As described in Section 3.C, identify transportation impacts from the Project and address how innovative, multi-modal strategies could be implemented to mitigate the impacts, keeping in mind the City’s goals and policies. Identify the amount of funding that will be committed for capital infrastructure improvements and (separately) for operation and maintenance strategies.
SUSTAINABLE TRANSPORTATION ACCESS AND MOBILITY

INTRODUCTION

OVG, in partnership with Parametrix, has provided a set of solutions to the challenges of parking and transportation around the NASC. OVG has found creative and effective ways to mitigate and improve mobility and parking conditions around the arena without requiring significant capital expenditures. OVG also believes the location of the NASC has a distinct advantage in mobility and parking compared to any other arena location under consideration in the region.

Initially, we define the existing transportation conditions in proximity to Seattle Center and summarize potential transportation impacts from redevelopment of the NASC. Second, we break out each segment by existing conditions, impacts and then our solutions for auto, parking, transit, non-motorized, freight and construction for the NASC. Finally, we summarize the major findings and outcomes to mitigate the impacts and ensure sustainable transportation and multimodal mobility to the NASC.

Exhibit 1 - Mode of Access

<table>
<thead>
<tr>
<th>Mode of Access</th>
<th>% Split</th>
<th># of Event Attendees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto</td>
<td>82%</td>
<td>13,900</td>
</tr>
<tr>
<td>Transit</td>
<td>12%</td>
<td>2,100</td>
</tr>
<tr>
<td>Walk</td>
<td>4%</td>
<td>700</td>
</tr>
<tr>
<td>Bike/Other</td>
<td>2%</td>
<td>300</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100%</td>
<td>1,700</td>
</tr>
</tbody>
</table>

1) Source: "Seattle Arena FES"  2) Using an average vehicle occupancy

Impacts to Transportation System

The regional and local roadways in the study area experience higher than normal congestion during weekday evening commute times between 3 pm and 6 pm. During large evening events, intersections around the Arena can experience congested conditions. Some of the congestion around the Arena is associated with people searching for available parking. This is especially true near the beginning of well-attended events.

Existing parking demand during large evening events (attendance >15,000) fills nearly all publicly available parking in the Uptown Urban Center approximately 20-30 times per year. Existing transit capacity during evening events, as shown in Exhibit 4, is more than adequate to meet the demand for transit service to and from events.

Seasonal Fluctuations

Event activity and general attendance at Seattle Center varies widely depending on the month. The Uptown/Seattle Center Parking Study (2017) captured the fluctuation in activity levels at the Seattle Center by documenting how on-street and off-street parking demand changes seasonally. As shown in Exhibit 2, there is little seasonal variation for on-street parking; however, off-street parking can fluctuate by almost 40 percent between high and low seasons. Tourism and event activity during the summer months and the December holidays drive seasonal peaks, with lower activity occurring throughout most of the winter.

PROPOSED FUTURE CONDITIONS

The redevelopment of the NASC would bring more events to the area, which will increase the number of people driving, using transit, walking, bicycling and delivering goods and services. The NASC would have the capacity to seat approximately 18,000 spectators. The proposed NASC would continue to host large concerts and would be home to a WNBA team (Seattle Storm) and a possible NBA and NHL team. Attendence for NBA and NHL games was assumed to be 18,000 attendees, although that is very aggressive, we wanted to assume maximum loads. WNBA games were assumed to draw 8,000 attendees (the average since the Storm’s 2000 season).

Frequency of Large Evening Events

The NASC currently hosts approximately 20 events per year with an attendance of 10,000 or more patrons. Redevelopment of the NASC, including the possibility of adding NBA and NHL sport teams, is not expected to significantly increase parking demand for large evening events. However, changes to programming at the new NASC, specifically the addition of NBA and NHL teams, could increase events with attendance of 10,000 or more patrons to approximately 100 events per year. This would increase the number of dates per year when most of the existing parking in the Uptown neighborhood is full during events.

EVENT CONDITIONS—EXISTING AND FUTURE

EXISTING CONDITIONS

KeyArena (the Arena) is located within Seattle Center, the fourth largest visitor destination in the U.S., with over 12 million annual visitors. It is home to a wide range of cultural, arts and entertainment venues. The Arena is a significant anchor on the Seattle Center campus and one of the largest drivers of spectator event attendance.

The capacity of the Arena is approximately 17,000. In 2015, the Arena hosted 109 total events, with 19 events with more than 10,000 attendees. With simultaneous evening events at Seattle Center when the Arena hosts a large event, total campus attendance can reach 20,000.

PARAMETRIX

Parametrix is an engineering, environmental, and planning consulting firm based in the Puget Sound area. Founded in 1969, Parametrix has 12 offices in the western United States providing multidisciplinary services in transportation, environmental planning and compliance, water resources, and community building.

Parametrix helps clients plan transportation improvements that improve livability, increase efficiency, and provide mobility choices. From comprehensive regional transportation plans to corridor studies and intersection optimization, we consider all travel modes, traffic patterns, and environmental issues to create a plan that is right for the project or community.

1) Source: "Seattle Arena FES"  2) Using an average vehicle occupancy

IMPACTS TO TRANSPORTATION SYSTEM

Page dimensions: 1224.0x792.0

Printed on 100% recycled paper

TRANSPORTATION 77
EXHIBIT 3 summarizes the estimated mode of access for a sporting event at the NASC. Using the same mode splits shown in EXHIBIT 1, it is estimated that an NBA or NHL event with a typical attendance of 18,000 would generate a parking demand of 6,100 vehicles. By 2035, when the light rail is completed, parking demand is expected to decrease to approximately 5,100 vehicles.

EXHIBIT 3 - ESTIMATED TRAVEL MODE TO NEW ARENA

<table>
<thead>
<tr>
<th>Mode of Access</th>
<th>YEAR 2020</th>
<th>YEAR 2024</th>
<th>YEAR 2035</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto</td>
<td>82%</td>
<td>79%</td>
<td>69%</td>
</tr>
<tr>
<td>Transit</td>
<td>12%</td>
<td>15%</td>
<td>25%</td>
</tr>
<tr>
<td>Walk</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>Bike/Other</td>
<td>2%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Parking</td>
<td>6,100</td>
<td>5,900</td>
<td>5,100</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

1) Expected demand for Arena events

Transit
The addition of major regional transportation projects, such as Link light rail extensions to Lynnwood (North Link), Redmond (East Link), and Kent/Des Moines (South Link extension) improves regional transit service. In the future, it is estimated that the light rail would accommodate 16,000 or more people after a weekend event with proposed service levels. Over time, the number of people choosing to drive would decrease and transit use would increase as the light rail system expands. This is because light rail transit provides a convenient and reliable choice for traveling to events.

Parking
The NASC could increase events with attendance of 10,000 or more patrons to approximately 100 events per year. This would increase the number of dates when the Uptown neighborhood experiences parking congestion. Parking supply in the Uptown Urban Center is expected to increase by 850 parking stalls with the construction of the NASC garage, increasing the total supply in Uptown to 8,150.

Expanding the available parking supply to include off-street parking within a 15-minute walk (approximately 3/4 mile) of the NASC increases the available parking supply by over 3,200 parking stalls for a total of 11,350 stalls, almost double the necessary spaces to accommodate the 6,100 car parking demand during large evening events. Additionally, off-street parking garages within one-block of the Westlake Center Monorail station provides 2,400 off-street parking stalls within easy Monorail access to the NASC for a total of 13,750 spaces. These parking spaces can primarily be used by event patrons that have already parked downtown during business hours.

Ample parking is available within a 15-minute walk of the NASC. However, while the number of parking spaces is sufficient, the inability for patrons to locate that available parking is the true shortcoming of the existing conditions.

Traffic Congestion
Future large evening events at the NASC, with typical attendance, would add approximately 350 vehicles during opening year. As transit mode share increases in the future, traffic volumes generated by large evening events are expected to be less than or similar to existing conditions. EXHIBIT 4 illustrates a range of possible outcomes for event patrons traveling to and from the NASC. These charts show:

- Public transit service has the ability to accommodate a larger percent share of event patrons, reducing the number of parking spaces needed.
- There is adequate parking supply within walking distance (3/4 mile) of the NASC to accommodate expected parking demand.
- The estimated number of people traveling to a typical large evening event could be accommodated.
Auto access to the NASC will be served along multiple routes supporting both regional and local traffic. Regional auto access to the NASC is provided via Interstate 5 and SR 99. SR 99 through downtown Seattle, which is currently on a viaduct, is being replaced with a two-mile bored tunnel as part of the Alaskan Way Viaduct Replacement Project. SR 99 will be a direct route between the south end of the tunnel at S. Royal Brougham Way to the north end of the tunnel at Republican Street, near the NASC. SR 99’s north end will provide off and on-ramps via Republican Street (northbound off-ramp), Aurora Avenue (northbound on-ramp and southbound off-ramp), and Sixth Avenue N (southbound on-ramp), shown on EXHIBIT 5.

As part of the Project, the Alaskan Way surface street will also be rebuilt with improved connections to the south as well as north of the waterfront via the new Elliott Way connector to Elliott Avenue and Western Avenue, near the NASC. Three surface streets, John, Thomas and Harrison will also be connected east/west for the first time. Continuity of surface streets near Seattle Center will also be significantly improved compared to when the NBA was at KeyArena prior to the investments made by the Mercer Corridor Project and the Alaskan Way Viaduct Replacement Project.

There are 13 routes providing access to Seattle Center, as shown on EXHIBIT 6. Roadways providing access to the new Arena include Elliott Avenue, Aurora Avenue North, Westlake Avenue North, Mercer Street, Denny Way, Alaskan Way, Western Avenue, Broad Street, 2nd Avenue, and 4th Avenue.
ROADWAY CAPACITY

Local streets can accommodate approximately 800 vehicles per hour per lane. Highways can accommodate approximately 1,900 vehicles per hour per lane. Both inbound and outbound routes that provide access to the NASC and Seattle Center are shown on EXHIBIT 7. For the inbound routes providing access to the Seattle Center there is capacity for approximately 27,600 total vehicles during the peak 6:00 pm - 7:00 pm hours. Inbound routes that provide access to the vicinity of the Seattle Center include:

- Southbound Elliott Avenue W
- Southbound 2nd Avenue W
- Southbound Queen Avenue N
- Southbound Aurora Ave N / SR 99
- Southbound Dexter Avenue N
- Southbound Westlake Avenue N
- Westbound Fairview Avenue N
- Westbound Mercer Street
- Westbound Denny Way
- Northbound Aurora Ave N / SR 99
- Northbound Fourth Avenue
- Northbound First Avenue
- Northbound Western Avenue
- Northbound Alaskan Way

At 6:00 pm, there are a total of 15,940 vehicles traveling towards Seattle Center on local streets and highways, resulting in 42 percent excess vehicle capacity available to accommodate event traffic.

Although some streets, such as Mercer Street, are more heavily used, there are many other roadway connections to Seattle Center and the NASC that can absorb additional traffic. If multiple events were occurring simultaneously at Seattle Center, an additional 6,000 vehicles could be added to the inbound street network. Multiple events would increase vehicle demand to approximately 79 percent of total vehicle capacity on inbound routes near the NASC, as shown on EXHIBIT 7.

Even during a peak event, there is roadway capacity to accommodate the additional auto trips in close proximity to the NASC, particularly if traffic was distributed along lesser used routes. The majority of traffic is traveling away from Seattle Center during the peak event commute period. Following events, the added event traffic is expected to have a lower impact to streets outbound access because overall volumes will be lower later in the evening.

Neighborhood Shuttles

OVG has explored the possibility of coordinating shuttles between NASC and the parking in South Lake Union. By 2020, there will be over 10,000 parking stalls available for occupancy during the evening event hours. The shuttle service could be operated on multiple routes using existing shuttle transports to transport event patrons to the NASC. This direct shuttle service would be coupled with reduced parking rates at garages encouraging event patrons who choose to drive, to park in more remote offsite parking spaces.

Disbursed Routing

OVG will provide real time information to event patrons to direct them to lesser used freeway interchanges and local streets during event times via public information and marketing. Event patrons would be directed to I-5 interchanges other than Mercer Street, such as James Street, Seneca Street or Olive Way south of the NASC, or Roanoke Street or NE 45th/NE 50th Streets north of the NASC. This would disperse event patrons along alternative routes that would likely result in faster travel times rather than focusing access along one or two more-congested, heavily used routes, such as Mercer Street.

Adaptive Signal Control

Seattle Department of Transportation proposes to deploy Adaptive Signal Control:

- Southbound Elliott Avenue W
- Southbound 2nd Avenue W
- Southbound Queen Avenue N
- Southbound Aurora Ave N / SR 99
- Southbound Dexter Avenue N
- Southbound Westlake Avenue N
- Westbound Fairview Avenue N
- Westbound Mercer Street
- Westbound Denny Way
- Northbound Aurora Ave N / SR 99
- Northbound Fourth Avenue
- Northbound First Avenue
- Northbound Western Avenue
- Northbound Alaskan Way

EXHIBIT 7 - VEHICLE DEMAND ON INBOUND ROUTES TO SEATTLE

WEST MERCER STREET LOOKING EAST AT 5:37 PM ON MARCH 27, 2017
(ASC) in the Seattle Center and South Lake Union areas to improve traffic flow and traffic operations on several key corridors. ASC technology is more than just optimizing traffic signal timing; it provides signals the flexibility to respond to unanticipated surges, interruptions or shifts in traffic flows due to collisions, road construction projects and/or variation in access patterns due to large events in the area. The ASC project is expected to improve efficiency in the Mercer and Denny corridors, major freight routes, by approximately 5 to 10 percent, and will enhance the end of event disbursement.

Transportation Network Companies

OVG has existing relationships with Transportation Network Companies (TNCs), such as Lyft and Uber. These services can facilitate both entire trips for event patrons as well as first/last mile connections between other modes. TNCs can help minimize impacts to neighborhood streets and other Seattle Center transportation operations by reducing parking demand and encouraging ridesharing. Both Lyft and Uber provide rideshare options, called Lyft Line and uberPOOL, which offer discounted fares for sharing rides with others going the same way.

The City of Seattle has already partnered with Uber and Lyft to offer additional discounts to Lyft Line and uberPOOL users during major events, such as Pride Weekend and New Year’s Eve. OVG could coordinate similar partnerships with Lyft and Uber to provide additional discounts to event patrons using Lyft Line or uberPOOL. OVG is also in conversation with BMW Reach Now about a possible rideshare program utilizing designated parking in the garage to encourage ridesharing.

OVG will also provide designated drop-off and pick-up locations near MoPOP and the corner of 1st Avenue and John Street to make using TNCs easier for event patrons. Designated TNC zones would allow drivers to park for short periods of time to either pick up or drop off event patrons without congesting streets. The designated drop-off zones could be advertised through public information and marketing. OVG will work with TNCs to integrate the designated drop-off zones into the apps to create a seamless system.

Despite the excess number of available parking spaces in the immediate neighborhood cited in the Uptown Study for all but 20-30 Peak Event Periods, congestion is reported to occur in the immediate neighborhood upwards of 125 times per year. This condition indicates the problem is inefficient usage, rather than inadequate supply. OVG addresses that optimization challenge below.

EXHIBIT 8 - AVAILABLE PARKING LOCATIONS

The Uptown Study also confirmed there are sufficient spaces in the immediate neighborhood (7,400) to provide parking for all but surge events wherein demand for events of attendance exceeding 15,000 at Seattle Center (“Peak Event Periods”) and weekend festivals fills nearly all available parking space. These Peak Event Periods occur 20-30 times per year and require up to 8,600 spaces.
CHANGED CONDITIONS
The NASC capacity will increase by approximately 1,000 seats, from 17,000 to 18,000. Thus, the Peak Event Periods parking capacity requirements will only increase by 340 spaces.

PARKING SUPPLY
The overall anticipated need for the NASC is 6,100 initially, with parking demand expected to decrease to about 5,100 spaces in later years due to completion of the light rail system. When coupled with other activities going on at the Seattle Center, it is anticipated that parking demand would be similar to Peak Event Periods existing today. There will be significantly more dates when Peak Event Periods occur, but the parking supply is more than adequate to address those needs as the following will explain.

While the Uptown Study identifies 7,400 spaces in the Uptown Urban Center, it does not adequately capture the standard three-quarters of a mile (15-minute walk) radius used for stadium and arena parking analysis used in other similar Seattle projects. The study has a hard boundary on Aurora and Denny Way. When the radius is extended to ¾ of a mile of the new Arena the parking supply grows significantly. See EXHIBIT 8, illustrating the location of existing parking supply. Additionally, due to programmatic requirements of a world class arena, OVG projects. The study has a hard boundary on Aurora and Denny Way. When the radius is extended to ¾ of a mile of the new Arena the parking supply grows significantly. See EXHIBIT 8, illustrating the location of existing parking supply. Additionally, due to programmatic requirements of a world class arena, OVG projects.

Given the direct 2-minute connection between the Seattle Center and Westlake Center, via the Monorail, parking near Westlake Station also becomes the part of the parking supply. With a 4-minute walk from the Seattle Center Monorail station and a 2-minute ride time (both sourced from the Seattle Monorail), that allows up to 9 minutes of walk time to reach additional parking. When we include parking garages within 5 minutes of Westlake Station, the potential parking supply grows to 13,750 spaces. See EXHIBIT 8.

With proper messaging and notification of availability to users through technology, this highly distributed parking plan will minimize parking congestion at the NASC site and the Uptown Neighborhood.

PARKING SOLUTIONS
Parking Technology
OVG will incorporate a mobile parking app like those being deployed at arenas such as Moda Center in Portland, whereby customers can pre-purchase parking and view all available parking and pricing options in real time. OVG will include as many of the parking facilities as possible in EXHIBIT 8 to solve the issue of inefficient utilization. Auto mode customers will now exactly where to go to find the parking option that fits their price, convenience and locational needs before they start their trips. This will significantly reduce traffic in the neighborhoods caused by customers searching for parking.

Traditional Marketing
OVG also will use traditional measures, such as a Transportation Guide for event attendees, containing event access and parking information; providing information via web pages, email and other publicity such as Metro Transit and Sound Transit schedules, printed and broadcast media, periodic mailings to season ticket holders, postings on video boards within the NASC and announcements during events.

Incentives
OVG will also offer opportunities to cross-market with restaurants and bars in the Uptown neighborhood to encourage event attendees to arrive in the area before an event and/or stay in the area longer following an event. This would help spread the arrival and departure rates of fans traveling to and from the NASC.

Distributed Parking
Added congestion and delay associated with event traffic on local streets near the NASC can be substantially reduced by making attendees aware of less expensive and more easily accessible parking outside of the Uptown Urban Center. Traffic congestion also will be reduced by having fewer autos searching for parking due to technology that directs them to the parking they desire. This would distribute auto access to other local and lesser-used routes.

As described in the Parking Existing Conditions section, event parking will be dispersed in multiple locations near the NASC, including south of Denny Way and in South Lake Union, allowing auto access to be dispersed throughout the vicinity of the NASC. This will improve traffic operations and reduce congestion for event patrons and other roadway users on commonly used local streets near the NASC.

The addition of the 850-car garage adjacent to the NASC will be primarily reserved for large events. It will reduce on street impacts for smaller events.

Downtown Parking
OVG will also encourage and promote parking near Westlake Station - with more than 2,000 parking stalls and a quick direct connection to Seattle Center via the Monorail - by bundling tickets with Monorail passes or by providing vouchers for food and beverages. This would distribute auto trips further away from the NASC and reduce the impact of event auto trips on streets in the immediate vicinity of the arena.

Neighborhood Shuttles
OVG has explored the possibility of having coordinated shuttles between the NASC and the parking in South Lake Union. By 2020, there will be over 10,000 parking stalls available for occupancy during the evening event hours. The shuttle service could be operated on multiple routes using existing shuttle transports to transport event patrons to the NASC. This direct shuttle service would be coupled with reduced parking rates at garages encouraging event patrons who choose to drive to park in more remote offsite parking spaces.
SUSTAINABLE TRANSPORTATION ACCESS AND MOBILITY

TRANSIT ACCESS

Seattle Center and KeyArena are currently served by a robust transit network including bus transit and the Monorail. Bus and Monorail service connects transit riders to an extensive regional transit network of light rail, street car, ferries and commuter rail.

The capacity of public transit services for events varies by the time of day (peak commuter period or evening services) and weekday or weekend service. Many of these regional transit services connect to park-and-ride facilities (See Exhibit 13). The estimated existing and future capacity for each transit mode is summarized in Exhibit 10 below.

EXHIBIT 10 - FUTURE CAPACITY

<table>
<thead>
<tr>
<th>MODE OF ACCESS</th>
<th>CAPACITY (2020)</th>
<th>CAPACITY (2025)</th>
<th>CAPACITY (2040)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bus</td>
<td>5,520</td>
<td>5,760</td>
<td>6,000</td>
</tr>
<tr>
<td>Monorail</td>
<td>2,700</td>
<td>2,700</td>
<td>2,700</td>
</tr>
<tr>
<td>Streetcar</td>
<td>1,120</td>
<td>1,120</td>
<td>1,120</td>
</tr>
<tr>
<td>Light Rail</td>
<td>4,000</td>
<td>9,600</td>
<td>16,000</td>
</tr>
<tr>
<td>Ferry</td>
<td>4,200</td>
<td>4,200</td>
<td>4,200</td>
</tr>
</tbody>
</table>

BUS TRANSIT

As illustrated in Exhibit 11, King County Metro operates 16 bus routes within a one-half mile walk of the NASC. Upon completion of the Alaskan Way Viaduct Replacement project in early 2019, an additional five bus routes will serve the study area. Bus transit is concentrated on 1st Avenue N, Queen Anne Avenue N, 5th Avenue N, W Mercer Street, Denny Way, Aurora Avenue N, and Dexter Avenue N. Bus service generally connects the Seattle Center to downtown Seattle and neighborhoods to the north. Routes serving downtown allow for connections to light rail, ferries, water taxis, and commuter rail.

By 2019, 14 of the 21 bus routes serving the study area will provide all day weekday service with headways (time between buses at a bus stop) between 10-30 minutes. Given the frequency of planned bus service, ridership levels on weekday nights from 10:00 pm - 11:00 pm (estimated peak demand for events) and the capacity of buses in King County Metro's fleet, the estimated existing total capacity of the bus network at Seattle Center would be 5,520 passengers. It would increase to 5,760 passengers by 2025 and 6,000 by 2040.
MONORAIL
The Seattle Center Monorail is owned by the City of Seattle, and operated by Seattle Monorail Services, a privately-managed business. The Monorail provides a non-stop connection between Seattle Center and Westlake Center (near 5th Avenue/ Pine Street). Two trains provide service on 10-minute headways. Current hours of operation are shown in EXHIBIT 12. During the winter and spring, the Monorail service is frequently extended past 11:00 pm on evenings with large events at KeyArena.

EXHIBIT 12 - CURRENT HOURS OF MONORAIL OPERATION (2017)

<table>
<thead>
<tr>
<th>JANUARY - MAY</th>
<th>MAY - DECEMBER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday-Thursday: 7:30 am-9:00 pm</td>
<td>Monday-Friday: 7:30 am-11:00 pm</td>
</tr>
<tr>
<td>Friday: 7:30 am-11:00 pm</td>
<td>Saturday-Sunday: 8:30 am-11:00 pm</td>
</tr>
<tr>
<td>Saturday: 8:30 am-11:00 pm</td>
<td>Sunday: 8:30 am-9:00 pm</td>
</tr>
</tbody>
</table>

The capacity of each train is 225 passengers. The Monorail carries approximately 2 million passengers annually. The travel time from Seattle Center to Westlake Station is two minutes. The monorail provides convenient connections to light rail, streetcar, and bus routes serving downtown Seattle.

The Westlake station operates with a single boarding platform, restricting operations to one train at a time. The Monorail can make up to 10 trips per hour. With a functional limit of 225 passengers per train, the Monorail could carry up to 2,250 passengers per hour in each direction. Physical modifications to the Westlake Station could significantly increase ridership. During the 1962 World’s Fair, the Westlake Station had a dual loading platform configuration and carried 8 million passengers in 6 months.

The Monorail is currently converting from a cash only system. The City of Seattle has expressed interest in integrating the monorail into the regional ORCA transit-fare program, which would allow for convenient, low-fee or free transfers from other transit providers.

STREETCAR TRANSIT
The Seattle Department of Transportation (SDOT) operates the Seattle Streetcar program. The South Lake Union (SLU) Streetcar provides service between SLU and the Westlake Shopping Center. Stops are located within at a 10-minute walk of the Seattle Center area; the closest stop is located at the intersection of Westlake Avenue and Thomas Street. Currently, the streetcar operates on 15-minute headways. The SLU Streetcar operates from 6:00 am to 9:00 pm Monday through Thursday, and 6:00 am to 11:00 pm on Friday and Saturday. Sunday service is operated from 10:00 am to 7:00 pm. Streetcar transit provides a total capacity of 1,120 passengers.

LIGHT RAIL TRANSIT
Sound Transit currently provides light rail service from the University of Washington, through downtown Seattle to Angle Lake south of Sea-Tac airport. The Westlake station is the nearest light rail station to Seattle Center. It allows for convenient indoor transfers between light rail and the Monorail and many regional and local bus routes until the planned light rail service is provided directly to the Seattle Center in 2035.

Funded system expansions include light rail extensions north into Snohomish County, east to downtown Redmond, and south to Federal Way, which will expand the regional light rail network to 55 miles and 44 stations by 2024. The extension of light rail to Ballard in 2035 will include a station at Seattle Center. By 2040, the regional light rail system will comprise 116 miles and 76 stations.

Development of almost all of the new light rail stations outside of the City of Seattle will be accompanied by construction of additional parking stalls. The planned build out of the light rail system will provide connections to regional park-and-ride facilities accommodating approximately 17,000 vehicles (see EXHIBIT 13).

Because the light rail system exists within dedicated right-of-way, service is reliable and not subject to delays associated with traffic congestion. Additionally, light rail travel times are competitive with those for autos.

Bus service providers throughout the region (Sound Transit, Community Transit, King County Metro, Pierce Transit) are planning to provide connections to light rail stations, rather than continue providing service to downtown Seattle. This will significantly improve transit access to Seattle Center for patrons throughout the region, particularly those in Snohomish and Pierce counties.

In addition to light rail expansions, Sound Transit will develop and implement bus rapid transit (BRT) service on the I-405 and SR 522 corridors by 2024. Both routes will include connections to light rail stations that will be in service by 2023. Parking investments are planned at several BRT stations.
Estimated Light Rail Transit after Events

Sound Transit operates light rail service from 5:00 am to 1:00 am with service every 10 minutes between 6:30 pm and 11:00 pm and every 15 minutes between 10:00 pm and 1:00 am. Trains currently consist of 2- or 3-car sets, however, all station platforms are designed to accommodate 4-car sets. Sound Transit estimates that 4-car trains will be in service by 2023. Each car has capacity for 200 passengers. Given the frequency of existing and planned light rail service, ridership levels on weekday nights from 10:00 pm - 11:00 pm (estimated peak demand for events) and the capacity of light rail trains, the estimated existing total capacity of the light rail network at or near Seattle Center would be 4,000 passengers. It would increase to 9,600 passengers by 2025 and 16,000 by 2040.

FERRY TRANSIT

Washington State Ferries (WSF) provides ferry service at Colman Dock, which is located near Alaskan Way and Yesler Way. King County Metro provides passenger-only water taxi service to West Seattle and Vashon Island from Waterfront Pier 50, adjacent to Colman Dock. Colman Dock and Waterfront Pier 50 are easily accessible from the Seattle Center via bus and light rail.

Estimated Ferry Service after Events

WSF provides a combined vehicle and passenger service to Bainbridge Island and Bremerton. Service is provided approximately every 50 minutes during weekday and weekends to Bainbridge Island and approximately 70 minutes to Bremerton. These ferries are capable of transporting over 4,200 walk-on passengers, in addition to vehicle passengers.

King County operates water taxi service from downtown Seattle to West Seattle and Vashon Island. The West Seattle Water Taxi operates every 30 minutes on weekdays until 6:45 pm and every 60 minutes on weekends until 10:30 am on Saturdays and 7:30 pm on Sundays (no weekend service in the winter). The crossing takes approximately 10 minutes. King County Metro currently extends service on Friday nights to 10:30 pm in conjunction with Mariners and Sounders FC events, with ferries departing hourly. The Vashon Water Taxi provides peak only service on weekdays, with ferries departing hourly between 4:30 pm and 6:30 pm.

REGIONAL TRANSIT CONNECTIONS AT PARK AND RIDE LOTS

An extensive network of park-and-ride lots exists throughout the region, comprising more than 41,000 stalls owned or leased by various transit agencies. These lots are served by light rail, bus rapid transit (BRT), bus, and commuter rail. Sound Transit anticipates construction of more than 12,000 additional parking stalls throughout the region by 2041. Construction of more than 9,000 of these stalls is planned to be complete by 2025. The majority of these stalls will be at light rail stations, with the remainder planned at BRT and commuter rail stations.

The overwhelming majority of new parking stalls will be developed outside of the City of Seattle, greatly expanding opportunities for park-and-ride and transit use to access the arena throughout the region. In addition King County Metro envisions providing more than 3,000 additional stalls by 2040 along major transit corridors. The total planned park-and-ride investment in the region represents an increase in the number of stalls of approximately 30%.

TRANSIT SOLUTIONS

Monorail

The Monorail is a highly functional and efficient transportation link connecting the Arena to the downtown urban core in just 2 minutes with stations at Seattle Center and Westlake Station. The Monorail also shares a common bond with the arena, as they are both 1962 World’s Fair stalwarts that continue to serve our community. The Monorail also provides a critical mobility hub connecting the arena to light rail and bus transit services. The Seattle Monorail has the capacity to move 2,250 people per hour and is currently underutilized, especially during winter months. The station is less than a 4-minute walk from the NASC in a safe, mostly covered and well-lit environment.
As part of OVG’s strategy, we will encourage and incentivize Monorail use by event attendees, specifically highlighting the Monorail’s connection to light rail and nearby parking garages. Incentives to ride the Monorail could include providing free or discounted tickets as part of ticket sales and partnering with off-street parking facilities near Westlake Station to provide discounted parking fares.

Additionally, OVG has taken a lead role in a dialogue with the Monorail, City of Seattle, Visit Seattle, King County Metro and Sound Transit to expand the Westlake Monorail platform and improve the connection to the transit tunnel. The platform configuration currently only allows boarding of one train at a time. OVG would support expansion of the platforms to allow multiple train boarding, which would double rider capacity to 5,000 passengers per hour. This could increase and foster more transfer opportunities at Westlake between the Link light rail, Monorail, and other modes prior to light rail expansion to Seattle Center. Additionally, event patrons parking at Westlake and using the Monorail to connect to Seattle Center could be better accommodated with additional riderhip capacity. Exhibit 14 shows a potential rendering of the restored and expanded Monorail platform.

**Non-Motorized Access**

Residential density continues to increase near Seattle Center. This density should result in a larger percentage of new customers coming from closer proximity. This density also provides opportunities for bicycling and walking to events at the NASC.

**ORCA Cards**

The ORCA card fare payment system could be integrated with the Monorail ticketing system to streamline transfers between the Monorail and other transit services near Westlake. Transferring from bus or light rail to Monorail would be convenient, and the fare system familiar to riders, which could increase Monorail ridership.

**Financial Incentives**

OVG will use best practices to encourage and incentivize alternative modes of transportation, including purchasing transit fares in bulk and distributing them to fans at discounts or automatically including a transit fare with season ticket holder and single game ticket purchases to encourage transit use.

**Premium Bus Service**

Working with King County Metro, OVG could stage buses after events to connect to park-and-ride lots in Northgate, South Kirkland, Eastgate and Federal Way. Staging could be located on Republican Street, east of 1st Avenue N and Warren Avenue, north of Republican Street.

**Onsite Mobility Hubs**

Mobility hubs are centralized areas where multiple transit services and shared mobility options are provided seamlessly in one location. Mobility hubs improve transferring between services by combining different transportation options with place-making strategies, such as Wi-Fi service, wayfinding, bicycle storage, retail, and open space, among others. OVG will coordinate a number of strategies to facilitate transit connections at Westlake, which is a critical hub identified by the City of Seattle, including capacity improvements to the Monorail and bundling tickets or providing vouchers to event patrons who park near Westlake.

OVG will also coordinate with Sound Transit as the Ballard to Downtown light rail line is expanded to provide an on-site mobility hub near the station area at the Seattle Center. The on-site mobility hub could include connections between light rail and other transit services as well as bicycle parking and repair facilities, space for TNCs, wayfinding, real-time information, Wi-Fi, and public space.

The Thomas/Harrison Mobility Hub, planned for the site of the future Aurora Avenue RapidRide station is approximately one-half mile from the arena. Event attendees could be directed to this mobility hub through wayfinding on the Seattle Center campus.

**ORCA Cards**

The ORCA card fare payment system could be integrated with the Monorail ticketing system to streamline transfers between the Monorail and other transit services near Westlake. Transferring from bus or light rail to Monorail would be convenient, and the fare system familiar to riders, which could increase Monorail ridership.

**Financial Incentives**

OVG will use best practices to encourage and incentivize alternative modes of transportation, including purchasing transit fares in bulk and distributing them to fans at discounts or automatically including a transit fare with season ticket holder and single game ticket purchases to encourage transit use.

**Premium Bus Service**

Working with King County Metro, OVG could stage buses after events to connect to park-and-ride lots in Northgate, South Kirkland, Eastgate and Federal Way. Staging could be located on Republican Street, east of 1st Avenue N and Warren Avenue, north of Republican Street.

**Onsite Mobility Hubs**

Mobility hubs are centralized areas where multiple transit services and shared mobility options are provided seamlessly in one location. Mobility hubs improve transferring between services by combining different transportation options with place-making strategies, such as Wi-Fi service, wayfinding, bicycle storage, retail, and open space, among others. OVG will coordinate a number of strategies to facilitate transit connections at Westlake, which is a critical hub identified by the City of Seattle, including capacity improvements to the Monorail and bundling tickets or providing vouchers to event patrons who park near Westlake.

OVG will also coordinate with Sound Transit as the Ballard to Downtown light rail line is expanded to provide an on-site mobility hub near the station area at the Seattle Center. The on-site mobility hub could include connections between light rail and other transit services as well as bicycle parking and repair facilities, space for TNCs, wayfinding, real-time information, Wi-Fi, and public space.

The Thomas/Harrison Mobility Hub, planned for the site of the future Aurora Avenue RapidRide station is approximately one-half mile from the arena. Event attendees could be directed to this mobility hub through wayfinding on the Seattle Center campus.

**Non-Motorized Access**

Residential density continues to increase near Seattle Center. This density should result in a larger percentage of new customers coming from closer proximity. This density also provides opportunities for bicycling and walking to events at the NASC.
SUSTAINABLE TRANSPORTATION ACCESS AND MOBILITY

EXHIBIT 15 - SEATTLE CENTER PEDESTRIAN NETWORK

EXHIBIT 16 - SEATTLE CENTER BICYCLE NETWORK

NOTES:
- Bike routes designated by County GIS Center
- Bike routes not shown in the Seattle Center area
- Bike routes not shown in the Seattle Center area with the interior overlap projects.
The planned Lake2Bay corridor is a 2-mile long corridor that will connect Seattle Center with Lake Union and Elliott Bay via pedestrian friendly pathways on designated Green Streets, including Terry Avenue and Thomas Street. The Lake2Bay corridor takes advantage of the reconnected street grid on Thomas Street, resulting from the SR 99 North Portal project providing a pedestrian friendly environment on a direct connection between Seattle Center and the future Thomas/Harrison Mobility Hub. Conceptual plans of the Lake2Bay corridor are shown in EXHIBIT 17.

NON MOTORIZED SOLUTIONS

The number of residents living and working within a 15-minute walking distance of Seattle Center has increased over the last 10 years. As such, it is safe to assume that non-motorized travel to the NASC will also increase. OVG will encourage this activity by providing secure, bicycle storage or bicycle valet for event patrons. Secure bicycle storage could include a bicycle corral or lockers that allow event patrons to park their bicycles in a secure area.
Providing secure bicycle storage can help event patrons feel more comfortable leaving their bicycles while attending an event, ultimately encouraging more bicycle travel. Similarly, offering bicycle valet can encourage bicycle travel by providing event patrons with a designated area for bicycle parking that is staffed to prevent theft. Bicycle valet could allow OVG to provide discounted ticket prices or vouchers for food and beverages to encourage more bicycling to events.

Another strategy to encourage bicycle travel to events could include completing or prioritizing additional bicycle projects that are currently included in the Bicycle Master Plan in Exhibit 18.
There are several roadways near Seattle Center that have been designated freight routes linking the Ballard-Interbay Northend Manufacturing/Industrial Center (BINMIC) and Great Duwamish MIC with the regional highway system. The BINMIC is the region’s smallest MIC at 932 acres. The Duwamish MIC is the largest of the designated Puget Sound region MICs. It covers 4,928 acres, containing nearly 84% of the total industrial-zoned land in Seattle.

The SDOT Freight Master Plan identifies several freight bottlenecks and safety locations the study area, as identified in EXHIBIT 19. The Freight Master Plan identifies a number of projects that could help solve freight access and safety issues. One project includes the Denny Way ITS project, which is part SDOT’s Adaptive Signal Control system project. SDOT proposes to deploy ASC in the Seattle Center and South Lake Union areas to improve traffic flow and traffic operations on several key corridors. Phase 1 includes Mercer Valley and Roy Streets. Phase 2 includes ASC on 17 intersections on Denny Way.

DENNY WAY ITS PROJECT
(DENNY WY: I-5 TO WESTERN AVE)

Update signal timing, vehicle detection, CCTV cameras, dynamic message signs, and fiber communications to improve traffic flow and provide enhanced traveler information along Denny Way from I-5 to Western Ave.

CONSTRUCTION MITIGATION

OVG will develop a construction management plan (CMP) to mitigate potential construction-related impacts and ensure safety for all travelers. The plan will be coordinated with the Seattle Department of Construction & Inspections’ (DCI) noise abatement officer and SDOT. The plan would include, but is not limited to, the following elements.

### MODE OF ACCESS

#### CONSTRUCTION COORDINATION OFFICE

This office will coordinate frequently with the Seattle Center, City of Seattle and Uptown neighborhood community to advise them on major phases of construction that may create constraints or disruption along roads and sidewalks in the immediate vicinity of the Arena.

#### OFF-SITE COORDINATION

Assign a Transportation Coordinator to regularly meet with City of Seattle staff to be informed of nearby construction projects that would potentially impact Arena construction.

#### HIGH LEVEL SCHEDULE WITH MILESTONES

Include a description of the expected phases of construction, including description of noise and traffic generators and anticipated construction hours for each phase.

#### CONSTRUCTION HOURS & SENSITIVE RECEIVERS

Identify demolition and construction activities within permissible hours.

#### NOISE REQUIREMENTS

Include a requirement that all construction and demolition activities conform to the City of Seattle Noise Ordinance, except as approved through the variance process.

#### NOISE MANAGEMENT

List techniques and measures to minimize or prevent construction noise including technology, timing restrictions and modifications to construction processes.

#### CONSTRUCTION PARKING MANAGEMENT

Identify areas for construction worker parking. The general contractor would develop a construction worker parking program so public parking (both on and off-street) would not be adversely impacted by temporary influx of construction workers. This could involve shuttle service to remote parking or other means of providing parking for construction workers without impacting the parking around the Arena.

#### STREET AND SIDEWALK CLOSURES

The construction manager would be required to identify anticipated street closures, the timing for street closures, and detour routes and signing plan to guide drivers, bicyclists and pedestrians around these restrictions. This proposal would be reviewed and coordinated with SDOT, the Seattle Center and others through a Maintenance of Traffic task force.

#### PRIORITY TRUCK ROUTING AND LOADING

The CMP would develop demolition, earthwork excavating, concrete and other truck routing plans and submit those plans for approval through SDOT. Priority routes and loading areas would be specified as part of a coordinated Construction Traffic Control Plan. This plan would be reviewed by SDOT.

WHAT IS A FREIGHT BOTTLENECK?

A freight bottleneck is a location where they experience a significant delay and can come to a complete halt.
EVENT CONDITIONS

1. Seattle Center has over 12 million visitors per year. The NASC will increase capacity by 1,000 patrons from 17,000 to 18,000 patrons.

2. The arena currently hosts approximately 110 events, with 19 exceeding 10,000 attendees. OVG’s NASC could host up to 200 events with 100 exceeding 10,000 attendees. The change in condition will be an increase in frequency, not size, of large events.

3. Auto as an arena access mode is anticipated to decrease from 82% to 69% by 2035 when a light rail station opens near the NASC.

4. There is substantial excess capacity in transit, roadway and parking during peak periods in the direction of travel toward the Arena.

AUTO

1. There is 42% excess capacity on the in-bound roadways to the arena at peak (6:00 pm - 7:00 pm) periods.

2. Seattle Center’s centralized location is a significant benefit because it is served by 13 arterials which allow for traffic disbursement.

3. Adaptive Signal Control in the area will improve flow efficiencies by up to 10%.

4. The new Highway 99 Tunnel and the connection of John, Thomas and Harrison Streets will improve connections to Aurora as well as improve connections to the NASC.

5. Shuttles from the South Lake Union neighborhood will reduce traffic near the NASC.

6. Wayfinding apps will provide customers with the most efficient routes to the NASC, balancing the traffic distribution.

7. OVG will provide designated drop-off and pick-up locations for Transportation Network Companies (TNCs), such as Lyft and Uber. OVG anticipates coordinating partnerships with Lyft, Uber, Car2Go, and Reach Now to provide incentives to event patrons to ride share.

TRANSIT

1. There will be 21 bus routes serving the area within one-half mile of the NASC by 2019.

2. During estimated peak demand for bus transit (10:00 pm - 11:00 pm on weeknights) there is capacity for 5,520 passengers.

3. The Monorail is a major, reliable, efficient and affordable transit solution that connects virtually the entire transit network to Seattle Center in 2 minutes. One can travel from Sea-Tac Airport to within a block of the NASC without leaving cover.

4. A Light Rail station will be located within one block of the NASC for well over half the NASC’s projected useful life.

PARKING

1. Existing available parking supply exceeds parking demand in the immediate area around the arena, the Uptown Urban Center, in all but 20-30 events per year. Congestion is reported in the area over 100 times per year, indicating that utilization/optimization is a much bigger issue than supply.

2. Parking demand at peak periods of a sold-out arena and activities at Seattle Center requires 8,600 parking spaces. OVG has identified more than 11,000 available spaces within a 15-minute walk radius of the NASC, the same radius used to evaluate other stadium an arena projects in Seattle.

3. OVG will utilize technology such as a parking app that will be supplied to its customers that will identify location, available spaces, price and reservations, which will significantly increase utilization efficiency.

4. OVG plans to build an 850-space garage adjacent to the NASC for parking as part of programmatic requirements of a world class arena, which will also reduce the on-street parking pressure in the Uptown neighborhood during smaller events. The garage will also provide Seattle Center and Uptown Alliance with the flexibility to pursue its Seattle Center NE Quadrant Development at the Mercer Garage site.

NON-MOTORIZED

1. The arena is located in a community served by sidewalks, lighted streets and a simple street grid in every direction, making it highly favorable for walkability.

2. The Lake2Bay Corridor and the reconnection of the street grid near the North SR99 Tunnel Portal are two examples of the City of Seattle investing in a walkable Seattle Center.

3. Bike paths serve the area from all directions, and OVG will build and manage bike parking and valet.