Reel | Grounds | 2:00 PM | 11:00 PM |
| 9/4 | Bumbershoot (load out) | One Reel | Grounds | 7:00 AM | 6:00 PM |
| 9/5 | Bumbershoot (load out) | One Reel | Grounds | 7:00 AM | 7:00 PM |
| 9/6 | Bumbershoot (load out) | One Reel | Grounds | 7:00 AM | 7:00 PM |
| 9/6 | TCS Assembly | Seattle Center Productions | Armory Stage/Dance Floor | 10:45 AM | 11:45 AM |
| 9/7 | Bumbershoot (load out) | One Reel | Grounds | 7:00 AM | 6:00 PM |
| 9/10 | Live Aloha Hawaiian Cultural Festival | Seattle Center Productions | Armory & Grounds | 11:00 AM | 7:00 PM |
| 9/12 | United Way Day of Caring | United Way | Fisher Pavilion | 12:00 PM | 6:00 PM |
| 9/13 | Susan G. Komen 3-Day (load in) | Susan G. Komen | Intn'l Fountain Mall & Founder's Ct | 8:00 AM | 6:00 PM |
| 9/13 | Tone It Up | Tone It Up | Mural Amphitheatre | 3:00 PM | 8:00 PM |
| 9/14 | Susan G. Komen 3-Day (load in) | Susan G. Komen | Intn'l Fountain Mall & Founder's Ct | 8:00 AM | 6:00 PM |
| 9/15 | Fiestas Patrias (load in) | Seattle Center Productions | Armory, Fisher Pavilion & Seattle Center Pavilion | 8:00 AM | 6:00 PM |
| 9/15 | St. Jude Walk (load in) | St. Jude Children's Hospital | Mural Amphitheatre | 7:00 AM | 6:00 PM |
| 9/15 | Susan G. Komen 3-Day | Susan G. Komen | Intn'l Fountain Mall & Founder's Ct | 4:30 AM | 7:30 AM |
| 9/16 | Fiestas Patrias | Seattle Center Productions | Armory, Fisher Pavilion & Seattle Center Pavilion | 12:00 PM | 5:00 PM |
| 9/16 | St. Jude Walk | St. Jude Children's Hospital | Mural Amphitheatre | 7:00 AM | 10:30 AM |
| 9/17 | Fiestas Patrias | Seattle Center Productions | Armory, Fisher Pavilion & Seattle Center Pavilion | 12:00 PM | 5:00 PM |
| 9/17 | Lyft Party | Lyft | Mural | 7:00 AM | 11:59 PM |
| 9/17 | Susan G. Komen 3-Day | Susan G. Komen | Intn'l Fountain Mall & Founder's Ct | 6:00 AM | 8:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|---|----------------------------|---|----------|----------|
| 9/19 | Italian Fest (load in) | Seattle Center Productions | Seattle Center Pavilion, Fisher Pavilion & Lawn, Armory | 8:00 AM | 4:00 PM |
| 9/20 | Italian Fest (load in) | Seattle Center Productions | Seattle Center Pavilion, Fisher Pavilion & Lawn, Armory | 8:00 AM | 4:00 PM |
| 9/23 | Autism Speaks Walk | Autism Speaks | Next50 | 7:00 AM | 5:00 PM |
| 9/24 | Walk to End Alzheimer's - Pacific Northwest | Alzheimer's Association | Mural Amphitheatre | 8:30 AM | 12:00 PM |
| 9/25 | Italian Fest (load out) | Seattle Center Productions | Seattle Center Pavilion, Fisher Pavilion & Lawn, Armory | 8:00 AM | 4:00 PM |
| 9/26 | Bringing Washington Home 2017 | WA Low Income Alliance | Fisher Pavilion | 5:30 PM | 9:30 PM |
| 9/26 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 7:00 PM | 8:40 AM |
| 9/27 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 11:00 AM | 12:40 PM |
| 9/28 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 11:00 AM | 12:40 PM |
| 9/28 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 7:00 PM | 8:40 PM |
| 9/29 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 7:00 PM | 8:40 PM |
| 9/30 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 1:00 PM | 2:40 PM |
| 9/30 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 4:30 PM | 6:10 PM |
| 9/30 | Robothon | Seattle Center Productions | Armory & Mural | 9:30 AM | 5:30 PM |
| 10/1 | CroatiaFest | Seattle Center Productions | Armory & Grounds | 12:00 PM | 6:00 PM |
| 10/1 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 11:00 AM | 12:40 PM |
| 10/1 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 2:00 PM | 3:40 PM |
| 10/3 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 12:45 PM | 2:25 PM |
| 10/4 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 10/5 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 10/5 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 7:00 PM | 8:40 PM |
| 10/5 | Holland America Group | Holland America | Fisher Pavilion | 1:00 PM | 4:00 PM |

| Date | Name | Producer | Location | Start | End |
|-------|---|--|------------------------|----------|----------|
| 10/6 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 10/6 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 7:00 PM | 8:40 PM |
| 10/7 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 1:00 PM | 2:40 PM |
| 10/7 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 4:30 PM | 6:10 PM |
| 10/8 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 11:00 AM | 12:40 PM |
| 10/8 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 2:00 PM | 3:40 PM |
| 10/10 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:00 AM | 11:40 AM |
| 10/10 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 12:45 PM | 2:25 PM |
| 10/11 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 10/12 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 10/12 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 7:00 PM | 8:40 PM |
| 10/12 | Powerful Voices | Powerful Voices | Fisher Pavilion | 11:30 AM | 1:00 PM |
| 10/13 | American Heart Association Heart Walk (load in) | American Heart Association | Fisher Pavilion & Lawn | 8:00 AM | 6:00 PM |
| 10/13 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 10/13 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 7:00 PM | 8:40 PM |
| 10/14 | Christian Louboutin x Nordstrom Installation | Christian Louboutin | Grounds | 6:00 AM | 11:59 PM |
| 10/14 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 1:00 PM | 2:40 PM |
| 10/14 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 4:30 PM | 6:10 PM |
| 10/14 | TurkFest | Festal | Armory, Loft & Grounds | 10:00 AM | 6:00 PM |
| 10/15 | Christian Louboutin x Nordstrom Installation | Christian Louboutin | Grounds | 12:00 AM | 11:59 PM |
| 10/15 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 11:00 AM | 12:40 PM |
| 10/15 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 2:00 PM | 3:40 PM |
| 10/15 | Performing & Visual Arts College Fair | Nat'l Association for College Admissions | Fisher Pavilion | 1:00 PM | 3:00 PM |
| 10/15 | TurkFest | Festal | Armory, Loft & Grounds | 11:00 AM | 5:00 PM |
| 10/16 | Christian Louboutin x Nordstrom Installation | Christian Louboutin | Grounds | 12:00 AM | 11:59 PM |

| Date | Name | Producer | Location | Start | End |
|-------|--|--|--------------------|----------|----------|
| 10/17 | Christian Louboutin x Nordstrom Installation | Christian Louboutin | Grounds | 12:00 AM | 11:59 PM |
| 10/17 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:00 AM | 11:40 AM |
| 10/17 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 12:45 PM | 2:25 PM |
| 10/17 | Seattle Housing Authority All Staff Meeting | Seattle Housing Authority All | Fisher Pavilion | 8:00 AM | 1:00 PM |
| 10/18 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 10/19 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 10/19 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 7:00 PM | 8:40 PM |
| 10/20 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 10/20 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 7:00 PM | 8:40 PM |
| 10/21 | Diwali: Lights of India | Seattle Center Productions | Armory & Loft | 12:00 PM | 6:00 PM |
| 10/21 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 1:00 PM | 2:40 PM |
| 10/21 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 4:30 PM | 6:10 PM |
| 10/22 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 11:00 AM | 12:40 PM |
| 10/22 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 2:00 PM | 3:40 PM |
| 10/22 | Out of the Darkness | American Foundation for Suicide Prevention | Fisher Pavilion | 8:00 AM | 2:30 PM |
| 10/24 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:00 AM | 11:40 AM |
| 10/24 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 12:45 PM | 2:25 PM |
| 10/25 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 10/26 | Dia de los Muertos (load in) | Seattle Center Productions | Armory & Grounds | 11:00 AM | 7:00 PM |
| 10/26 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 10/26 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 7:00 PM | 8:40 PM |
| 10/27 | Dia de los Muertos (load in) | Seattle Center Productions | Armory & Grounds | 11:00 AM | 7:00 PM |
| 10/27 | Dia de los Muertos (load out) | Seattle Center Productions | Armory & Grounds | 11:00 AM | 7:00 PM |
| 10/27 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 10/27 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 7:00 PM | 8:40 PM |

| Date | Name | Producer | Location | Start | End |
|-------|---|----------------------------|--------------------|----------|----------|
| 10/28 | Dia de los Muertos | Seattle Center Productions | Armory & Grounds | 11:00 AM | 7:00 PM |
| 10/28 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 1:00 PM | 2:40 PM |
| 10/28 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 4:30 PM | 6:10 PM |
| 10/29 | Dia de los Muertos | Seattle Center Productions | Armory & Grounds | 11:00 AM | 7:00 PM |
| 10/29 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 11:00 AM | 12:40 PM |
| 10/29 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 2:00 PM | 3:40 PM |
| 10/31 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:00 AM | 11:40 AM |
| 10/31 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 12:45 PM | 2:25 PM |
| 10/31 | Winterfest Ice Rink (Load In) (Overhead lighting work) | Seattle Center Productions | Fisher Pavilion | 8:00 AM | 5:00 PM |
| 11/1 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 11/1 | Winterfest Ice Rink (Load In) (Overhead lighting work) | Seattle Center Productions | Fisher Pavilion | 8:00 AM | 5:00 PM |
| 11/2 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 11/2 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 7:00 PM | 8:40 PM |
| 11/2 | Winterfest Ice Rink (Load In) (Overhead lighting work) | Seattle Center Productions | Fisher Pavilion | 8:00 AM | 5:00 PM |
| 11/3 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 11/3 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 7:00 PM | 8:40 PM |
| 11/4 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 1:00 PM | 2:40 PM |
| 11/4 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 4:30 PM | 6:10 PM |
| 11/4 | Hmong New Year Celebration | Seattle Center Productions | Armory | 11:00 AM | 6:00 PM |
| 11/4 | Short Run Comix | Short Run Comix | Fisher Pavilion | 11:00 AM | 6:00 PM |
| 11/5 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 11:00 AM | 12:40 PM |
| 11/5 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 2:00 PM | 3:40 PM |
| 11/5 | Winterfest Ice Rink (Load In) (Deliver ice rink materials) | Seattle Center Productions | Fisher Pavilion | 8:00 AM | 6:00 PM |
| 11/6 | Winterfest Ice Rink (Load In) (Deliver temporary chiller, pump skid, and pipes) | Seattle Center Productions | Fisher Pavilion | 7:00 AM | 6:00 PM |
| 11/7 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:00 AM | 11:40 AM |

| Date | Name | Producer | Location | Start | End |
|-------|---|----------------------------|--------------------------|----------|----------|
| 11/7 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 12:45 PM | 2:25 PM |
| 11/7 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 7:00 PM | 8:10 PM |
| 11/7 | Winterfest Ice Rink (Load In) (Build dasher) | Seattle Center Productions | Fisher Pavilion | 7:00 AM | 6:00 PM |
| 11/8 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 11/8 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 11:00 AM | 12:10 PM |
| 11/8 | Winterfest Ice Rink (Load In) (Ice mat install) | Seattle Center Productions | Fisher Pavilion | 7:00 AM | 6:00 PM |
| 11/9 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 11/9 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 7:00 PM | 8:40 PM |
| 11/9 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 11:00 AM | 12:10 PM |
| 11/9 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 7:00 PM | 8:10 PM |
| 11/9 | Winterfest Ice Rink (Load In) (Ice mat install) | Seattle Center Productions | Fisher Pavilion | 7:00 AM | 6:00 PM |
| 11/10 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 11/10 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 7:00 PM | 8:40 PM |
| 11/10 | Knit Fit! | Knit Fit! | Armory & Loft | 7:00 AM | 7:00 PM |
| 11/10 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 7:00 PM | 8:10 PM |
| 11/10 | Winterfest Ice Rink (Load In) (Ice mat install) | Seattle Center Productions | Fisher Pavilion | 7:00 AM | 6:00 PM |
| 11/11 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 1:00 PM | 2:40 PM |
| 11/11 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 4:30 PM | 6:10 PM |
| 11/11 | Knit Fit! | Knit Fit! | Armory & Loft | 8:00 AM | 10:00 PM |
| 11/11 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 1:00 PM | 2:10 PM |
| 11/11 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 4:30 PM | 5:40 PM |
| 11/11 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 4:30 PM | 5:40 PM |
| 11/12 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 11:00 AM | 12:40 PM |
| 11/12 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 2:00 PM | 3:40 PM |
| 11/12 | Knit Fit! | Knit Fit! | Armory & Loft | 8:00 AM | 10:00 PM |
| 11/12 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 11:00 AM | 12:10 PM |

| Date | Name | Producer | Location | Start | End |
|-------|---|----------------------------|--------------------------|----------|----------|
| 11/12 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 2:30 PM | 3:40 PM |
| 11/12 | Winterfest Ice Rink (Load In) (Pressurize ice mat, pump glycol) | Seattle Center Productions | Fisher Pavilion | 7:00 AM | 6:00 PM |
| 11/13 | Winterfest Ice Rink (Load In) (Test ice mats) | Seattle Center Productions | Fisher Pavilion | 7:00 AM | 6:00 PM |
| 11/14 | Festál Monthly Meeting | Seattle Center Productions | Armory Loft #2 | 6:00 PM | 8:00 PM |
| 11/14 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:00 AM | 11:40 AM |
| 11/14 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 12:45 PM | 2:25 PM |
| 11/14 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 10:00 AM | 11:10 AM |
| 11/14 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 12:30 PM | 1:40 PM |
| 11/14 | Winterfest Ice Rink (Load In) (Tune chiller and ice mat) | Seattle Center Productions | Fisher Pavilion | 7:00 AM | 6:00 PM |
| 11/15 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 11/15 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 10:30 AM | 11:40 AM |
| 11/15 | Winterfest Ice Rink (Load In) (Ice delivery & ice making) | Seattle Center Productions | Fisher Pavilion | 7:00 AM | 6:00 PM |
| 11/16 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 11/16 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 7:00 PM | 8:40 PM |
| 11/16 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 10:30 AM | 11:40 AM |
| 11/16 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 7:00 PM | 8:10 PM |
| 11/16 | Winterfest Ice Rink (Load In) (Ice making) | Seattle Center Productions | Fisher Pavilion | 7:00 AM | 6:00 PM |
| 11/17 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 11/17 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 7:00 PM | 8:40 PM |
| 11/17 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 10:30 AM | 11:40 AM |
| 11/17 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 7:00 PM | 8:10 PM |
| 11/17 | Winterfest Ice Rink (Load In) (Ice making) | Seattle Center Productions | Fisher Pavilion | 7:00 AM | 6:00 PM |
| 11/18 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 1:00 PM | 2:40 PM |
| 11/18 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 4:30 PM | 6:10 PM |
| 11/18 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 4:30 PM | 5:40 PM |

| Date | Name | Producer | Location | Start | End |
|-------------|--|----------------------------|--------------------------|----------|----------|
| 11/18 | Winterfest Ice Rink (Load In) (Ice making) | Seattle Center Productions | Fisher Pavilion | 7:00 AM | 6:00 PM |
| 11/19 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 11:00 AM | 12:40 PM |
| 11/19 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 2:00 PM | 3:40 PM |
| 11/19 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 11:00 AM | 12:10 PM |
| 11/19 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 2:30 PM | 3:40 PM |
| 11/19 | The Government Inspector | TPS | Center Theatre | 2:00 PM | 4:30 PM |
| 11/19 | Winterfest Ice Rink (Load In) (Ice making) | Seattle Center Productions | Fisher Pavilion | 7:00 AM | 11:00 PM |
| 11/20 | Winterfest Ice Rink (Load In) (Ice making) | Seattle Center Productions | Fisher Pavilion | 7:00 AM | 11:00 PM |
| 11/21 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:00 AM | 11:40 AM |
| 11/21 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 12:45 PM | 2:25 PM |
| 11/21 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 10:00 AM | 11:10 AM |
| 11/21 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 12:30 PM | 1:40 PM |
| 11/21 | Winterfest Ice Rink (Load In) (Ice making) | Seattle Center Productions | Fisher Pavilion | 7:00 AM | 11:00 PM |
| 11/22 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 10:30 AM | 12:10 PM |
| 11/22 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 2:00 PM | 3:40 PM |
| 11/22 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 10:30 AM | 11:40 AM |
| 11/22 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 2:00 PM | 3:10 PM |
| 11/22 | Winterfest Ice Rink (Load In) (Ice ready) | Seattle Center Productions | Fisher Pavilion | 7:00 AM | 11:00 PM |
| 11/23-12/31 | Winterfest Ice Rink | Seattle Center Productions | Fisher Pavilion | 11:00 AM | 10:00 PM |
| 11/24-12/29 | Winterfest Entertainment | Seattle Center Productions | Armory Stage | 11:00 AM | 3:00 PM |
| 11/24 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 2:00 PM | 3:40 PM |
| 11/24 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 7:00 PM | 8:40 PM |
| 11/24 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 2:00 PM | 3:10 PM |
| 11/24 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 7:00 PM | 8:10 PM |
| 11/25 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 1:00 PM | 2:40 PM |

| Date | Name | Producer | Location | Start | End |
|-------|-------------------------------------|----------------------------|--------------------------|----------|----------|
| 11/25 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 4:30 PM | 6:10 PM |
| 11/25 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 1:00 PM | 2:10 PM |
| 11/25 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 4:30 PM | 5:40 PM |
| 11/26 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 11:00 AM | 12:40 PM |
| 11/26 | Go Dog Go | Seattle Children's Theatre | Eve Alvord Theatre | 2:00 PM | 3:40 PM |
| 11/26 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 11:00 AM | 12:10 PM |
| 11/26 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 2:30 PM | 3:40 PM |
| 11/28 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 10:00 AM | 11:10 AM |
| 11/28 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 12:30 PM | 1:40 PM |
| 11/29 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 7:30 PM | 10:00 PM |
| 11/29 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 10:30 AM | 11:40 AM |
| 11/30 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 7:30 PM | 10:00 PM |
| 11/30 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 10:30 AM | 11:40 AM |
| 11/30 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 7:00 PM | 8:10 PM |
| 12/1 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 7:30 PM | 10:00 PM |
| 12/1 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 10:30 AM | 11:40 AM |
| 12/1 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 7:00 PM | 8:10 PM |
| 12/2 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 7:30 PM | 10:00 PM |
| 12/2 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 1:00 PM | 2:10 PM |
| 12/2 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 4:30 PM | 5:40 PM |
| 12/3 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 2:00 PM | 4:30 PM |
| 12/3 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 11:00 AM | 12:10 PM |
| 12/3 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 2:30 PM | 3:40 PM |
| 12/5 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 10:00 AM | 11:10 AM |
| 12/5 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 12:30 PM | 1:40 PM |
| 12/6 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 7:30 PM | 10:00 PM |

| Date | Name | Producer | Location | Start | End |
|-------|-------------------------------------|----------------------------|--------------------------|----------|----------|
| 12/6 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 10:30 AM | 11:40 AM |
| 12/7 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 7:30 PM | 10:00 PM |
| 12/7 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 10:30 AM | 11:40 AM |
| 12/8 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 7:30 PM | 10:00 PM |
| 12/8 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 10:30 AM | 11:40 AM |
| 12/8 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 7:00 PM | 8:10 PM |
| 12/9 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 7:30 PM | 10:00 PM |
| 12/9 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 1:00 PM | 2:10 PM |
| 12/9 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 4:30 PM | 5:40 PM |
| 12/10 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 2:00 PM | 4:30 PM |
| 12/10 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 11:00 AM | 12:10 PM |
| 12/10 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 2:30 PM | 3:40 PM |
| 12/12 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 10:00 AM | 11:10 AM |
| 12/12 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 12:30 PM | 1:40 PM |
| 12/13 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 7:30 PM | 10:00 PM |
| 12/13 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 10:30 AM | 11:40 AM |
| 12/14 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 7:30 PM | 10:00 PM |
| 12/14 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 10:00 AM | 11:10 AM |
| 12/14 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 12:30 PM | 1:40 PM |
| 12/15 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 7:30 PM | 10:00 PM |
| 12/15 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 10:30 AM | 11:40 AM |
| 12/15 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 7:00 PM | 8:10 PM |
| 12/16 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 2:00 PM | 4:30 PM |
| 12/16 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 7:30 PM | 10:00 PM |
| 12/16 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 1:00 PM | 2:10 PM |
| 12/16 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 4:30 PM | 5:40 PM |

| Date | Name | Producer | Location | Start | End |
|-------|-------------------------------------|----------------------------|----------------------------|----------|----------|
| 12/17 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 2:00 PM | 4:30 PM |
| 12/17 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 11:00 AM | 12:10 PM |
| 12/17 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 2:30 PM | 3:40 PM |
| 12/17 | Winterfest - Center Ice Spectacle | Seattle Center Productions | Grounds | 12:00 PM | 6:00 PM |
| 12/19 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 11:00 AM | 12:10 PM |
| 12/19 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 2:30 PM | 3:40 PM |
| 12/20 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 7:30 PM | 10:00 PM |
| 12/20 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 11:00 AM | 12:10 PM |
| 12/20 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 2:30 PM | 3:40 PM |
| 12/21 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 7:30 PM | 10:00 PM |
| 12/21 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 2:00 PM | 3:10 PM |
| 12/21 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 7:00 PM | 8:10 PM |
| 12/21 | Public Performances | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM |
| 12/22 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 7:30 PM | 10:00 PM |
| 12/22 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 2:00 PM | 3:10 PM |
| 12/22 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 7:00 PM | 8:10 PM |
| 12/22 | Public Performances | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM |
| 12/23 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 2:00 PM | 4:30 PM |
| 12/23 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 7:30 PM | 10:00 PM |
| 12/23 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 1:00 PM | 2:10 PM |
| 12/23 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 4:30 PM | 5:40 PM |
| 12/23 | Public Performances | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM |
| 12/24 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 2:00 PM | 4:30 PM |
| 12/24 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 2:30 PM | 3:40 PM |
| 12/24 | Public Performances | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM |
| 12/26 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 2:30 PM | 3:40 PM |

| Date | Name | Producer | Location | Start | End |
|-------|-------------------------------------|----------------------------|----------------------------|----------|----------|
| 12/26 | Public Performances | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM |
| 12/27 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 7:30 PM | 10:00 PM |
| 12/27 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 11:00 AM | 12:10 PM |
| 12/27 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 2:30 PM | 3:40 PM |
| 12/27 | Public Performances | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM |
| 12/28 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 7:30 PM | 10:00 PM |
| 12/28 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 2:00 PM | 3:10 PM |
| 12/28 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 7:00 PM | 8:10 PM |
| 12/28 | Public Performances | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM |
| 12/28 | Seattle Center Sculpture Walk | Seattle Center | Grounds | 9:00 AM | 8:00 PM |
| 12/29 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 2:00 PM | 4:30 PM |
| 12/29 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 7:30 PM | 10:00 PM |
| 12/29 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 2:00 PM | 3:10 PM |
| 12/29 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 7:00 PM | 8:10 PM |
| 12/29 | Public Performances | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM |
| 12/30 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 2:00 PM | 4:30 PM |
| 12/30 | Howl's Moving Castle, A New Musical | Howl's Moving Castle, A | Center Theatre | 7:30 PM | 10:00 PM |
| 12/30 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 1:00 PM | 2:10 PM |
| 12/30 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 4:30 PM | 5:40 PM |
| 12/30 | Public Performances | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM |
| 12/31 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 2:30 PM | 3:40 PM |
| 12/31 | Mr. Popper's Penguins | Seattle Children's Theatre | Charlotte Martin Theatre | 7:30 PM | 8:40 PM |
| 12/31 | New Year's Eve Celebration | Seattle Center Productions | Grounds | 3:00 PM | 1:00 AM |
| 12/31 | New Year's Eve Fountain of Light | Seattle Center Productions | Intn'l Fountain Mall | 10:00 PM | 12:00 AM |
| 12/31 | Public Performances | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM |

Table B-4. Event-Related Curb Space Uses on Thomas St in 2017

| Date | Name | Producer | Location | Start | End | Curb Space/ Road Closures ¹ |
|------|-----------------------|----------------------------|----------------------------|---------|---------|--|
| 1/3 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 1/4 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 1/5 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 1/6 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 1/10 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 1/11 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 1/12 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 1/13 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 1/17 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 1/18 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 1/19 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 1/20 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 1/24 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 1/25 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 1/26 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 1/27 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 1/31 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 2/1 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 2/2 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 2/3 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 2/7 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 2/8 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |

¹ Curb space is in accordance with the SDOT/Seattle Center MOA for Event Curbside Management.

| Date | Name | Producer | Location | Start | End | Curb Space/ Road Closures ¹ |
|------|---|----------------------------|--|---------|---------|--|
| 2/9 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 2/10 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 2/14 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 2/15 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 2/16 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 2/17 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 2/21 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 2/22 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 2/23 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 2/24 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 2/28 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 3/1 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 3/1 | Hot Chocolate 15k/5k (load in) | RAM Racing | Seattle Center Pavilion, Exhibition Hall, Fisher Pavilion & Roof | 7:00 AM | 6:00 PM | Thomas St |
| 3/2 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 3/2 | Hot Chocolate 15k/5 (load in) | RAM Racing | Seattle Center Pavilion, Exhibition Hall, Fisher Pavilion & Roof | 7:00 AM | 6:00 PM | Thomas St |
| 3/3 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 3/3 | Hot Chocolate 15k/5k Expo & Packet Pickup | RAM Racing | Seattle Center Pavilion, Exhibition Hall, Fisher Pavilion & Roof | 7:00 AM | 6:00 PM | Thomas St |
| 3/4 | Hot Chocolate 15k/5k Expo & Packet Pickup | RAM Racing | Seattle Center Pavilion, Exhibition Hall, Fisher Pavilion & Roof | 7:00 AM | 8:00 PM | Thomas St |

| Date | Name | Producer | Location | Start | End | Curb Space/ Road Closures ¹ |
|------|---------------------------------|----------------------------|--|---------|----------|---|
| 3/5 | Hot Chocolate 15k/5k | RAM Racing | Seattle Center Pavilion, Exhibition Hall, Fisher Pavilion & Roof | 3:00 AM | 3:00 PM | Thomas St, 2nd Ave N |
| 3/5 | Hot Chocolate 15k/5k | RAM Racing | Seattle Center Pavilion, Exhibition Hall, Fisher Pavilion & Roof | 6:00 AM | 8:00 AM | Thomas St, 2nd Ave N/ 2nd Ave N btwn Denny & Thomas St |
| 3/7 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 3/8 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 3/9 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 3/10 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 3/11 | St. Pat's Dash (load in) | St. Pat's Dash | Seattle Center Pavilion, Fisher Pavilion Lawn | 7:00 AM | 6:00 PM | Thomas St |
| 3/12 | St. Pat's Dash | St. Pat's Dash | Seattle Center Pavilion, Fisher Pavilion & Lawn, Int'l Fountain Pavers | 8:00 AM | 10:30 AM | Thomas St, 2nd Ave N, Warren Ave N/2nd Ave N btwn Denny & Thomas St |
| 3/12 | St. Pat's Dash | St. Pat's Dash | Seattle Center Pavilion, Fisher Pavilion & Lawn, Int'l Fountain Pavers | 4:00 AM | 3:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 3/14 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 3/15 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 3/16 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 3/17 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 3/21 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 3/22 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 3/23 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 3/24 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 3/25 | Seattle Children's Theatre Sets | Seattle Children's Theatre | Seattle Children's Theatre | 5:00 PM | 11:59 PM | 2nd Ave N |

| Date | Name | Producer | Location | Start | End | Curb Space/ Road Closures ¹ |
|------|---------------------------------|--|----------------------------|---------|----------|--|
| 3/28 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 3/29 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 3/30 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 3/31 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 3/31 | Tomadachi Luncheon | Japanese Cultural & Community Center of WA | Fisher Pavilion | 8:00 AM | 3:00 PM | Thomas St |
| 4/4 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 4/5 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 4/6 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 4/7 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 4/11 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 4/12 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 4/13 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 4/14 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 4/18 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 4/18 | Seattle Children's Theatre Sets | Seattle Children's Theatre | Seattle Children's Theatre | 2:00 PM | 12:00 PM | 2nd Ave N |
| 4/19 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 4/20 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 4/21 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 4/25 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 4/26 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 4/27 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 4/28 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 5/2 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 5/3 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |

| Date | Name | Producer | Location | Start | End | Curb Space/ Road Closures ¹ |
|------|---------------------------------|----------------------------|---|----------|----------|---|
| 5/4 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 5/5 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 5/5 | Seattle Children's Theatre Sets | Seattle Children's Theatre | Seattle Children's Theatre | 12:00 PM | 11:59 PM | 2nd Ave N |
| 5/6 | March of Dimes March for Babies | March of Dimes | Fisher Pavilion & Lawn | 9:30 AM | 11:00 AM | 2nd Ave N/2nd Ave N btwn Denny & Thomas St |
| 5/6 | March of Dimes March for Babies | March of Dimes | Fisher Pavilion & Lawn | 4:00 AM | 2:00 PM | 2nd Ave N |
| 5/7 | LightReal Music Festival | LightReal | Mural | 8:00 AM | 11:59 PM | Thomas St |
| 5/9 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 5/10 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 5/11 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 5/12 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 5/12 | The Color Run (load in) | The Color Run | Seattle Center Pavilion, Fisher Pavilion & Lawn | 7:00 AM | 12:00 PM | Thomas St, 2nd Ave N |
| 5/13 | The Color Run (load in) | The Color Run | Seattle Center Pavilion, Fisher Pavilion & Lawn | 7:00 AM | 8:00 PM | Thomas St, 2nd Ave N |
| 5/14 | The Color Run | The Color Run | Seattle Center Pavilion, Fisher Pavilion & Lawn | 7:30 AM | 10:30 AM | Thomas St, 2nd Ave N/2nd Ave N btwn Denny & Thomas St |
| 5/14 | The Color Run | The Color Run | Seattle Center Pavilion, Fisher Pavilion & Lawn | 4:00 AM | 3:00 PM | Thomas St, 2nd Ave N |
| 5/16 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 5/17 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 5/18 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 5/19 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 5/20 | Lean In Seattle | Lean In | Fisher Pavilion | 8:00 AM | 4:00 PM | Thomas St |



| Date | Name | Producer | Location | Start | End | Curb Space/ Road Closures ¹ |
|------|---------------------------------|----------------------------|----------------------------|----------|----------|--|
| 5/21 | NW Folklife Festival (load in) | NW Folklife | Grounds | 7:00 AM | 7:00 PM | Thomas St |
| 5/21 | NW Folklife Festival (load out) | NW Folklife | Grounds | 8:00 AM | 6:00 PM | |
| 5/22 | NW Folklife Festival (load in) | NW Folklife | Grounds | 7:00 AM | 7:00 PM | Thomas St |
| 5/22 | NW Folklife Festival (load out) | NW Folklife | Grounds | 7:00 AM | 6:00 PM | |
| 5/23 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 5/23 | NW Folklife Festival (load in) | NW Folklife | Grounds | 7:00 AM | 7:00 PM | Thomas St |
| 5/24 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 5/24 | NW Folklife Festival (load in) | NW Folklife | Grounds | 7:00 AM | 8:00 PM | Thomas St, Warren Ave N |
| 5/25 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 5/25 | NW Folklife Festival (load in) | NW Folklife | Grounds | 7:00 AM | 9:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 5/26 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 5/26 | NW Folklife Festival | NW Folklife | Grounds | 11:00 AM | 10:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 5/27 | NW Folklife Festival | NW Folklife | Grounds | 11:00 AM | 10:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 5/28 | NW Folklife Festival | NW Folklife | Grounds | 11:00 AM | 10:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 5/29 | NW Folklife Festival | NW Folklife | Grounds | 11:00 AM | 10:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 5/30 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 5/30 | NW Folklife Festival (load out) | NW Folklife | Grounds | 7:00 AM | 6:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 5/31 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 5/31 | NW Folklife Festival (load out) | NW Folklife | Grounds | 7:00 AM | 6:00 PM | Thomas St, 2nd Ave N, Warren Ave N |

| Date | Name | Producer | Location | Start | End | Curb Space/ Road Closures ¹ |
|------|----------------------------------|----------------------------|--|----------|----------|--|
| 6/1 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 6/1 | NW Folklife Festival (load out) | NW Folklife | Grounds | 7:00 AM | 6:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 6/2 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 6/4 | Susan G. Komen Race for the Cure | Susan G. Komen | Seattle Center Pavilion, Fisher Pavilion & Lawn, Int'l Fountain Pavers | 8:00 AM | 11:00 AM | Thomas St, 2nd Ave N/ 2nd Ave N btwn Denny & Thomas St |
| 6/4 | Susan G. Komen Race for the Cure | Susan G. Komen | Seattle Center Pavilion, Fisher Pavilion & Lawn, Int'l Fountain Pavers | 4:00 AM | 4:00 PM | Thomas St, 2nd Ave N |
| 6/6 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 6/7 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 6/8 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 6/9 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 6/10 | Bar Mitzvah | Private | Fisher Pavilion | 5:00 PM | 1:00 PM | 2nd Ave N |
| 6/13 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 6/14 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 6/15 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 6/16 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 6/20 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 6/21 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 6/22 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 6/23 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 6/24 | Pridefest (load in) | Pridefest | Grounds | 7:00 AM | 9:00 PM | Thomas St |
| 6/25 | Pridefest | Pridefest | Grounds | 11:00 AM | 4:30 PM | Thomas St, 2nd Ave N/2nd Ave N btwn Denny & Thomas St |

| Date | Name | Producer | Location | Start | End | Curb Space/ Road Closures ¹ |
|------|---|----------------------------|---|----------|----------|--|
| 6/25 | Pridefest | Pridefest | Grounds | 7:00 AM | 11:00 PM | Thomas St, 2nd Ave N |
| 6/27 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 6/28 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 6/29 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 6/30 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 6/30 | Elysian Brewing - Summerfest (load in) | Elysian Brewing | Seattle Center Pavilion, Fisher Pavilion & Lawn | 7:00 AM | 7:00 PM | Thomas St |
| 7/1 | Elysian Brewing - Summerfest | Elysian Brewing | Seattle Center Pavilion, Fisher Pavilion & Lawn | 12:00 PM | 11:00 PM | Thomas St |
| 7/2 | Elysian Brewing - Summerfest (load out) | Elysian Brewing | Seattle Center Pavilion, Fisher Pavilion & Lawn | 7:00 AM | 6:00 PM | Thomas St |
| 7/4 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 7/5 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 7/6 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 7/7 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 7/11 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 7/12 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 7/13 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 7/14 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 7/15 | Bite of Seattle (load in) | Bite of Seattle | Grounds | 8:00 AM | 6:00 PM | N/A |
| 7/16 | Bite of Seattle (load in) | Bite of Seattle | Grounds | 8:00 AM | 6:00 PM | N/A |
| 7/17 | Bite of Seattle (load in) | Bite of Seattle | Grounds | 8:00 AM | 6:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 7/18 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 7/18 | Bite of Seattle (load in) | Bite of Seattle | Grounds | 7:00 AM | 7:00 PM | Thomas St, 2nd Ave N, Warren Ave N |

| Date | Name | Producer | Location | Start | End | Curb Space/ Road Closures ¹ |
|------|---|----------------------------|--|----------|----------|--|
| 7/19 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 7/19 | Bite of Seattle (load in) | Bite of Seattle | Grounds | 7:00 AM | 8:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 7/20 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 7/20 | Bite of Seattle (load in) | Bite of Seattle | Grounds | 7:00 AM | 9:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 7/21 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 7/21 | Bite of Seattle | Bite of Seattle | Grounds | 11:00 AM | 9:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 7/22 | Bite of Seattle | Bite of Seattle | Grounds | 11:00 AM | 9:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 7/23 | Bite of Seattle | Bite of Seattle | Grounds | 11:00 AM | 9:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 7/24 | Bite of Seattle (load out) | Bite of Seattle | Grounds | 7:00 AM | 6:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 7/25 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 7/25 | Bite of Seattle (load out) | Bite of Seattle | Grounds | 7:00 AM | 6:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 7/26 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 7/27 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 7/27 | Red White and Brew | Red White and Brew | Fisher Pavilion | 8:00 AM | 11:00 PM | Thomas St |
| 7/28 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 7/28 | Festival of Fountains | Pacific Science Center | Pacific Science Center | 12:00 AM | 11:59 PM | 2nd Ave N |
| 7/29 | Alaska Airlines Seafair Torchlight Parade Fanfest | Seattle Center Productions | Fisher Pavilion, Armory Loft & Grounds | 4:00 PM | 8:00 PM | 2nd Ave N btwn John St & Thomas St |
| 7/29 | Alaska Airlines Seafair Torchlight Parade Fanfest | Seattle Center Productions | Fisher Pavilion, Armory Loft & Grounds | 12:00 PM | 6:00 PM | |
| 8/1 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |

| Date | Name | Producer | Location | Start | End | Curb Space/ Road Closures ¹ |
|------|--------------------------------|---------------------------------|----------------------------|---------|---------|--|
| 8/2 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 8/3 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 8/4 | Concerts at the Mural | Seattle Center Productions/KEXP | Mural | 5:30 PM | 8:30 PM | Thomas St |
| 8/4 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 8/8 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 8/9 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 8/10 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 8/11 | Concerts at the Mural | Seattle Center Productions/KEXP | Mural | 5:30 PM | 8:30 PM | Thomas St |
| 8/11 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 8/15 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 8/16 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 8/16 | Seattle Tattoo Expo (load in) | Connors & Co | Fisher Pavilion & Lawn | 8:00 AM | 6:00 PM | Thomas St |
| 8/17 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 8/17 | Seattle Tattoo Expo (load in) | Connors & Co | Fisher Pavilion & Lawn | 8:00 AM | 8:00 PM | Thomas St |
| 8/18 | Concerts at the Mural | Seattle Center Productions/KEXP | Mural | 5:30 PM | 8:30 PM | Thomas St |
| 8/18 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 8/21 | Seattle Tattoo Expo (load out) | Connors & Co | Fisher Pavilion & Lawn | 8:00 AM | 6:00 PM | Thomas St |
| 8/22 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 8/23 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 8/24 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 8/25 | Concerts at the Mural | Seattle Center Productions/KEXP | Mural | 5:30 PM | 8:30 PM | Thomas St |
| 8/25 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |

| Date | Name | Producer | Location | Start | End | Curb Space/ Road Closures ¹ |
|------|-----------------------|----------------------------|----------------------------|----------|----------|---|
| 8/25 | Bumbershoot (load in) | One Reel | Grounds | 7:00 AM | 6:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 8/26 | Bumbershoot (load in) | One Reel | Grounds | 7:00 AM | 6:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 8/27 | Bumbershoot (load in) | One Reel | Grounds | 7:00 AM | 6:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 8/28 | Bumbershoot (load in) | One Reel | Grounds | 7:00 AM | 7:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 8/29 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 8/29 | Bumbershoot (load in) | One Reel | Grounds | 7:00 AM | 8:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 8/30 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 8/30 | Bumbershoot (load in) | One Reel | Grounds | 7:00 AM | 9:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 8/31 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 8/31 | Bumbershoot (load in) | One Reel | Grounds | 7:00 AM | 11:59 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 9/1 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 9/1 | Bumbershoot | One Reel | Grounds | 11:00 AM | 11:59 PM | Thomas St, 2nd Ave N, Warren Ave N/ Thomas St btwn Warren & 2nd (local access only) |
| 9/1 | Bumbershoot | One Reel | Grounds | 11:00 AM | 11:59 PM | Thomas St, 2nd Ave N, Warren Ave N/2nd Ave N btwn John St & Thomas St (local access only) |
| 9/1 | Bumbershoot | One Reel | Grounds | 2:00 PM | 11:00 PM | Thomas St, 2nd Ave N, Warren Ave N |

| Date | Name | Producer | Location | Start | End | Curb Space/ Road Closures ¹ |
|------|------------------------|----------------------------|----------------------------|----------|----------|---|
| 9/2 | Bumbershoot | One Reel | Grounds | 11:00 AM | 11:59 PM | Thomas St, 2nd Ave N, Warren Ave N/2nd Ave N btwn John St & Thomas St (local access only) |
| 9/2 | Bumbershoot | One Reel | Grounds | 11:00 AM | 11:59 PM | Thomas St, 2nd Ave N, Warren Ave N/ Thomas St btwn Warren & 2nd (local access only) |
| 9/2 | Bumbershoot | One Reel | Grounds | 2:00 PM | 11:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 9/3 | Bumbershoot | One Reel | Grounds | 11:00 AM | 11:59 PM | Thomas St, 2nd Ave N, Warren Ave N/2nd Ave N btwn John St & Thomas St (local access only) |
| 9/3 | Bumbershoot | One Reel | Grounds | 11:00 AM | 11:59 PM | Thomas St, 2nd Ave N, Warren Ave N/ Thomas St btwn Warren & 2nd (local access only) |
| 9/3 | Bumbershoot | One Reel | Grounds | 2:00 PM | 11:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 9/4 | Bumbershoot (load out) | One Reel | Grounds | 7:00 AM | 6:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 9/5 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 9/5 | Bumbershoot (load out) | One Reel | Grounds | 7:00 AM | 7:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 9/6 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 9/6 | Bumbershoot (load out) | One Reel | Grounds | 7:00 AM | 7:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 9/7 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |

| Date | Name | Producer | Location | Start | End | Curb Space/ Road Closures ¹ |
|------|---|----------------------------|---|---------|---------|--|
| 9/7 | Bumbershoot (load out) | One Reel | Grounds | 7:00 AM | 6:00 PM | Thomas St, 2nd Ave N, Warren Ave N |
| 9/8 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 9/12 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 9/13 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 9/14 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 9/15 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 9/19 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 9/20 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 9/21 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 9/21 | Italian Fest (load in) | Seattle Center Productions | Seattle Center Pavilion, Fisher Pavilion & Lawn, Armory | 8:00 AM | 8:00 PM | Thomas St |
| 9/22 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 9/22 | Italian Fest (load in) | Seattle Center Productions | Seattle Center Pavilion, Fisher Pavilion & Lawn, Armory | 8:00 AM | 8:00 PM | Thomas St |
| 9/23 | Italian Fest | Seattle Center Productions | Seattle Center Pavilion, Fisher Pavilion & Lawn, Armory | 8:00 AM | 8:00 PM | Thomas St |
| 9/24 | Italian Fest | Seattle Center Productions | Seattle Center Pavilion, Fisher Pavilion & Lawn, Armory | 8:00 AM | 8:00 PM | Thomas St |
| 9/26 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 9/27 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 9/28 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 9/28 | Elysian Pumpkin Beer Festival (load in) | Elysian Brewing | Seattle Center Pavilion, Fisher Pavilion & Lawn | 7:00 AM | 7:00 PM | Thomas St |

| Date | Name | Producer | Location | Start | End | Curb Space/ Road Closures ¹ |
|-------|--|-------------------------------|---|---------|----------|---|
| 9/29 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 9/29 | Elysian Pumpkin Beer Festival | Elysian Brewing | Seattle Center Pavilion, Fisher Pavilion & Lawn | 4:00 PM | 10:00 PM | Thomas St |
| 9/30 | Elysian Pumpkin Beer Festival | Elysian Brewing | Seattle Center Pavilion, Fisher Pavilion & Lawn | 2:00 PM | 8:00 PM | Thomas St |
| 10/1 | Elysian Pumpkin Beer Festival (load out) | Elysian Brewing | Seattle Center Pavilion, Fisher Pavilion & Lawn | 7:00 AM | 7:00 PM | Thomas St |
| 10/3 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 10/4 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 10/5 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 10/6 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 10/6 | Taste of Seattle Made | Seattle Good Business Network | Fisher Pavilion | 4:00 PM | 11:00 PM | Thomas St |
| 10/6 | Taste of Seattle Made | Seattle Good Business Network | Fisher Pavilion | 2:00 PM | 11:00 PM | Thomas St |
| 10/7 | Children's Festival (load in) | Seattle Center Productions | Armory & Fisher Pavilion | 8:00 AM | 8:00 PM | Thomas St |
| 10/8 | Children's Festival | Seattle Center Productions | Armory & Fisher Pavilion | 8:00 AM | 8:00 PM | Thomas St |
| 10/10 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 10/11 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 10/12 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 10/13 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 10/14 | American Heart Association Heart Walk | American Heart Association | Fisher Pavilion & Lawn | 9:00 AM | 11:00 AM | Thomas St, 2nd Ave N/2nd Ave N btwn Denny & Thomas St |
| 10/14 | American Heart Association Heart Walk | American Heart Association | Fisher Pavilion & Lawn | 7:00 AM | 2:00 PM | Thomas St, 2nd Ave N |
| 10/17 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |

| Date | Name | Producer | Location | Start | End | Curb Space/ Road Closures ¹ |
|-------|-----------------------|-----------------------------|----------------------------|---------|----------|--|
| 10/18 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 10/19 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 10/20 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 10/21 | Light the Night Walk | Leukemia & Lymphoma Society | Fisher Pavilion & Lawn | 8:00 AM | 11:00 PM | Thomas St |
| 10/24 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 10/25 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 10/26 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 10/27 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 10/31 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 11/1 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 11/2 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 11/3 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 11/4 | Short Run Comix | Short Run Seattle | Fisher Pavilion | 9:00 AM | 8:00 PM | Thomas St |
| 11/7 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 11/8 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 11/9 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 11/10 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 11/14 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 11/15 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 11/16 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 11/17 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 11/21 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 11/22 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 11/23 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 11/24 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |

| Date | Name | Producer | Location | Start | End | Curb Space/ Road Closures ¹ |
|-------|-----------------------|----------------------------|----------------------------|---------|---------|--|
| 11/28 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 11/29 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 11/30 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 12/1 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 12/5 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 12/6 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 12/7 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 12/8 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 12/12 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 12/13 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 12/14 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 12/15 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 9:00 PM | 2nd Ave N - bus drop off |
| 12/19 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |
| 12/20 | AM School performance | Seattle Children's Theatre | Seattle Children's Theatre | 7:00 AM | 5:00 PM | 2nd Ave N - bus drop off |

¹ In accordance with the Memorandum of Agreement for Event Curbside Management between SDOT and Seattle Center.

Table B-5. Activities and Events that Used International Plaza in 2017

| Date | Name | Producer | Location | Start | End |
|------|--|----------|---------------------|----------|----------|
| 1/1 | Public Screenings | SIFF | SIFF | 1:00 PM | 2:40 PM |
| 1/1 | The Princess Bride | SIFF | SIFF | 6:00 PM | 7:38 PM |
| 1/1 | Willy Wonka & the Chocolate Factory | SIFF | SIFF | 3:30 PM | 5:10 PM |
| 1/2 | The Princess Bride | SIFF | SIFF | 6:00 PM | 7:38 PM |
| 1/2 | Willy Wonka & the Chocolate Factory | SIFF | SIFF | 1:00 PM | 2:40 PM |
| 1/2 | Willy Wonka & the Chocolate Factory | SIFF | SIFF | 3:30 PM | 5:10 PM |
| 1/5 | Deconstructing the Beatles - Press Screening | SIFF | SIFF | 12:00 PM | 2:00 PM |
| 1/8 | National Theatre Live: | SIFF | SIFF | 12:00 PM | 2:30 PM |
| 1/9 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 8:00 PM |
| 1/10 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 8:00 PM |
| 1/11 | La Marzocco/KEXP Food Trucks | KEXP | International Plaza | 4:00 PM | 10:00 PM |
| 1/11 | Special Event: The Uncondemned | SIFF | SIFF | 6:00 PM | 7:26 PM |
| 1/12 | NLFF Reception | SIFF | SIFF | 9:00 PM | 10:00 PM |
| 1/12 | Nordic Lights Film Festival | SIFF | SIFF | 7:00 PM | 8:38 PM |
| 1/13 | Nordic Lights Film Festival | SIFF | SIFF | 7:00 PM | 10:30 PM |
| 1/14 | Nordic Lights Film Festival | SIFF | SIFF | 10:00 AM | 11:00 PM |
| 1/15 | Nordic Lights Film Festival | SIFF | SIFF | 11:00 AM | 9:27 PM |
| 1/16 | NLFF Reception | SIFF | SIFF | 6:30 PM | 7:30 PM |
| 1/16 | Nordic Lights Film Festival | SIFF | SIFF | 3:00 PM | 9:00 PM |
| 1/17 | TUGG: Escape Fire | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 1/18 | Public Screenings | SIFF | SIFF | 7:00 PM | 10:00 PM |
| 1/19 | How Boogie Nights Became The Master | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 1/20 | Public Screenings | SIFF | SIFF | 4:45 PM | 6:20 PM |
| 1/20 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:19 PM |
| 1/21 | Public Screenings | SIFF | SIFF | 2:00 PM | 4:19 PM |

| Date | Name | Producer | Location | Start | End |
|------|---|----------|----------|----------|----------|
| 1/21 | Public Screenings | SIFF | SIFF | 4:45 PM | 6:20 PM |
| 1/21 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:19 PM |
| 1/22 | Deconstructing the Beatles' White Album | SIFF | SIFF | 1:00 PM | 2:30 PM |
| 1/22 | Public Screenings | SIFF | SIFF | 2:00 PM | 4:19 PM |
| 1/22 | Public Screenings | SIFF | SIFF | 4:45 PM | 6:20 PM |
| 1/22 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:19 PM |
| 1/23 | Deconstructing the Beatles' White Album | SIFF | SIFF | 7:00 PM | 8:30 PM |
| 1/23 | Public Screenings | SIFF | SIFF | 4:45 PM | 6:20 PM |
| 1/23 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:19 PM |
| 1/23 | Seattle World School Selma Program | SIFF | SIFF | 10:00 AM | 1:00 PM |
| 1/24 | Deconstructing the Beatles' White Album | SIFF | SIFF | 7:00 PM | 8:30 PM |
| 1/24 | Public Screenings | SIFF | SIFF | 4:45 PM | 6:20 PM |
| 1/24 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:19 PM |
| 1/25 | Public Screenings | SIFF | SIFF | 4:45 PM | 6:20 PM |
| 1/25 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:19 PM |
| 1/26 | How Boogie Nights Became The Master | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 1/26 | Public Screenings | SIFF | SIFF | 4:45 PM | 6:20 PM |
| 1/26 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:19 PM |
| 1/27 | Deconstructing the Beatles' White Album | SIFF | SIFF | 7:00 PM | 8:30 PM |
| 1/28 | Crash Kids Intro | SIFF | SIFF | 9:30 AM | 10:00 AM |
| 1/28 | Crash Kids Presentation | SIFF | SIFF | 5:30 PM | 6:30 PM |
| 1/28 | Deconstructing the Beatles' White Album | SIFF | SIFF | 3:00 PM | 4:30 PM |
| 1/28 | Deconstructing the Beatles' White Album | SIFF | SIFF | 7:00 PM | 8:30 PM |
| 1/29 | Deconstructing the Beatles' White Album | SIFF | SIFF | 3:00 PM | 4:30 PM |
| 1/29 | Deconstructing the Beatles' White Album | SIFF | SIFF | 5:00 PM | 6:30 PM |
| 1/29 | Deconstructing the Beatles' White Album | SIFF | SIFF | 7:00 PM | 8:30 PM |

| Date | Name | Producer | Location | Start | End |
|------|-------------------------------------|----------|----------|----------|----------|
| 1/30 | RENTAL | SIFF | SIFF | 6:00 PM | 7:00 PM |
| 1/30 | RENTAL | SIFF | SIFF | 7:00 PM | 9:15 PM |
| 1/31 | RENTAL | SIFF | SIFF | 6:30 PM | 7:00 PM |
| 1/31 | RENTAL | SIFF | SIFF | 7:00 PM | 9:30 PM |
| 2/1 | Crash Kids - School Break Day | SIFF | SIFF | 9:00 AM | 5:30 PM |
| 2/1 | Crash Kids Presentation | SIFF | SIFF | 5:00 PM | 6:00 PM |
| 2/2 | How Boogie Nights Became The Master | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 2/2 | RENTAL | SIFF | SIFF | 10:00 AM | 11:00 AM |
| 2/3 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:42 PM |
| 2/3 | Public Screenings | SIFF | SIFF | 9:00 PM | 10:42 PM |
| 2/3 | RENTAL | SIFF | SIFF | 11:55 PM | 12:00 AM |
| 2/4 | Public Screenings | SIFF | SIFF | 3:00 PM | 4:42 PM |
| 2/4 | Public Screenings | SIFF | SIFF | 5:00 PM | 6:42 PM |
| 2/4 | Public Screenings | SIFF | SIFF | 7:30 PM | 9:12 PM |
| 2/4 | RENTAL | SIFF | SIFF | 12:00 AM | 1:45 AM |
| 2/5 | Public Screenings | SIFF | SIFF | 3:00 PM | 4:42 PM |
| 2/5 | Public Screenings | SIFF | SIFF | 5:00 PM | 6:42 PM |
| 2/5 | Public Screenings | SIFF | SIFF | 7:30 PM | 9:12 PM |
| 2/9 | How Boogie Nights Became The Master | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 2/9 | RENTAL | SIFF | SIFF | 9:00 PM | 11:00 PM |
| 2/11 | Crash Student Screening | SIFF | SIFF | 5:30 PM | 6:30 PM |
| 2/11 | Intro Crash Student | SIFF | SIFF | 9:30 AM | 10:00 AM |
| 2/12 | National Theatre Live: | SIFF | SIFF | 12:00 PM | 3:30 PM |
| 2/13 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 10:00 PM |
| 2/14 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 10:00 PM |
| 2/15 | French Truly Salon | SIFF | SIFF | 6:30 PM | 8:47 PM |

| Date | Name | Producer | Location | Start | End |
|------|---|----------|----------|----------|----------|
| 2/17 | KCTS shoot | SIFF | SIFF | 10:00 AM | 12:30 PM |
| 2/17 | Meeting of the MODs walk-through & tech | SIFF | SIFF | 11:00 AM | 2:00 PM |
| 2/17 | Moonlight | SIFF | SIFF | 5:30 PM | 7:30 PM |
| 2/17 | Moonlight | SIFF | SIFF | 8:00 PM | 10:00 PM |
| 2/17 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:21 PM |
| 2/18 | Public Screenings | SIFF | SIFF | 3:00 PM | 4:51 PM |
| 2/18 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:21 PM |
| 2/18 | Public Screenings | SIFF | SIFF | 8:00 PM | 9:51 PM |
| 2/19 | KEXP | KEXP | KEXP | 10:00 AM | 4:00 PM |
| 2/19 | Public Screenings | SIFF | SIFF | 3:00 PM | 4:51 PM |
| 2/19 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:21 PM |
| 2/19 | Public Screenings | SIFF | SIFF | 8:00 PM | 9:51 PM |
| 2/20 | KEXP | KEXP | KEXP | 10:00 AM | 4:00 PM |
| 2/20 | RENTAL | SIFF | SIFF | 10:00 AM | 10:30 AM |
| 2/22 | RENTAL | SIFF | SIFF | 12:00 PM | 3:00 PM |
| 2/24 | Deconstructing the Beatles' White Album | SIFF | SIFF | 7:00 PM | 8:30 PM |
| 2/24 | Final Camp Screening | SIFF | SIFF | 3:00 PM | 4:00 PM |
| 2/24 | New Films: DECONSTRUCTING THE BEATLES SGT PEPPERS | SIFF | SIFF | 7:00 PM | 8:30 PM |
| 2/25 | Deconstructing the Beatles' White Album | SIFF | SIFF | 9:00 PM | 10:30 PM |
| 2/25 | New Films: DECONSTRUCTING THE BEATLES SGT PEPPERS | SIFF | SIFF | 9:30 PM | 11:00 PM |
| 2/25 | RENTAL | SIFF | SIFF | 10:00 AM | 11:00 AM |
| 2/25 | RENTAL | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 2/25 | RENTAL | SIFF | SIFF | 12:30 PM | 2:00 PM |
| 2/25 | RENTAL | SIFF | SIFF | 2:30 PM | 4:00 PM |
| 2/25 | RENTAL | SIFF | SIFF | 4:30 PM | 6:00 PM |
| 2/26 | Deconstructing the Beatles' White Album | SIFF | SIFF | 3:30 PM | 5:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|---|----------|----------|----------|----------|
| 2/26 | Deconstructing the Beatles' White Album | SIFF | SIFF | 5:30 PM | 7:00 PM |
| 2/26 | National Theatre Live: | SIFF | SIFF | 12:00 PM | 4:00 PM |
| 2/27 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 10:30 PM |
| 2/28 | Filmapalooza walk-through | SIFF | SIFF | 2:30 PM | 3:00 PM |
| 2/28 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 10:30 PM |
| 3/3 | New Films: BRAND NEW TESTAMENT | SIFF | SIFF | 6:00 PM | 8:15 PM |
| 3/3 | New Films: BRAND NEW TESTAMENT | SIFF | SIFF | 8:30 PM | 10:45 PM |
| 3/4 | New Films: BRAND NEW TESTAMENT | SIFF | SIFF | 3:15 PM | 5:30 PM |
| 3/4 | New Films: BRAND NEW TESTAMENT | SIFF | SIFF | 6:00 PM | 8:15 PM |
| 3/4 | New Films: BRAND NEW TESTAMENT | SIFF | SIFF | 8:30 PM | 10:45 PM |
| 3/4 | RENTAL | SIFF | SIFF | 8:30 AM | 9:00 AM |
| 3/4 | RENTAL | SIFF | SIFF | 12:15 PM | 1:45 PM |
| 3/4 | RENTAL | SIFF | SIFF | 9:00 AM | 12:00 PM |
| 3/5 | New Films: BRAND NEW TESTAMENT | SIFF | SIFF | 3:15 PM | 5:30 PM |
| 3/5 | New Films: BRAND NEW TESTAMENT | SIFF | SIFF | 6:00 PM | 8:15 PM |
| 3/5 | New Films: BRAND NEW TESTAMENT | SIFF | SIFF | 8:30 PM | 10:45 PM |
| 3/6 | RENTAL | SIFF | SIFF | 9:00 PM | 11:00 PM |
| 3/6 | Tech QC | SIFF | SIFF | 2:00 PM | 4:00 PM |
| 3/7 | RENTAL | SIFF | SIFF | 9:00 PM | 11:00 PM |
| 3/8 | I Am Not Your Negro | SIFF | SIFF | 6:50 PM | 8:35 PM |
| 3/8 | RENTAL | SIFF | SIFF | 9:00 PM | 11:00 PM |
| 3/9 | I Am Not Your Negro | SIFF | SIFF | 6:50 PM | 8:35 PM |
| 3/9 | RENTAL | SIFF | SIFF | 9:00 PM | 11:00 PM |
| 3/9 | Where: FC: Theater | SIFF | SIFF | 10:00 AM | 12:00 PM |
| 3/10 | Animated Films: MY LIFE AS A ZUCCHINI | SIFF | SIFF | 5:15 PM | 6:35 PM |
| 3/10 | Animated Films: MY LIFE AS A ZUCCHINI | SIFF | SIFF | 7:00 PM | 8:20 PM |

| Date | Name | Producer | Location | Start | End |
|------|---------------------------------------|----------|----------|----------|----------|
| 3/11 | Public Screenings | SIFF | SIFF | 3:15 PM | 5:00 PM |
| 3/11 | Animated Films: MY LIFE AS A ZUCCHINI | SIFF | SIFF | 5:15 PM | 6:35 PM |
| 3/11 | Animated Films: MY LIFE AS A ZUCCHINI | SIFF | SIFF | 7:00 PM | 8:20 PM |
| 3/11 | Cinema Manager Meeting | SIFF | SIFF | 10:00 AM | 12:00 PM |
| 3/12 | Animated Films: MY LIFE AS A ZUCCHINI | SIFF | SIFF | 1:50 PM | 3:10 PM |
| 3/12 | Animated Films: MY LIFE AS A ZUCCHINI | SIFF | SIFF | 3:30 PM | 4:50 PM |
| 3/12 | Animated Films: MY LIFE AS A ZUCCHINI | SIFF | SIFF | 5:15 PM | 6:35 PM |
| 3/14 | SCREENING | SIFF | SIFF | 11:30 AM | 1:30 PM |
| 3/15 | First Draft | SIFF | SIFF | 6:30 PM | 9:30 PM |
| 3/17 | Public Screenings | SIFF | SIFF | 4:45 PM | 6:37 PM |
| 3/17 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:52 PM |
| 3/18 | Public Screenings | SIFF | SIFF | 2:30 PM | 4:22 PM |
| 3/18 | Public Screenings | SIFF | SIFF | 4:45 PM | 6:37 PM |
| 3/18 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:52 PM |
| 3/19 | National Theatre Live: | SIFF | SIFF | 12:00 PM | 3:30 PM |
| 3/19 | Public Screenings | SIFF | SIFF | 4:45 PM | 6:37 PM |
| 3/19 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:52 PM |
| 3/20 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 10:00 PM |
| 3/21 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 10:00 PM |
| 3/22 | Public Screenings | SIFF | SIFF | 6:30 PM | 9:30 PM |
| 3/23 | Marcom/Ops Festival | SIFF | SIFF | 1:00 PM | 1:30 PM |
| 3/24 | Dissection Tech Check | SIFF | SIFF | 1:00 PM | 1:30 PM |
| 3/24 | Public Screenings | SIFF | SIFF | 5:45 PM | 7:17 PM |
| 3/24 | Public Screenings | SIFF | SIFF | 8:00 PM | 9:32 PM |
| 3/25 | Post Alley Film Festival | SIFF | SIFF | 11:00 AM | 7:00 PM |
| 3/25 | Post Alley Film Festival | SIFF | SIFF | 7:00 PM | 9:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|--|---------------|--------------|----------|----------|
| 3/25 | Public Screenings | SIFF | SIFF | 9:15 PM | 10:47 PM |
| 3/26 | Public Screenings | SIFF | SIFF | 5:45 PM | 7:17 PM |
| 3/26 | Public Screenings | SIFF | SIFF | 8:00 PM | 9:32 PM |
| 3/26 | Public Screenings | SIFF | SIFF | 11:00 AM | 5:00 PM |
| 3/26 | Public Screenings | SIFF | SIFF | 5:45 PM | 7:30 PM |
| 3/26 | Public Screenings | SIFF | SIFF | 8:00 PM | 10:00 PM |
| 3/27 | Maintenance (Off Limits) | SIFF | SIFF | 11:00 AM | 6:30 PM |
| 3/27 | The Revolution Will Be Dramatized: The 60s On Film | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 3/29 | Propaganda in Film Seattle Central Class | SIFF | SIFF | 7:00 PM | 10:00 PM |
| 3/30 | Public Screenings | SIFF | SIFF | 6:30 PM | 8:30 PM |
| 3/31 | DECONSTRUCTING THE BEATLES REVOLVER | SIFF | SIFF | 7:00 PM | 8:45 PM |
| 4/1 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 6:00 PM |
| 4/1 | Opening Reception | SEA-ART-HEAL: | A/NT Gallery | 6:00 PM | 9:00 PM |
| 4/1 | Crash Student Intro | SIFF | SIFF | 9:30 AM | 10:00 AM |
| 4/1 | Crash Student Screening | SIFF | SIFF | 5:30 PM | 6:30 PM |
| 4/1 | DECONSTRUCTING THE BEATLES REVOLVER | SIFF | SIFF | 3:30 PM | 5:15 PM |
| 4/1 | DECONSTRUCTING THE BEATLES REVOLVER | SIFF | SIFF | 7:00 PM | 8:45 PM |
| 4/1 | DECONSTRUCTING THE BEATLES REVOLVER | SIFF | SIFF | 9:00 PM | 10:45 PM |
| 4/1 | RENTAL | SIFF | SIFF | 12:00 PM | 3:00 PM |
| 4/2 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 6:00 PM |
| 4/2 | DECONSTRUCTING THE BEATLES REVOLVER | SIFF | SIFF | 3:50 PM | 5:35 PM |
| 4/2 | DECONSTRUCTING THE BEATLES REVOLVER | SIFF | SIFF | 6:00 PM | 7:45 PM |
| 4/2 | One More Shot: | SIFF | SIFF | 1:00 PM | 3:30 PM |
| 4/3 | The Revolution Will Be Dramatized: The 60s On Film | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 4/4 | KEXP | KEXP | KEXP | 10:00 AM | 3:00 PM |
| 4/4 | Films of Douglas Sirk: MAGNIFICENT OBSESSION | SIFF | SIFF | 7:00 PM | 9:30 PM |

| Date | Name | Producer | Location | Start | End |
|------|--|---------------|---------------------|----------|----------|
| 4/5 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 6:00 PM |
| 4/5 | Propaganda in Film Seattle Central Class | SIFF | SIFF | 7:00 PM | 10:00 PM |
| 4/6 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 6:00 PM |
| 4/6 | Imitation of Life: The Films of Douglas Sirk | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 4/7 | As You Are | SIFF | SIFF | 4:30 PM | 6:30 PM |
| 4/7 | As You Are | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 4/7 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 6:00 PM |
| 4/8 | As You Are | SIFF | SIFF | 3:00 PM | 5:00 PM |
| 4/8 | As You Are | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 4/8 | KEXP Event | KEXP | International Plaza | 10:00 AM | 10:00 PM |
| 4/8 | La Marzocco/KEXP Food Trucks | KEXP | International Plaza | 4:00 PM | 10:00 PM |
| 4/8 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 6:00 PM |
| 4/8 | Crash Kids Intro | SIFF | SIFF | 9:30 AM | 10:00 AM |
| 4/8 | Crash Kids Screening | SIFF | SIFF | 5:30 PM | 6:30 PM |
| 4/9 | As You Are | SIFF | SIFF | 3:30 PM | 5:30 PM |
| 4/9 | As You Are | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 4/9 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 6:00 PM |
| 4/10 | Staff Film FC | SIFF | SIFF | 10:00 PM | 12:00 AM |
| 4/10 | The Revolution Will Be Dramatized: The 60s On Film | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 4/11 | RENTAL | SIFF | SIFF | 12:00 PM | 2:00 PM |
| 4/11 | The Films of Douglas Sirk | SIFF | SIFF | 7:00 PM | 8:29 PM |
| 4/12 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 6:00 PM |
| 4/12 | Propaganda in Film Seattle Central Class | SIFF | SIFF | 7:00 PM | 10:00 PM |
| 4/13 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 6:00 PM |
| 4/13 | Imitation of Life: The Films of Douglas Sirk | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 4/14 | And Now It's Dark: The Films of David Lynch | SIFF | SIFF | 7:00 PM | 8:29 PM |

| Date | Name | Producer | Location | Start | End |
|------|--|---------------|---------------------|----------|----------|
| 4/14 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 6:00 PM |
| 4/14 | Final Camp Screening | SIFF | SIFF | 3:00 PM | 4:00 PM |
| 4/14 | Prep for Final Camp Screening | SIFF | SIFF | 2:30 PM | 3:00 PM |
| 4/15 | And Now It's Dark: The Films of David Lynch | SIFF | SIFF | 4:30 PM | 6:54 PM |
| 4/15 | And Now It's Dark: The Films of David Lynch | SIFF | SIFF | 4:45 PM | 6:14 PM |
| 4/15 | And Now It's Dark: The Films of David Lynch | SIFF | SIFF | 7:00 PM | 9:24 PM |
| 4/15 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 6:00 PM |
| 4/15 | Matrix Hero's Journey class | SIFF | SIFF | 1:00 PM | 4:00 PM |
| 4/16 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 6:00 PM |
| 4/16 | National Theatre Live: | SIFF | SIFF | 12:00 PM | 3:30 PM |
| 4/17 | KEXP | KEXP | KEXP | 9:00 AM | 3:00 PM |
| 4/17 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 9:30 PM |
| 4/17 | The Revolution Will Be Dramatized: The 60s On Film | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 4/18 | Lagunitas | SIFF | SIFF | 3:30 PM | 4:30 PM |
| 4/18 | The Films of Douglas Sirk | SIFF | SIFF | 7:00 PM | 8:39 PM |
| 4/19 | Seattle Rep Party | KEXP | International Plaza | 2:00 PM | 10:00 PM |
| 4/19 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 6:00 PM |
| 4/19 | Propaganda in Film Seattle Central Class | SIFF | SIFF | 7:00 PM | 10:00 PM |
| 4/19 | TRAINING | SIFF | SIFF | 3:00 PM | 5:00 PM |
| 4/20 | Seattle Rep Party | KEXP | International Plaza | 2:00 PM | 10:00 PM |
| 4/20 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 6:00 PM |
| 4/20 | Douglas Sirk Class | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 4/20 | Imitation of Life: The Films of Douglas Sirk | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 4/20 | Public Screenings | SIFF | SIFF | 4:00 PM | 6:00 PM |
| 4/21 | And Now It's Dark: The Films of David Lynch | SIFF | SIFF | 7:00 PM | 9:05 PM |
| 4/21 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 6:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|---|------------------------------|---------------------|----------|----------|
| 4/22 | And Now It's Dark: The Films of David Lynch | SIFF | SIFF | 4:00 PM | 6:05 PM |
| 4/22 | And Now It's Dark: The Films of David Lynch | SIFF | SIFF | 7:00 PM | 9:17 PM |
| 4/22 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 6:00 PM |
| 4/23 | And Now It's Dark: The Films of David Lynch | SIFF | SIFF | 4:00 PM | 6:17 PM |
| 4/23 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 6:00 PM |
| 4/23 | Public Screenings | SIFF | SIFF | 4:00 PM | 7:00 PM |
| 4/24 | RENTAL | SIFF | SIFF | 11:00 AM | 12:00 PM |
| 4/25 | Films of Douglas Sirk: IMITATION OF LIFE | SIFF | SIFF | 7:00 PM | 10:00 PM |
| 4/25 | The Films of Douglas Sirk | SIFF | SIFF | 7:00 PM | 9:05 PM |
| 4/26 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 6:00 PM |
| 4/26 | First Draft | SIFF | SIFF | 7:00 PM | 10:00 PM |
| 4/27 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 6:00 PM |
| 4/27 | Douglas Sirk Class | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 4/28 | Punk Rock Flea Market (load in) | Punk Rock Flea Market | International Plaza | 7:00 AM | 6:00 PM |
| 4/28 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 6:00 PM |
| 4/28 | Public Screenings | SIFF | SIFF | 4:00 PM | 5:17 PM |
| 4/28 | Public Screenings | SIFF | SIFF | 6:00 PM | 7:17 PM |
| 4/28 | Public Screenings | SIFF | SIFF | 8:00 PM | 9:17 PM |
| 4/28 | Public Screenings | SIFF | SIFF | 4:00 PM | 5:30 PM |
| 4/28 | Public Screenings | SIFF | SIFF | 6:00 PM | 7:30 PM |
| 4/28 | Public Screenings | SIFF | SIFF | 8:00 PM | 9:30 PM |
| 4/29 | Punk Rock Flea Market | Punk Rock Flea Market | International Plaza | 8:00 AM | 10:00 PM |
| 4/29 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 6:00 PM |
| 4/29 | SEA-ART-HEAL | Blackout Poetry Art Workshop | A/NT Gallery | 2:00 PM | 5:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|---|-----------------------|---------------------|----------|----------|
| 4/29 | Public Screenings | SIFF | SIFF | 6:00 PM | 7:17 PM |
| 4/29 | Public Screenings | SIFF | SIFF | 8:00 PM | 9:17 PM |
| 4/29 | Public Screenings | SIFF | SIFF | 6:00 PM | 7:30 PM |
| 4/29 | Public Screenings | SIFF | SIFF | 8:00 PM | 9:30 PM |
| 4/29 | PUNK ROCK FLEA MARKET | SIFF | SIFF | 12:00 PM | 10:00 PM |
| 4/29 | RENTAL | SIFF | SIFF | 9:00 AM | 12:00 PM |
| 4/30 | Punk Rock Flea Market | Punk Rock Flea Market | International Plaza | 8:00 AM | 8:00 PM |
| 4/30 | The ART of Infertility in Seattle | SEA-ART-HEAL: | A/NT Gallery | 11:00 AM | 12:00 PM |
| 4/30 | Public Screenings | SIFF | SIFF | 6:00 PM | 7:30 PM |
| 4/30 | Public Screenings | SIFF | SIFF | 8:00 PM | 9:30 PM |
| 4/30 | Punk Rock Flea Market | SIFF | SIFF | 12:00 PM | 5:00 PM |
| 4/30 | RENTAL | SIFF | SIFF | 9:00 AM | 12:00 PM |
| 5/1 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 9:50 PM |
| 5/2 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 9:50 PM |
| 5/2 | Public Screenings | SIFF | SIFF | 11:30 PM | 1:00 PM |
| 5/2 | Public Screenings | SIFF | SIFF | 1:00 PM | 1:30 PM |
| 5/4 | And Now It's Dark: The Films of David Lynch | SIFF | SIFF | 7:00 PM | 10:00 PM |
| 5/4 | Vera / KEXP | Vera / KEXP | Vera / KEXP | 7:00 AM | 11:59 PM |
| 5/5 | Vera / KEXP | Vera / KEXP | Vera / KEXP | 7:00 AM | 11:59 PM |
| 5/5 | David Lynch: The Art Life | SIFF | SIFF | 5:00 PM | 6:38 PM |
| 5/5 | David Lynch: The Art Life | SIFF | SIFF | 7:00 PM | 8:38 PM |
| 5/5 | David Lynch: The Art Life | SIFF | SIFF | 9:00 PM | 10:38 PM |
| 5/5 | Public Screenings | SIFF | SIFF | 10:30 AM | 11:00 AM |
| 5/5 | RENTAL | SIFF | SIFF | 1:00 PM | 2:00 PM |
| 5/5 | RENTAL | SIFF | SIFF | 2:00 PM | 4:30 PM |

| Date | Name | Producer | Location | Start | End |
|------|---|-------------|---------------------|----------|----------|
| 5/6 | Crash Kids Intro | SIFF | SIFF | 9:30 AM | 10:30 AM |
| 5/6 | Crash Kids presentation | SIFF | SIFF | 5:30 PM | 6:30 PM |
| 5/6 | Vera / KEXP | Vera / KEXP | Vera / KEXP | 7:00 AM | 11:59 PM |
| 5/6 | David Lynch: The Art Life | SIFF | SIFF | 7:00 PM | 8:38 PM |
| 5/6 | David Lynch: The Art Life | SIFF | SIFF | 9:00 PM | 10:38 PM |
| 5/6 | SIFF Crash Kids Cinema | SIFF | SIFF | 9:30 AM | 5:30 PM |
| 5/7 | Vera / KEXP | Vera / KEXP | Vera / KEXP | 7:00 AM | 11:59 PM |
| 5/7 | David Lynch: The Art Life | SIFF | SIFF | 5:00 PM | 6:38 PM |
| 5/7 | David Lynch: The Art Life | SIFF | SIFF | 7:00 PM | 8:38 PM |
| 5/7 | David Lynch: The Art Life | SIFF | SIFF | 9:00 PM | 10:38 PM |
| 5/8 | La Marzocco/KEXP Food Trucks | KEXP | International Plaza | 4:00 PM | 10:00 PM |
| 5/8 | Vera / KEXP | Vera / KEXP | Vera / KEXP | 7:00 AM | 11:59 PM |
| 5/9 | Vera / KEXP | Vera / KEXP | Vera / KEXP | 7:00 AM | 11:59 PM |
| 5/9 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:00 PM | 10:30 PM |
| 5/10 | Vera / KEXP | Vera / KEXP | Vera / KEXP | 7:00 AM | 11:59 PM |
| 5/10 | First Draft | SIFF | SIFF | 7:00 PM | 10:00 PM |
| 5/11 | David Lynch: The Art Life | SIFF | SIFF | 8:30 PM | 10:15 PM |
| 5/11 | Public Screenings | SIFF | SIFF | 6:30 PM | 8:00 PM |
| 5/11 | Public Screenings | SIFF | SIFF | 6:30 PM | 8:00 PM |
| 5/11 | Special Presentations | SIFF | SIFF | 10:30 AM | 11:30 AM |
| 5/12 | And Now It's Dark: The Films of David Lynch | SIFF | SIFF | 7:00 PM | 9:27 PM |
| 5/12 | Vera / KEXP | Vera / KEXP | Vera / KEXP | 7:00 AM | 11:59 PM |
| 5/12 | David Lynch: The Art Life | SIFF | SIFF | 4:45 PM | 6:30 PM |
| 5/13 | And Now It's Dark: The Films of David Lynch | SIFF | SIFF | 7:00 PM | 9:27 PM |
| 5/13 | Vera / KEXP | Vera / KEXP | Vera / KEXP | 7:00 AM | 11:59 PM |
| 5/13 | RENTAL | SIFF | SIFF | 10:45 AM | 1:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|---|--|---------------------|----------|----------|
| 5/14 | And Now It's Dark: The Films of David Lynch | SIFF | SIFF | 3:00 PM | 5:27 PM |
| 5/14 | Vera / KEXP | Vera / KEXP | Vera / KEXP | 7:00 AM | 11:59 PM |
| 5/14 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:30 PM | 10:30 PM |
| 5/14 | David Lynch: The Art Life | SIFF | SIFF | 8:00 PM | 10:00 PM |
| 5/14 | Public Screenings | SIFF | SIFF | 6:30 PM | 7:29 PM |
| 5/14 | Public Screenings | SIFF | SIFF | 6:30 PM | 7:45 PM |
| 5/15 | KEXP | KEXP | KEXP | 7:00 AM | 12:00 PM |
| 5/15 | Vera / KEXP | Vera / KEXP | Vera / KEXP | 7:00 AM | 11:59 PM |
| 5/15 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:00 PM | 9:30 PM |
| 5/16 | Vera / KEXP | Vera / KEXP | Vera / KEXP | 7:00 AM | 11:59 PM |
| 5/17 | Vera / KEXP | Vera / KEXP | Vera / KEXP | 7:00 AM | 11:59 PM |
| 5/17 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:30 PM | 10:00 PM |
| 5/18 | Vera / KEXP | Vera / KEXP | Vera / KEXP | 7:00 AM | 11:59 PM |
| 5/18 | Memorial Gathering | KEXP | KEXP | 5:00 PM | 6:00 PM |
| 5/18 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:00 PM | 10:30 PM |
| 5/18 | | A/NT Rental to Shoreline Community College | A/NT Gallery | N/A | N/A |
| 5/19 | Seattle International Film Festival | SIFF | SIFF | 9:00 PM | 10:25 PM |
| 5/19 | Vera / KEXP | Vera / KEXP | Vera / KEXP | 7:00 AM | 11:59 PM |
| 5/20 | Seattle International Film Festival | SIFF | SIFF | 11:00 AM | 11:00 PM |
| 5/20 | Vera / KEXP | Vera / KEXP | Vera / KEXP | 7:00 AM | 11:59 PM |
| 5/21 | Seattle International Film Festival | SIFF | SIFF | 11:00 AM | 7:00 PM |
| 5/21 | NW Folklife Festival (load in) | NW Folklife | International Plaza | 7:00 AM | 7:00 PM |
| 5/21 | NW Folklife Festival (load out) | NW Folklife | International Plaza | 8:00 AM | 6:00 PM |
| 5/21 | NW Folklife Festival (load in) | NW Folklife | International Plaza | 7:00 AM | 7:00 PM |
| 5/21 | NW Folklife Festival (load out) | NW Folklife | International Plaza | 8:00 AM | 6:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|-------------------------------------|-------------|---------------------|----------|----------|
| 5/22 | Seattle International Film Festival | SIFF | SIFF | 11:00 AM | 7:00 PM |
| 5/22 | NW Folklife Festival (load in) | NW Folklife | International Plaza | 7:00 AM | 7:00 PM |
| 5/22 | NW Folklife Festival (load out) | NW Folklife | International Plaza | 7:00 AM | 6:00 PM |
| 5/22 | NW Folklife Festival (load in) | NW Folklife | International Plaza | 7:00 AM | 7:00 PM |
| 5/22 | NW Folklife Festival (load out) | NW Folklife | International Plaza | 7:00 AM | 6:00 PM |
| 5/23 | Seattle International Film Festival | SIFF | SIFF | 11:00 AM | 7:00 PM |
| 5/23 | NW Folklife Festival (load in) | NW Folklife | International Plaza | 7:00 AM | 7:00 PM |
| 5/23 | NW Folklife Festival (load in) | NW Folklife | International Plaza | 7:00 AM | 7:00 PM |
| 5/24 | Seattle International Film Festival | SIFF | SIFF | 11:00 AM | 7:00 PM |
| 5/24 | NW Folklife Festival (load in) | NW Folklife | International Plaza | 7:00 AM | 8:00 PM |
| 5/24 | NW Folklife Festival (load in) | NW Folklife | International Plaza | 7:00 AM | 8:00 PM |
| 5/25 | Seattle International Film Festival | SIFF | SIFF | 11:00 AM | 7:00 PM |
| 5/25 | NW Folklife Festival (load in) | NW Folklife | International Plaza | 7:00 AM | 9:00 PM |
| 5/25 | NW Folklife Festival (load in) | NW Folklife | International Plaza | 7:00 AM | 9:00 PM |
| 5/26 | Seattle International Film Festival | SIFF | SIFF | 11:00 AM | 9:00 PM |
| 5/26 | NW Folklife Festival | NW Folklife | International Plaza | 11:00 AM | 10:00 PM |
| 5/26 | NW Folklife Festival | NW Folklife | International Plaza | 11:00 AM | 10:00 PM |
| 5/27 | Seattle International Film Festival | SIFF | SIFF | 11:00 AM | 9:00 PM |
| 5/27 | NW Folklife Festival | NW Folklife | International Plaza | 11:00 AM | 10:00 PM |
| 5/27 | NW Folklife Festival | NW Folklife | International Plaza | 11:00 AM | 10:00 PM |
| 5/28 | Seattle International Film Festival | SIFF | SIFF | 11:00 AM | 7:00 PM |
| 5/28 | NW Folklife Festival | NW Folklife | International Plaza | 11:00 AM | 10:00 PM |
| 5/28 | NW Folklife Festival | NW Folklife | International Plaza | 11:00 AM | 10:00 PM |
| 5/29 | Seattle International Film Festival | SIFF | SIFF | 11:00 AM | 7:00 PM |
| 5/29 | NW Folklife Festival | NW Folklife | International Plaza | 11:00 AM | 10:00 PM |
| 5/29 | NW Folklife Festival | NW Folklife | International Plaza | 11:00 AM | 10:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|---------------------------------------|-------------|---------------------|----------|----------|
| 5/30 | Seattle International Film Festival | SIFF | SIFF | 11:00 AM | 7:00 PM |
| 5/30 | NW Folklife Festival (load out) | NW Folklife | International Plaza | 7:00 AM | 6:00 PM |
| 5/30 | NW Folklife Festival (load out) | NW Folklife | International Plaza | 7:00 AM | 6:00 PM |
| 5/31 | NW Folklife Festival (load out) | NW Folklife | International Plaza | 7:00 AM | 6:00 PM |
| 5/31 | NW Folklife Festival (load out) | NW Folklife | International Plaza | 7:00 AM | 6:00 PM |
| 5/31 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:30 PM | 10:00 PM |
| 5/31 | RENTAL | SIFF | SIFF | 3:00 PM | 7:30 PM |
| 5/31 | RENTAL | SIFF | SIFF | 7:30 PM | 11:00 PM |
| 6/1 | Seattle International Film Festival | SIFF | SIFF | 11:00 AM | 7:00 PM |
| 6/1 | NW Folklife Festival (load out) | NW Folklife | International Plaza | 7:00 AM | 6:00 PM |
| 6/1 | NW Folklife Festival (load out) | NW Folklife | International Plaza | 7:00 AM | 6:00 PM |
| 6/1 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:30 PM | 11:00 PM |
| 6/1 | Sammamish HS program | SIFF | SIFF | 10:00 AM | 3:00 PM |
| 6/2 | Seattle International Film Festival | SIFF | SIFF | 11:00 AM | 11:00 PM |
| 6/2 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:00 PM | 10:00 PM |
| 6/3 | Seattle's Always All-Ages Music Venue | Vera | Vera | 9:00 PM | 11:00 PM |
| 6/3 | Seattle International Film Festival | SIFF | SIFF | 11:00 AM | 11:00 PM |
| 6/4 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:30 PM | 10:30 PM |
| 6/4 | Seattle International Film Festival | SIFF | SIFF | 11:00 AM | 7:00 PM |
| 6/5 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:30 PM | 10:00 PM |
| 6/5 | Seattle International Film Festival | SIFF | SIFF | 11:00 AM | 7:00 PM |
| 6/6 | Seattle International Film Festival | SIFF | SIFF | 11:00 AM | 7:00 PM |
| 6/7 | KEXP Event | KEXP | International Plaza | 10:00 AM | 10:00 PM |
| 6/7 | Seattle International Film Festival | SIFF | SIFF | 11:00 AM | 7:00 PM |
| 6/8 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:00 PM | 10:00 PM |
| 6/8 | Seattle International Film Festival | SIFF | SIFF | 11:00 AM | 7:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|---|----------|---------------------|----------|----------|
| 6/9 | Seattle International Film Festival | SIFF | SIFF | 11:00 AM | 10:30 PM |
| 6/10 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:00 PM | 9:30 PM |
| 6/10 | Seattle International Film Festival | SIFF | SIFF | 8:30 AM | 5:00 PM |
| 6/11 | Seattle International Film Festival | SIFF | SIFF | 11:00 AM | 7:00 PM |
| 6/16 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:00 PM | 10:00 PM |
| 6/16 | Deconstructing the Beatles: Rubber Soul | SIFF | SIFF | 8:00 PM | 10:00 PM |
| 6/17 | Deconstructing the Beatles: Rubber Soul | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 6/17 | Deconstructing the Beatles: Rubber Soul | SIFF | SIFF | 8:00 PM | 10:00 PM |
| 6/17 | TRAINING | SIFF | SIFF | 9:00 AM | 1:00 PM |
| 6/18 | KEXP Event | KEXP | International Plaza | 10:00 AM | 10:00 PM |
| 6/18 | 2017 Father's Day | KEXP | KEXP | 11:00 AM | 3:00 PM |
| 6/18 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:30 PM | 10:30 PM |
| 6/18 | Deconstructing the Beatles: Rubber Soul | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 6/18 | Deconstructing the Beatles: Rubber Soul | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 6/23 | Public Screenings | SIFF | SIFF | 6:00 PM | 7:35 PM |
| 6/23 | Public Screenings | SIFF | SIFF | 8:15 PM | 9:50 PM |
| 6/23 | Public Screenings | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 6/23 | Public Screenings | SIFF | SIFF | 8:15 PM | 10:00 PM |
| 6/24 | Public Screenings | SIFF | SIFF | 3:45 PM | 7:00 PM |
| 6/24 | Public Screenings | SIFF | SIFF | 3:45 PM | 5:20 PM |
| 6/24 | Public Screenings | SIFF | SIFF | 6:00 PM | 7:35 PM |
| 6/24 | Public Screenings | SIFF | SIFF | 8:15 PM | 9:50 PM |
| 6/24 | Public Screenings | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 6/24 | Public Screenings | SIFF | SIFF | 8:15 PM | 10:00 PM |
| 6/25 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:00 PM | 12:00 AM |
| 6/25 | National Theatre Live: | SIFF | SIFF | 12:00 PM | 2:50 PM |

| Date | Name | Producer | Location | Start | End |
|------|---------------------------------------|----------|----------|---------|----------|
| 6/25 | Public Screenings | SIFF | SIFF | 3:45 PM | 6:00 PM |
| 6/25 | Public Screenings | SIFF | SIFF | 3:45 PM | 5:20 PM |
| 6/25 | Public Screenings | SIFF | SIFF | 6:00 PM | 7:35 PM |
| 6/25 | Public Screenings | SIFF | SIFF | 8:15 PM | 9:50 PM |
| 6/25 | Public Screenings | SIFF | SIFF | 8:15 PM | 10:00 PM |
| 6/25 | Public Screenings | SIFF | SIFF | 6:00 PM | 7:45 PM |
| 6/26 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 9:20 PM |
| 6/27 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 9:20 PM |
| 6/29 | Seattle's Always All-Ages Music Venue | Vera | Vera | 9:00 PM | 11:00 PM |
| 6/29 | VR Camp in Theater | SIFF | SIFF | 2:00 PM | 4:00 PM |
| 6/30 | Camp Final Screening | SIFF | SIFF | 3:00 PM | 4:00 PM |
| 6/30 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:30 PM | 11:00 PM |
| 6/30 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 6/30 | Public Screenings | SIFF | SIFF | 5:00 PM | 7:00 PM |
| 7/1 | Crash Kids Intro | SIFF | SIFF | 9:30 AM | 10:00 AM |
| 7/1 | Crash Presentation | SIFF | SIFF | 5:30 PM | 6:30 PM |
| 7/1 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:00 PM | 9:30 PM |
| 7/1 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 7/1 | Public Screenings | SIFF | SIFF | 3:00 PM | 5:00 PM |
| 7/2 | The Vera Project Workshops | Vera | Vera | 1:00 PM | 4:00 PM |
| 7/2 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 7/2 | Public Screenings | SIFF | SIFF | 3:00 PM | 5:00 PM |
| 7/2 | Public Screenings | SIFF | SIFF | 5:00 PM | 7:00 PM |
| 7/5 | The Vera Project Workshops | Vera | Vera | 7:00 PM | 9:00 PM |
| 7/6 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:30 PM | 10:30 PM |
| 7/6 | RENTAL | SIFF | SIFF | 4:45 PM | 5:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|---------------------------------------|-----------------|---------------------|----------|----------|
| 7/6 | RENTAL | SIFF | SIFF | 5:00 PM | 7:00 PM |
| 7/7 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:00 PM | 11:00 PM |
| 7/7 | Public Screenings | SIFF | SIFF | 1:00 PM | 3:00 PM |
| 7/7 | Public Screenings | SIFF | SIFF | 6:30 PM | 9:00 PM |
| 7/7 | Public Screenings | SIFF | SIFF | 9:00 PM | 11:00 PM |
| 7/7 | VR Camp final presentations | SIFF | SIFF | 3:00 PM | 5:00 PM |
| 7/8 | The Vera Project Workshops | Vera | Vera | 12:00 PM | 4:30 PM |
| 7/8 | Public Screenings | SIFF | SIFF | 6:30 PM | 8:00 PM |
| 7/8 | Public Screenings | SIFF | SIFF | 8:30 PM | 10:30 PM |
| 7/8 | Public Screenings | SIFF | SIFF | 4:00 PM | 6:00 PM |
| 7/9 | Public Screenings | SIFF | SIFF | 6:30 PM | 9:00 PM |
| 7/9 | Public Screenings | SIFF | SIFF | 4:30 PM | 6:00 PM |
| 7/10 | FilmSchool Camp | SIFF | SIFF | 9:00 AM | 4:00 PM |
| 7/11 | FilmSchool Camp | SIFF | SIFF | 9:00 AM | 4:00 PM |
| 7/12 | FilmSchool Camp | SIFF | SIFF | 9:00 AM | 4:00 PM |
| 7/12 | French Truly Salon | SIFF | SIFF | 6:30 PM | 9:30 PM |
| 7/13 | FilmSchool Camp | SIFF | SIFF | 9:00 AM | 4:00 PM |
| 7/14 | Pianos in the Park | KEXP | International Plaza | 12:00 AM | 11:59 PM |
| 7/14 | FilmSchool Camp | SIFF | SIFF | 9:00 AM | 4:00 PM |
| 7/14 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:41 PM |
| 7/14 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 7/14 | Public Screenings | SIFF | SIFF | 4:45 PM | 7:00 PM |
| 7/15 | Crash Intro | SIFF | SIFF | 9:30 AM | 10:00 AM |
| 7/15 | Crash Presentation | SIFF | SIFF | 5:30 PM | 6:30 PM |
| 7/15 | Bite of Seattle (load in) | Bite of Seattle | International Plaza | 8:00 AM | 6:00 PM |
| 7/15 | Pianos in the Park | KEXP | International Plaza | 12:00 AM | 11:59 PM |

| Date | Name | Producer | Location | Start | End |
|------|---------------------------------------|-----------------|---------------------|----------|----------|
| 7/15 | Vera Food Truck | Vera | International Plaza | 4:00 PM | 10:00 PM |
| 7/15 | Seattle's Always All-Ages Music Venue | Vera | Vera | 12:00 PM | |
| 7/15 | Public Screenings | SIFF | SIFF | 3:00 PM | 4:41 PM |
| 7/15 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:41 PM |
| 7/15 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 7/15 | Public Screenings | SIFF | SIFF | 3:00 PM | 5:00 PM |
| 7/15 | SIFF Crash Students Cinema | SIFF | SIFF | 9:30 AM | 5:00 PM |
| 7/15 | SIFF Crash Students Cinema | SIFF | SIFF | 5:00 PM | 6:00 PM |
| 7/16 | Bite of Seattle (load in) | Bite of Seattle | International Plaza | 8:00 AM | 6:00 PM |
| 7/16 | Bite of Seattle (load in) | Bite of Seattle | International Plaza | 8:00 AM | 6:00 PM |
| 7/16 | Pianos in the Park | KEXP | International Plaza | 12:00 AM | 11:59 PM |
| 7/16 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:00 PM | 11:00 PM |
| 7/16 | Public Screenings | SIFF | SIFF | 4:45 PM | 6:26 PM |
| 7/16 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:41 PM |
| 7/16 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 7/16 | Public Screenings | SIFF | SIFF | 4:45 PM | 7:00 PM |
| 7/17 | Bite of Seattle (load in) | Bite of Seattle | International Plaza | 8:00 AM | 6:00 PM |
| 7/17 | Bite of Seattle (load in) | Bite of Seattle | International Plaza | 8:00 AM | 6:00 PM |
| 7/17 | Pianos in the Park | KEXP | International Plaza | 12:00 AM | 11:59 PM |
| 7/18 | Bite of Seattle (load in) | Bite of Seattle | International Plaza | 7:00 AM | 7:00 PM |
| 7/18 | Bite of Seattle (load in) | Bite of Seattle | International Plaza | 7:00 AM | 7:00 PM |
| 7/18 | Pianos in the Park | KEXP | International Plaza | 12:00 AM | 11:59 PM |
| 7/18 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:30 PM | 10:30 PM |
| 7/18 | Public Screenings | SIFF | SIFF | 1:00 PM | 3:30 PM |
| 7/19 | Bite of Seattle (load in) | Bite of Seattle | International Plaza | 7:00 AM | 8:00 PM |
| 7/19 | Bite of Seattle (load in) | Bite of Seattle | International Plaza | 7:00 AM | 8:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|---------------------------------------|-----------------|---------------------|----------|----------|
| 7/19 | Pianos in the Park | KEXP | International Plaza | 12:00 AM | 11:59 PM |
| 7/19 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:30 PM | 10:00 PM |
| 7/20 | Bite of Seattle (load in) | Bite of Seattle | International Plaza | 7:00 AM | 9:00 PM |
| 7/20 | Bite of Seattle (load in) | Bite of Seattle | International Plaza | 7:00 AM | 9:00 PM |
| 7/20 | Pianos in the Park | KEXP | International Plaza | 12:00 AM | 11:59 PM |
| 7/20 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:00 PM | 10:30 PM |
| 7/20 | SCREENING | SIFF | SIFF | 10:00 AM | 12:00 PM |
| 7/21 | Bite of Seattle | Bite of Seattle | International Plaza | 11:00 AM | 9:00 PM |
| 7/21 | Bite of Seattle | Bite of Seattle | International Plaza | 11:00 AM | 9:00 PM |
| 7/21 | Pianos in the Park | KEXP | International Plaza | 12:00 AM | 11:59 PM |
| 7/21 | Public Screenings | SIFF | SIFF | 6:30 PM | 9:20 PM |
| 7/21 | Public Screenings | SIFF | SIFF | 6:30 PM | 10:00 PM |
| 7/22 | Bite of Seattle | Bite of Seattle | International Plaza | 11:00 AM | 9:00 PM |
| 7/22 | Bite of Seattle | Bite of Seattle | International Plaza | 11:00 AM | 9:00 PM |
| 7/22 | Pianos in the Park | KEXP | International Plaza | 12:00 AM | 11:59 PM |
| 7/22 | Public Screenings | SIFF | SIFF | 3:00 PM | 5:50 PM |
| 7/22 | Public Screenings | SIFF | SIFF | 6:30 PM | 9:20 PM |
| 7/22 | Public Screenings | SIFF | SIFF | 3:00 PM | 6:00 PM |
| 7/22 | Public Screenings | SIFF | SIFF | 6:30 PM | 10:00 PM |
| 7/23 | Bite of Seattle | Bite of Seattle | International Plaza | 11:00 AM | 9:00 PM |
| 7/23 | Bite of Seattle | Bite of Seattle | International Plaza | 11:00 AM | 9:00 PM |
| 7/23 | Pianos in the Park | KEXP | International Plaza | 12:00 AM | 11:59 PM |
| 7/23 | Public Screenings | SIFF | SIFF | 3:00 PM | 5:50 PM |
| 7/23 | Public Screenings | SIFF | SIFF | 6:30 PM | 9:20 PM |
| 7/23 | Public Screenings | SIFF | SIFF | 3:00 PM | 6:00 PM |
| 7/23 | Public Screenings | SIFF | SIFF | 6:30 PM | 10:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|---------------------------------------|-----------------|---------------------|----------|----------|
| 7/24 | Bite of Seattle (load out) | Bite of Seattle | International Plaza | 7:00 AM | 6:00 PM |
| 7/24 | Bite of Seattle (load out) | Bite of Seattle | International Plaza | 7:00 AM | 6:00 PM |
| 7/24 | Pianos in the Park | KEXP | International Plaza | 12:00 AM | 11:59 PM |
| 7/24 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:30 PM | 10:00 PM |
| 7/25 | Bite of Seattle (load out) | Bite of Seattle | International Plaza | 7:00 AM | 6:00 PM |
| 7/25 | Bite of Seattle (load out) | Bite of Seattle | International Plaza | 7:00 AM | 6:00 PM |
| 7/25 | Pianos in the Park | KEXP | International Plaza | 12:00 AM | 11:59 PM |
| 7/25 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:00 PM | 11:00 PM |
| 7/26 | Pianos in the Park | KEXP | International Plaza | 12:00 AM | 11:59 PM |
| 7/27 | Pianos in the Park | KEXP | International Plaza | 12:00 AM | 11:59 PM |
| 7/27 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:00 PM | 11:00 PM |
| 7/28 | Pianos in the Park | KEXP | International Plaza | 12:00 AM | 11:59 PM |
| 7/28 | Public Screenings | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 7/28 | Public Screenings | SIFF | SIFF | 8:00 PM | 10:00 PM |
| 7/28 | RENTAL | SIFF | SIFF | 11:00 AM | 2:00 PM |
| 7/29 | Pianos in the Park | KEXP | International Plaza | 12:00 AM | 11:59 PM |
| 7/29 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:15 PM | 10:00 PM |
| 7/29 | Public Screenings | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 7/29 | Public Screenings | SIFF | SIFF | 8:00 PM | 10:00 PM |
| 7/30 | Pianos in the Park | KEXP | International Plaza | 12:00 AM | 11:59 PM |
| 7/30 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 7/30 | Public Screenings | SIFF | SIFF | 5:00 PM | 7:00 PM |
| 7/30 | National Theatre Live: | SIFF | SIFF | 12:00 PM | 3:30 PM |
| 7/31 | Pianos in the Park | KEXP | International Plaza | 12:00 AM | 11:59 PM |
| 7/31 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 10:00 PM |
| 8/1 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 10:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|--|----------|---------------------|----------|----------|
| 8/4 | KEXP Event | KEXP | International Plaza | 10:00 AM | 10:00 PM |
| 8/4 | Public Screenings | SIFF | SIFF | 6:00 PM | 7:30 PM |
| 8/4 | Public Screenings | SIFF | SIFF | 8:00 PM | 9:30 PM |
| 8/5 | Opening Reception | Vampires | A/NT Gallery | 6:00 PM | 9:00 PM |
| 8/5 | Public Screenings | SIFF | SIFF | 6:00 PM | 7:30 PM |
| 8/5 | Public Screenings | SIFF | SIFF | 8:00 PM | 9:30 PM |
| 8/6 | 32 new paintings by master Post-Pop portraitist Michael Larkin | Vampires | A/NT Gallery | 12:00 PM | 8:00 PM |
| 8/6 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:30 PM |
| 8/6 | Public Screenings | SIFF | SIFF | 5:00 PM | 6:30 PM |
| 8/6 | National Theatre Live: | SIFF | SIFF | 12:00 PM | 3:30 PM |
| 8/7 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:00 PM | 10:00 PM |
| 8/7 | 32 new paintings by master Post-Pop portraitist Michael Larkin | Vampires | A/NT Gallery | 12:00 PM | 8:00 PM |
| 8/7 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 10:00 PM |
| 8/7 | SIFF Summer Camp | SIFF | SIFF | 9:00 AM | 4:00 PM |
| 8/8 | 32 new paintings by master Post-Pop portraitist Michael Larkin | Vampires | A/NT Gallery | 12:00 PM | 8:00 PM |
| 8/8 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 10:00 PM |
| 8/8 | SIFF Summer Camp | SIFF | SIFF | 9:00 AM | 4:00 PM |
| 8/9 | 32 new paintings by master Post-Pop portraitist Michael Larkin | Vampires | A/NT Gallery | 12:00 PM | 8:00 PM |
| 8/9 | Public Screenings | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 8/9 | Public Screenings | SIFF | SIFF | 8:00 PM | 10:00 PM |
| 8/9 | SIFF Summer Camp | SIFF | SIFF | 9:00 AM | 4:00 PM |
| 8/10 | 32 new paintings by master Post-Pop portraitist Michael Larkin | Vampires | A/NT Gallery | 12:00 PM | 8:00 PM |
| 8/10 | RENTAL | SIFF | SIFF | 6:30 PM | 7:00 PM |
| 8/10 | RENTAL | SIFF | SIFF | 7:30 PM | 9:00 PM |
| 8/10 | RENTAL | SIFF | SIFF | 7:00 PM | 7:30 PM |
| 8/10 | SIFF Summer Camp | SIFF | SIFF | 9:00 AM | 4:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|--|----------|--------------|----------|----------|
| 8/11 | 32 new paintings by master Post-Pop portraitist Michael Larkin | Vampires | A/NT Gallery | 12:00 PM | 8:00 PM |
| 8/11 | Final Camp Screening | SIFF | SIFF | 3:00 PM | 4:00 PM |
| 8/11 | Public Screenings | SIFF | SIFF | 4:45 PM | 6:31 PM |
| 8/11 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:46 PM |
| 8/11 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 8/11 | Public Screenings | SIFF | SIFF | 4:45 PM | 7:00 PM |
| 8/11 | SIFF Summer Camp | SIFF | SIFF | 9:00 AM | 4:00 PM |
| 8/12 | 32 new paintings by master Post-Pop portraitist Michael Larkin | Vampires | A/NT Gallery | 12:00 PM | 8:00 PM |
| 8/12 | Public Screenings | SIFF | SIFF | 2:30 PM | 4:30 PM |
| 8/12 | Public Screenings | SIFF | SIFF | 2:30 PM | 4:16 PM |
| 8/12 | Public Screenings | SIFF | SIFF | 4:45 PM | 6:31 PM |
| 8/12 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:46 PM |
| 8/12 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 8/12 | Public Screenings | SIFF | SIFF | 4:45 PM | 7:00 PM |
| 8/13 | 32 new paintings by master Post-Pop portraitist Michael Larkin | Vampires | A/NT Gallery | 12:00 PM | 8:00 PM |
| 8/13 | Public Screenings | SIFF | SIFF | 2:30 PM | 4:30 PM |
| 8/13 | Public Screenings | SIFF | SIFF | 2:30 PM | 4:16 PM |
| 8/13 | Public Screenings | SIFF | SIFF | 4:45 PM | 6:31 PM |
| 8/13 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:46 PM |
| 8/13 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 8/13 | Public Screenings | SIFF | SIFF | 4:45 PM | 7:00 PM |
| 8/14 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:00 PM | 10:00 PM |
| 8/14 | 32 new paintings by master Post-Pop portraitist Michael Larkin | Vampires | A/NT Gallery | 12:00 PM | 8:00 PM |
| 8/14 | Public Screenings | SIFF | SIFF | 10:00 PM | 12:00 AM |
| 8/14 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:25 PM |
| 8/14 | SCREENING | SIFF | SIFF | 7:00 PM | 9:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|--|----------|--------------|----------|----------|
| 8/14 | SIFF Summer Camp | SIFF | SIFF | 9:00 AM | 4:00 PM |
| 8/15 | 32 new paintings by master Post-Pop portraitist Michael Larkin | Vampires | A/NT Gallery | 12:00 PM | 8:00 PM |
| 8/15 | Public Screenings | SIFF | SIFF | 5:00 PM | 6:33 PM |
| 8/15 | Public Screenings | SIFF | SIFF | 7:15 PM | 8:48 PM |
| 8/15 | Public Screenings | SIFF | SIFF | 5:00 PM | 7:00 PM |
| 8/15 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 8/15 | SIFF Summer Camp | SIFF | SIFF | 9:00 AM | 4:00 PM |
| 8/16 | 32 new paintings by master Post-Pop portraitist Michael Larkin | Vampires | A/NT Gallery | 12:00 PM | 8:00 PM |
| 8/16 | French Truly Salon | SIFF | SIFF | 6:30 PM | 9:30 PM |
| 8/16 | Public Screenings | SIFF | SIFF | 6:30 PM | 8:14 PM |
| 8/16 | SIFF Summer Camp | SIFF | SIFF | 9:00 AM | 4:00 PM |
| 8/17 | 32 new paintings by master Post-Pop portraitist Michael Larkin | Vampires | A/NT Gallery | 12:00 PM | 8:00 PM |
| 8/17 | Public Screenings | SIFF | SIFF | 5:00 PM | 6:33 PM |
| 8/17 | Public Screenings | SIFF | SIFF | 7:15 PM | 8:48 PM |
| 8/17 | Public Screenings | SIFF | SIFF | 5:00 PM | 7:00 PM |
| 8/17 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 8/17 | SIFF Summer Camp | SIFF | SIFF | 9:00 AM | 4:00 PM |
| 8/18 | 32 new paintings by master Post-Pop portraitist Michael Larkin | Vampires | A/NT Gallery | 12:00 PM | 8:00 PM |
| 8/18 | Final Camp Screening | SIFF | SIFF | 3:00 PM | 4:00 PM |
| 8/18 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:20 PM |
| 8/18 | Public Screenings | SIFF | SIFF | 8:00 PM | 9:50 PM |
| 8/18 | Public Screenings | SIFF | SIFF | 8:00 PM | 10:00 PM |
| 8/18 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:30 PM |
| 8/18 | SIFF Summer Camp | SIFF | SIFF | 9:00 AM | 4:00 PM |
| 8/19 | KEXP | KEXP | KEXP | 11:00 AM | 2:30 PM |
| 8/19 | 32 new paintings by master Post-Pop portraitist Michael Larkin | Vampires | A/NT Gallery | 12:00 PM | 8:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|--|----------|---------------------|----------|----------|
| 8/19 | Public Screenings | SIFF | SIFF | 3:30 PM | 5:00 PM |
| 8/19 | Public Screenings | SIFF | SIFF | 3:30 PM | 4:55 PM |
| 8/19 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:20 PM |
| 8/19 | Public Screenings | SIFF | SIFF | 8:00 PM | 9:50 PM |
| 8/19 | Public Screenings | SIFF | SIFF | 8:00 PM | 10:00 PM |
| 8/19 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:30 PM |
| 8/20 | 32 new paintings by master Post-Pop portraitist Michael Larkin | Vampires | A/NT Gallery | 12:00 PM | 8:00 PM |
| 8/20 | Public Screenings | SIFF | SIFF | 3:00 PM | 5:00 PM |
| 8/20 | Public Screenings | SIFF | SIFF | 3:00 PM | 4:50 PM |
| 8/20 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:20 PM |
| 8/20 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:30 PM |
| 8/21 | 32 new paintings by master Post-Pop portraitist Michael Larkin | Vampires | A/NT Gallery | 12:00 PM | 8:00 PM |
| 8/21 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 8/21 | SIFF Summer Camp | SIFF | SIFF | 9:00 AM | 4:00 PM |
| 8/22 | 32 new paintings by master Post-Pop portraitist Michael Larkin | Vampires | A/NT Gallery | 12:00 PM | 8:00 PM |
| 8/22 | SIFF Summer Camp | SIFF | SIFF | 9:00 AM | 4:00 PM |
| 8/23 | KEXP | KEXP | KEXP | 11:00 AM | 2:00 PM |
| 8/23 | 32 new paintings by master Post-Pop portraitist Michael Larkin | Vampires | A/NT Gallery | 12:00 PM | 8:00 PM |
| 8/23 | SIFF Summer Camp | SIFF | SIFF | 9:00 AM | 4:00 PM |
| 8/24 | 32 new paintings by master Post-Pop portraitist Michael Larkin | Vampires | A/NT Gallery | 12:00 PM | 8:00 PM |
| 8/24 | SIFF Summer Camp | SIFF | SIFF | 9:00 AM | 4:00 PM |
| 8/25 | Bumbershoot (load in) | One Reel | International Plaza | 7:00 AM | 6:00 PM |
| 8/25 | Bumbershoot (load in) | One Reel | International Plaza | 7:00 AM | 6:00 PM |
| 8/25 | 32 new paintings by master Post-Pop portraitist Michael Larkin | Vampires | A/NT Gallery | 12:00 PM | 8:00 PM |
| 8/25 | Final Camp Screening | SIFF | SIFF | 3:00 PM | 4:00 PM |
| 8/25 | Public Screenings | SIFF | SIFF | 7:30 PM | 9:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|--|----------|---------------------|----------|----------|
| 8/25 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:00 PM |
| 8/25 | SIFF Summer Camp | SIFF | SIFF | 9:00 AM | 4:00 PM |
| 8/26 | Bumbershoot (load in) | One Reel | International Plaza | 7:00 AM | 6:00 PM |
| 8/26 | Bumbershoot (load in) | One Reel | International Plaza | 7:00 AM | 6:00 PM |
| 8/26 | 32 new paintings by master Post-Pop portraitist Michael Larkin | Vampires | A/NT Gallery | 12:00 PM | 8:00 PM |
| 8/26 | Public Screenings | SIFF | SIFF | 3:30 PM | 5:00 PM |
| 8/26 | Public Screenings | SIFF | SIFF | 7:30 PM | 9:00 PM |
| 8/26 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:00 PM |
| 8/26 | SIFF Crash Kids Cinema | SIFF | SIFF | 9:30 AM | 5:00 PM |
| 8/26 | SIFF Crash Kids Cinema | SIFF | SIFF | 5:00 PM | 6:00 PM |
| 8/27 | Bumbershoot (load in) | One Reel | International Plaza | 7:00 AM | 6:00 PM |
| 8/27 | Bumbershoot (load in) | One Reel | International Plaza | 7:00 AM | 6:00 PM |
| 8/27 | Public Screenings | SIFF | SIFF | 4:15 PM | 6:00 PM |
| 8/27 | Public Screenings | SIFF | SIFF | 12:00 PM | 4:00 PM |
| 8/27 | Public Screenings | SIFF | SIFF | 6:00 PM | 7:30 PM |
| 8/27 | Public Screenings | SIFF | SIFF | 12:00 PM | 3:38 PM |
| 8/28 | Bumbershoot (load in) | One Reel | International Plaza | 7:00 AM | 7:00 PM |
| 8/28 | Bumbershoot (load in) | One Reel | International Plaza | 7:00 AM | 7:00 PM |
| 8/28 | Public Screenings | SIFF | SIFF | 6:30 PM | 10:30 PM |
| 8/29 | Bumbershoot (load in) | One Reel | International Plaza | 7:00 AM | 8:00 PM |
| 8/29 | Bumbershoot (load in) | One Reel | International Plaza | 7:00 AM | 8:00 PM |
| 8/29 | Public Screenings | SIFF | SIFF | 6:30 PM | 10:30 PM |
| 8/30 | Bumbershoot (load in) | One Reel | International Plaza | 7:00 AM | 9:00 PM |
| 8/30 | Bumbershoot (load in) | One Reel | International Plaza | 7:00 AM | 9:00 PM |
| 8/30 | Public Screenings | SIFF | SIFF | 7:30 PM | 9:00 PM |
| 8/30 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|---------------------------------------|----------|---------------------|---------|----------|
| 8/31 | Bumbershoot (load in) | One Reel | International Plaza | 7:00 AM | 11:59 PM |
| 8/31 | Bumbershoot (load in) | One Reel | International Plaza | 7:00 AM | 11:59 PM |
| 8/31 | Public Screenings | SIFF | SIFF | 7:30 PM | 9:00 PM |
| 8/31 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:00 PM |
| 9/1 | Bumbershoot | One Reel | International Plaza | 2:00 PM | 11:00 PM |
| 9/1 | Bumbershoot | One Reel | International Plaza | 2:00 PM | 11:00 PM |
| 9/1 | Public Screenings | SIFF | SIFF | 6:30 PM | 7:30 PM |
| 9/1 | Public Screenings | SIFF | SIFF | 7:30 PM | 9:30 PM |
| 9/2 | Bumbershoot | One Reel | International Plaza | 2:00 PM | 11:00 PM |
| 9/2 | Bumbershoot | One Reel | International Plaza | 2:00 PM | 11:00 PM |
| 9/2 | Public Screenings | SIFF | SIFF | 7:30 PM | 9:30 PM |
| 9/3 | Bumbershoot | One Reel | International Plaza | 2:00 PM | 11:00 PM |
| 9/3 | Bumbershoot | One Reel | International Plaza | 2:00 PM | 11:00 PM |
| 9/3 | Public Screenings | SIFF | SIFF | 7:30 PM | 9:30 PM |
| 9/4 | Bumbershoot (load out) | One Reel | International Plaza | 7:00 AM | 6:00 PM |
| 9/4 | Bumbershoot (load out) | One Reel | International Plaza | 7:00 AM | 6:00 PM |
| 9/5 | Bumbershoot (load out) | One Reel | International Plaza | 7:00 AM | 7:00 PM |
| 9/5 | Bumbershoot (load out) | One Reel | International Plaza | 7:00 AM | 7:00 PM |
| 9/6 | Bumbershoot (load out) | One Reel | International Plaza | 7:00 AM | 7:00 PM |
| 9/6 | Bumbershoot (load out) | One Reel | International Plaza | 7:00 AM | 7:00 PM |
| 9/6 | La Marzocco/KEXP Food Trucks | KEXP | International Plaza | 4:00 PM | 10:00 PM |
| 9/8 | KEXP | KEXP | KEXP | 7:00 AM | 3:00 PM |
| 9/8 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:30 PM | 10:00 PM |
| 9/8 | Public Screenings | SIFF | SIFF | 4:00 PM | 6:00 PM |
| 9/8 | Public Screenings | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 9/8 | Public Screenings | SIFF | SIFF | 4:00 PM | 5:39 PM |

| Date | Name | Producer | Location | Start | End |
|------|---------------------------------------|-----------------|---------------------|----------|----------|
| 9/8 | Public Screenings | SIFF | SIFF | 6:15 PM | 7:54 PM |
| 9/8 | Public Screenings | SIFF | SIFF | 8:30 PM | 10:14 PM |
| 9/8 | Public Screenings | SIFF | SIFF | 8:30 PM | 10:30 PM |
| 9/9 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:30 PM | 10:30 PM |
| 9/9 | Public Screenings | SIFF | SIFF | 3:45 PM | 6:00 PM |
| 9/9 | Public Screenings | SIFF | SIFF | 1:30 PM | 3:30 PM |
| 9/9 | Public Screenings | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 9/9 | Public Screenings | SIFF | SIFF | 1:30 PM | 3:09 PM |
| 9/9 | Public Screenings | SIFF | SIFF | 3:45 PM | 5:36 PM |
| 9/9 | Public Screenings | SIFF | SIFF | 6:15 PM | 7:54 PM |
| 9/9 | Public Screenings | SIFF | SIFF | 8:30 PM | 10:21 PM |
| 9/9 | Public Screenings | SIFF | SIFF | 8:30 PM | 10:30 PM |
| 9/10 | Public Screenings | SIFF | SIFF | 3:45 PM | 6:00 PM |
| 9/10 | Public Screenings | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 9/10 | Public Screenings | SIFF | SIFF | 1:30 PM | 3:09 PM |
| 9/10 | Public Screenings | SIFF | SIFF | 6:15 PM | 7:54 PM |
| 9/10 | Public Screenings | SIFF | SIFF | 8:30 PM | 10:08 PM |
| 9/10 | Public Screenings | SIFF | SIFF | 8:30 PM | 10:30 PM |
| 9/10 | National Theatre Live: | SIFF | SIFF | 12:00 PM | 3:00 PM |
| 9/11 | Public Screenings | SIFF | SIFF | 4:15 PM | 6:00 PM |
| 9/11 | Public Screenings | SIFF | SIFF | 4:15 PM | 6:03 PM |
| 9/11 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 9:30 PM |
| 9/12 | Mayor's Office Press Conference | Mayor's Office | International Plaza | 9:00 AM | 1:00 PM |
| 9/12 | Press Conference | City of Seattle | International Plaza | 8:00 AM | 12:00 PM |
| 9/12 | Public Screenings | SIFF | SIFF | 4:15 PM | 6:30 PM |
| 9/12 | Public Screenings | SIFF | SIFF | 4:15 PM | 5:53 PM |

| Date | Name | Producer | Location | Start | End |
|------|---------------------------------------|----------|----------|----------|----------|
| 9/12 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 9:30 PM |
| 9/13 | French Truly Salon | SIFF | SIFF | | 1:00 PM |
| 9/13 | French Truly Salon | SIFF | SIFF | 6:30 PM | 9:30 PM |
| 9/13 | French Truly Salon | SIFF | SIFF | 10:00 AM | 10:15 AM |
| 9/13 | French Truly Salon | SIFF | SIFF | 10:15 AM | 11:15 AM |
| 9/13 | French Truly Salon | SIFF | SIFF | 11:15 AM | 12:50 PM |
| 9/13 | French Truly Salon | SIFF | SIFF | 6:30 PM | 6:45 PM |
| 9/13 | French Truly Salon | SIFF | SIFF | 6:45 PM | 7:45 PM |
| 9/13 | French Truly Salon | SIFF | SIFF | 7:45 PM | 9:20 PM |
| 9/14 | RENTAL | SIFF | SIFF | 6:30 PM | 9:00 PM |
| 9/15 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:00 PM | 10:00 PM |
| 9/15 | Public Screenings | SIFF | SIFF | 5:15 PM | 7:00 PM |
| 9/15 | Public Screenings | SIFF | SIFF | 7:30 PM | 9:30 PM |
| 9/16 | Cinema Dissection: Eyes Wide Shut | SIFF | SIFF | 11:00 AM | 5:00 PM |
| 9/16 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:00 PM | 10:00 PM |
| 9/16 | Public Screenings | SIFF | SIFF | 5:15 PM | 7:00 PM |
| 9/16 | Public Screenings | SIFF | SIFF | 7:30 PM | 9:00 PM |
| 9/17 | Seattle's Always All-Ages Music Venue | Vera | Vera | 6:00 PM | 9:00 PM |
| 9/17 | Public Screenings | SIFF | SIFF | 2:30 PM | 4:30 PM |
| 9/17 | Public Screenings | SIFF | SIFF | 5:15 PM | 7:00 PM |
| 9/17 | Public Screenings | SIFF | SIFF | 7:30 PM | 9:30 PM |
| 9/18 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 9/18 | RENTAL | SIFF | SIFF | 8:00 AM | 9:00 PM |
| 9/19 | KEXP | KEXP | KEXP | 10:00 AM | 4:00 PM |
| 9/20 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:00 PM | 10:00 PM |
| 9/21 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:30 PM | 11:00 PM |

| Date | Name | Producer | Location | Start | End |
|------|---------------------------------------|----------|----------|----------|----------|
| 9/21 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 9/22 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:30 PM | 10:00 PM |
| 9/22 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:00 PM |
| 9/22 | Public Screenings | SIFF | SIFF | 5:30 PM | 6:50 PM |
| 9/22 | Public Screenings | SIFF | SIFF | 7:30 PM | 8:50 PM |
| 9/22 | Public Screenings | SIFF | SIFF | 7:30 PM | 9:00 PM |
| 9/23 | Crash Kids Intro | SIFF | SIFF | 9:30 AM | 10:00 AM |
| 9/23 | Crash Presentation | SIFF | SIFF | 5:30 PM | 6:30 PM |
| 9/23 | Public Screenings | SIFF | SIFF | 3:30 PM | 5:00 PM |
| 9/23 | Public Screenings | SIFF | SIFF | 3:30 PM | 4:50 PM |
| 9/23 | Public Screenings | SIFF | SIFF | 7:30 PM | 8:50 PM |
| 9/23 | Public Screenings | SIFF | SIFF | 7:30 PM | 9:30 PM |
| 9/24 | Public Screenings | SIFF | SIFF | 3:30 PM | 5:00 PM |
| 9/24 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:00 PM |
| 9/24 | Public Screenings | SIFF | SIFF | 3:30 PM | 4:50 PM |
| 9/24 | Public Screenings | SIFF | SIFF | 5:30 PM | 6:50 PM |
| 9/24 | Public Screenings | SIFF | SIFF | 7:30 PM | 8:50 PM |
| 9/24 | Public Screenings | SIFF | SIFF | 7:30 PM | 9:00 PM |
| 9/24 | RENTAL | SIFF | SIFF | 12:00 PM | 3:00 PM |
| 9/25 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:00 PM |
| 9/25 | Public Screenings | SIFF | SIFF | 5:30 PM | 6:50 PM |
| 9/25 | Public Screenings | SIFF | SIFF | 7:30 PM | 8:50 PM |
| 9/25 | Public Screenings | SIFF | SIFF | 7:30 PM | 9:00 PM |
| 9/26 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:00 PM | 10:30 PM |
| 9/26 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:00 PM |
| 9/26 | Public Screenings | SIFF | SIFF | 5:30 PM | 6:50 PM |

| Date | Name | Producer | Location | Start | End |
|------|----------------------|----------|----------|----------|----------|
| 9/26 | Public Screenings | SIFF | SIFF | 7:30 PM | 8:50 PM |
| 9/26 | Public Screenings | SIFF | SIFF | 7:30 PM | 9:00 PM |
| 9/27 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:00 PM |
| 9/27 | Public Screenings | SIFF | SIFF | 5:30 PM | 6:50 PM |
| 9/27 | Public Screenings | SIFF | SIFF | 7:30 PM | 8:50 PM |
| 9/27 | Public Screenings | SIFF | SIFF | 7:30 PM | 9:00 PM |
| 9/28 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:00 PM |
| 9/28 | Public Screenings | SIFF | SIFF | 5:30 PM | 6:50 PM |
| 9/28 | Public Screenings | SIFF | SIFF | 7:30 PM | 8:50 PM |
| 9/28 | Public Screenings | SIFF | SIFF | 7:30 PM | 9:00 PM |
| 9/30 | Irish Reels Festival | SIFF | SIFF | 2:00 PM | 3:21 PM |
| 9/30 | Irish Reels Festival | SIFF | SIFF | 4:00 PM | 5:22 PM |
| 9/30 | Irish Reels Festival | SIFF | SIFF | 6:00 PM | 7:27 PM |
| 9/30 | Public Screenings | SIFF | SIFF | 2:00 PM | 3:30 PM |
| 9/30 | Public Screenings | SIFF | SIFF | 4:00 PM | 6:00 PM |
| 9/30 | Public Screenings | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 9/30 | RENTAL | SIFF | SIFF | 12:00 PM | 1:00 PM |
| 10/1 | Irish Reels Festival | SIFF | SIFF | 2:00 PM | 3:44 PM |
| 10/1 | Irish Reels Festival | SIFF | SIFF | 4:00 PM | 5:38 PM |
| 10/1 | Irish Reels Festival | SIFF | SIFF | 6:00 PM | 7:30 PM |
| 10/1 | Public Screenings | SIFF | SIFF | 2:00 PM | 4:00 PM |
| 10/1 | Public Screenings | SIFF | SIFF | 4:00 PM | 6:00 PM |
| 10/1 | Public Screenings | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 10/1 | RENTAL | SIFF | SIFF | 12:00 PM | 1:00 PM |
| 10/1 | RENTAL | SIFF | SIFF | 8:00 PM | 10:00 PM |
| 10/2 | KEXP | KEXP | KEXP | 9:00 AM | 3:00 PM |

| Date | Name | Producer | Location | Start | End |
|-------|---------------------------------------|----------|----------|----------|----------|
| 10/2 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 8:28 PM |
| 10/3 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 8:28 PM |
| 10/4 | RENTAL | SIFF | SIFF | 2:00 PM | 4:00 PM |
| 10/5 | RENTAL | SIFF | SIFF | 8:00 AM | 6:00 PM |
| 10/6 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:00 PM | 10:00 PM |
| 10/6 | Public Screenings | SIFF | SIFF | 4:30 PM | 7:00 PM |
| 10/6 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:15 PM |
| 10/7 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:30 PM | 10:00 PM |
| 10/7 | Public Screenings | SIFF | SIFF | 2:00 PM | 4:00 PM |
| 10/7 | Public Screenings | SIFF | SIFF | 4:30 PM | 7:00 PM |
| 10/7 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:15 PM |
| 10/8 | Public Screenings | SIFF | SIFF | 2:00 PM | 4:00 PM |
| 10/8 | Public Screenings | SIFF | SIFF | 4:30 PM | 7:00 PM |
| 10/8 | Public Screenings | SIFF | SIFF | 4:30 PM | 6:28 PM |
| 10/8 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:58 PM |
| 10/8 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:15 PM |
| 10/9 | KEXP | KEXP | KEXP | 11:00 AM | 3:00 PM |
| 10/9 | Public Screenings | SIFF | SIFF | 4:30 PM | 7:00 PM |
| 10/9 | Public Screenings | SIFF | SIFF | 2:00 PM | 3:58 PM |
| 10/9 | Public Screenings | SIFF | SIFF | 4:30 PM | 6:28 PM |
| 10/9 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:58 PM |
| 10/9 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:15 PM |
| 10/10 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:00 PM | 10:00 PM |
| 10/10 | Public Screenings | SIFF | SIFF | 4:30 PM | 7:00 PM |
| 10/10 | Public Screenings | SIFF | SIFF | 2:00 PM | 3:58 PM |
| 10/10 | Public Screenings | SIFF | SIFF | 4:30 PM | 6:28 PM |

| Date | Name | Producer | Location | Start | End |
|-------|---------------------------------------|-----------------|---------------------|----------|----------|
| 10/10 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:58 PM |
| 10/10 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:15 PM |
| 10/11 | KEXP | KEXP | KEXP | 10:00 AM | 2:00 PM |
| 10/11 | Press Conference | City of Seattle | International Plaza | 8:00 AM | 12:00 PM |
| 10/11 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:00 PM | 10:00 PM |
| 10/11 | Public Screenings | SIFF | SIFF | 4:30 PM | 7:00 PM |
| 10/11 | Public Screenings | SIFF | SIFF | 4:30 PM | 6:28 PM |
| 10/11 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:58 PM |
| 10/11 | Public Screenings | SIFF | SIFF | 9:00 AM | 10:00 AM |
| 10/11 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:15 PM |
| 10/12 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:30 PM | 10:30 PM |
| 10/12 | Public Screenings | SIFF | SIFF | 4:30 PM | 6:28 PM |
| 10/12 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:58 PM |
| 10/12 | Public Screenings | SIFF | SIFF | 8:30 PM | 11:00 PM |
| 10/12 | RENTAL | SIFF | SIFF | 4:00 PM | 6:00 PM |
| 10/12 | RENTAL | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 10/13 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:00 PM | 10:00 PM |
| 10/13 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:30 PM |
| 10/13 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:45 PM |
| 10/13 | Public Screenings | SIFF | SIFF | 9:30 AM | 12:00 PM |
| 10/14 | Crash Final Screening | SIFF | SIFF | 5:30 PM | 6:30 PM |
| 10/14 | Crash Kids Intro | SIFF | SIFF | 9:30 AM | 10:00 AM |
| 10/14 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:30 PM | 10:00 PM |
| 10/14 | Public Screenings | SIFF | SIFF | 3:30 PM | 5:00 PM |
| 10/14 | Public Screenings | SIFF | SIFF | 3:30 PM | 5:00 PM |
| 10/14 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:30 PM |

| Date | Name | Producer | Location | Start | End |
|-------|---------------------------------------|----------|----------|----------|----------|
| 10/14 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:45 PM |
| 10/15 | Seattle's Always All-Ages Music Venue | Vera | Vera | 6:00 PM | 9:30 PM |
| 10/15 | Public Screenings | SIFF | SIFF | 5:00 PM | 7:00 PM |
| 10/15 | Public Screenings | SIFF | SIFF | 5:00 PM | 6:30 PM |
| 10/15 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:30 PM |
| 10/15 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:45 PM |
| 10/15 | RENTAL | SIFF | SIFF | 1:30 PM | 2:00 PM |
| 10/15 | RENTAL | SIFF | SIFF | 2:00 PM | 4:00 PM |
| 10/16 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:30 PM | 10:00 PM |
| 10/17 | RENTAL | SIFF | SIFF | 6:00 PM | 7:00 PM |
| 10/17 | RENTAL | SIFF | SIFF | 7:00 PM | 9:30 PM |
| 10/18 | French Truly Salon | SIFF | SIFF | 10:00 AM | 1:00 PM |
| 10/18 | French Truly Salon | SIFF | SIFF | 6:30 PM | 9:30 PM |
| 10/18 | French Truly Salon | SIFF | SIFF | 10:00 AM | 10:15 AM |
| 10/18 | French Truly Salon | SIFF | SIFF | 10:15 AM | 11:00 AM |
| 10/18 | French Truly Salon | SIFF | SIFF | 11:15 AM | 12:31 PM |
| 10/18 | French Truly Salon | SIFF | SIFF | 6:30 PM | 6:45 PM |
| 10/18 | French Truly Salon | SIFF | SIFF | 6:45 PM | 7:30 PM |
| 10/18 | French Truly Salon | SIFF | SIFF | 7:30 PM | 8:46 PM |
| 10/18 | KEXP | KEXP | KEXP | 8:00 AM | 2:00 PM |
| 10/19 | RENTAL | SIFF | SIFF | 5:00 PM | 7:00 PM |
| 10/19 | RENTAL | SIFF | SIFF | 7:00 PM | 9:30 PM |
| 10/20 | Public Screenings | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 10/20 | Public Screenings | SIFF | SIFF | 6:00 PM | 7:36 PM |
| 10/20 | Public Screenings | SIFF | SIFF | 8:15 PM | 9:51 PM |
| 10/20 | Public Screenings | SIFF | SIFF | 8:15 PM | 10:00 PM |

| Date | Name | Producer | Location | Start | End |
|-------|---------------------------------------|----------|----------|----------|----------|
| 10/21 | Cinema Dissection: The Thing | SIFF | SIFF | 11:00 AM | 5:00 PM |
| 10/21 | Seattle's Always All-Ages Music Venue | Vera | Vera | 7:00 PM | 9:00 PM |
| 10/21 | Public Screenings | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 10/21 | Public Screenings | SIFF | SIFF | 6:00 PM | 7:36 PM |
| 10/21 | Public Screenings | SIFF | SIFF | 8:15 PM | 9:51 PM |
| 10/21 | Public Screenings | SIFF | SIFF | 8:15 PM | 10:00 PM |
| 10/22 | Seattle's Always All-Ages Music Venue | Vera | Vera | 8:00 PM | 10:00 PM |
| 10/22 | Public Screenings | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 10/22 | Public Screenings | SIFF | SIFF | 6:00 PM | 7:36 PM |
| 10/22 | Public Screenings | SIFF | SIFF | 8:15 PM | 9:51 PM |
| 10/22 | Public Screenings | SIFF | SIFF | 8:15 PM | 10:00 PM |
| 10/23 | KEXP | KEXP | KEXP | 10:00 AM | 2:00 PM |
| 10/23 | RENTAL | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 10/23 | RENTAL | SIFF | SIFF | 8:00 AM | 9:00 PM |
| 10/25 | RENTAL | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 10/26 | KEXP | KEXP | KEXP | 10:00 AM | 2:00 PM |
| 10/26 | Seattle's Always All-Ages Music Venue | Vera | Vera | 6:30 PM | 8:30 PM |
| 10/28 | RENTAL | SIFF | SIFF | 1:30 PM | 4:00 PM |
| 10/28 | RENTAL | SIFF | SIFF | 12:00 PM | 2:00 PM |
| 10/28 | RENTAL | SIFF | SIFF | 3:30 PM | 6:00 PM |
| 10/28 | RENTAL | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 10/28 | RENTAL | SIFF | SIFF | 8:15 PM | 11:00 PM |
| 10/29 | RENTAL | SIFF | SIFF | 12:00 PM | 2:00 PM |
| 10/29 | RENTAL | SIFF | SIFF | 1:00 PM | 4:00 PM |
| 10/29 | RENTAL | SIFF | SIFF | 4:00 PM | 6:00 PM |
| 10/29 | RENTAL | SIFF | SIFF | 6:00 PM | 8:00 PM |

| Date | Name | Producer | Location | Start | End |
|-------|--|----------|----------|----------|----------|
| 10/29 | RENTAL | SIFF | SIFF | 8:00 PM | 10:00 PM |
| 10/30 | RENTAL | SIFF | SIFF | 6:00 PM | 7:00 PM |
| 10/30 | RENTAL | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 10/30 | RENTAL | SIFF | SIFF | 9:15 PM | 11:00 PM |
| 11/2 | Seattle Turkish Film Festival | SIFF | SIFF | 2:00 PM | 3:41 PM |
| 11/4 | RENTAL | SIFF | SIFF | 1:00 PM | 2:00 PM |
| 11/4 | RENTAL | SIFF | SIFF | 2:00 PM | 4:00 PM |
| 11/4 | RENTAL | SIFF | SIFF | 4:15 PM | 6:30 PM |
| 11/4 | RENTAL | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 11/4 | RENTAL | SIFF | SIFF | 8:00 PM | 11:45 PM |
| 11/4 | Seattle Turkish Film Festival | SIFF | SIFF | 4:15 PM | 5:33 PM |
| 11/4 | Seattle Turkish Film Festival | SIFF | SIFF | 7:00 PM | 8:24 PM |
| 11/4 | Seattle Turkish Film Festival | SIFF | SIFF | 9:15 PM | 10:49 PM |
| 11/5 | RENTAL | SIFF | SIFF | 12:00 PM | 1:00 PM |
| 11/5 | RENTAL | SIFF | SIFF | 1:00 PM | 3:00 PM |
| 11/5 | Seattle Turkish Film Festival | SIFF | SIFF | 1:00 PM | 3:05 PM |
| 11/5 | Seattle Turkish Film Festival | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 11/7 | Public Screenings | SIFF | SIFF | 4:45 PM | 8:30 PM |
| 11/8 | French Truly Salon | SIFF | SIFF | 10:00 AM | 1:00 PM |
| 11/8 | French Truly Salon | SIFF | SIFF | 6:30 PM | 9:30 PM |
| 11/8 | French Truly Salon | SIFF | SIFF | 10:00 AM | 12:00 PM |
| 11/8 | French Truly Salon | SIFF | SIFF | 6:30 PM | 6:45 PM |
| 11/8 | French Truly Salon | SIFF | SIFF | 6:45 PM | 7:30 PM |
| 11/8 | French Truly Salon | SIFF | SIFF | 7:30 PM | 9:30 PM |
| 11/9 | Cinema Italian Style Opening Night Party | SIFF | SIFF | 6:00 PM | 9:00 PM |
| 11/9 | CIS opening party | SIFF | SIFF | 9:00 PM | 11:30 PM |

| Date | Name | Producer | Location | Start | End |
|-------|------------------------------|----------|---------------------|---------|----------|
| 11/9 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 11/9 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:10 PM |
| 11/10 | La Marzocco/KEXP Food Trucks | KEXP | International Plaza | 4:00 PM | 10:00 PM |
| 11/10 | Public Screenings | SIFF | SIFF | 5:00 PM | 7:00 PM |
| 11/10 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 11/10 | Public Screenings | SIFF | SIFF | 5:00 PM | 6:29 PM |
| 11/10 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:29 PM |
| 11/11 | Public Screenings | SIFF | SIFF | 3:00 PM | 5:00 PM |
| 11/11 | Public Screenings | SIFF | SIFF | 5:00 PM | 7:00 PM |
| 11/11 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 11/11 | Public Screenings | SIFF | SIFF | 3:00 PM | 4:29 PM |
| 11/11 | Public Screenings | SIFF | SIFF | 5:00 PM | 6:29 PM |
| 11/11 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:29 PM |
| 11/12 | Public Screenings | SIFF | SIFF | 3:00 PM | 5:00 PM |
| 11/12 | Public Screenings | SIFF | SIFF | 5:00 PM | 7:00 PM |
| 11/12 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 11/12 | Public Screenings | SIFF | SIFF | 3:00 PM | 4:29 PM |
| 11/12 | Public Screenings | SIFF | SIFF | 5:00 PM | 6:29 PM |
| 11/12 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:29 PM |
| 11/13 | Public Screenings | SIFF | SIFF | 5:00 PM | 7:00 PM |
| 11/13 | RENTAL | SIFF | SIFF | 7:00 PM | 11:00 PM |
| 11/14 | Public Screenings | SIFF | SIFF | 5:00 PM | 7:00 PM |
| 11/14 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 11/15 | Public Screenings | SIFF | SIFF | 5:00 PM | 7:00 PM |
| 11/15 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 11/16 | Public Screenings | SIFF | SIFF | 5:00 PM | 7:00 PM |

| Date | Name | Producer | Location | Start | End |
|-------|-----------------------------------|----------|----------|----------|----------|
| 11/16 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 11/17 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:30 PM |
| 11/17 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:11 PM |
| 11/17 | Public Screenings | SIFF | SIFF | 7:45 PM | 9:26 PM |
| 11/17 | Public Screenings | SIFF | SIFF | 7:45 PM | 9:30 PM |
| 11/18 | Cinema Dissection: Magic Mike XXL | SIFF | SIFF | 11:00 AM | 5:00 PM |
| 11/18 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:30 PM |
| 11/18 | Public Screenings | SIFF | SIFF | 7:45 PM | 9:30 PM |
| 11/18 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:11 PM |
| 11/18 | Public Screenings | SIFF | SIFF | 7:45 PM | 9:26 PM |
| 11/19 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:30 PM |
| 11/19 | Public Screenings | SIFF | SIFF | 7:45 PM | 9:30 PM |
| 11/19 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:11 PM |
| 11/19 | Public Screenings | SIFF | SIFF | 7:45 PM | 9:26 PM |
| 11/20 | RENTAL | SIFF | SIFF | 12:00 PM | 4:30 PM |
| 11/20 | SCREENING | SIFF | SIFF | 9:00 AM | 11:00 AM |
| 11/20 | Thanksgiving Filmmaking Camp | SIFF | SIFF | 9:00 AM | 3:00 PM |
| 11/21 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:30 PM |
| 11/21 | Public Screenings | SIFF | SIFF | 7:45 PM | 9:30 PM |
| 11/21 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:11 PM |
| 11/21 | Public Screenings | SIFF | SIFF | 7:45 PM | 9:26 PM |
| 11/21 | Thanksgiving Filmmaking Camp | SIFF | SIFF | 9:00 AM | 3:00 PM |
| 11/22 | Final Camp Screening | SIFF | SIFF | 3:00 PM | 4:00 PM |
| 11/22 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:30 PM |
| 11/22 | Public Screenings | SIFF | SIFF | 7:45 PM | 9:30 PM |
| 11/22 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:11 PM |

| Date | Name | Producer | Location | Start | End |
|-------|------------------------------|----------|----------|----------|----------|
| 11/22 | Public Screenings | SIFF | SIFF | 7:45 PM | 9:26 PM |
| 11/22 | Public Screenings | SIFF | SIFF | 10:00 AM | 11:00 AM |
| 11/22 | RENTAL | SIFF | SIFF | 12:00 PM | 1:30 PM |
| 11/22 | Thanksgiving Filmmaking Camp | SIFF | SIFF | 9:00 AM | 3:00 PM |
| 11/23 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:11 PM |
| 11/23 | Public Screenings | SIFF | SIFF | 7:45 PM | 9:26 PM |
| 11/24 | Holiday Classics | SIFF | SIFF | 1:00 PM | 3:34 PM |
| 11/24 | Holiday Classics | SIFF | SIFF | 4:00 PM | 6:34 PM |
| 11/24 | Holiday Classics | SIFF | SIFF | 7:00 PM | 9:34 PM |
| 11/24 | KEXP | KEXP | KEXP | 7:00 AM | 4:00 PM |
| 11/24 | Public Screenings | SIFF | SIFF | 1:00 PM | 3:30 PM |
| 11/24 | Public Screenings | SIFF | SIFF | 4:00 PM | 6:30 PM |
| 11/24 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:30 PM |
| 11/25 | Holiday Classics | SIFF | SIFF | 1:00 PM | 3:34 PM |
| 11/25 | Holiday Classics | SIFF | SIFF | 4:00 PM | 6:34 PM |
| 11/25 | Holiday Classics | SIFF | SIFF | 7:00 PM | 9:34 PM |
| 11/25 | Public Screenings | SIFF | SIFF | 1:00 PM | 3:30 PM |
| 11/25 | Public Screenings | SIFF | SIFF | 4:00 PM | 6:30 PM |
| 11/25 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:30 PM |
| 11/26 | Holiday Classics | SIFF | SIFF | 4:00 PM | 6:34 PM |
| 11/26 | Holiday Classics | SIFF | SIFF | 7:00 PM | 9:34 PM |
| 11/26 | Public Screenings | SIFF | SIFF | 4:00 PM | 6:30 PM |
| 11/26 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:30 PM |
| 11/26 | National Theatre Live: | SIFF | SIFF | 12:00 PM | 2:30 PM |
| 11/27 | RENTAL | SIFF | SIFF | 3:15 PM | 3:30 PM |
| 11/27 | RENTAL | SIFF | SIFF | 3:30 PM | 5:00 PM |

| Date | Name | Producer | Location | Start | End |
|-------|------------------------|----------|----------|----------|----------|
| 11/27 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 9:00 PM |
| 11/28 | National Theatre Live: | SIFF | SIFF | 6:30 PM | 9:00 PM |
| 11/29 | RENTAL | SIFF | SIFF | 4:30 PM | 5:00 PM |
| 11/29 | RENTAL | SIFF | SIFF | 5:00 PM | 7:00 PM |
| 11/30 | Public Screenings | SIFF | SIFF | 3:30 PM | 4:00 PM |
| 11/30 | Public Screenings | SIFF | SIFF | 7:00 PM | 8:41 PM |
| 11/30 | SCREENING | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 12/1 | December After Dark | SIFF | SIFF | 9:00 PM | 10:49 PM |
| 12/1 | Holiday Classics | SIFF | SIFF | 6:00 PM | 8:15 PM |
| 12/1 | Public Screenings | SIFF | SIFF | 9:00 PM | 11:00 PM |
| 12/1 | Public Screenings | SIFF | SIFF | 6:00 PM | 8:30 PM |
| 12/2 | Crash Kids Intro | SIFF | SIFF | 9:30 AM | 10:00 AM |
| 12/2 | Crash Presentation | SIFF | SIFF | 5:30 PM | 6:30 PM |
| 12/2 | December After Dark | SIFF | SIFF | 7:00 PM | 8:49 PM |
| 12/2 | Holiday Classics | SIFF | SIFF | 2:30 PM | 4:45 PM |
| 12/2 | Public Screenings | SIFF | SIFF | 2:30 PM | 4:30 PM |
| 12/2 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 12/2 | SIFF Crash Kids Cinema | SIFF | SIFF | 9:30 AM | 5:00 PM |
| 12/2 | SIFF Crash Kids Cinema | SIFF | SIFF | 5:00 PM | 6:00 PM |
| 12/3 | December After Dark | SIFF | SIFF | 5:30 PM | 7:19 PM |
| 12/3 | Holiday Classics | SIFF | SIFF | 2:30 PM | 4:45 PM |
| 12/3 | Public Screenings | SIFF | SIFF | 2:30 PM | 4:30 PM |
| 12/3 | Public Screenings | SIFF | SIFF | 5:30 PM | 7:30 PM |
| 12/5 | Public Screenings | SIFF | SIFF | 11:30 AM | 12:30 PM |
| 12/6 | French Truly Salon | SIFF | SIFF | 6:30 PM | 9:30 PM |
| 12/6 | French Truly Salon | SIFF | SIFF | 6:30 PM | 6:45 PM |

| Date | Name | Producer | Location | Start | End |
|-------|--|----------|---------------------|----------|----------|
| 12/6 | French Truly Salon | SIFF | SIFF | 6:45 PM | 7:30 PM |
| 12/6 | French Truly Salon | SIFF | SIFF | 7:45 PM | 9:36 PM |
| 12/7 | Festival Committee Weekly - Opening Night | SIFF | SIFF | 11:00 AM | 12:00 PM |
| 12/7 | RENTAL | SIFF | SIFF | 5:00 PM | 6:00 PM |
| 12/7 | RENTAL | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 12/8 | December After Dark | SIFF | SIFF | 8:30 PM | 10:35 PM |
| 12/8 | KEXP Event | KEXP | International Plaza | 10:00 AM | 10:00 PM |
| 12/8 | Public Screenings | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 12/8 | Public Screenings | SIFF | SIFF | 8:30 PM | 10:45 PM |
| 12/9 | Crash Kids Intro | SIFF | SIFF | 9:30 AM | 10:00 AM |
| 12/9 | Crash Kids Screening | SIFF | SIFF | 5:30 PM | 6:30 PM |
| 12/9 | December After Dark | SIFF | SIFF | 7:00 PM | 9:05 PM |
| 12/9 | Public Screenings | SIFF | SIFF | 3:00 PM | 5:00 PM |
| 12/9 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:30 PM |
| 12/10 | December After Dark | SIFF | SIFF | 5:30 PM | 7:35 PM |
| 12/10 | Public Screenings | SIFF | SIFF | 3:00 PM | 5:00 PM |
| 12/10 | Public Screenings | SIFF | SIFF | 5:30 PM | 8:00 PM |
| 12/11 | Policy and Procedure - Box, Festival, Cinema, and Beyond | SIFF | SIFF | 11:00 AM | 12:00 PM |
| 12/15 | December After Dark | SIFF | SIFF | 8:30 PM | 10:36 PM |
| 12/15 | Holiday Classics | SIFF | SIFF | 6:00 PM | 7:19 PM |
| 12/15 | Public Screenings | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 12/15 | Public Screenings | SIFF | SIFF | 8:30 PM | 11:00 PM |
| 12/16 | December After Dark | SIFF | SIFF | 7:00 PM | 9:06 PM |
| 12/16 | Holiday Classics | SIFF | SIFF | 4:30 PM | 5:51 PM |
| 12/16 | Public Screenings | SIFF | SIFF | 4:30 PM | 6:30 PM |
| 12/16 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:30 PM |

| Date | Name | Producer | Location | Start | End |
|-------|----------------------|----------|----------|---------|----------|
| 12/17 | December After Dark | SIFF | SIFF | 7:00 PM | 9:06 PM |
| 12/17 | Holiday Classics | SIFF | SIFF | 4:30 PM | 5:51 PM |
| 12/17 | Public Screenings | SIFF | SIFF | 4:30 PM | 6:30 PM |
| 12/17 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:30 PM |
| 12/21 | December After Dark | SIFF | SIFF | 7:00 PM | 8:24 PM |
| 12/21 | December After Dark | SIFF | SIFF | 9:00 PM | 10:24 PM |
| 12/21 | Holiday Classics | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 12/21 | Public Screenings | SIFF | SIFF | 6:00 PM | 9:00 PM |
| 12/21 | Public Screenings | SIFF | SIFF | 9:00 PM | 10:30 PM |
| 12/21 | White Christmas | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 12/22 | December After Dark | SIFF | SIFF | 7:00 PM | 8:24 PM |
| 12/22 | December After Dark | SIFF | SIFF | 9:00 PM | 10:24 PM |
| 12/22 | Final Camp Screening | SIFF | SIFF | 3:00 PM | 4:00 PM |
| 12/22 | Holiday Classics | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 12/22 | Public Screenings | SIFF | SIFF | 6:00 PM | 9:00 PM |
| 12/22 | Public Screenings | SIFF | SIFF | 9:00 PM | 10:30 PM |
| 12/22 | White Christmas | SIFF | SIFF | 6:00 PM | 8:00 PM |
| 12/23 | December After Dark | SIFF | SIFF | 6:00 PM | 7:24 PM |
| 12/23 | Holiday Classics | SIFF | SIFF | 3:00 PM | 5:00 PM |
| 12/23 | Public Screenings | SIFF | SIFF | 3:00 PM | 6:00 PM |
| 12/23 | Public Screenings | SIFF | SIFF | 6:00 PM | 7:30 PM |
| 12/23 | White Christmas | SIFF | SIFF | 3:00 PM | 5:00 PM |
| 12/24 | December After Dark | SIFF | SIFF | 6:00 PM | 7:24 PM |
| 12/24 | Public Screenings | SIFF | SIFF | 3:00 PM | 6:00 PM |
| 12/24 | Public Screenings | SIFF | SIFF | 6:00 PM | 7:30 PM |
| 12/24 | White Christmas | SIFF | SIFF | 3:00 PM | 5:00 PM |

| Date | Name | Producer | Location | Start | End |
|-------|-------------------|----------|----------|---------|---------|
| 12/29 | Public Screenings | SIFF | SIFF | 5:00 PM | 7:00 PM |
| 12/29 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 12/29 | Public Screenings | SIFF | SIFF | 5:00 PM | 6:40 PM |
| 12/29 | Public Screenings | SIFF | SIFF | 7:15 PM | 8:55 PM |
| 12/30 | Public Screenings | SIFF | SIFF | 2:45 PM | 4:30 PM |
| 12/30 | Public Screenings | SIFF | SIFF | 5:00 PM | 7:00 PM |
| 12/30 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 12/30 | Public Screenings | SIFF | SIFF | 2:45 PM | 4:25 PM |
| 12/30 | Public Screenings | SIFF | SIFF | 5:00 PM | 6:40 PM |
| 12/30 | Public Screenings | SIFF | SIFF | 7:15 PM | 8:55 PM |
| 12/31 | Public Screenings | SIFF | SIFF | 2:45 PM | 4:30 PM |
| 12/31 | Public Screenings | SIFF | SIFF | 5:00 PM | 7:00 PM |
| 12/31 | Public Screenings | SIFF | SIFF | 7:00 PM | 9:00 PM |
| 12/31 | Public Screenings | SIFF | SIFF | 2:45 PM | 4:25 PM |
| 12/31 | Public Screenings | SIFF | SIFF | 5:00 PM | 6:40 PM |
| 12/31 | Public Screenings | SIFF | SIFF | 7:15 PM | 8:55 PM |

APPENDIX C: TRANSPORTATION

The Transportation Technical Memoranda follow, including:

- **Tech Memo #1:** Selection of Time Periods for Seattle Center Arena Transportation Impact Study
- **Tech Memo #2:** Methodology for Determining Background Attendance Levels at Seattle Center for Seattle Center Arena Transportation Impact Study
- **Tech Memo #3:** Year 2020 and 2035 Background Transportation Network for Seattle Center Arena Transportation Impact Study
- **Tech Memo #4:** Seattle Center Arena – Affected Environment / Existing Conditions
- **Tech Memo #5:** Seattle Center Arena – Project Travel Characteristics – Year 2020
- **Tech Memo #6:** Seattle Center Arena – 2020 Analysis Results for Roadway and Pedestrian Systems
- **Tech Memo #7:** Seattle Center Arena – Project Travel Characteristics – Year 2035
- **Tech Memo #8:** Seattle Center Arena – 2035 Roadway System Analysis Results
- **Transit Capacity Analysis Worksheets**

TECHNICAL MEMORANDUM #1

Date: October 23, 2017

To: Project Team

From: John Gard and Chris Breiland – Fehr & Peers

Subject: *Selection of Time Periods for Seattle Center Arena Transportation Impact Study*

SE17-0562

This memorandum documents our proposed selection of time periods for the Seattle Center Arena Study. This memo also presents an overview of our technical approach for analyzing existing traffic operations. This will be the first of a series of technical memorandums summarizing key assumptions/inputs that we would like concurrence from the project team on so that we can quickly advance our technical work. Upcoming memos will likely cover topics like trip distribution, mode share, average vehicle occupancy, and parking locations.

Analysis Scenarios

Our final scope of work includes the following analysis scenarios:

- Weekday Pre-Event Peak Hour for a sold-out (18,350-person) NBA Basketball Game that begins at 7 PM.¹
- Weekday Post-Event Peak Hour for a sold-out (18,350-person) NBA Basketball Game that begins at 7 PM.
- Saturday Pre-Event Peak Hour for a sold-out (19,125-person) Concert that begins at 7:30 PM.²

As described in our final scope of work, each of these time periods is being analyzed under 'average' and 'above average' Seattle Center attendance levels. A separate technical memorandum is being prepared to present data associated with these conditions.

Selection of Time Periods for Analysis

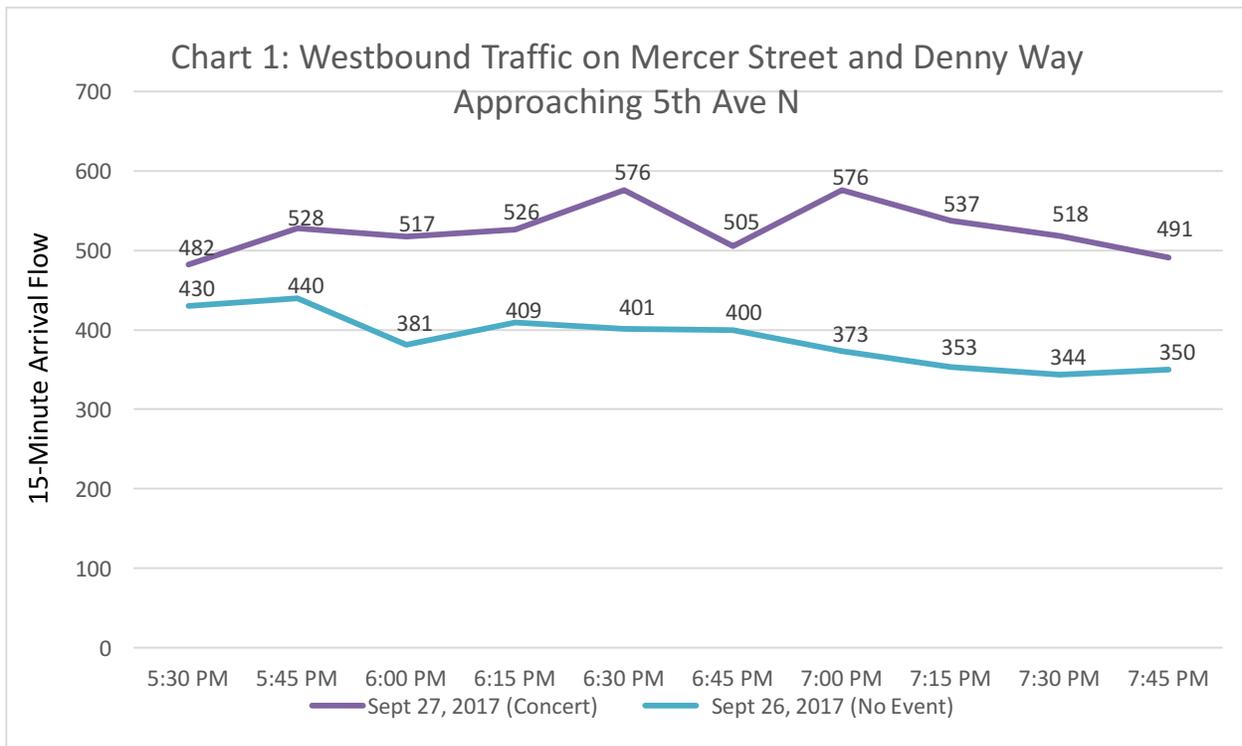
Chart 1 on the following page illustrates the combined volume of traffic (in 15 minute increments) that was observed traveling westbound on Mercer Street and Denny Way between 5:30 and 8:00 PM on Wednesday, September 27, 2017. On this evening, a Janet Jackson concert (with scheduled 8 PM start time) occurred at Key Arena. This chart also compares westbound traffic flows between 5:30 and 8:00 PM on Tuesday, September 26, 2017, which was a day in which no activities were scheduled at Key Arena.

¹ According to ESA, OVG has directed that the Draft EIS assume a 7 PM basketball game start time.

² In reviewing concert schedules at Key Arena for the Fall 2017, the majority of concerts start in the 7:00 to 7:30 timeframe. We recommend analyzing a 7:30 start time.

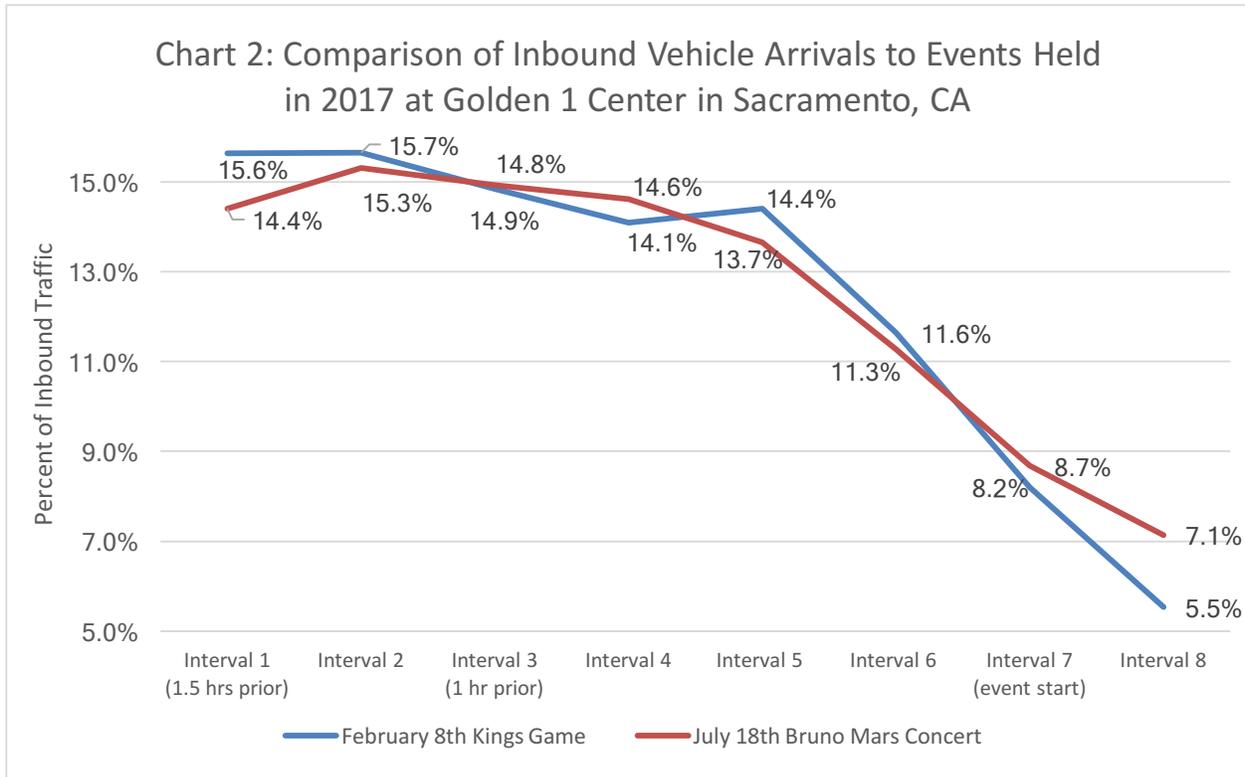
While these corridors represent only two of many different routes that may be used to access Seattle Center, they are key east-west routes that provide access from I-5. Further, by comparing westbound-only travel for a concert versus a 'no event' condition, it is possible to isolate temporal travel effects of the concert (but not the magnitude of increased trips because the concert drew far fewer attendees than the proposed project's sell-out concert capacity).

Chart 1 indicates that the peak hour of westbound traffic approaching 5th Avenue North from Mercer Street and Denny Way occurred from 6:30 to 7:30 PM on Wednesday, September 27, 2017. While it is noted that these volumes included both attendees to the Janet Jackson concert as well as background traffic flows, the decrease in westbound traffic leading up to the concert start time (8 PM) as well as lower overall levels of traffic well in advance of the concert start time are noteworthy. The peak hour on September 26, 2017 (no events at Key Arena) was between 5:30 and 6:30 PM; overall westbound traffic volumes were much lower on the non-event day.



It is worth noting that the concert-related increase in trips was greatest from 7:00 – 8:00 PM. During this hour, 702 additional trips were observed, whereas 667 additional trips occurred between 6:30 – 7:30 PM. However, when concert trips were added to background volumes, the 6:30 – 7:30 PM peak hour carried 3.4 percent more traffic than the 7:00 – 8:00 PM peak hour. Chart 2 presents traffic data

collected in 2017 for pre-event conditions at Golden 1 Center in downtown Sacramento, California for a Sacramento Kings Game and a Bruno Mars Concert. This is considered a somewhat analogous location due to its urban setting and availability of a variety of different travel modes³. This data collection effort revealed that both events had peak hours of inbound vehicle travel that began 90 minutes prior to the start of each event.



³ Golden 1 Center can be accessed by numerous modes of travel. Surrounding land uses are primarily office/commercial, though residential and hotels also exist within close proximity. The Golden 1 Center Year One Monitoring Report can be found at: <http://www.cityofsacramento.org/Arena/Reports-and-Resources>. Table ES-1 of that report indicates that Kings game attendees used the following modes of travel: 77% used a private vehicle, 11% used light rail, 9% used Uber/Lyft, and 2% walked. As will be presented in a separate memorandum later, this mode split is generally similar (though slightly more skewed toward private vehicle) than the observed mode split at the Janet Jackson concert at Key Arena.

Technical Memorandum: Selection of Time Periods
for Seattle Center Arena Transportation Impact Study
October 23, 2017
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Based on these empirical data measurements, we recommend the selection of the following specific peak hours of study:

- Weekday Pre-Event Peak Hour (NBA game with 7 PM start): 5:30 to 6:30 PM
- Weekday Post-Event Peak Hour (NBA game with 7 PM start): 9:30 to 10:30 PM
- Saturday Pre-Event Peak Hour (Concert with 7:30 PM start): 6:00 to 7:00 PM

A Saturday Post-Event condition will be evaluated with respect to transit service capacity (but not traffic operations) given reductions in transit service on weekends versus weekdays.

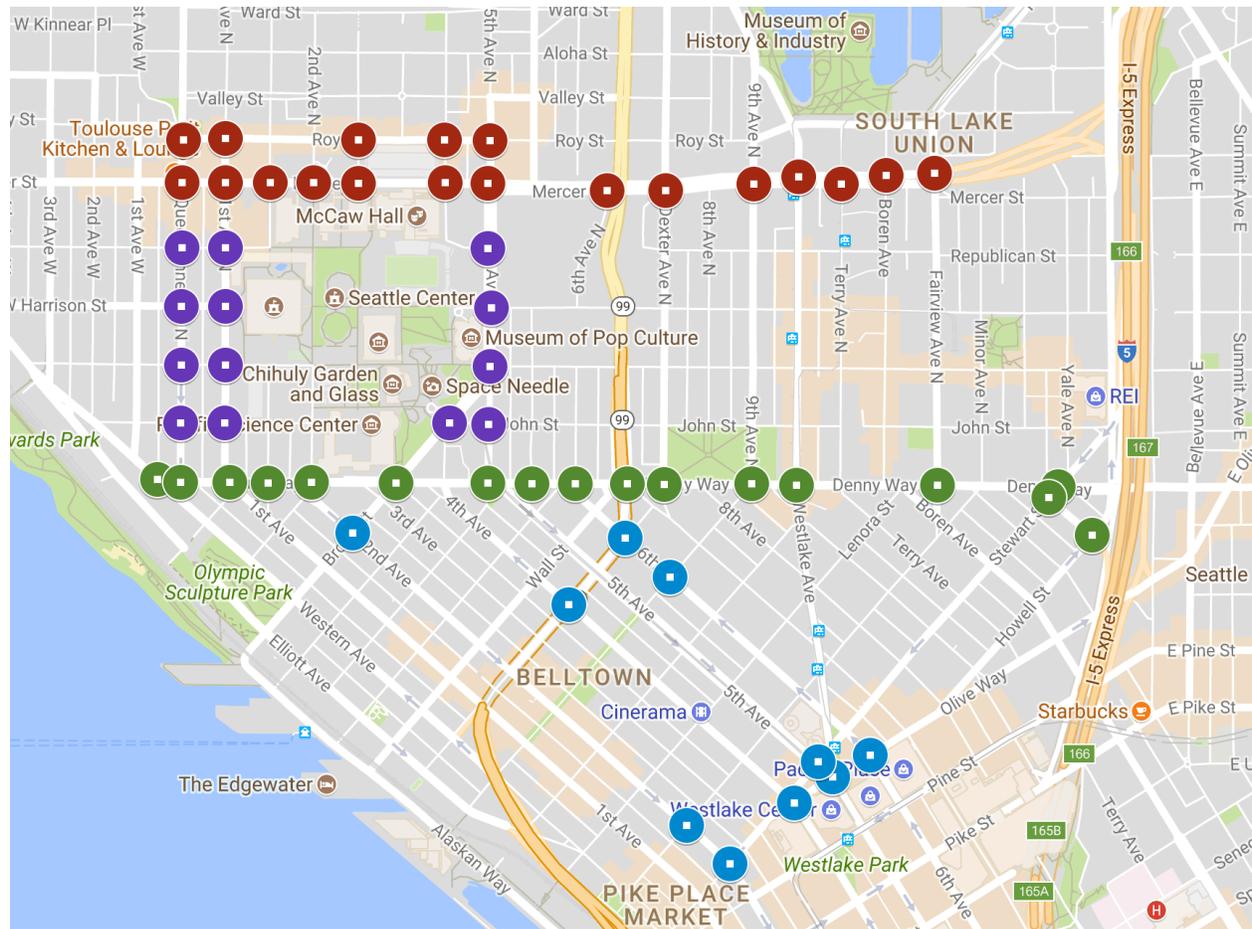
Technical Approach to Analyzing Existing Traffic Operations

As the vast majority of the intersection/corridor analysis will be conducted using the micro-simulation platform VISSIM, our models will be validated to match the observed peaking characteristics for each modeled network (instead of analyzing conditions using observed peak hour factors). At each entry location into the simulation networks, the actual variation in traffic volumes that was observed during the counts will be used for volume entry in 15-minute bins. In this way, the models will be able to accurately replicate the fluctuations in travel demand throughout the entire study network as was observed.

For the 10 study intersections located south of Denny Way that are being analyzed using Synchro, each intersection's individual PHF will be applied. We will also be making observations of queues (using video or field visits) to estimate the level of demand that cannot process through the intersection due to congestion so as to not understate the level-of-service (LOS) at these locations. Figure 1 summarizes our current list of study intersections – the red and green intersections will be studied in VISSIM and the blue intersections studied in Synchro. Pending the results of our trip generation analysis, we anticipate that a handful of additional intersections may be added to this list based on SDOT comments (see note below).

To evaluate potential freeway impacts related to the Seattle Center Arena, queuing from the main off-ramps at Mercer, Stewart, Olive, and Seneca will be evaluated. To support this analysis, we are collecting weekday Pre-Event peak hour queuing at the locations listed above. The analysis will forecast future queues under the different analysis scenarios to determine the extent the queues may extend to the freeway mainline.

Figure 1 – Study Intersections



* Additional intersections on Elliott Avenue and Westlake Avenue will likely also be analyzed pending the results of the project’s trip generation/distribution evaluation (which will be documented in a separate memorandum).



REVISED TECHNICAL MEMORANDUM #2

Date: December 29, 2017

To: Molly Adolfson & Claire Hoffman - ESA, John Shaw – SDCl, Kadie Bell Sata - SDOT, Julia Levitt & Jill Crary - Seattle Center

From: John Gard, Chris Breiland, and Ariel Davis – Fehr & Peers

Subject: *Methodology for Determining Background Attendance Levels at Seattle Center for Seattle Center Arena Transportation Impact Study*

SE17-0562

As part of the Seattle Center Arena Transportation Impact Study, Fehr & Peers will prepare traffic forecasts that represent Opening Day (2020) and 2035 conditions. For each horizon, forecasts will be developed based on the following two levels of overall activity at Seattle Center:

- Average – based on activity and traffic patterns that were present on the days of the traffic counts and field observations.
- Above Average – based on increased activities and attendance at Seattle Center, the extent to which will be determined based on coordination with Seattle Center.

This memorandum documents our proposed methodology to define “average” and “above average” attendance levels for 2020 conditions for the Seattle Center Arena Study, and how those values are translated into vehicle trips, transit passengers, parked vehicles, walking, and biking trips. Levels of attendance for the 2035 timeframe will be presented in a separate memorandum because those conditions are influenced by several potential changes in land uses within Seattle Center.

Seattle Center Attendance Data

Seattle Center provided Fehr & Peers with data from its event booking records, which reflect actual ticket sales or, more commonly, conservative attendance forecasts at scheduled ticketed and non-ticketed events in venues and outdoor event spaces throughout the campus. This data does not reflect daily flows of people visiting the unrestricted campus open spaces or the large privately operated facilities on and near the campus, including the Space Needle, Chihuly Garden and Glass, the Museum of Pop Culture (MoPOP), the Seattle Children’s Museum, and the Pacific Science Center. In order to capture this “background” attendance, Seattle Center collected data provided by the privately operated facilities on the grounds, and added estimates of public attendance to unrestricted spaces and event staff.

Seattle Center provided attendance data from January 2016 through September 2017. For the purposes of this analysis, the dataset was narrowed to include a full year of the most recent data: October 2016 through September 2017. A sample day is shown in Figure 1. The data include information on specific events that occurred on the Seattle Center campus, including the venue, start and end times, name of the event, and estimated attendance over the course of the event. The “Other

Venues” column includes an estimate of attendance for venues such as the Space Needle, Chihuly Garden & Glass, MoPOP, Pacific Science Center, and the Children’s Museum based on the day of the week and season.

FIGURE 1. SAMPLE SEATTLE CENTER ATTENDANCE DATA

| Date | Start Time | End Time | Venue | Event | Expected Attendance | Other Venues | |
|--------------------|------------|----------|----------------------------|-------------------------------|---------------------|--------------|-------------|
| Wednesday, March 8 | 9:15am | 10:45am | McCaw Lecture Hall | TCS Assembly | 300 | | |
| Wednesday, March 8 | 10:30am | 12n | Seattle Children's Theatre | Into the West (school show) | 275 | | |
| Wednesday, March 8 | 11am | 1pm | Fisher Pavilion | TAF Varsity Luncheon | 400 | | |
| Wednesday, March 8 | 6pm | 7pm | Armory | Zumba, Winter Fitness | 75 | | |
| Wednesday, March 8 | 7:30pm | 8:30pm | Armory | Yoga, Winter Fitness | 25 | | |
| Wednesday, March 8 | 7:30pm | 10pm | McCaw Hall | Katya Kabanova, Opera | 2,900 | | |
| Wednesday, March 8 | 7:30pm | 10pm | Center Theatre | Bring Down the House, Part II | 192 | | Daily Total |
| | | | | Total | 4,167 | 5,600 | 9,767 |

Average Traffic Conditions

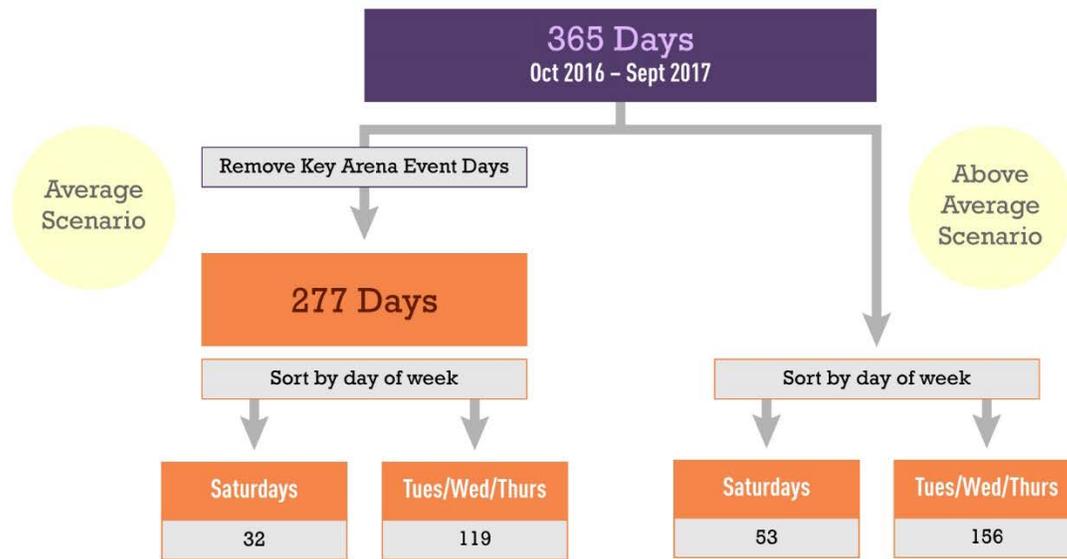
Traffic counts for nearly all study intersections were collected on Saturday, September 23, 2017 and Tuesday, September 26, 2017 (the only exceptions are along the Roy Street Corridor which were counted in early October). The September dates were selected in consultation with Seattle Center and SDOT staff as representative of typical activity levels on a weekday and Saturday. No events occurred at KeyArena on these dates—this is considered a typical average day because KeyArena events occur on roughly one out of four days. Typical Seattle Center activity includes a variety of venues such as the Space Needle, Chihuly Garden & Glass, MoPOP, McCaw Hall, and the Armory among others. The volumes collected on these two dates will be used for the existing conditions analysis of weekday and Saturday conditions.

Definition of Average and Above Average Attendance Levels – No Action

Figure 2 summarizes the dataset used to determine average and above average attendance. As described above, an average day is defined as typical Seattle Center activity, but no event at KeyArena – this condition represents three quarters of the days during the year spanning October 2016 to September 2017 as shown in Figure 2. Note that while this subset of dates does not include KeyArena events, it does include other large (though infrequent) campuswide events such as Bumbershoot and the Northwest Folklife Festival. This definition aligns with the conditions on the date traffic counts were collected and will allow the Seattle Center Arena attendance to be cleanly layered on top of typical Seattle Center activity.

The scope of work includes scenarios covering two types of events: a weekday sold-out NBA game and a Saturday sold-out concert. Therefore, data were separated into two groups: Tuesdays, Wednesday, and Thursdays for the sold-out NBA game analysis and Saturdays for the sold-out concert analysis.

FIGURE 2. DATASET DEVELOPMENT



To determine the attendance for an average day, the 50th percentiles of the 32 Saturdays and 119 weekdays were calculated. By definition, the 50th percentile (or median) represents a condition in which half the days have less people and half the days have more people than the specified value. It is common practice to use a percentile (versus an average) when evaluating data points (including volume, speed, etc.) over time. If an average value were to be used, the effects of extreme conditions (which may only occur several times during the year) can heavily influence the result.

The dataset used to determine above average attendance is slightly different: it retains all days including those with KeyArena events. Above average attendance is defined as the 90th percentile of all days in the dataset. In plain terms, nine out of ten days would have Seattle Center attendance below the above average condition. The 90th percentiles were calculated using a dataset of 53 Saturdays and 156 weekdays (which includes days with events at KeyArena).

Table 1 presents the average and above average attendance for weekdays and Saturdays under the No Action condition. Because this approach uses a full year of data, seasonality effects are considered.

In particular, the busiest days of the year at Seattle Center tend to occur during December and during the summer. The 90th percentile Saturday number was only exceeded during New Year’s Eve, the March for Science, Folklife, Bite of Seattle, and Bumbershoot. On weekdays, the main driver of events above the 90th percentile was either an event at KeyArena or holiday activities during December (the Nutcracker, Winterfest activities, etc.).

Table 1: No Action Alternative – Average and Above Average Seattle Center Daily Attendance

| Scenario | Average (50 th Percentile) | Above Average (90 th Percentile) | Difference |
|-----------------------------|---------------------------------------|---|------------|
| Weekday (sold out NBA game) | 11,200 | 24,100 | 12,900 |
| Saturday (sold out concert) | 28,400 | 41,900 | 13,500 |

Source: Seattle Center, Fehr & Peers, 2017.

Definition of Average and Above Average Attendance Levels – With Project Condition

The next step is to consider how the project will be layered on to the background Seattle Center attendance, as shown in Figure 3. The gray bars represent the two data components of current Seattle Center attendance:

- Seattle Center scheduled events (for example, a McCaw Hall performance, KeyArena event, or fitness class at the Armory).
- Other venue daily visitors – this includes visitors to the regular public hours of facilities such as the Space Needle, Chihuly Garden & Glass, MoPOP, Pacific Science Center or the Armory.

The red bar represents the new attendance generated by the renovated Seattle Center Arena. Note that the figure is illustrative only and not to scale.

FIGURE 3. AVERAGE AND ABOVE AVERAGE ATTENDANCE COMPONENTS

No Action – Average



Arena Project – Average



No Action – Above Average



Arena Project – Above Average



For the average scenario, Seattle Center Arena attendance will be added on top of the average Seattle Center attendance. This scenario reflects the maximum increase in attendance that would occur compared to current typical conditions.

Adding the Seattle Center Arena project to the above average scenario is slightly more complex. To avoid double counting, attendance associated with existing KeyArena events must be subtracted before the new arena attendance is added on. On the above average days with KeyArena events, the average daily attendance at KeyArena is approximately 5,400. Therefore, 5,400 attendees are subtracted from the above average daily attendance before the Seattle Center Arena attendance is layered on. Even with KeyArena attendance removed, total attendance at Seattle Center is higher under the above average scenario, but the delta between the No Action and Arena Project scenarios is smaller because the renovated arena attendance would take the place of existing KeyArena attendance.

Translation of Average and Above Average Attendance Levels into Traffic Volumes, Transit Riders, Pedestrians, and Parking Demand

The attendance numbers summarized above are all daily totals. However, this study will consider the following one-hour analysis periods:

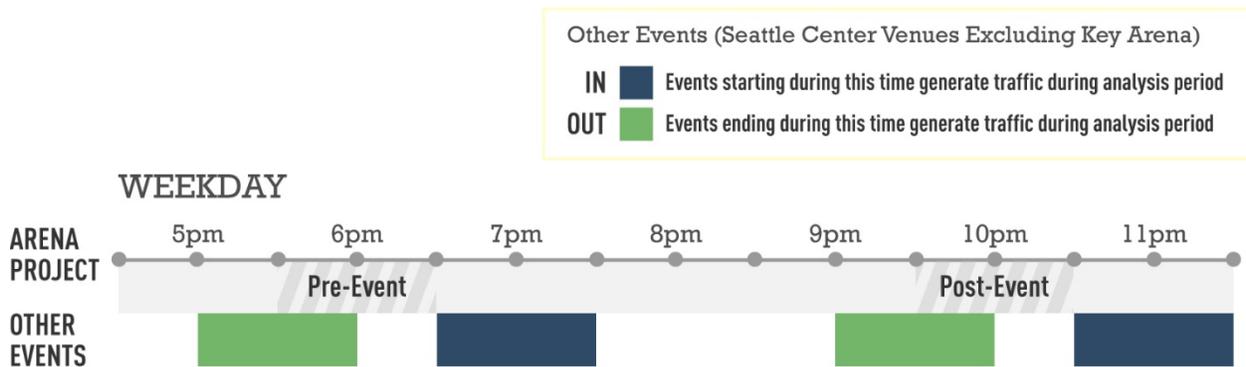
- Weekday pre-event peak hour – 5:30-6:30pm
- Weekday post-event peak hour – 9:30-10:30pm
- Saturday pre-event peak hour – 6:00-7:00pm

The following four-step process is used to translate the number of daily attendees associated with average and above average conditions into various transportation metrics (i.e., parked vehicles, transit riders, pedestrians, traffic volumes). Note that this process applies only to non-arena Seattle Center activity; arena project travel characteristics are presented in Technical Memorandum #5.

Step 1 - Estimate the number of attendees expected to be arriving to the campus, and leaving the campus during each study time period using a sample of event start/end times and estimated attendance (by specific event). The following criteria were used to identify events whose attendees are likely to be traveling during the weekday analysis period, and are depicted in Figure 4:

- Weekday pre-event: attendees of events starting between 6:30 and 7:30pm and attendees of events ending between 5:00 and 6:00pm.
- Weekday post-event: attendees of events ending between 9:00 and 10:00pm. No events in the sample started late enough to affect the post-event peak hour.

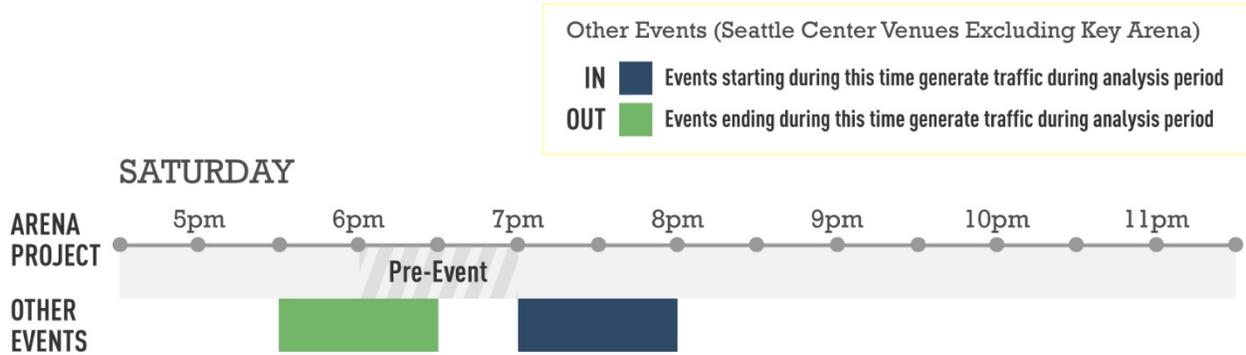
FIGURE 4. TIME OF DAY CRITERIA – WEEKDAY SCENARIO



The following criteria were used to identify events whose attendees are likely to be traveling during the Saturday analysis period, and are depicted in Figure 5:

- Saturday pre-event: events starting between 7:00 and 8:00pm and events ending between 5:30 and 6:30pm.

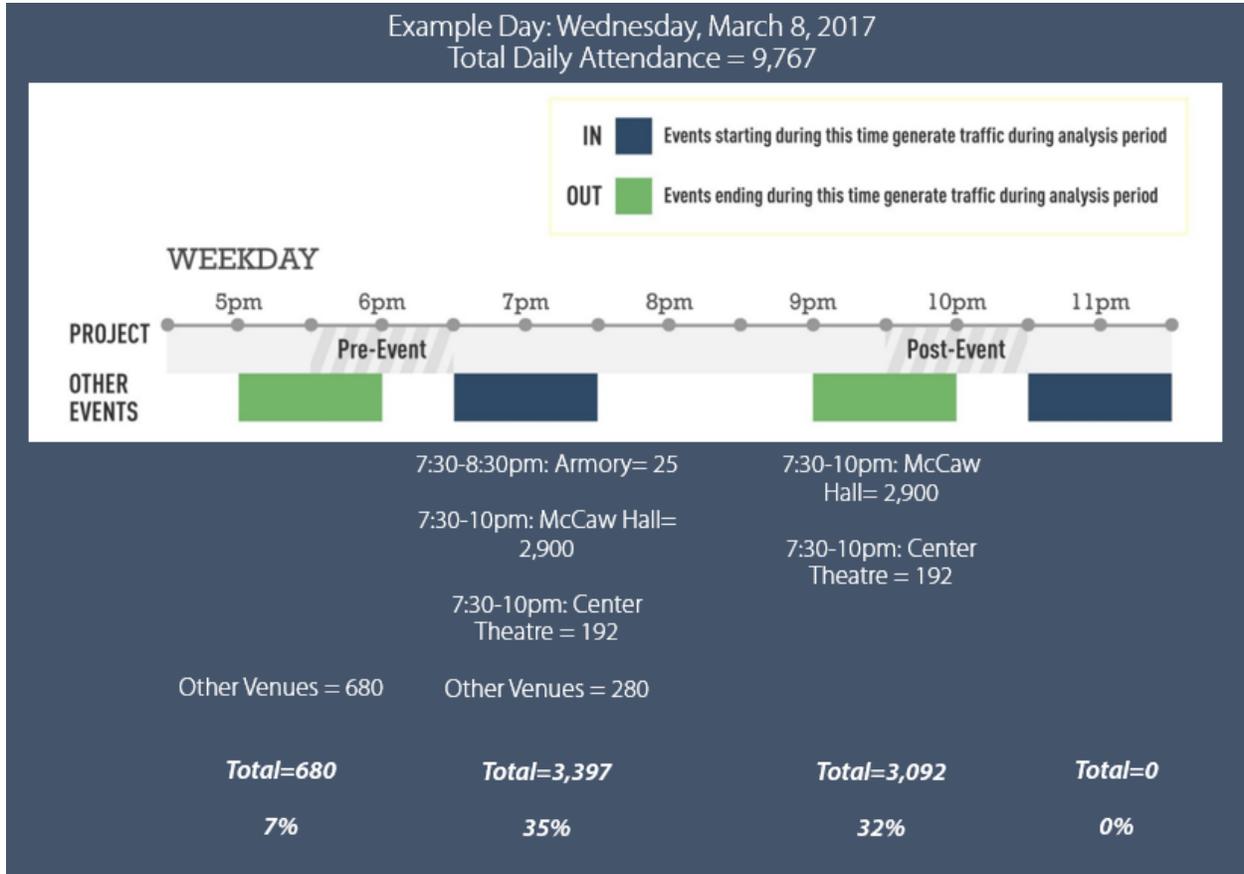
FIGURE 5. TIME OF DAY CRITERIA – SATURDAY SCENARIO



For those events meeting the above criteria, 100% of the attendees were counted as traveling during the analysis period. The daily “other venue” attendees were factored based on their operating hours assuming a uniform distribution and included for both the weekday and Saturday pre-event analysis periods.¹ Twenty percent of each dataset (weekdays and Saturdays) were sampled to determine the average time of day factors. As an illustration, Figure 6 shows how this criteria was applied to the data example introduced at the outset of this document.

¹ The Space Needle and Chihuly Garden & Glass sometimes hold evening events, however no data for those events was available.

FIGURE 6. TIME OF DAY CRITERIA APPLIED TO SAMPLE DAY



The resulting time of day factors are summarized in Table 2. These numbers apply to non-arena Seattle Center activity only.

Table 2: Seattle Center Attendance Time of Day Factors (Excluding KeyArena)

| Analysis Period | Percent of Daily Attendees Arriving to Seattle Center | Percent of Daily Attendees Leaving Seattle Center |
|--------------------|---|---|
| Weekday Pre-Event | 30% | 10% |
| Weekday Post-Event | 0% | 20% |
| Saturday Pre-Event | 20% | 10% |

Note: Evening events tend to have more staggered ending times than starting times. Therefore, the weekday post-event traffic share leaving Seattle Center is slightly lower than the weekday pre-event traffic share arriving to Seattle Center.

Source: Fehr & Peers, 2017.

Arena project travel characteristics for both KeyArena and the Seattle Center Arena are different because the events predominantly occur in the evenings. KeyArena-specific factors (in line with those assumed for the arena project) were used to adjust KeyArena attendance by time of day. Specifically, it is assumed that 50% of KeyArena attendees arrive during the pre-event peak hour and 95% of KeyArena attendees depart during the post-event peak hour.

Table 3 summarizes the hourly number of attendees arriving and departing the Seattle Center campus based on the daily attendance and time of day factors for both non-arena and arena attendees. Note that for the arena project above average scenario, KeyArena attendance is subtracted from the background total to avoid double counting; arena-generated traffic will be added to these totals.

Table 3: Seattle Center Attendance by Analysis Period

| Analysis Period | Attendees Arriving to Seattle Center | Attendees Leaving Seattle Center |
|---|--------------------------------------|----------------------------------|
| Average Scenario – No Action and Arena Project | | |
| Weekday Pre-Event | 3,360 | 1,120 |
| Weekday Post-Event | 0 | 2,240 |
| Saturday Pre-Event | 5,680 | 2,840 |
| Above Average Scenario – No Action | | |
| Weekday Pre-Event | 8,310 | 1,870 |
| Weekday Post-Event | 0 | 8,870 |
| Saturday Pre-Event | 10,000 | 3,650 |
| Above Average Scenario – Arena Project | | |
| Weekday Pre-Event | 5,610 + arena traffic | 1,870 |
| Weekday Post-Event | 0 | 3,740 + arena traffic |
| Saturday Pre-Event | 7,200 + arena traffic | 3,650 |

Source: Fehr & Peers, 2017.

Step 2 - Estimate mode split and Average Vehicle Occupancy (AVO) using data from the Century 21 Master Plan and Census data. The Century 21 Master Plan estimated that Seattle Center visitors have an 85 percent vehicle mode split and 2.0 AVO. Because the Century 21 Master Plan is ten years old, the mode split was factored to reflect changes in travel behavior using a comparison of Census data over the same timeframe. Based on this data, the vehicle mode split is assumed to be 79 percent (this includes TNC travel). The decrease in vehicle trips predominantly shifts to transit and walk trips. Estimate additional parking demand, transit riders, and pedestrians for each study period (based on available spaces in garages and on-street).

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Step 3 - Estimate directionality of vehicle trips using the travel demand model (built into the 2020 model that contains the new tunnel, etc.).

Step 4 – Based on the mode split and directionality of trips determined in Steps 2 and 3, add the number of new pedestrians, transit riders, parked vehicles, and traffic volumes to existing conditions (on a location by location basis) for each scenario.

Finally, travel activity associated with each project alternative will be added to these conditions based on attendance expected under each alternative. Technical Memorandum #5 presents those travel characteristics.



REVISED TECHNICAL MEMORANDUM #3

Date: March 23, 2018

To: Molly Adolfson & Claire Hoffman - ESA, John Shaw – SDCl, Kadie Bell Sata - SDOT, Julia Levitt & Jill Crary - Seattle Center

From: Fehr & Peers

Subject: *Year 2020 and 2035 Background Transportation Network for Seattle Center Arena Transportation Impact Study*

SE17-0562

The Seattle Center Arena Transportation Impact Study scope of work includes evaluation of conditions for the Opening Day 2020 scenario and year 2035 scenario. This memorandum documents the assumptions for the year 2020 and 2035 transportation network, including roadway, pedestrian, bicycle, and transit projects that are expected to be completed in and around the study area. These projects are assumed to be in place for all alternatives studied in the EIS.

To be included as an assumed project for this study, the project must be reasonably foreseeable—this includes projects that are currently under construction or appear in City or agency plans with at least partial funding identified.

Table 1 summarizes the assumed projects by mode (note some projects are repeated if they affect multiple modes).

Table 1: Transportation Network Assumptions – 2020 and 2035

| Project Description | 2020 | 2035 | Source |
|--|------|------|---|
| Roadway | | | |
| SR 99 Tunnel open to traffic with tolls using the most recently available information from WSDOT | X | X | WSDOT Program Schedule |
| Alaskan Way Viaduct Closure/Demolition | X | X | WSDOT Program Schedule |
| Alaskan Way/Elliott Ave Surface Street Reconstruction | | X | Waterfront Seattle Main Corridor Project Schedule |
| Harrison St connected across SR 99 – two lanes each direction | X | X | Internal WSDOT channelization plan |
| Thomas St connected across SR 99 – Right turns only from Thomas to Aurora | X | X | Internal WSDOT channelization plan |
| John St connected across SR 99 | X | X | Internal WSDOT channelization plan |

Table 1: Transportation Network Assumptions – 2020 and 2035

| Project Description | 2020 | 2035 | Source |
|---|------|------|---|
| SR 520 HOV lanes to Montlake | | X | WSDOT SR 520 Bridge Replacement and HOV Program |
| SR 520 HOV lanes between Montlake and I-5 | | X | WSDOT SR 520 Bridge Replacement and HOV Program |
| 2nd Avenue south of Denny Way – convert left/through lane to left turn/parking lane | X | X | SDOT 2nd Avenue Mobility Improvements website |
| All-day transit-only restrictions on 3rd Ave extended north to Virginia St | X | X | One Center City |
| Eastbound bus lane on Denny Way between Fairview Ave N and Stewart St – single WB lane, three EB lanes with transit only in middle lane. | X | X | SDOT/King County Metro Route 8 Improvements |
| 4th Ave lane configuration between Vine St and Main St converted to 1 transit lane and 3 general purpose lanes. Third GP lane is left turn only where left turns are allowed. | X | X | SDOT Comment |
| 7th Ave contraflow northbound lane between Pine and Olive removed (due to protected bike lane (PBL)) | X | X | SDOT Comment |
| 8th Ave contraflow southbound lane between Pine and Pike removed (due to PBL construction) | X | X | Seattle Bicycle Master Plan Implementation Plan 2017-2021 |
| Pedestrian | | | |
| Lake2Bay streetscape improvements along Broad St, Thomas St and Terry Ave N including enhanced pedestrian facilities | | X | Lake2Bay Street Concept Plan |
| Thomas Green Street improvements between Western Ave and Eastlake Ave E | | X | Thomas Green Street Concept Plan |
| Bicycle | | | |
| Bike lanes on Thomas St from 5th Ave N to 9th Ave N | X | X | Internal WSDOT channelization plan |
| 1st Ave N and Queen Anne Ave N PBL couplet from Roy St to Denny Way | | X | SDOT Comment |
| 2nd Ave PBL from Pike St to Denny Way | X | X | Seattle Bicycle Master Plan Implementation Plan 2017-2021 |
| 4th Ave two-way PBL from Vine St to Main St – lane configuration converted to 1 transit lane and 3 general purpose lanes. (Under construction by 2020, but not complete) | | X | Seattle Bicycle Master Plan Implementation Plan 2017-2021 |

Table 1: Transportation Network Assumptions – 2020 and 2035

| Project Description | 2020 | 2035 | Source |
|--|------|------|---|
| 7th Ave PBL from Pike St to Westlake Ave – assume contraflow northbound lane between Pine and Olive removed | X | X | SDOT Comment |
| 8th Avenue PBL from Pike St to Bell St – assume contraflow southbound lane from Pine to Pike removed. (Under construction by 2020, but not complete) | | X | Seattle Bicycle Master Plan Implementation Plan 2017-2021 |
| 9th Ave N PBL from Denny Way to Westlake Ave N | X | X | Seattle Bicycle Master Plan Implementation Plan 2017-2021 |
| Roy St PBL from Dexter Ave N to 9th Ave N | X | X | Seattle Bicycle Master Plan Implementation Plan 2017-2021 |
| Dexter Ave N PBL from Mercer St to Roy St | X | X | Seattle Bicycle Master Plan Implementation Plan 2017-2021 |
| Broad St PBL from Elliott Bay Trail to 5th Ave | X | X | Seattle Bicycle Master Plan Implementation Plan 2017-2021 |
| Bell St 2-way PBL from 5th Ave to Denny Way | X | X | Seattle Bicycle Master Plan Implementation Plan 2017-2021 |
| Bike facility on Vine St / Taylor Ave / Taylor Ave N from 2nd Ave to Thomas St | X | X | Seattle Bicycle Master Plan Implementation Plan 2017-2021 |
| Alaskan Way PBL from Elliott Bay Trail to Virginia St | X | X | Seattle Bicycle Master Plan Implementation Plan 2017-2021 |
| Transit Service | | | |
| Monorail ORCA integration | X | X | Seattle Center |
| Aurora Rapid Ride Improvements – numerous small and medium sizes projects to support RR service from Shoreline to Downtown | X | X | SDOT 2017-2022 Adopted Capital Improvement Program |
| Eastbound bus lane on Denny Way between Fairview Ave N and Stewart St – single WB lane, three EB lanes with transit only in middle lane. | X | X | SDOT/King County Metro Route 8 Improvements |
| 4th Ave lane configuration between Vine St and Main St converted to 1 transit lane and 3 general purpose lanes. | X | X | SDOT Comment |

Table 1: Transportation Network Assumptions – 2020 and 2035

| Project Description | 2020 | 2035 | Source |
|---|------|------|---|
| Link light rail extended north to Lynnwood Transit Center and Ballard, west to West Seattle, and east to Downtown Redmond. Infill stations at NE 130 th St, S Graham St, and S Boeing Access Rd. Six minute peak headways and ten minute off-peak headways. This includes a station in the vicinity of First Ave N and Republican St. | | X | Sound Transit 2 and 3 |
| Madison BRT with six minute peak headways and 15 minute off-peak headways | | X | SDOT RapidRide Expansion Program Report and Madison BRT website |
| RapidRide H: Burien Transit Center – Downtown Seattle via Delridge. 10 minute peak headways and 15-30 minute off-peak headways. | X | X | SDOT RapidRide Expansion Program Report |
| Five RapidRide BRT routes with 10 minute peak headways and 15-30 minute off-peak headways: <ul style="list-style-type: none"> • RR Rainier: Mt Baker – South Lake Union via Rainier; • RR 23rd: Rainier Valley – U District via 23rd; • RR Market: Ballard – U District – Laurelhurst via Market/45th; • RR Fremont: Northgate – Ballard – Fremont – South Lake Union – Downtown via Westlake • RR Roosevelt: Northgate – Roosevelt – U District – South Lake Union – Downtown via Roosevelt/11th Avenue and Eastlake. | | X | SDOT RapidRide Expansion Program Report |
| Center City Connector streetcar constructed from 6th/Stewart to 1st/Jackson | X | X | Center City Connector construction phasing map |
| BRT on I-405 from Lynnwood to Burien operating at 12 minute headways | | X | Sound Transit 3 |
| BRT on SR 522 from Woodinville/UW Bothell to NE 145th Street Link Station operating at 12 minute headways | | X | Sound Transit 3 |
| Buses shift from downtown transit tunnel to surface streets | X | X | King County Metro |

Notes: 1. North south streets connections slated to convert to adaptive signal control include Elliott Avenue, Queen Anne Avenue N, Broad Street, Dexter Avenue, Westlake Avenue N, Fairview Avenue N, 1st Avenue N, 5th Avenue N, and 9th Avenue N.

TECHNICAL MEMORANDUM #4

Date: February 28, 2018

To: Molly Adolfson & Claire Hoffman – ESA, John Shaw – SDCl, Kadie Bell Sata – SDOT,
Julia Levitt & Jill Crary – Seattle Center

From: Fehr & Peers

Subject: *Seattle Center Arena – Affected Environment / Existing Conditions*

SE17-0562

Introduction

This memorandum documents existing transportation conditions for all modes of travel in the vicinity of the project site. This information serves as the basis for the Affected Environment in the Transportation Chapter of the Draft EIS. This memorandum presents a variety of data for the following transportation network components:

- Roadway Network
- Transit Network (Bus, Monorail, Light Rail, Streetcar, and Ferry)
- Bicycle Network
- Pedestrian Network
- Transportation Network Companies (TNCs)
- Other Modes (i.e., carsharing, limo, paratransit, etc.)
- Parking Supply and Occupancy

Roadway Network

The study area generally extends from Western Ave on the west, Roy St on the north, and I-5 on the east, and extends south of Denny Way. This study area is based on the project's location, trip generation potential, anticipated spatial distribution of those trips, and facilities susceptible to being impacted.

Figure 1 displays the existing roadway network in the study area. Regional access to the project site is provided by Interstate 5 (I-5) and State Route (SR) 99. Key surface streets that provide access to the project site are described below:

- Mercer St – is a major east-west street within the study area that connects I-5 to Elliott Ave. From 5th Ave N to I-5, Mercer St features three lanes in each direction separated by a median or turn lane. There is a fourth eastbound lane from Boren Ave N through Fairview Ave N. Mercer St has two lanes in each direction west of 5th Ave N, and a single lane in each direction west of 2nd Ave W. Mercer St features a total of 15 signalized intersections between Queen Anne Ave N and Fairview Ave N, with many of these signals spaced 350 to 400 feet apart.

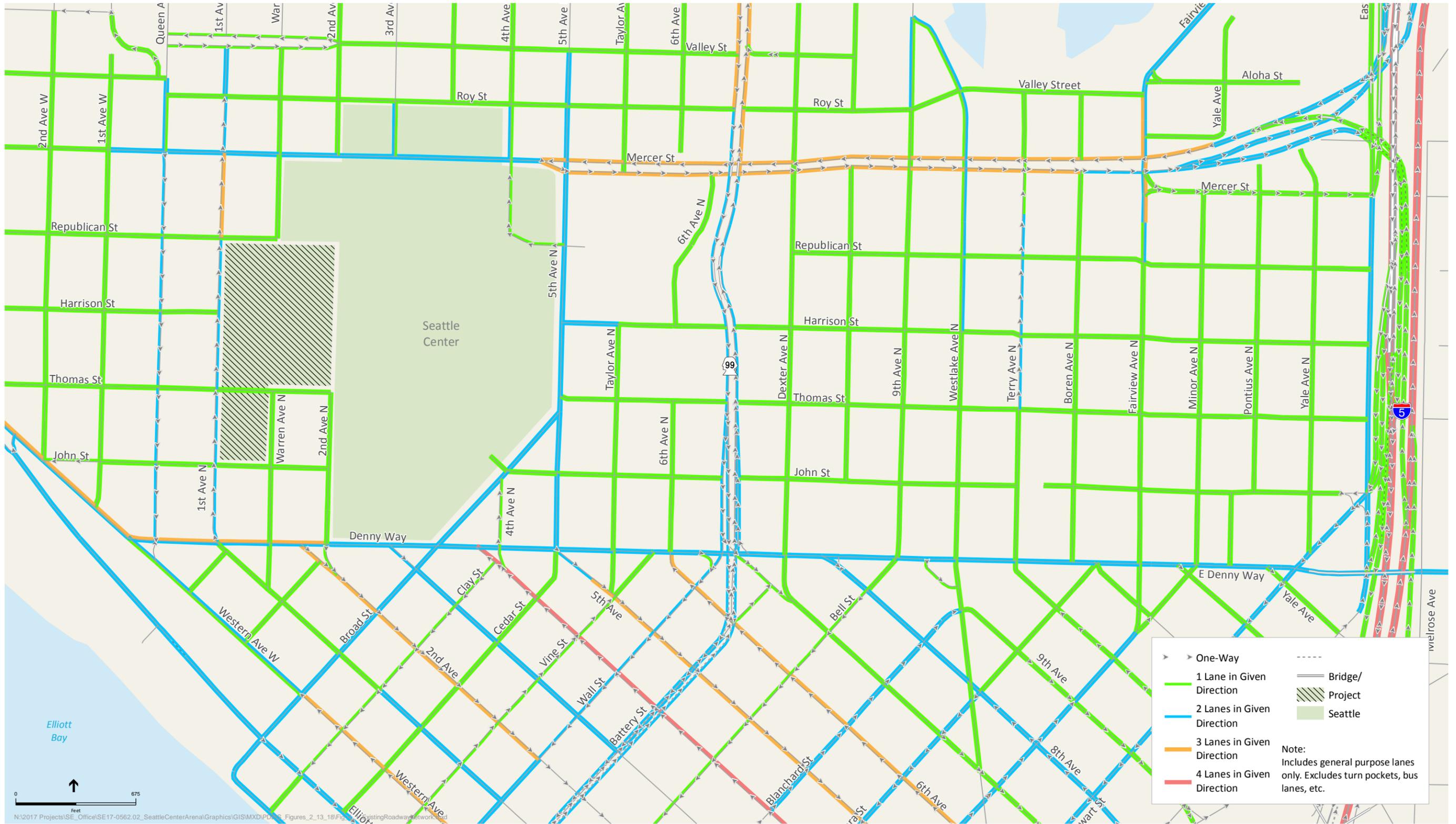


Figure 1

Existing Roadway Network



- Denny Way – is a major east-west street that extends from I-5 to west to Western Ave. The majority of Denny Way consists of two travel lanes in each direction separated by a centerline. Dedicated left-turn pockets are not present at the majority of intersections along this corridor. At some intersections, left-turn movements are prohibited, while other intersections allow left-turns from a shared left/through lane. Like Mercer St, the Denny Way corridor features many closely spaced signals.
- 1st Ave N / Queen Anne Ave N Couplet – Between Denny Way and Mercer St, these streets operate as a one-way couplet with 1st Ave N consisting of two northbound lanes (a third lane is added approaching Mercer St) and Queen Anne Ave N consisting of two southbound lanes. These streets facilitate travel within the Uptown neighborhood and are also prominent bus routes.

Key roadways that provide access to the project vicinity from the west include West Mercer St, Elliott Ave W, and Western Ave. Key roadways that provide access from the north include SR 99, 5th Ave N, and Queen Anne Ave N. Key roadways that provide access from the east include Mercer St, Denny Way, and Roy St (accessible from southbound SR 99). Each of these streets permit two-way travel as they lead into the project vicinity.

The Seattle Right-of-Way Improvements Manual includes designations for many City streets as part of its Seattle Streets Illustrated map. Within the study area, Mercer St, Denny Way, Queen Anne Ave N, 1st Ave N, 5th Ave N, Broad St, Aurora Ave N, 9th Ave N, Westlake Ave N, Fairview Ave N, Western Ave, 2nd Ave, 4th Ave, 6th Ave, Olive Way, and Stewart St are classified as principal arterials. Other street types in the area include minor arterials (e.g., Dexter Ave N) and collector arterials (e.g., Harrison St).

Access to/from the south (i.e., south of Denny Way) is provided by a series of grid streets that are oriented in northwest and southeast directions. Some streets allow two-way travel while others are one-way only. The following streets can be used to access the project vicinity from the south (i.e., from downtown). In addition to the list below, other smaller streets (e.g., Bell St, Clay St, etc.) can also be used.

- Inbound Travel Toward Seattle Center: Western Ave, 1st Ave, 3rd Ave, 4th Ave, 6th Ave, 7th Ave/Dexter Ave, and Westlake Ave.
- Outbound Travel Away from Seattle Center: 1st Ave, 2nd Ave, 3rd Ave, Broad St, 5th Ave, 7th Ave/Dexter Ave and Westlake Ave.

Freight movement is an important component of the transportation context in the project area. The east-west corridors of Mercer St and Denny Way connect the Ballard-Interbay-Northend Manufacturing and Industrial Center (BINMIC) to I-5 and are identified as major truck streets by the City. Aurora Ave N and Elliott Ave W are also identified as major truck streets by the City. Because freight travels along the same roadway network as general traffic, the traffic operations analysis presented in this memorandum will speak to freight conditions as well. Traffic congestion is more difficult for freight to navigate and trucks

typically travel at slower speeds than general auto traffic. However, much of the daily freight movement activity occurs during off-peak hours when traffic congestion is less pronounced.

Construction is underway to replace the Battery St Tunnel and the elevated Alaskan Way Viaduct with a new tunnel (that is tolled and bypasses downtown) as well as new street connections in the project vicinity. These improvements will be completed by 2020, and are included in the Opening Day (2020) conditions analysis. Refer to Technical Memorandum 3 for details.

Intersection Analysis

Figure 2A – 2E displays the study area including the 58 intersections chosen for analysis for each of the following three time periods:

- Weekday from 5:30 to 6:30 PM – represents the pre-event peak hour for a future scenario that evaluates a sold-out 18,350-person NBA Basketball Game that starts at 7 PM.
- Weekday from 9:30 to 10:30 PM – represents the post-event peak hour for a future scenario that evaluates a sold-out 18,350-person NBA Basketball Game that starts at 7 PM.
- Saturday from 6:00 to 7:00 PM – represents the pre-event peak hour for a future scenario that evaluates a sold-out 19,125-person Concert that starts at 7:30 PM. The post-event traffic on Saturday was not analyzed because the results are expected to be similar to the weekday post-event condition.

In some instances, prohibited turn movements are shown to have modest levels of traffic (i.e., 10 vehicles or less) to match illegal turning movements that were observed. The figures and analysis reflect the recently implemented reconfiguration of the southbound 2nd Ave N approach to Denny Way. These figures do not show “bus-only” lanes, though such lanes are modeled in the microsimulation.

Figure 3 displays the existing directional peak hour traffic volumes on those study roadways that generally carry the most traffic. The volumes on the particularly congested segments of Mercer St and Denny Way represent the measured volume able to pass through a given segment within the peak hour.

During the pre-event peak hour, substantial recurring congestion is present in both directions of I-5 and SR 99. Image 1 illustrates how eastbound traffic desiring to enter I-5 from Mercer St queues back onto this corridor. Similar conditions exist in the eastbound direction of Denny Way. Image 2 shows stop-and-go traffic in the SR 99 Battery St Tunnel directly north of Denny Way.

All study intersections located along and to the north of Denny Way (including those along Mercer St, Queen Anne Ave N, 1st Ave N, and Roy St) were analyzed using the state-of-the-practice Vissim microsimulation model.

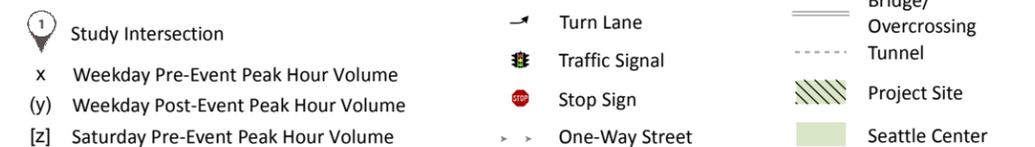
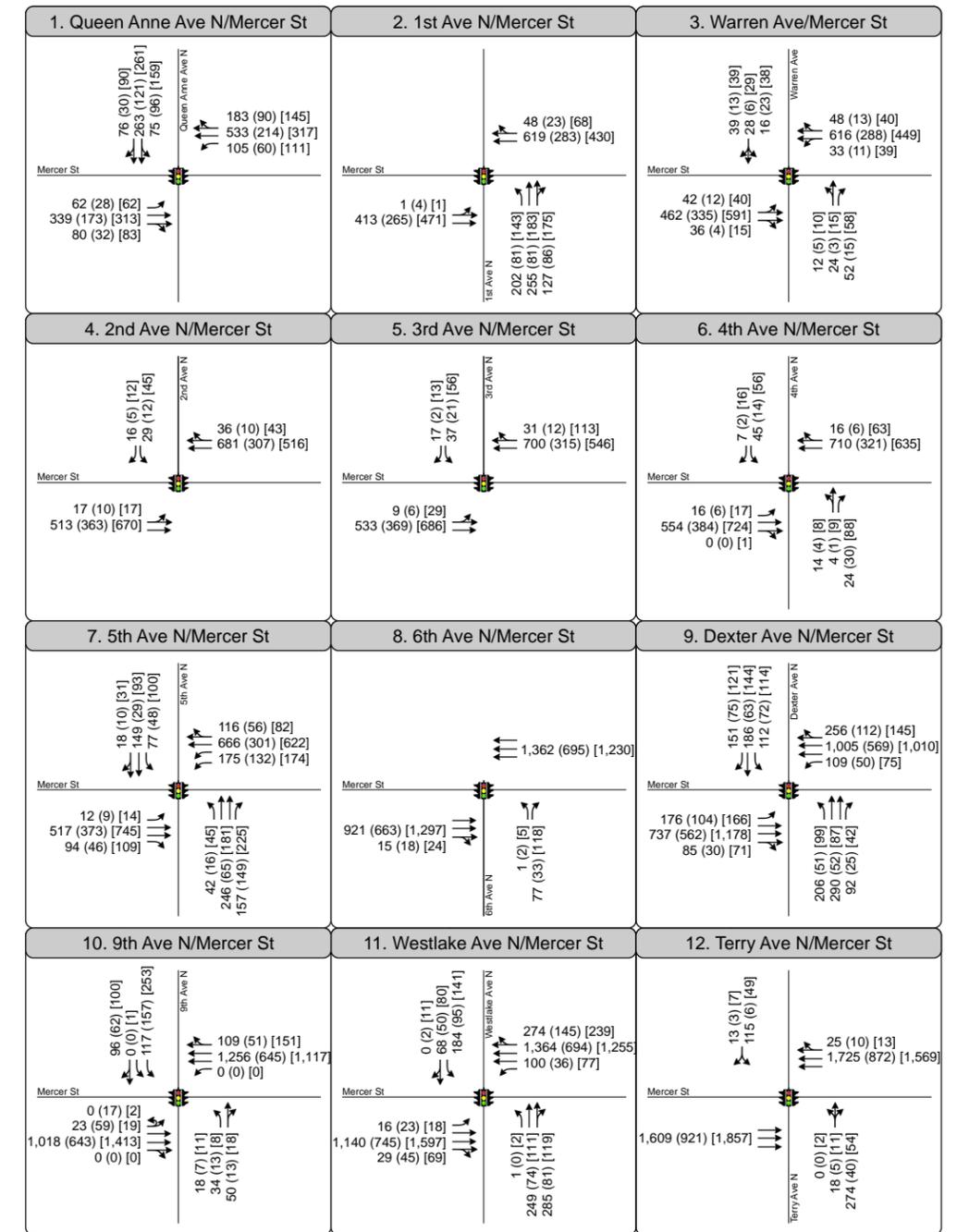


Figure 2A

Existing Peak Hour Volumes at Study Intersections, #1 - #12

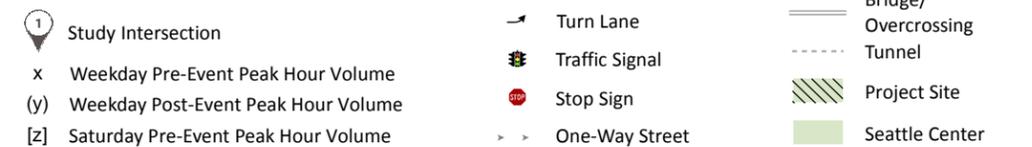
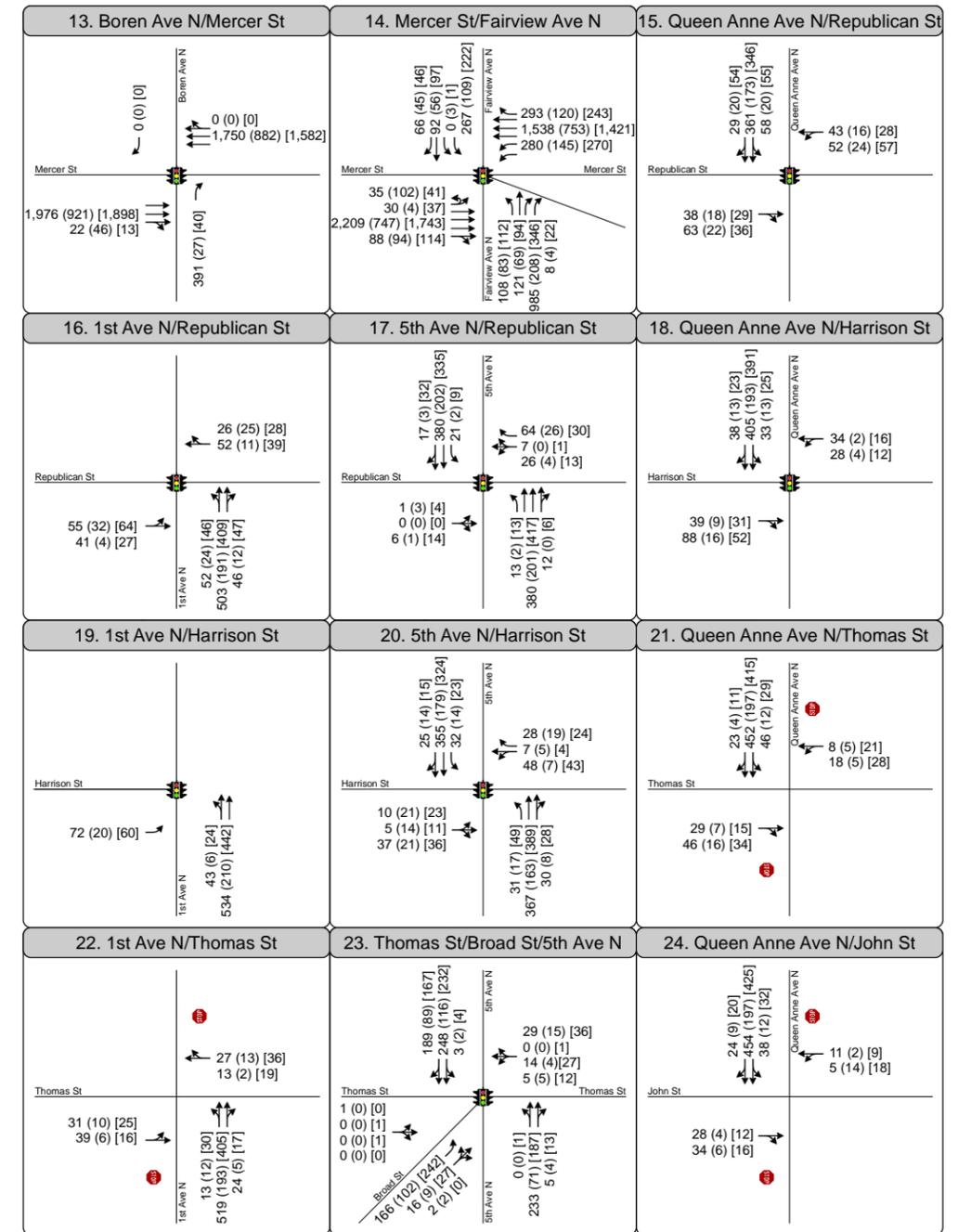


Figure 2B

Existing Peak Hour Volumes at Study Intersections, #13 - #24



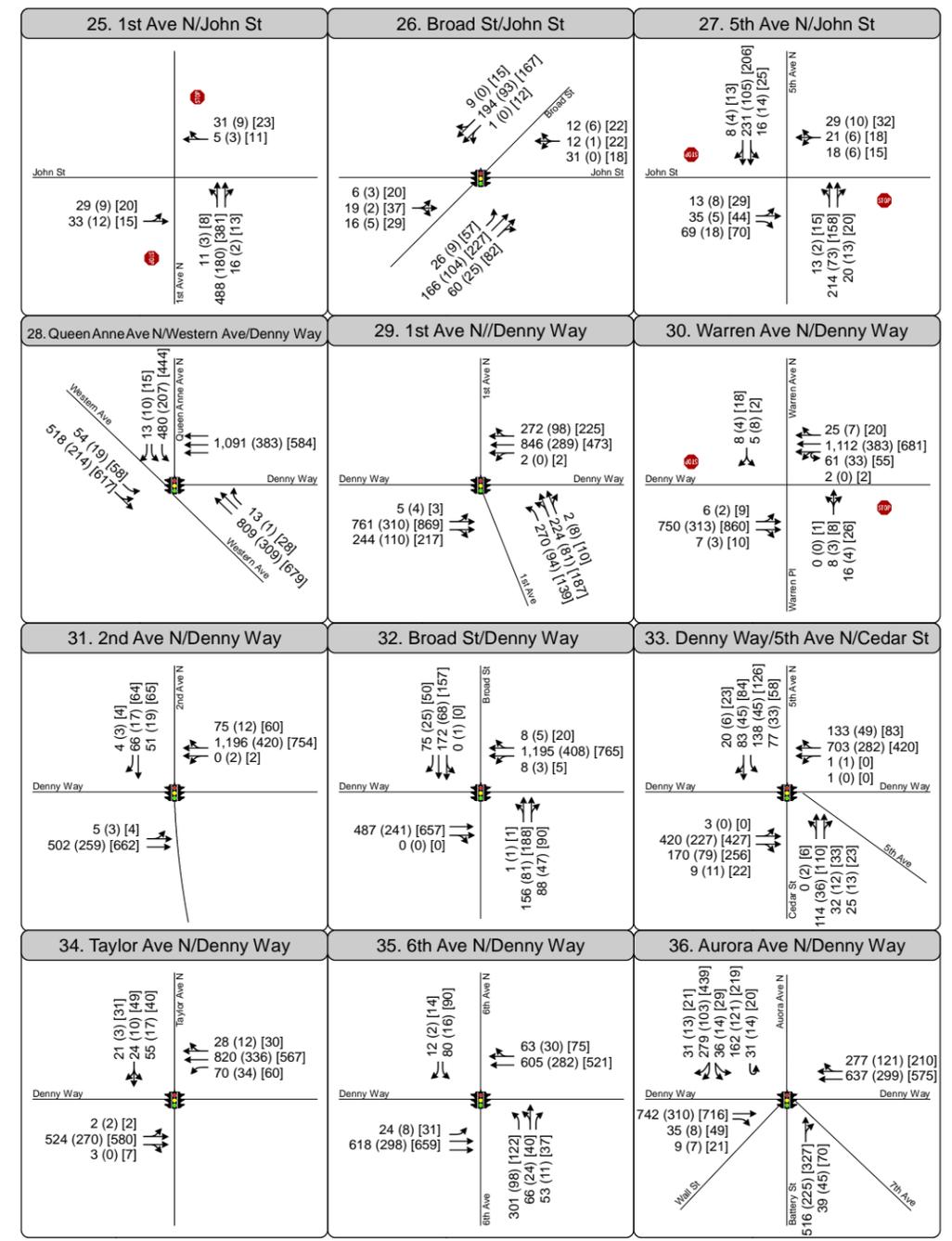


Figure 2C

Existing Peak Hour Volumes at Study Intersections, #25 - #36

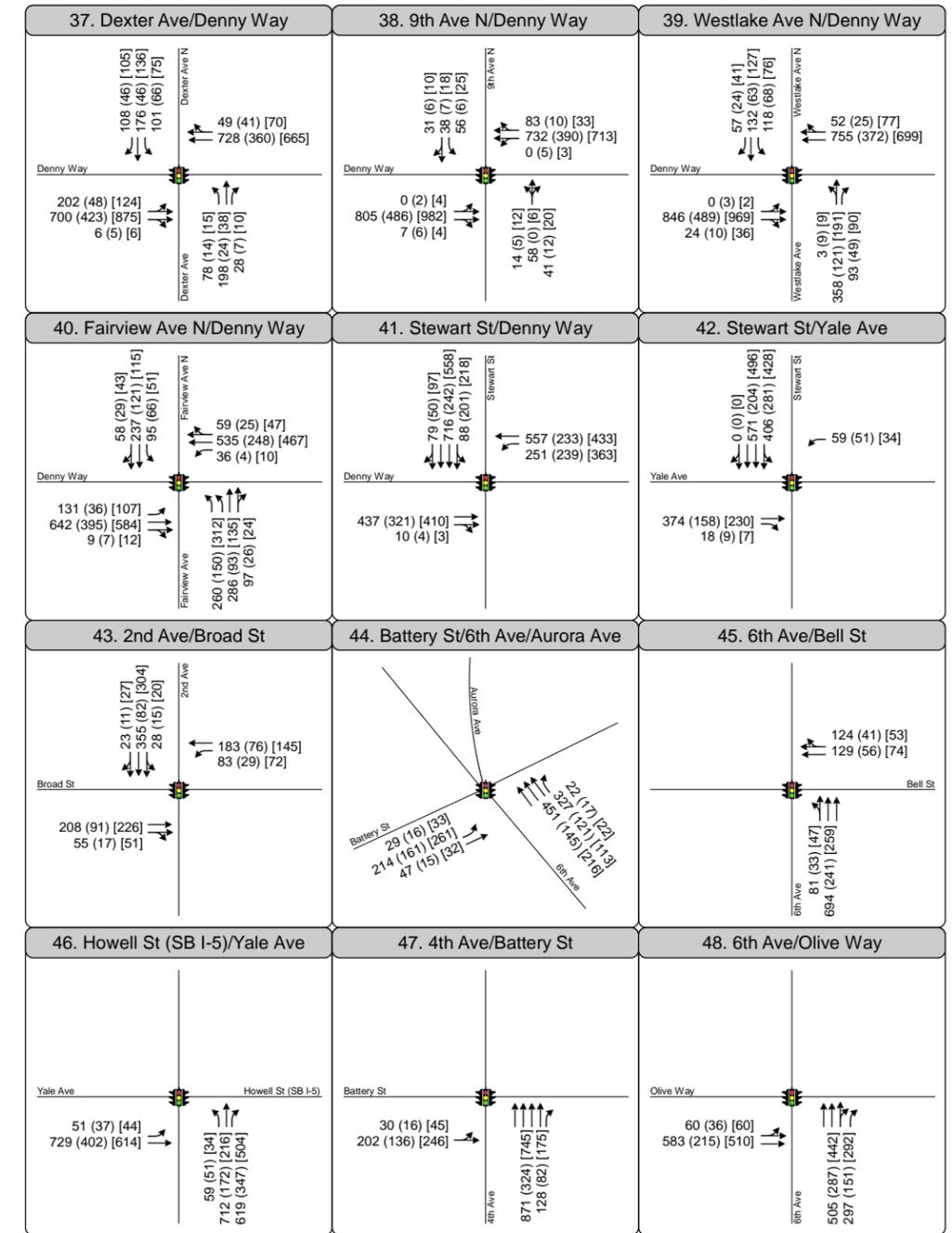


Figure 2D

Existing Peak Hour Volumes at Study Intersections, #37 - #48

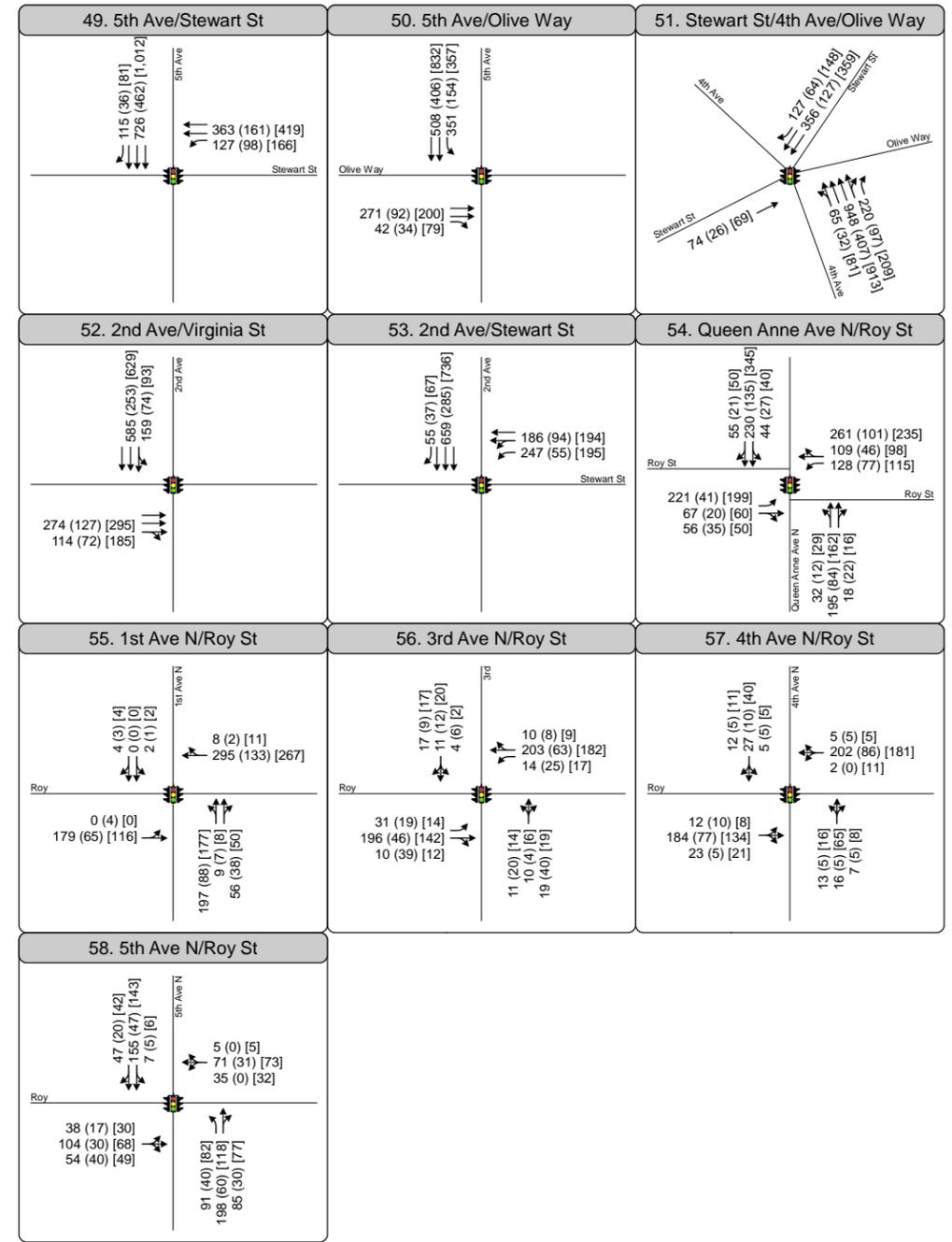


Figure 2E

Existing Peak Hour Volumes at Study Intersections, #49 - #58

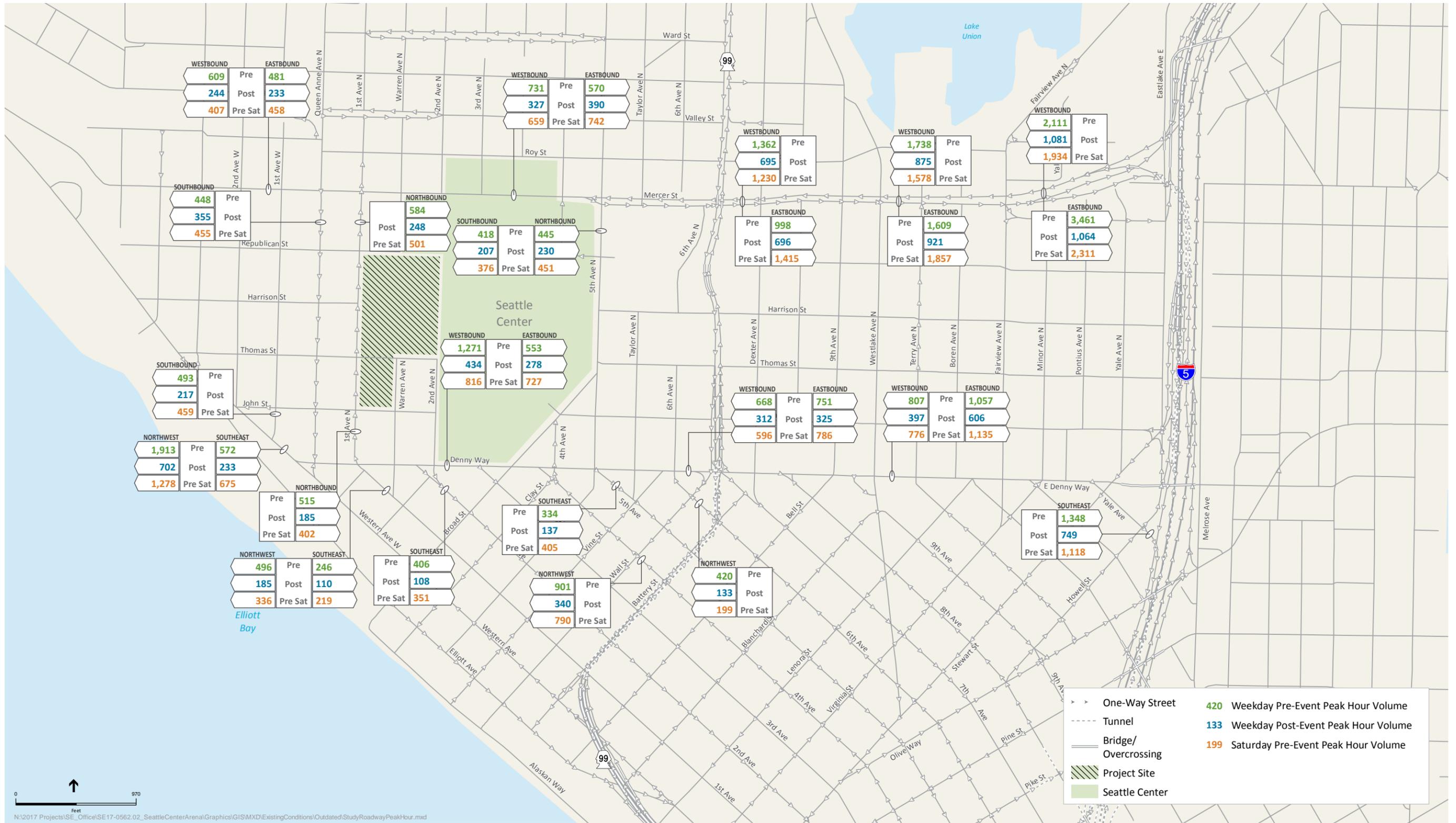


Figure 3

Existing Study Roadway Peak Hour Segment Volumes



The following describes some of the specific input parameters used in the Vissim model:

- Weekday pre-event peak hour congestion on I-5, which causes queue spillbacks onto the Mercer St and Denny Way corridors, was modeled.
- On corridors with bus routes, the number of buses during each peak hour, including stop locations, bus type and length, and approximate dwell times, were modeled.
- Transit-only lanes, peak-hour on-street parking prohibitions, and other time-of-day geometric configurations were modeled.
- Observed levels of bicycle and pedestrian activity were modeled.
- Traffic signal operations for the different time periods were used in the model.

Intersections located south of Denny Way were modeled using the Synchro software program, which employs procedures from the 2010 Highway Capacity Manual – HCM (Transportation Research Board, 2010). For the weekday pre-event peak hour, these intersections were analyzed using the SimTraffic micro-simulation model due to the need to account for queue spillbacks from one intersection to the next. For the weekday post-event and Saturday pre-event peak hours, analyses were conducted using Synchro because the same degree of queue spillback was not observed. At certain five-legged intersections, it was necessary to use the procedures from the 2000 HCM (HCM 2010 does not have a procedure to analyze these types of intersections).

Table 1 displays the range of delays corresponding to each Level of Service (LOS) grade for signalized intersections. All but 8 of the 58 study intersections are signalized. This table also displays similar information for unsignalized intersections. For reporting purposes, the average delay and LOS at signalized intersections is reported for the intersection as a whole. For side-street stop-controlled intersections, the average delay and LOS is reported for the worst minor street movement. Note that average delay values are rounded to the nearest integer.



Image 1: View of queue spillback from I-5 onto eastbound Mercer St during pre-event peak hour.

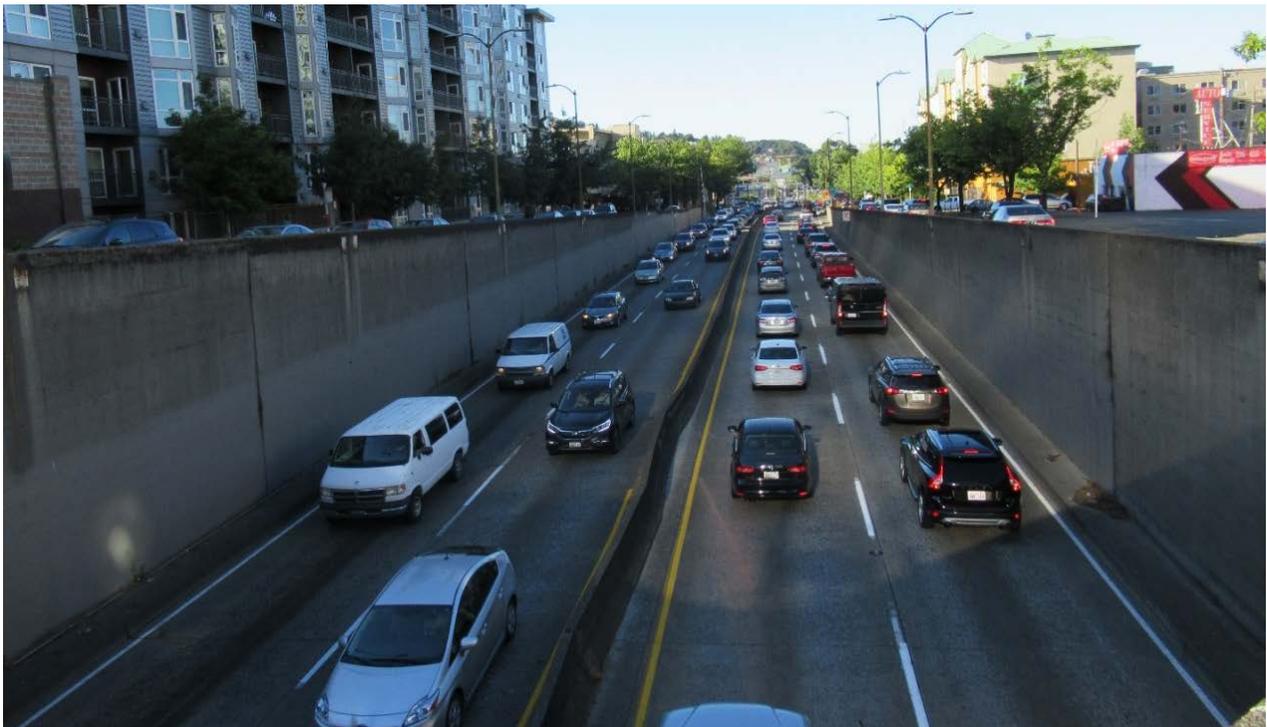


Image 2: View of congestion in SR 99 Battery St Tunnel just north of Denny Way during pre-event peak hour.

It is important that micro-simulation models be properly validated against existing conditions. A properly validated existing conditions model provides analysts with more confidence that projected ‘plus project’ conditions are correct. Without proper validation, inaccuracies in the base model could propagate into

the future year scenarios. For this study, it was necessary to focus the validation on weekday pre-event peak hour conditions given the level of congestion that is present during this study period versus the others. The weekday pre-event peak hour model validation examined the following:

- The maximum extent of queue spillback on eastbound Mercer St
- Queue spillbacks and imbalanced lane utilization on eastbound Denny Way
- Peak 15-minute flows entering I-5 from Mercer St and Denny Way
- I-5 on- and off-ramp queues onto Mercer St and Denny Way/Stewart St (as well as inefficient operations at the Yale Ave/Stewart St and Yale Ave/Howell St signals).
- Average travel time on eastbound and westbound Mercer St and Denny Way
- Maximum queues on side-street approaches to critical intersections along Mercer St and Denny Way

Table 1. LOS / Delay Thresholds for Signalized and Unsignalized Intersections

| LOS | Signalized Intersections | Unsignalized Intersections |
|-----|--------------------------|----------------------------|
| A | ≤ 10.0 | ≤ 10.0 |
| B | > 10.0 to 20.0 | > 10.0 to 15.0 |
| C | > 20.0 to 35.0 | > 15.0 to 25.0 |
| D | > 35.0 to 55.0 | > 25.0 to 35.0 |
| E | > 55.0 to 80.0 | > 35.0 to 50.0 |
| F | > 80.0 | > 50.0 |

Note: Average delay values are rounded to the nearest integer. For delay values reported at a given LOS threshold (i.e., 35 seconds at a signalized intersection), the reported LOS is based on non-rounded delay.

Source: *Highway Capacity Manual* (Transportation Research Board, 2010).

Maximum Extent of Queue Spillback on Eastbound Mercer St

Image 3 shows that the back of the eastbound queue on Mercer St during the pre-event peak hour on Tuesday, September 26, 2017 (i.e., count day) extended back beyond Dexter Ave N to beyond the SR 99 undercrossing. By the latter part of the peak hour, the queue had extended beyond 5th Ave N, approaching 4th Ave N as illustrated on Image 4. Image 5 contains a screenshot of the Vissim model showing the back of the queue at the end of the peak hour. As shown, the model accurately replicates the observed back of queue.

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Image 3: View of eastbound Mercer St vehicle queue (looking toward SR 99 overcrossing) just prior to beginning of pre-event peak hour.



Image 4: View of eastbound Mercer St back of queue spilling into 5th Ave N during latter part of pre-event peak hour.



Image 5: View of eastbound Mercer St back of queue midway through the weekday pre-event peak hour

Imbalanced Lane Utilization on Eastbound Denny Way

Images 6 and 7 show the imbalanced lane utilization and queuing on eastbound Denny Way. The outside lane is used to a much greater degree than the inside lane, as vehicles wait to turn onto Yale Ave, which merges onto SB I-5. Image 8 shows that the Vissim model replicates this imbalanced lane usage.

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Image 6: View of imbalanced lane utilization on eastbound Denny Way at Fairview Ave during the pre-event peak hour.

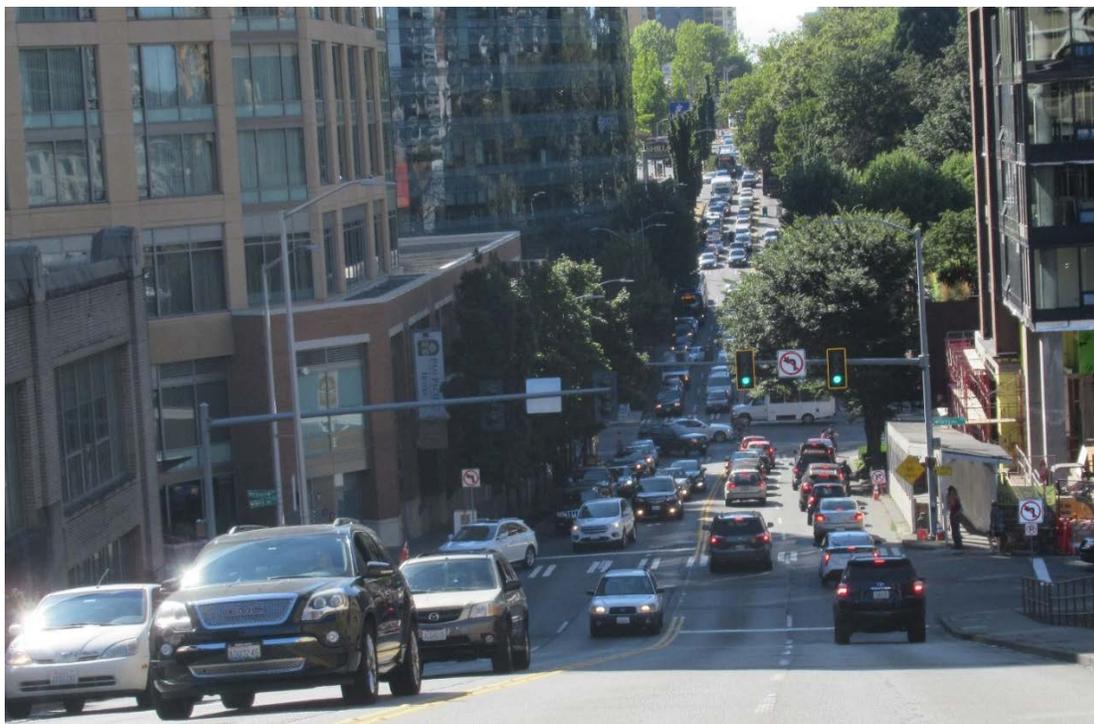


Image 7: View of eastbound queuing on Denny Way upstream and downstream of Terry Ave.

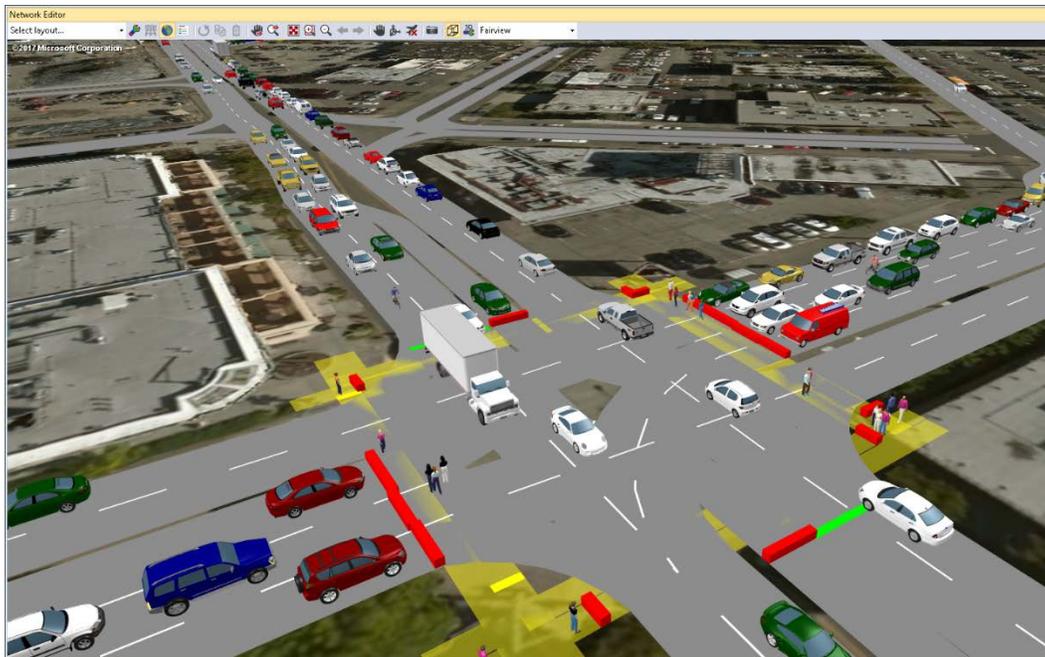


Image 8: Aerial view of Denny Way/Fairview Ave intersection (looking east) from VISSIM model – note the imbalanced lane utilization during the pre-event peak hour.

Peak 15-Minute Flows Entering I-5 from Mercer St and Denny Way

The observed peak 15-minute traffic flows exiting the Mercer St and Denny Way corridors on I-5 were compared against the modeled results from Vissim. The results are shown in Table 2, and indicate the following:

- The Vissim model was able to accurately match measured peak 15-minute volumes on eastbound Yale Avenue (at Howell St).
- The Vissim model underestimated the measured 15-minute volumes of traffic entering I-5 from eastbound Mercer St by about 9%. While it was possible to modify the on-ramp capacities to improve this validation, tests of this effect resulted in substantial underestimation of the maximum vehicle queues and travel times on eastbound Mercer St. Because the simulation model will be used to test multiple future scenarios, it is more critical that it match travel times and 'back of queue' observations than downstream throughput, which Table 2 shows.

Table 2. Comparison of Eastbound Traffic Volumes Entering I-5 from Mercer St and Denny Way Corridors – Existing Pre-Event Peak Hour Conditions

| Time | Mercer St (east of Fairview Ave N) | | Yale Ave via Denny Way (south of Howell St) | |
|----------------|------------------------------------|----------------------|---|----------------------|
| | Measured ¹ | Modeled ² | Measured ¹ | Modeled ² |
| 5:30 – 5:45 PM | 873 | 810 | 192 | 193 |
| 5:45 – 6:00 PM | 887 | 819 | 187 | 191 |
| 6:00 – 6:15 PM | 906 | 786 | 171 | 193 |
| 6:15 – 6:30 PM | 880 | 820 | 189 | 192 |
| Total | 3,546 | 3,235 | 739 | 769 |

Notes: ¹ As measured during traffic counts on Tuesday, September 26, 2017.

² Based on output from the Vissim micro-simulation model.

Source: Fehr & Peers, 2018.

I-5 Off-Ramp Queues onto Mercer St and Denny Way/Stewart St

In November 2017, the maximum queues exiting I-5 onto Mercer St and Denny Way were observed.. Queue lengths were also recorded for the I-5 NB off-ramps at Olive Way and Seneca St. As shown in Table 3, none of the off-ramps were observed to have maximum queues that spilled back to the freeway mainline.

The Vissim model includes the Mercer St off-ramps from I-5. Although the other off-ramps are not included in the Vissim model, project-related changes in queuing will be documented at these facilities. The Vissim model predicted a maximum queue length of 525 feet (in a given lane) for the Mercer St off-ramps for the weekday pre-event peak hour. This is somewhat less than the observed maximum queue of 700 feet. To account for the model’s modest underprediction of this queue length (by five vehicles per lane), a difference method queue forecasting procedure will be applied for future scenarios. This procedure adds the model’s predicted increase in queuing (between the future year scenario and base model) to the field-observed queue.

Table 3. I-5 Freeway Off-Ramp Maximum Queues – Existing Pre-Event Peak Hour Conditions

| Off-Ramp ¹ | Facility Description | Total Available Storage ² | Maximum Queue Observed During Pre-Event Peak Hour ³ |
|------------------------------|--|--------------------------------------|--|
| NB and SB I-5 at Mercer St | Separate off-ramps merge together 700 feet east of Fairview Ave N and become westbound Mercer St | 700 feet per lane ⁴ | 700 feet ⁵ |
| SB I-5 at Stewart St | Single lane off-ramp that widens to two lanes for 400 feet prior to limit line | 1,400 feet | 250 feet |
| NB I-5 Off-Ramp At Olive Way | Single-lane off-ramp | 1,225 feet | 650 feet |
| NB I-5 Off-Ramp At Seneca St | Single lane off-ramp that widens to two lanes for 300 feet prior to limit line | 1,600 feet | 450 feet |

Notes: ¹ Available off-ramps reflect the I-5 Express lanes northbound directionality during the pre-event peak hour.

² Unless otherwise noted, total available storage measured from the freeway off-ramp gore point (i.e., point that ramp merges/diverges from mainline) to the surface street limit line (and considers number of off-ramp lanes available to store vehicles).

³ Measurements conducted between 5:30 and 6:30 PM on weekdays in October 2017.

⁴ A substantial amount of additional storage (not shown in table) is provided between the merging of these two off-ramps and their departure from I-5.

⁵ The maximum queue extended nearly back to merge point connecting the two off-ramps. Additionally, queuing occurs on the northbound off-ramp upstream of the tunnel (under the I-5 Express Lanes) due to sharp horizontal curvature (30 mph advisory speed) within the tunnel. This curve can cause slow traffic to back onto the I-5 mainline, but the delay is not caused by the signal at Fairview Ave N.

Source: Fehr & Peers, 2018.

Average Travel Time on Mercer St and Denny Way

In November 2017 and January 2018, travel time measurements were conducted during the weekday pre-event peak hour along Mercer St and Denny Way. The results are shown in Table 4. See footnotes in table for details of measurements.

Table 4. Comparison of Travel Times Along Mercer St and Denny Way Corridors – Existing Pre-Event Peak Hour Conditions

| Corridor | Route | | | Travel Time | |
|---------------------|---|---|-----------|------------------------------|----------------------|
| | Origin | Destination | Distance | Measured | Modeled ⁴ |
| Eastbound Mercer St | 3 rd Ave N | Directly East of Fairview Ave N | 4,250 ft. | 22 minutes ¹ | 19 minutes |
| Westbound Mercer St | Directly East of Fairview Ave N | 3 rd Ave N | 4,250 ft. | 5 minutes ² | 4.5 minutes |
| Eastbound Denny Way | Taylor Ave N | Directly South of Yale/Stewart intersection | 3,980 ft. | 15 – 19 minutes ³ | 18 minutes |
| Westbound Denny Way | Directly South of Yale/Stewart intersection | Taylor Ave N | 3,900 ft. | 5 minutes ² | 4 minutes |

Notes: ¹As measured during the pre-event peak hour in November 2017. On eastbound Mercer St, back of queue extended to approximately 4th Ave N at time of field measurements.

²As measured during the pre-event peak hour in January 2018.

³As measured during the pre-event peak hour in November 2017 and January 2018. Travel time variation shown because different travel times occur depending on whether vehicle remains in the outside travel lanes or more aggressively passes queued traffic in the inside travel lane.

⁴Based on output from the Vissim micro-simulation model.

Source: Fehr & Peers, 2018.

Key findings from this table include the following:

- Eastbound Mercer St travel time is slightly underestimated due to model’s inability to fully capture driver aggressiveness as they enter Mercer St from cross-streets. Field observations revealed these movements can add additional travel time to eastbound through traffic. However, as mentioned previously, the model is able to accurately predict the maximum back of the queue on eastbound Mercer St at the end of the peak hour.
- Vissim model output for eastbound direction of Denny Way corridor was within the range of measured travel times. Conditions on Denny Way can also fluctuate depending on the degree of congestion on I-5, surges in traffic within the peak hour, cross-street pedestrian calls, and other factors.
- The Vissim model was validated to travel times in the westbound directions of Mercer St and Denny Way.

Figure 3 shows that eastbound Mercer St at the SR 99 undercrossing was able to serve 40% more traffic during the Saturday pre-event peak hour versus the weekday pre-event peak hour. This is due to less traffic leaving Uptown/Downtown to enter I-5 via the Mercer St ramps, and also less congestion on I-5.

Queuing on Side-Street Approaches Along Mercer St and Denny Way

The Vissim model was also checked to confirm that it accurately replicated queuing observed on the side-street approaches to each corridor. Field observations revealed substantial queues in the southbound left-turn and northbound right-turn lanes along Mercer St at Dexter Ave N, 9th Ave N, Westlake Ave N, Terry Ave N, Boren Ave, and Fairview Ave N. Substantial queues were also observed on side-streets approaching Denny Way including Aurora Ave N, Battery St, Westlake Ave N, Fairview Ave N, and on all approaches at the closely spaced Denny Way/Stewart St and Yale Ave/Stewart Ave intersections. The Vissim model results were reviewed and found to match queues observed in the field.

Study Area Intersections LOS

Table 5 displays the existing average delay and LOS at all 58 study intersections for all three study periods (refer to separate technical appendix for LOS calculations). It is important to note the following regarding these results in Table 5:

- The reported LOS and average delay is based on conditions during the busiest 15-minutes of each peak hour (per the HCM procedure for calculating LOS).
- When traffic queues from a downstream intersection extend into an upstream intersection, the delay associated with that condition is attributed to the upstream intersection.
- For signalized intersections, the reported LOS and delay is the weighted average of all vehicles passing through a given intersection. However, this averaging of delay may not align with a driver's experience driving the corridor since the driver is on a single approach.
- For side street, or two-way, stop controlled (TWSC) intersections, the delay and LOS for the worst controlled movement is reported (per the HCM procedure).

Table 5. Intersection Level of Service – Existing Conditions

| ID | Intersection | Traffic Control | LOS / Average Delay | | |
|-----|---------------------------------|-----------------|-----------------------------|------------------------------|------------------------------|
| | | | Weekday Pre-Event Peak Hour | Weekday Post-Event Peak Hour | Saturday Pre-Event Peak Hour |
| 1 | Mercer St/Queen Anne Ave N | Signal | B / 13 | B / 13 | B / 14 |
| 2 | Mercer St/1 st Ave N | Signal | C / 29 | B / 11 | B / 13 |
| 3 | Mercer St/Warren Ave N | Signal | A / 10 | A / 5 | A / 9 |
| 4 | Mercer St/2nd Ave N | Signal | B / 13 | A / 2 | A / 5 |
| 5 | Mercer St/3rd Ave N | Signal | B / 18 | A / 7 | B / 15 |
| 6 | Mercer St/4th Ave N | Signal | D / 46 | A / 2 | A / 7 |
| 7 | Mercer St/5th Ave N | Signal | E / 61 | C / 34 | D / 43 |
| 8 | Mercer St/6th Ave N | Signal | F / 97 | A / 1 | A / 4 |
| 9 | Mercer St/Dexter Ave N | Signal | F / 84 | C / 31 | D / 41 |
| 10 | Mercer St/9th Ave N | Signal | E / 60 | C / 24 | C / 25 |
| 11 | Mercer St/Westlake Ave N | Signal | D / 41 | C / 24 | C / 25 |
| 12 | Mercer St/Terry Ave N | Signal | D / 38 | A / 3 | A / 7 |
| 13 | Mercer St/Boren Ave N | Signal | C / 26 | A / 3 | A / 5 |
| 14 | Mercer St/Fairview Ave N | Signal | E / 62 | C / 25 | C / 30 |
| 15 | Queen Anne Ave N/Republican St | Signal | B / 18 | B / 10 | B / 17 |
| 16 | 1st Ave N/Republican St | Signal | B / 13 | B / 13 | B / 18 |
| 17 | 5th Ave N/Republican St | Signal | A / 7 | A / 3 | A / 5 |
| 18 | Queen Anne Ave N/Harrison St | Signal | A / 9 | A / 6 | A / 6 |
| 19 | 1st Ave N/Harrison St | Signal | B / 11 | B / 11 | B / 12 |
| 20 | 5th Ave N/Harrison St | Signal | B / 11 | A / 9 | A / 10 |
| 21 | Queen Anne Ave N/Thomas St | TWSC | A / 10 (EB TH) | A / 8 (WB LT) | A / 9 (WB TH) |
| 22 | 1st Ave N/Thomas St | TWSC | B / 12 (WB TH) | B / 11 (EB LT) | B / 11 (EB TH) |
| 23 | 5th Ave N/Thomas St/Broad St | Signal | D / 37 | C / 30 | D / 40 |
| 24 | Queen Anne Ave N/John St | TWSC | A / 9 (EB TH) | A / 7 (WB LT) | A / 8 (EB TH) |
| 25 | 1st Ave N/John St | TWSC | B / 10 (EB TH) | A / 6 (EB LT) | A / 10 (EB LT) |
| 26 | Broad St/John St | Signal | B / 14 | A / 10 | B / 13 |
| 27 | 5th Ave N/John St | TWSC | C / 30 | A / 6 | B / 11 |
| 28 | Denny Way/ Western Ave | Signal | B / 17 | A / 9 | B / 12 |
| 28a | Denny Way/Queen Anne Ave N | Signal | B / 19 | B / 12 | B / 13 |
| 29 | Denny Way/1st Ave N | Signal | B / 18 | B / 16 | B / 19 |

Technical Memorandum #4: Existing Conditions

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| ID | Intersection | Traffic Control | LOS / Average Delay | | |
|----|-----------------------------------|-----------------|-----------------------------|------------------------------|------------------------------|
| | | | Weekday Pre-Event Peak Hour | Weekday Post-Event Peak Hour | Saturday Pre-Event Peak Hour |
| 30 | Denny Way/Warren Ave N | TWSC | C / 23 (NB TH) | B / 10 (SB TH) | C / 23 (NB TH) |
| 31 | Denny Way/2nd Ave N | Signal | A / 9 | A / 4 | A / 8 |
| 32 | Denny Way/Broad St | Signal | B / 13 | A / 9 | B / 12 |
| 33 | Denny Way/5th Ave N | Signal | B / 12 | A / 10 | B / 13 |
| 34 | Denny Way/Taylor Ave N | Signal | B / 17 | A / 7 | B / 11 |
| 35 | Denny Way/6th Ave N | Signal | D / 46 | B / 11 | B / 13 |
| 36 | Denny Way/Aurora Ave N/7th Ave | Signal | F / 105 | B / 18 | C / 29 |
| 37 | Denny Way/Dexter Ave N | Signal | D / 50 | B / 14 | B / 16 |
| 38 | Denny Way/Bell St/9th Ave N | Signal | F / 84 | A / 5 | A / 8 |
| 39 | Denny Way/Westlake Ave N | Signal | D / 53 | B / 15 | B / 17 |
| 40 | Denny Way/Fairview Ave N | Signal | F / 89 | C / 23 | C / 26 |
| 41 | Denny Way/Stewart St | Signal | E / 62 | E / 60 | E / 66 |
| 42 | Yale Ave/Stewart St | Signal | E / 70 | B / 13 | B / 17 |
| 43 | Broad St/2nd Ave | Signal | B / 13 | A / 9 | B / 13 |
| 44 | 6th Ave/Battery St | Signal | B / 11 | B / 11 | B / 14 |
| 45 | 6th Ave/Bell St | Signal | B / 16 | B / 13 | B / 13 |
| 46 | Yale Ave/Howell St/I-5 SB on-ramp | Signal | C / 25 | C / 21 | C / 20 |
| 47 | 4th Ave/Battery St | Signal | B / 12 | B / 12 | B / 13 |
| 48 | 6th Ave/Olive Way | Signal | C / 33 | A / 10 | B / 10 |
| 49 | 5th Ave/Stewart St | Signal | C / 31 | B / 16 | B / 20 |
| 50 | 5th Ave/Olive Way | Signal | B / 14 | B / 10 | B / 13 |
| 51 | 4th Ave/Olive Way | Signal | B / 17 | B / 12 | B / 14 |
| 52 | 2nd Ave/Virginia St | Signal | C / 31 | B / 16 | B / 19 |
| 53 | 2nd Ave/Stewart St | Signal | B / 19 | B / 15 | B / 16 |
| 54 | Queen Anne Ave N/Roy St | Signal | D / 48 | C / 25 | D / 45 |
| 55 | 1st Ave N/Roy St | Signal | C / 27 | A / 7 | B / 16 |
| 56 | 3rd Ave N/Roy St | Signal | C / 34 | A / 9 | A / 8 |
| 57 | 4th Ave N/Roy St | Signal | D / 41 | A / 8 | B / 11 |
| 58 | 5th Ave N/Roy St | Signal | E / 62 | B / 14 | C / 24 |

Note: TWSC = Two-way stop-control. Results shown for minor street movement with greatest delay.

Source: Fehr & Peers, 2018.

During the weekday pre-event peak hour, the following intersections operate at LOS D or worse.

LOS D

- Mercer St/4th Ave N
- Mercer St/Westlake Ave N
- Mercer St/Terry Ave N
- 5th Ave N/Thomas St/Broad St
- Denny Way/6th Ave N
- Denny Way/Dexter Ave N
- Denny Way/Westlake Ave N
- Queen Anne Ave N/Roy St
- 4th Ave N/Roy St

LOS E

- Mercer St/5th Ave N
- Mercer St/9th Ave N
- Mercer St/Fairview Ave N
- Denny Way/Stewart St
- Yale Ave/Stewart St
- 5th Ave N/Roy St

LOS F

- Mercer St/6th Ave N
- Mercer St/Dexter Ave N
- Denny Way/Aurora Ave N/7th Ave
- Denny Way/Bell St/9th Ave N
- Denny Way/Fairview Ave N

As noted earlier, congestion on I-5 causes substantial queue spillback in the eastbound direction, which contributes to poor LOS results. Because the reported LOS is the weighted average of all vehicles passing through a given intersection, it may not be indicative of directional congestion. This phenomenon is clearly illustrated on Figure 4, in which the LOS is shown for eastbound and westbound approaches on Denny Way and Mercer St for weekday pre-event conditions. Note that eastbound approaches are routinely in the LOS F range, while westbound approaches are at LOS C or better. Some additional explanations for these LOS results are offered below:

- LOS C or D is reported in the eastbound direction of Mercer St at Terry Ave N, Boren Ave, and Fairview Ave N. This occurs as a result of their relatively short block lengths, which limits the amount of delay that can occur on these approaches. This segment is congested in the eastbound

direction, as evidenced by photographs and travel times. However, the LOS is not indicative of this congestion due to the short block length.

- Intersections located directly downstream of congestion can be free-flow (e.g., eastbound Denny Way at Dexter Ave N, downstream of the Aurora Ave/Denny Way/7th Ave congested area).

During the weekday post-event peak hour, all intersections operate at LOS C or better with the exception of Denny Way/Stewart St intersection, which operates at LOS E.

During the Saturday pre-event peak hour, the Mercer St/5th Ave N, Mercer St/Dexter Ave N, and Queen Anne Ave N/Roy St intersections operate at LOS D, and the Denny Way/Stewart St intersection operates at LOS E. All other intersections operate at LOS C or better.

Collision Analysis

Fehr & Peers reviewed the collision history at the study intersections based on reported collision data provided by SDOT for the three-year period from October 2014 through October 2017. A summary of the total number of collisions and the annual average is shown in Table 6. This table also reports the number of collisions that were injury-related, those involving bicyclists or pedestrians, and the most common collision type. None of the injuries were reported as causing a fatality.

The City of Seattle designates intersections as “high collision locations” if there are an average of 10 or more reported collisions per year for signalized intersections or an average of 5 or more reported collisions per year for unsignalized intersections. Intersections with this designation are targeted for future safety improvements to reduce their collision frequency.

Based on the reported collision data, none of the study intersections reached the collision frequency threshold to be considered a high collision location. The Mercer St/Fairview Ave N, 5th Ave/Olive Way, Mercer St/Queen Anne Ave N, Denny Way/Stewart St, and Denny Way/Dexter Ave N signalized intersections each averaged 6 or 7 collisions over the three year period. The highest number of collisions involving bicyclists or pedestrians occurred at the Mercer St/Queen Anne Ave and Denny Way/Westlake Ave N intersections.



Figure 4

Directional Level of Service and Travel Time on East/West Roadways - Existing Weekday Pre-Event Peak Hour Conditions



Table 6. Intersection Collision History

| ID | Intersection ¹ | Number of Collisions | | | | Most Common Collision Type ⁴ |
|----|---------------------------------|-------------------------------|-----------------------------|-------------------|-------------------------------------|---|
| | | Average Per Year ³ | 3- Year Totals ² | | | |
| | | | Total Collisions | Injury Collisions | Involving Pedestrians or Bicyclists | |
| 1 | Mercer St/Queen Anne Ave N | 6 | 19 | 9 | 7 | Pedestrian |
| 2 | Mercer St/1 st Ave N | 2 | 5 | 4 | 2 | Pedestrian |
| 3 | Mercer St/Warren Ave N | 2 | 7 | 2 | 1 | Left Turn |
| 4 | Mercer St/2nd Ave N | 2 | 5 | 3 | 1 | NA |
| 5 | Mercer St/3rd Ave N | 1 | 4 | 1 | 0 | Rear Ended |
| 6 | Mercer St/4th Ave N | 2 | 7 | 4 | 1 | Angles |
| 7 | Mercer St/5th Ave N | 3 | 8 | 3 | 2 | Sideswipe |
| 8 | Mercer St/6th Ave N | 0 | 0 | 0 | 0 | NA |
| 9 | Mercer St/Dexter Ave N | 1 | 3 | 0 | 0 | NA |
| 10 | Mercer St/9th Ave N | 4 | 11 | 4 | 3 | Bicycles, Angles |
| 11 | Mercer St/Westlake Ave N | 3 | 9 | 1 | 0 | Angles |
| 12 | Mercer St/Terry Ave N | 2 | 7 | 4 | 3 | Pedestrian |
| 13 | Mercer St/Boren Ave N | 1 | 2 | 1 | 1 | NA |
| 14 | Mercer St/Fairview Ave N | 7 | 22 | 7 | 2 | Left Turn |
| 15 | Queen Anne Ave N/Republican St | 1 | 3 | 1 | 1 | NA |
| 16 | 1st Ave N/Republican St | 1 | 3 | 1 | 1 | NA |
| 17 | 5th Ave N/Republican St | 0 | 1 | 0 | 0 | Rear Ended |
| 18 | Queen Anne Ave N/Harrison St | 1 | 3 | 0 | 0 | Left Turn |
| 19 | 1st Ave N/Harrison St | 2 | 6 | 0 | 1 | Left Turn |
| 20 | 5th Ave N/Harrison St | 0 | 1 | 1 | 0 | Left Turn |
| 21 | Queen Anne Ave N/Thomas St (U) | 1 | 2 | 1 | 0 | NA |
| 22 | 1st Ave N/Thomas St (U) | 3 | 9 | 1 | 1 | Angles |
| 23 | 5th Ave N/Thomas St/Broad St | 1 | 3 | 2 | 1 | Other |
| 24 | Queen Anne Ave N/John St (U) | 1 | 4 | 1 | 0 | Angles |
| 25 | 1st Ave N/John St (U) | 1 | 3 | 2 | 1 | NA |
| 26 | Broad St/John St | 1 | 2 | 0 | 0 | Angles |
| 27 | 5th Ave N/John St (U) | 1 | 4 | 1 | 0 | Angles, Left Turn |

| ID | Intersection ¹ | Number of Collisions | | | | Most Common Collision Type ⁴ |
|----|--|-------------------------------|-----------------------------|-------------------|-------------------------------------|---|
| | | Average Per Year ³ | 3- Year Totals ² | | | |
| | | | Total Collisions | Injury Collisions | Involving Pedestrians or Bicyclists | |
| 28 | Denny Way/Queen Anne Ave N/Western Ave | 2 | 6 | 2 | 1 | Sideswipe |
| 29 | Denny Way/1st Ave N | 2 | 7 | 0 | 1 | Sideswipe |
| 30 | Denny Way/Warren Ave N (U) | 2 | 6 | 3 | 0 | Angles, Left Turn |
| 31 | Denny Way/2nd Ave N | 2 | 5 | 2 | 0 | Angles |
| 32 | Denny Way/Broad St | 1 | 2 | 1 | 0 | Angles |
| 33 | Denny Way/5th Ave N | 4 | 13 | 4 | 2 | Angles |
| 34 | Denny Way/Taylor Ave N | 0 | 1 | 1 | 1 | Angles |
| 35 | Denny Way/6th Ave N | 1 | 3 | 0 | 0 | NA |
| 36 | Denny Way/Aurora Ave N/7th Ave | 4 | 12 | 2 | 1 | Angles |
| 37 | Denny Way/Dexter Ave N | 6 | 17 | 5 | 4 | Left Turn |
| 38 | Denny Way/Bell St/9th Ave N | 2 | 6 | 4 | 0 | Angles, Right Turn |
| 39 | Denny Way/Westlake Ave N | 4 | 12 | 8 | 6 | Pedestrian |
| 40 | Denny Way/Fairview Ave N | 4 | 12 | 2 | 0 | Angles, Left Turn |
| 41 | Denny Way/Stewart St | 6 | 17 | 7 | 5 | Left Turn |
| 42 | Yale Ave/Stewart St | 3 | 10 | 3 | 1 | Left Turn |
| 43 | Broad St/2nd Ave | 3 | 10 | 7 | 1 | Angles |
| 44 | 6th Ave/Battery St | 2 | 3 | 3 | 0 | Angles |
| 45 | 6th Ave/Bell St | 0 | 1 | 1 | 1 | Pedestrian |
| 46 | Yale Ave/Howell St/I-5 SB on-ramp | 1 | 4 | 1 | 1 | NA |
| 47 | 4th Ave/Battery St | 4 | 12 | 4 | 0 | Angles |
| 48 | 6th Ave/Olive Way | 3 | 9 | 3 | 1 | Left Turn, Sideswipe |
| 49 | 5th Ave/Stewart St | 3 | 9 | 2 | 0 | Angles |
| 50 | 5th Ave/Olive Way | 7 | 21 | 5 | 1 | Left Turn |
| 51 | 4th Ave/Olive Way | 1 | 4 | 1 | 1 | Sideswipe |
| 52 | 2nd Ave/Virginia St | 3 | 10 | 6 | 1 | Angles |
| 53 | 2nd Ave/Stewart St | 4 | 11 | 2 | 2 | Sideswipe |

| ID | Intersection ¹ | Number of Collisions | | | | Most Common Collision Type ⁴ |
|----|---------------------------|-------------------------------|-----------------------------|-------------------|-------------------------------------|---|
| | | Average Per Year ³ | 3- Year Totals ² | | | |
| | | | Total Collisions | Injury Collisions | Involving Pedestrians or Bicyclists | |
| 54 | Queen Anne Ave N/Roy St | 1 | 3 | 0 | 0 | NA |
| 55 | 1st Ave N/Roy St | 0 | 0 | 0 | 0 | NA |
| 56 | 3rd Ave N/Roy St | 1 | 3 | 3 | 3 | Bicycles |
| 57 | 4th Ave N/Roy St | 0 | 1 | 0 | 0 | Left Turn |
| 58 | 5th Ave N/Roy St | 1 | 2 | 1 | 1 | NA |

Notes:

¹ Intersections 21, 22, 24, 25, 27, and 30 are unsignalized, and annotated by (U)

² Reported collisions provided by SDOT for three-year period from October 2014 through October 2017.

³ Rounded to the nearest integer.

⁴ “Angles” collision type refer to a multi-vehicle collision in which the two vehicles collide (most often head-on) at an angle. “Pedestrian” collision type refers to a motor vehicle striking a pedestrian. “NA” means no single most common collision type or no collisions occurred.

Source: Fehr & Peers, 2018.

Curb Space Management

Fehr & Peers performed a block by block inventory of the permitted usage of curb space along the entire frontage of Seattle Center. This included both sides of the street along 1st Ave N, Warren Ave N, Mercer St, 4th Ave N, Republican St, 5th Ave N, Broad St, 2nd Ave N, and Thomas St. Figure 5 shows the permitted usage of curb space for a weekday evening (6 PM and beyond) condition. Permitted curb use is nearly identical for Saturday evening conditions with just a couple of minor exceptions. This figure shows that a variety of different curb space use is permitted including:

- Loading/unloading zones
- King County Metro bus stops
- Passenger loading/unloading only
- Charter bus parking
- ADA/Handicapped parking
- 4-hour metered parking (expires at 8 PM)
- Taxi stands
- Residential permit zone parking
- Free, unrestricted parking

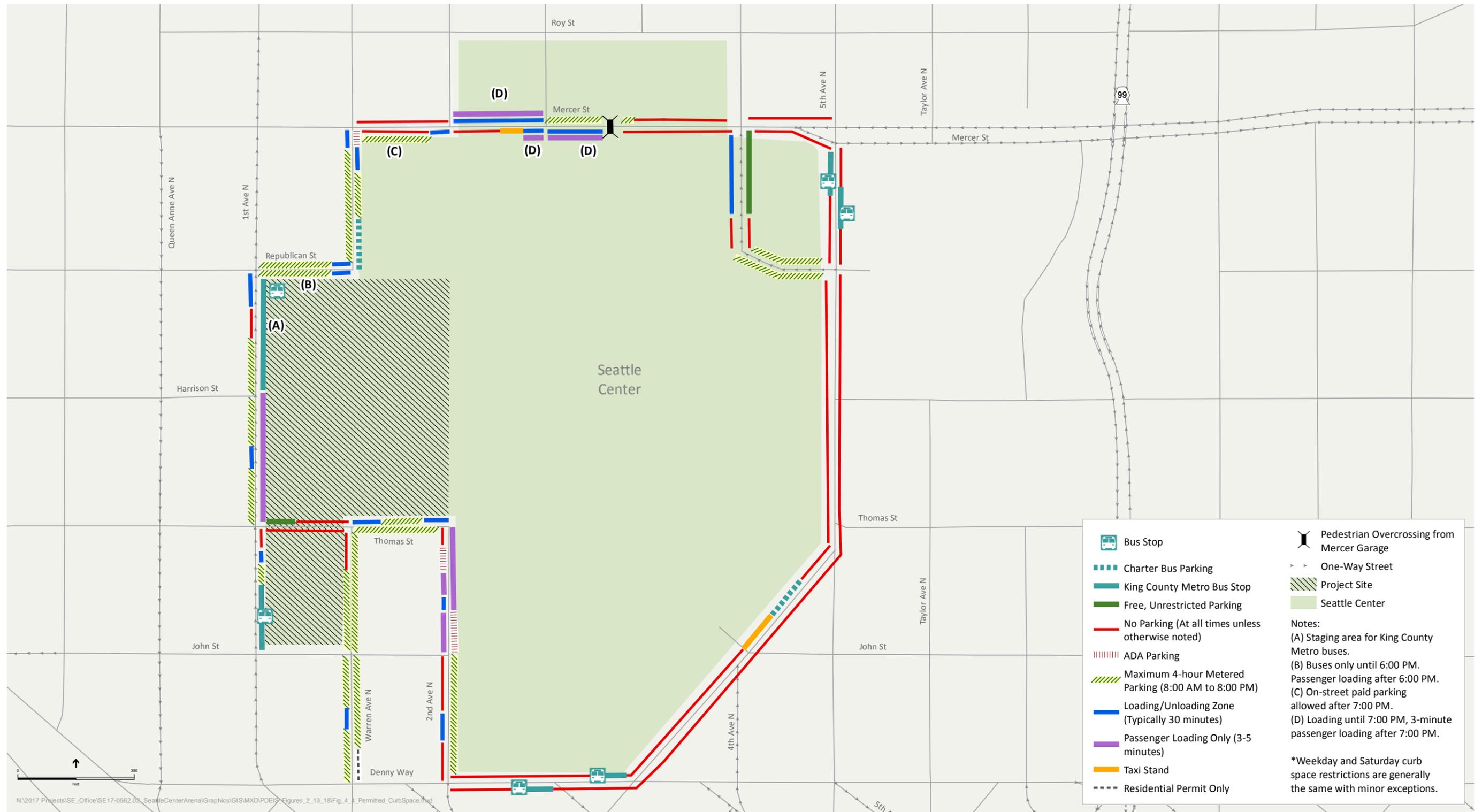


Figure 5

Evening Curb Space Permitted Usage

Figure 5 indicates that passenger loading/unloading (from private vehicles, TNCs, or taxis) is permitted along portions of 1st Ave N, 2nd Ave N, and Mercer St. Parking is prohibited along the majority of 5th Ave N, Broad St, and Denny Way.

Transit Network

The proximity of the project site to the downtown Seattle core transit network allows for access to a broad range of local and regional transit services. This section describes the existing transit services within the study area, including fixed route bus, monorail, streetcar, light rail, and ferry facilities and services. Each service type is discussed separately below.

Fixed Route Bus Service

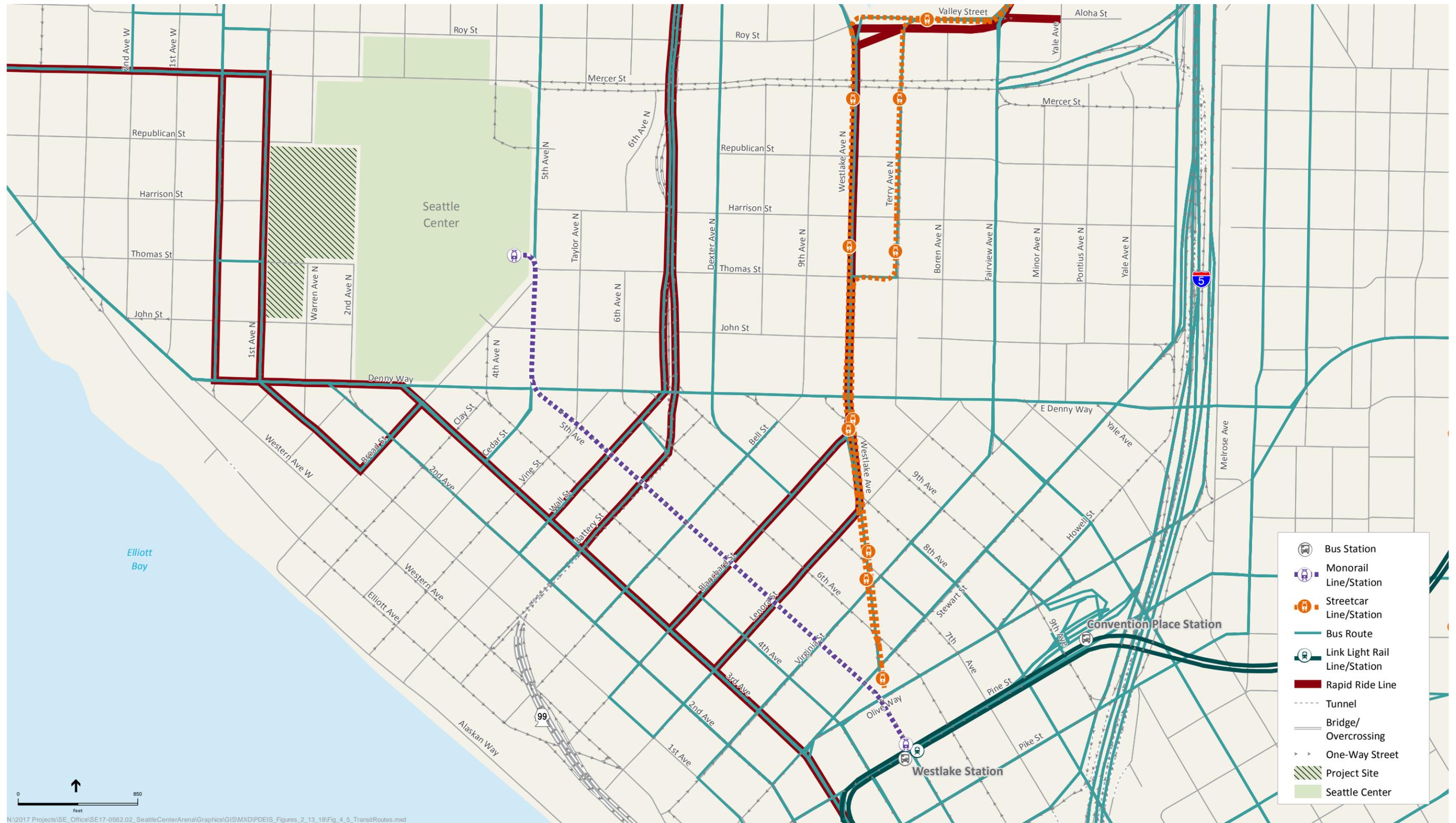
King County Metro (KCM) is the primary operator of fixed route bus services within the vicinity of the project site. KCM bus routes are classified within the following “service families,” as defined by the *King County Metro Service Guidelines*:

- **Very frequent** services provide the highest levels of all-day service. Very frequent corridors serve very large employment and transit activity centers and high-density residential areas.
- **Frequent** services provide high levels of all-day service. Frequent corridors generally serve major employment and transit activity centers and high-density residential areas.
- **Local** services provide a moderate level of all-day service. Local corridors generally serve regional growth centers and low to medium-density residential areas.
- **Hourly** services provide all-day service no more frequently than every hour. Corridors generally connect low density residential areas to regional growth centers.
- **Peak** services provide specialized service in the periods of highest demand for travel. Peak services generally provide service into a major employment center in the morning and away from a major employment center in the afternoon/evening.

KCM also provides RapidRide routes, and enhanced bus services typified by high frequencies, upgraded stop amenities, all-door boarding, and wide stop spacing.

Table 7 summarizes the existing weekday, Saturday, and Sunday frequency and span of service for KCM bus routes in the study area. Figure 6 illustrates the existing fixed route bus services within the study area.

As shown in Figure 6, buses operate north-south along the 1st Ave N / Queen Anne Ave N couplet immediately west of the project site. East-west bus service is present on Denny Way and on Mercer St west of 1st Ave N. Several streets accommodate north-south bus service through the study area, including Elliott Ave W, 5th Ave N, Dexter Ave N, Westlake Ave N, and Fairview Ave N. A number of bus routes also traverse the study area via Aurora Ave N before entering the SR 99 Battery St Tunnel. South of Denny Way, buses operate in both directions of 3rd Ave, traveling to/from Belltown and downtown Seattle. Several routes utilize electric trolleybus vehicles that rely on overhead catenary systems installed on select roadways within the study area, including 1st Ave N, Queen Anne Ave N, Denny Way, and 3rd Ave.



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Figure 6

Existing Regional Transit Routes

Figure 7 displays bus services and individual stop locations near the Seattle Center. Denny Way experiences the highest bus volumes within the project site vicinity with 71 weekday pre-event peak hour bus trips (eastbound and westbound combined) on the segment between Western Ave and 3rd Ave. The Queen Anne Ave N and 1st Ave N couplet also accommodates high bus volumes, with 32 weekday pre-event peak hour bus trips on each roadway (64 total peak hour trips).

As shown in Figure 7, existing bus stops in the vicinity of the project site are located on Queen Anne Ave N, 1st Ave N, 5th Ave N, and Denny Way. Some bus stops have pull-outs while others stop in the travel lane (and are designated by red/yellow curb painting and bus sign signage). Shelters and benches are provided at many, but not all locations. Images 9 and 10 illustrate bus stops on 1st Ave N with varying levels of passenger stop amenities. RapidRide D Line stops, in particular, provide an enhanced passenger wait environment and include design features that enable expedited passenger boarding and alighting activity (e.g., off-vehicle fare payment).

Additionally, bus service is provided by Community Transit, which operates primarily in Snohomish County. However, it does feature routes that extend into downtown Seattle. The nearest stop is along Stewart St.

Table 8 presents existing peak hour trips, total capacity (as defined by the KCM crowding threshold), passenger load, and reserve ridership capacity for each bus route that serves the project site and Seattle Center during the weekday pre-event and post-event peak hours. The King County Metro 2016 System Evaluation establishes crowding thresholds for bus routes based on the number of seats and the space available for standing on each transit vehicle. Generally, crowding thresholds range from 125% to 150% of the seated capacity of a vehicle, or approximately 53 persons and 87 persons for standard and articulated buses, respectively. KCM accepts crowding on its services during certain portions of the day and within certain portions of its service area; however, KCM strives to address chronic overcrowding issues. The numbers presented in Table 7 are derived from Spring 2016 average weekday ridership data provided by KCM for all bus routes serving passengers within one-quarter mile of the Seattle Center Arena.

Reserve ridership capacity is expressed in terms of the capacity available to passengers boarding and alighting at stops nearest to the project site, as well as the available capacity at the maximum load point for each route. The reserve capacity at the maximum load point represents a worst-case snapshot of existing reserve capacity because it considers the point on each route when the passenger load is at its highest. While other fixed route bus routes operate within the study area, the routes included in Table 8 are those anticipated to be most heavily utilized by transit riders accessing the project site due to their proximity.

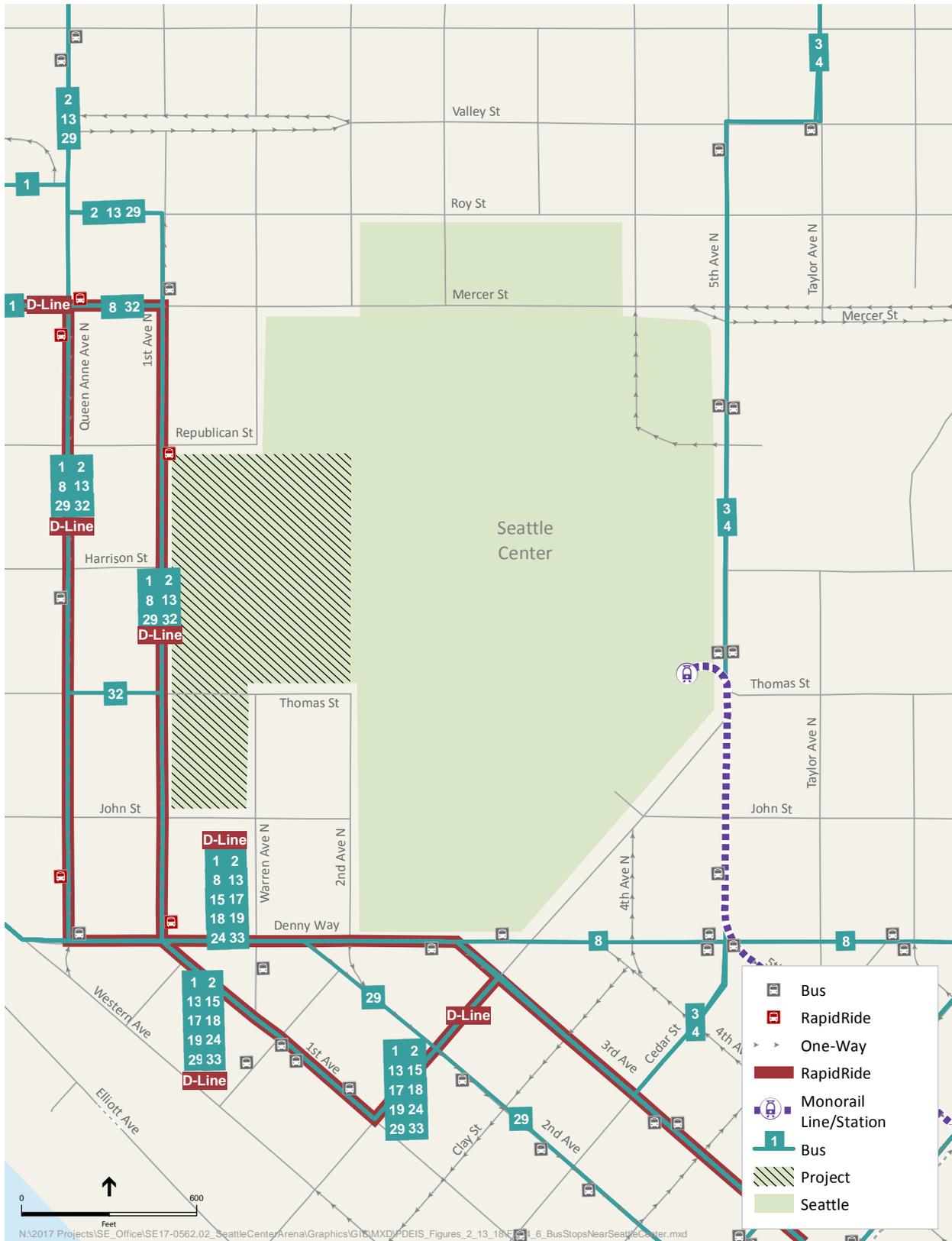


Figure 7

Existing Bus Routes and Stops Near Project Site



Table 7. Fixed Route Bus Services – Existing Conditions

| Route | Description | KCM Service Family | Weekday | | Saturday | | Sunday | |
|--------|--|--------------------|-----------------------|-----------------|-----------------------|-----------------|-----------------------|-----------------|
| | | | Freq. (Peak/Off-Peak) | Span of Service | Freq. (Peak/Off-Peak) | Span of Service | Freq. (Peak/Off-Peak) | Span of Service |
| 1 | Kinnear to Downtown | Very Frequent | 15/20 | 5 AM - 1 AM | 20/20 | 6 AM - 1 AM | 30/30 | 5:30 AM - 1 AM |
| 2/13 | SPU to Downtown to Madrona Park | Very Frequent | 10/15 | 4:30 AM - 2 AM | 15/15 | 5 AM - 2 AM | 15/15 | 5:30 AM - 2 AM |
| 3/4 | SPU to Downtown to Judkins Park | Frequent | 10/15 | 4 AM - 3:30 AM | 15/15 | 4 AM - 3:30 AM | 30/30 | 4 AM - 3:30 AM |
| 5 | Shoreline CC to Greenwood to Downtown | Very Frequent | 12/15 | 4 AM - 4:30 AM | 15/15 | 4 AM - 4:30 AM | 15/15 | 4 AM - 4:30 AM |
| 8 | Mt. Baker TC to Cap. Hill to Seattle Center | Very Frequent | 10/12 | 5 AM - 1 AM | 15/15 | 5:30 AM - 1 AM | 20/20 | 6 AM - 1 AM |
| 19 | West Magnolia to Downtown | Peak | 20/-- | Peak Only | -- | -- | -- | -- |
| 24 | West Magnolia to Downtown | Local | 15/30 | 5 AM - 1 AM | 30/30 | 6 AM - 1 AM | 30/30 | 6 AM - 1 AM |
| 29 | Ballard to SPU to Downtown | Peak | 15/-- | Peak Only | -- | -- | -- | -- |
| 32 | Magnolia to Fremont to University District | Local | 15/30 | 6 AM - 1 AM | 15/30 | 6 AM - 1:30 AM | 30/30 | 6 AM - 1 AM |
| 33 | Discovery Park to Downtown | Local | 30/30 | 5 AM - 12 AM | 30/30 | 6 AM - 11 PM | 30/30 | 6 AM - 11 PM |
| 40 | Northgate TC to Ballard to Downtown | Very Frequent | 7.5/15 | 5 AM - 2 AM | 15/15 | 6 AM - 2 AM | 15/15 | 6 AM - 2 AM |
| 62 | Sand Point to Green Lake to Downtown | Peak | 10/15 | 5 AM - 2 AM | 15/15 | 6 AM - 2 AM | 15/15 | 6 AM - 2 AM |
| 63 | Northgate TC to Cherry Hill | Peak | 20/-- | Peak Only | -- | -- | -- | -- |
| 70 | University District to Eastlake to Downtown | Very Frequent | 10/15 | 4 AM - 4 AM | 15/15 | 4 AM - 4 AM | 15/15 | 4 AM - 4 AM |
| 5X | Shoreline CC to Greenwood to Downtown | Peak | 12/-- | Peak Only | -- | -- | -- | -- |
| 15X | Blue Ridge to Crown Hill to Downtown | Peak | 10/-- | Peak Only | -- | -- | -- | -- |
| 17X | Sunset Hill to Ballard to Downtown | Peak | 15/-- | Peak Only | -- | -- | -- | -- |
| 18X | North Beach to Ballard to Downtown | Peak | 15/-- | Peak Only | -- | -- | -- | -- |
| 26X | Northgate TC to Green Lake to Downtown | Peak | 10/30 | 5 AM - 2 AM | 30/30 | 6:30 AM - 2 AM | 30/30 | 6:30 AM - 2 AM |
| 28X | Broadview/Carkeek Park to Downtown | Peak | 10/30 | 5 AM - 1 AM | 30/30 | 6 AM - 1 AM | 30/30 | 6 AM - 1 AM |
| 64X | Jackson Park to Cherry Hill | Peak | 20/-- | Peak Only | -- | -- | -- | -- |
| 309X | Kenmore P&R to First Hill | Peak | 30/-- | Peak Only | -- | -- | -- | -- |
| C Line | Westwood Village to South Lake Union | RapidRide | 6/12 | 4 AM - 4 AM | 12/12 | 4 AM - 4 AM | 15/15 | 4 AM - 4 AM |
| D Line | Crown Hill to Ballard to Seattle Cent. to Downtown | RapidRide | 7.5/12 | 5 AM - 5 AM | 12/12 | 5 AM - 5 AM | 15/15 | 5 AM - 5 AM |
| E Line | Aurora Village to Downtown | RapidRide | 5/10 | 4 AM - 4 AM | 12/12 | 4 AM - 4 AM | 15/15 | 4 AM - 4 AM |

Source: King County Metro and Fehr & Peers, 2018.

Table 8. Total and Reserve Capacity for Seattle Center Weekday Bus Service – Existing Conditions

| Route ¹ | Pre-Event Peak Hour (Inbound to Seattle Center) | | | | | | | Post-Event Peak Hour (Outbound from Seattle Center) | | | | | | |
|--------------------|---|----------------------------------|--|--------------------------------|-------------------------------|------------------------------------|-------------------------------|---|----------------------------------|--|--------------------------------|-------------------------------|------------------------------------|-------------------------------|
| | Direction | Peak Hour Bus Trips ² | Crowding Capacity Threshold ³ | At Seattle Center ⁵ | | At Maximum Load Point ⁶ | | Direction | Peak Hour Bus Trips ² | Crowding Capacity Threshold ³ | At Seattle Center ⁵ | | At Maximum Load Point ⁶ | |
| | | | | Passenger Load | Reserve Capacity ⁴ | Passenger Load | Reserve Capacity ⁴ | | | | Passenger Load | Reserve Capacity ⁴ | Passenger Load | Reserve Capacity ⁴ |
| 1 | from Kinnear | 5 | 265 | 38 | 227 | 38 | 227 | to Downtown | 3 | 159 | 17 | 142 | 20 | 139 |
| 1 | from Downtown | 4 | 212 | 117 | 95 | 133 | 79 | to Kinnear | 2 | 106 | 13 | 93 | 13 | 93 |
| 2 | from Madrona Park | 2 | 106 | 53 | 53 | 58 | 48 | to Queen Anne | 2 | 106 | 18 | 88 | 18 | 88 |
| 2 | from Queen Anne | 2 | 106 | 28 | 78 | 28 | 78 | to Madrona Park | 2 | 106 | 15 | 91 | 26 | 80 |
| 3 | from Madrona Park | 3 | 159 | 83 | 76 | 88 | 71 | to Queen Anne | 1 | 53 | 7 | 46 | 7 | 46 |
| 3 | from Queen Anne | 4 | 212 | 27 | 185 | 27 | 185 | to Madrona Park | 2 | 106 | 12 | 94 | 31 | 75 |
| 4 | from Judkins Park | 4 | 212 | 103 | 109 | 107 | 105 | to Queen Anne | 2 | 106 | 15 | 91 | 15 | 91 |
| 4 | from Queen Anne | 4 | 212 | 24 | 188 | 24 | 188 | to Judkins Park | 2 | 106 | 14 | 93 | 28 | 79 |
| 8 | -- | -- | -- | -- | -- | -- | -- | to Mt. Baker | 3 | 261 | 20 | 241 | 70 | 191 |
| 8 | from Mt. Baker | 5 | 435 | 82 | 353 | 172 | 263 | -- | -- | -- | -- | -- | -- | -- |
| 13 | from Seattle Pacific | 5 | 265 | 65 | 200 | 65 | 200 | to Downtown | 2 | 106 | 17 | 89 | 20 | 86 |
| 13 | from Downtown | 5 | 265 | 154 | 111 | 164 | 101 | to Queen Anne | 2 | 106 | 22 | 84 | 22 | 84 |
| 19 | from West Magnolia | 2 | 134 | 39 | 95 | 42 | 92 | -- | -- | -- | -- | -- | -- | -- |
| 24 | from West Magnolia | 2 | 136 | 49 | 87 | 49 | 87 | to Downtown | 2 | 104 | 9 | 95 | 9 | 95 |
| 24 | from Downtown | 2 | 132 | 88 | 44 | 92 | 40 | to West Magnolia | 1 | 84 | 7 | 77 | 7 | 77 |
| 29 | from Downtown | 4 | 336 | 167 | 170 | 167 | 170 | -- | -- | -- | -- | -- | -- | -- |
| 32 | -- | -- | -- | -- | -- | -- | -- | to Univ. District | 2 | 100 | 4 | 96 | 20 | 80 |
| 32 | from Univ. District | 2 | 130 | 3 | 127 | 85 | 45 | -- | -- | -- | -- | -- | -- | -- |
| 33 | from Discovery Park | 3 | 216 | 78 | 138 | 78 | 138 | to Downtown | 3 | 248 | 7 | 241 | 7 | 241 |
| 33 | from Downtown | 3 | 216 | 98 | 118 | 105 | 112 | to Discovery Park | 2 | 164 | 16 | 149 | 16 | 149 |
| D Line | from Ballard | 7 | 525 | 188 | 337 | 188 | 337 | to Downtown | 4 | 300 | 54 | 246 | 54 | 246 |
| D Line | from Downtown | 8 | 600 | 517 | 83 | 533 | 67 | to Ballard | 4 | 300 | 96 | 204 | 99 | 201 |

Notes: ¹ Includes all King County Metro bus routes that serve passengers within one-quarter mile of the Seattle Center Arena.

² Peak hour trips are those that serve Seattle Center during the weekday pre- (5:30 to 6:30 PM) or post-event (9:30 to 10:30 PM) peak hours.

³ The King County Metro 2016 System Evaluation establishes crowding thresholds for bus routes based on the number of seats and the space available for standing on each transit vehicle. Generally, crowding thresholds range from 125% to 150% of the seated capacity of a vehicle, or approximately 53 persons and 87 persons for standard and articulated buses, respectively. King County Metro operates some bus routes with a mix of vehicle types during each peak hour.

⁴ Expressed as total number of additional riders that could be accommodated based on passenger loads for each route during each peak hour as compared to the crowding capacity threshold.

⁵ Passenger loads as measured at each routes' stop nearest to the Seattle Center Arena.

⁶ Passenger loads as measured at the most crowded point on the route.

Source: King County Metro, Spring 2016 Average Weekday Ridership Data; Fehr & Peers, 2018.



Image 9: Bus stop on 1st Ave N north of Harrison St.



Image 10: Bus stop on 1st Ave N south of Republican St.

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As shown in Table 8, all KCM bus routes serving the project site currently have reserve capacity on weekdays during the pre- and post-event peak hours. The amount of reserve capacity varies by route and direction, particularly during the pre-event peak hour when bus routes serving evening commuters leaving Downtown display less reserve capacity than those traveling in the opposite direction towards Downtown. Generally, the reduction of bus service levels during the late evening hours corresponds with a decrease in available reserve capacity for outbound bus service leaving the project vicinity during the post-event peak hour.

Buses along Denny Way can experience directional congestion as shown in image 11. To address this situation, an eastbound bus-only lane will be implemented by mid-year 2018 on Denny Way between Fairview Ave and Stewart St. Refer to Technical Memorandum 3 for details.



Image 11: Articulated bus traveling on eastbound Denny Way in congested conditions.

Streetcar

As illustrated in Figure 5, the South Lake Union Line of the Seattle Streetcar operates along Westlake Ave and Terry Ave between Westlake Station and South Lake Union. This line is located about two-thirds of a mile east of the project site. The line operates with a 10 minute frequency from 7:00 AM to 7:00 PM and 15 minute frequency before 7:00 AM and after 7:00 PM, seven days a week. In general, the Streetcar experiences moderate ridership and does not typically see overloads.

Monorail

Monorail service is available between Seattle Center and Westlake Center, as depicted in Figure 5. Passengers can board the monorail at the Seattle Center, approximately 1,000 feet east of the project site. Typical operations include service every 10 minutes from 7:30 AM to 11:00 PM. The monorail alignment carries passengers along a grade-separated track roughly along the 5th Ave corridor between the two termini. Currently, the one-way travel time is approximately two minutes, with an additional two minutes of dwell time at each terminus for passenger boardings and alightings. For large events, monorail service can be increased to five minute frequencies, providing capacity for approximately 3,000 passengers per hour per direction. Travel on monorail currently requires riders to purchase a ticket; however, ORCA cards will be integrated into monorail operations under future scenarios.

The volume of monorail boardings can vary considerably depending on the time of the year and level of activities at Seattle Center. For instance, daily passenger boardings in late July 2016 on days without large events were in the range of 10,000 to 16,000 persons. In contrast, daily boardings in late April 2016 on days without large events were in the range of 3,000 to 9,000 persons.

Light Rail

Sound Transit operates Link light rail service between the University of Washington and Angle Lake with a total of 16 stations. Typical operations include six minute peak frequencies and 10 to 15 minute off-peak frequencies, seven days a week, with service available between 5:00 AM and 1:00 AM. Weekday service frequencies drop to every 10 minutes beginning at 6:30 PM and to every 15 minutes beginning at 10:00 PM. Saturday service is available from 5:00 AM to 1:00 AM, with 10 minute frequencies provided until 10:00 PM, at which point headways drop to every 15 minutes. Sunday service is available from 6:00 AM to 12:00 AM, with 10 minute frequencies provided until 10:00 PM, at which point headways drop to every 15 minutes.

The station nearest to the project site is Westlake Station, located about 1.1 miles from south of the project site. Transit riders may transfer between the Link light rail station and the southerly monorail terminus at Westlake Station, or utilize a variety of fixed route bus services to connect to light rail service.

Ferry and Water Taxi Service

Washington State Ferry Service operates a fleet of ferries from Colman Dock in downtown Seattle, which is about 1.5 miles from the project site. Figure 8 displays the ferry routes. Existing ferry service from downtown Seattle (serving both walk-on passengers and vehicles) serves Bremerton and Bainbridge Island. Ferries often reach vehicle carrying capacities during summer months, particularly during pre-event times, but in the outbound (away from Seattle) direction. Ferries have high passenger capacities and rarely are overloaded. King County Metro operates two passenger-only water taxis from downtown

Seattle. Existing water taxi routes serve Vashon Island and West Seattle. There is also a separate passenger-only ferry that serves Bremerton operated by Kitsap Transit.

Bicycle Network

This section describes the various on-street and off-street bicycle facilities that are provided in the vicinity of Seattle Center. The *2017 City of Seattle Bike Map* (City of Seattle Department of Transportation, 2017) classifies a protected bike lane as being physically separated from traffic and the sidewalk. However, for purposes of this evaluation, these facilities are further defined, as illustrated in Figure 9 and as follows:

Existing bicycle facilities are shown on Figure 9 and consist of the following facility types:

- Multi-Use Trail – an off-street facility that allows for travel by bicycles and pedestrians in both directions. The Elliott Bay Trail is an example of this facility type.
- Protected Off-Street Bicycle Lane (Two-Way) – these facilities are physically separated from the roadway via a curb, rail, or landscape strip, and have designated space for two-way travel and appropriate signage and pavement markings. Examples of this facility types are on Mercer St west of Dexter Ave N, and on 5th Ave N south of Mercer St.
- Protected In-Street Bicycle Lane – these facilities are located within the roadway, but are protected by a physical barrier, buffer, or on-street parking. These facilities typically accommodate one-way travel and have appropriate signage and pavement markings. An example of this facility type is on Dexter Ave N south of Mercer St.
- In-Street Bicycle Lane – these facilities are located within the roadway and are situated adjacent to a general purpose travel lane. They have designated space for one-way travel and have appropriate signage and pavement markings. An example of this facility type is on Queen Anne Ave N south of Mercer St.
- Sharrows – are located in general purpose travel lanes and include a pavement marking stencil of a bicyclist. Sharrows guide bicyclists to the best place on the street to ride and remind motorists to share the lane with bicyclists. An example of this facility type is on 1st Ave N south of Mercer St.



Figure 8

Existing Ferry Routes





Figure 9

Existing Bicycle Network



In addition to these facilities, a number of other bicycle facilities and amenities exist within the project vicinity including: bicycle crosswalks, bicycle signals, bicycle signal detection, and green skip-striping (to indicate areas of potential conflict) of on-street lanes through intersections and across driveways. The bicycle network in the vicinity of Seattle Center is well developed along some corridors, but lacking in others. Bicycle parking is provided by several racks located along portions of 1st Ave N, Mercer St, and 5th Ave N. Bicycling across the Seattle Center campus is permitted for transportation purposes. Good connectivity is provided between Seattle Center and Dexter Ave N via protected off-street bike paths. Additionally, bicycle connectivity to the east will be enhanced by the reconnection of John St, Thomas St, and Harrison St across SR 99 after SR 99 Tunnel project opens.

First Ave N and Queen Anne Ave N are key north-south connectors with in-street bicycle lanes. Preferred bicycle routes to downtown include 2nd Ave, 6th Ave and 7th Ave due to the designated spaces for bicycle travel. Roy St connects bicycle trips to and from the east, but cyclists must divert south to the Mercer St underpass to cross SR 99. East of SR 99, Roy St connects to the Dexter Ave N in-street bicycle lanes and Westlake Ave N off-street two-way protected bicycle lane, which are key routes to neighborhoods north of the Ship Canal and into downtown.

Table 9 displays the number of bicyclists observed passing through selected study intersections during each of the three peak hours. These intersections were selected to illustrate the degree of current bicycle activity both near the project site as well as on major roadways situated a considerable distance from the site. This table indicates the following:

1. As expected, the weekday pre-event peak hour has much greater levels of bicycling activity than the other two peak hours, most likely due to bicycle commuter traffic.
2. The highest level of bicycle activity occurs at the intersections of Denny Way/Dexter Ave N and Mercer St/Dexter Ave N (shown in Image 12). The majority of bicyclists are traveling northbound through these intersections during the pre-event peak hour.
3. Despite not having any bicycle facilities on Denny Way between Broad St and Westlake Ave N, many intersections along this segment carry substantial numbers of bicyclists during the pre-event peak hour.

Dexter Ave N carries substantial volumes of bicyclists during peak periods given its connectivity between downtown and residential areas to the north, as well as convenient and comfortable bicycling facilities. It also provides access to the protected off-street bicycle lane on Mercer St to the west. Image 12 shows bicyclists waiting in the northbound direction of Dexter Ave N to cross Mercer St. Bicyclists can often have difficulties crossing Mercer St during peak periods due to vehicles that block the intersection (despite the presence of 'Do Not Block Intersection' signs).

Three bike share companies operate within the City of Seattle. Each operates with a dock-less (i.e., free floating) set-up, meaning bicycles are situated throughout many parts of the City and can be used through a mobile app. Field observations indicated that bike share bicycles are sometimes parked/stored along

outside of the sidewalk’s furniture zone, which can affect pedestrian flows during busy periods. Image 13 shows bike share bicycles positioned on the sidewalk of Mercer St along the frontage of Seattle Center. SDOT has indicated that bicycles scattered near major venues in Seattle have been problematic.

Table 9. Bicyclists at Intersections – Existing Conditions

| ID | Intersection | Bicycle Facilities | Number of Bicyclists ¹ | | |
|----|---------------------------------|--|-----------------------------------|------------------------------|------------------------------|
| | | | Weekday Pre-Event Peak Hour | Weekday Post-Event Peak Hour | Saturday Pre-Event Peak Hour |
| 1 | Mercer St/Queen Anne Ave N | Bicycle lane on Queen Anne Ave N | 19 | 8 | 6 |
| 2 | Mercer St/1 st Ave N | Sharrows on 1st Ave N | 28 | 7 | 9 |
| 7 | Mercer St/5th Ave N | Two-way protected bicycle lanes on Mercer St and 5th Ave N | 35 | 3 | 7 |
| 9 | Mercer St/Dexter Ave N | Two-way protected bicycle lanes on Mercer St and protected bicycle lanes on Dexter Ave | 184 | 10 | 30 |
| 11 | Mercer St/Westlake Ave N | No bicycle facilities | 44 | 6 | 7 |
| 23 | 5th Ave N/Thomas St/Broad St | Bicycle lanes on Thomas St | 51 | 3 | 4 |
| 25 | Denny Way/Dexter Ave N | protected bicycle lanes on Dexter Ave. No bicycle facilities on Denny Way | 274 | 21 | 40 |
| 26 | Broad St/John St | No bicycle facilities | 38 | 2 | 2 |
| 27 | 5th Ave N/John St | No bicycle facilities | 38 | 3 | 12 |
| 28 | Denny Way/Queen Anne Ave N | Bicycle lane on Queen Anne Ave N | 10 | 1 | 3 |
| 29 | Denny Way/1st Ave N | Bicycle lane on 1st Ave N | 17 | 5 | 2 |
| 32 | Denny Way/Broad St | No bicycle facilities | 36 | 1 | 5 |
| 33 | Denny Way/5th Ave N | No bicycle facilities | 36 | 5 | 18 |
| 36 | Denny Way/Aurora Ave N/7th Ave | No bicycle facilities | 14 | 3 | 9 |
| 39 | Denny Way/Westlake Ave N | No bicycle facilities | 70 | 12 | 3 |

Notes: ¹ Represents total number of bicyclists passing through study intersection during peak hour.

Source: Fehr & Peers, 2018.



Image 12: Bicyclists on northbound Dexter Ave N waiting to cross Mercer St

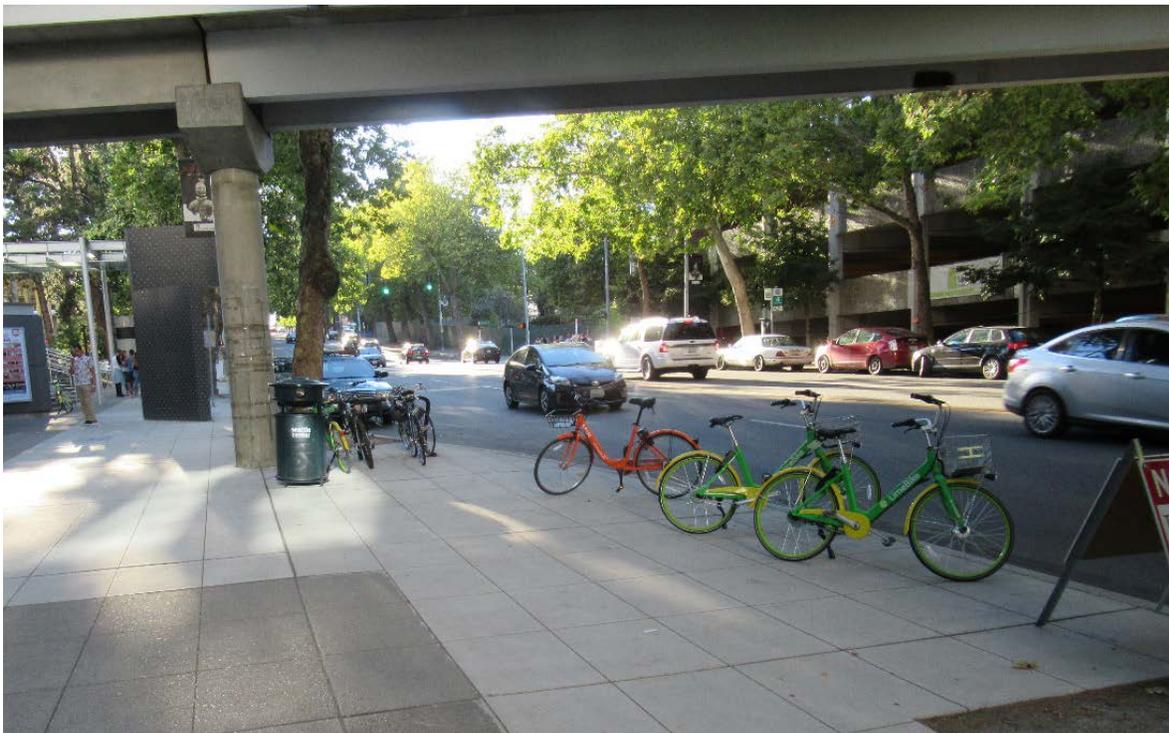


Image 13: Bike share bicycles located on Mercer St sidewalk at Seattle Center

Pedestrian Network

The pedestrian network surrounding Seattle Center is very well developed as shown on Figure 10. The vast majority of streets have complete sidewalks, though some sidewalks are temporarily closed due to adjacent property construction. Intersections near Seattle Center and on main streets have crosswalks. Some signalized crosswalks are pedestrian-actuated while others operate on auto recall (i.e., operate each cycle regardless of a pedestrian call). Pedestrian countdown heads (i.e., pedestrians are shown how much time remains in the flashing 'Don't Walk' interval) are provided at many signalized intersections.

Figure 10 also displays the various pedestrian access routes that can be used to enter/exit Seattle Center. As shown, the Seattle Center campus can be accessed from many different streets.

Many sidewalks have street signs, tree wells, bus shelters, off-street parking vehicle fender encroachment, and other features that may temporarily limit the effective width of the walkway. Image 14 illustrates these conditions. Additionally, certain intersections near Seattle Center have limited-sized pedestrian waiting areas (i.e., areas where pedestrians congregate for short durations before crossing at a signalized crosswalk) to accommodate special event crowds. Within Seattle Center, there are many sidewalks and walking paths that comfortably accommodate travel through the campus and to the venues within the campus.



Image 14: Protected off-street bicycle lane on 5th Ave N temporarily blocked by bus riders waiting to board



Figure 10

Existing Pedestrian Network



Table 10 displays the number of pedestrians observed passing through various intersections during each of the three peak hours. Intersections listed in this table focus primarily on locations nearest the project site because the project would cause greater increases in pedestrian flows at these locations versus more remote intersections. The values in this table represent the sum of all crosswalk pedestrian volumes, and as such, a pedestrian that uses two crosswalks is counted twice. This table only includes pedestrians using a crosswalk and doesn't include pedestrians who remain on a continuous sidewalk while traveling from one street to another. This table indicates that pedestrian volumes are typically greatest in the weekday pre-event peak hour. Intersections along the Denny Way corridor have notably high pedestrian activity in the weekday pre-event peak hour, much of which is generated by commuters walking to bus stops along the Denny corridor.

The pedestrian volumes at the 5th Ave N/Broad St/Thomas St intersection include pedestrians entering/exiting the Seattle Center campus from the path located directly opposite Thomas St. The greater pedestrian volume during the Saturday pre-event peak hour (as compared to the weekday pre-event peak hour) is likely attributable to increased attendance at Seattle Center on this day.

Transportation Network Companies (TNCs)

Transportation Network Companies (TNCs), also known as ridesourcing, or ridehailing vehicles, are the fastest growing mode of motorized urban transportation in the United States. They operate on a service platform in which a smartphone app connects a passenger whom would like to travel to a predetermined destination, with a driver willing to transport them for a fare exchanged via the app. TNC's rapid growth as a travel mode and popularity in most metropolitan areas are due to their relatively low cost and barrier to entry for both passengers and drivers, ease of accessibility, and directness (i.e. the user can usually specify the precise pick-up and drop-off location). One recent example of TNC use for an event was for the Janet Jackson concert at KeyArena on September 27, 2017 when 15% of attendees reported using a TNC to arrive at the venue.

The precise extent to which TNCs are causing shifts in travel behavior are finally beginning to be understood. Studies have shown that TNCs are inducing vehicle travel and causing increased vehicles miles of travel, while shifting trips away from transit, bicycling, walking, taxis, and rental cars. For instance, a 2014 study by UC Berkeley researchers (App-Based On-Demand Ride Services: Comparing Taxi and Ridesourcing Trips and User Characteristics in San Francisco (University of California Transportation Center, 2014, http://tsrc.berkeley.edu/sites/default/files/RidesourcingWhitePaper_Nov2014Update.pdf) found that 8% of sampled TNC trips in San Francisco were induced trips. Some jurisdictions have begun programs (e.g., "first-mile, last-mile" service) in which they subsidize a portion of the TNC fare to/from a transit station and/or in conjunction with modifying/eliminating a portion of the transit route, which has increased transit use.

Table 10. Pedestrians at Intersections– Existing Conditions

| ID | Intersection | Number of Pedestrians ¹ | | |
|----|---------------------------------|------------------------------------|------------------------------|------------------------------|
| | | Weekday Pre-Event Peak Hour | Weekday Post-Event Peak Hour | Saturday Pre-Event Peak Hour |
| 1 | Mercer St/Queen Anne Ave N | 812 | 296 | 886 |
| 2 | Mercer St/1 st Ave N | 823 | 200 | 821 |
| 7 | Mercer St/5th Ave N | 756 | 161 | 422 |
| 9 | Mercer St/Dexter Ave N | 873 | 104 | 277 |
| 11 | Mercer St/Westlake Ave N | 885 | 82 | 228 |
| 15 | Queen Anne Ave N/Republican St | 603 | 194 | 559 |
| 16 | 1st Ave N/Republican St | 806 | 215 | 587 |
| 18 | Queen Anne Ave N/Harrison St | 322 | 71 | 218 |
| 19 | 1st Ave N/Harrison St | 301 | 60 | 155 |
| 20 | 5th Ave N/Harrison St | 533 | 285 | 589 |
| 21 | Queen Anne Ave N/Thomas St | 242 | 45 | 157 |
| 22 | 1st Ave N/Thomas St | 399 | 87 | 246 |
| 23 | 5th Ave N/Thomas St/Broad St | 814 | 308 | 1,302 |
| 27 | 5th Ave N/John St | 491 | 177 | 606 |
| 28 | Denny Way/Queen Anne Ave N | 450 | 67 | 141 |
| 31 | Denny Way/2nd Ave N | 381 | 75 | 213 |
| 32 | Denny Way/Broad St | 498 | 74 | 526 |
| 33 | Denny Way/5th Ave N | 1,189 | 293 | 991 |
| 36 | Denny Way/Aurora Ave N/7th Ave | 2,047 | 439 | 849 |
| 37 | Denny Way/Dexter Ave N | 1,598 | 227 | 417 |

Notes: ¹ Represents total number of pedestrians that walk in each crosswalk within the study intersection during the peak hour, including intersections with more than four crosswalks.

Source : Fehr & Peers, 2018.

TNCs typically involve passenger loading/unloading along a public street. Where there is limited curb space due to competing travel modes (e.g., on-street parking, truck loading, buses, and bicycles, etc.), careful consideration should be given as to how the curb space should be used.

Figure 5 shows that 3 or 5 minute passenger loading/unloading zones are present along portions on 1st Ave N, Mercer St, and 2nd Ave N in the vicinity of Seattle Center. Field observations before and after events at KeyArena indicate that these areas are frequently used for TNC activity. Refer to Technical Memorandum 5 - Project Travel Characteristics Year 2020 for background information regarding why attendees may choose to use a TNC for travel to/from arenas and anticipated usage of TNCs to travel to the proposed project.

During congested conditions (i.e., during events at KeyArena), TNCs have been observed to stop in travel lanes along 1st Ave N to pick-up and drop-off passengers. They have also been observed using curb space dedicated for buses. A decision by a patron to order an Uber, Lyft, or a taxi actually results in both an inbound trip and an outbound trip to the area, which results in more vehicle trips being generated versus travel via private vehicle.

Other Modes (i.e., carsharing, limo, paratransit, etc.)

Field observations at Seattle Center indicate patrons arrive and depart from Seattle Center in a variety of other modes of travel beyond those described previously. Examples of these other modes include:

- Limousines
- Chartered buses
- Paratransit
- Carshare services (e.g., ZipCar, Car2Go)
- Self/assist-powered wheeled devices such as scooters, ebikes, Segways, etc.

A taxi stand exists along the Broad St frontage of Seattle Center. Designated staging for charter buses is also provided along Broad St. Paratransit is required by the Americans with Disabilities Act (ADA) to provide direct and convenient connections for disabled patrons. This typically means identifying curb space that is close to the venue entrance/exit and is designed to meet ADA requirements (e.g., cross slope, ADA-compliant ramps, etc.).

A Memorandum of Understanding (MOU) has been signed between Seattle Center and SDOT, which regulates curbside management during events. The MOU describes procedures for reserving curb space for loading/unloading and staging of events at Seattle Center. Curb space management occurs along a number of streets including Thomas St, Republican St, Roy St, and 2nd Ave N.

The Seattle Police Department also manages traffic flows on certain streets near KeyArena after large events conclude. However, a formal Transportation Management Plan (TMP) for KeyArena does not currently exist.

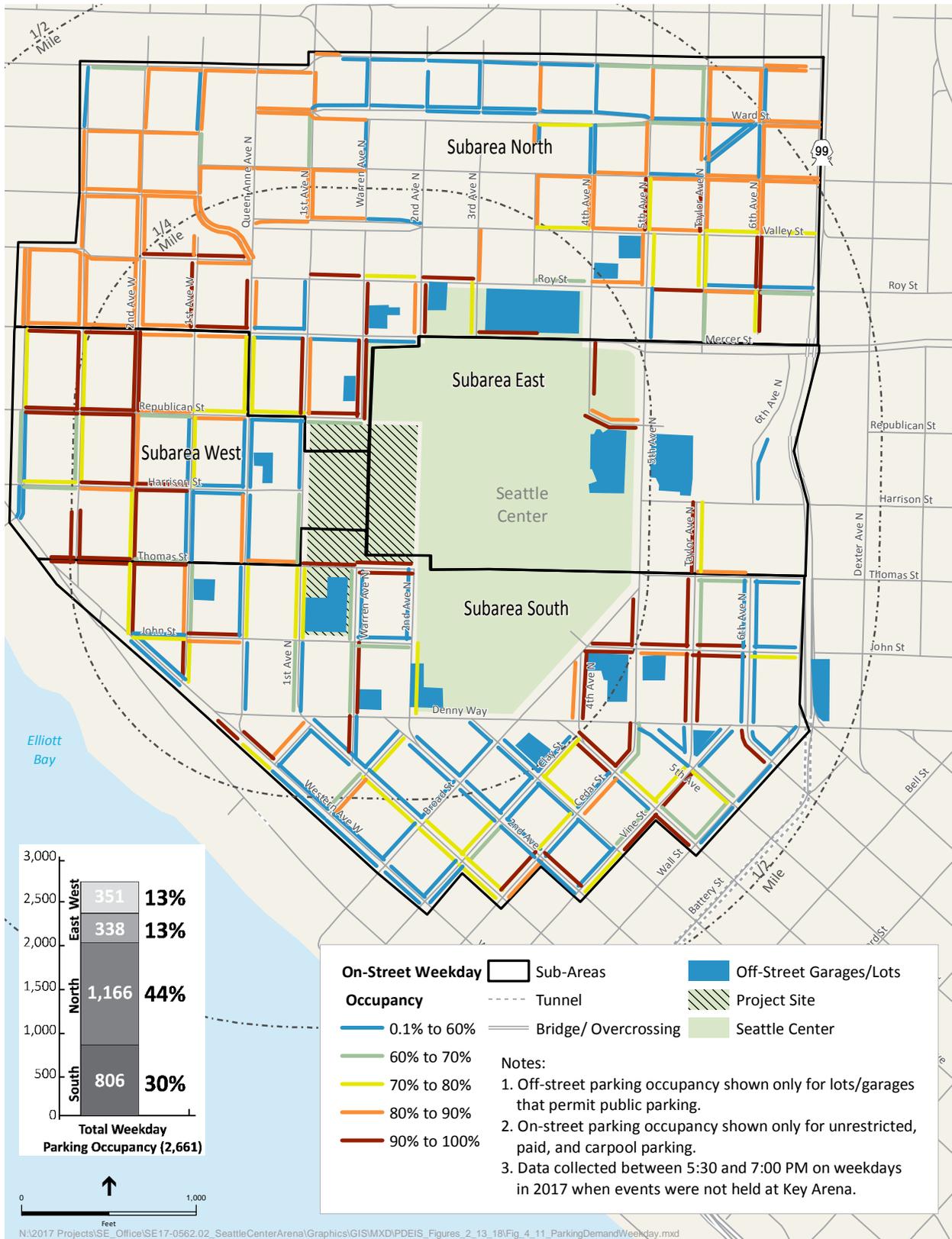
Parking Supply and Occupancy

A review of the parking supply and occupancy within the vicinity of the project site was performed. Figure 11 shows the supply of on-street and off-street parking situated within an approximate ½-mile radius of the project site. Parking supply data were collected from a variety of sources including SDOT and Seattle Center. The data shown on this figure represent parking that is expected to be open to the general public during a typical evening event. There are a number of smaller garages and surface lots in the project vicinity, which were not included in this analysis. Additional parking (not shown on Figure 11) is provided near South Lake Union as well as in garages south of Denny Way, though those locations require a greater walking distance.

Figure 11 indicates that there are approximately 8,230 total parking spaces in the vicinity of Seattle Center. This value is greater than the 7,500 spaces identified as being available in the Uptown/Seattle Center Strategic Parking Study due to the study's larger geographic area of surface parking. Off-street lots/garages represent about 62% of the total parking supply. The parking supply is fairly balanced to the north (35%), south (30%), and east (28%) of the project site. Figure 11 illustrates the limits of these geographic parking subareas.

The three garages operated by Seattle Center (Mercer St Garage, 1st Ave N Garage, and 5th Ave N Garage) consist of a combined 2,944 spaces, which is about 53% of the total off-street supply shown on Figure 8.

Figure 12 displays the estimated evening peak parking occupancy for a typical weekday in which an event is not being held at KeyArena (based on 2016 and 2017 surveys performed by SDOT). As shown, the total weekday evening (i.e., between 5:30 and 7:00 PM) peak parking occupancy was 2,691 spaces, which represents about 33% of the total available supply. This conclusion closely matches Figure 2 of the Uptown/Seattle Center Strategic Parking Study, which shows parking occupancy at about 35% of supply during a weekday evening featuring standard activities at Seattle Center (but not including an event at KeyArena). However, as shown in Table 11, on-street parking was occupied to a much greater degree than off-street parking (67% versus 11%).



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Figure 12

Existing Parking Occupancy During Weekday Pre-Event Peak Hour



Figure 13 displays the estimated peak parking occupancy for a typical Saturday in which an event is not being held at KeyArena (based on September, October and November 2017 surveys performed by IDAX, a count vendor retained by Fehr & Peers). As shown, the Saturday evening peak parking occupancy was 3,630 spaces, which represents about 44% of the total available supply. The garages/lots surrounding Seattle Center were still modestly utilized (i.e., 22%), but had twice the demand as during the weekday condition. The overall on-street parking demand also increased relative to the weekday condition (i.e., from 67% to 81%). Table 11 displays on-street and off-street parking supply and occupancy by subarea for weekday and Saturday evening conditions.

Table 11. Parking Supply and Occupancy – Existing Conditions

| Parking Type | Subarea | Parking Supply | Weekday Evening Occupancy | Saturday Evening Occupancy |
|------------------------|---------|----------------|---------------------------|----------------------------|
| On-Street | East | 105 | 73 (70%) | 69 (66%) |
| | North | 1,489 | 1,055 (71%) | 1,356 (91%) |
| | South | 1,056 | 637 (60%) | 708 (67%) |
| | West | 481 | 348 (72%) | 390 (81%) |
| | Total | 3,131 | 2,113 (67%) | 2,523 (81%) |
| Off-Street | East | 2,183 | 264 (12%) | 272 (12%) |
| | North | 1,377 | 113 (8%) | 481 (35%) |
| | South | 1,442 | 175 (12%) | 349 (24%) |
| | West | 96 | 26 (27%) | 5 (5%) |
| | Total | 5,098 | 578 (11%) | 1,107 (22%) |
| On-Street & Off-Street | Total | 8,229 | 2,691 (33%) | 3,630 (44%) |

Notes: Includes only publicly available spaces that are expected to be open to attendees for evening events at the proposed Seattle Center Arena.

Source : Fehr & Peers, 2018.

Table 12 shows the availability of weekday and Saturday evening parking spaces for each of the subareas. This table shows that there are approximately 5,540 currently available spaces for a weekday evening in which no event is held at KeyArena. Similarly, there are approximately 4,600 currently available spaces for a Saturday evening. The vast majority of parking availability is located north, east, and south of the project site. This information is used as a starting point for the 2020 Opening Day analysis

Table 12. Available Parking for Events at Proposed Seattle Center Arena – Opening Day 2020 Conditions

| Parking Type | Subarea | Weekday Evening Available Parking Spaces | Saturday Evening Available Parking Spaces |
|------------------------|---------|--|---|
| On-Street | East | 32 | 36 |
| | North | 434 | 133 |
| | South | 419 | 348 |
| | West | 133 | 91 |
| | Total | 1,018 | 608 |
| Off-Street | East | 1,919 | 1,911 |
| | North | 1,264 | 896 |
| | South | 1,267 | 1,093 |
| | West | 70 | 91 |
| | Total | 4,520 | 3,991 |
| On-Street & Off-Street | East | 1,951 (35%) | 1,947 (42%) |
| | North | 1,698 (31%) | 1,029 (23%) |
| | South | 1,686 (30%) | 1,441 (31%) |
| | West | 203 (4%) | 182 (4%) |
| | Total | 5,538 | 4,599 |

Notes: Includes only publicly available spaces that are expected to be open to attendees for evening events at the proposed Seattle Center Arena. Does not include any planned facilities located east of SR 99 that may be open by 2020 and accessible via the street grid reknitting. Such facilities will be identified and considered in the analysis as part of the Opening Day 2020 conditions analysis.

Source: Fehr & Peers, 2018.

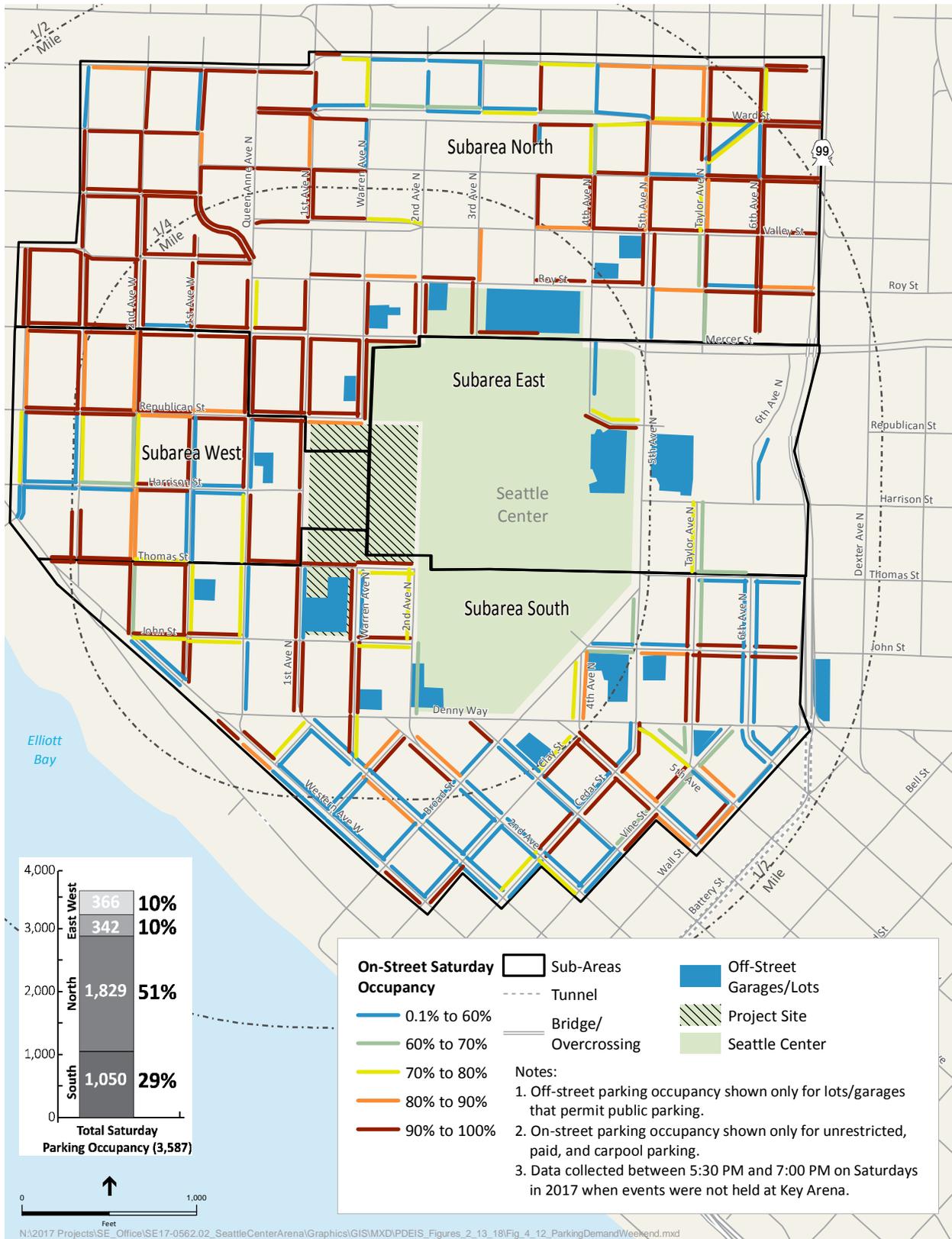


Figure 13

Existing Parking Occupancy During Saturday Pre-Event Peak Hour



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References

City of Seattle. 2017. City of Seattle Bike Map.

Community Transit. 2017. Map of bus routes available at: <https://www.communitytransit.org/>

King County Metro Service Guidelines. Available at:
http://metro.kingcounty.gov/planning/pdf/KCMT_ServiceGuidelines.pdf

King County Metro. 2016. Spring 2016 Average Weekday Ridership Data.

Seattle Right-of-Way Improvements Manual. Available at: <http://streetsillustrated.seattle.gov/>

Transpo Group. 2017. Uptown/Seattle Center Strategic Parking Study.

Transportation Research Board, 2010. Highway Capacity Manual, Washington DC.

University of California Transportation Center, 2014. App-Based On-Demand Ride Services: Comparing Taxi and Ridesourcing Trips and User Characteristics in San Francisco. University of California Berkeley. Available:
http://tsrc.berkeley.edu/sites/default/files/RidesourcingWhitePaper_Nov2014Update.pdf)

TECHNICAL MEMORANDUM #5

Date: January 26, 2018

To: Molly Adolfson & Claire Hoffman – ESA, John Shaw – SDCl, Kadie Bell Sata – SDOT,
Julia Levitt & Jill Crary – Seattle Center

From: Fehr & Peers

Subject: *Seattle Center Arena – Project Travel Characteristics – Year 2020*

SE17-0562

This memorandum documents the expected travel characteristics of the proposed Seattle Center Arena project including its mode split, trip generation, spatial distribution of vehicle trips, and anticipated routes to be selected by attendees who choose to drive. This evaluation pertains only to Year 2020 conditions. A separate memo will be prepared for Year 2035 conditions.

Overview: Range of Travel Behaviors Associated with Attendee Travel to Urban Arenas

A wide range of factors will influence the mode an attendee will choose when traveling to and from an entertainment venue located in an urban area that offers many travel choices. These factors include:

- Did the trip originate from home or work?
- If traveling with a group, is the entire group traveling together or meeting at the arena?
- Is the event occurring on a weekday or weekend (which can affect the level of transit service, parking cost, or trip origin)?
- To what extent is the pre-event mode choice affected by post-event mode choice options?
- Will attendees modify their daily work schedules/locations in advance of the evening event?
- To what extent will nearby restaurants, bars, retail, or other entertainment options be visited prior to and after events?
- How does the type of event (i.e., NBA basketball game, NHL hockey match, concert) influence the demographics of attendees, thereby resulting in different travel choices?
- How often does the attendee travel to Seattle Center (are they a season ticket holder, or an infrequent concert attendee)?

There are other factors specific to conditions in the vicinity of the proposed Seattle Center Arena that will also likely play a role including:

- Number and type of activities at other venues in Seattle Center, which can affect the available parking supply and traffic conditions.
- Reknitting of the east-west grid streets across SR 99 (i.e., reconnecting John St, Thomas St, and Harrison St after the north portal of the SR 99 tunnel opens) under Opening Day conditions to enable more direct east-west travel for vehicles, bicyclists, and pedestrians.

Beyond these factors, general attendee perceptions and values relating to convenience, cost, time savings, and safety will also play a role in their travel choices.

Available Background Data

For most land use types, the Trip Generation Manual, 10th Edition (Institute of Transportation Engineers, 2017) is used to estimate the land use's trip generation. However, this document does not include an arena land use type. Thus, it was necessary to obtain and review other sources of data to assess the proposed project's anticipated travel characteristics.

Data regarding travel behavior at urban arenas is generally scarce due to the lack of study and reporting of their operations. Further, in the few instances when data may be available online, the age and source of the data and methods used to collect the data are not well known. Lastly, travel patterns at one arena may not necessarily be applicable to the proposed project.

The following describes the key findings from this literature review and their applicability to the proposed Seattle Center Arena. Data is first presented for events and venues in the Seattle area, followed by literature review results of other NBA arenas.

Janet Jackson Concert at KeyArena on Wednesday, September 27, 2017

Fehr & Peers performed a travel mode button polling survey of attendees of the Janet Jackson concert at KeyArena on Wednesday, September 27, 2017. Attendees waiting to enter the venue between 6:00 and 8:15 PM (for a scheduled 8 PM start time) from the 1st Ave N entrance and the easterly entrance from within Seattle Center were asked to push the button that best represents their travel to the venue that evening (see image on following page for button polling display). A total of 658 persons were surveyed. According to Seattle Center staff (Levitt, personal communication, 2017), this event was attended by approximately 9,200 persons.

This concert was chosen for several reasons. First, it occurred one day after the primary weekday data collection period (i.e., pre-event and post-event peak period traffic counts on Tuesday, September 26, 2017 – See Technical Memorandum #1, Selection of Time Periods for Seattle Center Arena Transportation Impact Study). By virtue of having count data at intersections surrounding KeyArena on consecutive days in which a concert was held one day and not the other, direct measurements of concert-related travel could be calculated. Second, it likely has slightly lower than average vehicle occupancy when compared to the 'typical' concert given the audience attracted by the entertainer (fewer teens and youth). Use of average vehicle occupancy data from this concert thus provides for a conservative analysis of impacts associated with a concert. Janet Jackson fans may be slightly older and more inclined to drive than select other modes based on anecdotal evidence and professional experience. Table 1 summarizes the mode choices from the survey conducted at the Janet Jackson concert.



Image of Button Polling Display used During Janet Jackson Concert on Wednesday, September 27, 2017

Table 1. Mode Choice for Attendees Arriving at Janet Jackson Concert at KeyArena on Wednesday, September 27, 2017

| Travel Mode | Percent |
|--|---------|
| Private Vehicle and Park | 66% |
| Taxi / TNC (i.e., Uber or Lyft) / Other Drop-off | 15% |
| Transit (Bus, Monorail, LINK) | 10% |
| Bicycle / Walk from Nearby Origin | 9% |

Note: TNC = Transportation Network Company.

Survey implemented using a four-button physical polling unit. Fehr & Peers staff who were positioned at the polling machines asked those attendees who selected transit what mode of transit they took. The majority answered 'bus', though it is possible that some attendees who selected 'nearby walk trip' may have originated from transit.

Source: Surveys conducted by Fehr & Peers between 6:00 and 8:15 PM

The key takeaway from this table is that 66% of arriving attendees drove to the concert venue and parked in the area. Another 15% used a Transportation Network Company (TNC) (e.g., Uber or Lyft), taxi, or were dropped off. Considering that some attendees may have traveled to the area by bus or LINK and walked to the venue, the transit mode share is likely slightly greater than 10%.

An average vehicle occupancy (AVO) of 2.42 persons was observed at the Janet Jackson Concert based on 30 minutes of sampling at each of two different garage entrances (i.e., Mercer St Garage and 1st Ave N Garage). The surveying occurred from 6:15 to 7:15 PM.

On the evening of the concert, the westbound directions of Mercer St and Denny Way experienced a combined net increase of 3,600 vehicles between 5:30 and 8:00 PM, when compared to the prior day (in which no event was held at KeyArena). Further review of the data indicated that the peak hour of travel to the concert occurred from 6:30 to 7:30 PM. During that time, 1,580 of the 3,600 added vehicles arrived, which represented 44% of the total. This data is included in Technical Memorandum #1, Selection of Time Periods for Seattle Center Arena Transportation Impact Study.

CenturyLink Field Transportation Management Program

According to the CenturyLink Field Transportation Management Program (TMP) (Washington State Public Stadium Authority, First & Goal Inc., Seattle Seahawks, Sounders FC, 2017), a survey of attendees to the Seattle Seahawks home game at CenturyLink Field on Sunday, November 20, 2016 revealed that 50% of attendees drove. This mode split is a reflection of the opening of a LINK light rail station adjacent to the stadium in 2009 and an aggressive shuttle program from regional park-and-ride lots, intended to reduce the number of automobile trips. A 2003 survey revealed that 75% of attendees drove.

University of Washington Stadium Expansion Parking Plan & Transportation Management Program (TMP)

The University of Washington Stadium Expansion Parking Plan & TMP (2015) included an intercept survey (i.e., survey attendants positioned at the stadium entrances who asked attendees a series of questions) of 1,166 persons who attended an October 17, 2015 University of Washington National Collegiate Athletic Association (NCAA) Division I football game. Approximately 33% of those surveyed reported arriving to the game via private vehicle. Another 36% walked to the game, which is to be expected since many of the attendees were likely students residing nearby. Another 20% arrived by bus or charter bus, 3% arrived by boat, 1% arrived by bicycle, and 8% arrived by 'other mode'. The LINK light rail extension to the University of Washington had not yet opened as of the survey date.

Golden 1 Center in Sacramento, CA

Golden 1 Center is a state-of-the-art 17,500-seat arena that opened in downtown Sacramento, California in October 2016. The arena is the home to the NBA Sacramento Kings and has also hosted major entertainment artists such as Paul McCartney, Bruno Mars, Lady Gaga, and other major artists. As part of mitigation for its transportation impacts, the arena operator was required to prepare a travel monitoring report within one year after the venue opened. The Golden 1 Center Year One Travel

Monitoring Report (Fehr & Peers, 2017) can be found on the City's website. This report is a comprehensive study of travel behavior at an urban arena.

Refer to Appendix A of this memorandum for a description of how the built environment and transportation system in downtown Sacramento is both similar to and different from that surrounding the proposed Seattle Center Arena. Direct application of observed mode split data at Golden 1 Center is not being applied for the transportation analysis for the proposed Seattle Center Arena, but there are a number of patterns that are directly relevant to this analysis. Inferences from that data are used to refine the proposed project's mode split as described later in this memorandum.

Table 2 displays the mode of travel by attendees arriving at a Sacramento Kings game played at Golden 1 Center in downtown Sacramento, California on Wednesday, February 8, 2017 (for a scheduled 7:30 PM start time). This data was collected through an online survey distributed from the Sacramento Kings organization to season ticketholders and single-game buyers for this particular game.

Table 2. Mode Choice for Attendees Arriving at Sacramento Kings Game at Golden 1 Center in Sacramento, CA on Wednesday, February 7, 2017

| Travel Mode | Percent |
|---|---------|
| Private Vehicle and Park | 77% |
| Light Rail | 11% |
| Transportation Network Company (i.e., Uber or Lyft) | 9% |
| Walk from Nearby Origin | 2% |
| Bus | 1% |
| Taxi | 0% |
| Bicycle | 0% |
| Limo | 0% |
| Paratransit | 0% |

Note: Responses rounded to the nearest 1%. 647 total responses received, which represents a population sampling ratio of 8% based on the number of seats per email address.

Source: Golden 1 Center Year One Travel Monitoring Report (Fehr & Peers, 2017).

When asked to describe the primary mode of travel used to access the arena, 77% of survey respondents used a private vehicle. Another 11% used light rail, 9% used a TNC, and 2% walked from a nearby destination. The Sacramento region's light rail system only services a portion of the area's sprawling communities, and the area's bus system is not well-suited (in terms of service frequency, duration of service, and coverage area) to serve evening events at Golden 1 Center. A variety of conditions (lack of dedicated bicycle facilities, weather, etc.) contribute to nominal use of bicycles to access the arena. Public transit (light rail or bus) was used by 15% of season ticketholders responding

to the survey, but only 6% of single-game buyers, which suggests season ticketholders would develop more familiarity and comfort with the transit system than single-game buyers.

The following travel behavior data is reported in the Golden 1 Center Year One Travel Monitoring Report (Fehr & Peers, 2017). These data are derived from traffic data collection, in-person visits, and an online survey of attendees to the Sacramento Kings game played on Wednesday, February 8, 2017:

Distribution of Ticketholder Types

- During the 2016-2017 season, 66% of the 17,500 seats were purchased as season tickets, with the remaining 34% available for single-game purchase.

Average Vehicle Occupancy

- Attendees to the basketball game had an average vehicle occupancy (AVO) of 2.32 persons.
- An average of 2.4 persons per vehicle were dropped-off by TNCs to the basketball game.

Temporal Arrival/Departure Characteristics

- 60% of all attendee vehicle trips to a 7:30 PM weekday game arrived between 6:00 and 7:00 PM.
- Traffic counts were conducted by Fehr & Peers during a Bruno Mars concert in July 2017. Arriving vehicle traffic was recorded in 15-minute intervals for the entire 2 ¼ hour-period, leading up to the concert's 8 PM start time. During each 15-minute interval, the arriving flow represented 12 – 13% of the total 2 ¼ hour volume, meaning a relatively uniform inbound flow versus spike in travel demand. Approximately 50% of the total vehicle demand arrived during the pre-event peak hour.
- Multiple sets of field observations conducted by Fehr & Peers indicated that all garages/lots are emptied (and streets are uncongested) within 35 to 45 minutes following an NBA basketball game concluding at Golden 1 Center. This is accomplished through active traffic management, reliance on multiple modes of travel, and an online parking garage reservation system that caps occupancies at levels that are intended to enable a positive customer experience by reducing motorist time exiting the garage to less than 30 minutes. However, large concerts can require a greater amount of time to empty the garages and streets (see Appendix B for post-event travel patterns from Bruno Mars concert). During this event, garages/streets did not fully empty for about one hour after the event concluded.

Trip Origin/Destination

- 88% of trips made by NBA basketball game attendee survey respondents originated from home.

- 29% of respondents reported visiting a restaurant, bar, or retail uses in the immediate vicinity of Golden 1 Center prior to entering the arena.
- 14% of respondents reported visiting a restaurant, bar, or retail uses in the immediate vicinity of Golden 1 Center after leaving the arena.
- 33% of single-game buyers had primary vehicle trip lengths to Golden 1 Center of 20 miles or more, as compared to the 23% of season ticket members. When viewing travel distance in terms of the median or 50th percentile, the two groups had very similar trip lengths (about 13 miles), which suggests a small subset of single-game buyers resided in outlying areas that required lengthy travel.

TNC Travel Behavior

- 93% of TNC trips originated from home, which was typically a zip code within three miles of the arena. When compared to the overall sample, a greater percentage of respondents who used a TNC indicated that they would visit a restaurant, bar, or retail use before/after the event.
- According to Sacramento Police Department staff, TNC/Taxi activity is typically more frequent during concerts than basketball games. This is likely due to the repetitive nature of basketball games versus the singular nature of a concert, which may attract patrons who are not as familiar with streets or parking and/or may choose to visit a restaurant/bar before or after the event. To accommodate TNC drop-off/pick-up during concerts, the Sacramento Police Department blocks off an entire street block and actively manages its operation. This practice also occurred for basketball games during the earliest periods of the arena operation, but was discontinued due to minimal usage by TNCs/Taxis.
- Among respondents using a TNC to arrive to the venue, 75% also used a TNC for their return trip. Of those who shifted modes, the most commonly selected change was to a private vehicle, which implies that some attendees used a TNC to access the venue and then shared a ride with a friend, family member, etc. after the event concluded. Additionally, anecdotal evidence suggests that TNC pick-ups during post-event conditions can be challenging due to difficulties finding the TNC vehicle, accessing curbspace, delays for the vehicle accessing the venue, and surge pricing. Additionally, some venues have limited TNC providers' ability to accept vehicle orders while patrons are inside the venue (to prevent excessive numbers of TNCs from arriving directly to the venues, or attempting to reach the venue though adjacent streets are closed). For these reasons, some event attendees choose to exit the venue, walk one or two blocks, and then place their order.

Moda Center in Portland, OR

The Moda Center in Portland, OR is the home of the NBA Portland Trailblazers. The organization's website reports that 64% of attendees drive, 25% take light rail, and 11% walk or bike. However, the age of that data (including the notable absence of a TNC mode split) and collection methods are not known. Further, the arena is situated adjacent to a Tri-Met light rail station, which influences its mode split. Given the data age and applicability concerns, this information was not considered in the proposed Seattle Center Arena Year 2020 travel estimates.

Barclays Center in Brooklyn (New York City), NY

This arena opened in 2012 and is the home of the NBA New Jersey Nets. A literature review found the Barclays Center TDM Plan Effectiveness Presentation (Sam Schwartz Engineering, June 2013), which concluded that 26% of weekday attendees and 31% of weekend attendees to NBA basketball games drove. These percentages were based on over 5,600 patron surveys to eight different NBA games. The low auto mode split is to be expected given that the arena is located adjacent to a New York City Subway Station that provides direct access to nine different subway lines. This presentation also indicated the availability of 541 on-site parking spaces as well as 12 nearby parking facilities and 5 remote facilities, which offered discounts for carpools and free remote shuttle buses. However, the total supply of parking was not identified. Given the difference in transit system accessibility between Barclays Center and the proposed Seattle Center Arena, the Barclays Center mode split was not considered in the Year 2020 travel estimates for the proposed project.

However, this study did yield some other interesting data that is applicable to the proposed project:

- For weekday NBA basketball games, the attendee auto mode split was 25.1% for pre-event conditions and 26.3% for post-event conditions. This matches the Golden 1 Center survey results, which indicated a shift from pre-event TNC usage to post-event private vehicle usage.
- The majority of Barclays Center employees took transit, with auto used by just 14%.
- For weekday NBA basketball games, 36% of attendees originated from the jobs/entertainment center of Manhattan, but only 24% returned to Manhattan after the game, with proportional increases in a number of other boroughs and other outlying areas.
- Bike parking was weather-dependent and never exceeded 100 parked bicycles (for all events held between November 2012 and May 2013). Concerts consistently showed less bicycle parking demand than NBA games.
- The AVO was 2.75 persons on weekday NBA basketball games. This value is not considered reasonable for use in the proposed Seattle Center Arena 2020 travel estimates because it involves the transit-availability, self-selection phenomenon in which larger parties are more likely to drive and park while small parties are more likely to take transit due to cost

considerations. As parties increase in size, the 'per person' cost to drive and park is reduced, while the 'per person' transit fares stays fixed.

KeyArena Event Ticket Purchase Zip Code Data

Seattle Center staff provided anonymous zip code data for tickets purchased for a number of recent events held at KeyArena. Two separate databases were created to estimate origins/destinations of attendees for NBA basketball games and concerts. This data is also used to help inform mode split percentages.

NBA Basketball Game Database

This database is comprised of the following two events. The reasons for including both events and the weighting of the sample of each event are also described.

1. *Saturday, December 19, 2015 8 PM Gonzaga vs. Tennessee Men's NCAA Division I Basketball Game.* This game provides a solid representation of the demand to watch high-level basketball (Gonzaga University, located in Spokane, made it to the NCAA Division I Tournament Sweet Sixteen that season, and has a geographically diverse fanbase). This game had an attendance of 16,770 persons and was nationally televised.
2. *Saturday, April 29, 2017 Roger Federer Foundation Match for Africa Celebrity Tennis Event.* This event was selected because it represents attendees' overall interest in sporting activities, while also having a corporate/community influence. In addition to the main event (i.e., three-set match between Roger Federer and John Isner), the event also included celerity tennis matches involving Bill Gates and a member of the Pearl Jam rock band. According to multiple social media outlets, the event was a sell-out (17,459 seats).

Because this database is being built for the purposes of estimating trip origins and destinations to NBA games, the following adjustments were made:

- Ticket purchases from the Spokane, WA market were removed because such data is very likely associated with fans of Gonzaga University. While it is possible that some Spokane residents may choose to drive 4 or 5 hours in each direction to watch NBA Basketball at the proposed Seattle Center Arena, such travel in a single day is expected to be rare.
- Ticket purchases from the Portland, OR market were removed because they already have an NBA franchise and games featuring both the Seattle and Portland NBA teams would occur infrequently.
- Ticket purchases from the Vancouver, BC market were maintained in the database because Vancouver, BC does not have a NBA franchise and arriving/departing vehicle trips could reasonably be expected to occur on the same day.

- Tickets purchased from other states were removed because they were most likely either purchased for resale or consisted of attendees arriving by airplane and staying overnight in the Seattle area.

The Match for Africa database was determined to be a good complementary event after the spatial distribution of ticket purchases to the Gonzaga vs. Tennessee game was reviewed. The college basketball game's distribution pattern showed a geographically diverse distribution of ticket purchases in all directions, but with a relatively low percentage of ticket purchases in various central Seattle neighborhoods. In contrast, the Match for Africa data showed greater percentages of ticket purchases in these central Seattle neighborhoods (Central District, Capitol Hill, and Downtown) as well as some of the more affluent zip codes of the region. Because the majority of NBA Basketball attendees are typically season ticketholders (some of which are purchased by businesses), they can be costly so the Match for Africa data is included to better capture high-income neighborhoods and areas closer to the arena.

It was also determined that the two datasets should be weighted two-thirds toward the Gonzaga vs. Tennessee game and one-third toward the Match for Africa tennis event. This weighting reflects the relative importance of interest in high-level, national basketball versus the finance/community aspect of the tennis event. Several ratios were tested, and this ratio was determined to result in the most realistic distribution of trip lengths (i.e., less than 10 miles, over 40 miles, etc.) when compared to the distribution of a comparable downtown facility (refer to Appendix C of this memo).

Concert Database

Several factors associated with the performing artist can influence travel behavior to a concert. Performers that cater to different demographic groups can result in different mode splits, vehicle occupancies, pick-ups/drop-offs, etc. Based on Fehr & Peers' work on Golden 1 center, the level of popularity of the artist can influence ticket prices, which could affect locations of ticket purchases and travel choices to the venue. Finally, the degree to which an artist tours a large or small number of US or Canadian cities can also have an influence on long distance air travel to the concert. This is evidenced by the following:

- In early 2017, Ariana Grande played 75% of major US metropolitan areas (as well as Vancouver, Montreal, and Toronto, Canada) over a 2.5-month span, whereas the Gorillaz concert tour played about 40% of those areas. After resale ticket activities were removed from each database, it was estimated that tickets purchased from other metropolitan areas (for travel to KeyArena) represented about 5% of Ariana Grande tickets and 15% of Gorillaz tickets. Given the relative price of air travel (when compared to a hotel night or meal at an upscale restaurant) and desirability of Seattle as a vacation destination, it is not surprising that air travel to these types of events occurs.

In consideration of all of the above, the following ten concerts held in 2017 at KeyArena, which comprise a variety of genres including pop, R&B, rock, rap, alternative, and classic, were selected to form the concert database:

- Ariana Grande (Thursday, 3/23/17)
- Radiohead (Saturday, 4/8/17)
- The Weeknd (Wednesday, 4/26/17)
- Queen + Adam Lambert (Saturday, 7/1/17)
- J. Cole (Monday, 7/17/17)
- Janet Jackson (Wednesday, 9/27/17)
- Gorillaz (Saturday, 9/30/17)
- Imagine Dragons (Wednesday, 10/6/17)
- Neil Diamond (Tuesday, 10/17/17)
- Macklemore (Friday, 12/22/17)

Ticket purchase zip codes from all ten concerts were merged into a single database. As such, the data assimilation represents a weighted average of all ten concerts. Tickets purchased from other states and Canada were also removed (with the exception of Vancouver, BC and Portland, OR) because such tickets were likely resold, or involved air travel to Seattle and an overnight stay. Portland, OR was included because it is an approximate three-hour drive from Seattle (subject to traffic conditions – similar to Vancouver, BC). Additionally, review of several of the concerts in the database indicated that the artist did not stop in Portland, and that a relatively large number of Portland area zip codes had purchased tickets to the event. Resale tickets were excluded because the final destination of those tickets could not be ascertained. However, in all likelihood, they mirror the general distribution of ticket purchases because it is unlikely that one geographic area will be more predisposed toward purchasing resale tickets than another.

Since zip code data represents the billing address for tickets purchased for the given event, it does not necessarily represent the actual trip origin. To address this situation, an adjustment is applied to this data in a manner that is described later in this memo.

Applicability of Available Background Data to Proposed Seattle Center Arena

The available background data from other urban arenas and venues in the Seattle region (contained in pages 2 – 8 of this memorandum) provides insights into expected travel behavior at the proposed Seattle Center Arena. Following are a series of conclusions that are supported by that data:

- Transit use is typically greater for basketball games than concerts because a large percentage of basketball game attendees are repeat visitors (i.e., season ticketholders), and therefore more familiar with various travel options to the venue.

- Walking/bicycling is typically less common to a concert than to a basketball game given that concerts are often considered special events (people attend fewer per year), are social activities, have higher ticket prices, attendees dress up, etc.
- Walking is anticipated to be more common than bicycling to NBA basketball games given the timeframe of the NBA season and typical evening event start/end times (winter evenings are not times with high anticipated bicycle usage).
- TNC use is anticipated to be more common at concerts than NBA basketball games, and with greater levels of TNC use during pre-event versus post-event conditions.

Table 3 indicates that attendees to the proposed Seattle Center Arena may select from a wide variety of trip origins, destinations, travel groups, and travel modes. This table also summarizes the primary travel choices expected for the majority of these decisions (based on data described above), and also presents some of the other more likely secondary choices attendees may make when traveling. This table clearly demonstrates the complexity of travel patterns to an arena located in an urban setting that has a multitude of travel options and complementary nearby land use options.

Table 3. Expected Primary and Secondary Travel Choices by Attendees to Proposed Seattle Center Arena

| Travel Consideration | Primary Choice/Option | Secondary Choices/Options |
|--|--|---|
| Pre-Event Trip Origin | Originate from home | Originate from work if person works near arena. May arrive from restaurant or bar. |
| Post-Event Trip Destination | Destined for home | May stop at a restaurant or bar. May walk or take transit if car is parked at workplace nearby. |
| Travel in Groups | Majority will travel together to and from event | Some may travel separately for inbound or outbound trip, but travel together during the other leg (e.g., meeting a spouse, coworker, or roommate at the venue after work). |
| Selection of Different Pre-Event and Post-Event Travel Modes | Majority will use the same travel mode for both legs of the trip | Some may switch modes for a variety of reasons such as: <ul style="list-style-type: none"> - Difficulty hailing a TNC after event - Transit overcrowding / lack of service during post-event - Pre-arranged meet-up with partner, friend, etc. - Bikeshare bicycle used for pre-event, but bicycle not available for post-event |
| Travel Mode Chaining | Majority will drive to the arena vicinity and walk. | Examples of 'trip chaining' using different travel modes: <ul style="list-style-type: none"> - Take ferry to Colman Dock and hail a TNC / Taxi or walk - Park in remote lot (e.g., South Lake Union or downtown) and ride to arena via a bikeshare bicycle - Take LINK light rail to Westlake Station and then walk, hail a TNC / Taxi, or take Monorail |

Source: Fehr & Peers, 2018.

The project applicant has indicated that they are exploring a variety of concepts that could potentially influence travel behavior. Examples include:

- Subsidizing the cost of taking the Monorail.
- Shuttles to transport attendees between the arena and remote parking lots.
- Special activities to encourage attendees to arrive earlier and stay longer.

To date, no specific binding agreements have been made to implement any of the above programs. Therefore, none of these concepts are assumed to be in place for purposes of estimating the project's travel characteristics and analyzing its impacts. However, ideas such as these may be considered to mitigate project transportation impacts.

Seattle Center Arena Attendee Mode Split

This section presents the estimated mode split for attendees of events at the proposed Seattle Center Arena. However, prior to presenting this data, some background on travel by ferry and the monorail is provided.

- Travel by Ferry – As noted later in this memo, 3% of NBA game attendees and 4% of concert attendees are anticipated to use a Washington State Ferry to travel between Colman Dock and Bremerton or Bainbridge Island, based on ticket purchase locations and availability of ferries for NBA game and concert travel. However, Colman Dock is about 1.7 miles from the proposed Seattle Center Arena. While some attendees may choose to walk, others would take a bus, use a bikeshare bicycle, or hail a taxi or TNC. It is unlikely that most attendees would take their vehicle on the ferry for this 1.7-mile trip because of the cost of the ferry, parking, congestion, etc. make travel by other modes for efficient. Accordingly, the mode split shown for ferry service is represented in the bicycle, taxi/TNC, and walk mode splits.
- Travel by Monorail – According to Seattle Center staff (Levitt, personal communication, 2017), by 2020, Monorail riders will be able to pay for their ride with an ORCA card. According to the Seattle Center Monorail Ridership Survey & Financial Analysis Ridership & Revenue Report Technical Memorandum (WSP, 2017), integration of the ORCA card is expected to result in a 7% to 16% increase over existing ridership. Much of this increase will be associated with shifts from existing bus routes, due to reduced cost and increased convenience to riders (including transfers from LINK light rail at Westlake Center). Additional shifts away from auto, taxi/TNC, and walking/bicycling may also occur. Those percentages are based on general use of the Monorail and are not specific to events held at KeyArena. According to King County Metro's Rider/Non-Rider Survey (King County Metro, 2015), about 40% of County residents consider themselves a regular or infrequent transit rider. Of those riders, nearly 70% use an ORCA card, which provides free transit transfers. About half of all ORCA cards are monthly passes, which do not have a per-trip cost for transit use. In short, ORCA access to the Monorail would provide an increased pool of potential users.

Table 4 presents the expected mode split for attendees to the proposed Seattle Center arena during the three study time periods. These percentages were derived from the background data on pages 2 – 8 of this memorandum. They also take into consideration the geographic origins/destinations of NBA and concert attendees and the type of transit service currently provided to those areas. Refer to page 27 of this memorandum for more information on this topic.

Table 4. Expected Mode Split for Proposed Seattle Center Arena Under Opening Day (2020) Conditions

| Travel Mode | Weekday NBA Game Pre-Event Peak Hour | Weekday NBA Game Post-Event Peak Hour | Saturday Concert Pre-Event Peak Hour ¹ | Notes |
|---|--|---------------------------------------|---|---|
| Private Vehicle | 63% | 67% | 68% | Some of these trips may also include longer walks or bikeshare bicycle travel to arena ² |
| Bus to/from Seattle Center Arena | 8% | 6% | 6% | Percentages reflect transit trips to/from routes that have access directly adjacent to Seattle Center. ³ |
| Bus or LINK to Westlake Center; Ferry to Coleman Dock | This is a 'chained trip' see note to right | | | Estimated to be 8% for NBA Game and 6% for concert. Final trip made to the arena by walk, bicycle, TNC, Monorail, or bus (and reflected in values below). |
| Taxi / TNC / Other Drop-off | 15% | 12% | 15% | Percentages represent final mode of travel in/out of study area. Travel by ferry, bus or LINK light rail (to Westlake Center) also associated with some of these trips. |
| Walk to/from Nearby Origin | 10% | 10% | 8% | |
| Monorail | 3% | 4% | 2% | |
| Bicycle | 1% | 1% | 1% | |

Notes:

¹ Approximately 5% of concert attendees estimated to stay overnight in a Seattle hotel or other form of lodging. Travel for this group to the venue is reflected in the Taxi/TNC, walk, and Monorail mode splits.

² These 'chained trips' are reflected in the operations analysis but not shown in the walk or bike values in table.

³ Include Metro routes 1, 2, 3, 4, 8, 13, 24, 32, 33, and D Line.

Travel by limo and paratransit also expected, though percentages would be far below 1%.

Source: Fehr & Peers, 2018.

When compared to the measured Janet Jackson concert mode split, the data for the concert pre-event peak hour in Table 4 is slightly different for the following reasons:

1. The integration of the ORCA card to pay for Monorail rides is expected to shift some trips away from TNC, walk, and bus.
2. The reknitting of the east-west streets across SR 99 is expected to encourage more walk trips by virtue of reduced travel distances and a more pleasant walking environment.

The NBA mode split displays a slightly greater propensity to use transit than concerts based on the expectation of a high number of repeat attendees. Post-event conditions show modest shifts in mode share away from TNC/taxi/pick-up and bus to private vehicle, walking, and Monorail due to post-event crowding and group travel dynamics decisions.

Seattle Center Arena Vehicle Trips

An AVO factor is necessary to estimate the total number of vehicles that would transport attendees to/from the proposed Seattle Center Arena based on the mode share percentages in Table 4. The following AVO data is available:

- An AVO of 2.42 persons was observed at the Janet Jackson concert based on 30 minutes of sampling at two different garage entrances (i.e., Mercer St Garage and 1st Ave N Garage).
- Attendees to the Sacramento Kings NBA Basketball game at Golden 1 Center had an AVO of 2.32 persons.

NBA basketball games are typically associated with lower AVOs than concerts because the majority of seats for NBA games are purchased by season ticketholders, which tend to be purchased in smaller groups. In contrast, concerts are often considered infrequent social events attended by larger groups consisting of families, friends, coworkers, etc.

Based on this data, the following estimates are applied for the proposed Seattle Center Arena:

- Weekday NBA Game:
 - 2.3 persons per vehicle during pre-event peak hour
 - 2.45 persons per vehicle during post-event peak hour (higher AVO due to shift in TNC/bus mode in pre-event to private vehicle; unrealistic to expect new private vehicles to be delivered for the return trip).
- Saturday Concert:
 - 2.4 persons per vehicle during pre-event peak hour

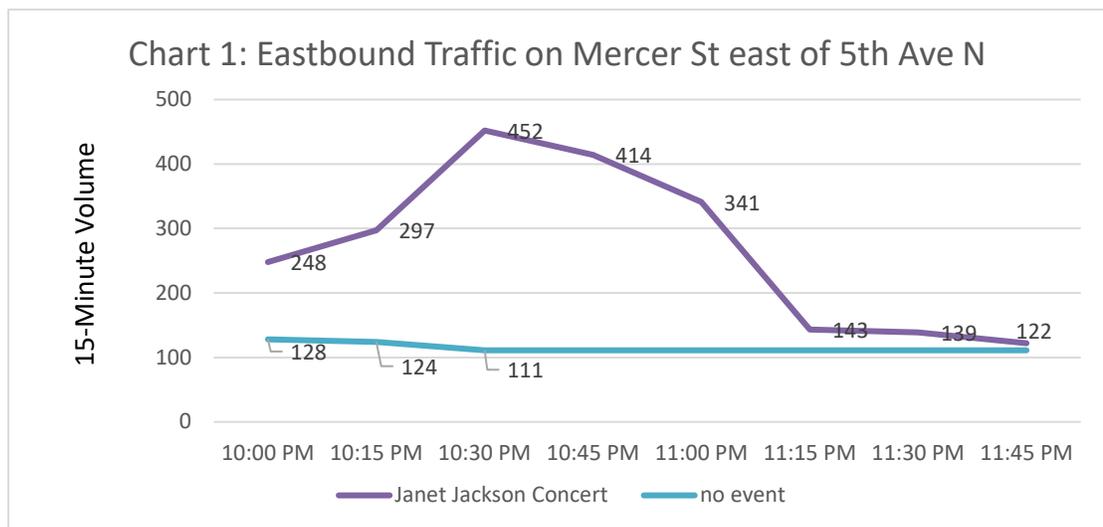
To estimate the percentage of vehicle trips that would arrive and depart the project vicinity during each of the three peak hours, the following data was used to develop these estimates:

Pre-Event

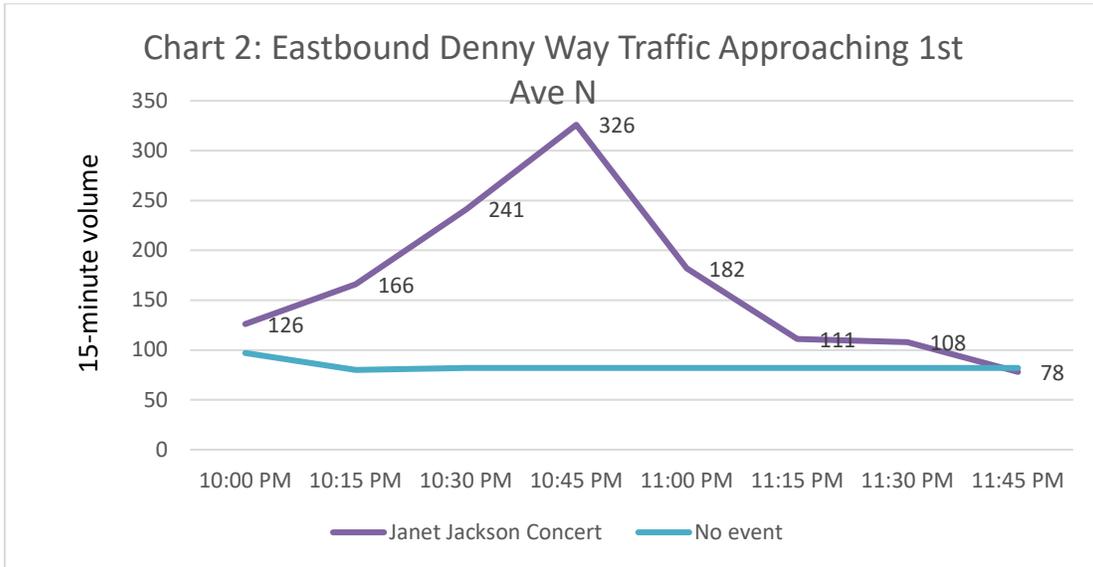
- According to the Golden 1 Center Year One Travel Monitoring Report (Fehr & Peers, 2017), 60 percent of all NBA basketball game attendee vehicle trips to a 7:30 PM weekday game arrived between 6:00 and 7:00 PM.
- During the Janet Jackson Concert (8 PM start) on Wednesday, September 27, 2017, 44 percent of all vehicle trips during the time period from 5:30 to 8:00 PM occurred from 6:30 to 7:30 PM.
- According to the Golden 1 Center Year One Travel Monitoring Report (Fehr & Peers, 2017), observations in July 2017 during a Bruno Mars concert indicated that about 50% of the total demand arrived during the pre-event peak hour.

Post-Event

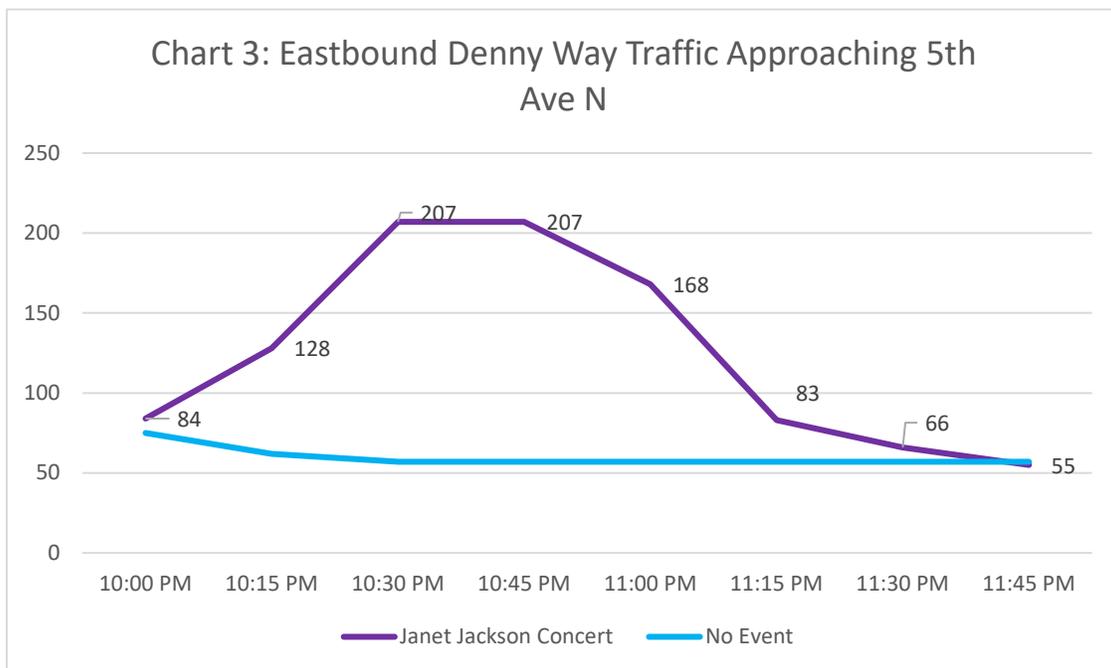
- Traffic counts were collected after the Janet Jackson concert concluded at Key Arena on Wednesday, September 27, 2017. Chart 1 displays the volume of traffic in 15-minute increments on eastbound Mercer St east of 5th Ave N from 10:00 PM to midnight. Charts 2 and 3 display the volume of traffic in 15-minute increments on eastbound Denny Way approaching 1st Ave N and 5th Ave N, respectively, from 10:00 PM to midnight. Chart 4 displays similar information on southbound 2nd Ave approaching Broad St. These data points represent traffic flows downstream of various garages and on-street parking used for the event. This data indicates that between 85 and 92% of total volume of traffic associated with post-concert conditions occurred from 10:15 to 11:15 PM.



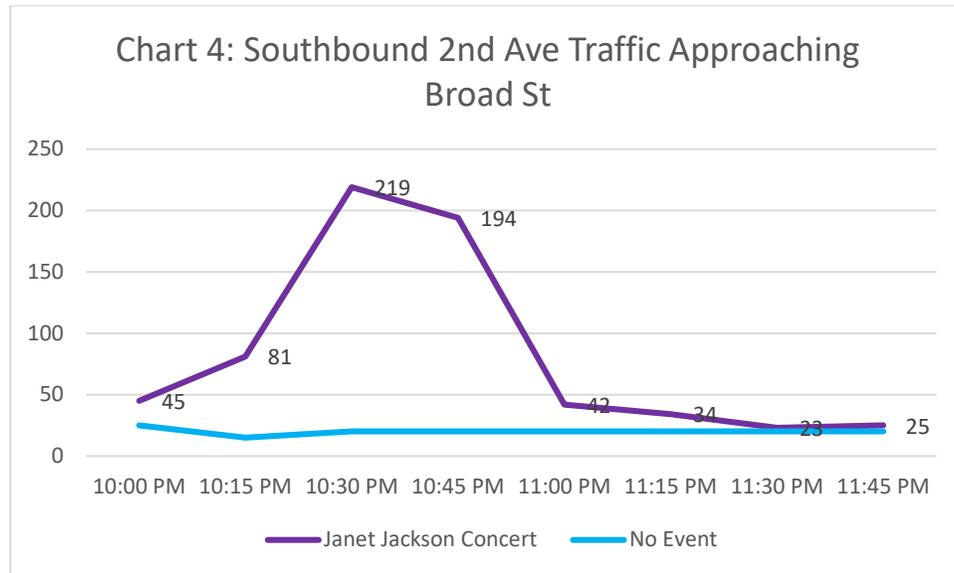
**“No Event” conditions measured on Tuesday, September 26, 2017.
 Janet Jackson concert occurred on Wednesday, September 27, 2017**



**“No Event” conditions measured on Tuesday, September 26, 2017.
 Janet Jackson concert occurred on Wednesday, September 27, 2017**



**“No Event” conditions measured on Tuesday, September 26, 2017.
 Janet Jackson concert occurred on Wednesday, September 27, 2017**



**“No Event” conditions measured on Tuesday, September 26, 2017.
Janet Jackson concert occurred on Wednesday, September 27, 2017**

Field observations from the Jay-Z concert held on Wednesday, December 13, 2017 at KeyArena indicated that the show concluded shortly after 11 PM, and streets remained congested until nearly midnight. According to the Golden 1 Center Year One Travel Monitoring Report (Fehr & Peers, 2017), observations in July 2017 after the Bruno Mars concert concluded indicated that it took nearly one hour to empty the garages/streets (see Appendix B).

The above post-event data measured only the length of time vehicles required to depart each arena’s vicinity immediately following the event. Field observations at each venue indicated that some attendees chose to remain in the vicinity to visit a restaurant or bar.

Based on this data, the following estimates are applied for the proposed Seattle Center Arena:

- Weekday NBA Game:
 - 60% of vehicles arrive during pre-event peak hour
 - 95% of vehicles depart during post-event peak hour
- Saturday Concert:
 - 50% of vehicles arrive during pre-event peak hour

Table 5a displays the vehicular trip generation associated with private vehicle travel to/from the proposed Seattle Center Arena. Table 5b shows the trip generation associated with TNC, taxi, and other drop-offs of attendees to and from the proposed Seattle Center Arena.

Table 5a. Proposed Seattle Center Arena – Private Vehicle Trip Generation Under Opening Day (2020) Conditions

| Metric | Weekday NBA Game Pre-Event Peak Hour | Weekday NBA Game Post-Event Peak Hour | Saturday Concert Pre-Event Peak Hour |
|--|--------------------------------------|---------------------------------------|--------------------------------------|
| Attendees | 18,350 | 18,350 | 19,125 |
| Arriving/Departing by Private Vehicle | 18,350 @ 63% = 11,561 attendees | 18,350 @ 67% = 12,295 attendees | 19,125 @ 68% = 13,005 attendees |
| Average Vehicle Occupancy (AVO) | 2.3 | 2.445 | 2.4 |
| Total Inbound private attendee vehicles | 5,027 | - | 5,418 |
| Total Outbound private attendee vehicles | - | 5,027 | - |
| Arriving/Departing Percentage During Peak Hour | 60% | 95% | 50% |
| Inbound private attendee vehicles during peak hour | 3,016 | - | 2,709 |
| Outbound private vehicles during peak hour | - | 4,776 | - |

Notes: Refer to previous pages for data regarding mode split, AVO, and arrival/departure percentages.
 Source: Fehr & Peers, 2018.

Table 5b. Proposed Seattle Center Arena – TNC/Taxi Vehicular Trip Generation Under Opening Day (2020) Conditions

| Metric | Weekday NBA Game Pre-Event Peak Hour | Weekday NBA Game Post-Event Peak Hour | Saturday Concert Pre-Event Peak Hour |
|--|--------------------------------------|---------------------------------------|--------------------------------------|
| Attendees | 18,350 | 18,350 | 19,125 |
| Arriving/Departing by TNC/Taxi/Drop-offs | 18,350 @ 15% = 2,752 attendees | 18,350 @ 12% = 2,202 attendees | 19,125 @ 15% = 2,869 attendees |
| Average Vehicle Occupancy (AVO) | 2.3 | 2.3 | 2.4 |
| Total Inbound TNC/Taxi/Drop-off vehicles | 1,197 | 957 | 1,195 |
| Total Outbound TNC/Taxi/Drop-off vehicles | 1,197 | 957 | 1,195 |
| Arriving/Departing Percentage During Peak Hour | 60% | 95% | 50% |
| Inbound TNC/Taxi/Drop-off vehicles during peak hour | 718 | 910 | 598 |
| Outbound TNC/Taxi/Drop-off vehicles during peak hour | 718 | 910 | 598 |

Notes: Although a slightly higher post-event TNC/Taxi AVO could occur due to removal of some primarily single-occupant pre-event rides in favor of post-event travel by private vehicle, bus, or Monorail, AVO factor is assumed to remain unchanged from pre-event value to be conservative. Refer to previous pages for data regarding mode split, AVO, and arrival/departure percentages.
 Source: Fehr & Peers, 2018.

Table 5c displays the trip generation associated with employee vehicle trips. As shown, this table indicates that 510 employees are expected to be on-site working during an NBA game or a concert. Anecdotal evidence from other venues suggests the majority of these employees arrive prior to the beginning of the pre-event peak hour, and depart after the post-event peak hour concludes. Employees are expected to arrive/depart via a number of different travel modes, though 65% auto mode split was selected to be conservative.

Table 5c. Proposed Seattle Center Arena – Employee Vehicular Trip Generation Under Opening Day (2020) Conditions

| Metric | Weekday NBA Game Pre-Event Peak Hour | Weekday NBA Game Post-Event Peak Hour | Saturday Concert Pre-Event Peak Hour |
|--|--------------------------------------|---------------------------------------|--------------------------------------|
| Employees | 510 | 510 | 510 |
| Arriving/Departing by Private Vehicle | 65% | 65% | 65% |
| Arriving/Departing by TNC, Taxi, or Other Drop-off | 5% | 5% | 5% |
| Average Vehicle Occupancy | 1.1 | 1.1 | 1.1 |
| Total Inbound private vehicles | 301 | - | 301 |
| Total Outbound private vehicles | - | 301 | - |
| Total Inbound TNC/Taxi/Drop-off vehicles | 23 | 23 | 23 |
| Total Outbound TNC/Taxi/Drop-off vehicles | 23 | 23 | 23 |
| Arriving/Departing Percentage During Peak Hour | 10% | 20% | 10% |
| Peak hour Inbound private vehicles | 30 | - | 30 |
| Peak hour Outbound private vehicles | - | 60 | - |
| Peak hour Inbound TNC/Taxi/Drop-off vehicles | 2 | 4 | 2 |
| Peak hour Outbound TNC/Taxi/Drop-off vehicles | 2 | 4 | 2 |

Notes: Based on professional judgment, general employment mode splits in downtown/uptown, and anecdotal observations at other venues.

Source: Fehr & Peers, 2018.

Table 5d displays the resulting pre-event and post-event peak hour trip generation totals of the proposed Seattle Center Arena. As shown, the proposed Seattle Center Arena would generate approximately 4,500 vehicle trips during the weekday pre-event peak hour, of which 84% would be inbound. During the weekday post-event peak hour, it would generate 6,680 vehicle trips, of which 86% would be outbound. Trips in the non-peak direction would primarily be made by TNCs, taxis, and other pick-up/drop-off vehicles. The project would generate 3,960 vehicle trips during the Saturday pre-event peak hour.

Table 5d. Proposed Seattle Center Arena – Peak Hour Vehicle Trip Generation Under Opening Day (2020) Conditions

| Traveler Type | Weekday NBA Game Pre-Event Peak Hour Vehicle Trips | | | Weekday NBA Game Post-Event Peak Hour Vehicle Trips | | | Saturday Concert Pre-Event Peak Hour Vehicle Trips | | |
|--|--|------------|--------------|---|--------------|--------------|--|------------|--------------|
| | In | Out | Total | In | Out | Total | In | Out | Total |
| Attendees traveling by private vehicle | 3,016 | 0 | 3,016 | 0 | 4,776 | 4,776 | 2,709 | 0 | 2,709 |
| Attendees traveling by TNC/Taxi/Drop-off vehicle | 718 | 718 | 1,436 | 910 | 910 | 1,820 | 598 | 598 | 1,196 |
| Employees traveling by private vehicle | 30 | 0 | 30 | 0 | 60 | 60 | 30 | 0 | 30 |
| Employees traveling by TNC/Taxi/Drop-off | 2 | 2 | 4 | 4 | 4 | 8 | 2 | 2 | 4 |
| Miscellaneous | 15 | 5 | 20 | 5 | 10 | 15 | 15 | 5 | 20 |
| Total | 3,781 | 725 | 4,506 | 919 | 5,760 | 6,679 | 3,354 | 605 | 3,959 |

Notes: Miscellaneous trips include delivery vehicles, emergency vehicles, utility vehicles, etc.

Source: Fehr & Peers, 2018.

Table 5e displays the weekday daily vehicle trip generation of an NBA event at the proposed Seattle Center Arena. As shown, it is estimated to generate 15,110 daily vehicle trips. Similarly, a Saturday concert at the proposed Seattle Center Arena would generate 15,930 daily vehicle trips. The vehicle trip generation totals are greater on Saturday due primarily to the larger concert event capacity.

Table 5e. Proposed Seattle Center Arena – Daily Vehicle Trip Generation Under Opening Day (2020) Conditions

| Traveler Type | Weekday Daily Vehicle Trips with NBA Game | | | Saturday Daily Vehicle Trips with Concert | | |
|--|---|--------------|---------------|---|--------------|---------------|
| | In | Out | Total | In | Out | Total |
| Attendees traveling by private vehicle | 5,027 | 5,027 | 10,054 | 5,418 | 5,418 | 10,836 |
| Attendees traveling by TNC/Taxi/Drop-off vehicle | 2,154 | 2,154 | 4,308 | 2,150 | 2,150 | 2,150 |
| Employees traveling by private vehicle | 301 | 301 | 602 | 301 | 301 | 602 |
| Employees traveling by TNC/Taxi/Drop-off | 23 | 23 | 46 | 23 | 23 | 46 |
| Miscellaneous | 50 | 50 | 100 | 75 | 75 | 150 |
| Total | 7,555 | 7,555 | 15,110 | 7,967 | 7,967 | 15,934 |

Notes: Miscellaneous trips include delivery vehicles, emergency vehicles, utility vehicles, etc.

Source: Fehr & Peers, 2018.

Seattle Center Arena Geographic Distribution of Trips

The distribution of trips to the proposed Seattle Center Arena would be different for weekday NBA games versus Saturday concerts due to different attendee socioeconomic and demographic characteristics, and the effects of weekday home-to-work travel.

Figure 1 displays the spatial distribution of ticket purchases for the merged NCAA Basketball Game / Celebrity Tennis Match. This figure shows the percentage of all tickets purchased from zip codes throughout the Seattle metropolitan area. In all, 162 zip codes are represented in this database. This figure also overlays available transit service in the region (that enables attendees to reach Westlake Center) for an NBA basketball game. Additionally, it groups zip codes into 17 distinct geographic zones, whose aggregated ticket purchases are shown in Table 6.

Figure 2 shows a more zoomed in version of Figure 1, but overlays bus service that provides direct access to Seattle Center Arena.

Figure 3 shows the spatial distribution of ticket purchases to the merged ten-concert database. This figure shows the percentage of all tickets purchased from zip codes throughout the Seattle metropolitan area. Figure 4 shows a more zoomed in version of Figure 3, with direct bus service to Seattle Center as an overlay. Table 6 displays the percentage of concert tickets purchased in the 17 distinct geographic zones.

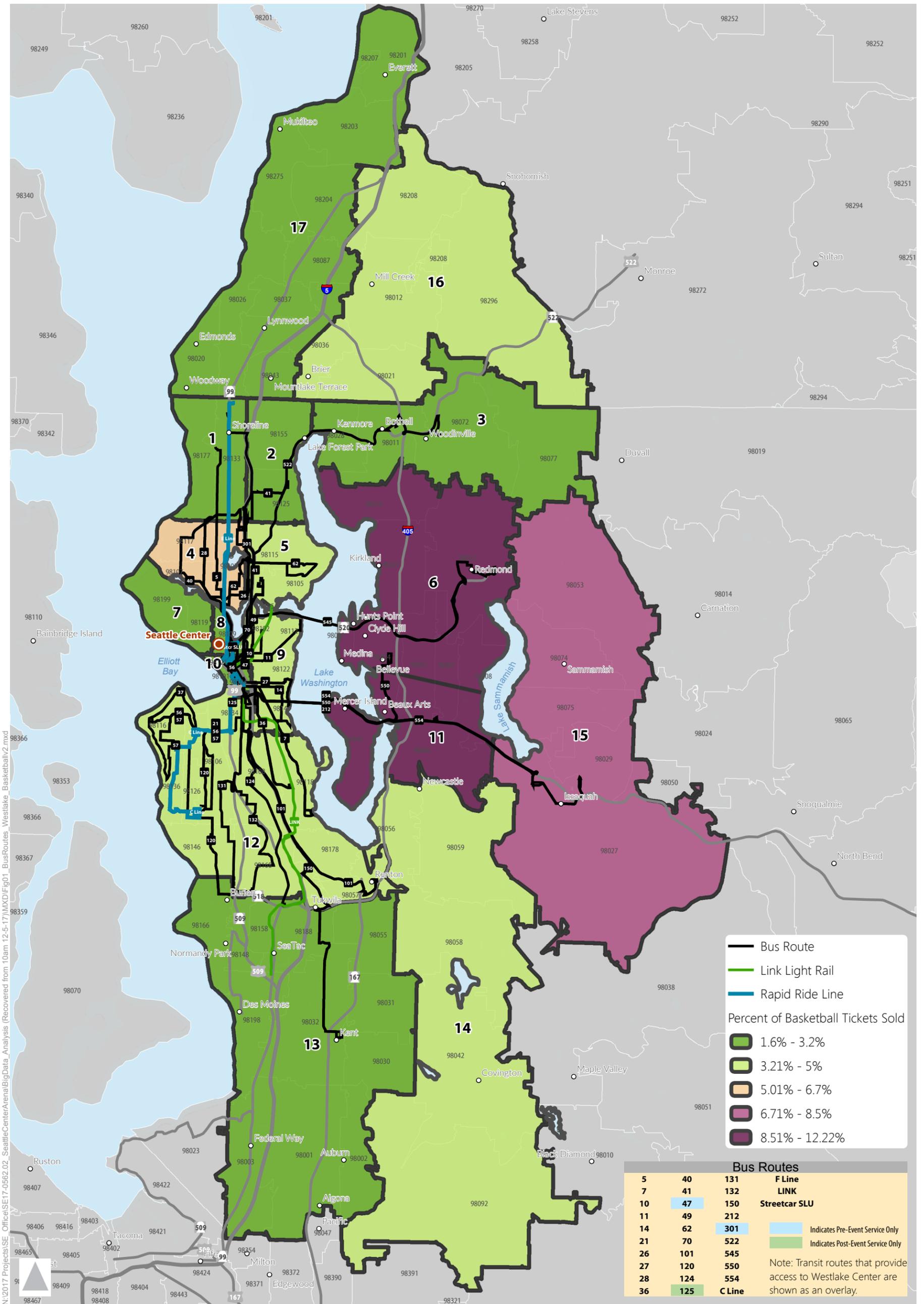


Figure 1

Spatial Distribution of Zip Code Ticket Purchases for Merged NCAA Basketball/Match for Africa Celebrity Tennis Match Database



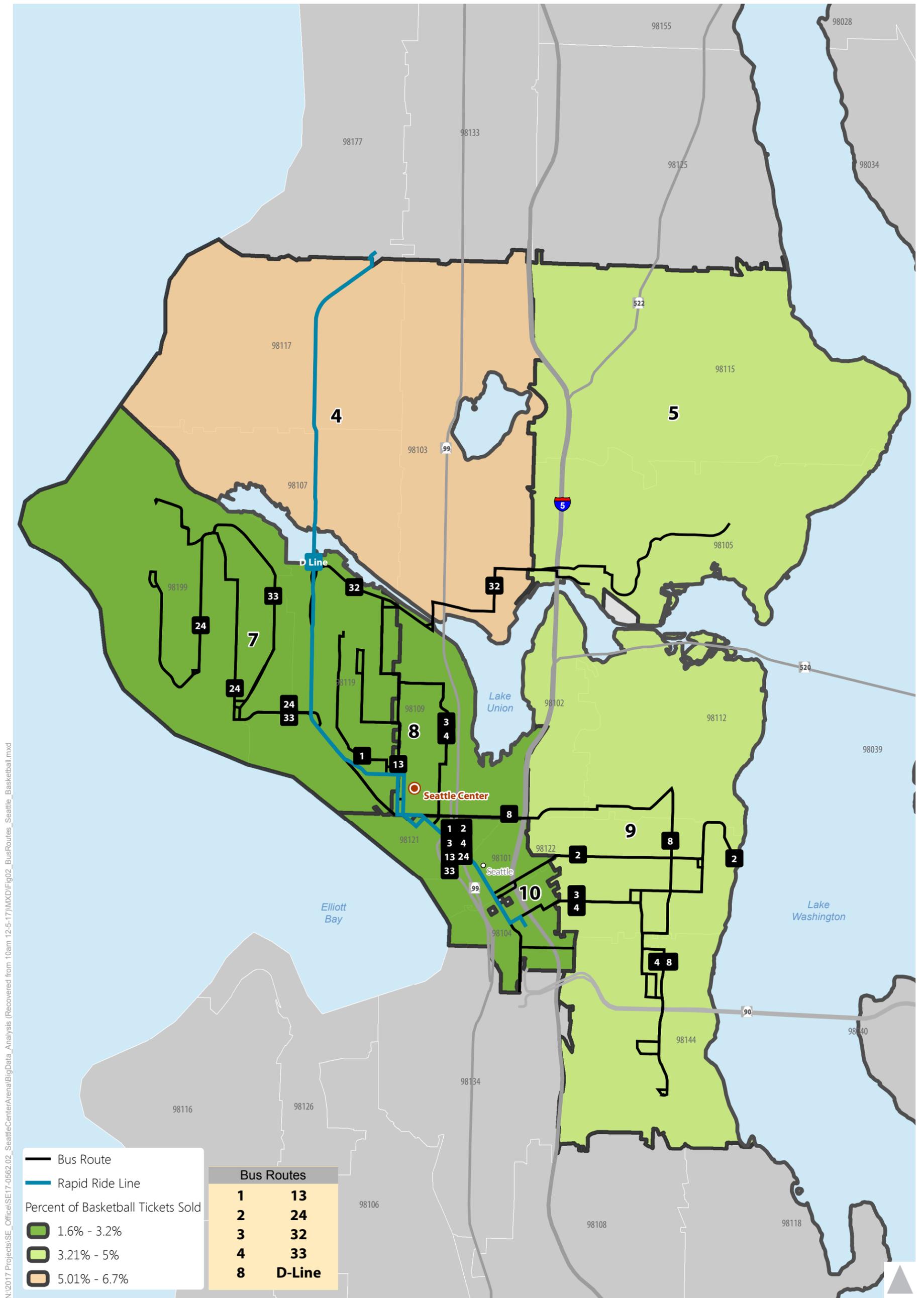


Figure 2

Overlay of Bus Routes That Provide Direct Access to Seattle Center for Merged NCAA Basketball Game/Match for Africa Celebrity Tennis Match Database



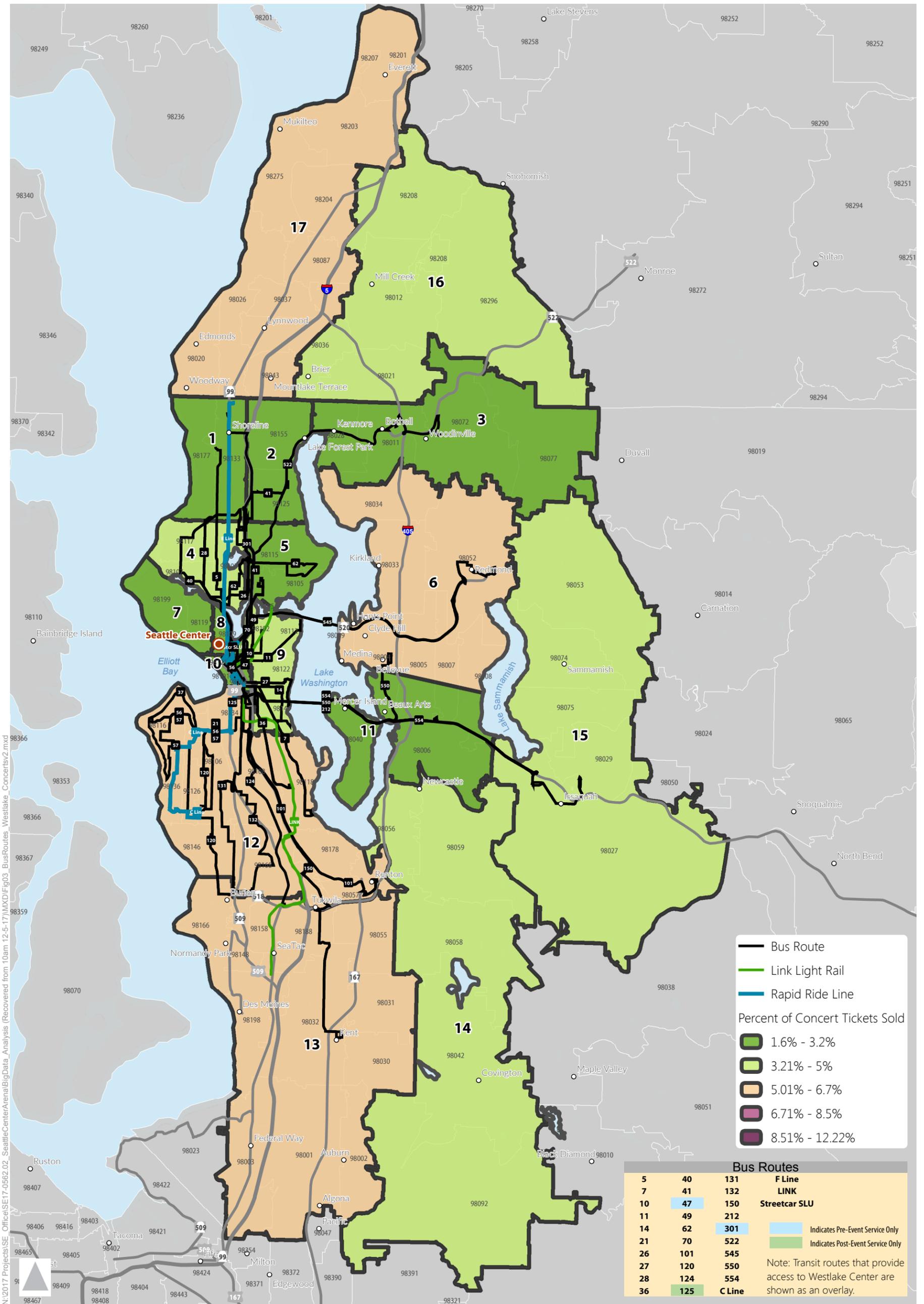


Figure 3

Spatial Distribution of Zip Code Ticket Purchases for Merged Ten-Concert Database



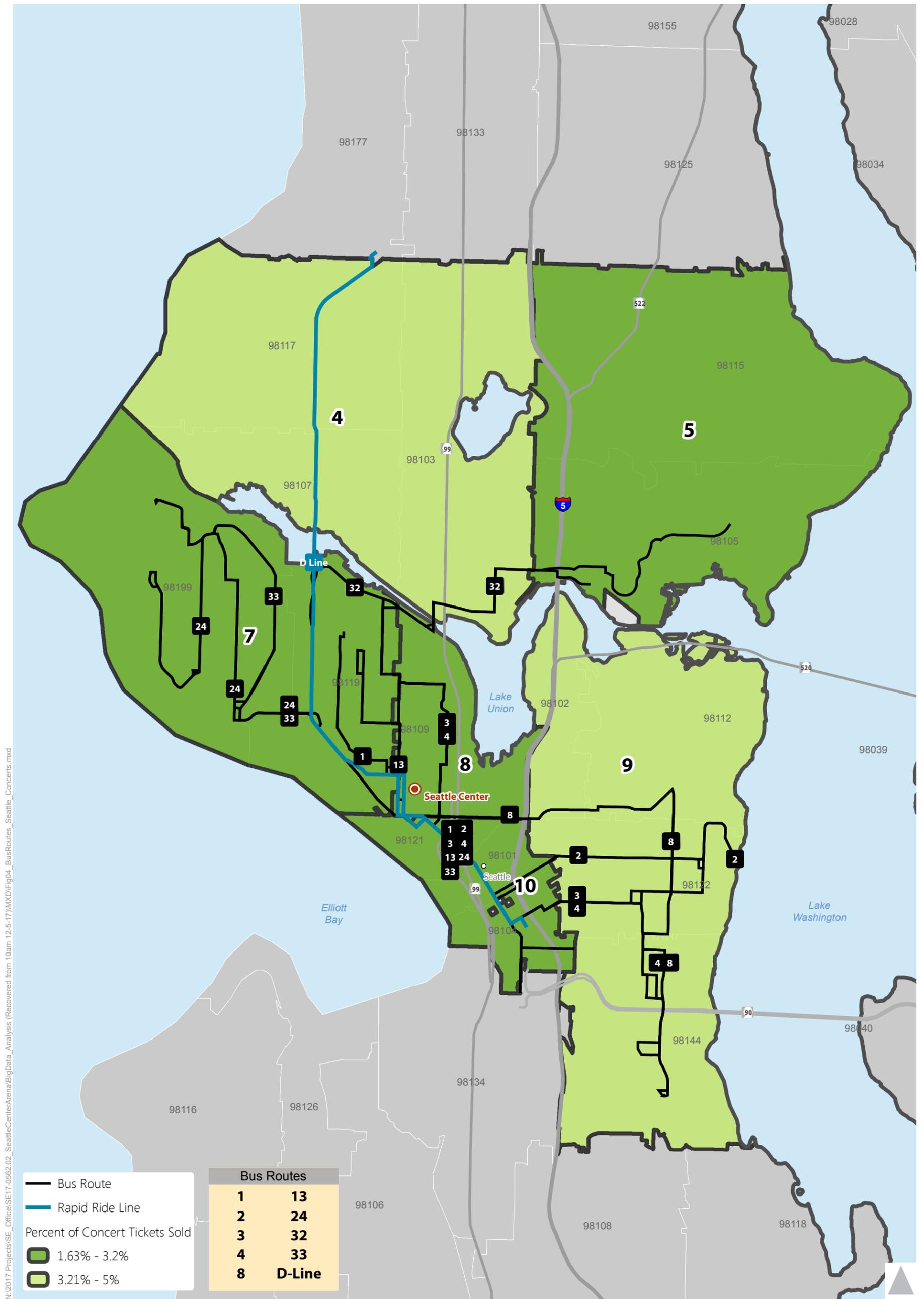


Figure 4

Overlay of Bus Routes That Provide Direct Access to Seattle Center for Merged Ten-Concert Database



Table 6. Trip Origin/Destinations of Attendees

| Origin/Destination | Weekday NBA Game ¹ | Saturday Concert |
|---|-------------------------------|------------------|
| 1. Northwest Seattle / Shoreline | 2% | 1.5% |
| 2. Northeast Seattle / Lake Forest Park | 1.5% | 2% |
| 3. Kenmore / Bothell / Woodinville | 2% | 2% |
| 4. Ballard / Crown Hill | 6% | 4.5% |
| 5. Northeast Seattle | 4.5% | 2.5% |
| 6. Kirkland / Redmond ² | 12% | 5% |
| 7. Magnolia / Queen Anne | 2% | 2% |
| 8. Westlake / South Lake Union / Uptown | 3% | 2% |
| 9. Capitol Hill / Central District | 4.5% | 4.5% |
| 10. Downtown / Belltown | 3% | 2% |
| 11. Bellevue / Mercer Island ² | 8.5% | 3% |
| 12. West Seattle / South Seattle / Renton | 5% | 6.5% |
| 13. SeaTac / Tukwila / Kent | 3% | 5.5% |
| 14. Renton/Covington | 5% | 4% |
| 15. Sammamish / Issaquah | 7% | 4% |
| 16. Snohomish / Millcreek | 5% | 4.5% |
| 17. Everett / Edmonds | 3% | 5% |
| 18. Other ³ | 23% | 39% |

Notes:

¹To facilitate side-by-side comparisons, NBA basketball game percentages do not reflect the remote home-based work trip origin shifts associated with attendees who work in downtown and remain prior to event.

²Zip codes 98004, 98005, 98007, and 95808 (near Bellevue) are located in both zones 6 and 11. 50% of ticket purchases assigned to each zone.

³Other areas are generally more remote and include: Olympia, Tacoma, Kitsap County, Vancouver, BC, and Portland, OR (for concerts only).

Source: Fehr & Peers, 2018.

This table shows that outlying areas represent a larger percentage of ticket purchases for concerts versus NBA basketball games. This is to be expected given that concert attendees are more likely to travel greater distance for a single event, whereas the majority of NBA basketball attendees are repeat customers (with multi-game or season tickets). As noted previously, Portland, OR zip codes were included in the concert sample, representing about 7 of the 39 percentage points attributable to the 'other' category.

The following describes the three-step 'trip origin adjustment procedure' used to account for those attendees who may have purchased a ticket from their home billing address but may be traveling directly to the venue from their job in downtown or Uptown / South Lake Union / Capitol Hill.

- Step 1 – Calculate the percentage of home-based-work (HBW) trips in traffic analysis zones (TAZs) from the Puget Sound Regional Council (PSRC) travel demand model that comprise all zip codes whose work destination is either in downtown or Uptown / South Lake Union / Capitol Hill. These work destinations were selected because workers in these areas would likely walk or take a short transit trip to the arena (whereas work destinations in North or South Seattle may involve travel by vehicle).
- Step 2 – For the more 'remote' origins (i.e., Pierce County, Federal Way, Auburn, Kent, Edmonds, Everett, Issaquah, Redmond, etc.), shift ticket purchases from that zip code into downtown based on 50% of the HBW to downtown percentage. A 50% factor was selected because some employees may choose to work from home that day or may leave work early to return home to pick up other members of their party.
- Step 3 – For the 'mid-point' origins (i.e., Bellevue, Renton, Tukwila, Lake Forest Park, etc.) that still have moderate commute times, shift ticket purchases from that zip code into downtown based on 25% of the HBW to downtown percentage.

When this shifting of trips is summed up across these 'remote' and 'mid-point' origins, the net total redistribution to downtown is 3% of all ticket purchases. This redistribution is not reflected in the data on Figures 1 and 2 and in Table 6, but is considered in the analysis and assignment of project trips. A sensitivity analysis determined that the total redistribution would increase from 3% to 4% if the 'remote' and 'mid-point' origins listed above were to instead have 75% and 33% shift factors, respectively. Thus, these factors have little influence on the travel behavior of NBA game attendees.

The Seattle Center Arena would be directly accessible via bus from Zones 4, 5, 7, 8, 9, and 10. According to Table 6, these zones represent about 23% of NBA weekday game and 17.5% of concert zip code addresses/destinations. For the weekday NBA basketball game pre-event peak hour, these zones represent 26% of all zip code ticket purchases (due to the above redistribution procedure that shifts additional attendees into these zones based on work location). The bus to/from Seattle Center mode split percentages in Table 4 consider that these zones represent the origins/destinations of such trips. Based on this data, 30% - 35% of trips to/from these zones would be made by bus, which is reasonable given the abundance (in terms of geographic coverage, frequency and duration) of bus service in these areas.

Table 7 displays the expected spatial distribution of trips to the proposed Seattle Center Arena for NBA basketball and concerts. This table shows generally similar pre-event trip origin percentages between weekday NBA games and Saturday concerts. The one exception is 7% origins coming from Downtown for basketball games, versus 4% arriving from this destination for concerts. This is due not only to different geographic trip origins, but also travel from work associated with weekday events. Refer to Appendix D for more information regarding geographic distributions.

Table 7. Spatial Distribution of Attendees

| Origin/Destination | Weekday NBA Game Pre-Event Peak Hour | Weekday NBA Game Post-Event Peak Hour | Saturday Concert Pre-Event Peak Hour |
|--------------------------------|--------------------------------------|---------------------------------------|--------------------------------------|
| I-5 North | 39% | 40% | 38% |
| I-5 South | 31% | 32% | 35% |
| SR 99 North | 8% | 9% | 7% |
| SR 99 South | 6% | 6% | 7% |
| Downtown | 7% | 4% | 4% |
| Ferry (Kitsap County) | 3% | 3% | 4% |
| Mercer St. West | 2% | 2% | 2% |
| Queen Anne Ave N | 2% | 2% | 1% |
| East of I-5 | 1% | 1% | 1% |
| Uptown/Belltown/Denny Triangle | 1% | 1% | 1% |

Notes: values rounded to nearest percent. Represents total trips (and not necessarily trips made by a particular travel mode).

Source: Fehr & Peers, 2018.

As shown, the vast majority of trip origins and destinations would be oriented to the north or south of the proposed Seattle Center Arena. For weekday NBA games, 51% of post-event destinations would be to the north, while 43% would be to the south. For Saturday concerts, 48% of post-event destinations would be to the north, while 47% would be to the south. As documented in Table 6, a number of trip destinations would be communities located to the east of the project, but requiring initial north-south travel on I-5 to access them.

Technical Memorandum #5: Project Travel Characteristics
January 26, 2018
Page 31

References

Institute of Transportation Engineers. 2017. Trip Generation Manual, 10th Edition. Washington DC.

Washington State Public Stadium Authority, First & Goal Inc., Seattle Seahawks, Sounders FC. 2017. CenturyLink Field Transportation Management Program (TMP).

University of Washington. 2015. Stadium Expansion Parking Plan & Transportation Management Program (TMP).

Fehr & Peers, 2017. Prepared for City of Sacramento, CA. Golden 1 Center Year One Travel Monitoring Report. Available: <http://www.cityofsacramento.org/Arena/Reports-and-Resources> document

NBA Portland Trailblazers / Moda Center. 2017. Mode shift for Moda Center. Available: <http://www.nba.com/blazers/live#transportation>. Accessed: December 23, 2017.

Sam Schwartz Engineering. 2013. Barclays Center TDM Plan Effectiveness Presentation. Available: https://cdn.esd.ny.gov/Subsidiaries_Projects/AYP/AtlanticYards/061713BarclaysTDMEffectivenessEvaluationFinalPresentation_AYwebsite_version.pdf. Accessed: December 23, 2017.

Wikipedia. Gonzaga University vs. University of Tennessee NCAA Division 1 Basketball attendance. Available: https://en.wikipedia.org/wiki/2015%E2%80%9316_Gonzaga_Bulldogs_men%27s_basketball_team. Accessed: December 23, 2017.

WSP. 2017. Seattle Center Monorail Ridership Survey & Financial Analysis Ridership & Revenue Report Technical Memorandum.

Levitt, Julia. 2017. Strategic Advisor, Seattle Center Redevelopment Office. Meeting with project team to discuss future integration of ORCA card on Monorail. November 8, 2017.

Appendix A –

Similarities and Differences of Surrounding Land Use Context and Transportation Systems Between Golden 1 Center in Sacramento and Proposed Seattle Center Arena

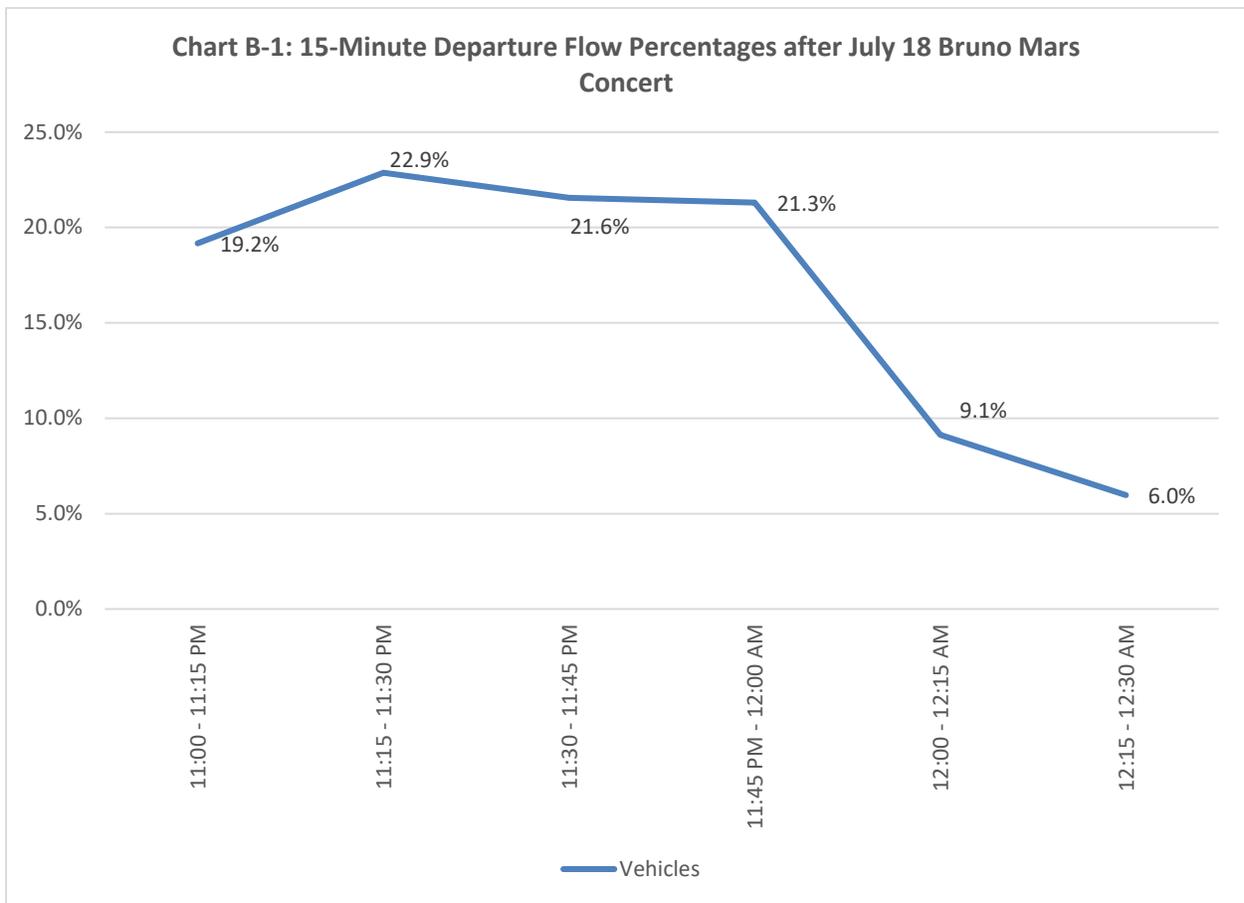
This section describes the applicability of Golden 1 Center's setting and its data to the proposed project. Golden 1 Center and the proposed Seattle Center Arena are each located in dense, urban environments versus suburban settings. They each provide multiple (though different) travel choices. The majority of attendees to events at Golden 1 Center choose to drive for reasons such as: lack of traffic congestion (which makes other modes comparatively slower), ease of parking ingress/egress (and low cost), and lack of transit service near their home or work. In contrast, roadways in the vicinity of Seattle Center experience more congestion and parking is not always readily available (due to concurrent events at Seattle Center). Seattle has a far more robust public transportation system, though direct service to the proposed Seattle Center Arena is currently limited to buses and the Monorail. Based on these differences, application of observed mode split data at Golden 1 Center is not used directly as part of this study; rather, inferences from that data are used to refine the proposed project's mode split as described below.

The following describes in more detail the key similarities and differences in travel choices and the surrounding built environment between Golden 1 Center and the proposed Seattle Center Arena:

- **Travel Choices:** The Sacramento region is served by a light rail system that extends radially from downtown to the south (toward Elk Grove), east (toward Folsom), and northeast (toward Roseville). All lines feature stops within a two-block walk of Golden 1 Center. Regional Transit (RT) increases train service (both train headways and number of cars per train) during events. The region's bus service is not well-equipped to handle events due to limited service area, frequency, and duration of service. Downtown Sacramento is served by several freeways and high-capacity surface streets that accommodate over 100,000 inbound vehicles per day to the region's job center. Thus, its street system is capable of handling traffic associated with large evening events at Golden 1 Center. The City's Parking Services Division operates a highly successful online reservation system for both public and private garages in the vicinity of Golden 1 Center, which simplifies the parking task and results in generally smooth garage ingress/egress through proactive traffic management. After a typical NBA event, garages are typically empty within 15 to 30 minutes.
- **Built Environment:** Golden 1 Center is surrounded by a diverse set of land uses including office buildings, retail/restaurant establishments, and hotels. Although residential uses are not located in the immediate proximity of the venue, they are situated in its vicinity. This is similar to the proposed Seattle Center built environment, although residential uses in Seattle are more proximate to the arena.

**Appendix B –
 Travel Characteristics at Golden 1 Center After July 18, 2017 Bruno Mars Concert Concluded**

Chart B-1 shows that the outbound streets leaving the Golden 1 Center area carried between 19 and 23% of the total observed outbound volume during each of the four 15-minute increments between 11 PM and midnight. After midnight, traffic flows dramatically decreased. This would suggest that the parking garages and streets did not fully empty for about one hour after the event concluded (which occurred at about 11 PM). This represents a lengthier and more congested departure period when compared to a Kings game because most concert attendees chose to stay until the show concludes. In contrast, basketball game attendees, many of which are repeat guests, may choose to leave early if the game is one-sided or 'to beat the traffic'.



Appendix C – Trip Length Comparison for Basketball Game Trip Origins

Table C-1 compares the Sacramento Kings basketball game attendee distribution of vehicle trip lengths from the Golden 1 Center Year One Travel Monitoring Report (Fehr & Peers, 2017) against the distribution of trip lengths from the merged NCAA Division I (Gonzaga vs. Tennessee Basketball Game) and Match for Africa Celebrity Tennis match.

As shown, the two datasets are comparable in terms of very short distance (less than 5 miles) and very long distance (greater than 40 miles) trips. The weighting adjustment primarily affected trips of 25 miles or greater. Among long distance trips (25 miles or greater), the weighting adjustment reduced the Seattle Center Arena proportion of these trips from 32% to 28%, thereby resulting in a better match what this empirical observation at Golden 1 Center.

The two datasets differ somewhat in their distribution of mid-range (i.e., 5 to 40 miles) trips. The Seattle data shows generally more lengthy mid-range trips than Sacramento, which is to be expected given its larger size and distance between City Center and outlying areas. This data illustrates that the weighting of two-thirds toward the NCAA Division I Basketball dataset and one-thirds toward the Match for Africa Celebrity Tennis Match enabled a more accurate estimation of the proportion of trips on the short and long trip lengths. Without this adjustment procedure, the percentage of long distance (i.e., over 25 miles) trips would likely have been overestimated.

Table C-1. Comparison of Distribution of Trip Lengths

| One-way trip length | Sacramento Kings Game at Golden 1 Center | Merged NCAA Division I Basketball Game and Match For Africa Celebrity Tennis Match |
|---------------------|--|--|
| 0 – 5.0 miles | 14% | 17% |
| 5.1 – 15.0 miles | 42% | 31% |
| 15.1 – 25.0 miles | 24% | 24% |
| 25.1 – 40.0 miles | 8% | 13% |
| 40.1 – 60.0 miles | 6% | 6% |
| 60.1 – 100.0 miles | 5% | 6% |
| 100.1 – 160.0 miles | 1% | 3% |

Notes: See above text for description of data.

Source: Fehr & Peers, 2017.

**Appendix D –
Regional Zip Code Distribution of Allocation of Usage by I-5 N and I-5 S**

Image D-1 highlights all zip codes that had ticket purchases for the blended NCAA Basketball Game / Celebrity Tennis Match dataset. Regional zip codes shown in red represent trips that used I-5 South, while regional zip codes shown in blue represent trips that used I-5 North.

Image D-2 shows similar information for the merged set of ten concerts. Ticket purchases from the Portland, OR area are not visible on this map, but influence the usage of I-5 North versus South.

Key findings from these images are:

- Image D-2 shows a more geographically dispersed set of zip code ticket purchases from across the state. This is to be expected since it represents tickets purchased for any of 10 different concerts, which included pop, R&B, rock, rap, alternative, and classic artists.
- A slightly greater proportion of zip codes are oriented to the north for the blended NCAA Basketball Game / Celebrity Tennis Match dataset versus the merged ten concerts dataset.

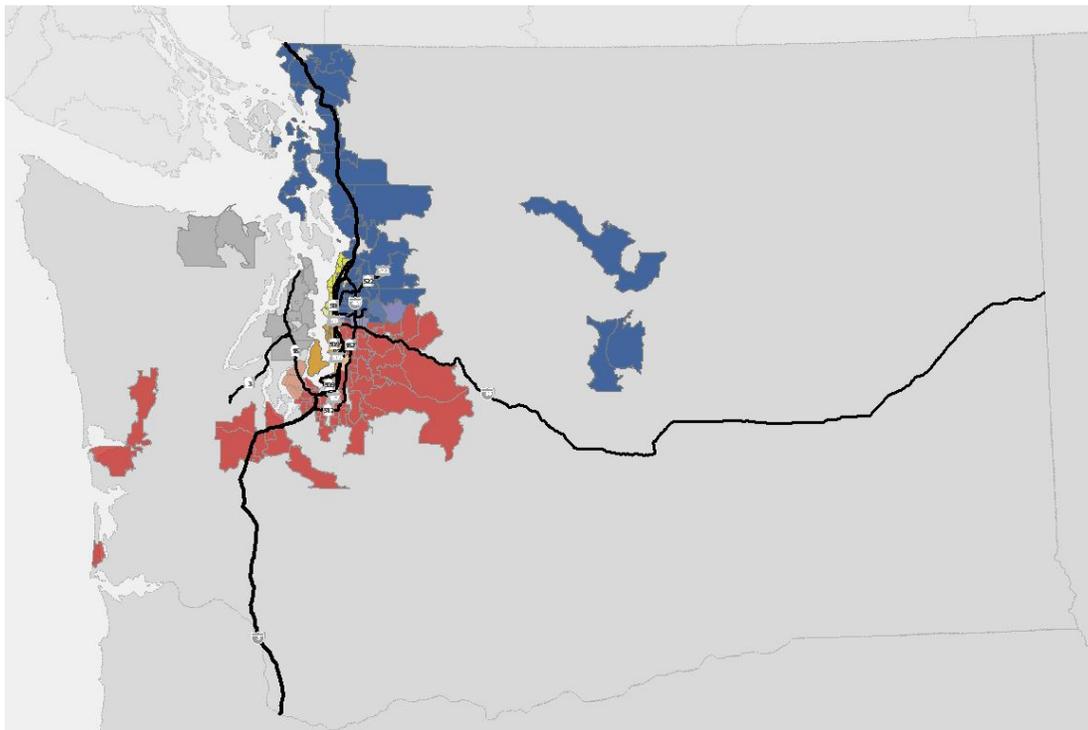


Image D-1: Ticket purchases for the blended NCAA Basketball Game / Celebrity Tennis Match dataset.

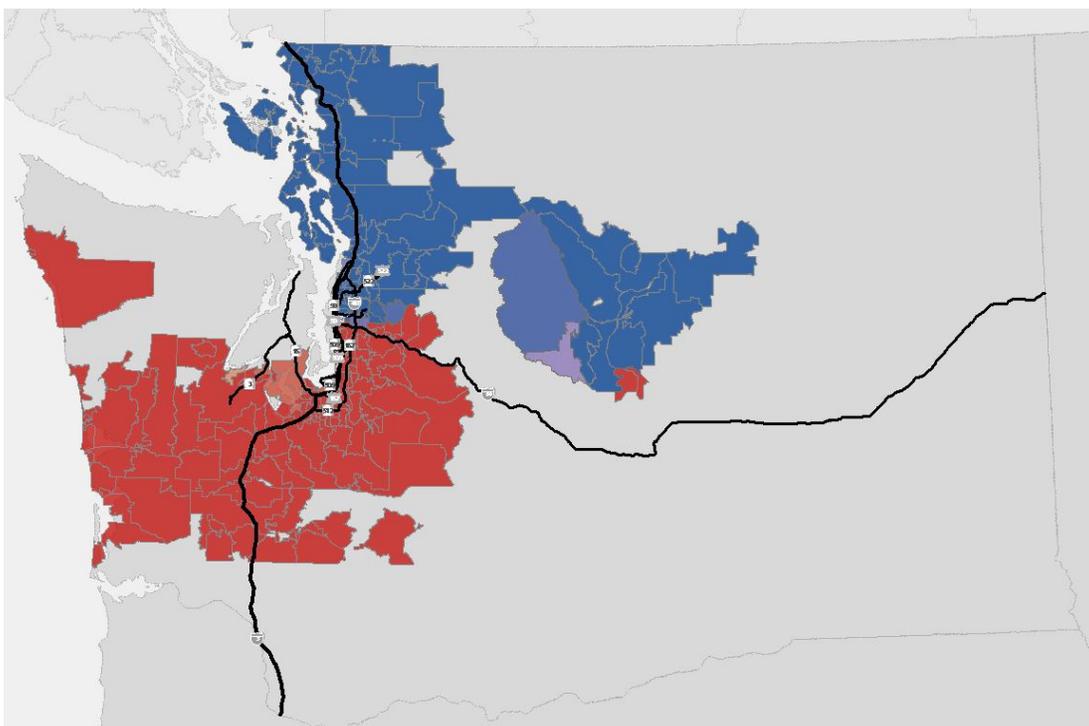


Image D-2: Ticket purchases for the merged dataset of ten concerts.

TECHNICAL MEMORANDUM #6

Date: February 28, 2018
To: Molly Adolfson & Claire Hoffman – ESA, John Shaw – SDCl, Kadie Bell Sata – SDOT,
Julia Levitt & Jill Crary – Seattle Center
From: Fehr & Peers
Subject: ***Seattle Center Arena – 2020 Analysis Results for Roadway and Pedestrian Systems***

SE17-0562

Introduction

This memorandum documents the detailed results of our analyses of the roadway and pedestrian network for the following 2020 scenarios:

- 2020 No Action Alternative – Average Seattle Center Attendance Conditions
- 2020 Alternative 1 – Average Seattle Center Attendance Conditions
- 2020 No Action Alternative – Above Average Seattle Center Attendance Conditions (to follow)
- 2020 Alternative 1 – Above Average Seattle Center Attendance Conditions (partially complete)

These scenarios are evaluated in a greater level of quantitative detail than the other travel modes and therefore require this separate memorandum to present detailed findings (i.e., the DEIS presents summarized results).

Alternative 2 is evaluated in a primarily qualitative manner in the DEIS given its similar travel characteristics to Alternative 1. Refer to Chapter 4 of the DEIS for a definition of average and above average conditions.

Roadway System

Chapter 4 of the DEIS presents results pertaining to I-5 freeway off-ramps and average travel time on the Mercer St and Denny Way corridors. The DEIS also provides summarized LOS results. This memo presents individual intersection LOS results. As is discussed in the DEIS transportation chapter, upstream and downstream bottlenecks substantially affect operations. In some instances, upstream bottlenecks prevent traffic from reaching downstream intersections. In other cases, bottlenecks spill back to upstream intersections, adversely affecting their operations.

Table 1 displays the 2020 delay and LOS results for all scenarios at the 58 existing study intersections and the 11 new study intersections created by the reknitting of east-west streets east of Seattle Center. This table displays the results for the No Action and Alternative 1 scenarios.

Readers are referred to Technical Memorandum 3 (Existing Conditions) for a detailed description of traffic operations analysis methods.

Table 1. Intersection Level of Service – 2020 Conditions

| ID | Intersection | Traffic Control | LOS / Average Delay | | | | | | | | | | | | | | | |
|----|---------------------------------|-----------------|---------------------|--------|------------|------------------------|--------|------------|----------------------------|---------|------------|--------------------------------|------|------------|-------------------------------|--------------------------------|------------|-----|
| | | | Existing Conditions | | | 2020 Average No Action | | | 2020 Average Alternative 1 | | | 2020 Above Avg. No Action | | | 2020 Above Avg. Alternative 1 | | | |
| | | | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | |
| | | | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre |
| 1 | Mercer St/Queen Anne Ave N | Traffic Signal | B / 13 | B / 13 | B / 14 | F / 158 | B / 13 | B / 15 | F / 132 | F / 195 | B / 13 | To be available in early March | | | F / 142 | To be available in early March | | |
| 2 | Mercer St/1 st Ave N | Traffic Signal | C / 29 | B / 11 | B / 13 | F / 257 | B / 11 | B / 14 | F / 217 | F / 293 | B / 15 | | | | F / 202 | | | |
| 3 | Mercer St/Warren Ave N | Traffic Signal | A / 10 | A / 5 | A / 9 | F / 189 | A / 5 | A / 9 | F / 178 | F / 133 | A / 10 | | | | F / 184 | | | |
| 4 | Mercer St/2nd Ave N | Traffic Signal | B / 13 | A / 2 | A / 5 | F / 146 | A / 2 | A / 5 | F / 103 | F / 172 | A / 3 | | | | F / 95 | | | |
| 5 | Mercer St/3rd Ave N | Traffic Signal | B / 18 | A / 7 | B / 15 | F / 120 | A / 7 | B / 15 | F / 89 | F / 108 | B / 15 | | | | F / 86 | | | |
| 6 | Mercer St/4th Ave N | Traffic Signal | D / 46 | A / 2 | A / 7 | F / 207 | A / 2 | A / 8 | F / 151 | F / 180 | B / 17 | | | | F / 141 | | | |
| 7 | Mercer St/5th Ave N | Traffic Signal | E / 61 | C / 34 | D / 43 | F / 102 | C / 34 | D / 43 | F / 104 | F / 123 | D / 54 | | | | F / 101 | | | |
| 8 | Mercer St/6th Ave N | Traffic Signal | F / 97 | A / 1 | A / 4 | F / 161 | A / 1 | A / 7 | F / 135 | F / 105 | D / 40 | | | | F / 132 | | | |

| ID | Intersection | Traffic Control | LOS / Average Delay | | | | | | | | | | | | | | |
|----|--------------------------------|-----------------|---------------------|--------|------------|------------------------|--------|------------|----------------------------|---------|------------|---------------------------|------|------------|-------------------------------|------|------------|
| | | | Existing Conditions | | | 2020 Average No Action | | | 2020 Average Alternative 1 | | | 2020 Above Avg. No Action | | | 2020 Above Avg. Alternative 1 | | |
| | | | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr |
| | | | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre |
| 9 | Mercer St/Dexter Ave N | Traffic Signal | F / 84 | C / 31 | D / 41 | F / 111 | C / 31 | D / 44 | F / 117 | E / 79 | E / 59 | | | | F / 117 | | |
| 10 | Mercer St/9th Ave N | Traffic Signal | E / 60 | C / 24 | C / 25 | E / 72 | C / 24 | D / 39 | E / 67 | E / 59 | D / 38 | | | | E / 64 | | |
| 11 | Mercer St/Westlake Ave N | Traffic Signal | D / 41 | C / 24 | C / 25 | D / 45 | C / 24 | C / 29 | D / 46 | C / 34 | C / 23 | | | | D / 45 | | |
| 12 | Mercer St/Terry Ave N | Traffic Signal | D / 38 | A / 3 | A / 7 | D / 49 | A / 3 | A / 9 | D / 49 | B / 11 | C / 25 | | | | D / 47 | | |
| 13 | Mercer St/Boren Ave N | Traffic Signal | C / 26 | A / 3 | A / 5 | C / 30 | A / 3 | A / 7 | D / 36 | B / 16 | D / 39 | | | | C / 34 | | |
| 14 | Mercer St/Fairview Ave N | Traffic Signal | E / 62 | C / 25 | C / 30 | E / 57 | C / 25 | D / 46 | F / 169 | F / 304 | F / 394 | | | | F / 163 | | |
| 15 | Queen Anne Ave N/Republican St | Traffic Signal | B / 18 | B / 10 | B / 17 | D / 38 | B / 11 | C / 20 | F / 258 | B / 16 | C / 23 | | | | F / 327 | | |
| 16 | 1st Ave N/Republican St | Traffic Signal | B / 13 | B / 13 | B / 18 | F / 263 | B / 13 | B / 17 | F / 233 | F / 382 | B / 19 | | | | C / 26 | | |
| 17 | 5th Ave N/Republican St | Traffic Signal | A / 7 | A / 3 | A / 5 | 8 / A | A / 5 | A / 6 | A / 8 | F / 160 | A / 7 | | | | C / 22 | | |
| 18 | Queen Anne Ave N/Harrison St | Traffic Signal | A / 9 | A / 6 | A / 6 | F / 186 | A / 6 | A / 7 | F / 303 | A / 9 | A / 9 | | | | F / 340 | | |

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| ID | Intersection | Traffic Control | LOS / Average Delay | | | | | | | | | | | | | | |
|----|------------------------------|------------------|---------------------|--------|------------|------------------------|--------|------------|----------------------------|---------|------------|---------------------------|------|------------|-------------------------------|------|------------|
| | | | Existing Conditions | | | 2020 Average No Action | | | 2020 Average Alternative 1 | | | 2020 Above Avg. No Action | | | 2020 Above Avg. Alternative 1 | | |
| | | | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr |
| | | | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre |
| 19 | 1st Ave N/Harrison St | Traffic Signal | B / 11 | B / 11 | B / 12 | F / 219 | B / 11 | B / 12 | F / 210 | F / 227 | B / 13 | | | | F / 219 | | |
| 20 | 5th Ave N/Harrison St | Traffic Signal | B / 11 | A / 9 | A / 10 | 12 / B | A / 9 | B / 11 | C / 28 | D / 43 | B / 16 | | | | E / 70 | | |
| 21 | Queen Anne Ave N/Thomas St | Side-Street Stop | A / 10 | A / 8 | A / 9 | F / > 150 | A / 7 | B / 12 | F / 327 | A / 8 | B / 11 | | | | F / 332 | | |
| 22 | 1st Ave N/Thomas St | Side-Street Stop | B / 12 | B / 11 | B / 11 | F / 123 | A / 8 | B / 10 | F / 309 | F / 96 | C / 32 | | | | F / 359 | | |
| 23 | 5th Ave N/Thomas St/Broad St | Traffic Signal | D / 37 | C / 30 | D / 40 | 49 / D | C / 31 | D / 42 | F / 84 | F / 101 | D / 46 | | | | F / 161 | | |
| 24 | Queen Anne Ave N/John St | Side-Street Stop | A / 9 | A / 7 | A / 8 | F / > 150 | A / 7 | A / 9 | F / 325 | A / 7 | B / 10 | | | | F / 351 | | |
| 25 | 1st Ave N/John St | Side-Street Stop | B / 10 | A / 6 | A / 10 | F / 76 | A / 7 | B / 10 | F / 200 | D / 50 | B / 17 | | | | F / 162 | | |
| 26 | Broad St/John St | Traffic Signal | B / 14 | A / 10 | B / 13 | B / 13 | B / 10 | B / 13 | C / 23 | D / 37 | B / 19 | | | | E / 63 | | |
| 27 | 5th Ave N/John St | Side-Street Stop | C / 30 | A / 6 | B / 11 | 54 / D | A / 7 | B / 10 | F / 81 | C / 26 | B / 14 | | | | F / 109 | | |

| ID | Intersection | Traffic Control | LOS / Average Delay | | | | | | | | | | | | | | |
|-----|--------------------------------|------------------|---------------------|--------|------------|------------------------|--------|------------|----------------------------|---------|------------|---------------------------|------|------------|-------------------------------|------|------------|
| | | | Existing Conditions | | | 2020 Average No Action | | | 2020 Average Alternative 1 | | | 2020 Above Avg. No Action | | | 2020 Above Avg. Alternative 1 | | |
| | | | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr |
| | | | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre |
| 28 | Denny Way/Western Ave | Traffic Signal | B / 17 | A / 9 | B / 12 | F / 129 | A / 9 | B / 13 | F / 117 | B / 13 | B / 14 | | | | F / 148 | | |
| 28a | Denny Way/Queen Anne Ave N | Traffic Signal | B / 19 | B / 12 | B / 13 | F / 96 | B / 12 | B / 14 | F / 101 | B / 18 | C / 24 | | | | F / 106 | | |
| 29 | Denny Way/1st Ave N | Traffic Signal | B / 18 | B / 16 | B / 19 | D / 51 | B / 16 | B / 19 | D / 50 | B / 17 | C / 21 | | | | D / 50 | | |
| 30 | Denny Way/Warren Ave N | Side-Street Stop | C / 23 | B / 10 | C / 23 | 366 / F | A / 10 | C / 21 | F / 882 | B / 17 | E / 53 | | | | F / 848 | | |
| 31 | Denny Way/2nd Ave N | Traffic Signal | A / 9 | A / 4 | A / 8 | D / 45 | A / 4 | A / 8 | E / 69 | D / 37 | B / 17 | | | | E / 68 | | |
| 32 | Denny Way/Broad St | Traffic Signal | B / 13 | A / 9 | B / 12 | F / 96 | B / 10 | B / 14 | F / 135 | B / 17 | C / 22 | | | | F / 141 | | |
| 33 | Denny Way/5th Ave N | Traffic Signal | B / 12 | A / 10 | B / 13 | F / 101 | A / 10 | B / 15 | F / 103 | F / 87 | B / 20 | | | | F / 120 | | |
| 34 | Denny Way/Taylor Ave N | Traffic Signal | B / 17 | A / 7 | B / 11 | E / 73 | A / 6 | B / 11 | E / 71 | D / 38 | C / 24 | | | | F / 84 | | |
| 35 | Denny Way/6th Ave N | Traffic Signal | D / 46 | B / 11 | B / 13 | F / 109 | B / 13 | B / 13 | F / 151 | E / 67 | C / 25 | | | | F / 172 | | |
| 36 | Denny Way/Aurora Ave N/7th Ave | Traffic Signal | F / 105 | B / 18 | C / 29 | F / 94 | B / 18 | C / 22 | F / 98 | F / 128 | C / 23 | | | | F / 122 | | |

| ID | Intersection | Traffic Control | LOS / Average Delay | | | | | | | | | | | | | | |
|----|-----------------------------------|-----------------|---------------------|--------|------------|------------------------|--------|------------|----------------------------|---------|------------|---------------------------|------|------------|-------------------------------|------|------------|
| | | | Existing Conditions | | | 2020 Average No Action | | | 2020 Average Alternative 1 | | | 2020 Above Avg. No Action | | | 2020 Above Avg. Alternative 1 | | |
| | | | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr |
| | | | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre |
| 37 | Denny Way/Dexter Ave N | Traffic Signal | D / 50 | B / 14 | B / 16 | E / 65 | B / 16 | B / 16 | F / 86 | E / 79 | C / 32 | | | | F / 100 | | |
| 38 | Denny Way/Bell St/9th Ave N | Traffic Signal | F / 84 | A / 5 | A / 8 | F / 93 | A / 6 | A / 8 | F / 113 | F / 94 | A / 9 | | | | F / 130 | | |
| 39 | Denny Way/Westlake Ave N | Traffic Signal | D / 53 | B / 15 | B / 17 | D / 52 | B / 16 | B / 18 | E / 63 | F / 101 | B / 18 | | | | F / 87 | | |
| 40 | Denny Way/Fairview Ave N | Traffic Signal | F / 89 | C / 23 | C / 26 | F / 145 | C / 26 | D / 37 | F / 145 | F / 111 | D / 51 | | | | F / 163 | | |
| 41 | Denny Way/Stewart St | Traffic Signal | E / 62 | E / 60 | E / 66 | F / 127 | E / 60 | E / 65 | F / 314 | F / 325 | E / 78 | | | | F / 365 | | |
| 42 | Yale Ave/Stewart St | Traffic Signal | E / 70 | B / 13 | B / 17 | E / 66 | B / 13 | B / 18 | E / 68 | F / 82 | B / 17 | | | | E / 68 | | |
| 43 | Broad St/2nd Ave | Traffic Signal | B / 13 | A / 9 | B / 13 | B / 12 | A / 9 | B / 13 | B / 14 | C / 21 | B / 13 | | | | C / 26 | | |
| 44 | 6th Ave/Battery St | Traffic Signal | B / 11 | B / 11 | B / 14 | B / 12 | B / 11 | B / 14 | B / 12 | B / 15 | B / 14 | | | | B / 12 | | |
| 45 | 6th Ave/Bell St | Traffic Signal | B / 16 | B / 13 | B / 13 | B / 16 | B / 13 | B / 13 | B / 17 | B / 13 | B / 14 | | | | B / 16 | | |
| 46 | Yale Ave/Howell St/I-5 SB on-ramp | Traffic Signal | C / 25 | C / 21 | C / 20 | C / 27 | C / 21 | C / 20 | C / 26 | C / 30 | C / 21 | | | | C / 26 | | |

| ID | Intersection | Traffic Control | LOS / Average Delay | | | | | | | | | | | | | | |
|----|------------------------------|-----------------|---------------------|--------|------------|------------------------|--------|------------|----------------------------|---------|------------|---------------------------|------|------------|-------------------------------|------|------------|
| | | | Existing Conditions | | | 2020 Average No Action | | | 2020 Average Alternative 1 | | | 2020 Above Avg. No Action | | | 2020 Above Avg. Alternative 1 | | |
| | | | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr |
| | | | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre |
| 47 | 4th Ave/Battery St | Traffic Signal | B / 12 | B / 12 | B / 13 | B / 12 | B / 12 | B / 14 | B / 13 | B / 13 | B / 14 | | | | B / 14 | | |
| 48 | 6th Ave/Olive Way | Traffic Signal | C / 33 | A / 10 | B / 10 | C / 35 | B / 10 | B / 11 | D / 41 | B / 11 | B / 11 | | | | D / 36 | | |
| 49 | 5th Ave/Stewart St | Traffic Signal | C / 31 | B / 16 | B / 20 | C / 30 | C / 16 | C / 20 | D / 40 | C / 22 | C / 22 | | | | C / 32 | | |
| 50 | 5th Ave/Olive Way | Traffic Signal | B / 14 | B / 10 | B / 13 | B / 16 | B / 10 | B / 13 | C / 21 | B / 11 | B / 13 | | | | B / 15 | | |
| 51 | 4th Ave/Olive Way/Stewart St | Traffic Signal | B / 17 | B / 12 | B / 14 | B / 17 | B / 12 | B / 14 | B / 19 | B / 11 | B / 14 | | | | B / 18 | | |
| 52 | 2nd Ave/Virginia St | Traffic Signal | C / 31 | B / 16 | B / 19 | C / 29 | B / 16 | B / 19 | C / 32 | C / 27 | C / 20 | | | | C / 31 | | |
| 53 | 2nd Ave/Stewart St | Traffic Signal | B / 19 | B / 15 | B / 16 | B / 19 | B / 15 | B / 16 | B / 20 | B / 15 | B / 17 | | | | C / 20 | | |
| 54 | Queen Anne Ave N/Roy St | Traffic Signal | D / 48 | C / 25 | D / 45 | F / 245 | C / 25 | D / 46 | F / 191 | F / 304 | D / 39 | | | | F / 223 | | |
| 55 | 1st Ave N/Roy St | Traffic Signal | C / 27 | A / 7 | B / 16 | F / 147 | A / 7 | B / 17 | E / 76 | F / 137 | B / 13 | | | | F / 104 | | |
| 56 | 3rd Ave N/Roy St | Traffic Signal | C / 34 | A / 9 | A / 8 | F / 119 | A / 9 | A / 9 | C / 34 | F / 144 | B / 10 | | | | C / 31 | | |

| ID | Intersection | Traffic Control | LOS / Average Delay | | | | | | | | | | | | | | |
|----|--|-----------------|---------------------|--------|------------|------------------------|--------|------------|----------------------------|---------|------------|---------------------------|------|------------|-------------------------------|------|------------|
| | | | Existing Conditions | | | 2020 Average No Action | | | 2020 Average Alternative 1 | | | 2020 Above Avg. No Action | | | 2020 Above Avg. Alternative 1 | | |
| | | | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr |
| | | | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre |
| 57 | 4th Ave N/Roy St | Traffic Signal | D / 41 | A / 8 | B / 11 | D / 49 | A / 8 | B / 11 | D / 47 | F / 323 | C / 27 | | | | E / 55 | | |
| 58 | 5th Ave N/Roy St | Traffic Signal | E / 62 | B / 14 | C / 24 | F / 163 | B / 14 | C / 27 | F / 175 | F / 381 | F / 164 | | | | F / 180 | | |
| 59 | 6 th Ave N/SR 99 SB On-ramp | Traffic Signal | - | - | - | B / 10 | A / 6 | B / 11 | A / 9 | A / 7 | B / 11 | | | | A / 9 | | |
| 60 | Dexter Ave N/SR 99 NB Off-ramp | Traffic Signal | - | - | - | F / 170 | B / 10 | B / 12 | E / 65 | B / 10 | B / 17 | | | | E / 67 | | |
| 61 | 6 th Ave N/Harrison St | Traffic Signal | - | - | - | B / 11 | A / 7 | A / 9 | B / 11 | F / 233 | B / 10 | | | | B / 12 | | |
| 62 | Aurora Ave/Harrison St | Traffic Signal | - | - | - | E / 71 | C / 25 | C / 26 | C / 33 | E / 56 | D / 47 | | | | C / 27 | | |
| 63 | Dexter Ave N /Harrison St | Traffic Signal | - | - | - | E / 74 | B / 10 | B / 14 | E / 69 | C / 21 | E / 56 | | | | E / 67 | | |
| 64 | 6 th Ave N/Thomas St | All-Way Stop | - | - | - | B / 12 | A / 8 | B / 12 | B / 13 | A / 9 | B / 13 | | | | B / 13 | | |
| 65 | Aurora Ave/Thomas St | Traffic Signal | - | - | - | C / 30 | B / 12 | B / 19 | C / 28 | B / 13 | C / 21 | | | | C / 28 | | |
| 66 | Dexter Ave N/Thomas St | Traffic Signal | - | - | - | E / 69 | B / 11 | B / 14 | C / 34 | B / 11 | B / 16 | | | | D / 36 | | |

| ID | Intersection | Traffic Control | LOS / Average Delay | | | | | | | | | | | | | | |
|----|-------------------------------|------------------|---------------------|------|------------|------------------------|--------|------------|----------------------------|--------|------------|---------------------------|------|------------|-------------------------------|------|------------|
| | | | Existing Conditions | | | 2020 Average No Action | | | 2020 Average Alternative 1 | | | 2020 Above Avg. No Action | | | 2020 Above Avg. Alternative 1 | | |
| | | | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr |
| | | | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre |
| 67 | 6 th Ave N/John St | All-Way Stop | - | - | - | B / 12 | A / 8 | B / 11 | C / 25 | B / 12 | C / 23 | | | | B / 25 | | |
| 68 | Aurora Ave/John St | Traffic Signal | - | - | - | C / 33 | B / 14 | B / 16 | C / 31 | B / 14 | B / 16 | | | | C / 32 | | |
| 69 | Dexter Ave N/John St | Side-Street Stop | - | - | - | F / 227 | B / 12 | C / 21 | F / 131 | B / 16 | D / 35 | | | | F / 126 | | |

Notes:

1. For signalized and all-way stop intersections, average delay (expressed in seconds per vehicle) is the weighted average of all vehicles passing through the intersection. A single LOS value is then assigned to the intersection based on that delay value, though it is noted that LOS and delay may vary considerably between different approaches.
2. For side-street stop intersections, results shown for minor street movement with greatest delay.
3. Due to over-saturated conditions during the weekday pre-event peak hour in the peak direction of travel on certain corridors, the percentage of peak hour vehicle demand that can be served (i.e., travel through) at certain intersections along these corridors decreases to below 60%, meaning that congested conditions would occur for multiple hours.

Source: Fehr & Peers, 2018.

Pedestrian System

The pedestrian system evaluation focuses on the adequacy of existing facilities to accommodate surges in pedestrians associated with events at the proposed arena. Chapter 16 of the Highway Capacity Manual 6th Edition (Transportation Research Board, 2017) includes a detailed methodology for calculating the pedestrian LOS for a given street segment. In determining the overall LOS, this methodology considers a variety of factors such as block length, pedestrian wait times at intersections, route directness, sidewalk width, presence of lateral obstructions, midblock crossing opportunities, curb presence, width of outside through lane or bike lane, proportion of on-street parking that is occupied, buffer width to the street, etc. These factors play a role in how a pedestrian perceives the quality of the pedestrian system. However, these factors are not as important when considering surges in pedestrian flows associated with large events. In such instances, the evaluation focuses on whether crosswalks and sidewalks are of sufficient width to accommodate projected pedestrian flows during peak periods. If pedestrian flows become excessive, pedestrians may overflow onto streets, which can cause conflicts with moving vehicles and other forms of travel.

For this study, crosswalks and sidewalks are analyzed using average pedestrian space as the threshold for determining facility adequacy. Average pedestrian space reflects the level of crowding on a crosswalk or sidewalk. It represents the average amount of sidewalk area available to each pedestrian walking along the segment. According to Page 4-31 of the Highway Capacity Manual 6th Edition (Transportation Research Board, 2017), average pedestrian space, which is represented in square-feet per person (i.e., ft²/ped) depends on the pedestrian flow rate, which is expressed as the number of pedestrians per minute per foot of effective sidewalk space. Additionally, the average walk speed influences average pedestrian space. Consistent with HCM guidance, a 0.85 peak hour factor (PHF) is applied to represent a moderate surge in pedestrian travel during the busiest 15 minutes of the peak hour.

For sidewalks, 13 ft²/pedestrian of pedestrian space has been set as the lowest acceptable threshold. This value is near the LOS E/F threshold for facilities with cross-flows. For crosswalks, a value of 11 ft²/pedestrian is used, which represents an LOS E/ F threshold under platooned flow conditions. For crosswalks, an additional step is required that considers the amount of walk time provided for the crosswalk (while also considering the intersection cycle length).

According to the HCM, pedestrian flow rates remain relatively stable when the average space per pedestrian drops into the range of 5 to 9 ft²/pedestrian. But when pedestrian space is reduced to below 5 ft²/pedestrian, the flow rate declines precipitously. Accordingly, the thresholds applied in this study are more restrictive than the facility's absolute capacity.

Table 2 shows the number of pedestrians per hour on sidewalks expected to be used to the greatest degree under 2020 Alternative 1 – Average Seattle Center Attendance conditions during the weekday pre-event and post-event peak hours. Results are not shown for Saturday pre-event conditions because prior evaluations determined that a concert would generate fewer vehicle and pedestrian trips due to a more uniform arrival pattern when compared to a basketball game (see Tech Memo 5 – Project Travel Characteristics). Results are not shown for 2020 Above Average Plus Alternative 1 conditions because the majority of the added pedestrian traffic (beyond 2020 Average conditions) would originate/be destined to the Mercer St, 1st Ave N, and 5th Ave N garages, meaning the vast majority of sidewalks and crosswalks would not be affected.

This table does not display pedestrian flows on the following facilities for reasons described below:

- 1st Ave N and Thomas St along the arena frontages – the project site plan shows wide (20-foot) sidewalks along each fronting street, along with frequent openings into the pedestrian plaza as well as secondary walkways on the periphery of the plaza. Given these conditions, it was not necessary to develop sidewalk volumes along the project frontage. Furthermore and more importantly, the presence of secondary walkways would ensure that if the sidewalks did become crowded, pedestrians could easily find alternate routes to walk to their destination.
- Entrances into Seattle Center – pedestrians are expected to walk through Seattle Center from nearly all of its public street access points. These accesses are of substantial width to accommodate large events.

This table indicates that 2nd Ave N north of Denny St would have the lowest average pedestrian space (20 ft² per pedestrian) based on its pedestrian demand and relatively narrow effective sidewalk width. According to the HCM, this value corresponds to conditions in which “speed and ability to pass slower pedestrians are restricted”. However, spillover onto 2nd Ave N is not expected. The results in Table 2 are consistent with page 18-42 of the HCM 6th Edition, which states that narrow sidewalks (e.g., effective width of 4 feet) would need to carry over 1,000 pedestrians per hour to cause degradations in pedestrian flows.

Table 3 shows the number of pedestrians per hour on crosswalks near the project site that are expected to be used to the greatest degree under 2020 Alternative 1 – Average Seattle Center Attendance conditions during the weekday pre-event and post-event peak hours. This table yields the following key conclusions:

- The north leg crosswalk of the 5th Ave N/Harrison St intersection is projected to accommodate 1,150 pre-event peak hour pedestrians and 2,100 post-event peak hour pedestrians. This would cause the average pedestrian space to be at or below the threshold of 11 ft² per pedestrian. These pedestrian flows are due to the crosswalk’s proximity to the 5th Ave Garage as well as its usage to travel between the project site (through Seattle Center) easterly along Harrison Street and new

parking garages on Dexter Ave N. The considerably greater use of this crosswalk during post-event conditions reflects not only a larger percentage of the overall event attendees departing during that peak hour, but also an increased percentage of pedestrians traveling easterly to lots/garages along Dexter Ave N.

- Many of the crosswalks would have average pedestrian space of 15 to 30 ft² per pedestrian. Although these volumes would not exceed their capacity (i.e., not result in pedestrians walking outside of crosswalks), the crosswalks would nonetheless feel quite crowded.

Table 2. Analysis of Sidewalks Under 2020 Alternative 1 – Average Seattle Center Attendance Conditions

| Street | Segment | Side | 2020 Alternative 1 – Average Seattle Center Attendance Conditions | | | |
|-------------|------------------------------|-------|---|--------------------------|------------------------------|--------------------------|
| | | | Weekday Pre-Event Peak Hour | | Weekday Post-Event Peak Hour | |
| | | | Pedestrians Per Hour | Average Pedestrian Space | Pedestrians Per Hour | Average Pedestrian Space |
| 5th Ave N | John St to Denny Way | west | 1,400 | 83 | 850 | 137 |
| John St | 4th Ave N to 5th Ave N | south | 1,100 | 61 | 1,100 | 61 |
| 2nd Ave N | John St to Denny Way | east | 900 | 20 | 750 | 24 |
| 1st Ave N | Mercer St to Republican St | west | 900 | 75 | 500 | 135 |
| 1st Ave N | Mercer St to Republican St | east | 850 | 86 | 500 | 147 |
| 5th Ave N | Republican St to Harrison St | east | 800 | 168 | 1,100 | 122 |
| Mercer St | 3rd Ave N to 4th Ave N | south | 750 | 106 | 850 | 94 |
| 1st Ave N | Harrison St to Thomas St | west | 700 | 192 | 750 | 180 |
| 1st Ave N | Republican St to Harrison St | west | 650 | 141 | 700 | 131 |
| 1st Ave N | Thomas St to John St | east | 600 | 143 | 350 | 245 |
| 5th Ave N | Republican St to Harrison St | west | 550 | 78 | 600 | 71 |
| Harrison St | 5th Ave N to Taylor Ave N | south | 550 | 100 | 1,000 | 55 |
| Harrison St | 5th Ave N to Taylor Ave N | north | 500 | 184 | 900 | 102 |

Notes:

1. Sidewalk locations having greatest pedestrian flows for a weekday evening event are shown in the table.
2. Pedestrian space expressed in terms of ft² per pedestrian. Threshold for unacceptable operations is 13 ft² per pedestrian.
3. Pedestrian volumes are rounded to the nearest 50 persons.

Table 3. Analysis of Crosswalks Under 2020 Alternative 1 – Average Seattle Center Attendance Conditions

| Intersection | Crosswalk | Width (feet) | 2020 Alternative 1 – Average Seattle Center Attendance Conditions | | | |
|---------------------------|-----------|--------------|---|------------------|------------------------------|------------------|
| | | | Weekday Pre-Event Peak Hour | | Weekday Post-Event Peak Hour | |
| | | | Pedestrians Per Hour | Pedestrian Space | Pedestrians Per Hour | Pedestrian Space |
| 1st Ave N / Mercer St | North | 10 | 600 | 28 | 350 | 48 |
| | South | 10 | 500 | 34 | 350 | 48 |
| | East | 10 | 650 | 26 | 500 | 34 |
| | West | 10 | 350 | 48 | 300 | 56 |
| 3rd Ave N / Mercer St | North | 10 | 300 | 56 | 300 | 56 |
| | East | 10 | 400 | 42 | 550 | 31 |
| | West | 10 | 250 | 67 | 300 | 56 |
| 4th Ave N / Mercer St | North | 10 | 350 | 48 | 350 | 48 |
| | South | 10 | 400 | 42 | 400 | 42 |
| 5th Ave N / Mercer St | North | 14 | 350 | 34 | 350 | 34 |
| | South | 14 | 400 | 29 | 400 | 29 |
| | East | 14 | 450 | 26 | 400 | 29 |
| | West | 14 | 300 | 39 | 200 | 59 |
| 1st Ave N / Republican St | North | 18 | 200 | 151 | 250 | 121 |
| | South | 12 | 400 | 50 | 350 | 58 |
| | East | 12 | 650 | 31 | 500 | 40 |
| | West | 20 | 600 | 56 | 550 | 61 |
| 5th Ave N / Republican St | East | 10 | 350 | 38 | 250 | 54 |
| | West | 15 | 450 | 45 | 450 | 45 |
| 1st Ave N / Harrison St | North | 10 | 650 | 26 | 900 | 19 |
| | South | 10 | 550 | 31 | 750 | 22 |
| | West | 10 | 250 | 67 | 200 | 84 |
| 5th Ave N / Harrison St | North | 11 | 1,150 | 13 | 2,100 | 7 |
| | South | 12 | 500 | 32 | 900 | 18 |
| | East | 10 | 200 | 67 | 50 | 269 |
| | West | 10 | 250 | 54 | 150 | 90 |
| Broad St / John St | Northeast | 21 | 600 | 47 | 500 | 57 |

| Intersection | Crosswalk | Width (feet) | 2020 Alternative 1 – Average Seattle Center Attendance Conditions | | | |
|-----------------------|-----------|--------------|---|------------------|------------------------------|------------------|
| | | | Weekday Pre-Event Peak Hour | | Weekday Post-Event Peak Hour | |
| | | | Pedestrians Per Hour | Pedestrian Space | Pedestrians Per Hour | Pedestrian Space |
| | Southwest | 25 | 1,550 | 22 | 1,000 | 34 |
| 5th Ave N / Denny Way | North | 10 | 300 | 64 | 100 | 192 |
| | South | 10 | 700 | 27 | 500 | 38 |
| | West | 10 | 850 | 23 | 750 | 26 |

Notes:

1. Selected crosswalks are generally located in the project vicinity and expected to be used to the greatest degree by event attendees during a weekday evening event.
2. Pedestrian space expressed in terms of ft² per pedestrian. Threshold for unacceptable operations is 11 ft² per pedestrian.
3. Pedestrian volumes are rounded to the nearest 50 persons.

Each of the crosswalks shown in Table 3 are located at signalized intersections and have pedestrian signal equipment to advise pedestrians when to cross. However, pedestrian flows are also expected to be substantial at several unsignalized intersections, some of which do not have marked crosswalks. These include east-west crossings of 1st Ave N at Thomas St and John St.

Some signalized intersections in the vicinity of the project provide sizeable areas for pedestrians to wait to cross the intersection. Examples exist along portions of 5th Ave N (e.g., at Harrison St). However, other intersections feature limited size waiting areas to accommodate pedestrians. Examples of these facilities are found at the 1st Ave N/Mercer St, and 1st Ave N/Harrison St intersections. Since development has occurred adjacent to these intersections, any opportunities to provide expanded pedestrian waiting areas would require sidewalk encroachment into the street right-of-way. As an alternative, an Event Transportation Management Plan (TMP) to be prepared for the project should evaluate and include recommendations to address management (i.e., traffic control personnel, placement of barricades to prevent flows onto streets, etc.) of pedestrians at these waiting areas.



TECHNICAL MEMORANDUM #7

Date: March 23, 2018
To: Molly Adolfson & Claire Hoffman – ESA, John Shaw – SDCI, Kadie Bell Sata – SDOT,
Julia Levitt & Jill Crary – Seattle Center
From: Fehr & Peers
Subject: **Seattle Center Arena – Project Travel Characteristics – Year 2035**

SE17-0562

This memorandum documents the expected mode split of the proposed Seattle Center Arena project under Year 2035 conditions. By 2035, light rail service operated by Sound Transit will be extended north to Ballard and Lynnwood, east to Bellevue and Redmond, and south to Tacoma. This includes a new line extending from Westlake Center toward Seattle Center, Magnolia, and Ballard. These expansions will result in a more robust light rail system that provides direct access to the proposed Seattle Center Arena via a new station located in the northwest corner of Seattle Center (the precise location has yet to be determined). The number of new vehicle trips (and distribution of those trips) generated by the project is then estimated based on these mode split percentages and other previously documented travel characteristics. Prior to presenting this information, a synopsis of available studies is provided for event venues (both in Seattle and elsewhere) in which light rail service is provided.

Literature Review – Mode Split at Arenas/Stadiums with Light Rail Service

CenturyLink Field Transportation Management Program

A survey of attendees to the Seattle Seahawks home game at CenturyLink Field on Sunday, November 20, 2016 revealed that 50% of attendees drove. This mode split is a reflection of the opening of a LINK light rail station adjacent to the stadium in 2009 and a shuttle program from regional park-and-ride lots, intended to reduce the number of automobile trips. A 2003 survey revealed that 75% of attendees drove. The source of this information was the CenturyLink Field Transportation Management Program (TMP) (Washington State Public Stadium Authority, First & Goal Inc., Seattle Seahawks, Sounders FC, 2017).

Golden 1 Center in Sacramento, CA

An online survey of attendees to a Sacramento Kings game played in February 2017 at Golden 1 Center in downtown Sacramento revealed that light rail was used by 11% of attendees. Light rail was selected by 15% of season ticketholders versus only 6% of single-game buyers, which suggests season ticketholders develop more familiarity and comfort with the transit system than single-game buyers. The source of this information was the Golden 1 Center Year One Travel Monitoring Report (Fehr & Peers, 2017).

Sacramento Regional Transit operates three radial light rail lines, each of which has stops within two blocks of Golden 1 Center. However, the geographic coverage of light rail service is limited (i.e., less robust than Sound Transit's system will have in 2035). Additionally, evening bus service to the Golden 1 Center vicinity is very limited (i.e., less than 1% of respondents reported taking the bus).

Moda Center in Portland, OR

The Moda Center in Portland, OR, which is the home of the NBA Portland Trailblazers, is situated adjacent to a Tri-Met light rail station. The organization's website reports that 64% of attendees drive, 25% take light rail, and 11% walk or bike.

Seattle Center Arena Attendee Mode Split

Table 1 presents the expected mode split for attendees to the proposed Seattle Center arena under 2020 conditions. These percentages are based on the current light rail system (which will not expand until 2021). Table 2 displays the expected mode split for attendees to the proposed Seattle Center arena under 2035 conditions assuming light rail service is available. This table indicates the following:

- Light rail service would accommodate just under one-quarter of all attendees.
 - During the weekday pre-event peak hour, approximately 2,530 attendees would arrive via light rail (i.e., 23% light rail use among 18,350 attendees, 60% arriving during pre-event peak hour).
 - During the weekday post-event peak hour, approximately 4,000 attendees would depart via light rail (i.e., 23% light rail use among 18,350 attendees, 95% depart during post-event peak hour).
- Due to the introduction of light rail, reductions in bus and Monorail usage (relative to 2020 percentages) by project attendees are expected.
- Ridehailing service (i.e., TNCs) would continue to see mode split growth, even with light rail expansion. Over the past few years, ridehailing mode share growth has been very high, in excess of 10 percent year-over-year, but this growth is expected to taper off as the market saturates. For this analysis, a 4 percent annual growth rate is assumed for ridehailing, which results in a 25 percent mode split by 2035.
- Private vehicle travel would remain the predominant mode of travel to the proposed Seattle Center Arena, though its use would be reduced by 44% relative to 2020 conditions because of expanded transit and ridehailing options.
- Light rail use would be greater for weekday events due to the frequency of basketball games and hockey matches. This occurs because the majority of attendees to these sporting events are season ticketholders who have familiarity with transportation options given their repeat travel to the venue. In contrast, concerts tend to attract visitors from more geographically

diverse areas, many of which may be less familiar with the City’s transportation system and therefore choose to drive.

See Tech Memo 5, Project Travel Characteristics – Year 2020 for additional information regarding how mode split is likely to vary between scenarios.

Table 1. Expected Mode Split for Proposed Seattle Center Arena Under Opening Day (2020) Conditions

| Travel Mode | Weekday NBA Game Pre-Event Peak Hour | Weekday NBA Game Post-Event Peak Hour | Saturday Concert Pre-Event Peak Hour | Notes |
|--|--|---------------------------------------|--------------------------------------|---|
| Private Vehicle | 63% | 67% | 68% | Some of these trips may also include longer walks or bikeshare bicycle travel to arena. |
| Bus to/from Seattle Center Arena | 8% | 6% | 6% | Percentages reflect transit trips to/from routes that have access directly adjacent to Seattle Center. |
| Bus or LINK to Westlake Center; Ferry to Colman Dock | This is a ‘chained trip’ see note to right | | | Estimated to be 8% for NBA Game and 6% for concert. Final trip made to the arena by walk, bicycle, TNC, Monorail, or bus (and reflected in values below). |
| Taxi / TNC / Other Drop-off | 15% | 12% | 15% | Percentages represent final mode of travel in/out of study area. Travel by ferry, bus or LINK light rail (to Westlake Center) also associated with some of these trips. |
| Walk to/from Nearby Origin | 10% | 10% | 8% | |
| Monorail | 3% | 4% | 2% | |
| Bicycle | 1% | 1% | 1% | |

Source: Fehr & Peers, 2018.

Table 2. Expected Mode Split for Proposed Seattle Center Arena Under 2035 Conditions

| Travel Mode | Weekday NBA Game Pre-Event Peak Hour | Weekday NBA Game Post-Event Peak Hour | Saturday Concert Pre-Event Peak Hour | Notes |
|---|--------------------------------------|---------------------------------------|--------------------------------------|--|
| Private Vehicle | 35% | 38% | 41% | Some of these trips may also include longer walks or bikeshare bicycle travel to arena. |
| Light Rail to/from Seattle Center Arena | 23% | 23% | 20% | Some of these light rail trips may require transfers at Westlake Center |
| Bus to/from Seattle Center Arena | 6% | 5% | 5% | Percentages reflect bus trips to/from routes that have access directly adjacent to Seattle Center. |
| Taxi / TNC / Other Drop-off | 25% | 22% | 25% | Percentages represent final mode of travel in/out of study area. |
| Walk to/from Nearby Origin | 8% | 8% | 6% | |
| Monorail | 2% | 3% | 2% | |
| Bicycle | 1% | 1% | 1% | |

Source: Fehr & Peers, 2018.

Seattle Center Arena Vehicle Trips

Table 3a displays the vehicular trip generation associated with private vehicle travel to/from the proposed Seattle Center Arena. Table 3b shows the trip generation associated with TNC, taxi, and other drop-offs of attendees to and from the proposed Seattle Center Arena.

Table 3a. Proposed Seattle Center Arena – Private Vehicle Trip Generation Under 2035 Conditions

| Metric | Weekday NBA Game Pre-Event Peak Hour | Weekday NBA Game Post-Event Peak Hour | Saturday Concert Pre-Event Peak Hour |
|--|--------------------------------------|---------------------------------------|--------------------------------------|
| Attendees | 18,350 | 18,350 | 19,125 |
| Arriving/Departing by private vehicle | 18,350 @ 35% = 6,423 attendees | 18,350 @ 38% = 6,973 attendees | 19,125 @ 41% = 7,841 attendees |
| Average Vehicle Occupancy (AVO) | 2.3 | 2.5 ¹ | 2.4 |
| Total inbound private attendee vehicles | 2,793 | - | 3,267 |
| Total outbound private attendee vehicles | - | 2,793 | - |
| Arriving/Departing percentage during peak hour | 60% | 95% | 50% |
| Inbound private attendee vehicles during peak hour | 1,676 | - | 1,634 |
| Outbound private vehicles during peak hour | - | 2,653 | - |

Note:

Increase in AVO for post-event conditions due to same number of departing vehicles being occupied by more persons.

Source: Fehr & Peers, 2018.

Table 3b. Proposed Seattle Center Arena – TNC/Taxi Vehicular Trip Generation Under 2035 Conditions

| Metric | Weekday NBA Game Pre-Event Peak Hour | Weekday NBA Game Post-Event Peak Hour | Saturday Concert Pre-Event Peak Hour |
|--|--------------------------------------|---------------------------------------|--------------------------------------|
| Attendees | 18,350 | 18,350 | 19,125 |
| Arriving/Departing by TNC/Taxi/Drop-offs | 18,350 @ 25% = 4,588 attendees | 18,350 @ 22% = 4,037 attendees | 19,125 @ 25% = 4,781 attendees |
| Average Vehicle Occupancy (AVO) | 2.3 | 2.3 | 2.4 |
| Total inbound TNC/Taxi/Drop-off vehicles | 1,995 | 1,755 | 1,992 |
| Total outbound TNC/Tax/Drop-off vehicles | 1,995 | 1,755 | 1,992 |
| Arriving/Departing Percentage During Peak Hour | 60% | 95% | 50% |
| Inbound TNC/Taxi/Drop-off vehicles during peak hour | 1,197 | 1,667 | 996 |
| Outbound TNC/Taxi/Drop-off vehicles during peak hour | 1,197 | 1,667 | 996 |

Source: Fehr & Peers, 2018.

Table 3c displays the trip generation associated with employee vehicle trips. As shown, this table indicates that 510 employees are expected to be on-site working during an NBA game or a concert.

Table 3c. Proposed Seattle Center Arena – Employee Vehicular Trip Generation Under 2035 Conditions

| Metric | Weekday NBA Game Pre-Event Peak Hour | Weekday NBA Game Post-Event Peak Hour | Saturday Concert Pre-Event Peak Hour |
|--|--------------------------------------|---------------------------------------|--------------------------------------|
| Employees | 510 | 510 | 510 |
| Arriving/Departing by Private Vehicle | 35% | 35% | 35% |
| Arriving/Departing by TNC, Taxi, or Other Drop-off | 11% | 11% | 11% |
| Average Vehicle Occupancy | 1.1 | 1.1 | 1.1 |
| Total inbound private vehicles | 162 | - | 162 |
| Total outbound private vehicles | - | 162 | - |
| Total inbound TNC/Taxi/Drop-off vehicles | 51 | 51 | 51 |
| Total outbound TNC/Taxi/Drop-off vehicles | 51 | 51 | 51 |
| Arriving/Departing Percentage during peak hour | 10% | 20% | 10% |
| Peak hour inbound private vehicles | 16 | - | 16 |
| Peak hour outbound private vehicles | - | 32 | - |
| Peak hour inbound TNC/Taxi/Drop-off vehicles | 5 | 10 | 5 |
| Peak hour outbound TNC/Taxi/Drop-off vehicles | 5 | 10 | 5 |

Source: Fehr & Peers, 2018.

Table 3d displays the resulting pre-event and post-event peak hour trip generation totals of the proposed Seattle Center Arena under 2035 conditions. As shown, the proposed Seattle Center Arena would generate 4,116 vehicle trips during the weekday pre-event peak hour, of which 71% would be inbound. During the weekday post-event peak hour, it would generate 6,054 vehicle trips, of which 72% would be outbound. Trips in the non-peak direction would primarily be made by TNCs, taxis, and other pick-up/drop-off vehicles. The project would generate 3,672 vehicle trips during the Saturday pre-event peak hour.

Table 3d. Proposed Seattle Center Arena – Peak Hour Vehicle Trip Generation Under 2035 Conditions

| Traveler Type | Weekday NBA Game Pre-Event Peak Hour Vehicle Trips | | | Weekday NBA Game Post-Event Peak Hour Vehicle Trips | | | Saturday Concert Pre-Event Peak Hour Vehicle Trips | | |
|--|--|--------------|--------------|---|--------------|--------------|--|--------------|--------------|
| | In | Out | Total | In | Out | Total | In | Out | Total |
| Attendees traveling by private vehicle | 1,676 | 0 | 1,676 | 0 | 2,653 | 2,653 | 1,634 | 0 | 1,634 |
| Attendees traveling by TNC/Taxi/Drop-off vehicle | 1,197 | 1,197 | 2,394 | 1,667 | 1,667 | 3,334 | 996 | 996 | 1,992 |
| Employees traveling by private vehicle | 16 | 0 | 16 | 0 | 32 | 32 | 16 | 0 | 16 |
| Employees traveling by TNC/Taxi/Drop-off | 5 | 5 | 10 | 10 | 10 | 20 | 5 | 5 | 10 |
| Miscellaneous | 15 | 5 | 20 | 5 | 10 | 15 | 15 | 5 | 20 |
| Total | 2,909 | 1,207 | 4,116 | 1,682 | 4,372 | 6,054 | 2,666 | 1,006 | 3,672 |

Notes: Miscellaneous trips include delivery vehicles, emergency vehicles, utility vehicles, etc.

Source: Fehr & Peers, 2018.

Seattle Center Arena Geographic Distribution of Trips

The distribution of vehicle trips to the proposed Seattle Center Arena under 2035 conditions would be similar to that expected under 2020 conditions. The planned light rail extensions generally align with the geographic distribution of travel to the arena. For example, there are significant extensions of light rail north to Snohomish County, east to Bellevue/Redmond, and south to West Seattle/Federal Way/Tacoma. Thus, for analysis purposes, the same geographic distribution used under 2020 conditions is also applied under 2035 conditions.

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March 23, 2018

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References

Washington State Public Stadium Authority, First & Goal Inc., Seattle Seahawks, Sounders FC. 2017. CenturyLink Field Transportation Management Program (TMP).

Fehr & Peers, 2017. Prepared for City of Sacramento, CA. Golden 1 Center Year One Travel Monitoring Report. Available: <http://www.cityofsacramento.org/Arena/Reports-and-Resources> document

NBA Portland Trailblazers / Moda Center. 2017. Mode shift for Moda Center. Available: <http://www.nba.com/blazers/live#transportation>. Accessed: December 23, 2017.



TECHNICAL MEMORANDUM #8

Date: April 9, 2018
To: Molly Adolfson & Claire Hoffman – ESA, John Shaw – SDCI, Kadie Bell Sata – SDOT,
Julia Levitt & Jill Crary – Seattle Center
From: Fehr & Peers
Subject: **Seattle Center Arena – 2035 Roadway System Analysis Results**

SE17-0562

Introduction

This memorandum documents the detailed results of our analyses of the roadway network for the following 2035 scenarios:

- 2035 No Action Alternative – Average Seattle Center Attendance Conditions
- 2035 Alternative 1 – Average Seattle Center Attendance Conditions
- 2035 No Action Alternative – Above Average Seattle Center Attendance Conditions
- 2035 Alternative 1 – Above Average Seattle Center Attendance Conditions

These scenarios are evaluated in a greater level of quantitative detail than the other travel modes and therefore require this separate memorandum to present detailed findings (i.e., the DEIS presents summarized results).

Alternative 2 is evaluated in a primarily qualitative manner in the DEIS given its similar travel characteristics to Alternative 1. Refer to Chapter 4 of the DEIS for a definition of average and above average conditions.

Roadway System

Chapter 4 of the DEIS presents results pertaining to I-5 freeway off-ramps and average travel time on the Mercer St and Denny Way corridors. The DEIS also provides summarized LOS results. This memo presents individual intersection LOS results. As is discussed in the DEIS transportation chapter, upstream and downstream bottlenecks substantially affect operations. In some instances, upstream bottlenecks prevent traffic from reaching downstream intersections. In other cases, bottlenecks spill back to upstream intersections, adversely affecting their operations.

Table 1 displays the 2035 delay and LOS results at the 58 existing study intersections and the 11 new study intersections created by the reknitting of east-west streets east of Seattle Center. This table displays the results for the No Action and Alternative 1 scenarios during three analysis periods: Weekday pre-event, Weekday post-event, and Saturday pre-event. Readers are referred to Technical Memorandum 3 (Existing Conditions) for a detailed description of traffic operations analysis methods.

Table 1. Intersection Level of Service – 2035 Conditions

| ID | Intersection | Traffic Control | LOS / Average Delay (secs/veh) | | | | | | | | | | | |
|----|---------------------------------|-----------------|------------------------------------|--------|------------|----------------------------|---------------|---------------|---------------------------------------|--------|------------|-------------------------------|----------------|----------------|
| | | | 2035 Average No Action Alternative | | | 2035 Average Alternative 1 | | | 2035 Above Avg. No Action Alternative | | | 2035 Above Avg. Alternative 1 | | |
| | | | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr |
| | | | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre |
| 1 | Mercer St/Queen Anne Ave N | Traffic Signal | F / 171 | B / 11 | B / 16 | F / 142 | B / 19 | B / 16 | F / 136 | B / 12 | B / 13 | F / 130 | D / 49 | B / 14 |
| 2 | Mercer St/1 st Ave N | Traffic Signal | F / 268 | B / 11 | B / 17 | F / 214 | C / 26 | C / 24 | F / 238 | B / 11 | B / 16 | F / 190 | E / 63 | B / 16 |
| 3 | Mercer St/Warren Ave N | Traffic Signal | F / 229 | A / 6 | B / 12 | F / 187 | D / 38 | C / 24 | F / 194 | A / 5 | A / 8 | F / 196 | E / 64 | B / 11 |
| 4 | Mercer St/2nd Ave N | Traffic Signal | F / 181 | A / 3 | A / 9 | F / 105 | F / 81 | C / 21 | F / 147 | A / 7 | A / 3 | F / 143 | F / 96 | A / 7 |
| 5 | Mercer St/3rd Ave N | Traffic Signal | F / 134 | A / 8 | B / 18 | F / 90 | D / 47 | C / 27 | F / 138 | B / 15 | B / 15 | F / 139 | D / 55 | C / 20 |
| 6 | Mercer St/4th Ave N | Traffic Signal | F / 205 | A / 9 | C / 26 | F / 153 | F / 93 | D / 52 | F / 235 | C / 22 | A / 10 | F / 219 | F / 104 | C / 32 |
| 7 | Mercer St/5th Ave N | Traffic Signal | F / 98 | C / 30 | D / 54 | F / 108 | E / 57 | E / 60 | F / 223 | C / 33 | D / 52 | F / 161 | E / 58 | D / 55 |
| 8 | Mercer St/6th Ave N | Traffic Signal | F / 163 | A / 3 | E / 76 | F / 134 | E / 62 | E / 77 | F / 248 | A / 6 | F / 80 | F / 194 | E / 70 | F / 106 |

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| ID | Intersection | Traffic Control | LOS / Average Delay (secs/veh) | | | | | | | | | | | |
|----|--------------------------------|-----------------|------------------------------------|--------|------------|----------------------------|----------------|----------------|---------------------------------------|--------|------------|-------------------------------|----------------|---------------|
| | | | 2035 Average No Action Alternative | | | 2035 Average Alternative 1 | | | 2035 Above Avg. No Action Alternative | | | 2035 Above Avg. Alternative 1 | | |
| | | | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr |
| | | | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre |
| 9 | Mercer St/Dexter Ave N | Traffic Signal | F / 112 | C / 32 | E / 70 | F / 118 | E / 62 | E / 61 | F / 204 | D / 44 | F / 130 | F / 175 | E / 65 | F / 106 |
| 10 | Mercer St/9th Ave N | Traffic Signal | E / 71 | C / 32 | E / 56 | E / 68 | D / 49 | D / 42 | F / 114 | C / 20 | E / 61 | F / 115 | E / 55 | D / 53 |
| 11 | Mercer St/Westlake Ave N | Traffic Signal | D / 45 | C / 26 | D / 36 | D / 45 | C / 29 | D / 36 | E / 77 | B / 18 | D / 53 | E / 70 | C / 30 | D / 43 |
| 12 | Mercer St/Terry Ave N | Traffic Signal | D / 48 | A / 5 | B / 14 | D / 48 | A / 9 | C / 24 | E / 75 | A / 5 | D / 40 | E / 74 | B / 10 | C / 29 |
| 13 | Mercer St/Boren Ave N | Traffic Signal | C / 29 | A / 3 | A / 9 | C / 35 | B / 12 | C / 26 | E / 57 | A / 6 | D / 41 | E / 58 | B / 14 | C / 31 |
| 14 | Mercer St/Fairview Ave N | Traffic Signal | E / 65 | C / 27 | D / 51 | F / 167 | D / 42 | F / 206 | F / 228 | C / 22 | F / 387 | F / 193 | D / 44 | F / 269 |
| 15 | Queen Anne Ave N/Republican St | Traffic Signal | E / 59 | A / 10 | C / 23 | F / 449 | B / 13 | C / 24 | F / 192 | B / 12 | C / 23 | F / 121 | B / 13 | C / 32 |
| 16 | 1st Ave N/Republican St | Traffic Signal | F / 415 | B / 14 | B / 18 | B / 18 | F / 200 | B / 19 | F / 571 | B / 16 | B / 17 | B / 18 | F / 230 | B / 20 |
| 17 | 5th Ave N/Republican St | Traffic Signal | B / 12 | A / 4 | A / 6 | B / 12 | C / 27 | A / 8 | B / 16 | A / 7 | A / 6 | B / 14 | C / 26 | B / 10 |
| 18 | Queen Anne Ave N/Harrison St | Traffic Signal | F / 273 | A / 6 | A / 6 | F / 453 | C / 33 | B / 10 | F / 458 | A / 8 | A / 8 | F / 140 | C / 32 | E / 70 |

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| ID | Intersection | Traffic Control | LOS / Average Delay (secs/veh) | | | | | | | | | | | |
|----|------------------------------|------------------|------------------------------------|--------|------------|----------------------------|----------------|------------|---------------------------------------|--------|------------|-------------------------------|----------------|----------------|
| | | | 2035 Average No Action Alternative | | | 2035 Average Alternative 1 | | | 2035 Above Avg. No Action Alternative | | | 2035 Above Avg. Alternative 1 | | |
| | | | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr |
| | | | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre |
| 19 | 1st Ave N/Harrison St | Traffic Signal | F / 423 | B / 11 | B / 12 | F / 375 | D / 55 | B / 16 | F / 609 | B / 11 | B / 12 | F / 99 | E / 64 | D / 53 |
| 20 | 5th Ave N/Harrison St | Traffic Signal | B / 15 | B / 10 | B / 12 | D / 39 | E / 63 | B / 19 | D / 49 | B / 17 | B / 16 | D / 38 | E / 66 | C / 25 |
| 21 | Queen Anne Ave N/Thomas St | Side-Street Stop | F / 437 | A / 7 | B / 11 | F / 818 | A / 9 | B / 14 | F / 631 | A / 7 | B / 12 | F / 195 | A / 10 | F / 161 |
| 22 | 1st Ave N/Thomas St | Side-Street Stop | F / 294 | A / 8 | B / 11 | F / 751 | D / 32 | D / 31 | F / 693 | B / 11 | C / 16 | F / 264 | D / 27 | F / 259 |
| 23 | 5th Ave N/Thomas St/Broad St | Traffic Signal | F / 85 | C / 31 | D / 43 | E / 80 | F / 132 | D / 49 | F / 167 | D / 38 | D / 48 | F / 118 | F / 164 | E / 59 |
| 24 | Queen Anne Ave N/John St | Side-Street Stop | F / 345 | A / 7 | A / 9 | F / 367 | A / 9 | A / 10 | F / 564 | A / 7 | B / 11 | F / 151 | A / 9 | B / 11 |
| 25 | 1st Ave N/John St | Side-Street Stop | F / 161 | A / 7 | A / 10 | F / 517 | D / 32 | C / 19 | F / 614 | A / 9 | B / 11 | F / 213 | D / 34 | D / 31 |
| 26 | Broad St/John St | Traffic Signal | C / 24 | B / 11 | B / 13 | D / 38 | F / 282 | B / 17 | E / 71 | B / 10 | B / 15 | F / 78 | F / 281 | C / 26 |
| 27 | 5th Ave N/John St | Side-Street Stop | F / 96 | A / 6 | A / 10 | F / 84 | F / 113 | B / 12 | F / 124 | A / 6 | B / 10 | F / 105 | F / 105 | D / 36 |
| 28 | Denny Way/Western Ave | Traffic Signal | F / 110 | A / 9 | B / 12 | F / 111 | B / 13 | D / 40 | F / 144 | B / 13 | B / 17 | F / 129 | B / 13 | D / 44 |

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| ID | Intersection | Traffic Control | LOS / Average Delay (secs/veh) | | | | | | | | | | | |
|-----|--------------------------------|------------------|------------------------------------|--------|------------|----------------------------|----------------|------------|---------------------------------------|---------|------------|-------------------------------|---------|---------------|
| | | | 2035 Average No Action Alternative | | | 2035 Average Alternative 1 | | | 2035 Above Avg. No Action Alternative | | | 2035 Above Avg. Alternative 1 | | |
| | | | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr |
| | | | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre |
| 28a | Denny Way/Queen Anne Ave N | Traffic Signal | F / 96 | B / 12 | B / 15 | F / 102 | B / 20 | D / 47 | F / 121 | C / 23 | C / 24 | F / 92 | B / 20 | D / 49 |
| 29 | Denny Way/1st Ave N | Traffic Signal | E / 58 | B / 16 | B / 19 | D / 50 | B / 17 | C / 24 | E / 56 | B / 16 | C / 21 | D / 48 | B / 16 | C / 24 |
| 30 | Denny Way/Warren Ave N | Side-Street Stop | F / 509 | A / 10 | C / 24 | F / 939 | D / 26 | E / 47 | F / 1145 | C / 16 | D / 29 | F / 925 | D / 27 | F / 53 |
| 31 | Denny Way/2nd Ave N | Traffic Signal | D / 48 | A / 4 | A / 8 | E / 73 | C / 25 | B / 17 | E / 60 | B / 16 | A / 9 | E / 71 | C / 27 | B / 16 |
| 32 | Denny Way/Broad St | Traffic Signal | F / 100 | A / 10 | B / 15 | F / 115 | B / 13 | B / 18 | F / 106 | B / 13 | B / 15 | F / 114 | B / 14 | B / 20 |
| 33 | Denny Way/5th Ave N | Traffic Signal | F / 130 | B / 12 | B / 16 | F / 116 | E / 67 | C / 22 | F / 131 | E / 66 | C / 26 | F / 116 | E / 65 | D / 44 |
| 34 | Denny Way/Taylor Ave N | Traffic Signal | F / 91 | A / 7 | B / 12 | F / 85 | A / 10 | B / 18 | F / 90 | A / 8 | B / 15 | F / 86 | A / 10 | B / 19 |
| 35 | Denny Way/6th Ave N | Traffic Signal | F / 99 | B / 13 | B / 14 | F / 153 | B / 17 | C / 24 | F / 170 | B / 13 | B / 18 | F / 173 | B / 17 | C / 24 |
| 36 | Denny Way/Aurora Ave N/7th Ave | Traffic Signal | F / 151 | B / 18 | C / 26 | F / 114 | F / 121 | C / 31 | F / 160 | F / 136 | C / 25 | F / 137 | F / 116 | C / 28 |
| 37 | Denny Way/Dexter Ave N | Traffic Signal | F / 84 | B / 17 | B / 20 | F / 102 | E / 56 | D / 55 | F / 105 | E / 55 | C / 32 | F / 106 | E / 58 | E / 58 |

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| ID | Intersection | Traffic Control | LOS / Average Delay (secs/veh) | | | | | | | | | | | |
|----|-----------------------------------|-----------------|------------------------------------|--------|------------|----------------------------|----------------|----------------|---------------------------------------|---------|------------|-------------------------------|----------------|----------------|
| | | | 2035 Average No Action Alternative | | | 2035 Average Alternative 1 | | | 2035 Above Avg. No Action Alternative | | | 2035 Above Avg. Alternative 1 | | |
| | | | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr |
| | | | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre |
| 38 | Denny Way/Bell St/9th Ave N | Traffic Signal | F / 101 | A / 6 | A / 9 | F / 132 | B / 16 | C / 26 | F / 116 | A / 7 | B / 10 | F / 139 | B / 17 | D / 38 |
| 39 | Denny Way/Westlake Ave N | Traffic Signal | E / 62 | B / 17 | B / 20 | F / 137 | D / 45 | C / 27 | F / 91 | C / 23 | C / 20 | F / 163 | D / 52 | D / 50 |
| 40 | Denny Way/Fairview Ave N | Traffic Signal | F / 173 | C / 27 | E / 59 | F / 192 | C / 34 | E / 72 | F / 184 | C / 33 | E / 73 | F / 208 | D / 35 | E / 72 |
| 41 | Denny Way/Stewart St | Traffic Signal | F / 270 | E / 60 | F / 92 | F / 417 | F / 286 | F / 370 | F / 339 | F / 206 | F / 285 | F / 414 | F / 279 | F / 390 |
| 42 | Yale Ave/Stewart St | Traffic Signal | E / 67 | B / 15 | C / 27 | E / 72 | D / 38 | C / 21 | E / 71 | B / 19 | D / 49 | E / 75 | D / 45 | C / 27 |
| 43 | Broad St/2nd Ave | Traffic Signal | B / 13 | A / 9 | B / 13 | B / 16 | B / 13 | B / 14 | B / 13 | B / 10 | B / 13 | B / 17 | B / 13 | B / 14 |
| 44 | 6th Ave/Battery St | Traffic Signal | B / 12 | B / 11 | B / 14 | B / 13 | B / 12 | B / 14 | B / 12 | B / 11 | B / 14 | B / 13 | B / 12 | B / 14 |
| 45 | 6th Ave/Bell St | Traffic Signal | B / 18 | B / 13 | B / 13 | B / 16 | B / 14 | B / 14 | B / 18 | B / 13 | B / 13 | B / 17 | B / 14 | B / 14 |
| 46 | Yale Ave/Howell St/I-5 SB on-ramp | Traffic Signal | C / 27 | B / 20 | B / 20 | C / 26 | C / 28 | B / 19 | C / 26 | C / 27 | B / 20 | C / 25 | C / 28 | B / 18 |
| 47 | 4th Ave/Battery St | Traffic Signal | B / 12 | B / 12 | B / 14 | B / 14 | B / 12 | B / 14 | B / 13 | B / 12 | B / 14 | B / 13 | B / 12 | B / 14 |

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| ID | Intersection | Traffic Control | LOS / Average Delay (secs/veh) | | | | | | | | | | | |
|----|------------------------------|-----------------|------------------------------------|--------|------------|----------------------------|---------------|---------------|---------------------------------------|---------|------------|-------------------------------|----------------|------------|
| | | | 2035 Average No Action Alternative | | | 2035 Average Alternative 1 | | | 2035 Above Avg. No Action Alternative | | | 2035 Above Avg. Alternative 1 | | |
| | | | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr |
| | | | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre |
| 48 | 6th Ave/Olive Way | Traffic Signal | D / 42 | A / 10 | B / 11 | D / 42 | B / 11 | B / 11 | D / 42 | A / 10 | B / 11 | D / 44 | B / 11 | B / 11 |
| 49 | 5th Ave/Stewart St | Traffic Signal | D / 41 | B / 16 | C / 21 | D / 46 | B / 19 | C / 25 | D / 42 | B / 17 | C / 21 | D / 53 | B / 19 | C / 25 |
| 50 | 5th Ave/Olive Way | Traffic Signal | C / 25 | B / 11 | B / 13 | C / 23 | B / 13 | B / 13 | B / 20 | B / 11 | B / 13 | C / 26 | B / 13 | B / 13 |
| 51 | 4th Ave/Olive Way/Stewart St | Traffic Signal | B / 18 | B / 12 | B / 14 | B / 19 | B / 13 | B / 14 | B / 17 | B / 12 | B / 14 | B / 18 | B / 13 | B / 14 |
| 52 | 2nd Ave/Virginia St | Traffic Signal | C / 32 | B / 17 | B / 20 | C / 34 | C / 21 | C / 22 | C / 34 | B / 18 | C / 21 | C / 33 | C / 21 | C / 22 |
| 53 | 2nd Ave/Stewart St | Traffic Signal | B / 19 | B / 15 | B / 17 | C / 21 | B / 15 | B / 17 | B / 20 | B / 15 | B / 17 | C / 21 | B / 15 | B / 17 |
| 54 | Queen Anne Ave N/Roy St | Traffic Signal | F / 327 | D / 39 | D / 46 | F / 228 | C / 26 | D / 39 | F / 175 | C / 23 | C / 35 | F / 240 | D / 49 | D / 38 |
| 55 | 1st Ave N/Roy St | Traffic Signal | F / 134 | B / 15 | C / 24 | F / 107 | A / 10 | B / 17 | E / 73 | B / 10 | B / 14 | F / 148 | B / 11 | B / 17 |
| 56 | 3rd Ave N/Roy St | Traffic Signal | F / 147 | A / 9 | A / 9 | C / 31 | B / 19 | C / 29 | F / 310 | F / 207 | B / 10 | F / 318 | F / 309 | B / 11 |
| 57 | 4th Ave N/Roy St | Traffic Signal | E / 78 | B / 12 | B / 19 | E / 73 | F / 93 | E / 80 | F / 616 | D / 44 | C / 23 | F / 422 | F / 164 | D / 35 |

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| ID | Intersection | Traffic Control | LOS / Average Delay (secs/veh) | | | | | | | | | | | |
|----|--------------------------------|-----------------|------------------------------------|--------|------------|----------------------------|----------------|----------------|---------------------------------------|--------|------------|-------------------------------|----------------|------------|
| | | | 2035 Average No Action Alternative | | | 2035 Average Alternative 1 | | | 2035 Above Avg. No Action Alternative | | | 2035 Above Avg. Alternative 1 | | |
| | | | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr |
| | | | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre |
| 58 | 5th Ave N/Roy St | Traffic Signal | F / 167 | C / 23 | F / 81 | F / 167 | F / 174 | F / 247 | F / 616 | C / 24 | F / 223 | F / 193 | F / 287 | F / 215 |
| 59 | 6th Ave N/SR 99 SB On-ramp | Traffic Signal | B / 10 | A / 7 | B / 11 | A / 10 | A / 7 | A / 9 | A / 10 | A / 7 | B / 12 | A / 10 | A / 7 | A / 9 |
| 60 | Dexter Ave N/SR 99 NB Off-ramp | Traffic Signal | F / 187 | B / 10 | B / 12 | F / 185 | B / 12 | C / 26 | F / 153 | B / 11 | B / 13 | F / 155 | B / 13 | B / 18 |
| 61 | 6th Ave N/Harrison St | Traffic Signal | B / 11 | A / 7 | A / 10 | C / 27 | F / 188 | B / 10 | B / 12 | A / 9 | B / 10 | B / 18 | F / 199 | B / 10 |
| 62 | Aurora Ave/Harrison St | Traffic Signal | F / 86 | C / 26 | C / 28 | F / 104 | F / 97 | D / 52 | E / 78 | C / 30 | C / 30 | F / 115 | F / 91 | D / 51 |
| 63 | Dexter Ave N /Harrison St | Traffic Signal | F / 82 | B / 10 | B / 17 | F / 96 | D / 37 | E / 58 | E / 76 | B / 13 | B / 19 | F / 92 | D / 37 | D / 54 |
| 64 | 6th Ave N/Thomas St | All-Way Stop | B / 12 | A / 9 | B / 12 | B / 14 | A / 10 | B / 12 | B / 13 | A / 9 | B / 13 | B / 14 | A / 9 | B / 12 |
| 65 | Aurora Ave/Thomas St | Traffic Signal | D / 55 | B / 14 | B / 20 | D / 36 | B / 14 | B / 20 | E / 65 | B / 15 | C / 20 | D / 39 | B / 15 | C / 21 |
| 66 | Dexter Ave N/Thomas St | Traffic Signal | F / 96 | B / 12 | B / 14 | E / 79 | B / 11 | C / 22 | F / 92 | B / 13 | B / 14 | E / 66 | B / 12 | B / 19 |
| 67 | 6th Ave N/John St | All-Way Stop | C / 16 | A / 8 | B / 12 | D / 27 | A / 10 | C / 21 | B / 14 | A / 9 | B / 11 | D / 28 | A / 10 | C / 22 |

| ID | Intersection | Traffic Control | LOS / Average Delay (secs/veh) | | | | | | | | | | | |
|----|----------------------|-----------------|------------------------------------|--------|------------|----------------------------|--------|------------|---------------------------------------|--------|------------|-------------------------------|--------|------------|
| | | | 2035 Average No Action Alternative | | | 2035 Average Alternative 1 | | | 2035 Above Avg. No Action Alternative | | | 2035 Above Avg. Alternative 1 | | |
| | | | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr | Wkdy Pk Hr | | Sat. Pk Hr |
| | | | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre | Pre | Post | Pre |
| 68 | Aurora Ave/John St | Traffic Signal | C / 25 | B / 14 | B / 16 | B / 14 | B / 15 | B / 16 | D / 37 | B / 14 | B / 17 | B / 16 | B / 15 | B / 17 |
| 69 | Dexter Ave N/John St | Traffic Signal | F / 98 | B / 10 | B / 14 | E / 77 | B / 12 | C / 25 | F / 89 | B / 11 | B / 14 | E / 68 | B / 12 | D / 29 |

Notes:

1. For signalized and all-way stop intersections, average delay (expressed in seconds per vehicle) is the weighted average of all vehicles passing through the intersection. A single LOS value is then assigned to the intersection based on that delay value, though it is noted that LOS and delay may vary considerably between different approaches.
2. For side-street stop intersections, results shown for minor street movement with greatest delay.
3. Due to over-saturated conditions during the weekday pre-event peak hour in the peak direction of travel on certain corridors, the percentage of peak hour vehicle demand that can be served (i.e., travel through) at certain intersections along these corridors decreases to below 60%, meaning that congested conditions would occur for multiple hours. See following pages for additional information.

Source: Fehr & Peers, 2018.

Pedestrian System

The pedestrian system evaluation focuses on the adequacy of existing facilities to accommodate surges in pedestrians associated with events at the proposed arena. For 2035, two intersections closest to the proposed light rail station were studied. Chapter 16 of the Highway Capacity Manual 6th Edition (Transportation Research Board, 2017) includes a detailed methodology for calculating the pedestrian LOS for a given street segment. In determining the overall LOS, this methodology considers a variety of factors such as block length, pedestrian wait times at intersections, route directness, sidewalk width, presence of lateral obstructions, midblock crossing opportunities, curb presence, width of outside through lane or bike lane, proportion of on-street parking that is occupied, and buffer width to the street. These factors play a role in how a pedestrian perceives the quality of the pedestrian system. However, these factors are not as important when considering surges in pedestrian flows associated with large events. In such instances, the evaluation focuses on whether crosswalks and sidewalks are of sufficient width to accommodate projected pedestrian flows during peak periods. If pedestrian flows become excessive, pedestrians may overflow onto streets, which can cause conflicts with moving vehicles and other forms of travel.

Crosswalks and sidewalks are analyzed using average pedestrian space as the threshold for determining facility adequacy. Average pedestrian space reflects the level of crowding on a crosswalk or sidewalk. It represents the average amount of sidewalk area available to each pedestrian walking along the segment. According to Page 4-31 of the Highway Capacity Manual 6th Edition (Transportation Research Board, 2017), average pedestrian space, which is represented in square-feet per person (i.e., ft²/ped) depends on the pedestrian flow rate, which is expressed as the number of pedestrians per minute per foot of effective sidewalk space. Additionally, the average walk speed influences average pedestrian space. Consistent with HCM guidance, a 0.85 peak hour factor (PHF) is applied to represent a moderate surge in pedestrian travel during the busiest 15 minutes of the peak hour.

For sidewalks, 13 ft²/pedestrian of pedestrian space has been set as the lowest acceptable threshold. This value is near the LOS E/F threshold for facilities with cross-flows. For crosswalks, a value of 11 ft²/pedestrian is used, which represents an LOS E/ F threshold under platooned flow conditions. For crosswalks, an additional step is required that considers the amount of walk time provided for the crosswalk (while also considering the intersection cycle length).

According to the HCM, pedestrian flow rates remain relatively stable when the average space per pedestrian drops into the range of 5 to 9 ft²/pedestrian. But when pedestrian space is reduced to below 5 ft²/pedestrian, the flow rate declines precipitously. Accordingly, the thresholds applied in this study are more restrictive than the facility's absolute capacity.

Table 2 shows the number of pedestrians per hour on sidewalks that would be most affected by the proposed light rail station under 2035 Alternative 1 – Average Seattle Center Attendance conditions during the weekday pre-event and post-event peak hours. Results are not shown for Saturday pre-event conditions because prior evaluations determined that a concert would generate fewer vehicle and pedestrian trips due to a more uniform arrival pattern when compared to a basketball game (see Tech Memo 5 – Project Travel Characteristics). Results are not shown for 2035 Above Average Plus Alternative 1 conditions because the majority of the added pedestrian traffic (beyond 2020 Average conditions) would originate/be destined to the Mercer St, 1st Ave N, and 5th Ave N garages, meaning the vast majority of study sidewalks and crosswalks, including these two locations, would not be affected.

The results in Table 2 are consistent with page 18-42 of the HCM 6th Edition, which states that narrow sidewalks (e.g., effective width of 4 feet) would need to carry over 1,000 pedestrians per hour to cause degradations in pedestrian flows. Table 2 also shows the pedestrian LOS for each sidewalk based on the pedestrian space ranges associated with each LOS, as shown in Exhibit 16-4 of the 6th Edition of the HCM.

Table 2. Analysis of Sidewalks Under 2035 Alternative 1 – Average Seattle Center Attendance Conditions

| Street | Segment | Side | 2035 Alternative 1 – Average Seattle Center Attendance Conditions | | | | | |
|-----------|------------------------------|------|---|--------------------------|-----|------------------------------|--------------------------|-----|
| | | | Weekday Pre-Event Peak Hour | | | Weekday Post-Event Peak Hour | | |
| | | | Pedestrians Per Hour | Average Pedestrian Space | LOS | Pedestrians Per Hour | Average Pedestrian Space | LOS |
| 1st Ave N | Mercer St to Republican St | west | 900 | 75 | A | 450 | 150 | A |
| 1st Ave N | Mercer St to Republican St | east | 850 | 86 | A | 450 | 163 | A |
| 1st Ave N | Harrison St to Thomas St | west | 700 | 192 | A | 850 | 158 | A |
| 1st Ave N | Republican St to Harrison St | west | 650 | 141 | A | 1550 | 59 | B |
| 1st Ave N | Thomas St to John St | east | 600 | 143 | A | 350 | 245 | A |

Notes:

1. Sidewalk locations shown in the table are close to the proposed light rail station.
2. Pedestrian space expressed in terms of ft² per pedestrian. Threshold for unacceptable operations is 13 ft² per pedestrian.
3. Pedestrian volumes are rounded to the nearest 50 persons.

Table 3 shows the number of pedestrians per hour on crosswalks at the two intersections near the proposed light rail station under 2035 Alternative 1 – Average Seattle Center Attendance conditions during the weekday pre-event and post-event peak hours. This table also shows the pedestrian LOS for each crosswalk based on the pedestrian space ranges associated with each LOS, as shown in Exhibit 24-2 of the 6th Edition of the HCM.

Table 3. Analysis of Crosswalks Under 2035 Alternative 1 – Average Seattle Center Attendance Conditions

| Intersection | Cross-walk | Width (feet) | 2035 Alternative 1 – Average Seattle Center Attendance Conditons | | | | | |
|---------------------------|------------|--------------|--|------------------|-----|------------------------------|------------------|-----|
| | | | Weekday Pre-Event Peak Hour | | | Weekday Post-Event Peak Hour | | |
| | | | Pedestrians Per Hour | Pedestrian Space | LOS | Pedestrians Per Hour | Pedestrian Space | LOS |
| 1st Ave N / Republican St | North | 18 | 200 | 151 | B | 1200 | 25 | D |
| | South | 12 | 400 | 50 | C | 1300 | 16 | E |
| | East | 12 | 650 | 31 | D | 1200 | 17 | E |
| | West | 20 | 600 | 56 | C | 450 | 75 | C |
| 1st Ave N / Harrison St | North | 10 | 650 | 26 | D | 2800 | 6 | F |
| | South | 10 | 550 | 31 | D | 1800 | 9 | F |
| | West | 10 | 250 | 67 | C | 250 | 67 | C |

Notes:

1. Selected crosswalks are nearest the light rail station and expected to be used to the greatest degree by event attendees during a weekday evening event.
2. Pedestrian space expressed in terms of ft² per pedestrian. Threshold for unacceptable operations is 11 ft² per pedestrian.
3. Pedestrian volumes are rounded to the nearest 50 persons.

This table yields the following key conclusion:

- The 1st Ave N/ Harrison St north and south crosswalks fail to meet pedestrian space thresholds for acceptable operations.

Each of the crosswalks shown in Table 3 are located at signalized intersections and have pedestrian signal equipment to advise pedestrians when to cross.

Some signalized intersections in the vicinity of the project provide sizeable areas for pedestrians to wait to cross the intersection. Examples exist along portions of 5th Ave N (e.g., at Harrison St). However, other intersections feature limited size waiting areas to accommodate pedestrians. Examples of these facilities are found at the 1st Ave N/Mercer St, and 1st Ave N/Harrison St intersections. Since development has occurred adjacent to these intersections, any opportunities to provide expanded

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pedestrian waiting areas would require sidewalk encroachment into the street right-of-way. As an alternative, an Event Transportation Management Plan (TMP) to be prepared for the project should evaluate and include recommendations to address management (i.e., traffic control personnel, placement of barricades to prevent flows onto streets, etc.) of pedestrians at these waiting areas.

Appendix C: Transit Capacity Analysis

2020 Analysis

Saturday Pre-Event

Inbound riders 881 % of Weekday Service 100% 100% 100% 67% 100% 100% 100% 200% 100% 100% 67% 100% 200% 100% 100% 100%

| ID | Arrival From | % | Relative % | Added Riders | Inbound Routes | D Line SB | Dline NB | 1 NB | 1 SB | 2 EB | 2 WB | 3 NB | 3 SB | 4 NB | 4 SB | 8 EB | 8 WB | 13 NB | 13 SB | 24 NB | 24 SB | 32 NB | 32 SB | 33 NB | 33 SB | Total Reserve Capacity Before Crowding Threshold Met | Project % Usage of Reserve Capacity |
|-----|-----------------------------------|-------|------------|--------------|--------------------------------|-----------|----------|------|-------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|--|-------------------------------------|
| 4 | SR 99 N | 2% | 25.0% | 220 | D Line | 337 | | | | | | | | | | | | | | | | | | | 337 | 65.28% | |
| 10 | Downtown/Uptown/Beltown Denny Tri | 4.00% | 50.0% | 441 | D Line, 1, 2, 3, 4, 13, 24, 33 | | 67 | 79 | | | | 71 | 105 | | | | | | | 80 | | | | 112 | 514 | 85.80% | |
| 8 | Queen Anne | 0.25% | 3.1% | 28 | 1, 13, 2, 3, 4 | | | | 151.3 | 48 | | | 370 | | 188 | | | | 200 | | | | | | 957 | 2.92% | |
| 7 | Mercer W | 0.50% | 6.3% | 55 | 24, 33 | | | | | | | | | | | | | | | | | | 87 | 138 | 225 | 24.44% | |
| 5 | I-5 North | 1% | 12.5% | 110 | 32 | | | | | | | | | | | | | | | | | | | | | | |
| 9 | East of I-5 | 0.25% | 3.1% | 28 | 2, 3, 4, 8 | | | | | 78 | 71 | | 105 | | | | | | | | | | | | 254 | 11.02% | |
| SUM | | | | 882 | | | | | | | | | | | | | | | | | | | | | | | |

Absolute Seat Capacity = 1,306
67.55% Project usage of reserve capacity overall.

= Northbound (from Downtown)
= Southbound

Saturday Post-Event

Outbound riders 1046

| ID | Departure to | % | Relative % | Added Riders | Outbound Routes | D Line SB | Dline NB | 1 NB | 1 SB | 2 EB | 2 WB | 3 NB | 3 SB | 4 NB | 4 SB | 8 EB | 8 WB | 13 NB | 13 SB | 24 NB | 24 SB | 32 NB | 32 SB | 33 NB | 33 SB | Total Reserve Capacity Before Crowding Threshold Met | Project % Usage of Reserve Capacity |
|-----|-----------------------------------|-------|------------|--------------|--------------------------------|-----------|----------|------|-------|------|------|------|------|------|----------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|--|-------------------------------------|
| 4 | SR 99 N | 2% | 28.1% | 294 | D Line | | 201 | | | | | | | | | | | | | | | | | | 201 | 146.27% | |
| 10 | Downtown/Uptown/Beltown Denny Tri | 3.25% | 40.6% | 425 | D Line, 1, 2, 3, 4, 13, 24, 33 | 246 | | | 92.67 | 80 | | | 150 | 79 | | | | | 86 | | 95 | | | 241 | 1070 | 39.73% | |
| 8 | Queen Anne | 0.25% | 3.1% | 33 | 1, 13, 2, 3, 4 | | | 93 | | | 88 | 46 | | 91 | | | | | | | | | | | 318 | 10.38% | |
| 7 | Mercer W | 0.50% | 6.3% | 65 | 24, 33 | | | | | | | | | | | | | | | | 154 | | | 149 | 303 | 21.45% | |
| 5 | I-5 North | 2% | 18.8% | 196 | 32 | | | | | | | | | | | | | | | | | | | | 80 | 245.00% | |
| 9 | East of I-5 | 0.25% | 3.1% | 33 | 2, 3, 4, 8 | | | | | 80 | | | 150 | 79 | 127.3333 | | | | | | | | | | 436 | 7.56% | |
| SUM | | | | 1046 | | | | | | | | | | | | | | | | | | | | | | | |

Absolute Seat Capacity = 1,792
58.38% Project usage of reserve capacity overall.

2020 Analysis

Weekday Pre-Event

Inbound riders 881

| ID | Arrival From | % | Relative % | Added Riders | Inbound Routes | D Line SB | Dline NB | 1 NB | 1 SB | 2 EB | 2 WB | 3 NB | 3 SB | 4 NB | 4 SB | 8 EB | 8 WB | 13 NB | 13 SB | 24 NB | 24 SB | 32 NB | 32 SB | 33 NB | 33 SB | Total Reserve Capacity Before Crowding Threshold Met | Project % Usage of Reserve Capacity | |
|-----|------------------------------------|-------|------------|--------------|--------------------------------|-----------|----------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|--|-------------------------------------|--|
| 4 | SR 99 N | 2% | 25.0% | 220 | D Line | 337 | | | | | | | | | | | | | | | | | | | | 337 | 65.28% | |
| 10 | Downtown/Uptown/Belltown Denny Tri | 4.00% | 50.0% | 441 | D Line, 1, 2, 3, 4, 13, 24, 33 | | 67 | 79 | | | | 71 | 105 | | | | | | | 101 | 40 | | | | 112 | 575 | 76.70% | |
| 8 | Queen Anne | 0.25% | 3.1% | 28 | 1, 13, 2, 3, 4 | | | | | 227 | 48 | | | | | | | | | | | | | | | 848 | 3.30% | |
| 7 | Mercer W | 0.50% | 6.3% | 55 | 24, 33 | | | | | | | | | | | | | | | | | 87 | | | 138 | 225 | 24.44% | |
| 5 | I-5 North | 1% | 12.5% | 110 | 32 | | | | | | | | | | | | | | | | | | | | | 45 | 244.44% | |
| 9 | East of I-5 | 0.25% | 3.1% | 28 | 2, 3, 4, 8 | | | | | | 78 | 71 | 105 | | | | | | | | | | | | | 517 | 5.42% | |
| SUM | | | | 8.00% | 100.0% | 882 | | | | | | | | | | | | | | | | | | | | | | |

220 = Northbound (from Downtown)
 682 = Southbound

Absolute Seat Capacity = 2,371
 37.20% Project usage of reserve capacity overall.

Weekday Post-Event

Outbound riders 1046

| ID | Departure to | % | Relative % | Added Riders | Outbound Routes | D Line SB | Dline NB | 1 NB | 1 SB | 2 EB | 2 WB | 3 NB | 3 SB | 4 NB | 4 SB | 8 EB | 8 WB | 13 NB | 13 SB | 24 NB | 24 SB | 32 NB | 32 SB | 33 NB | 33 SB | Total Reserve Capacity Before Crowding Threshold Met | Project % Usage of Reserve Capacity | |
|-----|------------------------------------|-------|------------|--------------|--------------------------------|-----------|----------|------|------|------|------|------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|-------|--|-------------------------------------|--|
| 4 | SR 99 N | 2% | 28.1% | 294 | D Line | | 201 | | | | | | | | | | | | | | | | | | | 201 | 146.27% | |
| 10 | Downtown/Uptown/Belltown Denny Tri | 3.25% | 40.6% | 425 | D Line, 1, 2, 3, 4, 13, 24, 33 | 246 | | | | | | | 75 | 79 | | | | | | | 86 | 95 | | | 241 | 1041 | 40.83% | |
| 8 | Queen Anne | 0.25% | 3.1% | 33 | 1, 13, 2, 3, 4 | | | | 93 | | 88 | 46 | | 91 | | | | | | | | | | | | 318 | 10.38% | |
| 7 | Mercer W | 0.50% | 6.3% | 65 | 24, 33 | | | | | | | | | | | | | | | | | 77 | | | 149 | 226 | 28.76% | |
| 5 | I-5 North | 2% | 18.8% | 196 | 32 | | | | | | | | | | | | | | | | | | | | | 80 | 245.00% | |
| 9 | East of I-5 | 0.25% | 3.1% | 33 | 2, 3, 4, 8 | | | | | 80 | | 75 | 79 | 191 | | | | | | | | | | | | 425 | 7.76% | |
| SUM | | | | 8.00% | 100.0% | 1046 | | | | | | | | | | | | | | | | | | | | | | |

Absolute Seat Capacity = 2,057
 50.85% Project usage of reserve capacity overall.

2035 Link Reserve Capacity

Link Light Rail - Boardings by Day of Week

Ridership (3.5 hour peak period, 2042 Low Forecast = 2035 land use)

| | 2014 | 2015 | 2016 Spring 2017 | | |
|----------------------------------|--------|-----------------------------|------------------|--------|------------|
| NB max segment approaching arena | 12,748 | Average Weekday 33,043 | 35,394 | 59,005 | 73,908 |
| SB max segment approaching arena | 3,041 | 19% Average Saturday 25,218 | 24,649 | 42,358 | 52,293 Avg |
| Total | 15,789 | 76% | 70% | 72% | 71% 72% |

Source: Draft 2018 ST Service Implementation Plan, October 2017

NO ACTION

WEEKDAY PRE-EVENT PEAK HOUR

Assumptions

- 6 minute headways
- 4 cars per train
- 74 seats per car
- 200 per car is a crush load
- 0.4 factor from 3.5 peak period to peak hour

| <u>Reserve Capacity</u> | Average Attendance | Above Average Attendance |
|-------------------------|--------------------|--------------------------|
| NB ridership | 5,099.20 per hour | 5,601 per hour |
| Total Hourly Capacity | 8,000 | 8,000 |
| Reserve Capacity | 2,901 | 2,399 |
| SB ridership | 1,216 per hour | 1,336 per hour |
| Total Hourly Capacity | 8,000 | 8,000 |
| Reserve Capacity | 6,784 | 6,664 |

WEEKDAY POST-EVENT PEAK HOUR

Assumptions

- 10 minute headways
- 3 cars per train
- 74 seats per car
- 200 per car is a crush load
- 0.5 factor from weekday pre-event peak hour to post-event peak hour

| <u>Reserve Capacity</u> | Average Attendance | Above Average Attendance |
|-------------------------|--------------------|--------------------------|
| NB ridership | 2,549.60 per hour | 2,875 per hour |
| Total Hourly Capacity | 3,600 | 3,600 |
| Reserve Capacity | 1,050 | 725 |
| SB ridership | 608 per hour | 686 per hour |
| Total Hourly Capacity | 3,600 | 3,600 |
| Reserve Capacity | 2,992 | 2,914 |

SATURDAY PRE-EVENT PEAK HOUR

Assumptions

- 10 minute headways
- 4 cars per train
- 74 seats per car
- 200 per car is a crush load
- 0.72 factor from weekday pre-event peak hour to Saturday pre-event peak hour
- Directionality based on off-peak directional split from ST model north of Westlake

| <u>Reserve Capacity</u> | Average Attendance | Above Average Attendance |
|-------------------------|--------------------|--------------------------|
| NB ridership | 2,342 per hour | 2,703 per hour |
| Total Hourly Capacity | 4,800 | 4,800 |
| Reserve Capacity | 2,458 | 2,097 |
| SB ridership | 2,213 per hour | 2,300 per hour |
| Total Hourly Capacity | 4,800 | 4,800 |
| Reserve Capacity | 2,587 | 2,500 |

PROJECT RIDERS

WEEKDAY PRE-EVENT PEAK HOUR

Attendee LRT Riders 2532 (from Tech Memo 7)
Employee LRT Riders 28 (from Tech Memo 7)

Total Project LRT Riders 2560
From the south 95% 2432
From the north 5% 128

| <u>Reserve Capacity</u> | Average Attendance | Above Average Attendance |
|-------------------------|--------------------|--------------------------|
| NB ridership | 7,531 per hour | 8,033 per hour |
| Total Hourly Capacity | 8,000 | 8,000 |
| Reserve Capacity | 469 84% | (33) 101% |
| SB ridership | 1,344 per hour | 1,464 per hour |
| Total Hourly Capacity | 8,000 | 8,000 |
| Reserve Capacity | 6,656 2% | 6,536 2% |

WEEKDAY POST-EVENT PEAK HOUR

Attendee LRT Riders 4009 (from Tech Memo 7)
Employee LRT Riders 55 (from Tech Memo 7)

Total Project LRT Riders 4064
Toward the south 95% 3861
Toward the north 5% 203

| <u>Reserve Capacity</u> | Average Attendance | Above Average Attendance |
|-------------------------|--------------------|--------------------------|
| NB ridership | 6,410 per hour | 6,735 per hour |
| Total Hourly Capacity | 3,600 | 3,600 |
| Reserve Capacity | (2,810) 368% | (3,135) 532% |
| SB ridership | 811 per hour | 889 per hour |
| Total Hourly Capacity | 3,600 | 3,600 |
| Reserve Capacity | 2,789 7% | 2,711 7% |

SATURDAY PRE-EVENT PEAK HOUR

Attendee LRT Riders 1913 (from Tech Memo 7)
Employee LRT Riders 28 (from Tech Memo 7)

Total Project LRT Riders 1941
From the south 95% 1844
From the north 5% 97

| <u>Reserve Capacity</u> | Average Attendance | Above Average Attendance |
|-------------------------|--------------------|--------------------------|
| NB ridership | 4,186 per hour | 4,547 per hour |
| Total Hourly Capacity | 4,800 | 4,800 |
| Reserve Capacity | 614 75% | 253 88% |
| SB ridership | 2,310 per hour | 2,397 per hour |
| Total Hourly Capacity | 4,800 | 4,800 |
| Reserve Capacity | 2,490 4% | 2,403 4% |



APPENDIX D: HISTORIC AND CULTURAL RESOURCES

APPENDIX D:

HISTORIC AND CULTURAL RESOURCES

This appendix includes additional information regarding the Seattle Landmarks Preservation Ordinance standards for designation and the affected environment (geology and soils, precontact and ethnographic-eras, historic-era, aboveground historic resources, and belowground cultural resources).

REGULATORY CONTEXT

This project is subject to historic and cultural resources review under SEPA regulations, the Seattle Landmarks Preservation Ordinance (SMC 25.12), and Washington State archaeological resources laws. It is not subject to compliance with federal cultural resources regulations because there are no known federal funds, federal permits, or federal lands involved. As stated in Chapter 6, OVG is applying for federal historic tax credits from the Federal Historic Preservation Tax Incentives Program. This project does not constitute a federal undertaking that would require compliance with the National Historic Preservation Act.

The Seattle Landmarks Preservation Ordinance Standards for Designation (SMC 25.12.350) states:

“An object, site or improvement which is more than twenty-five (25) years old may be designated for preservation as a landmark site or landmark if it has significant character, interest or value as part of the development, heritage or cultural characteristics of the City, state, or nation, if it has integrity or the ability to convey its significance, and if it falls into one (1) of the following categories:

- A. It is the location of, or is associated in a significant way with, an historic event with a significant effect upon the community, City, state, or nation; or
- B. It is associated in a significant way with the life of a person important in the history of the City, state, or nation; or
- C. It is associated in a significant way with a significant aspect of the cultural, political, or economic heritage of the community, City, state, or nation; or
- D. It embodies the distinctive visible characteristics of an architectural style, or period, or of a method of construction; or
- E. It is an outstanding work of a designer or builder; or
- F. Because of its prominence of spatial location, contrasts of siting, age, or scale, it is an easily identifiable visual feature of its neighborhood or the City and contributes to the distinctive quality or identity of such neighborhood or City.”

AFFECTED ENVIRONMENT

Geology and Soils

Chapter 5.0, *Geology and Soils*, provides a general discussion of existing conditions and history of geology and soils of greater Seattle, including the belowground cultural resources study area. This section provides additional detail regarding Late Pleistocene glacial history and geology of the belowground cultural resources study area, since this has direct bearing on potential for archaeological resources to exist within the project site.

Between 17,400 and 16,400 years ago, during the last Ice Age – the Vashon stade of the Fraser glaciation – the Puget lobe of the Cordilleran Ice Sheet advanced south from Canada, covering the Seattle area with more than 3,000 feet of ice (Booth, 1987; Porter and Swanson, 1998; Troost and Booth, 2008). The advancing glacial ice and meltwater deposited various geological strata beneath the sole or base of the glacier, including till sediments.

The belowground cultural resources study area is underlain by modified Vashon subglacial till, a compact, very dense diamict of silt, sand, and gravel (Troost et al., 2005). Following the time of till deposition, the belowground cultural resources study area was subject to little to no additional natural deposition. Development of KeyArena and the surrounding neighborhood involved site preparation including grading and filling. Geotechnical borings within and adjacent to the project site reveal the presence of several feet of fill overlying the top of the glacial till (WDNR, 2017).

Precontact and Ethnographic Eras

The shores of Elliott Bay once featured multiple Native American villages (Hilbert et al., 2001; Thrush, 2007; Waterman, 1922). Archaeological evidence at the West Point Site (45-KI-428 and 45-KI-429) on the shores of Magnolia documents the presence of Native American people living in this area for at least the last 4,000 years.

A trail from Lake Union to Elliott Bay known as *schÁkWsHud* (“trail to the beach”) passed immediately north of the belowground cultural resources study area, roughly following the alignment of today’s Republican St (United States Surveyor General, 1859).

Historic Era

The aboveground historic resources study area was platted in 1869 and 1880 as additions to Seattle and development began in the early 1890s. In 1894, the City constructed its first tunnel project, the Lake Union Sewer Tunnel, which passes directly south of the project site in a SW/NE orientation; it does not extend into the project site (Robinson et al., 2002).

Zoning maps from the 1920s, 1940s, and 1950s classify the Warren Avenue neighborhood as a second residence district with some commercial areas (City Planning Commission, 1947, 1953; City Zoning Commission, 1923a, 1923b). Specific stores located in the project site on Block 30, along 1st Ave N, included the New System Laundry Wet Wash and Victor Garage (Baist Map Company, 1905, 1912; Sanborn Map Company, 1893, 1905, 1917, 1950).

Aboveground Historic Resources

The finalized Controls and Incentives Agreement for the Northwest Rooms and International Plaza is included in Attachment A of this appendix. The KeyArena Controls and Incentives Agreement and the Bressi Garage Controls and Incentives Agreement are still in negotiation. ESA reviewed the draft agreements dated October 11, 2017 and updated February 20, 2018.

Belowground Cultural Resources

Additional details regarding the three belowground cultural resources in the belowground cultural resources study area are provided in Table D-1. Additional details regarding the numerous previous cultural resources assessments within the belowground cultural resources study area are provided in Table D-2 (all of which are on file at Washington State Department of Archaeology and Historic Preservation [DAHP], Olympia, WA).

Table D-1. Previously Recorded Belowground Cultural Resources in the Study Area.

| Site No. | Site Type | Site Name | Description | Distance from Project | Citation | NRHP Eligibility |
|------------|--|---------------------------------|--|-----------------------|-----------------------------------|--------------------------------------|
| 45-KI-1185 | Historic-Era Railroad Property | Queen Anne Counterbalance Track | c.1890s—1940s historic debris associated with transportation and road development | 0.12 mi NW | Scott, 2014 | Determined Not Eligible ¹ |
| 45-KI-958 | Multi-Component (Precontact-Era and Historic-Era) Debris Scatter | SDOT Maintenance Yard | 1902—1971 historic-era site with possible precontact or historic-era Native American materials | 0.50 mi E | Van Galder, 2010; Valentino, 2015 | Determined Not Eligible ¹ |
| 45-KI-1146 | Historic-Era Structure | Harrison Street Regrade | c.1905—1912 wooden retaining wall / bulkhead associated with street regrading | 0.50 mi E | Elliott, 2013 | Determined Not Eligible |

¹ This resource is listed as Potentially Eligible in DAHP records; however, it was recommended Not Eligible by investigators with concurrence from DAHP.

Table D-2. Previously Conducted Cultural Resources Assessments in the Study Area.

| Author | Year | Title |
|--|------|--|
| Boyle Wagoner Architects | 1998 | Denny Way/Lake Union Combined Sewer Overflow Control Project, Seattle, King County: Historic Property Treatment and Monitoring Plan. Prepared for King County Department of Natural Resources Wastewater Treatment Division, Seattle, WA. |
| Demuth, K., M. Montgomery, B. Hicks, M. Herkelrath, and L. Meoli | 2004 | Part 2, Historical Resources (Section 106) Technical Report. Prepared for Seattle Monorail Project by ENTRIX, Seattle, WA. |
| Forsman, L., D.E. Lewarch, and L.L. Larson | 1997 | Denny Way/Lake Union Combined Sewer Overflow Control Project, Seattle, King County, Cultural Resources Assessment. Prepared for King County Department of Natural Resources Water Pollution Control and Submitted to Brown and Caldwell Engineering Consultants by Larson Anthropological/Archaeological Services, Gig Harbor, WA. |
| Gillespie, A., D. Shaw, and H.L. Miller | 2008 | Historical Resources Assessment of the Queen Anne Post Office at 4415 1st Avenue North, Seattle, King County, Washington. Prepared for United States Postal Service by Historical Research Associates, Seattle, WA. |
| Larson Anthropological Archaeological Services | 2004 | SR 99: Alaskan Way Viaduct and Seawall Replacement Project, Draft Environmental Impact Statement Appendix M – Archaeological Resources and Traditional Cultural Places Technical Memorandum. Prepared for Washington State Department of Transportation by Larson Anthropological Archaeological Services, Gig Harbor, WA. |
| Lewarch, D.E., L.A. Forsman, and L.L. Larson | 1998 | Denny/Lake Union Combined Sewer Overflow Control Project, Seattle, King County, Archaeological Resources Treatment and Monitoring Plans. Prepared for King County Department of Natural Resources Wastewater Treatment Division by Larson Anthropological Archaeological Services, Gig Harbor, WA. |
| Lewarch, D.E., L.A. Forsman, and L.L. Larson | 1999 | Denny/Lake Union Combined Sewer Overflow Control Project, Seattle, King County, Archaeological Resources Treatment and Monitoring Plans. Prepared for King County Department of Natural Resources Wastewater Treatment Division by Larson Anthropological Archaeological Services, Gig Harbor, WA. |
| Lewarch, D.E., G.A. Kaehler, and L.L. Larson | 2005 | Final – Seattle Monorail Project Green Line, Seattle, King County, Washington Archaeological Resources Treatment and Monitoring Plans. Prepared for Seattle Monorail Project by Larson Anthropological Archaeological Services, Gig Harbor, WA. |
| Schumacher, J. | 2007 | Archaeological Monitoring for 333 Elliott Avenue W, Seattle, King County, Washington. Prepared for Martin Selig Real Estate by Western Shore Heritage Services, Bainbridge Island, WA. |
| Stevenson, A.E., J.T. Elder, and Y. Gardes | 2011 | West Thomas Street Pedestrian Overpass Cultural Resources Monitoring. Prepared for Seattle Department of Transportation by ICF International, Seattle, WA. |
| Sullivan, M | 2009 | Queen Anne Post Office Historic Structures Report (Queen Anne Station and Regional Headquarters). Prepared for United States Postal Service by Artifacts Architectural Consulting, Seattle, WA. |



REFERENCES

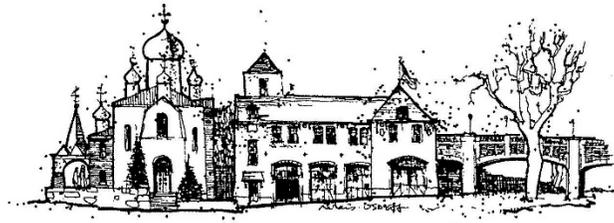
- Baist Map Company. 1905. Surveys of Seattle. Baist Map Company. Seattle, WA.
- Baist Map Company. 1912. Surveys of Seattle. Baist Map Company. Seattle, WA.
- Booth, D.B. 1987. Timing and processes of deglaciation along the southern margin of the Cordilleran Ice Sheet. Pages 71-90 in *North America and Adjacent Oceans during the Last Deglaciation*, W.F. Ruddiman and H.E. Wright, Jr. (eds). Geological Society of America, Boulder, CO.
- City Planning Commission. 1947. Plate 35 / Zoning maps of City of Seattle as of August 1, 1947. Available at: Seattle Municipal Archives, Item No. 528.
- City Planning Commission. 1953. Change in land use [1920-1953, Warren Avenue neighborhood]. Available at: Seattle Municipal Archives, Item No. 2008.
- City Zoning Commission. 1923a. Plate 6 / use map [1923 zoning]. Available at: Seattle Municipal Archives, Item No. 466.
- City Zoning Commission. 1923b. Plate 10 / use map [1923 zoning]. Available at: Seattle Municipal Archives, Item No. 474.
- Elliott, P. 2013. State of Washington Archaeological Site Inventory Form: 45-KI-1146. Available at: Washington State Department of Archaeology and Historic Preservation, Olympia, WA.
- Hilbert, V., J. Miller, and Z. Zahir. 2001. Puget Sound Geography: Original Manuscript from T.T. Waterman. Lushootseed Press. Federal Way, WA.
- Porter, S.C., and T.W. Swanson. 1998. Radiocarbon age constraints on the rates of advance and retreat of the Puget Lobe of the Cordilleran Ice Sheet during the last glaciation. *Quaternary Research* 50:205-213.
- Robinson, R.A., Edward Cox, and Martin Dirks. 2002. Tunneling in Seattle – A History of Innovation. Available: <http://your.kingcounty.gov/dnrp/library/2002/kcr2274.pdf>. Accessed: November 9, 2017.
- Sanborn Map Company. 1893. Seattle, Vol. II, Sheets 64B, 71B. Sanborn Map Company. New York, NY.
- Sanborn Map Company. 1905. Seattle, Vol. III, Sheets 253, 254, 275, 276. Sanborn Map Company. New York, NY.
- Sanborn Map Company. 1917. 1905 Seattle, corrected to 1917, Vol. IV, Sheets 438, 479. Sanborn Map Company. New York, NY.
- Sanborn Map Company. 1950. 1905 Seattle, corrected to 1950, Vol. IV, Sheets 438, 479. Sanborn Map Company. New York, NY.
- Scott, E.R. 2014. State of Washington Archaeological Site Inventory Form: 45-KI-1185. Available at: Washington State Department of Archaeology and Historic Preservation, Olympia, WA.



- Thrush, C.P. 2007. *Native Seattle: Histories from the Crossing-Over Place*. University of Washington Press. Seattle, WA.
- Troost, K.G., and D.B. Booth. 2008. Geology of Seattle and the Seattle area, Washington. *Reviews in Engineering Geology* XX:1-35.
- Troost, K.G., D.B. Booth, A.P. Wisher, and S.A. Shimel. 2005. The Geologic Map of Seattle: A Progress Report. *Quaternary Research* 13:303-321.
- United States Surveyor General. 1859. Township 25 North, Range 4 East - Survey Map. Available: https://www.blm.gov/or/landrecords/survey/yPlatView1_2.php?path=PWA&name=t250n040e_001.jpg. Accessed: November 2, 2017.
- Valentino, Alicia B. 2015. State of Washington Archaeological Site Inventory Form: 45-KI-958. Available at: Washington State Department of Archaeology and Historic Preservation, Olympia, WA.
- Van Galder, S. 2010. State of Washington Archaeological Site Inventory Form: 45-KI-958. Available at: Washington State Department of Archaeology and Historic Preservation, Olympia, WA.
- Waterman, T.T. 1922. The Geographical Names Used by the Indians of the Pacific Coast. *Geographical Review* 12 (2):175-194.
- WDNR (Washington Department of Natural Resources). 2017. Washington Geologic Information Portal. Available: <https://geologyportal.dnr.wa.gov/#subsurface>. Accessed: November 21, 2017.



Attachment A



The City of Seattle

Landmarks Preservation Board

Mailing Address: PO Box 94649 Seattle WA 98124-4649
Street Address: 700 5th Ave Suite 1700

LPB 223/14

CONTROLS AND INCENTIVES AGREEMENT Northwest Rooms & International Fountain Pavilion 305 Harrison Street

I. RECOMMENDED CONTROLS

To assure the preservation of the specified features and characteristics of the landmark, the owner (Owner) of the Northwest Rooms & International Fountain Pavilion at 305 Harrison Street, a landmark designated by the City of Seattle Landmarks Preservation Board, and the City of Seattle Historic Preservation Officer on behalf of the City of Seattle Landmarks Preservation Board, agree that the following controls shall be imposed:

A. CERTIFICATE OF APPROVAL PROCESS

1. A Certificate of Approval, issued by the City of Seattle's Landmarks Preservation Board pursuant to Seattle Municipal Code ("SMC"), Ch. 25.12, must be obtained, or the time for denying a Certificate of Approval application must have expired, before the Owner may make alterations or significant changes to:
 - a. A portion of the site (as delineated in Attachment A).
 - b. The exteriors of the buildings.
2. A Certificate of Approval is not required for the following:
 - a. Removal or modification to the building that houses Key Arena's chiller (west of the International Fountain Pavilion).
 - b. Any in-kind maintenance or repairs of the features listed in Section I.A.1.
 - c. Temporary and ADA signage.
 - d. Removal/addition of shrubs, perennials and annuals.

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The Seattle Department of Neighborhoods**
"Printed on Recycled Paper"

- e. Installation, removal or alteration of temporary site furnishings, including benches and trash receptacles.
- f. Modifications to the north buttress at Key Arena.
- g. Modifications to the north egress stairs at Key Arena
- h. Installation or repair of underground utilities and irrigation, provided that the site is restored in-kind.
- i. Repairs to the plaza waterproofing.
- j. Repairs and replacement of hardscape in the plaza, if the pavement is replaced in-kind.
- k. Removal of the non-historic steel armature and glazing panels that wrap the second level of the Alki Rooms.
- l. Removal of non-historic elements within the north building pass-through including: wave-shapes, ceiling netting, railings, overlaid ramps, spherical bollards, and circa 1990s one-story metal clad / composite panel additions.
- m. Removal of Public Art, including:
 - 1) Everett Dupen Fountain of Creation
 - 2) Pool by Randy Hayes

B. ADMINISTRATIVE REVIEW

- 1. Administrative review and approval may be provided for the following items listed in Section I.B.3 according to the following procedures. The Owner shall submit to the City Historic Preservation Officer (CHPO) a written request for these alterations, including applicable drawings and/or specifications. If the CHPO, upon examination of submitted plans and specifications, determines that such alterations are consistent with the purposes of SMC Ch. 25.12 the alterations shall be approved without the need for any further action by the Board. If the CHPO disapproves such alterations, the Owner may submit revised materials to the CHPO, or submit in accordance with the Certificate of Approval process set forth in SMC Ch. 25.12.
- 2. The CHPO shall transmit his or her written decision on the Owner's submittal to the Owner. Failure of the CHPO to approve or disapprove the request within fourteen (14) business days shall constitute approval of the request.
- 3. Administrative review is available for the following:
 - a. For the specified features and characteristics of the building, the addition or elimination of ducts, conduits, HVAC vents, grilles, fire escapes,

pipes, and other similar wiring or mechanical elements necessary for the normal operation of the building or plaza.

- b. Installation of, or alterations to, exterior security system equipment and security lighting.
- c. Exterior building signage, other than signage excluded in Section I.A.2.d.
- d. Removal/addition of trees less than 8 inches in diameter measured 4 ½ feet above ground.
- e. Removal of hazardous trees more than 8 inches in diameter measured 4 ½ feet above ground.
- f. Installation of Public Art, if attached to the building.

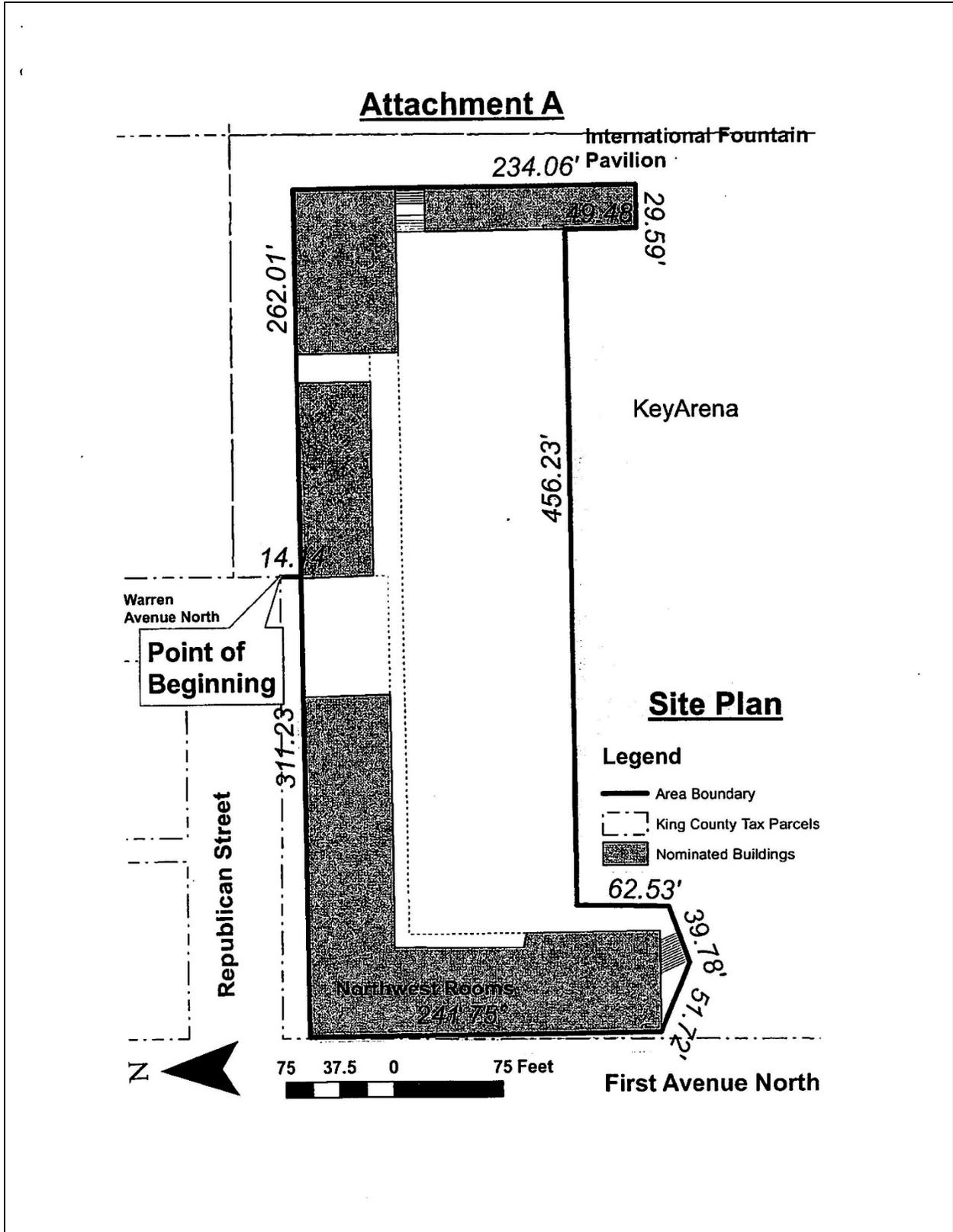
II. RECOMMENDED INCENTIVES

The following economic incentives may be available to the owner:

- 1) Seattle Municipal Code Title 23 provides for authorization of uses in a designated Landmark that are not normally permitted in a particular zoning classification by means of an administrative conditional use.
- 2) Building and Energy Code exceptions on an application basis.
- 3) Historic Preservation Special Tax Valuation (Chapter 84.26 RCW) on an application basis.

 4/25/14
 Robert Nellans Date
 Director, Seattle Center

 23 April 2014
 Karen Gordon Date
 City Historic Preservation Officer





APPENDIX E: RECREATION

APPENDIX E: RECREATION

Table E-1 includes information on recreational attractions and events at Seattle Center (Seattle Center, 2016; 2017a, 2017b).

Table E-1. Recreational Attractions and Events at Seattle Center

| Attraction | Details | Events |
|--|--|---|
| A/NT Gallery | Formerly the Art/Not Terminal Gallery. Artists' collective with exhibition and gallery space. | Art exhibitions |
| Armory | Previously called the Center House. Building featuring a food court, offices, Center Theatre, Children's Museum, Theatre Puget Sound rental spaces, Armory Stage, and the Armory Loft meeting rooms. | Fitness classes, Seattle's Best Damn Happy Hour, cultural festivals, concerts, comedy performances, dance performances, and miscellaneous other events. |
| Artists at Play Playground | Artist-created playground in the Next 50 Plaza. Includes a climbing tower, labyrinth, and carousel. Opened in 2015. | |
| Bill and Melinda Gates Foundation Discovery Center | Interactive visitor center to the Bill and Melinda Gates Foundation with exhibits and tours. | |
| Broad Street Green Sculpture Garden | Sculpture garden on the grounds of Seattle Center adjacent to Broad Street and the Space Needle. Features Ronald Bladen's Black Lighting, Alexander Liberman's Olympic Iliad, Doris Chase's Moon Gates, and Tony Smith's Moses. | |
| Center Theatre | Theater located in the Armory. Home to the Seattle Shakespeare Company and the Book-It Repertory Theatre. | Plays |
| Chihuly Garden and Glass | Museum and garden featuring the glass art of Tacoma artist Dale Chihuly. Facilities include eight galleries, a Glasshouse, an exhibition garden, and a theater (Chihuly Garden and Glass, 2017). | Fitness classes, art classes, and lectures (Chihuly Garden and Glass, 2017). |
| Cornish Playhouse | Theater operated by Cornish College of the Arts. Main theater seats 476. Also features the Marleen and Kenny Alhadeff Studio Theater, with a seating capacity of 110. The Fountain of the Northwest, created by James FitzGerald in 1961, is outside the entrance to the Playhouse. The Fountain of Seseragi, designed by Gerard Tsutakawa in 2000, is outside the Playhouse facing the International Fountain. | Plays and dance performances. |



| Attraction | Details | Events |
|---------------------------------|---|---|
| Exhibition Hall | 34,000 square foot exhibition hall and rental venue. | Exhibitions, trade-shows, banquets, receptions, the International Gem & Jewelry Show, VegFest, the Erotic Arts Festival, the Antiquarian Book Fair, and the Urban Craft Uprising. |
| Fisher Pavilion | 12,500 square foot pavilion with a 19,000 square foot rooftop plaza, and 40,000 square feet of grass on South Fountain Lawn. | Festivals, concerts, banquets, exhibits, trade shows, meetings, the Seattle International Beerfest, and the Tattoo Convention. |
| Founder's Court | Courtyard between Cornish Playhouse and the Exhibition Hall. Features the Encircled Stream Fountain, created by Ned Kahn. | |
| Fountain of Creation | Also known as the Dupen Fountain. Bronze and stone water garden created by Everett Dupen in 1962 and renovated in 1992. Located between KeyArena and The Vera Project. Open to wading. | |
| Grounds | 40 acres of open space, including lawn areas and plazas. | Benefit walks and races. |
| International Fountain and Mall | Large concrete fountain. Accessible for wading. Surrounding by large lawn area. | |
| KEXP | 90.3 KEXP-FM, a nonprofit radio station, operates out of an office at Seattle Center adjacent to KeyArena. | Community events, station tours, and live performances. |
| KeyArena | See Section 7.3.2. | |
| Kobe Bell Meditation Garden | Bronze bell in a wooden pagoda gifted by Kobe, Japan, Seattle's sister city. The bell was installed as part of the 1962 World's Fair. | Annual Kobe Earthquake Remembrance |
| Kreielsheimer Promenade | Promenade between the Exhibition Hall and Marion Oliver McCaw Hall. | |
| Marion Oliver McCaw Hall | Performance venue that is the home of the Pacific Northwest Ballet and Seattle Opera. Includes the 2,900 seat Susan Brotman Auditorium and 380-seat Nesholm Family Lecture Hall. Lobby includes An Equal and Opposite Reaction, a sculpture created by Sarah Sze in 2005. | Pacific Northwest Ballet, Seattle Opera, Seattle Men's Chorus, concerts, and lectures. |
| Memorial Stadium | Football and soccer stadium owned by Seattle Public Schools. | High school football, high school girls soccer, high school graduations, and Seattle Reign FC (National Women's Soccer League). |
| Mural Amphitheatre | Outdoor amphitheater with the 60-foot Seattle Mural, made of 160 color variations of glass, created by Paul Horiuchi in 1962. | Concerts and movie screenings. |



| Attraction | Details | Events |
|-----------------------------------|---|--|
| Museum of Popular Culture (MoPop) | Museum focused on popular culture. Formerly the EMP (Experience Music Project). Housed in a distinctive Frank Gehry designed building. | Film screenings, concerts, karaoke nights, happy hours, the Pop Conference, Madaraka Festival, and Sound Off! battle of the bands. |
| Neototems Children's Garden | Children's garden next to the Seattle Children's Theatre installed in 2002 with sculptures by Gloria Bornstein. | |
| Next 50 Plaza and Pavilion | Plaza area between the Armory and the Museum of Pop Culture. Former site of the Fun Forest maintenance shop and rides. | Fitness classes, tradeshow, walks, and the Seattle Mini Maker Faire. |
| Pacific Science Center | Science museum featuring interactive science exhibits, Butterfly House, two IMAX theatres, and a planetarium. | IMAX film screenings |
| Peace Garden | Garden built in 1996 near the base of the Space Needle. Features an International Peace Pole, an inscribed boulder honoring Aki Kurose, and the Middle East Peace Sculpture. | |
| Poetry Garden | Small garden created in 2006 west of the Armory building. Features 12 sculpted pink granite boulders engraved with poetry, sculpted by John Hoge. | |
| Pottery Northwest | See Section 7.3.4. | |
| Seattle Center Monorail | Monorail connecting Seattle Center to Westlake Center in downtown Seattle. | |
| Seattle Center Pavilion | See Section 7.3.5. | |
| Seattle Children's Museum | Children's museum located in the Armory featuring interactive exhibits. | |
| Seattle Children's Theatre | Children's theatre with two stages – the Charlotte Martin Theatre (seats 482) and the Eve Alvord Theatre (seats 275). Founded in 1975 and located at Seattle Center since 1993 (Seattle Children's Theatre, 2017). | Children's plays |
| Seattle Repertory Theatre | Regional theatre founded at Seattle Center in 1963. Operates three stages – the Bagley Wright Theatre (opened 1983 with a capacity of 842), the Leo Kreielsheimer Theatre (opened 1996 with a capacity of 282), and the PONCHO Forum (with a capacity of 99). | Plays |

| Attraction | Details | Events |
|--------------------------------------|---|---|
| September 11 Memorial Garden | Garden on the west side of Fisher Pavilion, created in 2002 to commemorate lives lost on September 11, 2001. Features a dedication and boulders inscribed with quotes from Martin Luther King and Anne Frank. | |
| SIFF Film Center | The Seattle International Film Festival (SIFF) operates the SIFF Film Center, a 90-seat theater, on the Seattle Center campus (SIFF, 2017). | Film screenings |
| Seattle Center Skatepark | See Section 7.3.3. | |
| Seattle Opera at the Center | New administrative building for the Seattle Opera, currently under construction. Will have rehearsal spaces as well as community and education spaces. | Education and community engagement programs |
| Space Needle | 605-foot tall building with 360 degree views of Seattle, Puget Sound, Mount Rainier, and the Olympic and Cascade Mountains. Features an observation deck and restaurant. | |
| Theater Commons and Donnelly Gardens | 1.6-acre open space adjacent to the Seattle Repertory Theatre. The Donnelly Gardens feature native plantings, bioretention ponds, and hardscapes. | |
| Theatre Puget Sound | Theater organization housed in the Armory, featuring rental spaces that are available to the public. | |
| Vera Project | All-ages music and art venue. | Concerts |

Seattle Center hosts a number of recurring Center-wide events that draw large crowds, including the Northwest Folklife Festival, Bumbershoot, Seattle PrideFest, the Seafair Torchlight Fanfest, the Bite of Seattle, and Winterfest.

The **Northwest Folklife Festival** has been held annually at Seattle Center since 1972. The festival, held over Memorial Day weekend, features music and dance performances, storytelling, art, participatory dances, workshops, crafts, and food. The 2017 festival featured over 7,000 performers (Seattle Center, 2017b). In 2017, each day of the 4-day festival drew an estimated 50,000 to 75,000 attendees (Seattle Center, 2017a).

Bumbershoot is a music festival held annually on Labor Day weekend. In addition to music, the festival features comedy, dance, film, literary arts, performing arts, theater, visual arts events, and food (Bumbershoot, 2017). In 2017, each day of the 3-day festival drew an estimated 30,000 to 35,000 attendees (Seattle Center, 2017a). Bumbershoot typically uses KeyArena as a venue.

Seattle PrideFest, Seattle's gay pride month celebration, is held at Seattle Center the last Sunday every June. The event features concerts and vendors. Estimated 2017 attendance was around 50,000 (Seattle Center, 2017a).

The **Seafair Torchlight Fanfest** occurs annually at Seattle Center on the last Saturday in July and includes a fun-run, performances, food, exhibits, and floats (Seattle Center, 2017b). Estimated attendance is 10,000 (Seattle Center, 2017a).

The **Bite of Seattle** is a food and beverage exhibition and festival held annually in July. The event features restaurants, cooking demonstrations, cook-offs, beer gardens, and music stages (Seattle Center, 2017b). Estimated attendance for the 2017 event was 40,000 to 50,000 per day over 3 days (Seattle Center, 2017a).

Winterfest is held from late November to early January annually and features an ice rink, ice sculpting, a winter train and village, student showcases, carolers, and live performances. New Year's Eve celebrations are part of Winterfest and include fireworks at the Space Needle, live music, and a dance party (Seattle Center, 2017b). Estimated attendance for the 2016 New Year's Eve celebrations was 66,000 (Seattle Center, 2017a).

The Seattle Center grounds are also the starting and/or end point for various races, such as the St. Patrick's Day Dash, Komen Race for the Cure, Seattle Marathon, Hot Chocolate 15k, and Color Run. These events can draw up to 35,000 attendees. The Seattle Center grounds are also the site of benefit walks, such as the Seattle Brain Cancer Walk, Eating Disorder Awareness Walk, and Walk to End Alzheimer's (Seattle Center, 2016, 2017a).

References

- Bumbershoot. 2017. About Bumbershoot. Available: <https://www.bumbershoot.com/about-1/>. Accessed: November 22, 2017.
- Chihuly Garden and Glass. 2017. Chihuly Garden and Glass. Available: <https://www.chihulygardenandglass.com/>. Accessed: November 21, 2017.
- Seattle Center. 2016. Seattle Center Expected Event Attendance. Excel file.
- Seattle Center. 2017a. Seattle Center Expected Event Attendance. Excel file.
- Seattle Center. 2017b. Seattle Center Attractions. Available: <http://www.seattlecenter.com/attractions/>. Accessed: November 21, 2017.
- Seattle Children's Theatre. 2017. Seattle Children's Theatre. Available: <http://www.sct.org/>. Accessed: November 22, 2017.
- SIFF (Seattle International Film Festival). 2017. SIFF Film Center. Available: <https://www.siff.net/year-round-cinema/cinema-venues/siff-film-center>. Accessed: November 22, 2017.



APPENDIX F: NOISE AND VIBRATION

Data sheets for noise monitoring conducted by ESA are attached.

ESA Noise Measurement Data Sheet

Date: 12/1/2017

Measurement Taken By: Malia Bassett, Tobin Story

Project: Seattle Center EIS

Site ID: Astro Apartments

Weather Conditions: Clear: _____ Partly Cloudy: X Cloudy: _____ Other: _____

Temperature: 46 degrees (°F)

Rain: Rain heavy for Measurement 1, stopped by Measurement 2 Wind: None

Equipment Data

Sound Level Meter: Metrosonics Model db308 Serial Number: 2526

MEASUREMENT #1 **METER LOG #: 1** **START TIME: 6:28 PM - 6:38 PM**

Results: Leq: 63.3 Lmax: 69.4 L10: 66 L90: 61
in dB(A)

Major Noise Sources: Speaker from Key Arena giving direction to concert-goers before they enter.

Background Noise Sources: Car doors, horns, people on sidewalk, people yelling

| | Time | Noise Level | Notes |
|---|---------|-------------|--------------------|
| Other Notes/Observations: | 6:30 PM | 75 dBA | loud car |
| Bus stop on Republican St. and 1st Avenue N., frequent bus activity on 1st Ave N. and bus idling at bus stop. | 6:31 PM | 74 dBA | bus drive by |
| | 6:34 PM | 62-80 dBA | bus idle/ drive by |
| | 6:36 PM | 65 dBA | bus horn |
| | 6:36 PM | 80 dBA | bus/traffic |
| | | | |
| | | | |

MEASUREMENT #2 **METER LOG #: 3** **START TIME: 7:22 PM - 7:32 PM**

Results: Leq: 69.4 Lmax: 72.1 L10: 71.0 L90: 65.0
in dB(A)

Major Noise Sources: Same as Measurement 1

Background Noise Sources: Same as Measurement 1

| | Time | Noise Level | Notes |
|---|---------|-------------|----------------------------|
| Other Notes/Observations: | 7:22 PM | 70 dBA | People walking by/horn |
| Increase in people on sidewalk | 7:22 PM | 77 dBA | Bus |
| Concert attendees crossing Harrison St. | 7:24 PM | 75 dBA | Car door opening |
| Concert attendees gather in front of arena prior to entering. | 7:27 PM | 66 dBA | People walking by, yelling |
| Cars at higher speed | 7:28 PM | 66 dBA | People yelling |
| Concert attendees gather in front of arena entrance on 1st. | 7:31 PM | 70 dBA | People yelling |
| Rain has stopped, wet pavement | | | |
| | | | |

ESA Noise Measurement Data Sheet

Date: 12/1/2017 **Measurement Taken By:** Malia Bassett, Tobin Story
Project: Seattle Center EIS
Site ID: Astro Apartments

Weather Conditions: Clear: _____ Partly Cloudy: X Cloudy: _____ Other: _____
 Temperature: 40 degrees (°F)
 Rain: None Wind: None

Equipment Data
 Sound Level Meter: Metrosonics Model db308 Serial Number: 2526

MEASUREMENT #3 **METER LOG #: 5** **START TIME: 9:25 PM - 9:35 PM**
Results: Leq: 62.7 Lmax: 65.4 L10: 64.0 L90: 60.0
 in dB(A)

Major Noise Sources: Same as Measurement 1

Background Noise Sources: Same as Measurement 1

| | Time | Noise Level | Notes |
|--|---------|-------------|--|
| Other Notes/Observations: | 9:27 PM | 67 dBA | Car horns, loud car brakes |
| Bass/noise from concert (not affecting noise levels) | 9:28 PM | 69 dBA | Ambulance at distance |
| Loud speaker has stopped | 9:29 PM | 73 dBA | Mail truck stop and open/close sliding doors |
| | 9:29 PM | 60 dBA | People walking by, cars idling |
| | 9:30 PM | 69 dBA | Car with loud music |
| | 9:31 PM | 71 dBA | Tram/bus passing |
| | 9:34 PM | 62 dBA | Loud car idling |

MEASUREMENT #4 **METER LOG #: 7** **START TIME: 10:18 PM - 10:28 PM**
Results: Leq: 69.1 Lmax: 70.1 L10: 70.0 L90: 68.0
 in dB(A)

Major Noise Sources: Traffic, cop crowd and traffic controlling with whistle, people yelling, cars/taxis stopping and car doors closing

Background Noise Sources: Concert crowd exiting at once

| | Time | Noise Level | Notes |
|---|----------|-------------|-------------------------------------|
| Other Notes/Observations: | 10:20 PM | 70 dBA | Cop whistle |
| Concert has ended | 10:22 PM | 70+ dBA | People walking by, talking |
| Many people exiting venue and crossing Harrison St. | 10:23 PM | 70+ dBA | Individual approached us to talk |
| Rain has stopped, asphalt still wet | 10:23 PM | 70+ dBA | Cop whistle, people crossing street |
| | 10:27 PM | 70 dBA | Concert attendee yelling |

ESA Noise Measurement Data Sheet

Date: 12/1/2017

Measurement Taken By: Malia Bassett, Tobin Story

Project: Seattle Center EIS

Site ID: Sacred Heart of Jesus Catholic Church

Weather Conditions: Clear: _____ Partly Cloudy: X Cloudy: _____ Other: _____

Temperature: 46 degrees (°F)

Rain: Rain has stopped Wind: None

Equipment Data

Sound Level Meter: Metrosonics Model db308 Serial Number: 2526

MEASUREMENT #1 **METER LOG #: 2** **START TIME: 6:50 PM - 7:00 PM**

Results: Leq: 59.1 Lmax: 61.9 L10: 61.0 L90: 57.0
in dB(A)

Major Noise Sources: People in/out of cars, walking by

Background Noise Sources: Wind chimes on the NE corner of Thomas St and 2nd Ave N as a part of the Fisher Pavilion

| | Time | Noise Level | Notes |
|---|---------|-------------|--------------------------------------|
| Other Notes/Observations: | 6:50 PM | 65 dBA | Airplane flying overhead |
| Most concert attendees are using Thomas Street to reach the parking garage. | 6:53 PM | 76 dBA | Car door slam |
| | 6:54 PM | 60 dBA | People walking by and talking loudly |
| Observed less concert attendees using this side of the arena for entering. | 6:58 PM | 63 dBA | Loud car |
| | 6:59 PM | 61 dBA | Car door slam |
| A number of pedestrians were attending Winterfest. | | | |

MEASUREMENT #2 **METER LOG #: 4** **START TIME: 9:06 PM - 9:16 PM**

Results: Leq: 62.7 Lmax: 68.9 L10: 66.0 L90: 58.0
in dB(A)

Major Noise Sources: Traffic on Thomas St.

Background Noise Sources: Bass from concert, wind chimes and aircraft

| | Time | Noise Level | Notes |
|--|---------|-------------|---------------------------------|
| Other Notes/Observations: | 9:08 PM | 67 dBA | Car revving engine at stop sign |
| More wind, chimes were more active and producing more noise. | 9:09 PM | 61 dBA | Wind chimes in wind gust |
| | 9:10 PM | 63 dBA | Wind chimes in wind gust |
| | 9:10 PM | 65 dBA | Pedestrian traffic and yelling |
| | 9:12 PM | 68 dBA | Wind chimes in wind gust |
| | 9:15 PM | 63 dBA | Pedestrian traffic |
| | 9:15 PM | 68 dBA | Pedestrian traffic |

ESA Noise Measurement Data Sheet

Date: 12/1/2017

Measurement Taken By: Malia Bassett, Tobin Story

Project: Seattle Center EIS

Site ID: Sacred Heart of Jesus Catholic Church

Weather Conditions: Clear: X Partly Cloudy: _____ Cloudy: _____ Other: _____

Temperature: 40 degrees (°F)

Rain: Rain has stopped Wind: Light breeze

Equipment Data

Sound Level Meter: Metrosonics Model db308 Serial Number: 2526

MEASUREMENT #3 **METER LOG #: 6** **START TIME: 10:35 PM - 10:45 PM**

Results: Leq: 57.7 Lmax: 63.0 L10: 61.0 L90: 53.0
in dB(A)

Major Noise Sources: Concert attendees walking and talking, yelling, laughing.

Background Noise Sources: Wind chimes on the NE corner of Thomas St and 2nd Ave N as a part of the Fisher Pavilion.

| | Time | Noise Level | Notes |
|--|----------|-------------|------------------------------------|
| Other Notes/Observations: | 10:35 PM | 65 dBA | People walking by, yelling/talking |
| Concert has ended, concert goers confused where their car is parked. | 10:36 PM | 70 dBA | People walking by, yelling/talking |
| | 10:39 PM | 71 dBA | People walking by, yelling/talking |
| Thomas Street is closed to vehicle traffic. | 10:41 PM | 65 dBA | People walking by, yelling/talking |
| | 10:43 PM | 63 dBA | Airplane overhead |
| | | | |
| | | | |

MEASUREMENT # **METER LOG #:** _____ **START TIME:** _____

Results: Leq: _____ Lmax: _____ L10: _____ L90: _____
in dB(A)

Major Noise Sources: Traffic on Thomas St.

Background Noise Sources: _____

| | Time | Noise Level | Notes |
|---------------------------|------|-------------|-------|
| Other Notes/Observations: | | | |
| | | | |
| | | | |
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ESA Noise Measurement Data Sheet

Date: 3/9/2018

Measurement Taken By: Tobin Story, Aaron Booy

Project: Seattle Center EIS

Site ID: Astro Apartments

Weather Conditions: Clear: Partly Cloudy: Cloudy: Other:

Temperature: 48 degrees (°F)

Rain: None Wind: Light

Equipment Data

Sound Level Meter: Metrosonics Model db308 Serial Number: 2526

MEASUREMENT #1 **METER LOG #: 1** **START TIME: 6:33 PM - 6:43 PM**

Results: Leq: 69.2 Lmax: 78.7 L10: 71 L90: 65
in dB(A)

Major Noise Sources: Speaker from Key Arena giving direction to concert-goers before they enter. Radio station tents playing music on plaza. Bus and car traffic

Background Noise Sources: Pedestrian traffic, bus and car traffic

| | Time | Noise Level | Notes |
|---|------|-------------|--------------------------|
| Other Notes/Observations: | | 63-66 | Baseline, radio stations |
| Crowds are fairly light. Radio station tents are very loud and constant | | 73-78 | bus drive by |
| | | 72-74 | loud pedestrians |
| | | 68-71 | cars accelerating |
| | | | |
| | | | |

MEASUREMENT #2 **METER LOG #: 3** **START TIME: 7:25 PM - 7:35 PM**

Results: Leq: 67.2 Lmax: 81.4 L10: 69 L90: 61
in dB(A)

Major Noise Sources: Concert loudspeaker, vehicle traffic, car doors, car horns

Background Noise Sources: pedestrian traffic, aircraft(distant), loading vans

| | Time | Noise Level | Notes |
|---------------------------|------|-------------|--------------------|
| Other Notes/Observations: | | 80 | Loud SUV |
| | | 73 | Electric bus |
| | | 77-78 | Bus traffic |
| | | 58 | Ambient (concert) |
| | | 67 | Car door |
| | | 63 | Pedestrian traffic |
| | | 66 | Loud pedestrians |
| | | 73 | Car horn |

ESA Noise Measurement Data Sheet

Date: 3/9/2018

Measurement Taken By: Tobin Story, Aaron Booy

Project: Seattle Center EIS

Site ID: Astro Apartments

Weather Conditions: Clear: Partly Cloudy: Cloudy: Other:

Temperature: 45 degrees (°F)

Rain: None Wind: Light

Equipment Data

Sound Level Meter: Metrosonics Model db308 Serial Number: 2526

MEASUREMENT #1 **METER LOG #: 1** **START TIME: 9:24:30 - 9:34:30 PM**

Results: Leq: 65.2 Lmax: 75.7 L10: 69 L90: 54
in dB(A)

Major Noise Sources: Car traffic, bus traffic, diesel truck, low flying aircraft

Background Noise Sources: Pedestrian traffic, bus and car traffic, bikes, aircraft, concert bass

| | Time | Noise Level | Notes |
|---|------|-------------|----------------------|
| Other Notes/Observations: | | 51-52 | Quietest, no traffic |
| Concert PA is turned off | | 55-56 | General ambient |
| No radio tents | | 70 | Cars accelerating |
| Bass from concert is audible but not loud | | 71 | Cars at speed |
| | | 62 | Car horn |
| | | 64 | Overhead plane |
| | | 71 | Low overhead plane |
| | | 74 | Bus |

MEASUREMENT #2 **METER LOG #: 3** **START TIME: 10:25 - 10:35 PM**

Results: Leq: 66.8 Lmax: 86.8 L10: 68 L90: 63
in dB(A)

Major Noise Sources: Traffic, ped traffic, car horn, car doors, car music

Background Noise Sources: concert let-out

| | Time | Noise Level | Notes |
|---|------|-------------|---------------------|
| Other Notes/Observations: | | 65 | Slow traffic |
| Concert let out | | 68 | Faster traffic |
| Multiple car horns due to pick-up traffic (uber/lyft) | | 69 | Yelling pedestrians |
| Significant traffic congestion | | 71 | Bus |
| | | 71 | Car horn |
| | | 64 | Ambient noise |
| | | | |
| | | | |

ESA Noise Measurement Data Sheet

Date: 3/9/2018

Measurement Taken By: Tobin Story, Aaron Booy

Project: Seattle Center EIS

Site ID: Sacred Heart of Jesus Catholic Church

Weather Conditions: Clear: X Partly Cloudy: _____ Cloudy: _____ Other: _____

Temperature: 45 degrees (°F)

Rain: None Wind: Light

Equipment Data

Sound Level Meter: Metrosonics Model db308 Serial Number: 2526

MEASUREMENT #1 **METER LOG #: 1** **START TIME: 6:52 - 7:02 PM**

Results: Leq: 58.3 Lmax: 67.6 L10: 61 L90: 55
in dB(A)

Major Noise Sources: Vehicle traffic, ped traffic, delivery truck unloading, car doors, Seattle Center golf cart, truck backing up

Background Noise Sources: Ped traffic, sirens, idling semi truck

| | Time | Noise Level | Notes |
|---|------|-------------|--------------------------|
| Other Notes/Observations: | | 54-55 | Ambient - Idling truck |
| Ped traffic relatively light | | 60 | Prius |
| Several passenger drop-offs/ pick-ups on corner | | 62-66 | General traffic |
| | | 68 | Car door |
| | | 59 | Seattle Center Golf Cart |
| | | 64 | Loud pedestrians |
| | | 64 | Delivery truck |

MEASUREMENT #2 **METER LOG #: 3** **START TIME: 9:04 - 9:14 PM**

Results: Leq: 60.1 Lmax: 78.1 L10: 60 L90: 53
in dB(A)

Major Noise Sources: Car traffic, car doors, pedestrian traffic/yelling, diesel truck, van with music

Background Noise Sources: concert bass, distant traffic, skateboarding, pedestrian traffic

| | Time | Noise Level | Notes |
|--|------|-------------|---------------------------------|
| Other Notes/Observations: | | 52-54 | Ambient, includes concert noise |
| Generally quiet - some background noise from skateboarding | | 62-67 | Skateboarding |
| | | 71 | Van |
| | | 78 | Diesel truck |
| | | 58-65 | Car traffic |
| | | 60 | Cars unloading |

ESA Noise Measurement Data Sheet

Date: 3/9/2018

Measurement Taken By: Tobin Story, Aaron Booy

Project: Seattle Center EIS

Site ID: Sacred Heart of Jesus Catholic Church

Weather Conditions: Clear: X Partly Cloudy: _____ Cloudy: _____ Other: _____

Temperature: 45 degrees (°F)

Rain: None Wind: Light

Equipment Data

Sound Level Meter: Metrosonics Model db308 Serial Number: 2526

MEASUREMENT #1 **METER LOG #:** _____ **START TIME: 10:39:30 - 10:49:30 PM**

Results: Leq: 63 Lmax: 80.3 L10: 64 L90: 59
in dB(A)

Major Noise Sources: Vehicle traffic, car doors

Background Noise Sources: Semi truck idling/generator running, pedestrian traffic, pedicab with music

| | Time | Noise Level | Notes |
|---------------------------|------|-------------|------------------|
| Other Notes/Observations: | | 65 | Passing car |
| Moderate vehicle traffic | | 81 | Accelerating car |
| Light pedestrian traffic | | 62 | Idling semi |
| | | 65 | Ped traffic |
| | | 65 | Pedicab |
| | | 66 | car door |
| | | | |
| | | | |

MEASUREMENT #2 **METER LOG #:** _____ **START TIME:** _____

Results: Leq: _____ Lmax: _____ L10: _____ L90: _____
in dB(A)

Major Noise Sources: _____

Background Noise Sources: _____

| | Time | Noise Level | Notes |
|---------------------------|------|-------------|-------|
| Other Notes/Observations: | | | |
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APPENDIX G: SIGN PROPOSAL AND VARIANCES

This table describes the provisions of Title 23 of the Land Use Code regarding signs (SMC 23.55) that the project would require approval to depart from.

Table G-1. Variances Related to Signage

| Section | Summary of Code | Proposed Variances |
|--|---|--|
| SMC 23.55.003 Signs prohibited in all zones | A.5. Banners, strings of pennants, and festoons of lights are not permitted. | Banners, strings of pennants, and festoons of lights are proposed to be permitted. |
| 23.55.005 Video display methods | <p>A.1 Video displays must be on-premises signs.</p> <p>A.3 Video displays may not be visible from a street, driveway or surface parking area, and also is not visible from a lot owned by a different person. If not visible from the foregoing, then there is no maximum sign size. If visible from the foregoing, the maximum size is 1,000 square inches and no single dimension may exceed three feet.</p> <p>A.4 The maximum height for a video display sign is 15 feet, and a pole sign using video display must be at least 10 feet above grade.</p> <p>A.7 The maximum duration of a video display message is 5 seconds.</p> <p>A.8 There shall be 20 seconds of still image or blank screen following every video message.</p> <p>A.9 Audio speakers are prohibited in association with a video display.</p> <p>A.10 Between dusk and dawn the video display shall be limited in brightness to more than 500 units [sic].</p> <p>A.11 Video display signs may be used after dusk only until 11 p.m., or if the advertising is an on-premises message about an event at the site where the sign is located, for up to one hour after said event.</p> | <p>Advertising sign messages for off-premise businesses are proposed to be allowed.</p> <p>Video displays in excess of 1000 square inches in area and in excess of 3 feet in height and width are proposed that would be visible from streets (1st Ave N [300 sq. ft.], Thomas St [4400 sq. ft.], and others), and from driveways and surface parking areas, and from a lots owned by persons other than Seattle Center.</p> <p>Video displays on the atrium are proposed to be up to 30 feet above grade. Video-capable digital reader boards are proposed to be less than 10 feet above grade.</p> <p>Video display messages are proposed to that would have a maximum duration of 20 seconds, with a minimum of 10 seconds of still image or blank display following every message.</p> <p>The limit for video sign brightness between dusk and dawn is proposed to be 5,000 nits.</p> <p>Video displays would not be used between 10 p.m. and 7 a.m., except on event nights when video displays could be used up to one hour after an event at the arena ends, regardless of the hour.</p> |

| Section | Summary of Code | Proposed Variances |
|---|---|---|
| SMC 23.55.030.E On-Premise Signs | 3. The maximum area of roof signs in SM zones is 300 square feet. 5. No portion of a roof sign shall extend beyond the height limit of the zone. | |
| SMC 23.55.012 Temporary signs permitted in all zones | B. Temporary commercial or noncommercial messages may be displayed for a total of four (4) fourteen (14) consecutive day periods per calendar year. | Temporary commercial signs advertising an activity, sale of merchandise, or sale of business services located within Seattle Center are proposed to be allowed for a total of four (4) 30-day periods per calendar year. |
| SMC 23.55.014 Off-premises signs | A.1. Advertising signs may not be used unless relocated, subject to specific restrictions. | Off-premise advertising signs (signs advertising a service or product not available on the premises) are proposed to be allowed. Signs indicating a sponsor's corporate identity, including the use of fonts or colors evocative of a sponsor's corporate identity, are proposed to be allowed, regardless of availability of the services or products on the premises. |
| SMC 23.55.016 Light and glare from signs | A. The source of light for externally illuminated signs shall be shielded so that direct rays from the light source are visible only on the lot where the sign is located. B. The light source for externally illuminated signs, except advertising signs, shall be no farther away from the sign than the height of the sign. | The light source for externally illuminated signs would be shielded and directed away from adjacent parcels, but it is proposed that these light sources would not be subject to the requirements of not being visible from other lots or the limit on the distance of the lights from an advertising sign. |
| SMC 23.55.030 Signs in NC3, C1, C2 and SM zones | E.2.a Each business may have one Type A sign for each 300 hundred lineal feet of frontage on public rights-of-way. E.2.c Each business may have one pole sign for each 300 lineal feet of frontage on public rights-of-way E.3.a The maximum area of each face of a pole, ground, roof, projecting or combination sign is 300 square feet. E.3.b The maximum area of a wall sign is 672 square feet. | The arena and parking structure is proposed to have up to one Type A sign for each 100 lineal feet of frontage on public rights-of-way. The arena and parking structure is proposed to have one pole sign for each 300 lineal feet of frontage on public rights-of-way, and in addition, would have up to 40 light poles with banners. The proposed maximum area of the identification signs on each street or alley frontage of the arena or arena parking structure is 600 square feet. |

| Section | Summary of Code | Proposed Variances |
|---------|--|---|
| | <p>E.5.c The maximum height of any portion of a wall sign is 20 feet or the height of the cornice of the structure to which the wall sign is attached, whichever is greater.</p> <p>E.5.d No portion of a roof sign shall extend beyond the height limit of the zone; exceed a height above the roof in excess of the height of the structure on which the sign is located; exceed a height of 30 feet above the roof, measured from a point on the roof line directly below the sign or from the nearest adjacent parapet.</p> <p>F.3 When accessory parking is provided on a lot other than the lot where the principal use is located, off-premises directional signs 5 square feet or less in area identifying the accessory parking are permitted.</p> <p>F.5 (Off-premise) advertising signs are prohibited.</p> | <p>The proposed maximum area of each face of a pole, ground, projecting, or combination sign is 600 square feet.</p> <p>The maximum proposed area for each of the four roof signs is 700 square feet.</p> <p>The maximum area of a wall sign would remain 672 square feet, except that a wall sign greater than 672 square feet is proposed to allowed when:</p> <ul style="list-style-type: none"> a. the wall sign is displayed on or visible through a glass wall that is greater than 5,000 square feet in area, b. the glass wall is not landmarked, and c. the wall sign does not exceed 30 percent of the area of the face of the glass wall. <p>The maximum height of any portion of a wall sign is proposed to be 20 feet or 3 feet above the height of the cornice of the structure to which the sign is attached, whichever is greater.</p> <p>The existing four roof signs, one facing each cardinal direction, would increase in size to approximately 700 square feet in area but would not increase in height. The height of the existing roof signs (each of which is approximately 300 sq. ft.) in area was approved as a Special Exception in 1995.</p> <p>It is also proposed that a portion of a roof sign could extend beyond the height limit of the zone when:</p> <ul style="list-style-type: none"> a. mechanical equipment is located on the roof, b. the roof sign that is mounted or otherwise affixed to a structure that provides screening for such mechanical equipment, and c. the sign does not exceed the height of such mechanical equipment. <p>Off-premises directional signs for parking:</p> <p>Is proposed to be allowed, provided the sign is not greater than 15 square feet and not farther than 2,000 feet from the parking.</p> |

CAAICON

SEATTLE ARENA

EXTERIOR SIGN PROPOSAL

April 12, 2018



selbert perkins design collaborative

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| 8 | REFERENCE IMAGES – BUILDING SIGNAGE |
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| 10 | REFERENCE IMAGES – SITE IDENTITY & SIGNAGE |
| 11 | SIGN TYPES, LOCATIONS & CALCULATIONS |
| 12 | PROPOSED SIGN TYPES |
| 13 | PROPOSED SIGN DATA |
| 14 | SIGN LOCATION PLAN |
| 15 | ARENA EAST ELEVATION |
| 16 | ARENA WEST ELEVATION |
| 17 | ARENA NORTH ELEVATION |
| 18 | ARENA SOUTH ELEVATION |
| 19 | SIGN CODE SUMMARY |
| 20 | SIGN CODE SUMMARY |
| 21 | SIGN CODE SUMMARY |
| 22 | SIGN CODE SUMMARY |
| 23 | SIGN CODE SUMMARY |
| 24 | SIGN CODE SUMMARY |
| 25 | SIGN CODE SUMMARY |

PROJECT OVERVIEW

PROJECT DESCRIPTION

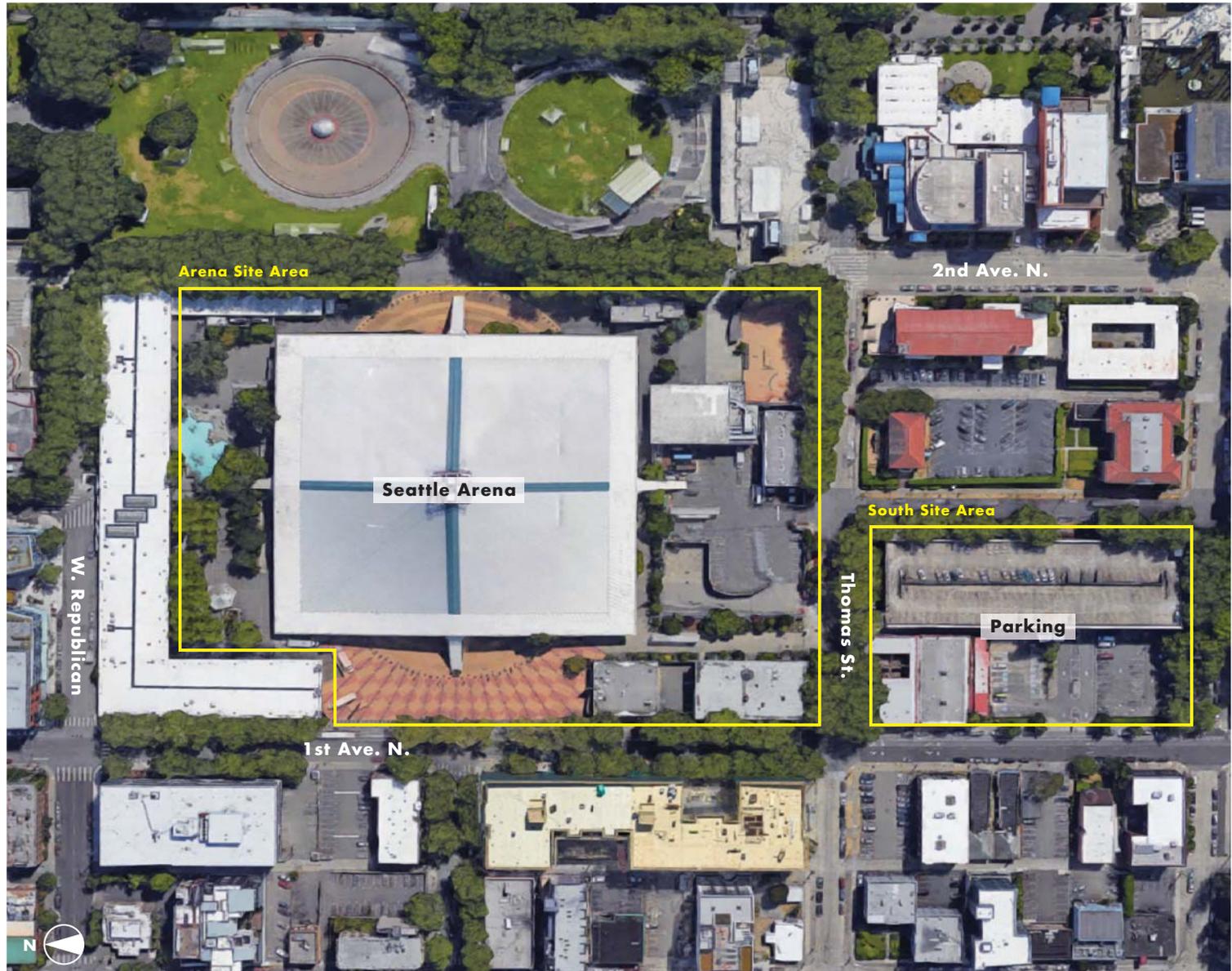
The Seattle Center Arena is in the process of renovation. Located on the western edge of the Seattle Center property at 305 Harrison Street, the site is bounded by 1st Avenue North on the west, Thomas Street on the south, 2nd Avenue on the east, and Republican Street on the north.

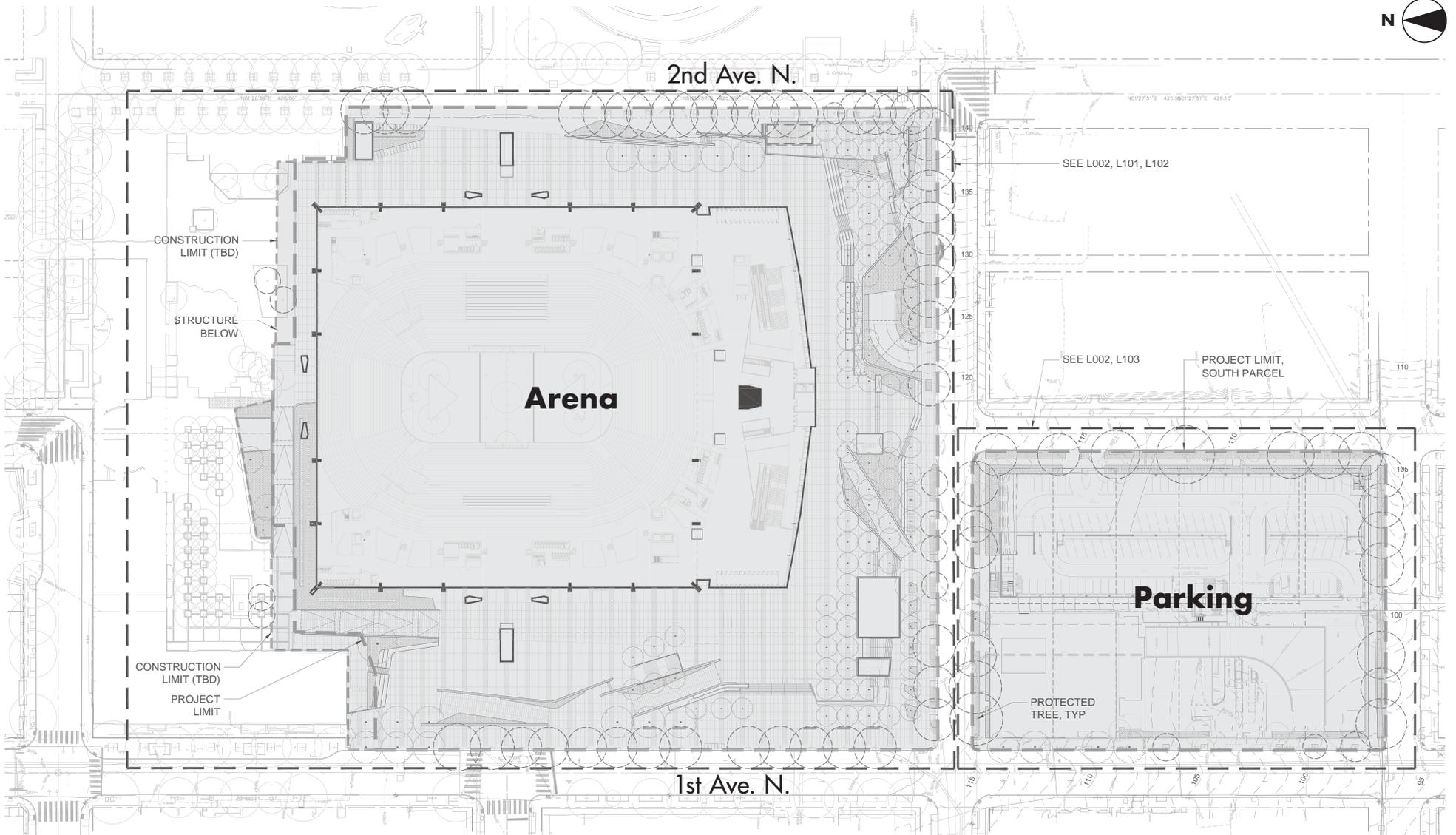
The project can be divided into two distinct sites: the Arena Site and the South Site. The South Site is an addition of an attached multilevel parking structure, including the Bressi Garage, on the south side of the arena.

Design calculations for the sites are:

- Arena Site Area: 350,440 sf
- South Site Area: 92,150 sf.

The purpose of this Exterior Sign Proposal is to document and present the code compliance regulations that pertain to the Seattle Center Arena Project.



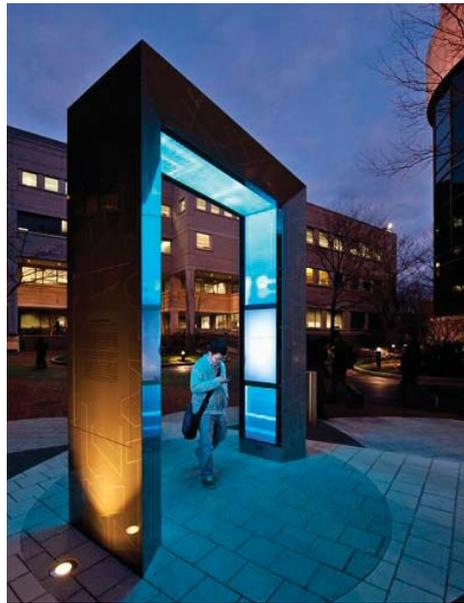


SITE OVERVIEW PLAN

PRECEDENT IMAGES

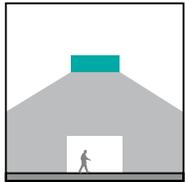






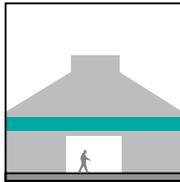


SIGN TYPES, LOCATIONS &
CALCULATIONS



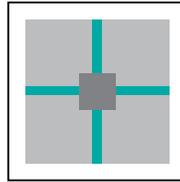
A
CROWN IDENTITY

Changing-color sponsor sign where the message, background, and accenting may change color.



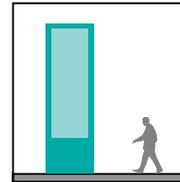
B
ACCENT LIGHTING ELEMENT 1 (Bldg)

Changing-color LED uplight and facade wash, where the message, background, and accenting may change color.



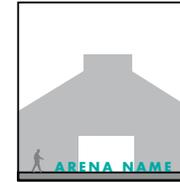
C
ACCENT LIGHTING ELEMENT 2 (Roof)

Changing-color LED strip style accent lighting to enhance the roof surface; the message, background, and accenting may change color.



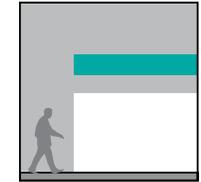
D
DIGITAL READERBOARD

Dynamic identity marquee sign with integrated illuminated arena name. The message and background, and the color of each, may change, and may include video.



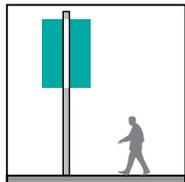
E
SITE IDENTITY

Static illuminated dimensional letters spelling out arena name. The message, background, and color may be illuminated, but may not change.



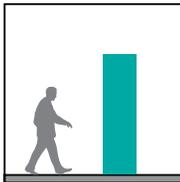
F
ENTRY IDENTITY

Static illuminated signs over entry doors. The message, background, and color may be illuminated, but may not change.



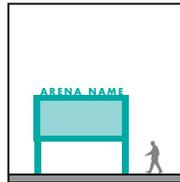
G
LIGHT POLE BANNERS

Static illuminated amenity signs "light the way" to entry points; attachable banners for arena identity and advertising. The message, background, and color may be illuminated, but may not change.



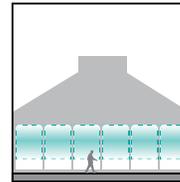
H
PEDESTRIAN DIRECTION

Changing-image wayfinding pylon sign; illuminated, possible inclusion of map for Seattle Center. The message and background, and the color of each, may change.



I
SITE IDENTITY DIGITAL READERBOARD

Dynamic identity sign with integrated illuminated arena name. The message and background, and the color of each, may change, and may include video.



J
DIGITAL ATRIUM SIGNAGE

A currently undetermined dynamic lighting or LED technology that will preserve the transparency of the glass when the technology is not illuminated. The lighting or LED technology will either be placed on or integrated into the south atrium facade. The message and background, and the color of each, may change, and may include video.

DEFINITIONS:

Changing-Color:

The message, background, and accenting may change color.

Changing-Image:

The message and background, and the color of each, may change.

Static Illuminated:

The message, background, and color may be illuminated, but may not change.

Dynamic:

The message and background, and the color of each, may change, and may include video.

1 PROPOSED SIGN TYPES

| SIGN | SIGN NAME | SIGN TYPE | QTY. | APX. SF. PER SIGN | TOTAL SF. |
|-------------------------|---|--------------------|------|-------------------|---------------|
| A | Crown Identity | Changing color | 4 | 688 | 2,752 |
| B | Accent Lighting Element 1 (Building Face) | Changing color | 3 | 1,200 | 3,600 |
| C | Accent Lighting Element 2 (Roof Seams) | Changing color | 4 | 549 | 2,196 |
| D | Digital Readerboard | Dynamic | 6 | 150 | 900 |
| E | Site Identity | Static Illuminated | 1 | 534 | 534 |
| F | Entry Identity | Static Illuminated | 7 | 180 | 1,260 |
| G | Light Pole Banners | Static Illuminated | 36 | 45 | 1,620 |
| H | Pedestrian Direction Pylons | Changing image | 4 | 20 | 80 |
| I | Site Identity Digital Readerboard | Dynamic | 1 | 300 | 300 |
| J | Digital Atrium Signage | Dynamic | 1 | 4,348 | 4,348 |
| PROPOSED SIGNAGE | | | | | 17,590 |

DEFINITIONS:

Changing-Color:

The message, background, and accenting may change color.

Changing-Image:

The message and background, and the color of each, may change.

Static Illuminated:

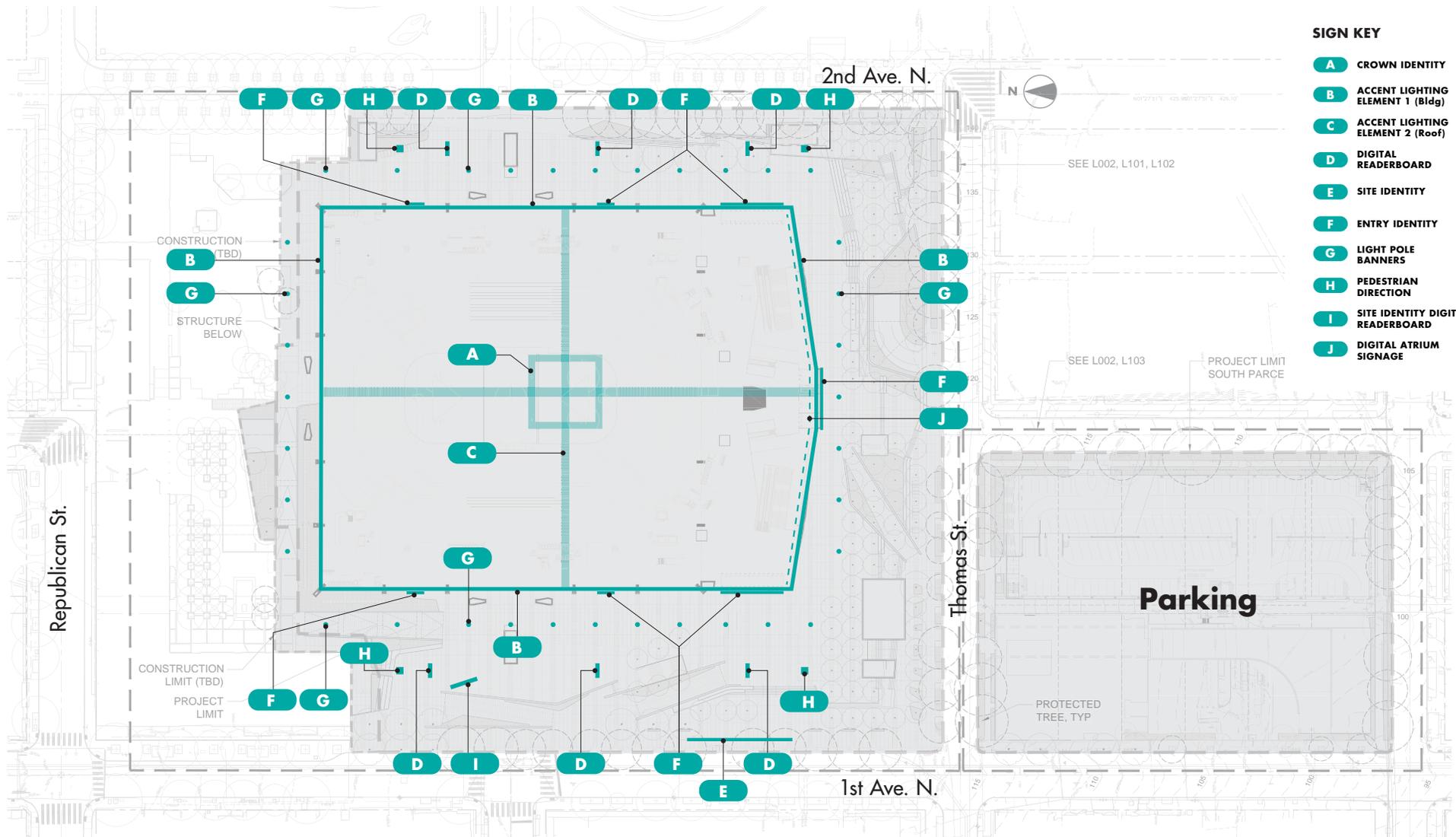
The message, background, and color may be illuminated, but may not change.

Dynamic:

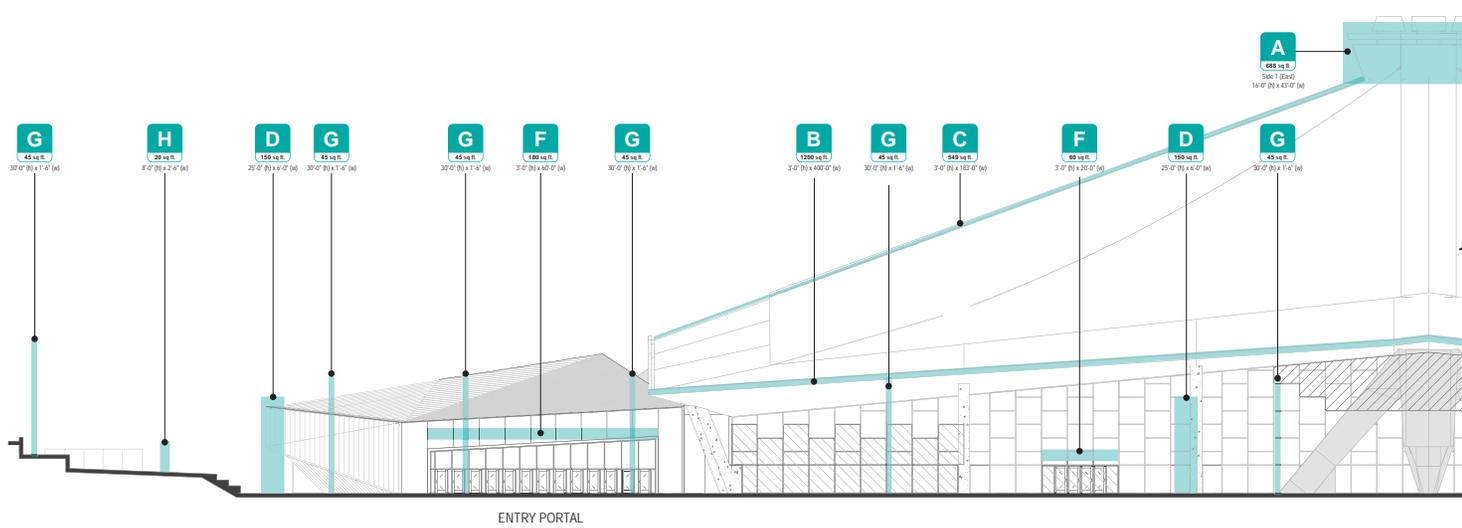
The message and background, and the color of each, may change, and may include video.

NOTES:

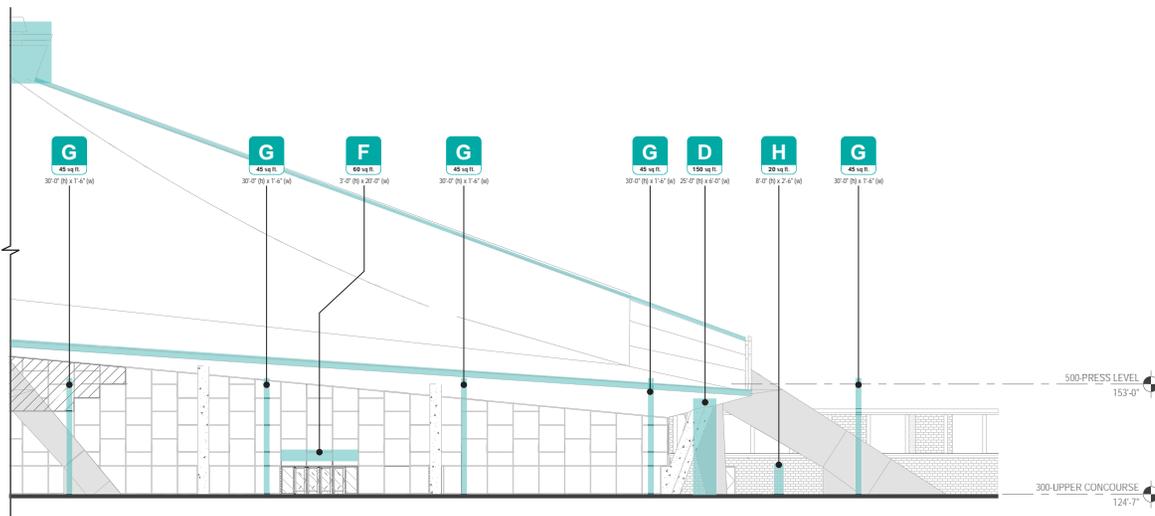
1. The proposed sign types do not meet all the Seattle Municipal Code signage regulations for Zone SM. See section 23.55.030. Many signs will require a variance.
2. Square footage calculations are approximated.



SITE OVERVIEW PLAN



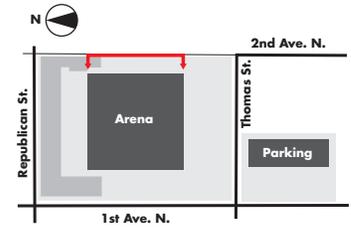
1 ELEVATION-EAST (WEST CUT)
scale: 1/32" = 1'-0"



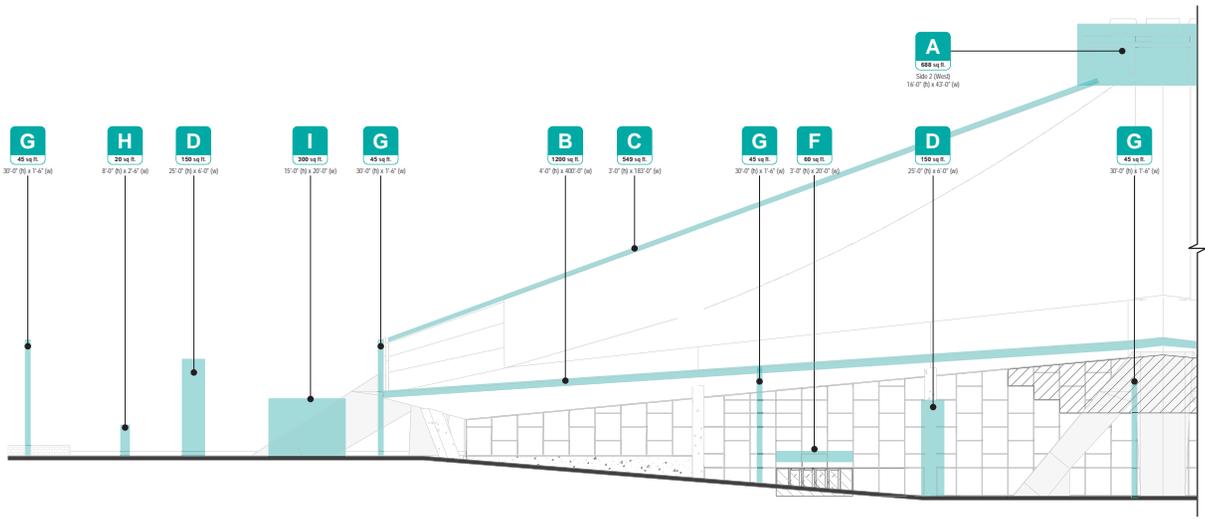
2 ELEVATION-EAST (EAST CUT)
scale: 1/32" = 1'-0"

SIGN KEY

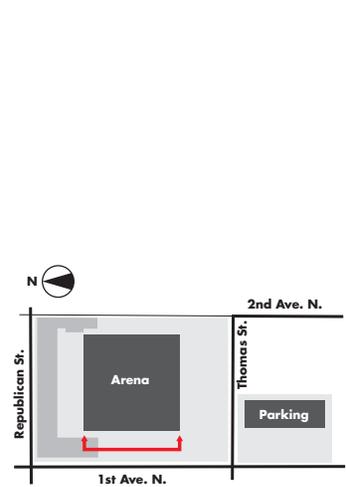
- A** CROWN IDENTITY
- B** ACCENT LIGHTING ELEMENT 1 (Bldg)
- C** ACCENT LIGHTING ELEMENT 2 (Roof)
- D** DIGITAL READERBOARD
- E** SITE IDENTITY
- F** ENTRY IDENTITY
- G** LIGHT POLE BANNERS
- H** PEDESTRIAN DIRECTION
- I** SITE IDENTITY DIGITAL READERBOARD
- J** DIGITAL ATRIUM SIGNAGE



3 KEY PLAN
NTS

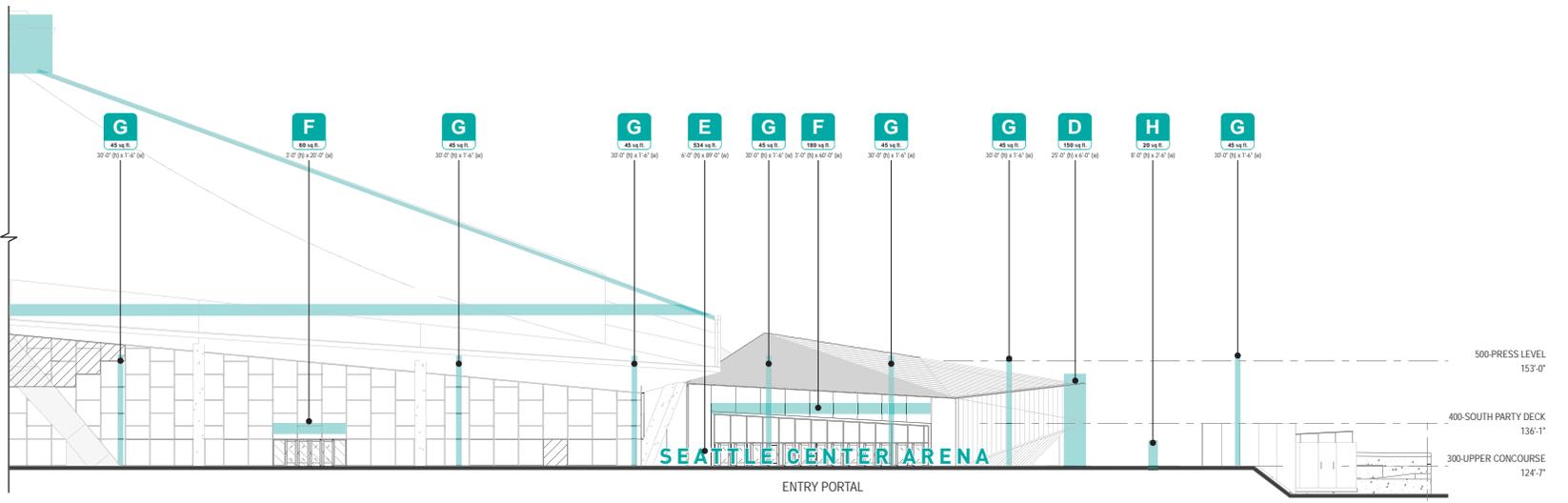


1 ELEVATION-WEST (WEST CUT)
scale: 1/32" = 1'-0"

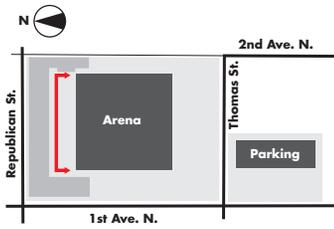


3 KEY PLAN
NTS

- SIGN KEY**
- A** CROWN IDENTITY
 - B** ACCENT LIGHTING ELEMENT 1 (Bldg)
 - C** ACCENT LIGHTING ELEMENT 2 (Roof)
 - D** DIGITAL READERBOARD
 - E** SITE IDENTITY
 - F** ENTRY IDENTITY
 - G** LIGHT POLE BANNERS
 - H** PEDESTRIAN DIRECTION
 - I** SITE IDENTITY DIGITAL READERBOARD
 - J** DIGITAL ATRIUM SIGNAGE



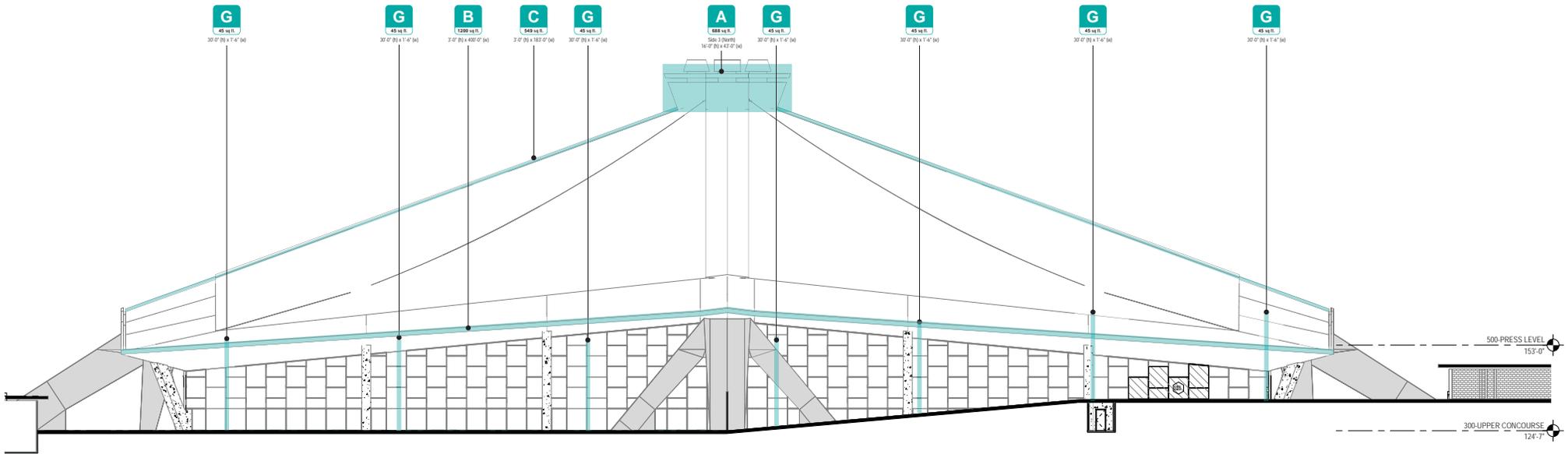
2 ELEVATION-WEST (EAST CUT)
scale: 1/32" = 1'-0"



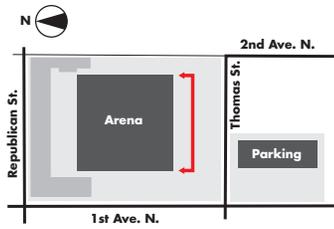
2 KEY PLAN
NTS

SIGN KEY

- A** CROWN IDENTITY
- B** ACCENT LIGHTING ELEMENT 1 (Bldg)
- C** ACCENT LIGHTING ELEMENT 2 (Roof)
- D** DIGITAL READERBOARD
- E** SITE IDENTITY
- F** ENTRY IDENTITY
- G** LIGHT POLE BANNERS
- H** PEDESTRIAN DIRECTION
- I** SITE IDENTITY DIGITAL READERBOARD
- J** DIGITAL ATRIUM SIGNAGE



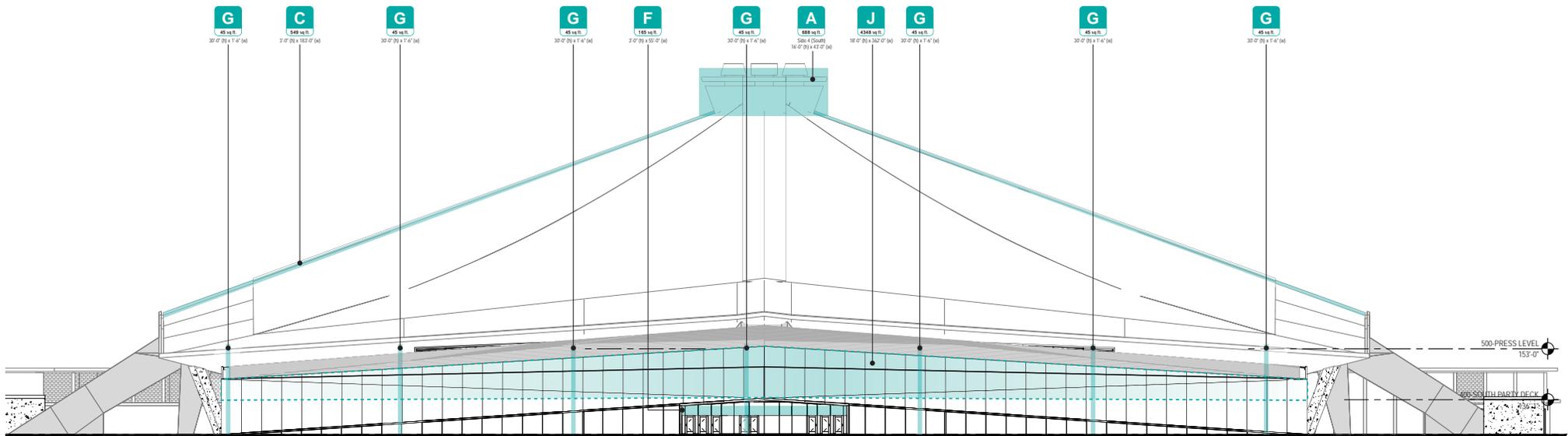
1 ELEVATION-NORTH
scale: 1/32" = 1'-0"



2 KEY PLAN
NTS

SIGN KEY

- A** CROWN IDENTITY
- B** ACCENT LIGHTING ELEMENT 1 (Bldg)
- C** ACCENT LIGHTING ELEMENT 2 (Roof)
- D** DIGITAL READERBOARD
- E** SITE IDENTITY
- F** ENTRY IDENTITY
- G** LIGHT POLE BANNERS
- H** PEDESTRIAN DIRECTION
- I** SITE IDENTITY DIGITAL READERBOARD
- J** DIGITAL ATRIUM SIGNAGE



1 ELEVATION-SOUTH
scale: 1/32" = 1'-0"

SIGN CODE SUMMARY

The Seattle Arena resides in Seattle municipal zone SM.

23.55.030 - Signs in NC3, C1, C2 and SM zones

- A. No sign shall have rotating or moving parts that revolve at a speed in excess of seven revolutions per minute.
 - B. Signs may be electric, externally illuminated, non-illuminated or may use video display methods when the sign meets the development standards in Section 23.55.005, Video display methods.
 - C. Flashing signs are prohibited.
 - D. In the Pike/Pine Conservation Overlay District, internally-illuminated cabinet signs larger than 3 square feet in size and backlit awning signs are prohibited.
 - E. On-Premises Signs.
 - 1. The following signs are permitted in addition to the signs permitted by subsections 23.55.030.E.2 and 23.55.030.E.3:
 - a. Electric, externally illuminated or non-illuminated signs bearing the name of the occupant of a dwelling unit, not exceeding 64 square inches in area;
 - b. Memorial signs or tablets, and the names of buildings and dates of building erection if cut into a masonry surface or constructed of bronze or other noncombustible materials;
 - c. Signs for public facilities indicating danger and/or providing service or safety information;
 - d. National, state and institutional flags;
 - e. One under-marquee sign that does not exceed 10 square feet in area;
 - f. One electric, externally illuminated or non-illuminated sign bearing the name of a home occupation, not to exceed 64 square inches in area.
 - 2. Number and Type of Signs Allowed for Business Establishments.
 - a. Each business establishment may have one ground, roof, projecting or combination sign (Type A sign) for each 300 lineal feet, or portion thereof, of frontage on public rights-of-way, except alleys.
 - b. In addition to the signs permitted by subsection 23.55.030.E.2.a, each business establishment may have one wall, awning, canopy, marquee or under-marquee sign (Type B sign) for each 30 lineal feet, or portion thereof, of frontage on public rights-of-way, except alleys.
 - c. In addition to the signs permitted by subsections 23.55.030.E.2.a and 23.55.030.E.2.b, each multiple business center and drive-in business may have one pole sign for each 300 lineal feet, or portion thereof, of frontage on public rights-of-way, except alleys. Such pole signs may be for a drive-in business or for an individual business establishment located in a multiple business center, or may identify a multiple business center.
 - d. Individual businesses that are not drive-in businesses and that are not located in multiple business centers may have one pole sign in lieu of a Type A sign permitted by subsection 23.55.030.E.2.a for each 300 lineal feet, or portion thereof, of frontage on public rights-of-way, except alleys.
 - e. If the principal use or activity on the lot is outdoor retail sales, banners and strings of pennants maintained in good condition are permitted in addition to the signs permitted by subsections 23.55.030.E.2.a, 23.55.030.E.2.b and 23.55.030.E.2.c.
 - 3. Maximum Area.
 - a. NC3 and SM zones.
 - 1) The maximum area of each face of a pole, ground, roof, projecting or combination sign is 72 square feet plus 2 square feet for each foot of frontage over 36 feet on public rights-of-way, except alleys, to a maximum area of 300 square feet, provided that:
 - i. The maximum area for signs for multiple business centers, and signs for business establishments located within 100 feet of a state route right-of-way that is not designated in Section 23.55.042 as a landscaped or scenic view section, is 600 square feet; and
 - ii. The maximum area for pole signs for gas stations that identify the price of motor fuel being offered by numerals of equal size is 96 square feet.
 - 2) There is no maximum area limit for awning, canopy, marquee or under-marquee signs.
 - 3) The maximum area for each wall sign is 672 square feet.
 - b. C1 and C2 Zones. There is no maximum area limit for on-premises signs for business establishments in C1 and C2 zones except the maximum area for each wall sign is 672 square feet.
 - 4. Identification Signs for Multifamily Structures.
 - a. One identification sign is permitted on each street or alley frontage of a multifamily structure.
 - b. Identification signs may be wall, ground, awning, canopy, marquee, under-marquee, or projecting signs.
 - c. The maximum area of each sign is 72 square feet.
 - 5. Sign Height.
 - a. The maximum height for any portion of a projecting or combination sign is 65 feet above existing grade, or the maximum height limit of the zone, whichever is less.
 - b. The maximum height limit for any portion of a pole sign is 30 feet; except for pole signs for multiple business centers and for business establishments located within 100 feet of a state route right-of-way that is not designated in Section 23.55.042 as a landscaped or scenic view section, for which a maximum height of 40 feet is permitted.
 - c. The maximum height for any portion of a wall, marquee, under-marquee or canopy sign is 20 feet or the height of the cornice of the structure to which the sign is attached, whichever is greater.
 - d. No portion of a roof sign shall:
 - 1) Extend beyond the height limit of the zone;
 - 2) Exceed a height above the roof in excess of the height of the structure on which the sign is located; or
 - 3) Exceed a height of 30 feet above the roof, measured from a point on the roof line directly below the sign or from the nearest adjacent parapet.
- F. Off-Premises Signs.
 - 1. Identifying Signs for Business Districts. Each business district may have up to two identifying ground, pole, wall or projecting signs which may list businesses located in the district. The identifying signs shall not be located in a residential zone, and shall meet the standard of Section 23.55.014, Off-premises signs.
 - 2. One residential district identification wall or ground sign per entrance, meeting the standards of Section 23.55.014, is permitted.

3. When accessory parking is provided on a lot other than the lot where the principal use is located, off-premises directional signs 5 square feet or less in area identifying the accessory parking are permitted.
 4. Off-premises directional signs and advertising signs, in addition to those permitted by subsections 23.55.030.F.1, 23.55.030.F.2 and 23.55.030.F.3, are permitted according to Section 23.55.014, Off-premises signs.
 5. Advertising signs are prohibited in Neighborhood Commercial 3 zones and in the Seattle Mixed (SM) zone.
 6. Sign kiosks as provided in Section 23.55.015 are permitted.
- G. Signs Near Residential Zones. When located within 50 feet of an abutting lot in a residential zone, electrical and externally illuminated signs shall be oriented so that no portion of the sign face is visible from an existing or permitted principal structure on the abutting lot.

(Ord. 124457, § 2, 2014; Ord. 123649, § 42, 2011; Ord. 123392, § 4, 2010; Ord. 123046, § 50, 2009; Ord. 123020, § 13, 2009; Ord. 121782 § 34, 2005; Ord. 120466 § 3, 2001; Ord. 120388 § 10, 2001; Ord. 118302 § 16, 1996; Ord. 116780 § 2, 1993; Ord. 113387 § 6, 1987; Ord. 112830 § 10(part), 1986.)

Chapter 23.55 - SIGNS

Sections:

Part 1 - General Standards for All Zones

23.55.001 - Intent.

The intent of the standards in this chapter is:

- A. To encourage the design of signs that attract and invite rather than demand the public's attention, and to curb the proliferation of signs;
- B. To encourage the use of signs that enhance the visual environment of the city;
- C. To promote the enhancement of business and residential properties and neighborhoods by fostering the erection of signs complementary to the buildings and uses to which they relate and which are harmonious with their surroundings;
- D. To protect the public interest and safety;
- E. To protect the right of business to identify its premises and advertise its products through the use of signs without undue hindrance or obstruction; and
- F. To provide opportunities for communicating information of community interest.

(Ord. 120388 § 3, 2001; Ord. 112830 § 10(part), 1986.)

23.55.002 - Scope of provisions.

- A. The provisions of this chapter shall apply to signs in all zones, except those zones regulated by Chapter 23.66, Special Review Districts.
- B. Signs located in the Shoreline District shall meet the requirements of the Seattle Shoreline Master Program in addition to the provisions of this chapter. In the event that there is a conflict between the provisions of this chapter and the regulations of the Shoreline Master Program, the provisions of the Shoreline Master Program shall apply.
- C. Signs are also regulated by the provisions of Chapter 32 of the Building Code, Title 22 of the Seattle Municipal Code, including the permit requirements of that title.
- D. Signs located completely within public rights-of-way shall be regulated by the Street Use Ordinance, Title 15 of the Seattle Municipal Code. Signs projecting from private property over public rights-of-way are also regulated by the Street Use Ordinance, as well as the provisions of this chapter.
- E. Signs adjacent to certain public highways and designated scenic routes shall meet the provisions of Section 23.55.042 of this chapter. Signs adjacent to state highways may also be regulated by state law or regulations.
- F. Variances may be permitted from the provisions of this chapter, except that variances shall not be permitted from subsection A of Section 23.55.014, and variances from Section 23.55.042, Off-premises and business signs adjacent to certain public highways, shall be limited by the provisions of subsection E of Section 23.55.042.
- G. Measurements provisions for signs are located in Chapter 23.86, Measurements.

(Ord. 119239 § 31, 1998; Ord. 112830 § 10(part), 1986.)

23.55.003 - Signs prohibited in all zones.

- A. The following signs shall be prohibited in all zones:
1. Flashing signs;
 2. Signs which rotate or have a rotating or moving part or parts that revolve at a speed in excess of seven (7) revolutions per minute;
 3. Signs attached to or located on stationary motor vehicles, equipment, trailers, and related devices, except for signs not exceeding five (5) square feet in area and relating to the sale, lease or rent of a motor vehicle to which the signs are attached;
 4. Portable signs other than readily detachable signs having a fixed base or mounting for the placement and intermittent use of such signs;
 5. Banners, streamers, strings of pennants, fabric signs, festoons of lights, clusters of flags, wind-activated objects, balloons, searchlights, and similar devices, except where the principal use or activity on the lot is outdoor retail sales in NC3, C1, C2 and downtown zones, and except where permitted as temporary signs under Section 23.55.012.
 6. Signs that attempt or appear to attempt to direct the movement of traffic or that interfere with, imitate or resemble any official traffic sign, signal or device.
 7. Signs using a video display method, except as provided in section 23.55.005, Video display methods.

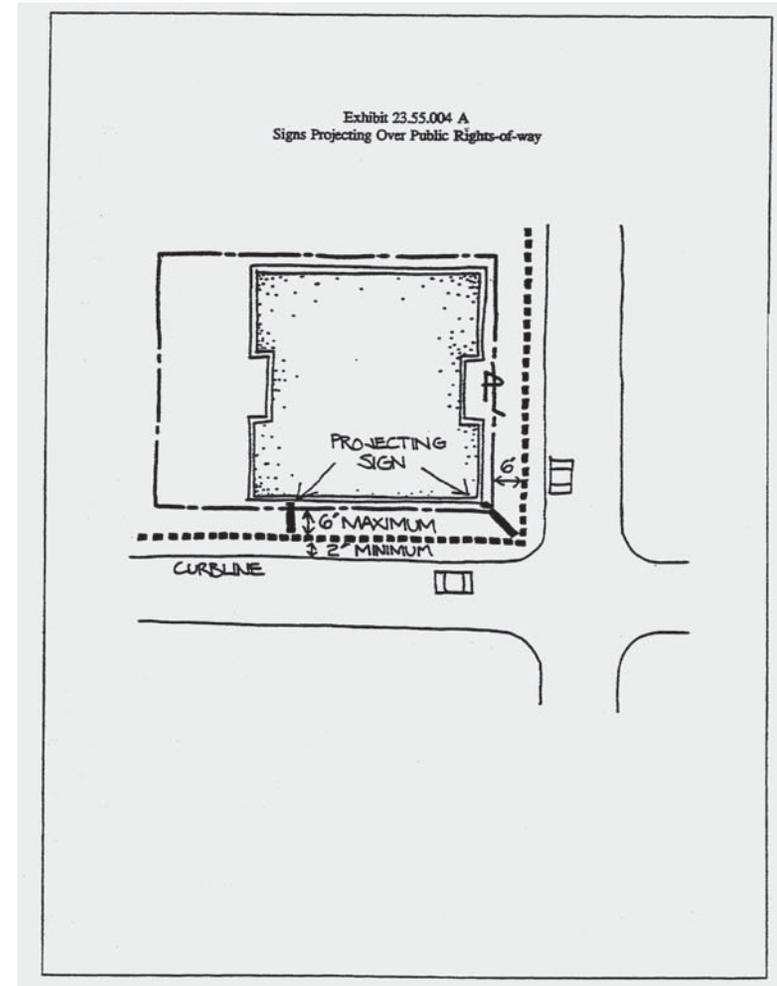
(Ord. 120466 § 1, 2001; Ord. 112830 § 10(part), 1986.)

23.55.004 - Signs projecting over public rights-of-way.

- A. Signs projecting into any public right-of-way, except alleys, shall have a minimum clearance of eight (8) feet over the adjacent sidewalk or other grade.
- B. Signs projecting into any public alley shall have a minimum clearance of sixteen (16) feet above grade, and shall not project more than twenty-four (24) inches beyond the property line.
- C. No permanent sign shall extend into any public right-of-way to within less than two (2) feet of the curblines, or more than six (6) feet beyond the property line, except that at street intersections, signs which project from intersecting street property lines may extend to the intersection of the six (6) foot projection margins on each street (Exhibit 23.55.004 A).
- D. No barberpole, including the brackets and fastenings for the barberpole, shall extend more than one (1) foot into any public right-of-way.
- E. No temporary sign made of rigid material shall extend more than four (4) inches into the public right-of-way.
- F. Marquee signs may be permitted in conjunction with any lawful marquee, provided that they shall not project more than twelve (12) inches beyond the front of the marquee, nor closer than two (2) feet to the curblines. Marquee signs may not exceed thirty (30) inches in height above the top of the marquee, and total vertical dimension may not exceed five (5) feet. Only one (1) sign may be placed on or attached to an end face of a marquee.
- G. Roof signs shall not project into any public right-of-way.

(Ord. 112830 § 10(part), 1986.)

Exhibit 23.55.004A



23.55.005 - Video display methods

A. Development standards. Video display may be used on a sign when the sign meets all of the following development standards:

1. The sign is an on-premises sign;
2. The sign is not located in a residential, NC1 or NC2 zone, Special Review District, Historical District, Preservation District or shoreline environment;
3. The sign meets one of the following criteria:
 - i. The sign face is not visible from a street, driveway or surface parking area, and also is not visible from a lot that is owned by a different person, in which case the size of the sign is not limited by this subsection, and the standards for duration or pause periods and subsection A5 shall not apply; or
 - ii. The sign area is less than or equal to one thousand (1000) square inches and no single dimension of the sign exceeds three (3) feet; or
 - iii. The sign meets the standards set out in subsection B, in addition to meeting all other standards of this subsection A.
4. The maximum height for any sign using a video display method shall be fifteen (15) feet above existing grade. Pole signs using a video display method shall be at least ten (10) feet above the ground;
5. The sign is at least thirty-five (35) linear feet in any direction from any other sign that uses a video display method;
6. When located within fifty (50) feet of a lot in a residential zone, any part of the sign using a video display method is oriented so that no portion of the sign face is visible from an existing or permitted principal structure on that lot;
7. Duration: Any portion of the message that uses a video display method shall have a minimum duration of two (2) seconds and a maximum duration of five (5) seconds. Calculation of the duration shall not include the number of frames per second used in a video display method. Calculation of the maximum duration shall include the time used for any other display methods incorporated within that portion of the message displayed using a video display method;
8. Pause Between Video Portions of Message. There shall be twenty (20) seconds of still image or blank screen following every message using a video display method;
9. Audio speakers shall be prohibited in association with a sign using a video method of display;
10. Between dusk and dawn the video display shall be limited in brightness to no more than five hundred (500) units when measured from the sign's face at its maximum brightness; and
11. Signs using a video display method may be used after dusk only until 11:00 p.m. or, if the advertising is an on-premises message about an event at the site where the sign is located, for up to one (1) hour after said event.

B. In lieu of complying with subsection 23.55.005.A.3 above, the Director of SDCI shall allow video display methods on a sign if the sign meets all of the following additional development standards:

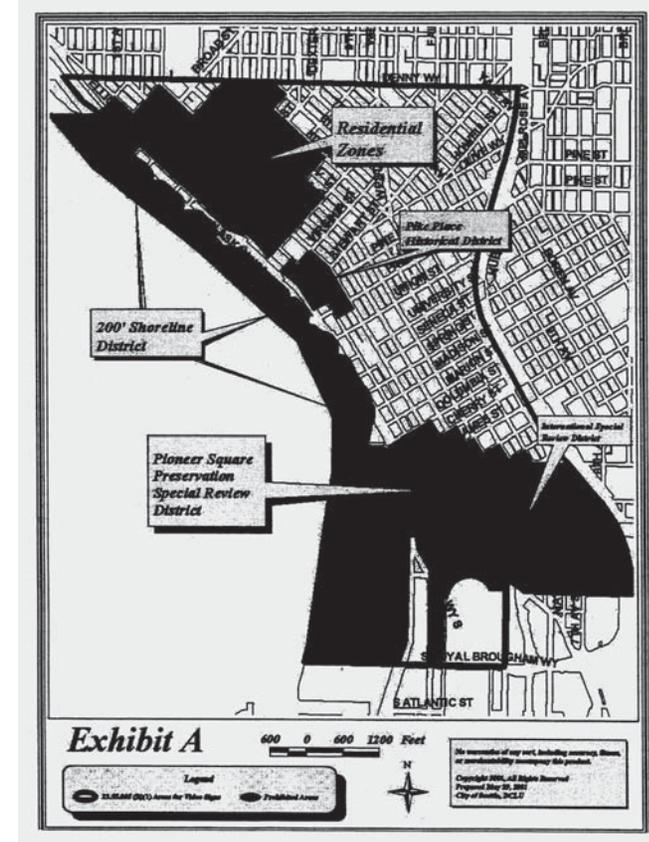
1. The sign is within the area shown on the map attached as Exhibit 23.55.005 A and not within a Special Review District, Historic District, Preservation District, residential zone, or shoreline environment;
2. The sign is a minimum distance of 15 feet from the curb; and
3. The maximum size of the sign is 20 square feet as independently applied to each sign face, including framework and border.

C. Video Signs Previously Erected. On-premises signs using the video method of display, that have permits authorizing use of that method of display issued prior to August 1, 2001, may continue to use the video method of display authorized in the permit provided that they meet the standards of

23.55.005A6-11 above within one hundred eighty (180) days from the effective date of the ordinance codified in this section. Previously erected and permitted signs that use a video method of display located within the area shown on the map attached as Exhibit A shall not be subject to the foregoing standards of this section except 23.55.005A1. If the video method of display is terminated for one hundred eighty (180) days or the sign is relocated or reconstructed, then the video method of display cannot be used except in conformance with the development standards of this section.

(Ord. [124919](#), § 143, 2015; Ord. 121477 § 34, 2004; Ord. 120466 § 2, 2001.)

Exhibit A



23.55.008 - Signs near intersections or driveways.

- B. Off-premises Directional Signs. The maximum area of any off-premises directional sign shall be 100 square feet, with a maximum vertical dimension of 10 feet and a maximum horizontal dimension of 20 feet, except for off-premises signs allowed under Section 23.55.032.G.
- C. The maximum area for each sign face for business district identification signs shall be that permitted for pole signs in the zone.
- D. The maximum area for each sign face for residential district identification signs shall be fifty (50) square feet.

23.55.016 - Light and glare from signs.

- A. The source of light for externally illuminated signs shall be shielded so that direct rays from the light are visible only on the lot where the sign is located.
- B. The light source for externally illuminated signs, except advertising signs, shall be no farther away from the sign than the height of the sign.

(Ord. 112830, § 10(part), 1986.)

Part 2 - Standards for Specific Zones

(Ord. 123649, § 41, 2011; Ord. 123046, § 49, 2009; Ord. 121196 § 26, 2003; Ord. 120388 § 9, 2001; Ord. 113387 § 5, 1987; Ord. 112830 § 10(part), 1986.)

23.55.030 - Signs in NC3, C1, C2 and SM zones

- A. No sign shall have rotating or moving parts that revolve at a speed in excess of seven revolutions per minute.
- B. Signs may be electric, externally illuminated, non-illuminated or may use video display methods when the sign meets the development standards in Section 23.55.005, Video display methods.
- C. Flashing signs are prohibited.
- D. In the Pike/Pine Conservation Overlay District, internally-illuminated cabinet signs larger than 3 square feet in size and backlit awning signs are prohibited.

E. On-Premises Signs.

1. The following signs are permitted in addition to the signs permitted by subsections 23.55.030.E.2 and 23.55.030.E.3:
 - a. Electric, externally illuminated or non-illuminated signs bearing the name of the occupant of a dwelling unit, not exceeding 64 square inches in area;
 - b. Memorial signs or tablets, and the names of buildings and dates of building erection if cut into a masonry surface or constructed of bronze or other noncombustible materials;
 - c. Signs for public facilities indicating danger and/or providing service or safety information;
 - d. National, state and institutional flags;
 - e. One under-marquee sign that does not exceed 10 square feet in area;
 - f. One electric, externally illuminated or non-illuminated sign bearing the name of a home occupation, not to exceed 64 square inches in area.

2. Number and Type of Signs Allowed for Business Establishments.

- a. Each business establishment may have one ground, roof, projecting or combination sign (Type A sign) for each 300 lineal feet, or portion thereof, of frontage on public rights-of-way, except alleys.
- b. In addition to the signs permitted by subsection 23.55.030.E.2.a, each business establishment may have one wall, awning, canopy, marquee or under-marquee sign (Type B sign) for each 30 lineal feet, or portion thereof, of frontage on public rights-of-way, except alleys.
- c. In addition to the signs permitted by subsections 23.55.030.E.2.a and 23.55.030.E.2.b, each multiple business center and drive-in business may have one pole sign for each 300 lineal feet, or portion thereof, of frontage on public rights-of-way, except alleys. Such pole signs may be for a drive-in business or for an individual business establishment located in a multiple business center, or may identify a multiple business center.
- d. Individual businesses that are not drive-in businesses and that are not located in multiple business centers may have one pole sign in lieu of a Type A sign permitted by subsection 23.55.030.E.2.a for each 300 lineal feet, or portion thereof, of frontage on public rights-of-way, except alleys.
- e. If the principal use or activity on the lot is outdoor retail sales, banners and strings of pennants maintained in good condition are permitted in addition to the signs permitted by subsections 23.55.030.E.2.a, 23.55.030.E.2.b and 23.55.030.E.2.c.

3. Maximum Area.

- a. NC3 and SM zones.
 - 1) The maximum area of each face of a pole, ground, roof, projecting or combination sign is 72 square feet plus 2 square feet for each foot of frontage over 36 feet on public rights-of-way, except alleys, to a maximum area of 300 square feet, provided that:
 - i. The maximum area for signs for multiple business centers, and signs for business establishments located within 100 feet of a state route right-of-way that is not designated in Section 23.55.042 as a landscaped or scenic view section, is 600 square feet; and
 - ii. The maximum area for pole signs for gas stations that identify the price of motor fuel being offered by numerals of equal size is 96 square feet.
 - 2) There is no maximum area limit for awning, canopy, marquee or under-marquee signs.
 - 3) The maximum area for each wall sign is 672 square feet.
- b. C1 and C2 Zones. There is no maximum area limit for on-premises signs for business establishments in C1 and C2 zones except the maximum area for each wall sign is 672 square feet.
- 4. Identification Signs for Multifamily Structures.
 - a. One identification sign is permitted on each street or alley frontage of a multifamily structure.
 - b. Identification signs may be wall, ground, awning, canopy, marquee, under-marquee, or projecting signs.
 - c. The maximum area of each sign is 72 square feet.

5. Sign Height.

- a. The maximum height for any portion of a projecting or combination sign is 65 feet above existing grade, or the maximum height limit of the zone, whichever is less.
- b. The maximum height limit for any portion of a pole sign is 30 feet; except for pole signs for multiple business centers and for business establishments located within 100 feet of a state route right-of-way that is not designated in Section 23.55.042 as a landscaped or scenic view section, for which a maximum height of 40 feet is permitted.
- c. The maximum height for any portion of a wall, marquee, under-marquee or canopy sign is 20 feet or the height of the cornice of the structure to which the sign is attached, whichever is greater.
- d. No portion of a roof sign shall:
 - 1) Extend beyond the height limit of the zone;
 - 2) Exceed a height above the roof in excess of the height of the structure on which the sign is located; or
 - 3) Exceed a height of 30 feet above the roof, measured from a point on the roof line directly below the sign or from the nearest adjacent parapet.

F. Off-Premises Signs.

1. Identifying Signs for Business Districts. Each business district may have up to two identifying ground, pole, wall or projecting signs which may list businesses located in the district. The identifying signs shall not be located in a residential zone, and shall meet the standard of Section 23.55.014, Off-premises signs.
 2. One residential district identification wall or ground sign per entrance, meeting the standards of Section 23.55.014, is permitted.
 3. When accessory parking is provided on a lot other than the lot where the principal use is located, off-premises directional signs 5 square feet or less in area identifying the accessory parking are permitted.
 4. Off-premises directional signs and advertising signs, in addition to those permitted by subsections 23.55.030.F.1, 23.55.030.F.2 and 23.55.030.F.3, are permitted according to Section 23.55.014, Off-premises signs.
 5. Advertising signs are prohibited in Neighborhood Commercial 3 zones and in the Seattle Mixed (SM) zone.
 6. Sign kiosks as provided in Section 23.55.015 are permitted.
- G. Signs Near Residential Zones. When located within 50 feet of an abutting lot in a residential zone, electrical and externally illuminated signs shall be oriented so that no portion of the sign face is visible from an existing or permitted principal structure on the abutting lot.

(Ord. 124457, § 2, 2014; Ord. 123649, § 42, 2011; Ord. 123392, § 4, 2010; Ord. 123046, § 50, 2009; Ord. 123020, § 13, 2009; Ord. 121782 § 34, 2005; Ord. 120466 § 3, 2001; Ord. 120388 § 10, 2001; Ord. 118302 § 16, 1996; Ord. 116780 § 2, 1993; Ord. 113387 § 6, 1987; Ord. 112830 § 10(part), 1986.)



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APPENDIX H: SUPPLEMENTAL INFORMATION – AIR QUALITY AND GREENHOUSE GASES

APPENDIX H: SUPPLEMENTAL INFORMATION: AIR QUALITY AND GREENHOUSE GASES

This appendix includes additional information on the regulatory setting for air quality and greenhouse gas (GHG) emissions, as well as air quality in the study area, to provide additional information in support of Chapter 10.

REGULATORY CONTEXT

Air Quality Regulations

Air quality in the Puget Sound region is regulated and enforced by federal, state, and local agencies—the U.S. Environmental Protection Agency (EPA), Washington State Department of Ecology (Ecology), and the Puget Sound Clean Air Agency (PSCAA); each has its own role in regulating air quality.

U.S. Environmental Protection Agency

The 1970 Clean Air Act (last amended in 1990) requires that regional planning and air pollution control agencies prepare a regional air quality plan to outline the measures by which both stationary and mobile sources of pollutants will be controlled to achieve standards by the deadlines specified in the Act. As required by the 1970 Clean Air Act, the EPA initially identified 6 criteria air pollutants that are pervasive in urban environments and for which state and federal health-based ambient air quality standards have been established. The EPA calls these pollutants *criteria air pollutants* because the agency has regulated them by developing specific public health- and welfare-based criteria as the basis for setting permissible levels. Ozone, carbon monoxide (CO), particulate matter (PM), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), and lead are the 6 criteria air pollutants originally identified by EPA. Since then, subsets of PM have been identified for which permissible levels have been established.

Pollutants of Concern

The main criteria pollutants of interest for project construction are carbon monoxide (CO), particulate matter (PM), ozone precursors, volatile organic compounds (VOCs), and nitrogen oxides (NO_x). Both federal and state standards regulate these pollutants.

CO is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles. The federal CO standards have not been exceeded in the Puget Sound area for the past 20 years (PSCAA, 2011). However, the Puget Sound region continues to be designated as a maintenance area for CO until U.S. EPA changes this designation.

PM is measured in two size ranges: PM₁₀ and PM_{2.5}. Fine particles are emitted directly from a variety of sources, including wood burning, vehicles, and industry. The federal annual PM_{2.5} standard has not been exceeded in the Puget Sound area since monitoring began. All four counties in Puget Sound have been below the daily and annual PM₁₀ federal standards from the early 1990s until monitoring was ceased in 2006 (PSCAA, 2008). However, the Puget Sound region continues to be designated as a maintenance area for PM₁₀ until U.S. EPA changes this designation.

Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving VOCs and NO_x. The main sources of VOC and NO_x, often referred to as ozone precursors, are combustion processes (including motor vehicle engines) and the evaporation of solvents, paints, and fuels. The Puget Sound region is designated as an attainment area for the federal ozone standard.

These include PM₁₀ (matter that is less than or equal to 10 microns in diameter) and PM_{2.5} (matter that is less than or equal to 2.5 microns in diameter).

The Clean Air Act established National Ambient Air Quality Standards (NAAQS) to protect the public health and welfare from air pollution. Areas of the U.S. that do not meet the NAAQS for any pollutant are designated by the EPA as *nonattainment areas*. Areas that were once designated nonattainment but are now achieving the NAAQS are termed *maintenance areas*. Areas that have air pollution levels below the NAAQS are termed *attainment areas*. In nonattainment areas, states must develop plans to reduce emissions and bring the area back into attainment of the NAAQS. The General Conformity Rule, established by the Clean Air Act Amendments of 1990, ensures that the actions taken by federal agencies in nonattainment and maintenance areas do not interfere with a state's plans to meet national standards for air quality.

The NAAQS for these criteria pollutants are separated into two standard categories: the primary and the secondary standards (40 Code of Federal Regulations [CFR] 50). The primary standards were created to protect public health; the secondary pollutant standards were established to protect public welfare and the environment.

Table H-1 displays the primary and secondary NAAQS for the 6 criteria pollutants. Ecology and PSCAA have authority to adopt more stringent standards, although many of the state and local standards are equivalent to the federal mandate.

An area remains a nonattainment area for that particular pollutant until concentrations are in compliance with the NAAQS. Only after measured concentrations have fallen below the NAAQS can the state apply for redesignation to attainment, and it must then submit a 10-year plan for continuing to meet and maintain air quality standards that follow the Clean Air Act. During this 10-year period, the area is designated as a maintenance area. The Puget Sound region is currently classified as a maintenance area for CO. With regard to ozone, however, EPA revoked its 1-hour ozone standard and the area currently meets the 8-hour standard; therefore, the maintenance designation for ozone no longer applies in the Puget Sound region. The EPA designated the Seattle Duwamish area (Sector 7 of the Plan area) as a maintenance area for PM₁₀ in 2000 and redesignated the area in 2002.

Washington State Department of Ecology

Ecology maintains an air quality program with a goal of safeguarding public health and the environment by preventing and reducing air pollution. Washington's main sources of air pollution are motor vehicles, outdoor burning, and wood smoke. Ecology strives to improve air quality throughout the state by overseeing the development of and conformity with the State Implementation Plan (40 CFR Part 52.2470(e)), which is the state's plan for meeting and maintaining NAAQS. Ecology has maintained its own air quality standard for 1-hour ozone concentrations and established its own more stringent air quality standards for annual NO₂, SO₂, and PM concentrations.

Puget Sound Clean Air Agency

PSCAA has local authority for setting regulations and permitting of stationary air pollutant sources and construction emissions. PSCAA also maintains and operates a network of ambient air quality monitoring stations throughout its jurisdiction.

Table H-1. Federal and State Ambient Air Quality Standards

| Pollutant | Averaging Time | (Federal) NAAQS ¹ | | State of Washington |
|--|-------------------------|------------------------------|------------------------|------------------------|
| | | Primary Standard | Secondary Standard | Standard |
| Ozone | 8 hour | 0.07 ppm | 0.07 ppm | 0.07 ppm |
| | 1 hour | NSA ² | NSA | NSA |
| Carbon monoxide (CO) | 1 hour | 35 ppm | NSA | 35 ppm |
| | 8 hour | 9 ppm | NSA | 9 ppm |
| Nitrogen dioxide (NO ₂) | 1 hour | 0.100 ppm | NSA | 0.100 ppm |
| | Annual | 0.053 ppm | 0.053 ppm | 0.053 ppm |
| Sulfur dioxide (SO ₂) | 1 hour | 0.075 | 0.5 ppm (3-hour) | 0.075 ppm |
| | 24 hour | 0.14 | NS | 0.14 |
| | Annual | 0.03 ppm | NS | 0.02 ppm |
| Particulate matter (PM ₁₀) | 24 hour | 150 µg/m ³ | 150 µg/m ³ | 150 µg/m ³ |
| | Annual | NSA | NSA | 50 µg/m ³ |
| Fine particulate matter (PM _{2.5}) | 24 hour | 35 µg/m ³ | 35 µg/m ³ | 35 µg/m ³ |
| | Annual | 12 µg/m ³ | 15 µg/m ³ | 12 µg/m ³ |
| Lead | Rolling 3-month average | 0.15 µg/m ³ | 0.15 µg/m ³ | 0.15 µg/m ³ |

NAAQS = national ambient air quality standards; NSA = no applicable standard; ppm = parts per million; µg/m³ = micrograms per cubic meter.

¹ NAAQS, other than ozone and particulates, and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The 8-hour ozone standard is attained when the 3-year average of the fourth highest daily concentration is 0.08 ppm or less. The 24-hour PM₁₀ standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than the standard. The 24-hour PM_{2.5} standard is attained when the 3-year average of the 98th percentile is less than the standard.

² The EPA revoked the national 1-hour ozone standard on June 15, 2005. This state 8-hour ozone standard was approved in April 2005 and became effective in May 2006.

Sources: EPA (2017) and Ecology (2018).

Greenhouse Gas Regulations

Executive Order 07-02

In 2007, the Governor Washington established GHG emissions reduction and clean energy economy goals.

These goals were codified as RCW 70.235.020 in 2008 and include the following:

- By 2020, reduce GHG emissions in the state to 1990 levels, a reduction of 10 million metric tons below 2004 emissions.
- By 2035, reduce GHG emissions in the state to 25% below 1990 levels, a reduction of 30 million metric tons below 2004.
- By 2050, the state will do its part to reach global climate stabilization levels by reducing emissions to 50% below 1990 levels or 70% below our expected emissions that year, an absolute reduction in emissions of nearly 50 million metric tons below 2004.
- By 2020, increase the number of clean energy sector jobs to 25,000 from the 8,400 jobs we had in 2004.
- By 2020, reduce expenditures by 20% on fuel imported into the state by developing Washington resources and supporting efficient energy use.

Ecology is currently considering revisions to these targets (Ecology, 2016). The recommended revised limits, which have not yet been formally adopted are as follows:

- By 2020, reduce overall emissions of GHG in the state to 1990 levels.
- By 2035, reduce overall GHG emissions in the state to 40% below 1990 levels.
- By 2050, reduce overall GHG emissions in the state to 80% below 1990 levels.

Revised Code of Washington (RCW) 47.01.440

The Washington State Department of Transportation has adopted RCW 47.41.440 to reduce annual per capita vehicle miles traveled by 2050 consistent with the stated goals of Executive Order 07-02. Specifically, this statewide goal strives to:

- Decrease the annual per capita vehicle miles traveled by 18% by 2020.
- Decrease the annual per capita vehicle miles traveled by 30% by 2035.
- Decrease the annual per capita vehicle miles traveled by 50% by 2050.

State of Washington GHG Reporting Rule

In December 2010, Ecology adopted Chapter 173-441 WAC – Reporting of Emissions of Greenhouse Gases. This rule institutes mandatory GHG reporting for the following:

Facilities that emit at least 10,000 metric tons of GHGs per year in Washington; or

- Suppliers of liquid motor vehicle fuel, special fuel, or aircraft fuel that supply products equivalent to at least 10,000 metric tons of CO₂ per year in Washington.

In 2016, the Clean Air Rule (WAC 173-442) was enacted to cap and reduce GHG emissions from significant stationary sources, natural gas distributors, and petroleum product producers, importers, and distributors operating within Washington. The Clean Air Rule covers two-thirds of all in-state GHG emissions, including an array of public and private sector parties. In 2017, the compliance threshold was set at 100,000 metric tons CO₂e annually. Every 3 years, the threshold lowers by 5,000 metric tons, and

more facilities are required to reduce their emissions. The threshold reaches 70,000 metric tons CO₂e in 2035 and remains stable. The status of WAC 173-442 is uncertain due to litigation.

City of Seattle GHG Evaluation Requirement

In 2008, Seattle adopted Ordinance 122574, which requires City planning staff “to evaluate climate impacts, including but not limited to those pertaining to carbon dioxide and other greenhouse gases when reviewing the environmental impacts of public or private proposals.” The ordinance does not establish any thresholds, standards, or restrictions regarding GHG emissions.

City of Seattle Comprehensive Plan 2035

The City of Seattle Comprehensive Plan 2035 addresses climate change within its Environmental Element (City of Seattle, 2016). Climate change-related goals and policies contained within the environmental element of the current Comprehensive Plan are listed below.

Goal EN G3: Reduce Seattle’s GHG emissions by 58% from 2008 levels by 2030, and become carbon neutral by 2050.

Policy EN 3.1: Expand transit, walking, bicycling, and shared-transportation infrastructure and services to provide safe and effective options for getting around that produce low or zero emissions.

Policy EN 3.2: Aspire to meet the growing demand for conveniently located homes and businesses in pedestrian-friendly neighborhoods where residents can walk to a variety of recreation and service offerings.

Policy EN 3.3: Implement innovative policies, such as road pricing and parking management, that better reflect the true cost of driving and therefore lead to less automobile use, while employing strategies that mitigate impacts on low-income residents.

Policy EN 3.4: Encourage energy efficiency and the use of low-carbon energy sources, such as waste heat and renewables, in both existing and new buildings.

Policy EN 3.5: Reduce the amount of waste generated while at the same time increasing the amount of waste that is recycled and composted.

Policy EN 3.6: Reduce the emissions associated with the lifecycle of goods and services by encouraging the use of durable, local products and recycled-content or reused materials, and recycling at the end of products’ lives.

Policy EN 3.7: Support a food system that encourages the consumption of local and healthy foods with a low carbon footprint, reduces food waste, and fosters composting.

Other City of Seattle GHG-Related Policies and Ordinances

Seattle became the first city in the nation to adopt a green building goal for all new municipal facilities, and in 2001 the City created a Leadership in Energy and Environmental Design (LEED) incentive program for private projects.

City Resolution 30144 established Seattle City Light’s long-term goal of meeting all of Seattle’s electrical needs with zero net GHG emissions. Seattle City Light achieved GHG neutrality in 2005 through

eliminating and reducing emissions, inventorying remaining emissions, and offsetting the remaining emissions, and has maintained GHG neutrality since that date (City of Seattle, 2013). Consequently, as Seattle City Light is the local electricity provider for the project area, electrical demand in the project area is not a source of GHG emissions.

City of Seattle Climate Action Plan

In 2011, the City Council adopted a long-term climate protection vision for Seattle (through Resolution 31312), which included achieving net zero GHG emissions by 2050 and preparing for the likely impacts of climate change. To achieve these goals, the City prepared a Climate Action Plan (2013 CAP) that focuses on City actions to reduce GHG emissions while also supporting other community goals. City actions in the 2013 CAP focus on road transportation, building energy, and waste, which comprise the majority of local emissions. With 2008 as the baseline year, the 2013 CAP identifies the following applicable targets by 2030:

- 20% reduction in vehicle miles travelled.
- 75% reduction in GHG emissions per mile of Seattle vehicles.
- 10% reduction in commercial building energy use.

The CAP goals also address residential development energy use, but this project does not relate to residential energy use.

The 2013 CAP defines policy-driven actions through which consistency with the City's emission reduction goal is evaluated. This includes actions related to the development of "Complete Communities," which are focused on transportation and land use strategies that concentrate jobs and housing. Applicable actions under this category include the following:

- Develop equitable development policies to support growth and development near existing and planned high-capacity transit without displacement as part of the 2015 Comprehensive Plan major review ("Complete Communities" – Actions to implement by 2015).
- Develop and begin implementation of a coordinated land use and transportation plan in a high-priority transit and bicycle corridor, with a goal of shifting more trips to travel modes that generate fewer or no GHG emissions ("Complete Communities" – Actions to Implement by 2015).
- Provide for the retention and creation of affordable commercial space and family-sized housing in transit communities (e.g., expanded density and height bonuses, tax exemptions, joint development projects, or inclusionary zone) ("Complete Communities" – Actions to Implement by 2030).

AFFECTED ENVIRONMENT

Climate and Air Quality

Seattle is in the Puget Sound lowland, a narrow strip of land along the western side of Puget Sound extending from the Strait of Juan de Fuca in the north to the southern cities of Centralia and Chehalis, and a somewhat wider strip along the east side of Puget Sound extending north to the Canadian border.

Buffered by the Olympic and Cascade mountain ranges and Puget Sound, the Puget Sound lowland has a relatively mild, marine climate with cool summers and mild, wet, and cloudy winters.

The prevailing wind direction in the summer is from the north or northwest. The average wind velocity is less than 10 miles per hour. Persistent high-pressure cells often dominate summer weather and create stagnant air conditions. This weather pattern sometimes contributes to the formation of photochemical smog.

During the wet winter season, the prevailing wind direction is south or southwest. Cold air occasionally flows south from the interior of Canada through the Fraser River canyon into the Puget Sound lowland. In the fall and winter, severe storms can produce strong winds that cross the state from the southwest.

Although the Puget Sound lowland area is the most densely populated and industrialized area in Washington, there is sufficient wind most of the year to disperse air pollutants released into the atmosphere. Air pollution is usually most noticeable in the late fall and winter, under conditions of clear skies, light wind, and a sharp temperature inversion. Temperature inversions occur when cold air is trapped under warm air, thereby preventing vertical mixing in the atmosphere. Inversions can last several days and prevent pollutants from being dispersed by the wind. Inversions are most likely to occur from October to January. If poor dispersion persists for more than 24 hours, the PSCAA can declare an “air pollution episode” or local “impaired air quality.”

Air Quality Pollutants of Concern

Air quality is affected by pollutants that are generated by both natural and manmade sources. In general, the largest manmade contributors to air emissions are transportation vehicles and power-generating equipment, both of which typically burn fossil fuels. The main criteria pollutants of interest for land use development are CO, PM, ozone and ozone precursors [volatile organic compounds (VOCs), and oxides of nitrogen (NO_x)]. Both federal and state standards regulate these pollutants, along with two other criteria pollutants, SO₂ and lead. However, the Puget Sound region is in attainment and not a maintenance area for ozone, NO₂, lead, and SO₂ (EPA, 2018).

The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline, metal processing is currently the primary source of lead emissions, and there would be no lead emissions associated development under the Seattle Center Arena Renovation Project. Emissions of NO₂ associated with the project are estimated because they are a precursor to ozone formation and assessed relative to their potential impact on ozone concentrations. SO₂ is produced by the combustion of sulfur-containing fuels, such as oil, coal, and diesel. Historically, Washington has measured very low levels of SO₂. Because the levels were so low, most monitoring was stopped. SO₂ emissions have dropped over the past 20 years because control measures were added for some sources, some larger SO₂ sources shut down, and the sulfur content of gasoline and diesel fuel was cut by nearly 90% (PSCAA, 2011). SO₂ emissions would not be appreciably generated by development under the project and, given the unclassified status of the region, are not further considered in this EIS analysis. The largest contributors of pollution related to development under the Comprehensive Plan are construction equipment, motor vehicles, and off-road construction equipment. The main pollutants emitted from these sources are CO, PM, ozone precursors (VOC and NO_x), GHGs, and Toxic Air Pollutants (TAPs). Motor vehicles and diesel-powered construction equipment also emit pollutants that contribute to the formation of ground-level ozone. This section describes the main pollutants of concern and their impact on public health and the environment.

Carbon Monoxide

CO is an odorless, colorless gas usually formed as the result of the incomplete combustion of fuels. The single largest source of CO is motor vehicles; the highest emissions occur during low travel speeds, stop-and-go driving, cold starts, and hard acceleration. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause headaches, nausea, dizziness, and fatigue; impair central nervous system function; and induce angina (chest pain) in persons with serious heart disease. Very high levels of CO can be fatal. The major source of CO is vehicular traffic, followed by industry and wood stoves. For urban areas, motor vehicle internal combustion engines are the principal sources of CO that cause ambient air quality levels to exceed the NAAQS. The federal CO standards have not been exceeded in the Puget Sound area for the past 20 years (PSCAA, 2017). Notwithstanding the continued attainment of federal CO standards, the Puget Sound region continues to be designated as a maintenance area for CO until such time that EPA changes this designation.

Particulate Matter

PM is a class of air pollutants that consists of heterogeneous solid and liquid airborne particles from manmade and natural sources. PM is measured in two size ranges: PM₁₀ and PM_{2.5}. Fine particles are emitted directly from a variety of sources, including wood burning (both outside and indoor wood stoves and fireplaces), vehicles, and industry. They also form when gases from some of these same sources react in the atmosphere.

An extensive body of scientific evidence shows that exposure to particle pollution is linked to significant health problems, such as increased hospital admissions and emergency department visits for cardiovascular and respiratory problems, including non-fatal heart attacks and premature death. People most at risk from fine and coarse particle pollution exposure include people with heart or lung disease (including asthma), older adults, and children. Research indicates that pregnant women, newborns, and people with certain health conditions, such as obesity or diabetes, are also more susceptible to PM-related effects.

The federal annual PM_{2.5} standard has not been exceeded in the Puget Sound area since the EPA established its NAAQS in 2007. The daily federal PM_{2.5} standard has not been exceeded in the Puget Sound dating back to the initiation of monitoring for this pollutant in 2001 (PSCAA, 2017). All four counties in Puget Sound have been below the daily and annual PM₁₀ federal standards from the early 1990s until monitoring was ceased in 2006 (PSCAA, 2008). EPA recently adopted a more stringent federal standard for PM_{2.5} in December 2012, and all areas of Washington State are in attainment. Notwithstanding the continued attainment of federal PM₁₀ standards, portions of the Puget Sound region continue to be designated as a maintenance area for PM₁₀, specifically the Seattle Duwamish Particulate Matter Maintenance Area.

Ozone

Ozone is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving VOCs (sometimes referred to by regulatory agencies as reactive organic gases, or ROG) and NO_x. The main sources of VOC and NO_x, often referred to as ozone precursors, are combustion processes (including motor vehicle engines) and the evaporation of solvents, paints, and fuels. Ozone levels are usually highest in the afternoon because of the intense sunlight and the time required for ozone to form in the atmosphere. Ecology currently monitors ozone from May through September because this is the period of concern for elevated ozone levels in the Pacific

Northwest. No violations of the NAAQS for ozone have occurred at the Seattle monitoring station since monitoring commenced there in 1999.

Elevated concentrations of ground-level ozone can cause reduced lung function and respiratory irritation, and can aggravate asthma. Ozone has also been linked to immune system impairment. People with respiratory conditions should limit outdoor exertion if ozone levels are elevated. Even healthy individuals may experience respiratory symptoms on a high-ozone day. Ground-level ozone can also damage forests and agricultural crops, interfering with their ability to grow and produce food. The Puget Sound region is designated as an attainment area for the federal ozone.

Toxic Air Pollutants

In addition to regulating the criteria pollutants, the Clean Air Act identifies 188 air toxics, also known as hazardous air pollutants. Ecology began monitoring air toxics at a site on Seattle's Beacon Hill in 2000. The EPA assessed this expansive toxics list and identified a group of 21 air toxics as mobile source air toxics (MSATs), which are set forth in a EPA final rule, Control of Hazardous Air Pollutants from Mobile Sources (40 CFR Parts 59, 80, 85, and 86). The EPA then extracted a subset of this list of 21, which it labels the 7 priority MSATs: benzene, formaldehyde, diesel particulate matter/diesel exhaust organic gases, acrolein, naphthalene, polycyclic organic matter, and 1,3-butadiene. Exposure to these pollutants for long durations and sufficient concentrations increases the chances of cancer or other serious health effects, including damage to the immune system; neurological problems; and reproductive, developmental, respiratory, and other serious health problems.

Diesel particulate matter overwhelmingly represents the highest potential cancer risk in the Puget Sound area. This pollution comes from diesel-fueled trucks, cars, buses, construction equipment, rail, marine, and port activities. Particulate matter from wood smoke (a result of burning in woodstoves and fireplaces or outdoor fires) presents the second-highest potential cancer health risk. Wood smoke and auto exhaust also contain formaldehyde, chromium, benzene, 1,3-butadiene, and acrolein. Chromium is also emitted in industrial plating processes. The Agency also prioritizes reductions of these air toxics.

The PSCAA conducted a study of air toxics in Tacoma and Seattle in 2010 and determined that, of the 21 toxic air contaminants of concern, diesel PM emissions remain the largest contributor to potential cancer risk in the Puget Sound area. These emissions contribute over 70% of the potential cancer risk from air toxics at sites within Seattle (PSCAA, 2011).

Air Quality Information Sources, Monitoring, and Trends

The PSCAA monitors criteria air pollutant concentrations at five facilities within the Seattle city limits. The primary monitoring station within Seattle is located in Beacon Hill, which is located 4 miles from the project site. This station collects data for ozone, CO, NO₂ and SO₂. In 2014, PSCAA began operating a new station at 10th & Weller St near Interstate 5. PSCAA no longer monitors PM₁₀ but is focusing its efforts on PM_{2.5} because PM_{2.5} is associated with the most serious health effects. Table H-2 displays the most recent 3 years of available monitoring data at these locations and shows that the air pollutant concentration trends for these pollutants remain below the NAAQS.

Emission projections and ongoing monitoring throughout the central Puget Sound region indicate that the ambient air pollution concentrations for CO and PM_{2.5} have been decreasing over the past decade. Measured ozone concentrations, in contrast, have remained fairly static. The decline of CO is primarily due to improvements made to emission controls on motor vehicles and the retirement of older, higher-

polluting vehicles. Regulations on fuel and motor vehicles reduced ozone concentrations from 1990 by more than 22% by 2016 (EPA, 2017).

Air toxic pollutant emissions are also of concern because of the projected growth in vehicle miles traveled. The U.S. EPA has been able to reduce benzene, toluene, and other air toxics emissions from mobile sources by placing stringent standards on tailpipe emissions and requiring the use of reformulated gasoline.

Table H-2. Ambient Air Quality Monitoring Data for Monitoring Stations in Seattle

| Pollutant | Station | Averaging Time | 2014 Maximum Concentration | 2015 Maximum Concentration | 2016 Maximum Concentration | NAAQS Standard ¹ |
|--|---------------------------|----------------|----------------------------|----------------------------|----------------------------|-----------------------------|
| Ozone | Beacon Hill | 8 hour | 0.044 ppm | 0.048 ppm | 0.046 ppm | 0.075 ppm |
| Carbon monoxide (CO) | 10 th & Weller | 1 hour | 2.7 ppm | 2.2 ppm | No Data | 35 ppm |
| | | 8 hour | 2.0 ppm | 1.8 ppm | No Data | 9 ppm |
| Fine particulate matter (PM _{2.5}) | 10 th & Weller | 24 hour | No Data | 26.6 µg/m ³ | 20.7 µg/m ³ | 35 µg/m ³ |
| | | Annual | 4.4 µg/m ³ | 9.4 µg/m ³ | No Data | 15 µg/m ³ |

NAAQs = national ambient air quality standards; ppm = parts per million; µg/m³ = micrograms per cubic meter.

Source: PSCAA, 2017.

Sources of Air Pollution in Seattle

Air pollution sources within Seattle and its environs can be categorized into point sources, transportation sources, and area sources. Transportation sources include freeways, highways and major arterial roadways, particularly those supporting a high percentage of diesel truck traffic such as State Routes 99 and 599. Additional transportation sources include railway lines supporting diesel locomotive operations. Aircraft (from Boeing Field) and marine sources (ferries, tugs, container ships etc.) are also transportation sources which contribute to regional and localized pollutant concentrations.

Point sources (also termed stationary sources) are generally industrial equipment and are almost always required to have a permit to operate from PSCAA. Industrial turbines and cement manufacturing plants are examples of point sources of air pollution.



References

City of Seattle. 2013. Seattle Climate Action Plan. April 2013.

City of Seattle. 2016. City of Seattle Comprehensive Plan 2035, Managing Growth to Become an Equitable and Sustainable City. Environment Chapter, Available On-line at <http://www.seattle.gov/Documents/Departments/OPCD/OngoingInitiatives/SeattlesComprehensivePlan/SeattleComprehensivePlanCouncilAdopted2017.pdf>. Accessed November 20, 2017.

Ecology (Washington State Department of Ecology). 2016. Report to the Legislature on Washington Greenhouse Gas Emission Inventory: 1910–2013. October.

Ecology (Washington State Department of Ecology). 2018. National air quality standards. Available: <https://ecology.wa.gov/Air-Climate/Air-quality/Air-quality-targets/Air-quality-standards/>.

EPA (U.S. Environmental Protection Agency). 2017. Ozone Trends website. Available: <https://www.epa.gov/air-trends/ozone-trends>.

EPA (U.S. Environmental Protection Agency). 2018. Greenbook website current as of March 31, 2018. Available: <https://www.epa.gov/green-book>.

PSCAA (Puget Sound Clean Air Agency). 2008. 2007 Air Quality Data Summary. Available: <http://www.pscleanair.org>. Accessed May 20 2013.

PSCAA (Puget Sound Clean Air Agency). 2011. 2010 Study of Air Toxics in Tacoma and Seattle. February.

PSCAA (Puget Sound Clean Air Agency). 2017. Air Quality Data Summary Appendices 2013–2016. Available: <http://www.pscleanair.org/documentcenter/view/2761>. Accessed: 2017.