Washington State Convention Center Expansion
Feasibility Study Draft Report
Part Two: Background and Analysis

August 15, 2013

LMN Architecture Urban Design Interiors

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PART TWO- BACKGROUND AND ANALYSIS

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Summary Overview

Feasibility Assignment and Approach

The following overview summarizes the WSCC Expansion Feasibility Study that was conducted in late 2012 and 2013. The study was an update to the Washington State Convention & Trade Center Expansion Feasibility and Workforce Study conducted in 2008. The purpose of the study update was to address feasibility concerns identified by the WSCC for expanded facilities at the CPS site, utilizing the 2008 feasibility work as a starting point. The analysis contained herein was developed utilizing an approach focused on a "fatal flaw" determination of feasibility. The focus of the work was on identifying potential concepts in enough detail to demonstrate basic feasibility. Conversely, concepts that were found to be problematic enough to be considered fatally flawed, were discarded.

Feasibility Concern: convention facilities size and configuration

Exhibit hall size

WSCC staff raised concern that the previous (2008) program goals resulted in insufficient exhibit hall space, and would therefore not serve the state's and region's convention and meeting needs over a 20-25 year planning horizon. Even pushing the exhibit hall floorplate to its maximum practical size at the CPS site would only result in one additional 100,000 square foot exhibit hall and flex space totaling another 100,000 square feet. Despite the 2008 program assumptions - increasing the WSCC's total amount of exhibit space to over 405,000 square feet - market research confirmed that only a very few events per year would utilize both facilities. Therefore, the effective market offering for the WSCC would not be changed significantly by the expanded facilities as envisioned in 2008 on the CPS site, although additional dates would be available.
In order to reach a part of the market not currently served by the WSCC, two exhibit halls in the 150,000 square foot range and total exhibit space of approximately 300,000 square feet was set as the 2012 program goal.

Freight loading (elevator vs. direct drive)

As envisioned in the 2008 configuration, the exhibit space was to be serviced by a series of freight elevators from a loading dock below grade. Although technically feasible, the additional time and cost to exhibitors of utilizing an elevator system would put the facility at a significant competitive disadvantage. As part of the 2012 feasibility study, alternate configurations were pursued which would allow freight to be loaded into the exhibit hall(s) via a direct-drive path.

Feasibility Concern: freight access route(s)

Freight access to the existing facilities, via the James/ Madison off-ramp from I-5 leading to Hubbell Place, is relatively straightforward, and causes minimal impact on downtown traffic. Freight access to the new facilities, in contrast, is highly problematic due to traffic constraints, turning radius needs of trucks and potential access points to the site for freight. The number of viable surface street options is limited and existing peak-hour traffic around the site is very congested, raising the strong possibility of timing restrictions being imposed by the City of Seattle. All indications suggest untenable time restrictions to efficient freight ingress and egress operations, resulting in significant cost challenges to the WSCC and its clients, potentially eroding the center's competitive position in the industry. The feasibility of utilizing the existing freight pathway along Hubbell Place was studied and it was determined that extending Terry Avenue between Pike and Pine Streets offered the potential of a relatively unencumbered freight access route, extending the current truck path and minimizing local traffic disruption. The Terry Avenue Extension would also offer the opportunity of improving the connection between the Pike/Pine neighborhood and downtown while a enhancing the connectivity between the WSCC Expansion and existing WSCC facilities. While this option seems to be technically feasible, significant additional costs and critical path approvals will be necessary to realize this option.

Feasibility Concern: Metro Transit operations

DSTT and I-5 access

The Convention Place Station currently serves as the northern portal for the Downtown Seattle Transit Tunnel

(DSTT) and an access point for Metro Transit bus routes running on the I-5 express lanes. In addition, south-end bus routes utilizing the DSTT are turned around on the CPS site before reentering the tunnel. These transit operations are scheduled to cease at some point between roughly 2016 and 2021, as use of the DSTT is turned over entirely to Sound Transit for the LINK light rail lines. The 2012 feasibility study included the consideration of the physical feasibility of retaining some or all of these transit operations under a reconfigured convention facilities plan.

Bus layover area, passenger and other transit facilities

The feasibility was also studied of including within the reconfigured WSCC facilities plan a layover area for up to 27 Metro buses, passenger facilities for the current Metro routes utilizing the CPS, and other transit facilities currently on the site.

Feasibility Opportunity: additional property for the expansion development

It was determined early in the 2008 planning process that in order to achieve the somewhat limited 2008 program goals, the privately-held parcel in the northeast corner of the overall CPS site (Honda Parcel 4) would need to be acquired. During preliminary investigation of that property, it become clear that other parcels held by the same owner (across Olive and Boren, respectively, from the CPS site) as well as additional adjacent parcels might be candidates for acquisition. The potential availability of that additional property significantly expanded the range of size and configuration options under consideration, as alternatives to the CPS site option.

Overall physical feasibility conclusions of the 2012/2013 Feasibility Study:

1. The development of new convention facilities generally achieving the 2012 Expansion Program Goals of 300,000 square feet of exhibit space, 100,000 square feet of meeting space, a 50,000 – 60,000 square foot ballroom, and appropriately sized support space, is feasible on a site encompassing the CPS and adjacent properties – referred to herein as the CPS Alternate Site.

2. The new facilities can be configured in such a way that direct-drive freight loading to the exhibit halls can be achieved.

3. A freight access path to the new facilities utilizing the current Hubbell Place approach coupled with an extension of Terry Avenue is physically feasible.

4. Metro Transit access to the Downtown Seattle Transit Tunnel and to the I-5 express lanes is physically feasible under the revised convention center configuration, as are passenger facilities for transit routes utilizing the Convention Place Station, a bus layover area for up to 27 busses, and other existing transit functions.

5. Transit operations can be accommodated during the construction of the WSCC facilities, but at a significant incremental cost and impact to the construction schedule. The scope of operations during construction is dependent on the mix of transit operations to be accommodated and on the timing of removal of Metro bus routes from the DSTT as Sound Transit LINK light rail service to the UW and to Northgate is initiated.

6. The addition of the property north of Olive Way (CPS Alternate Site) adds significant opportunity for private co-development as part of the overall project.

Section 1: Background

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CPS Site

Previous Studies

In 2008, the WSCC hired Economics Research Associates (ERA|AECOM) to conduct a preliminary marketplace feasibility analysis to determine if there was a need for a future expansion of the Center. The results of that study concluded that substantial additional market demand exists for space and dates at the center, suggesting that serious consideration should be given to exploring the possibility of an expansion.

Based on the results of the ERA|AECOM research, LMN Architects was engaged to study potential expansion options and project potential construction costs for the preferred option.

Subsequent work showed that the proposed expansion could be financed through the use of existing hotel/motel tax.

The proposed site studied in 2008 is bounded by Olive Way to the north, Boren to the east, Pine Street to the south and 9th Avenue to the west. The majority of the site is currently utilized by King County Metro as the Convention Center Transit Station – accepting buses from the reversible Interstate 5 express lanes exit ramp and providing access to the existing Downtown Seattle Transit Tunnel (DSTT). Buses also use the site as a queuing and holding area, prior to accessing the downtown street system via the ramp at mid-block.

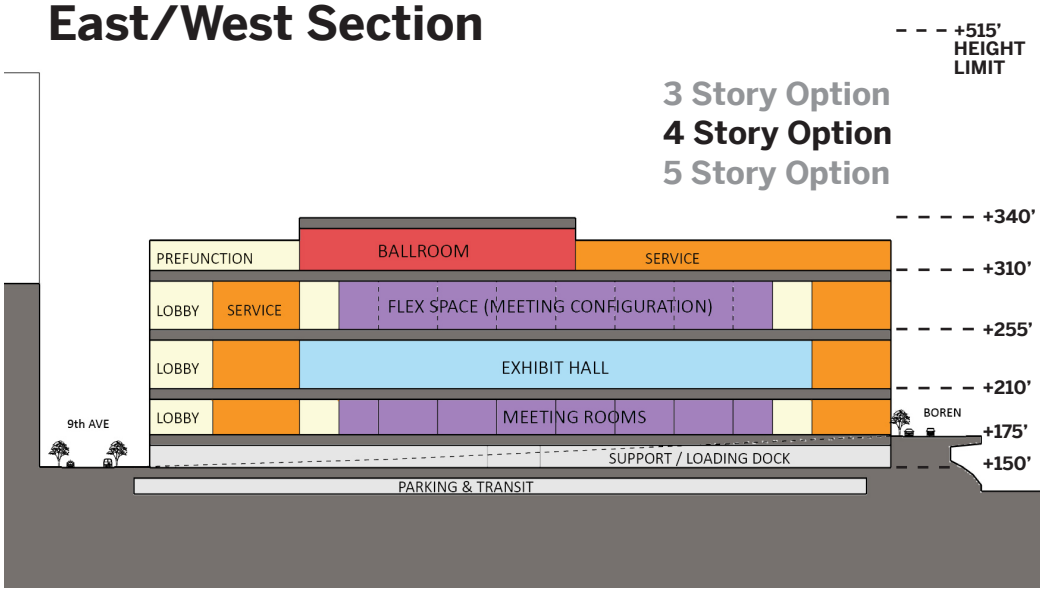
The results of the 2008 site study illustrated a convention center expansion which would have produced 260,000 square feet of net flexible exhibit/meeting room space with a maximum contiguous area of 100,000 square feet each, and a 50,000 square foot ballroom. Service/loading would have occurred on a below grade level (Level +150), with service to the upper levels by multiple freight elevators.

2008 CPS Site Expansion

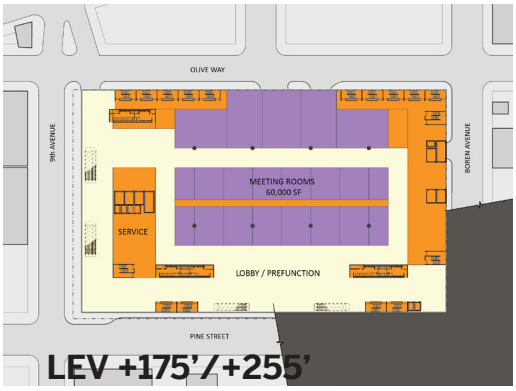
Exhibit Halls	***100,000 sf***
Flex Space	***100,000 sf***
Meeting Rooms	***60,000 sf***
Ballroom	***50,000 sf***
Net Area	***310,000 sf***
Gross Area	***850,000 sf***

Exhibit Hall Service	***Truck and freight elevators***
Truck bays	***14***
Metro	***Tunnel access and full service bus transit station; minimal layover space***

East/West Section

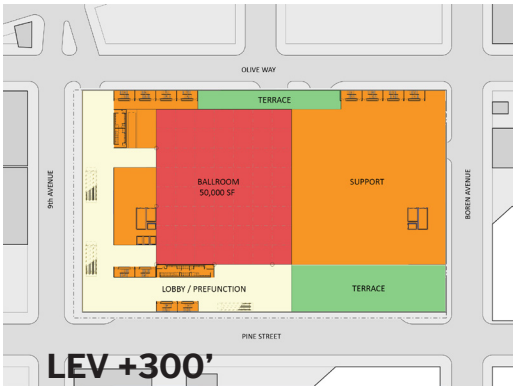


LEV +150'



LEV +175'/+255'

LEV +210'



LEV +300'

2012 Update

It was determined early in the 2008 planning process that in order to achieve even the somewhat limited program goals defined in that study of 100,000 square foot exhibit hall floorplates, the privately-held parcel in the northeast corner of the overall CPS site (Honda Parcel #4 in the diagram below) would need to be acquired. During preliminary investigation of that property, it became clear that Parcel #4 was available, along with others held by the same owner to the north of the CPS site. The potential availability of that additional property significantly expanded the range of size and configuration options under consideration in the 2012 Study. Various combinations of Parcels #1, 2 and 3 were added to Parcel #4, and studied as CPS Alternate Sites.

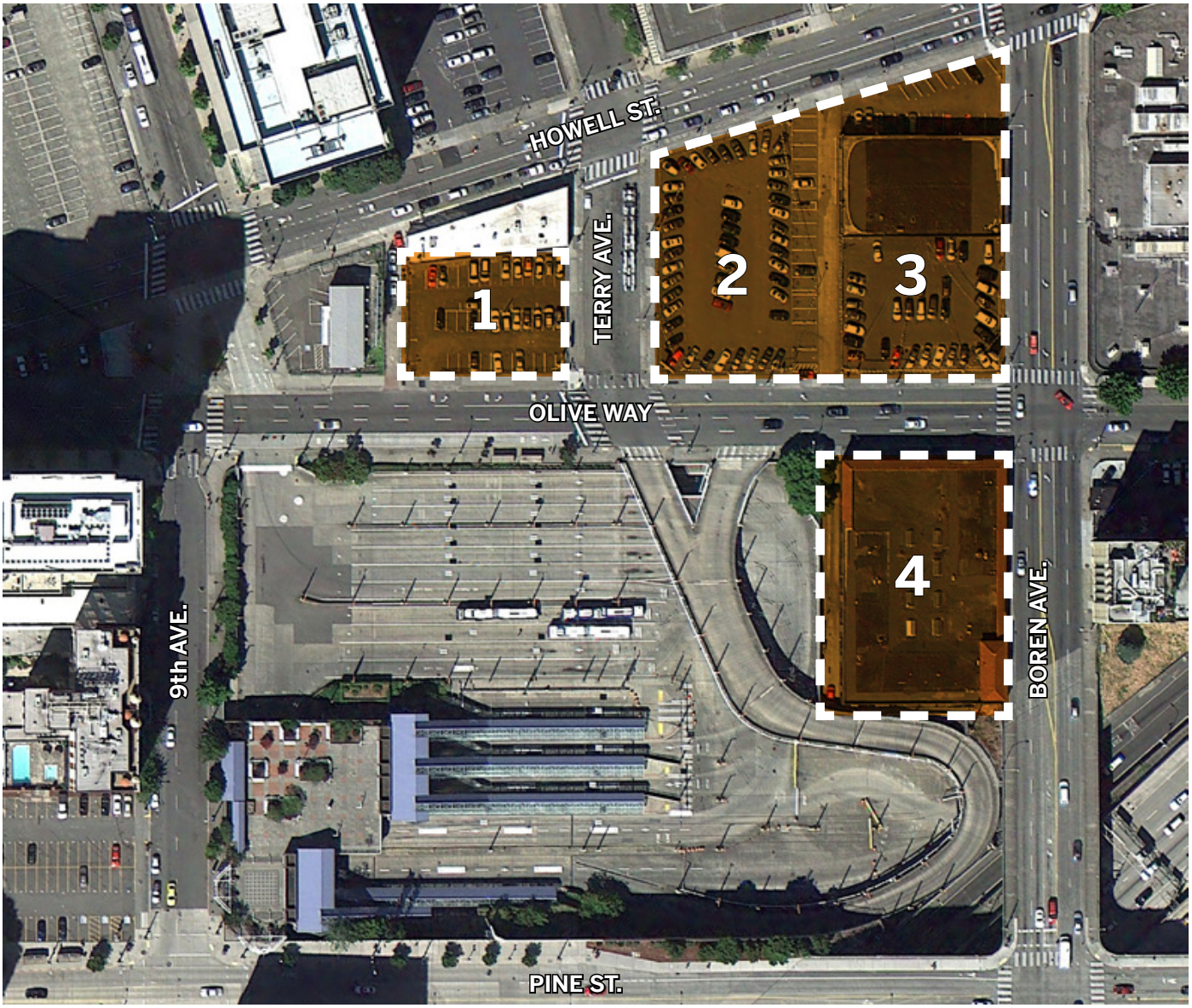
The additional parcels were hoped to offer:

- Increased contiguous exhibition hall floor areas
- Contiguous loading locks
- Bus layover for 27 busses

The larger CPS Alternate Site studied in the updated 2012 study is bounded by Pine Street to the south, 9th Avenue to the west, Boren Avenue to the east and Howard Street to the north. See below.

A range of options were created, each seeking the optimum balance of functional improvements and site area. Each option utilized additional parcels and led to the development of the Preferred Option on the CPS Alternate Site. See Section 6, Site Test Fits.

CPS Alternate Site



Section 2: Site Analysis

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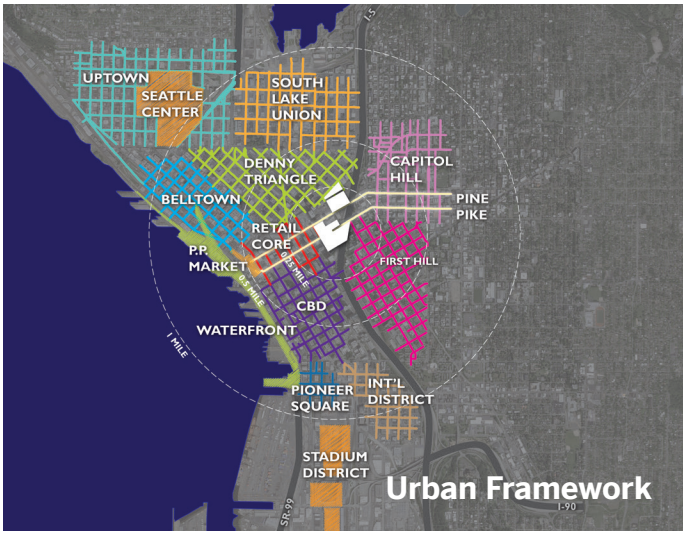
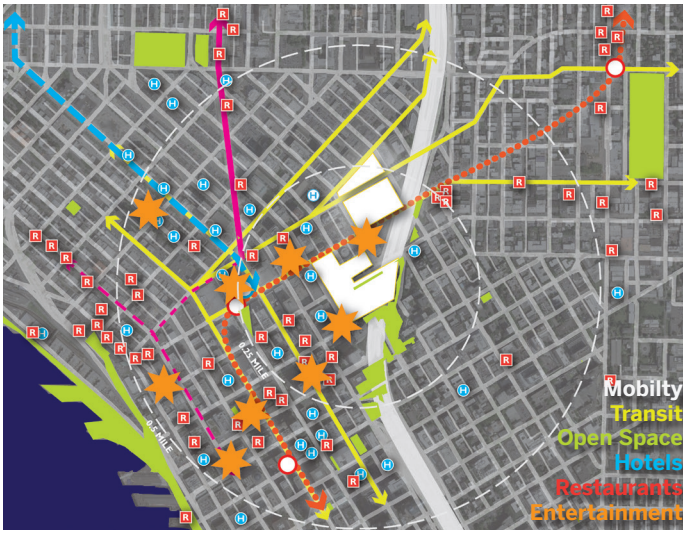
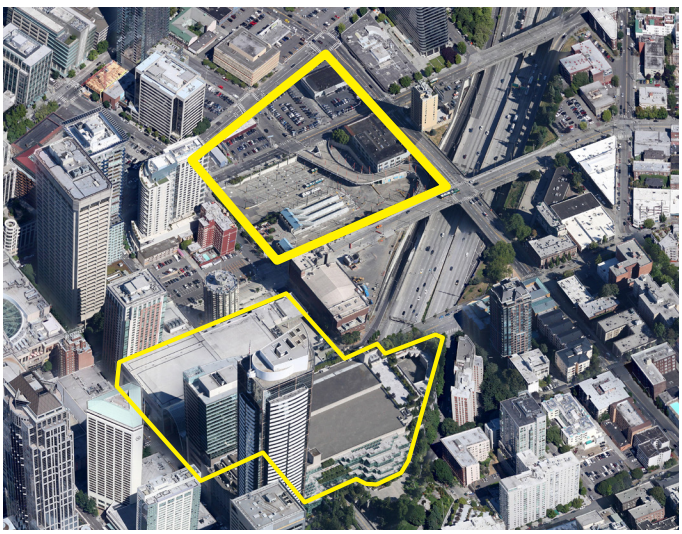






Context

The site of the WSCC Expansion is located at the intersection of Seattle's Retail Core, Central Business District, First Hill and Capitol Hill. The adjacent "Pike/ Pine Neighborhood" is immediately to the east – across Interstate 5. The expansion site is located one block to the north of the existing WSCC.

The expansion site leverages proximity to the existing convention center along with easy walkability to transit, hotels, restaurants and entertainment.

Convention Center District

As urban convention centers continue to expand, it is becoming more and more common that expansion occurs in separate but adjacent facilities. San Francisco's Moscone Center is a good example of a multiple block, multi-facility convention center. This is simply the result of the difficulty associated with assembling and acquiring adequately sized downtown land parcels. In order to be successful, a convention center facility organized across multiple sites must give the delegate the sense of moving through a coherent 'campus', despite being located in a vibrant, active downtown core.

The aerial of the proposed site plan illustrates the 'campus' nature of the WSCC. The existing original convention center is located south of Pike Street, spanning I-5, with the 2001 expansion located directly across the street to the north and connected by two bridges. The proposed expansion site is located one block to the north and one block east at the intersection of Pine Street and Ninth Avenue.

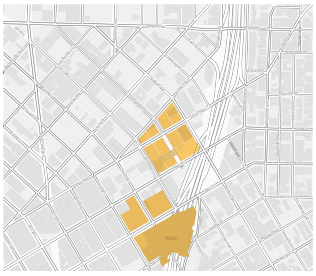
The two facilities must be able to operate independently or together. In either case, from a delegate's viewpoint the two facilities must be integrated into a coherent campus – a convention center district. The most direct connection both visually and physically will be on 9th Avenue – which is designated by the City of Seattle as a Green Street. This will be the primary pedestrian 'corridor' linking the facilities.

Strategies to enhance the cohesiveness of the convention center district should be focused on the pedestrian realm and should include:

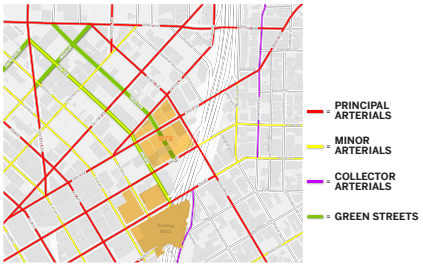
- Enhanced landscape - both hardscape and landscape elements.
- Unified signage and environmental graphics program.
- Strong visual connection and potentially even overhead weather protection.

Street Classifications

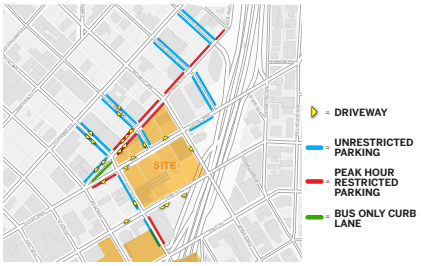
The streets surrounding the WSCC Expansion site provide important linkages in many transportation modes. Each of the east/west streets is a principal arterial and each is a principal transit route. Each of these east/west routes link downtown to Interstate 5 access points. Parking in the immediate vicinity of the site is restricted during peak hours. Bicycles and pedestrians also utilize the surrounding streets.



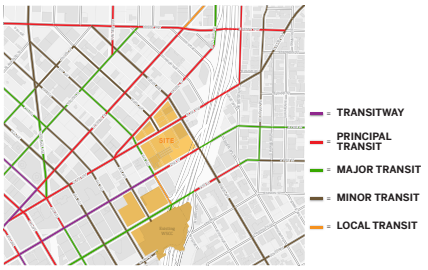
CONVENTION CENTER DISTRICT



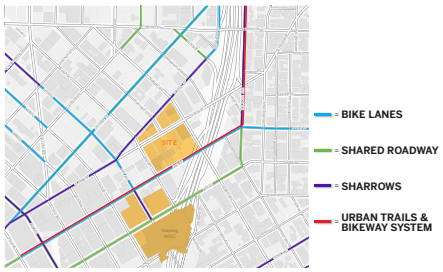
ARTERIAL CLASSIFICATIONS



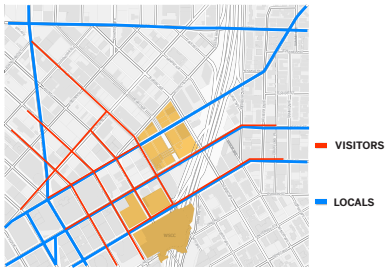
CURB USE & DRIVEWAYS



TRANSIT CLASSIFICATIONS

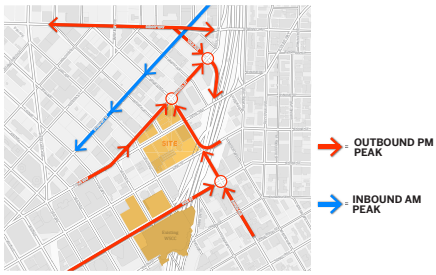


BICYCLE CLASSIFICATIONS

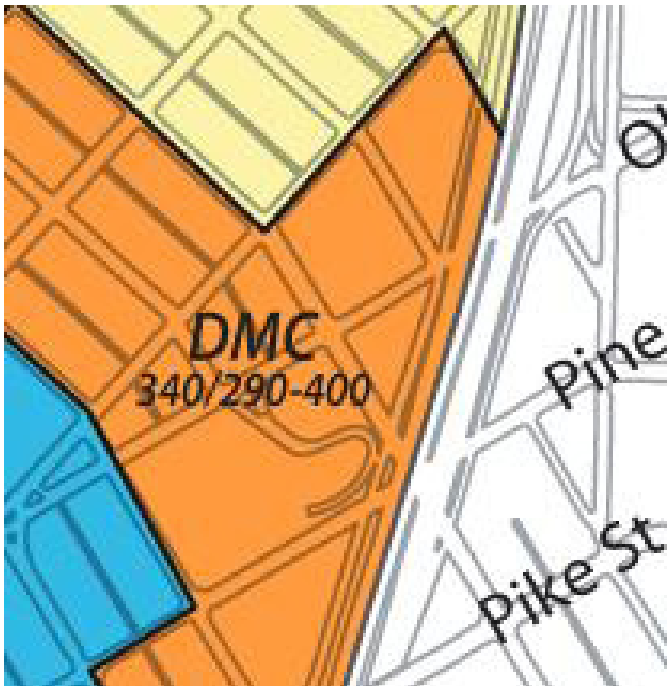


MAJOR PEDESTRIAN MOVEMENT

Interstate 5 has a limited number of access points downtown. The expansion site is located in a very congested traffic district, in the midst of several routes feeding directly into two of those access points.



PEAK HOUR CONGESTION



Zoning Analysis

Location:
Two full city blocks bordered by Olive Way, Pine Street, 9th & Boren Avenue S.

Zone:
DMC 340/290-400 Downtown Mixed Commercial (Land Use Map 1A, 23.49.008)

Structure Height:
340' Non-residential height limit.

Street Façade and Setback Requirements:
Minimum façade height shall be 25'
Maximum setback limit from property line is 15' (exceptions apply)
Façades shall be a minimum of 60% transparent along Pine Street and Olive Way.
Blank Facades shall be no more than 15' wide at street level.
(23.49.056)

Upper Level Façade Stepbacks:
Above 85', all portions of a building within 15' of the property line must be modulated per chart 23.49.058A.
Along 9th Avenue Green Street, the façade must stepback continuously 15' above 45'

Pedestrian Street Classification: (Map 1B and 1G)

9th Ave:	Green Street
Pine Street:	Principal Transit Street/ Class I Pedestrian Street
Olive Way:	Principal Transit Street/ Class I Pedestrian Street
Terry Avenue:	Green Street (vacated on site)

Sidewalk Width: (Map 1C)

9th Avenue:	17' (2' increase for Green Street classification)
Pine Street:	18'
Boren Avenue:	12'
Olive Way:	15' to 18'

Street Level Use Requirements:
Street level uses required on Terry Avenue (vacated) and Pine Street. 75% of street frontage at street level must be occupied by qualified street level uses. Overhead weather protection required the entire length of façade where street level uses are required. (Land Use Map 1h and 23.49.009)

Parking:
Street level Parking is not allowed on Pine Street, Olive Way or 9th Avenue. Parking structures within the site must be either below grade or behind other uses. Parking is limited to 1 stall per 1000'. Where parking is provided it must conform to the standards set forth in section 23.49.019.

View Corridors:
Do not apply (Land Use Map 1d)

Street Trees:
Required on all street abutting the lot per SDOT standards (23.49.076F)

Property Line Façade:
Not required (Land Use Map 1l)

Property Easements (or other Unique Requirements):
The existing Metro Convention Place Transit Station

New Zoning	Base FAR	New max. FAR	New Height Limits
DOC 1	6	20	Non-residential Uses: Unlimited Residential Uses: Base height 450' Height with bonus unlimited
DOC 2	5	14	Non-residential Uses: 500' Residential Uses: Base height 300' Height limit with bonus 500'
DMC 340/ 290-400	5	10	Non-residential Uses: 340' Residential Uses: Base height 290' Height limit with bonus 400'
DMC 240/ 290-400	5	7	Non-residential Uses: 240' Residential Uses: Base height 290' Height limit with bonus 400'

on site must be preserved until at least 2020 and potentially indefinitely. While service to the station may be interrupted by the needs of construction, bus access to and from the Downtown Transit Tunnel must be maintained at all times.

"Floor Area Ratio" (FAR) is the ratio expressing the relationship between the amount of chargeable gross floor area permitted on a particular site and the area of the site. For instance, an FAR of 5 means that the equivalent of five times the site may be constructed on the site. The base FAR in the DMC340/290-400 zone is 5. This area may be increased in bonuses achieved by providing project amenities, as described in the Land Use Code. The maximum allowable FAR on the site, including all bonuses, is 10. Seventy five percent (75%) of the maximum may be achieved through providing project amenities. The remaining twenty five percent (25%) can only be achieved through the purchase of transferrable development rights (TDR's).

Floor Area Ratio (FAR):

Base F.A.R.:	5
Maximum F.A.R.:	10
Site Area at DPD Zoning Maps:	204,034 SF
Achievable Area at Base F.A.R.:	1,020,170 SF
Achievable Area through Bonus F.A.R. (75%):	1,785,298 SF
Achievable Area at Maximum F.A.R.: (Bonus plus TDR Transfer)	2,040,340 SF

Notes:

Rooftop mechanical equipment or penthouses are included in the FAR calculation.

The following uses are exempt from FAR calculations:

- Floor area below grade
- Required Street Level Uses
- Residential Area

Options For Achieving Maximum Area:

LEED Rating And Project Amenities
SMC 23.49.011, SMC 23.49.013

LEED Silver Rating (.50 F.A.R.)	102,170 SF
Green Street (Maximum SF Eligible: 7,000 SF) (Bonus Ratio: 5/1)	35,000 SF
Green Street Improvements (Maximum SF Eligible: Full Street ROW) (Bonus Ratio: 5/1)	128,370 SF
Green Street Setback (Maximum SF Eligible: 10 times length of street) (Bonus Ratio: 1/1)	3,530 SF
Transit Station Access (1 F.A.R.)	204,034 SF

ACHIEVABLE BONUS AREA 473,104 SF
(Through LEED rating and project amenities)
(2.32 Bonus F.A.R.)

BASE PLUS BONUS F.A.R. 7.32

Provided above are some examples of the FAR bonus ratios along with the corresponding floor area increases for several achievable amenity bonuses on the proposed site. This example demonstrates that an FAR approaching 7.5 is very feasible. The FAR value of 7.5 has been used as a design target maximum, as this is the maximum achievable FAR without the purchase of TDR's.

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Section 3: Expansion Building Program

The program targets were initiated out of the 2008 Market Feasibility Analysis prepared by ERA|AECOM as part of the Washington State Convention & Trade Center Expansion Feasibility and Workforce Study. Initial recommendations suggested an expansion of 310,000 net square feet on the CPS site, with multiple floors of flexible exhibit and meeting space, each 100,000 square feet – 2008 CPS Site Expansion below.

The 2012 Expansion Feasibility Study examined the possibility of reconfiguring those same program targets in order to achieve a larger contiguous exhibit hall floor – 2012 CPS Site Expansion.

2008 CPS Site Expansion

Exhibit Halls	*100,000 sf*
Flex Space	*100,000 sf*
Meeting Rooms	*60,000 sf*
Ballroom	*50,000 sf*
Net Area	*310,000 sf*
Gross Area	*850,000 sf*

Exhibit Hall Service	*Truck and freight elevators*
Truck bays	*14*
Metro	*Tunnel access and full service bus transit station; minimal layover space*

2012 CPS Site Expansion

Exhibit Halls	*140,000 sf*
Flex Space	*70,000 sf*
Meeting Rooms	*50,000 sf*
Ballroom	*50,000 sf*
Net Area	*310,000 sf*
Gross Area	*850,000 sf*

Exhibit Hall Service	*Truck and freight elevators*
Truck bays	*14*
Metro	*Bus layover for ~27 buses, tunnel access for service/ emergency vehicles*

In addition to updating the 2008 program targets, the 2012 Expansion Feasibility Study also looked carefully at the potential impact to the expansion program of expanding the site to the north to include the Honda Parcels, including the ability to achieve a larger and more competitive building program. The larger site is referred to herein as the CPS Alternate Site The program goals for the 2012 Expansion project on the CPS Alternate Site are described below. The actual area which was achieved in conceptual layouts actually exceeded those targets slightly, producing larger contiguous exhibition halls and increased meeting area – see 2012 Expansion Concept, below.

2012 Expansion Program Goals

Exhibit Halls	*300,000 sf*
Meeting Rooms/ Flex Space	*100,000 sf*
Ballroom	*60,000 sf*
Net Area	*460,000 sf*

Exhibit Hall Service	*Truck and freight elevators with truck ramps*
Truck bays	*30*
Metro	*Bus layover for ~27 buses, tunnel access for service/ emergency vehicles*

2012 Expansion Concept

Exhibit Halls	*310,000 sf*
Meeting Rooms	*135,000 sf*
Ballroom	*50,000 to 60,000 sf*
Net Area	*500,000 sf*
Gross Area (not incl. Metro areas)	*1,230,560 sf*

Exhibit Hall Service	*Truck ramps with freight elevators*
Truck bays	*30*
Metro	*Bus layover for ~27 buses, tunnel access for service/ emergency vehicles*

Section 4: Freight Access

Section 4: Freight Access

There are two distinct issues related to convention center freight movement – the internal movement of freight within the facility and access to the site for trucks delivering that freight. Each issue is discussed separately below.

Internal Freight Movement

The 2008 CPS Site Feasibility analysis suggested that the site area was not adequate to accommodate a conventional full sized loading dock adjacent to a large (at least 100,000 sf) exhibit hall.

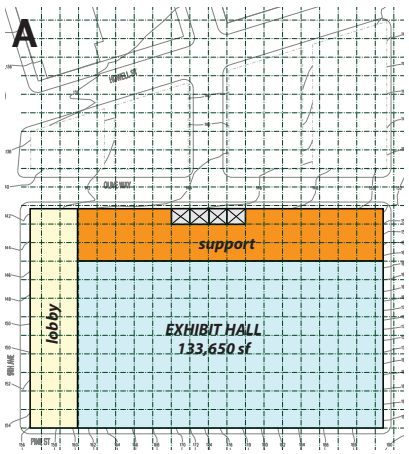
The result was a configuration of multiple, flexible meeting and exhibit hall floors of 100,000 square feet each, with a below grade loading dock, servicing the upper floors via multiple large freight elevators. As the Honda parcels to the north of the CPS Site were considered, a full range of truck access options became possible, ranging from freight elevators, truck ramps and conventional loading docks.

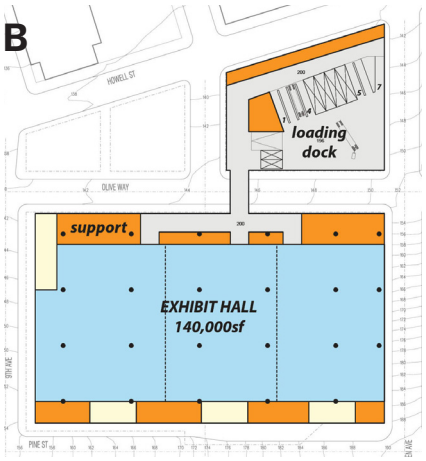
Several options were investigated utilizing truck-sized freight elevators in three site configurations:

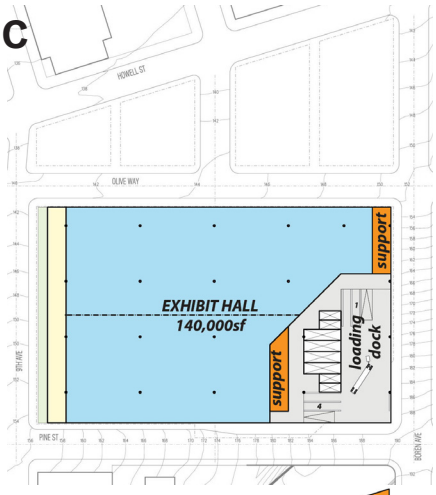
- CPS Site only. (A)
- CPS + Honda Parcel north of Olive Way and east of Terry Avenue (Northeast portion of the CPS Alterate Site) (B)
- CPS + both Honda Parcels north of Olive Way (CPS Alternate Site) (C)

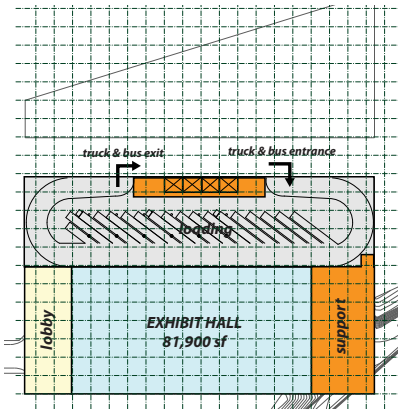
The intent was to determine the largest achievable combined upper and lower exhibit hall footprint in relation to the site footprint utilized.

Exhibit Hall Options - Truck Elevators

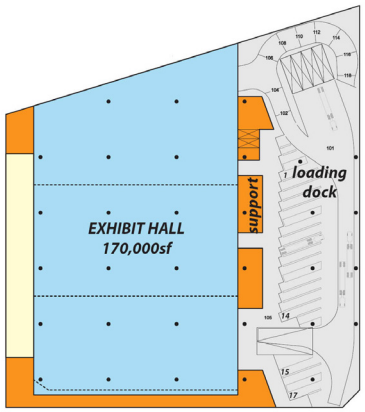




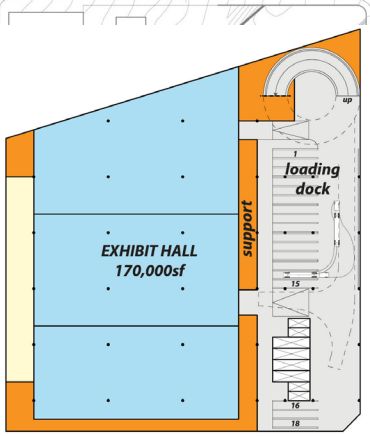




CPS Site



Partial CPS Alternate Site



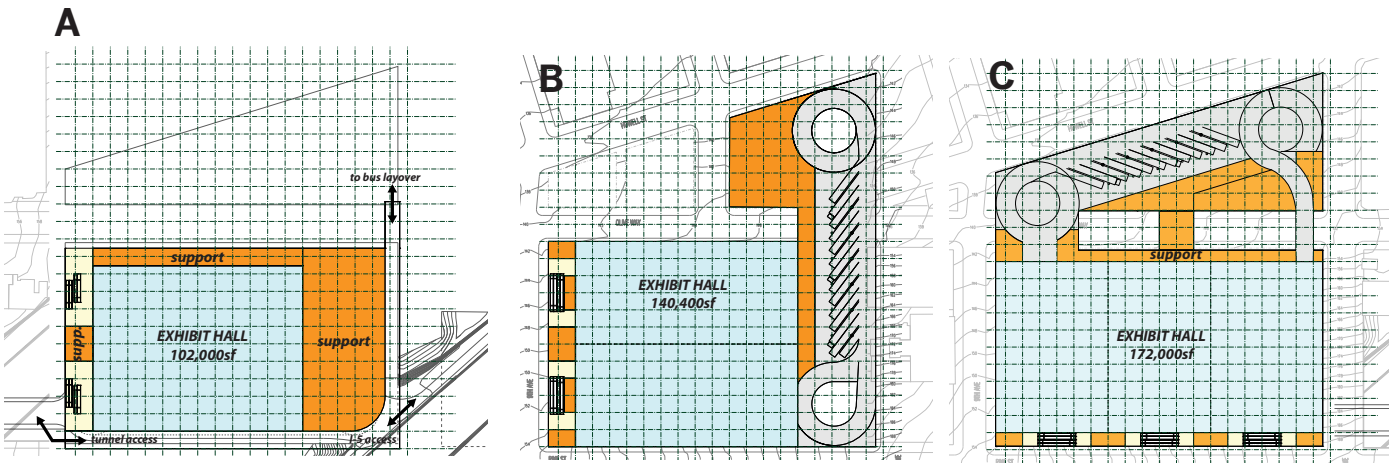
Full CPS Alternate Site

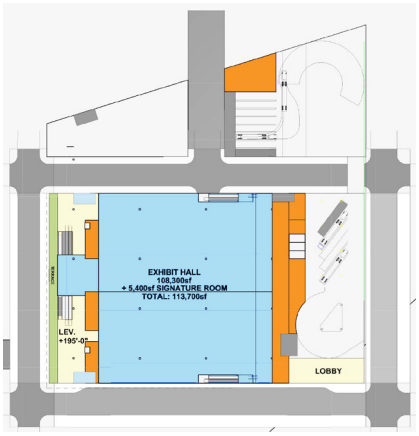
LMN

In similar fashion, options were investigated utilizing truck ramps for internal truck circulation and servicing in three site configurations:

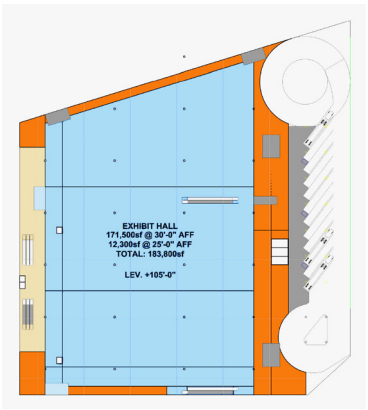
- CPS Site only. (A)
- CPS + Honda Parcel north of Olive Way and east of Terry Avenue (Northeast portion of CPS Alterate Site) (B)
- CPS + both Honda Parcels north of Olive Way (CPS Alternate Site) (C)

The benefit to the project of the increased area of the CPS Alternate Site is the ability to increase the length of the site perimeter which then affords the possibility of a conventional loading dock with potential locations along the north or east edge. To minimize the amount of street cover, particularly over Olive Way, the preferred location for the loading dock was deemed to be the eastern edge, with truck ramp access to the upper level exhibit hall and access at every level via freight elevators.

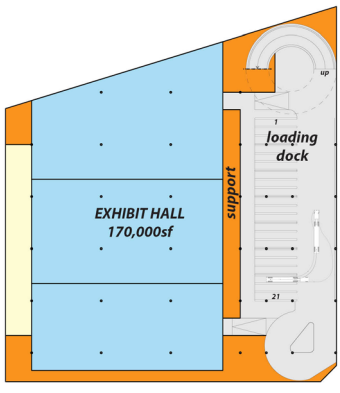




CPS Site



Partial CPS Alternate Site



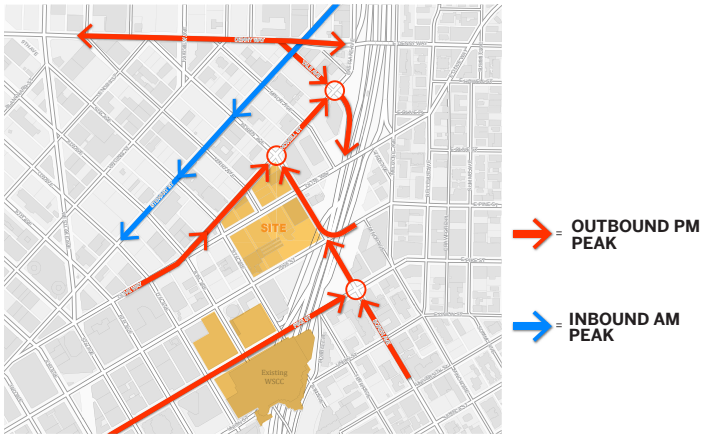
Full CPS Alternate Site

Truck Access to the Site

Interstate 5 has a limited number of access points through downtown Seattle and the CPS site is bounded by several streets which provide peak commuter access to I-5 on and off ramps. In fact, some of Seattle's most congested peak hour intersections are at or near the site.

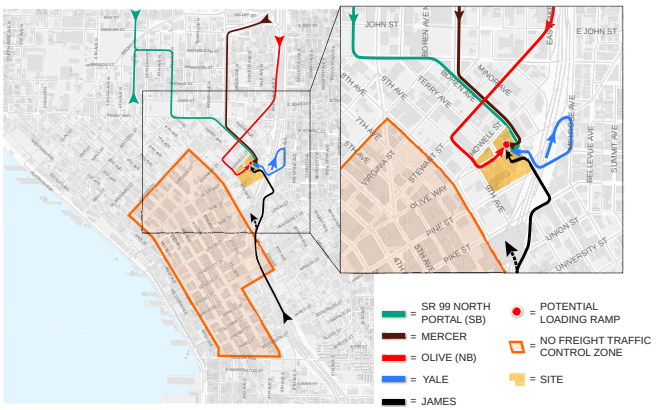
Truck access is a significant concern which, if not adequately addressed, could impact the overall long-term success of the facility. A 300,000 square foot exhibit hall is expected to generate on the order of 215-220 truck trips over the course of the three day long move-in period and again at move-out. At peak times, trucks could be moving in and out of the site with a frequency of 15 trucks per hour – or one every 4 minutes.

A number of potential truck access routes were evaluated for both inbound and outbound traffic, all demonstrating significant truck access concerns (below).

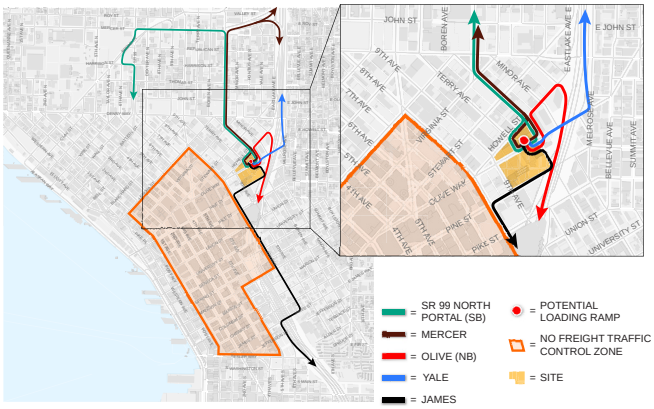


PEAK HOUR CONGESTION

Inbound Truck Access Analysis



Outbound Truck Access Analysis



Two approaches were identified for addressing truck access to and from the project site:

- An approach which would add new infrastructure, creating a new truck path to and from the site which would reduce the convention center's contribution to existing traffic congestion – The Terry Street Extension.
- A thorough investigation of all possible surface routes, with an analysis of expected travel times and route feasibility.

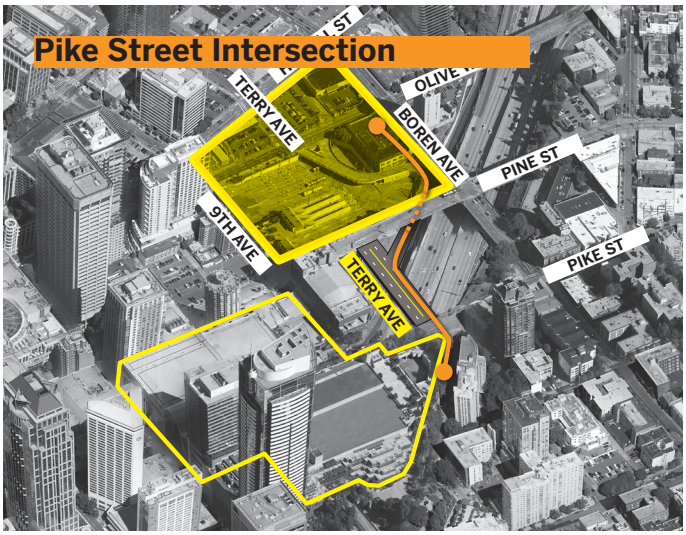
Terry Avenue Extension

Given the difficulties of accommodating truck movement in the intersections around the site and the general level of traffic congestion in the immediate area surrounding the site, alternative solutions for truck access were studied, resulting in the Terry Avenue Extension option.

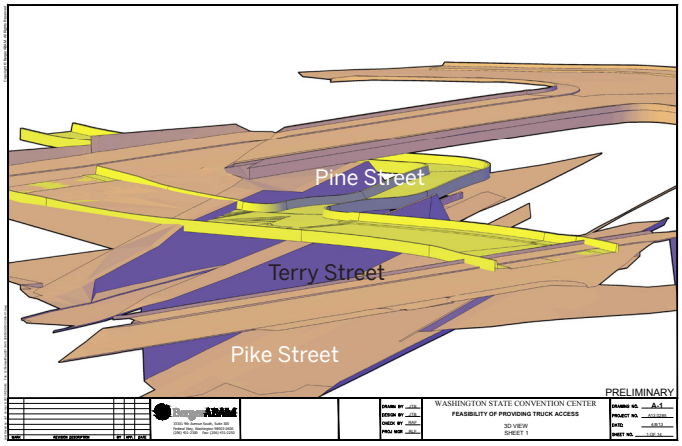
Freight access to the existing convention center occurs along Hubbell Place, to the east of the existing convention center. The Terry Avenue Extension has the operational benefit of continuing the existing truck route, reducing confusion amongst truck drivers as to the route to the various convention center components.

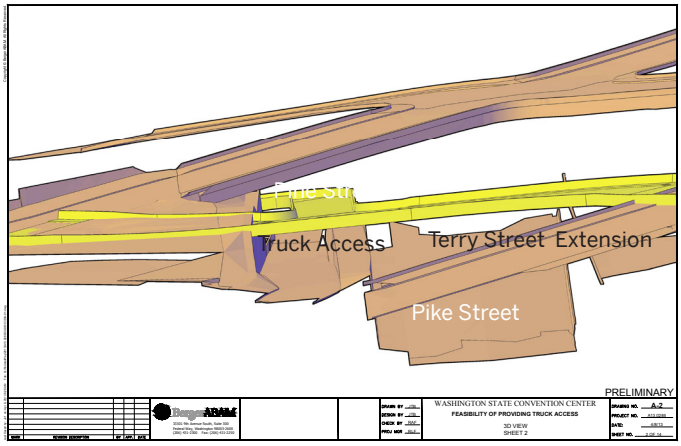
The Terry Avenue Extension would route trucks along the eastern edge of the existing convention center, on Hubbell Place. Trucks proceeding to the expansion would continue past the existing loading dock entrance and continue to a new signaled intersection at Terry Avenue and Pike Street. Trucks would then continue across Pike Street and on to the Terry Avenue Extension, proceeding to the entrance ramp for the expansion loading dock. Trucks would then continue on the loading dock access ramp, located above the I-5 HOV lane access ramp, cross under Pine Street and continue ramping down the exhibit hall/loading dock level at elevation +105 (20 feet below existing grade at the CPS site). Trucks would exit the facility on the same path continuing the route that they use today.

The preferred option, extending the existing Terry Avenue right-of-way to the north provides a new city street - improving the link between the Pike/Pine Neighborhood and downtown while allowing trucks to access the site with only one street crossing - at Pike Street. The extension of Terry Avenue across I-5 also presents an opportunity to extend the I-5 cover to the east, creating a Park Lid over the freeway. This option is technically feasible, but is currently not included in the convention center budget.

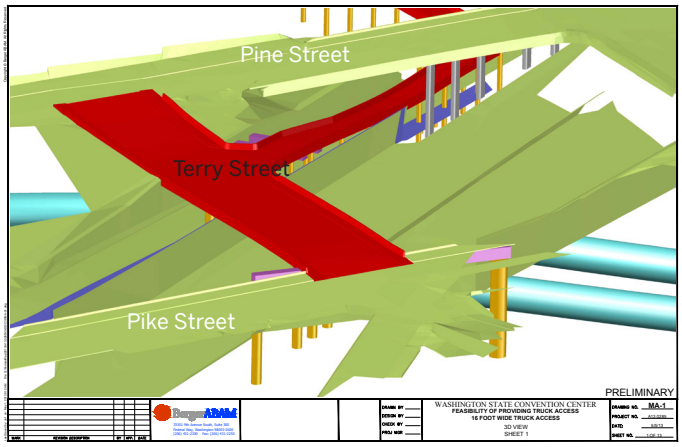


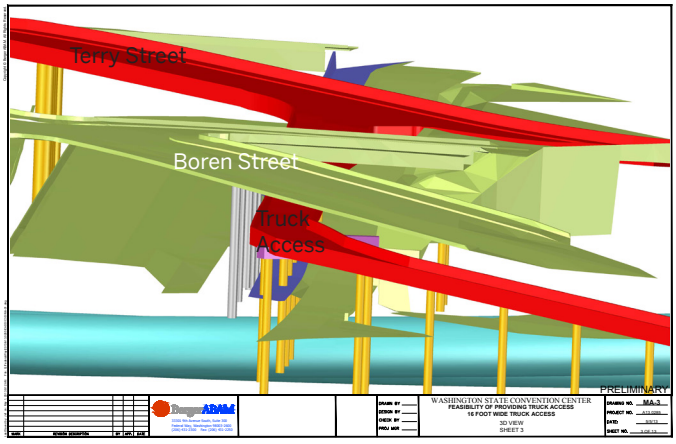
Initial studies were conducted to test the feasibility of the basic geometries and to test clearances.





Structural depths and column locations were then tested, along with the analysis of clearance with the new below-grade Sound transit tunnel, as illustrated below.





The project cost for the Terry Avenue Extension is projected to be in the range of $47-63 million.

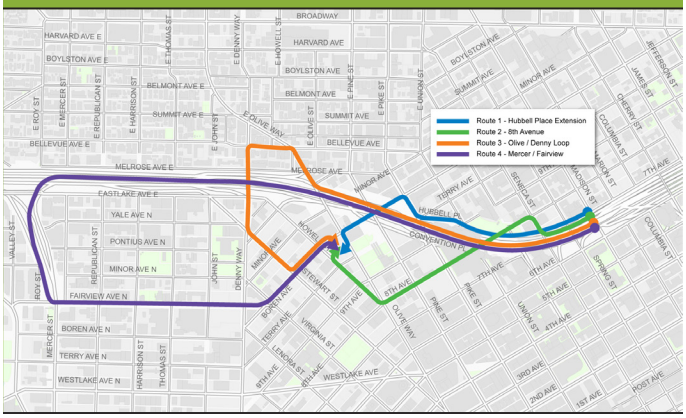
Surface Street Options

Following a thorough investigation of potential surface truck routes, four potential routes were identified.

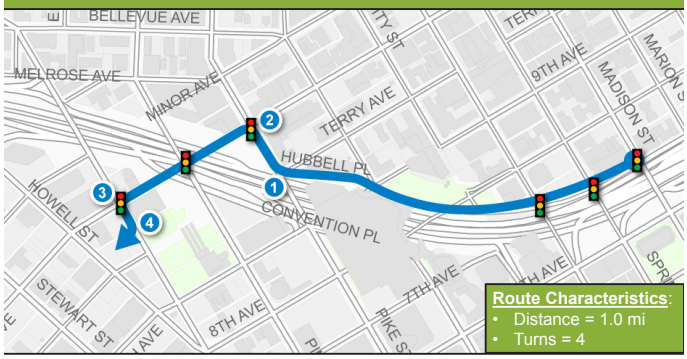
Criteria used to evaluate these routes include:

- Distance (including the distance on the freeway)
- Number of Turns
- Truck Turning Path Viability
- Off-Peak Travel Time
- PM Peak Period Travel Time

Inbound Surface Route Options

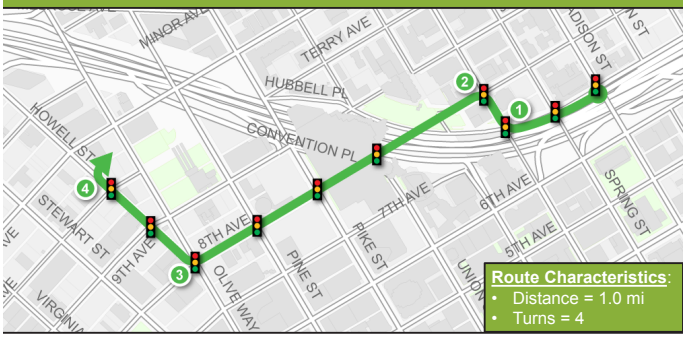


Route 1 – Hubbell Place Extension



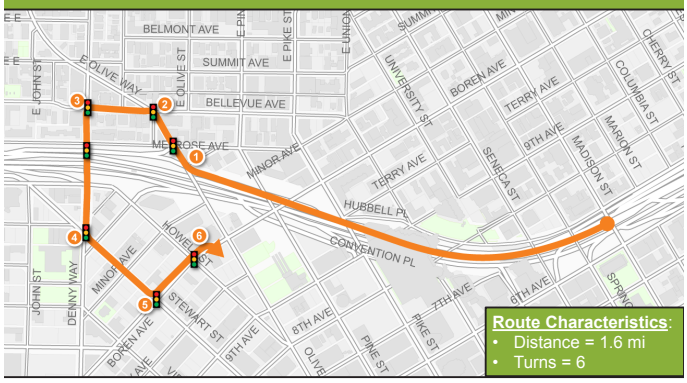
Route Characteristics:
- Distance = 1.0 mi
- Turns = 4

Route 2 – 8th Avenue



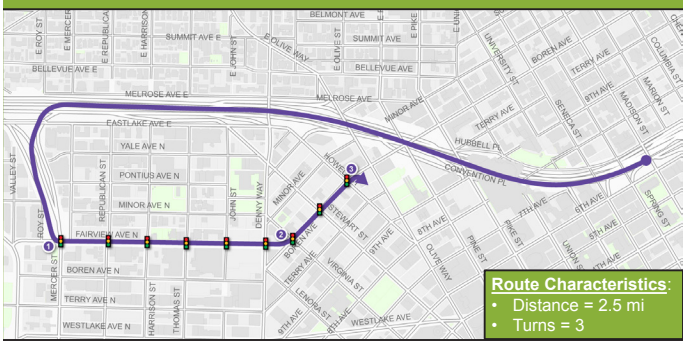
Route Characteristics:
- Distance = 1.0 mi
- Turns = 4

Route 3 – Olive / Denny Loop



Route Characteristics:
- Distance = 1.6 mi
- Turns = 6

Route 4 – Mercer / Fairview



Route Characteristics:
- Distance = 2.5 mi
- Turns = 3

Other considerations include:

- Variance of Traffic Congestion – observed variability of comparative analysis – day by day/ event by event
- Outbound Surface Congestion on Howell to Yale has negative affect on all options
- The number of additional trucks in the system –
  - 70 to 120 trucks per day (peak move in/move out)
  - 10 – 15 trucks per hour added to surface streets
  - Average of 1 truck every 4-6 minutes arriving and leaving the site.
- At peak - the impacts of trucks is substantial. The potential of intersection blockage in the event of an incomplete turning movement is very significant.

When evaluation criteria was applied to each site, the initial analysis eliminated Routes 2 and 3 from consideration.

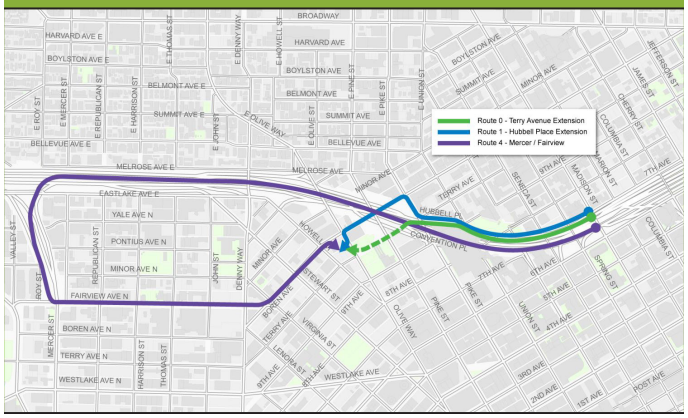
Further analysis was conducted on Options 1 and 4 and The Terry Avenue Extension was added to the evaluation, as Option 0. While each of these options has a different inbound route configuration, the Mercer/Fairview Option 4 does not work outbound due to the inability of the truck to negotiate the outbound turning maneuvers. Therefore, Options 1 and 4 share the same outbound route configuration – Howell to Yale - while Option 0 would utilize the outbound route across the Terry Avenue Extension to Pike to Hubbell, joining the existing outbound truck route from the existing convention center.

In an attempt to provide relative analysis between the anticipated travel times of the routes, each route was driven in an automobile multiple times over the course of a single day and the average times recorded for each route – inbound and outbound/ peak and off-peak. It is recognized that a truck can expect significantly longer travel times than an auto, as merging and completing turning maneuvers will be much more difficult in a truck. Therefore, the value of the travel time data should be thought of as a relative scale – Option to Option - rather than an accurate prediction of truck travel times.

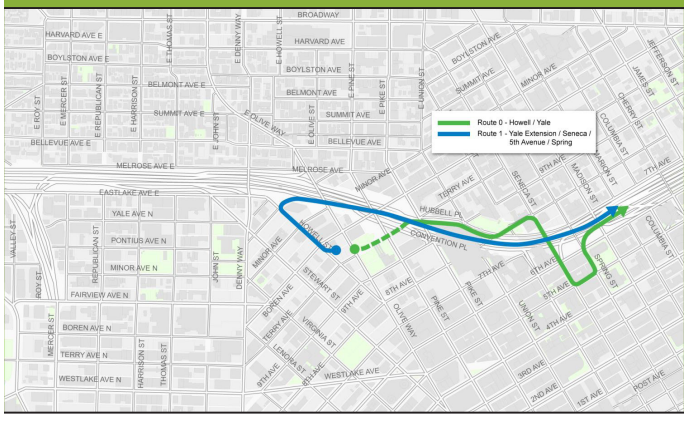
Summary observations of the above analysis include:

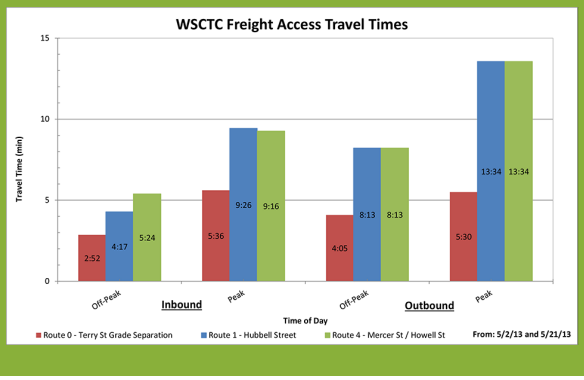
- Terry Avenue Extension recorded about half the travel time of Routes 1 and 4 – both inbound and outbound.
- Routes 1 and 4 reflect similar times inbound.
- The outbound Routes 1 and 4 show significant delays, particularly during the PM peak hours. Actual delays will be significantly worse due to internal ramp delays and the difficulty for large trucks to enter the standing traffic queues on Howell Street.

Inbound Surface Route Options



Outbound Surface Route Options





There is significant risk that in contributing to an already congested traffic condition, restricted hours of operation may be placed on the convention center. Below is the projected desired truck capacity and flow to the loading dock, assuming a 300,000 square foot show in the exhibit hall. This illustration projects the number of trucks expected hour by hour / day by day over the 3 day move-in and move-out periods. Peak hours have been highlighted in bold boxes and truck flow at capacity has been highlighted in red.

BASELINE CONDITION - DESIRED CAPACITY/FLOW

	Move-in Day 1	Move-in Day 2	Move-in Day 3	Show Day	Show Day	Show Day & 4pm Move-out	Move-out Day 2	Move-out Day 3
6:00 AM	5	5	2				10	
7:00 AM	5	10	10			2	10	5
8:00 AM	5	**15**	5	1	1	2	**DOCKS FULL	5
9:00 AM	2	5	5			2	5	10
10:00 AM	2	**15**	10	1	1	10	10	5
11:00 AM	2	5	5			2	5	5
12:00 PM	1	5	5	1	1		5	
1:00 PM	1	**15**	**15**			2	**15**	5
2:00 PM	10	5	5	1	1	2	3	10
3:00 PM	2	**15**	1			**18**	**15**	1
4:00 PM		5	1	1	1	5	10	1
5:00 PM		10	1			**DOCKS FULL	5	
6:00 PM		5				5	5	
7:00 PM		5				**15**		
8:00 PM						5		
9:00 PM								
10:00 PM								
11:00 PM								47
	35 trucks	**120 trucks**	**65 trucks**			**70 trucks**	**98 trucks**	**47 trucks**

15 TRUCKS PER HOUR = 1 TRUCK EVERY 4 MINUTES

PEAK HOURS

BASELINE CONDITION - DESIRED CAPACITY/FLOW

	Move-in Day 1	Move-in Day 2	Move-in Day 3	Show Day	Show Day	Show Day & 4pm Move-out	Move-out Day 2	Move-out Day 3
6:00 AM	5	5	2				10	
7:00 AM	5	10	10			2	10	5
8:00 AM	5	**15**	5	1	1	2	**DOCKS FULL	5
9:00 AM	2	5	5			2	5	10
10:00 AM	2	**15**	10	1	1	10	10	5
11:00 AM	2	5	5			2	5	5
12:00 PM	1	5	5	1	1		5	
1:00 PM	1	**15**	**15**			2	**15**	5
2:00 PM	10	5	5	1	1	2	3	10
3:00 PM	2	**15**	1			**18**	**15**	1
4:00 PM		5	1	1	1	5	10	1
5:00 PM		10	1			**DOCKS FULL	5	
6:00 PM		5				5	5	
7:00 PM		5				**15**		
8:00 PM						5		
9:00 PM								
10:00 PM								
11:00 PM								47
	35 trucks	**120 trucks**	**65 trucks**			**70 trucks**	**98 trucks**	**47 trucks**

15 TRUCKS PER HOUR = 1 TRUCK EVERY 4 MINUTES
POTENTIAL RESTRICTED HOURS

To assess the impact of potential restricted hours during the PM peak period, the same information has been illustrated above, with the hours within the potentially restricted period highlighted in gray. If truck traffic were to be restricted, the truck traffic during those hours would have to be accommodated after the peak hours - extending the loading period – or pushed to the next day – adding an additional day to move-in and move-out. As either condition would increase the costs to an exhibitor, the competitive position of the convention center relative to its peer facilities is potentially at risk, were restricted hours to be imposed on the operations of the facility.

The convention center is an unique facility in downtown Seattle, and there is no precedent example that has the same dependence on the smooth flow of freight to and from the facility. The closest precedent would be downtown construction sites, where the delivery of materials results in a high frequency of truck deliveries. There are many examples of downtown construction projects which have operated under restricted hour access conditions, particularly in the PM peak hours. Therefore, restricted hours must be considered as a real possibility in all surface route options.

In summary, surface route options seem viable, though any option seems likely to result in a restriction of operating hours during the peak afternoon hours.

Section 5: Metro Access Considerations

Section 5: Metro Access Considerations

Overview

The following analysis described Metro's desired site program for inclusion in the Washington State Convention Center Potential Facility Expansion on the Convention Place Station (CPS) site. The "CPS Alternate Site" refers to this general location of a site study in downtown Seattle incorporating the CPS site and analysis of additional parcels to the north.

Since the construction of the Downtown Seattle Transit Tunnel (DSTT), the CPS site has been its northern terminus. As the DSTT northern portal, the site currently provides a number of important access and infrastructure functions that support bus operations throughout the tunnel, including street, I-5 and tunnel access, bus layover and passenger facilities.

Since May 2009, the DSTT has been operating with both buses and light rail trains. The Downtown Seattle Transit Tunnel (DSTT) is currently being expanded to the north, as part of the implementation of LINK - the light rail system extension to the University of Washington. LINK is expected to be operational in 2016 and at that time the number of light rail trains in the tunnel will increase. As light rail ridership and the frequency of light rail trains increase, the number of buses in the tunnel is expected to decrease, potentially removing buses from the tunnel all together by 2021, when the light rail system is expected to be further extended to Northgate. Therefore, there are three CPS Site conditions that must be considered in the analysis of transit related requirements on the site:

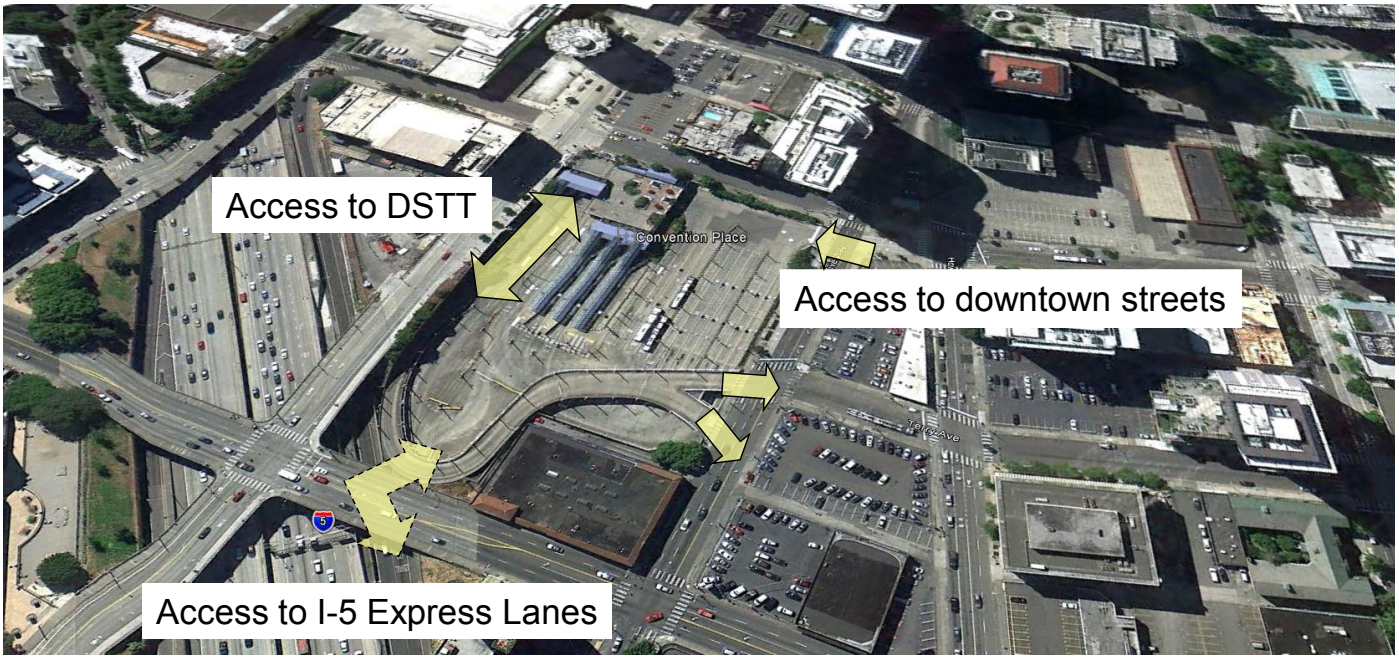
- The Current Condition.
- 2016-2021 – when additional light rail trains serve the University of Washington
- Post 2021 – when buses no longer access the tunnel.

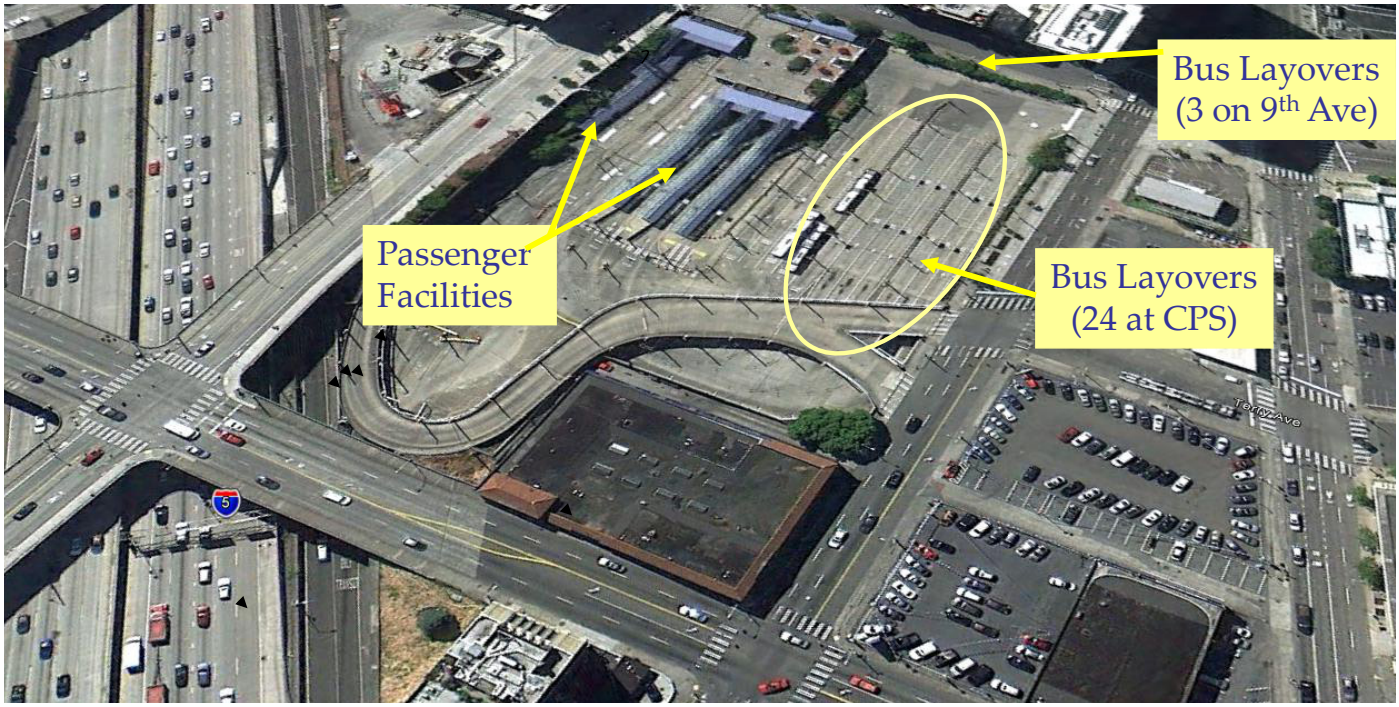
Transit Access

The CPS site currently provides access to and from the Downtown Seattle Transit Tunnel (DSTT), to and from city streets and to and from (depending on time of day) the reversible Interstate 5 express lanes. During peak hours, 60 buses per hour enter and depart the DSTT via the north tunnel portal at the CPS site.

In 2016, access to the site from the reversible Interstate 5 express lanes is no longer required. At that point, commuter access from the north will be provided via light rail.

Sometime between 2016 and 2021, as light rail traffic ramps up to high capacity, bus access to and from the DSTT will no longer be accommodated and the tunnel access point at the CPS will be "sealed".





Bus Layover

Bus layover provides an area where buses can be parked and staged between morning and afternoon peak hours or during periods where they are changing routes. The northern half of the CPS site is currently devoted to bus layover for 24 buses. Additional bus layover area for three buses is provided along 9th Avenue. In addition, south end bus routes utilizing the DSTT are turned around on the southern portion of the site before reentering the tunnel.

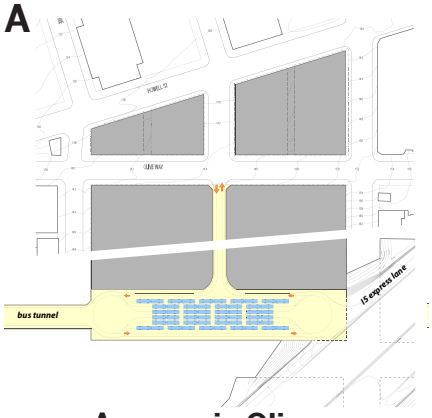
Bus layover for 27 buses has been considered in the planning of the WSCC expansion on the CPS site, independent of bus access to the DSTT. This would occur below-grade at the floor level of the existing CPS station – elevation +125 – allowing the potential of access to and from I-5 and to and from the DSTT, should either of those access routes prove desirable. The bus layover area would connect to surface streets via an on-site ramp.

Bus Layover configurations studied on the CPS Alternate Site included three options:

- Access via Olive. This option (A) would configure space for 27 buses along the southern edge of the site, with access to and from I-5, DSTT and surface streets via Olive Way at mid-block. This option impacts the ceiling height in the exhibit hall under the ramp.
- Access via Howell. There are two options which would provide bus layover with surface street access via Howell.
  - The first option (B) would "stack" the bus loading area above the loading dock along the eastern edge of the site. This option takes advantage of the "high-bay" space in the loading dock and therefore has no vertical interference with the exhibit hall. This option was chosen as the "Preferred Option".
  - The second option (C) would locate the bus layover on the parcels north of Olive Way. This option would impact the ceiling height in the exhibit hall.

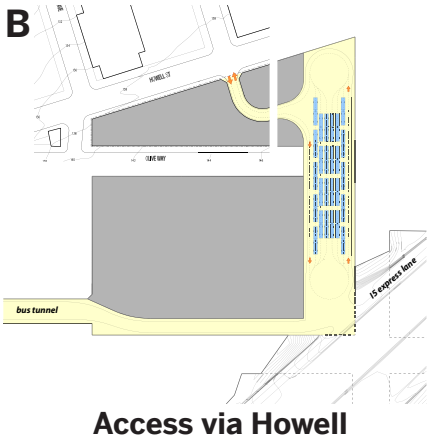
Each option is illustrated below.

A



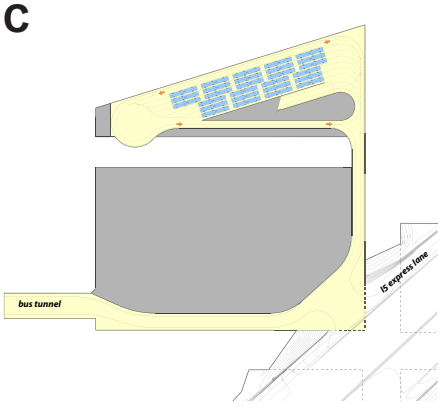
Access via Olive

B



Access via Howell

C



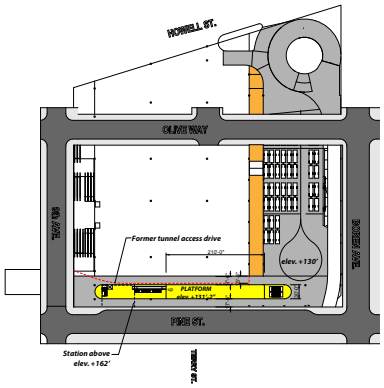
Access via Howell

Passenger Facilities

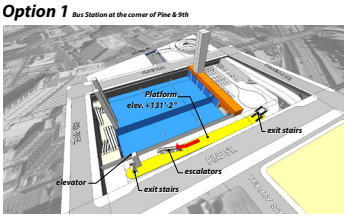
Passenger facilities are currently located on site serving bus lines entering and exiting the DSTT at the north tunnel portal.

Passenger facilities are only required with bus access, so this requirement changes over time – becoming unnecessary after 2021. The amount of site currently devoted to the existing passenger station has a detrimental effect on the exhibit hall footprint. As a result, multiple options were considered that consolidated the space required for the passenger station, as well as integrating circulation through the convention center at street level.

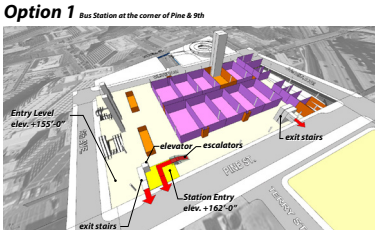
Option 1 *Bus Station at the corner of Pine & 9th*



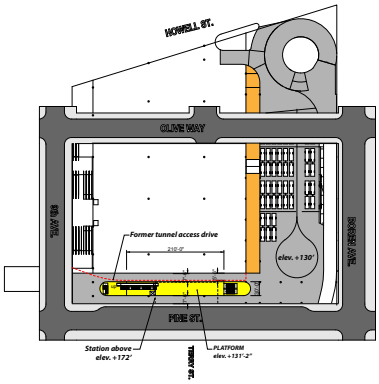
Option 1 Bus Station at the corner of Pine & 9th



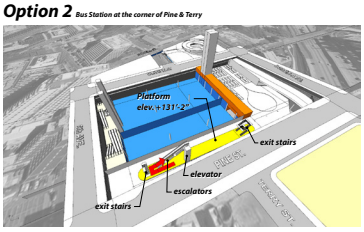
Option 1 Bus Station at the corner of Pine & 9th



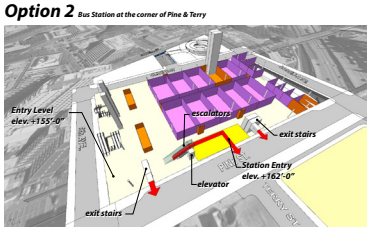
Option 2 *Bus Station at the corner of Pine & Terry*



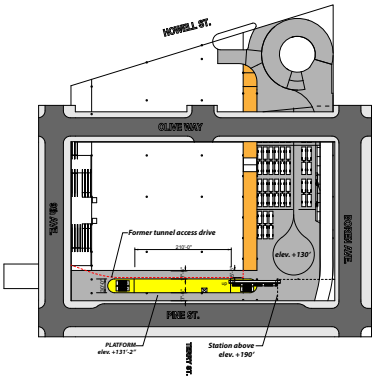
Option 2 Bus Station at the corner of Pine & Terry



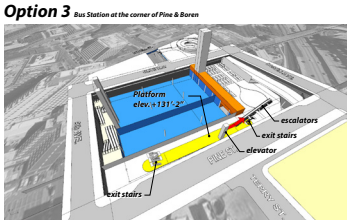
Option 2 Bus Station at the corner of Pine & Terry



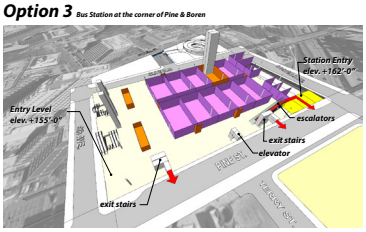
Option 3 *Bus Station at the corner of Pine & Boren*



Option 3 Bus Station at the corner of Pine & Boren



Option 3 Bus Station at the corner of Pine & Boren



Each of the options illustrated above, places the passenger station along the southern edge of the site. Access at street level would occur along Pine Street. The variable in the options is the placement of the Station Entry at street level. Option 1 places the entry on the western edge of the site, closest to 9th Avenue, Option 2 places the entry mid-block at Terry Avenue and Option 3 places the entry closest to Boren, on the eastern edge of the site.

Conceptual budget estimates were prepared for the proposed passenger station. Using a similar level of amenity and finish to other existing bus tunnel passenger stations, order of magnitude cost estimates suggest that a project cost budget for the passenger station should be $29 million.

As phasing options were prepared and analyzed, an additional passenger station option was created which would locate a more modest passenger station on the bus layover level with passenger access to Olive Way. Refer to Section 8, Cost and Schedule Projections, Phasing Option 1.

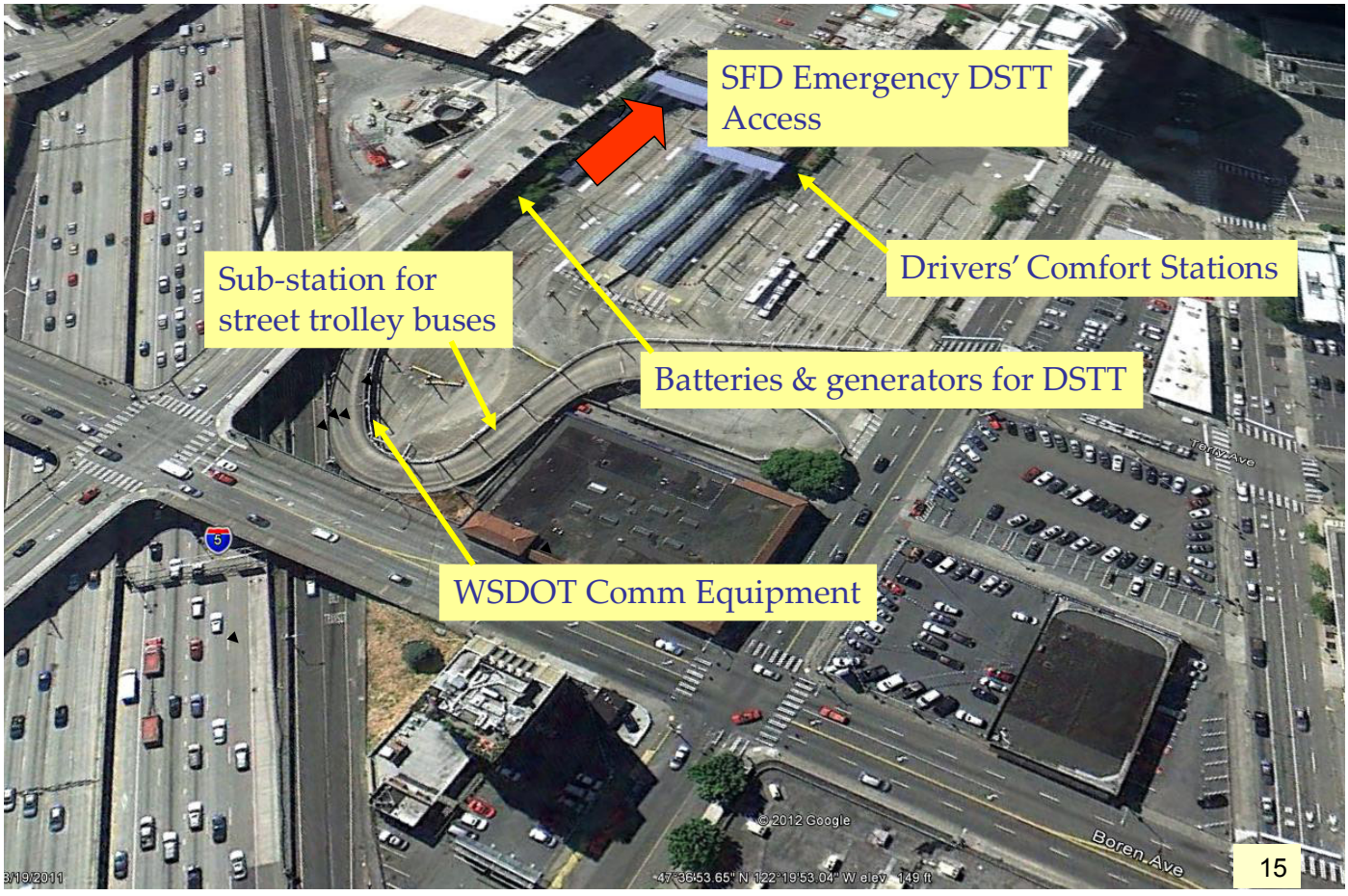
Other Existing CPS Functions

In addition, there are a number of transit related infrastructure components located on the site including:

- Sub-station for street trolley buses
- WSDOT communications equipment
- Batteries and generators for DSTT
- Drivers' comfort stations
- Seattle Fire Department emergency access to DSTT

Many of these components are located along the perimeter of the site and will not need to be disturbed. Driver's comfort station will need to relocated to be adjacent to the bus layover area.

After 2021, when buses no longer access the tunnel, the tunnel opening will need to be closed, in order to balance the smoke exhaust system in the expanded tunnel. In conversations with the City of Seattle Fire Department (SFD), it was confirmed that they do not need emergency vehicle access at the CPS site. However, they would like to have a fire access control elevator and stair which they could use to access the tunnel from the convention center in the event of an emergency in the tunnel.



LMN

Section 6: Site Test Fits

Section 6: Site Test Fits

CPS Site

The proposed site studied in 2008, the CPS Site, is bounded by Olive Way to the north, Boren to the east, Pine Street to the south and 9th Avenue to the west. The majority of the site is currently utilized by King County Metro as the Convention Center Transit Station – accepting buses from the reversible Interstate 5 express lanes exit ramp and providing access to the existing downtown Seattle transit tunnel (DSTT). Buses also use the site as a queuing and holding area, prior to accessing the downtown street system via the ramp at mid-block.

The 2012 study began with an update of the 2008 study, looking at the CPS site alone in order to determine:

- The largest contiguous exhibit hall floorplate that could be achieved on a single level.
- The feasibility of a configuration which could service the exhibit halls through a more traditional loading dock – rather than freight elevators.

As the following plans illustrate, it was not possible to accommodate a large exhibit hall floor (min. 100,000 sf) and a conventional loading dock, therefore the loading dock was placed below grade with service elevators in each corner. However, this configuration was able to achieve a large exhibit hall – measuring 145,000 sf on level +225.

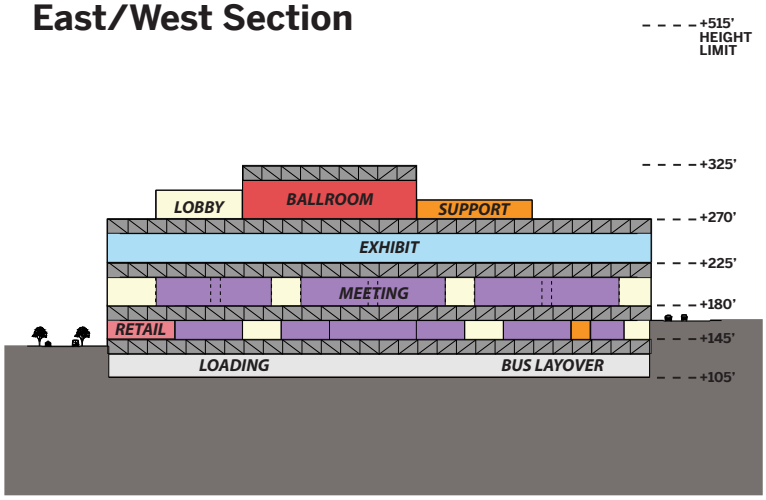
The floor plans which follow illustrate a concept where the primary service floor is located below grade, the grade level (at 9th Avenue) and a second grade level (along Pine Street) would accommodate lobbies and flexible meeting room floors. The exhibit hall would be located above on the third public floor at level +225 with the ballroom located on level 4 at +270.

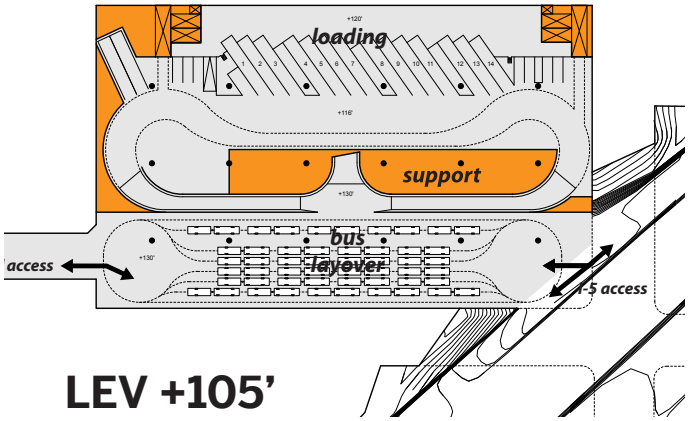
2012 CPS Site Expansion

Exhibit Halls	*140,000 sf*
Flex Space	*70,000 sf*
Meeting Rooms	*50,000 sf*
Ballroom	*50,000 sf*
Net Area	*310,000 sf*
Gross Area ...	*850,000 sf*

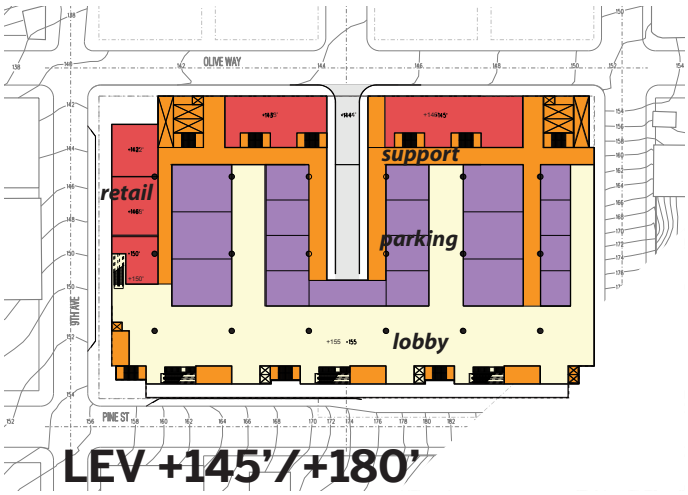
Exhibit Hall Service	*Truck and freight elevators*
Truck bays	*14*
Metro	*Bus layover for ~27 buses, tunnel access for service/ emergency vehicles*

East/West Section

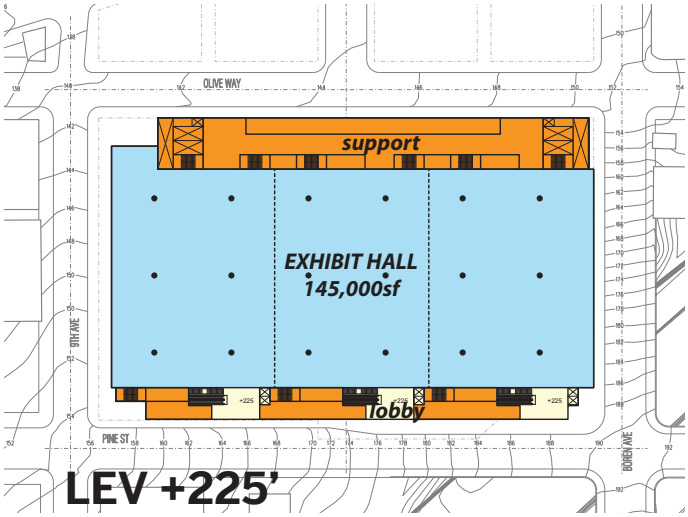




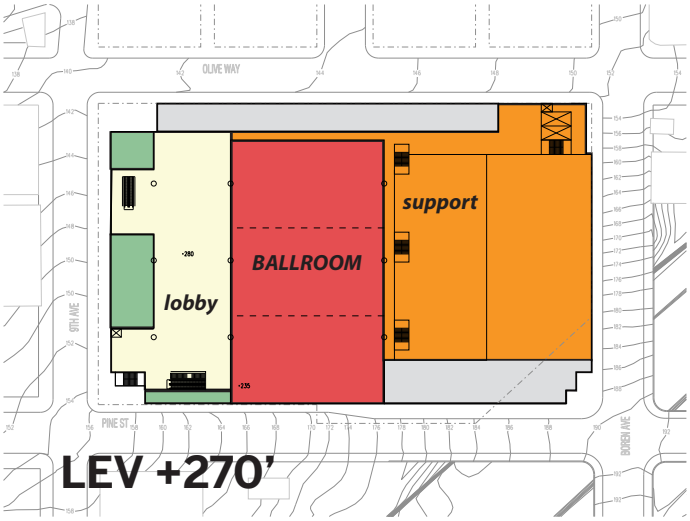
LEV +105'



LEV +145'/+180'



LEV +225'



LEV +270'

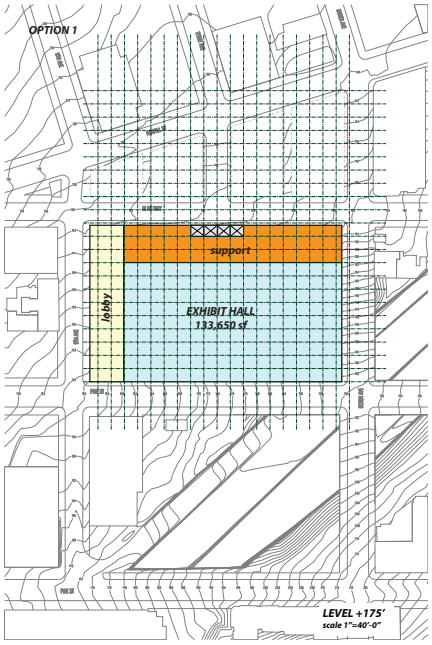
CPS + Honda Parcels / CPS Alternate Site

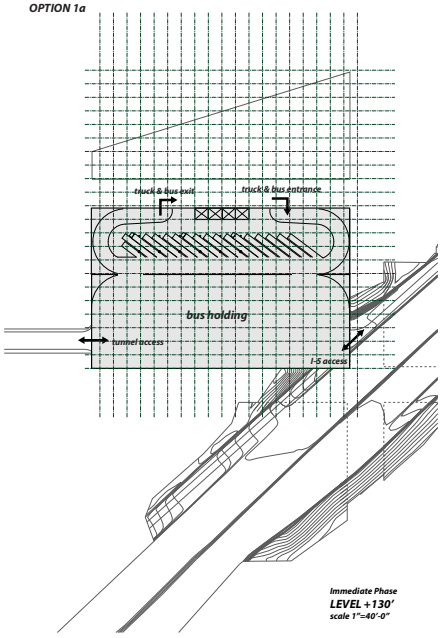
Honda Parcel #4 was always envisioned to be a necessary component of the CPS site in order to achieve even the 2008 program target for exhibit hall area. The addition of Honda Parcels #1, #2 and #3, along with the remaining parcels to the north of the CPS site between 9th and Boren Avenues, combine to create the CPS Alternate site. The CPS Alternate Site allows the possibility of extending the area available for the WSCC Expansion to the north across Olive Way to Howell Street, encompassing the area between Pine and Howell Streets and 9th and Boren Avenues. The CPS Alternate Site Option is illustrated below. Three Options were considered for incorporating the Honda parcels into the CPS site, each seeking the optimum balance of functional improvements and site area.

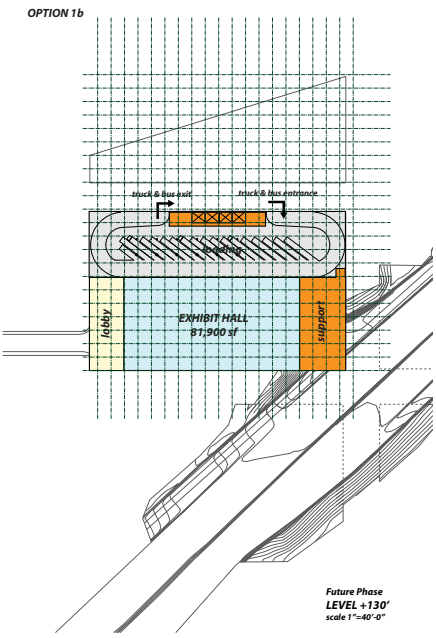
Option 1

Option 1 is an update of the 2008 study, meant to illustrate the largest possible contiguous exhibition hall floor areas that could be achieved on the area of the CPS site utilizing only the Honda dealership parcel on the northeast corner of the CPS site. (Parcel 4 from the map on previous page.)

The total exhibition area was very close the original 200,000 square feet, but configured with a smaller hall of 81,900 sf at level +130 (the level of existing grade on the site) with an adjacent loading area, and a larger hall of 133,650 sf on level +175, serviced by elevator. The lower hall would be phased, eventually taking over the bus holding area when Metro's need for access to the Bus Tunnel would expire (sometime after 2016).



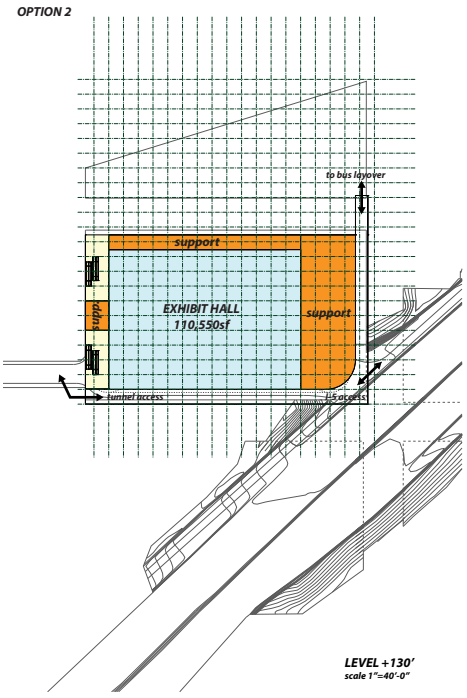


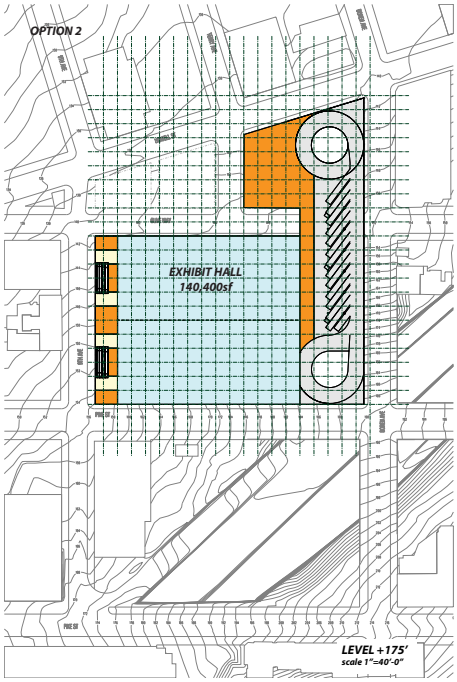


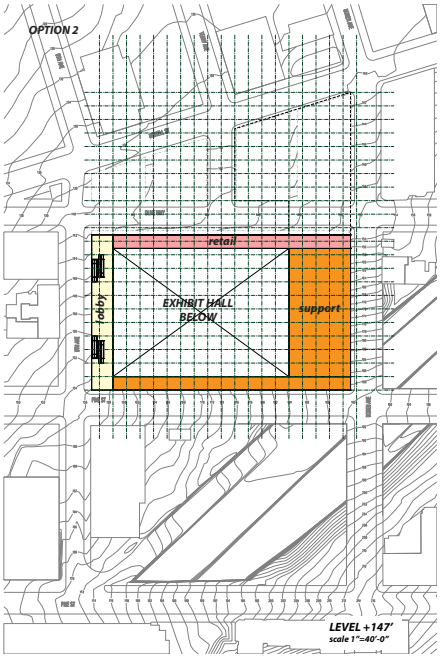
CPS Site

Option 2

Option 2 looked at the potential of providing an "industry standard" loading dock contiguous to the largest exhibition hall at Level 175. This option requires the addition of Honda Parcels 2 and 3–contiguous to the northeast corner of the site–bounded by Olive Way, Terry Avenue, Howell Street and Boren. The loading dock would be located above street elevation, spanning over Olive Way, requiring a "skybridge" similar in scale to the service bridge of the 2001 WSCC expansion. Access to this level would be by a truck ramp located on the northeast corner of the site. The lower level of the site (+130), would be utilized as an exhibition hall of 110,550 sf, with service from above via freight elevator, and bus layover on the northeast parcel.







Partial CPS Alternate Site

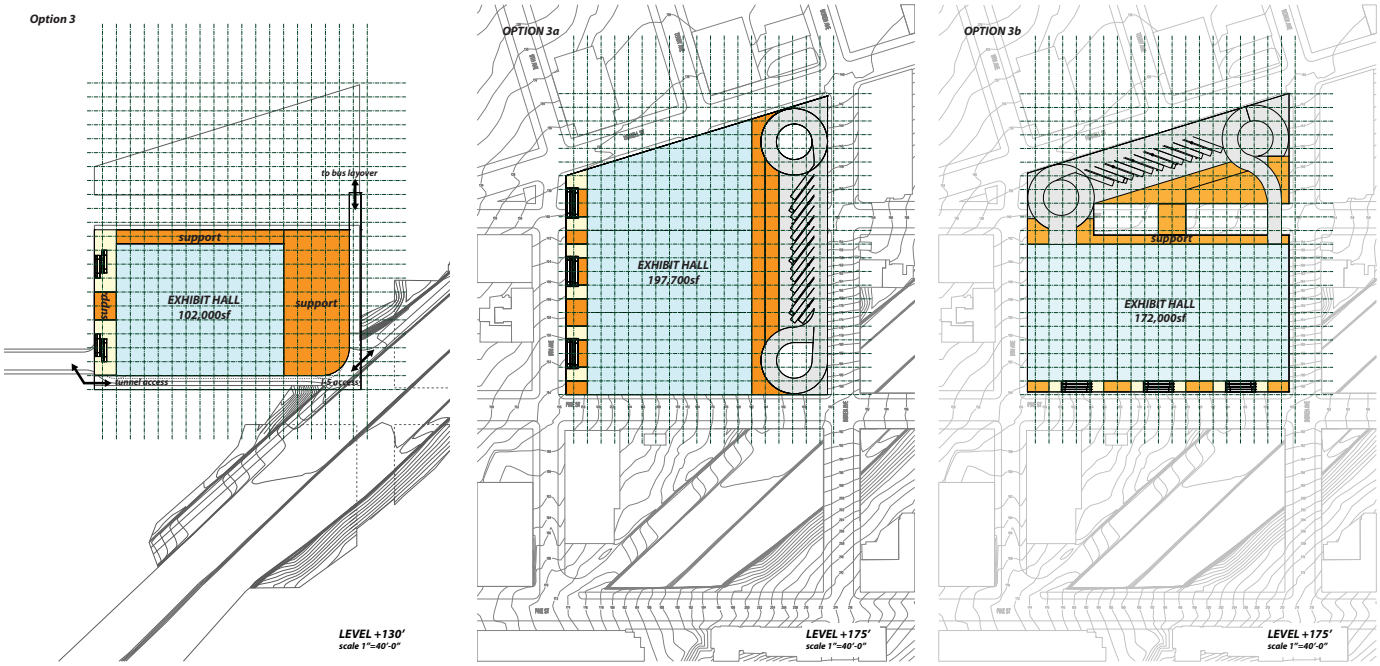
Option 3

Option 3 expanded the approach of the previous option by utilizing all of the Honda parcels located to the north of the CPS site, forming the CPS Alternate Site illustrated on the site map on Page 34. The site area in Option 3 would extend across Olive Way to incorporate the area between 9th Avenue and Terry Avenue and Terry Avenue and Boren from Pine Street on the south to Howell Street on the north. All of the streets would remain.

The advantage of this approach is a large contiguous exhibition hall, located on Level +175, adjacent to a full loading dock.

Recognizing the difficulty of spanning the full length of Olive Way with an upper level exhibition hall and loading dock, Option 3b was created. Option 3b would locate the loading dock on the parcels to the north of the site, lidding Terry Avenue but crossing Olive Way with skybridges for service vehicles. This option reduces the upper exhibit hall to 172,000 sf and still carries with it significant entitlement and permitting challenges associated with the aerial street crossings.

The Option 3 approach was investigated further and led to the development of the CPS Alternate Site Preferred Option described below.

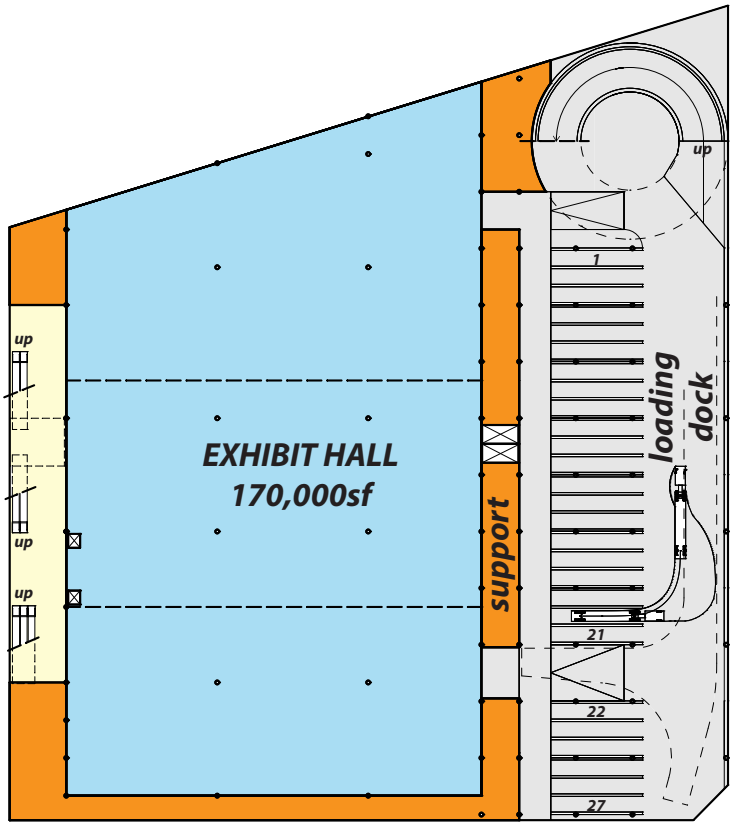


CPS Alternate Site

Preferred Option/ CPS Alternate Site

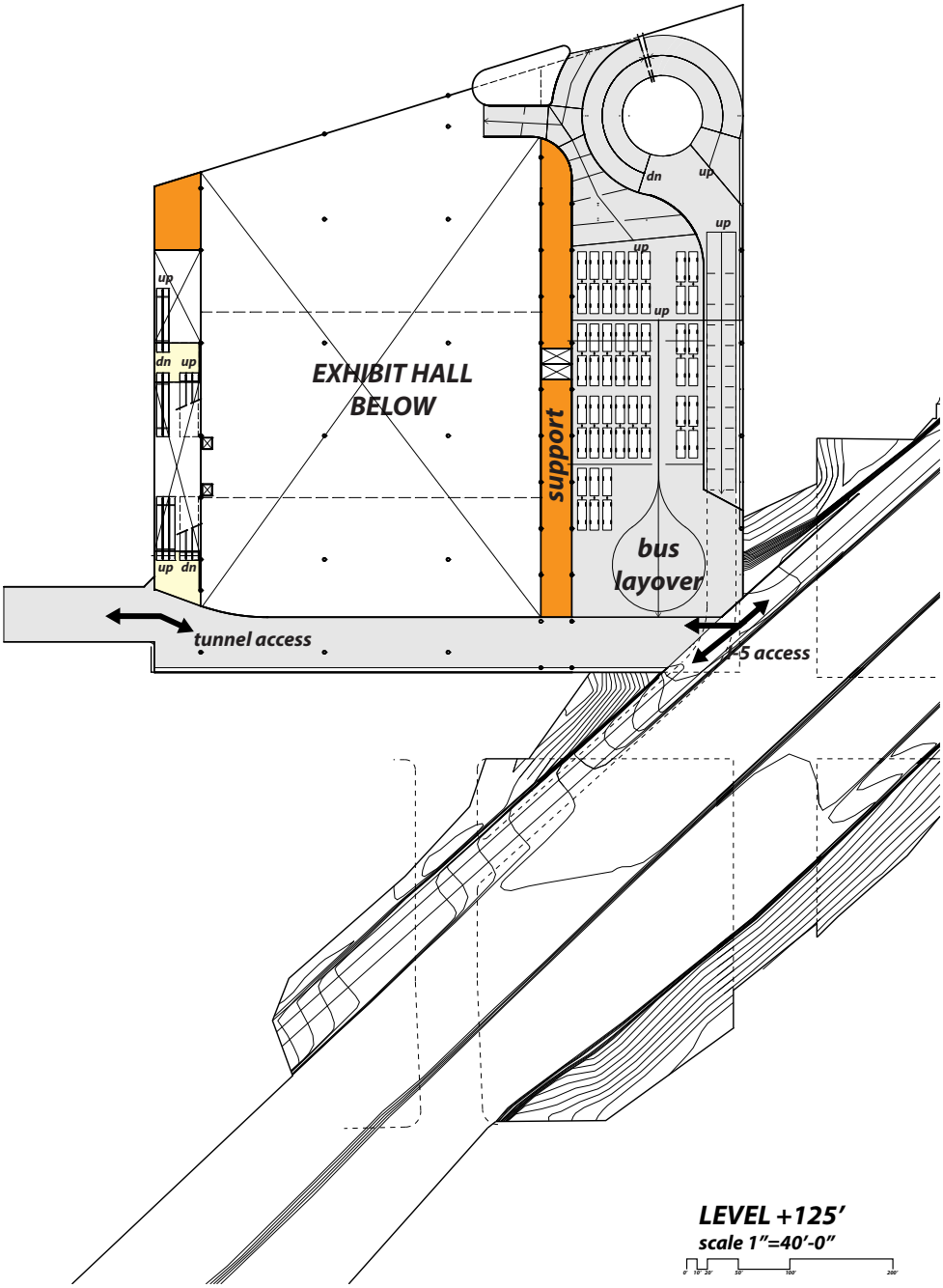
Level +105 Plan illustrates the lowest floor in the convention center. Elevation 105 is approximately 20 feet lower than the existing grade elevation on the CPS site. The depth of excavation is necessary to provide full height exhibit hall clearance under Olive Way.

Level +105 houses the primary exhibition hall at 170,000 square feet. The exhibition hall is ringed with support space around its perimeter. To the east of the exhibit hall is a full length loading dock accommodating 27 trucks along with a spiral truck ramp to the north providing access to the upper level exhibit hall at Level +200. Oversize freight elevators provide access to all of the upper levels. On the western edge of the site is public vertical circulation with connection to the registration and prefunction areas above.



LEVEL +105'
scale 1"=40'-0"

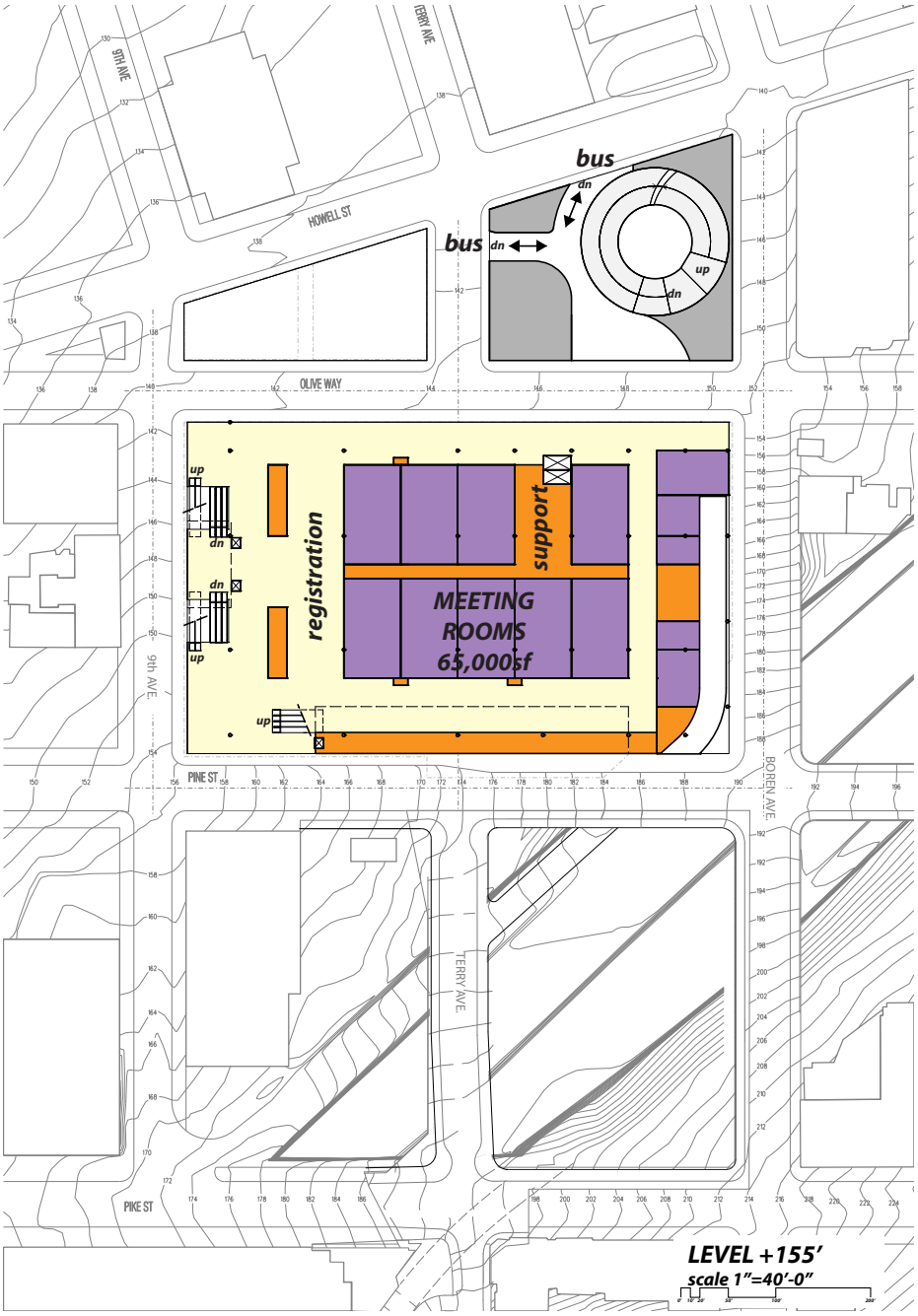
Level +125 Plan illustrates the condition at the existing CPS site level. Bus access is provided from the Interstate 5 reversible HOV ramp on the southeast corner of the site, connecting to the Downtown Seattle Transit Tunnel to the west and the bus layover area for 27 buses to the east – located above the convention center's loading dock. The bus layover area connects to surface streets on its northern edge. On the eastern edge of the site is the truck access ramp, connecting the Terry Avenue Extension at grade to the lower level loading dock and upper level exhibit hall.



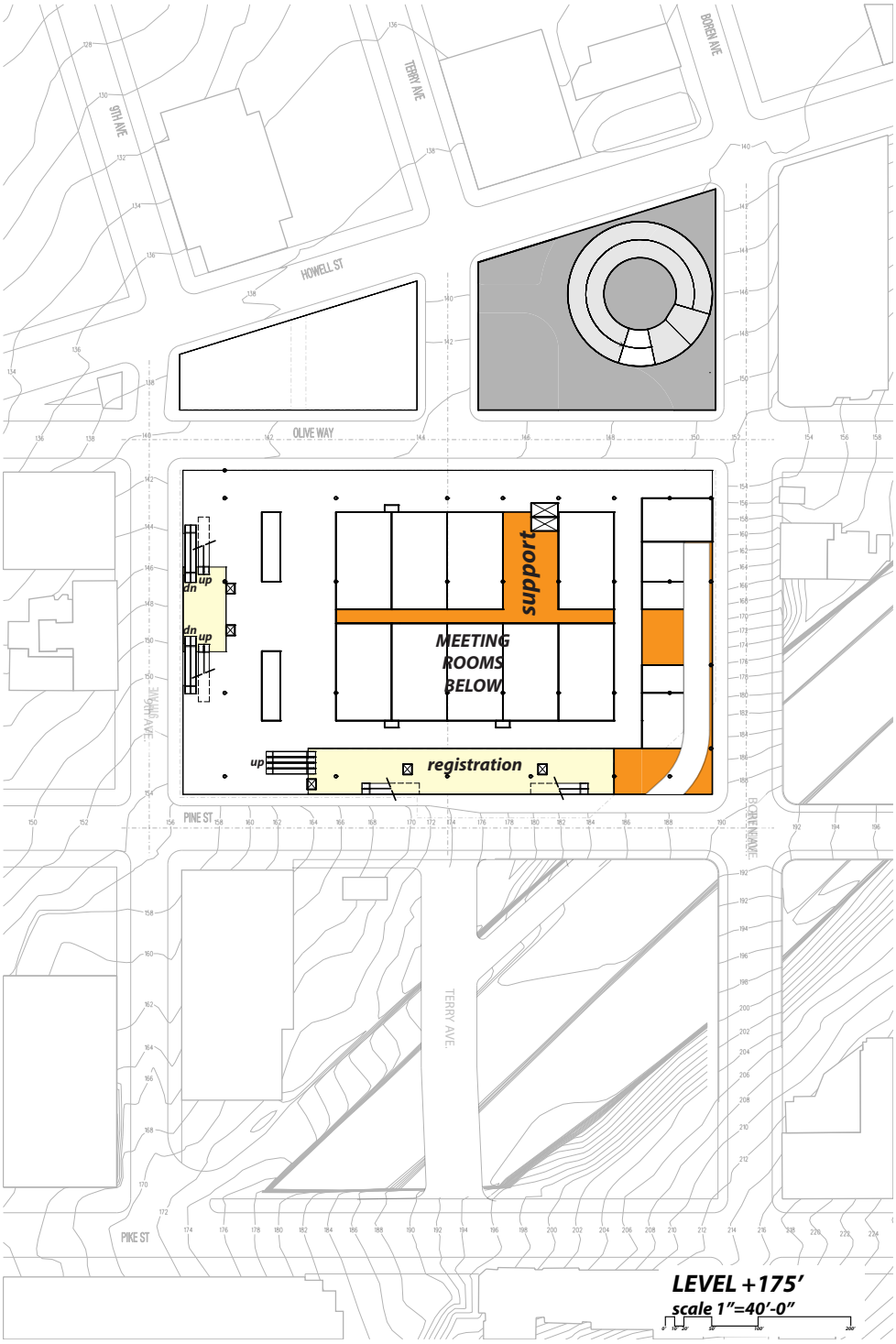
Level +155 Plan illustrates the condition at grade along Ninth Avenue, on the western edge of the site. Public vertical circulation to upper and lower levels would occur on the western edge of the project, as well as the southern edge of the site, following the grade of Pine Street. A large flexible registration/prefunction area would surround a bank of flexible meeting rooms, with internal support areas connecting to the loading dock below, via service elevators. Street front retail would also be maximized on this level.

The Terry Avenue Extension is illustrated at this level, providing a platform for truck access to and from the expansion (see Section 4: Freight Access).

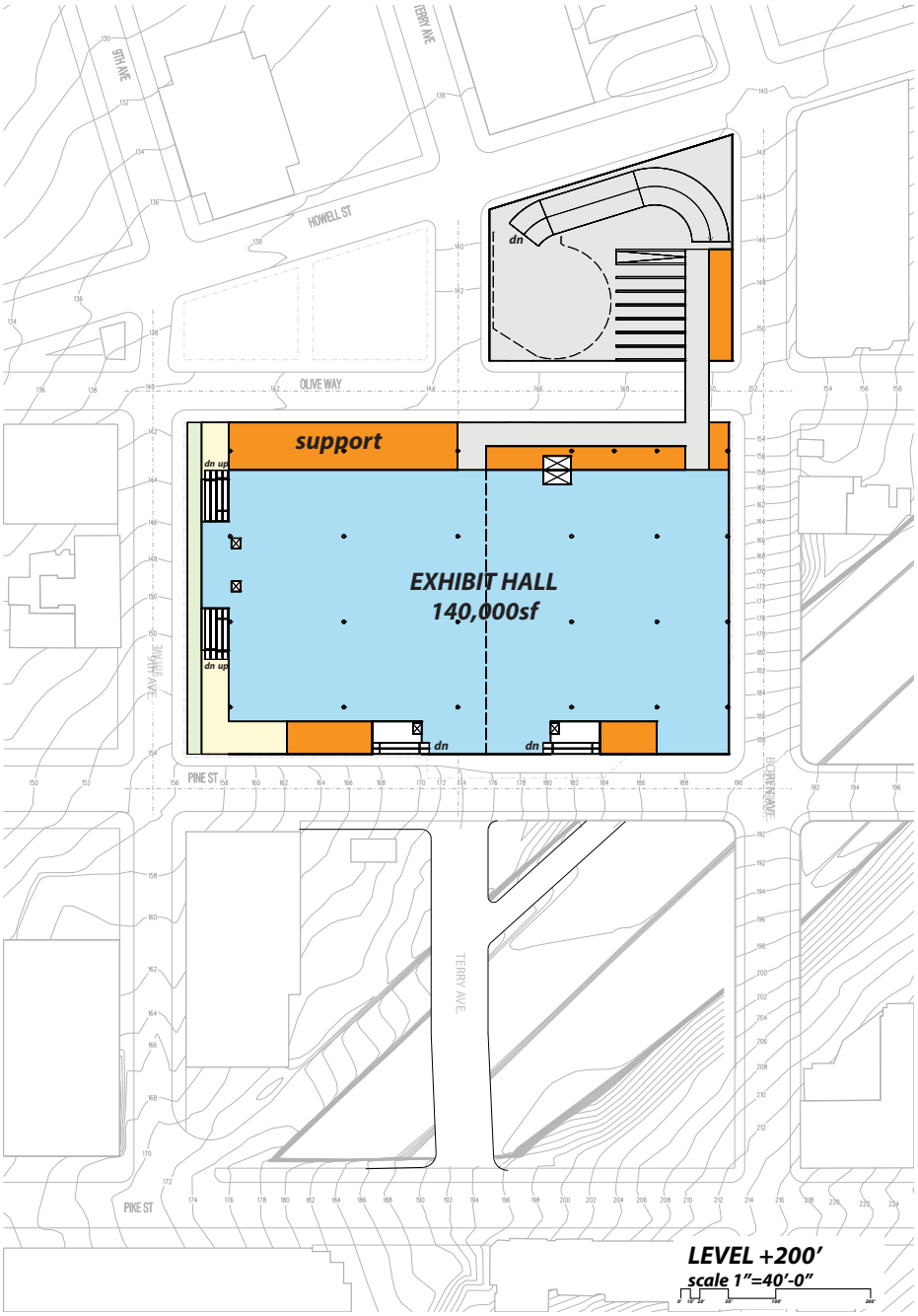
The Site Parcels on the northwest corner of the site (including Honda Parcel 1), between Ninth and Terry Avenues and Olive Way and Howell Street are not used for convention center program above grade and are available as a prime codevelopment site. The Site Parcels on the northeast corner of the site (Honda Parcels 2 and 3) are utilized above grade for the spiral truck ramp up to level +200 and at grade for surface street access for buses from the below grade bus layover. Codevelopment options on this portion of the site could include a "podium" surrounding the ramp with codevelopment.



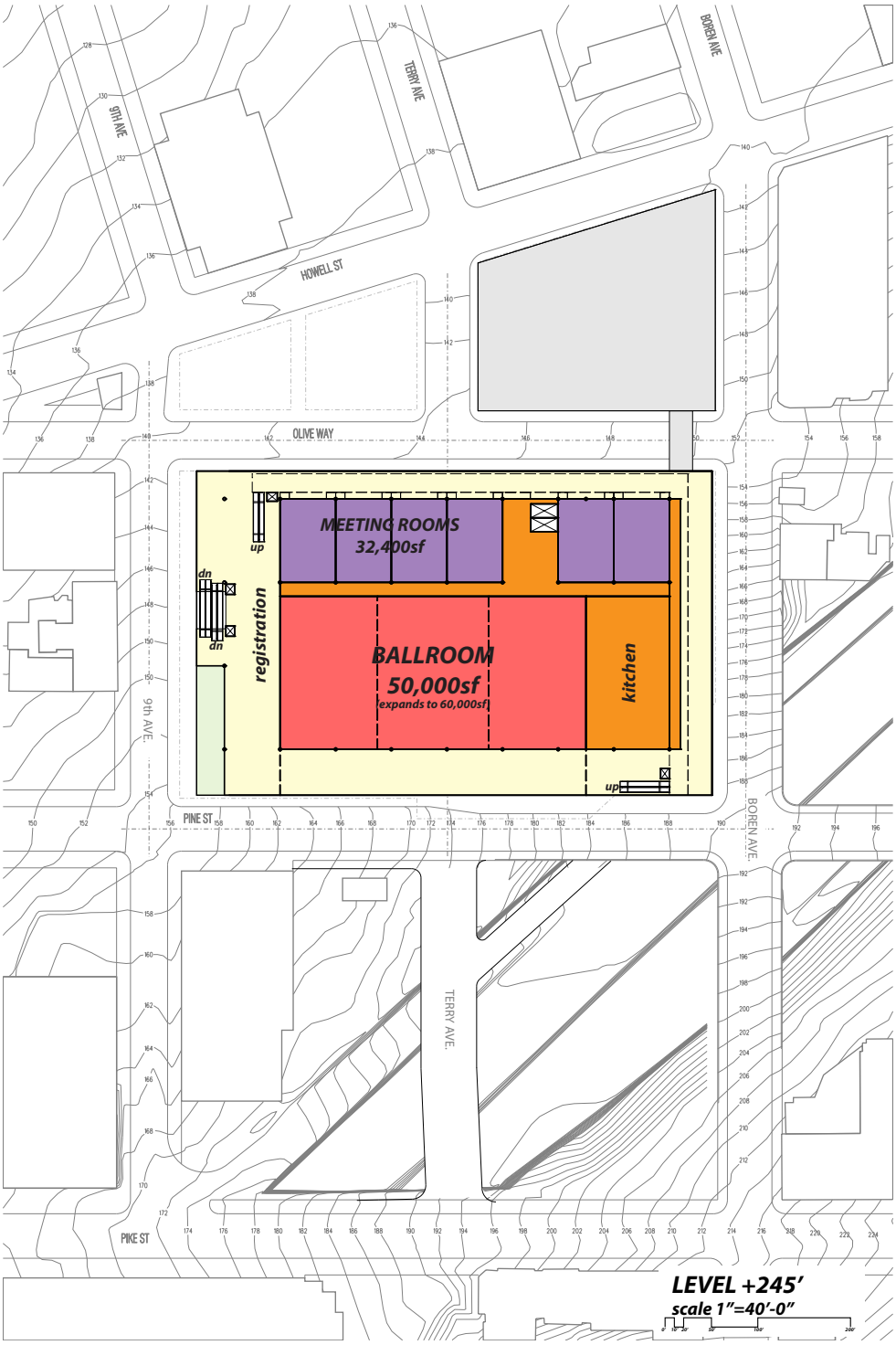
Level +175 Plan illustrates the vertical circulation mezzanines as the public circulation path follows the slope of Pine Street up to the east.



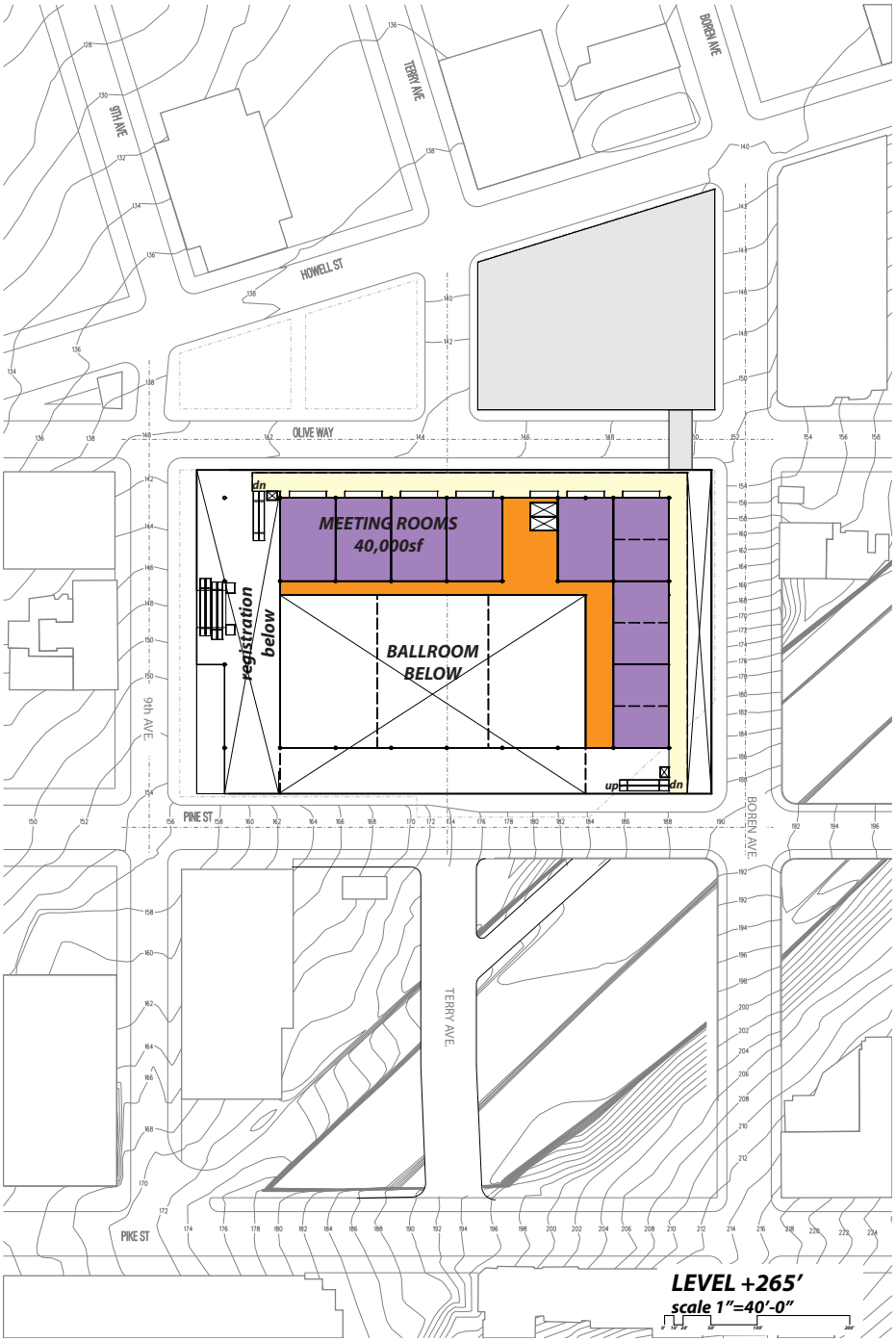
Level +200 Plan illustrates the remainder of the 310,000 square foot exhibit hall program, yielding an additional 140,000 square feet of exhibit hall area on this level. Public circulation is provided via escalator and elevator on the western and southern edges. Freight access is provided via two oversized freight elevators and a loading dock located across Olive Way, accessible from below by spiral truck ramp and providing access to the exhibition hall via a small bridge over Olive Way. Support area are provided along the building perimeter.



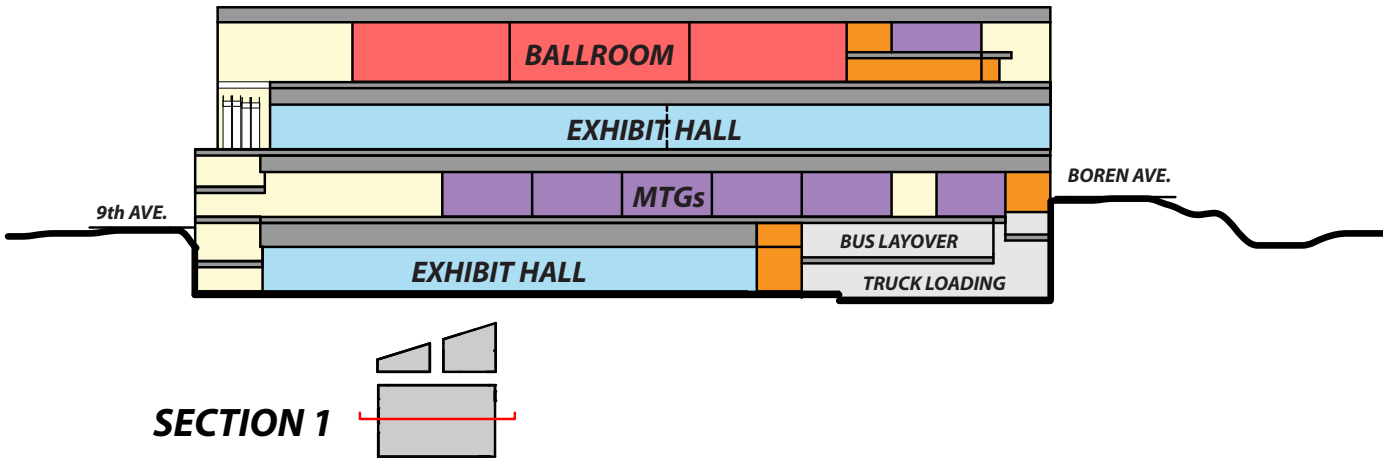
Level +245 Plan illustrates the Ballroom Level, providing a 50,000 square foot ballroom, expandable to 60,000, along with 32,400 square feet of meeting rooms. Prefunction space surrounds the Ballroom and Meeting Rooms with support space, including the banquet kitchen, provided internal to the plan.



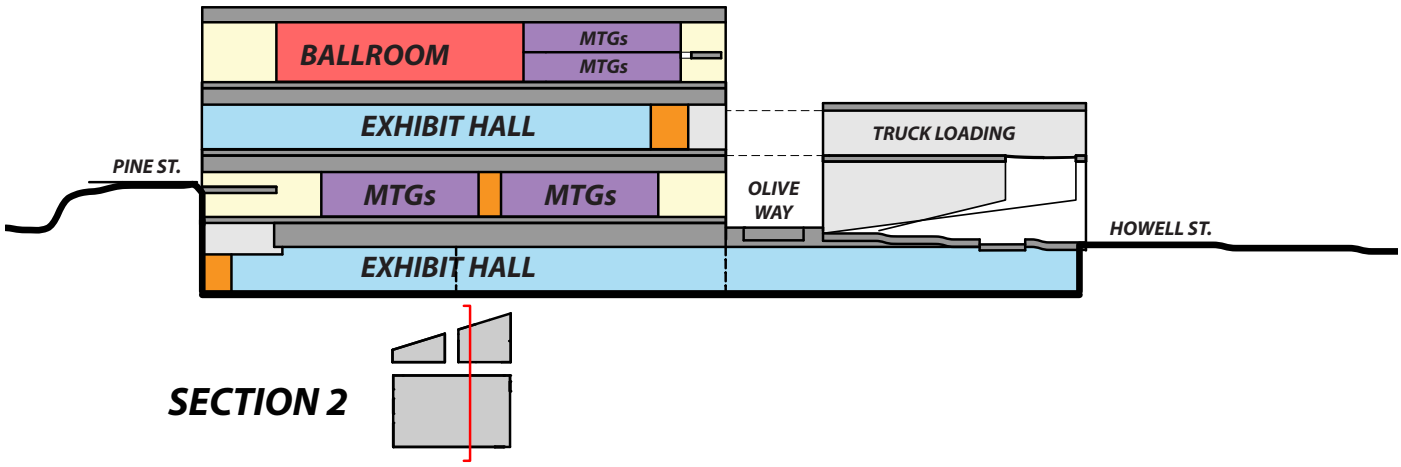
Level +265 Plan illustrates an optional Meeting Room Level which could be provided by stacking two level of meeting rooms adjacent to the Ballroom, taking advantage of the high volume space adjacent to the Ballroom. This option is not currently included in the convention center's budget.



Sections illustrate the below grade exhibit hall with full height exhibit hall clearance beneath Olive Way, bus layover above the loading dock and the distribution of convention center program components across the various levels.



SECTION 1



SECTION 2

Due Diligence

The preferred approach places the exhibit hall and primary loading dock below grade, requiring significant excavation on the site and the potential removal (temporarily) of Olive Way. In order to confirm the feasibility of this approach, existing utilities were identified on the CPS site and Olive Way and their ability to be relocated was determined. See below.

The site currently contains a combined storm/sewer line running diagonally under the CPS Site along with a communications ductbank. Branch watermains and Seattle City Light Network Feeders in Duct Banks are located in Olive Way and Terry Avenue. While not insignificant, this site infrastructure can be relocated to run around the perimeter of the site.

Parking

Opportunities for parking were explored. Parking options take advantage of two unique conditions resulting from this program on this site: the stacked nature of the building, requiring multiple floors of deep long-span trusses and the sloped site, providing multiple access points to those trusses. As a result, parking in the truss spaces was considered as the primary parking location. Additional parking could be potentially located below the exhibit hall floor, increasing the depth of excavation.

The below illustration describes the truss locations available for parking – Areas 1C, 1D and 1E, yielding a combined total of approximately 1,100 parking stalls. This was determined to meet the convention center's parking needs.

Additional parking could be provided beneath the exhibit hall – Areas 1A and 1B – yielding an additional approximately 1,500-1,600 parking stalls.

PARKING 1E: AREA = 180,700sf = approx. 450 STALLS

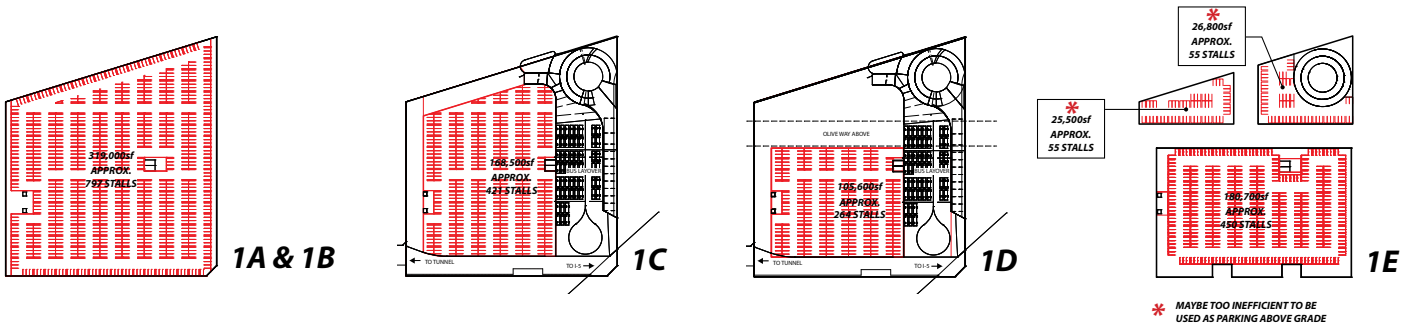
PARKING 1D: AREA = 105,600sf = approx. 264 STALLS

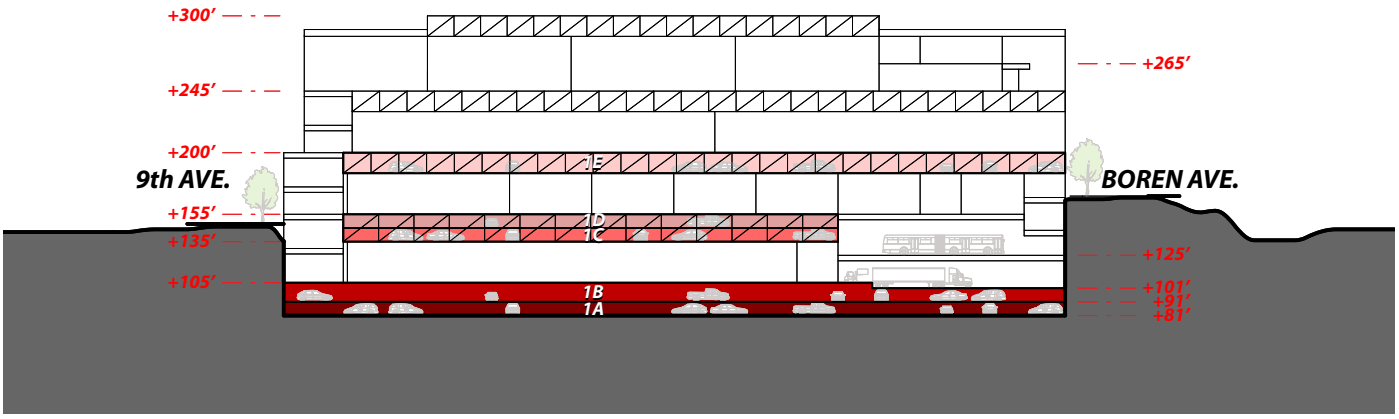
PARKING 1C: AREA = 168,500sf = approx. 421 STALLS

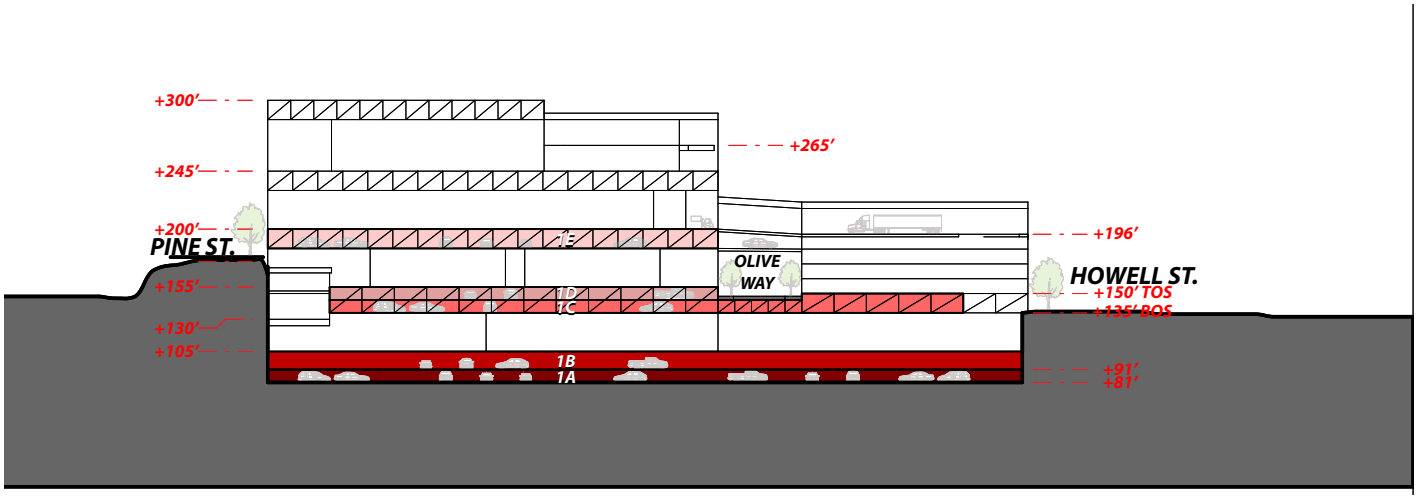
PARKING 1B: AREA = 319,000sf = approx. 797 STALLS

PARKING 1A: AREA = 319,000sf = approx. 797 STALLS

TOTAL = approx. 2,729 STALLS




+300'
+265'
+245'
+200'
9th AVE.
BOREN AVE.
+155'
+135'
+125'
+105'
+101'
+91'
+81'
1E
1D
1C
1B
1A

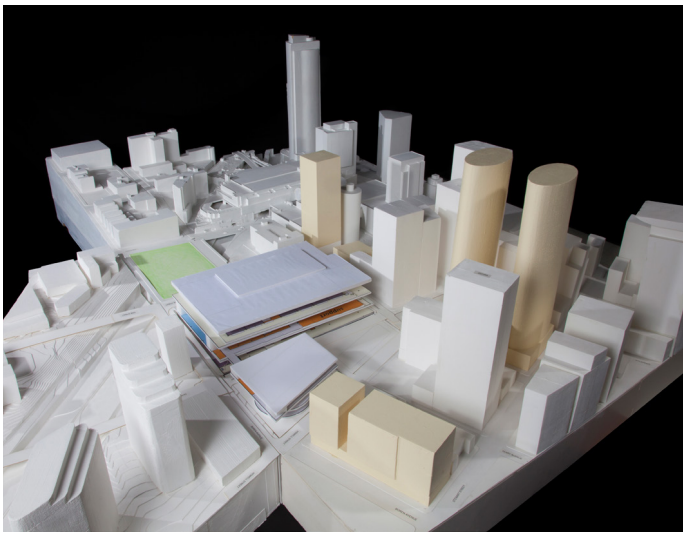

+300'
+265'
+245'
+200'
+196'
PINE ST.
OLIVE WAY
HOWELL ST.
+155'
+150' TOS
+135' BOS
+130'
+105'
+91'
+81'
1E
1D
1C
1B
1A

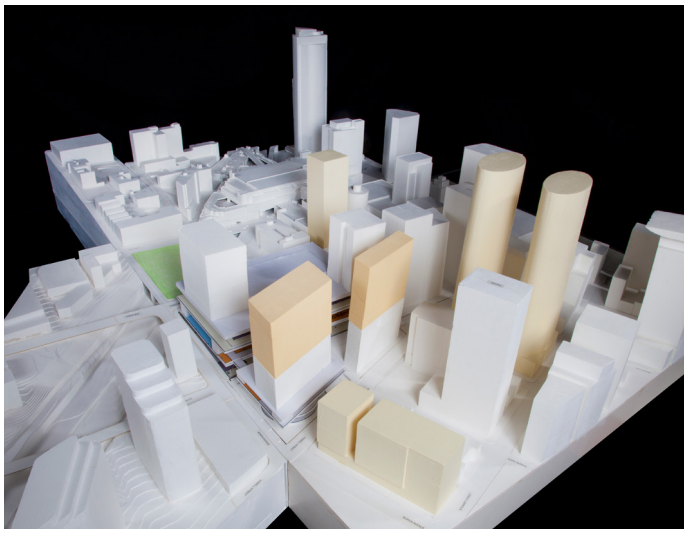
Section 7: Codevelopment Potential

Section 7: Codevelopment Potential

The WSCC Expansion does not fill the zoning envelope and therefore does not utilize the full development potential of the site. In fact, each site component has a very different site utilization and therefore presents different codevelopment opportunities. For instance, codevelopment on the CPS site would sit above the convention center, running up against the height limit well before exhausting potential development area. By contrast, the northeast and northwest parcels (of the CPS Alternate site) would exhaust development area before reaching the site height limit.

Codevelopment was not thoroughly explored. The analysis which follows is purely an analysis of site development potential, and physical configuration, not a recommendation. None of the options were priced. From a purely physical perspective, the two north parcels would seem to offer the most codevelopment potential – they would seem to be the easiest to develop and would have fewer cost and timing issues than options located above the roof of the convention center. Ultimately, codevelopment potential would be dependent on additional proforma driven analysis.





The following diagrams summarize the development potential of each site. The development capacity and height available are defined, followed by development options considering the potential for office or hotel uses, as relevant examples of development potential.

CPS Site *(includes Honda parcel #4 and I-5 corner)*

Base FAR 5.00
Bonus FAR ..... 8.75 *(no TDRs - 75%)*
Maximum FAR 10.00

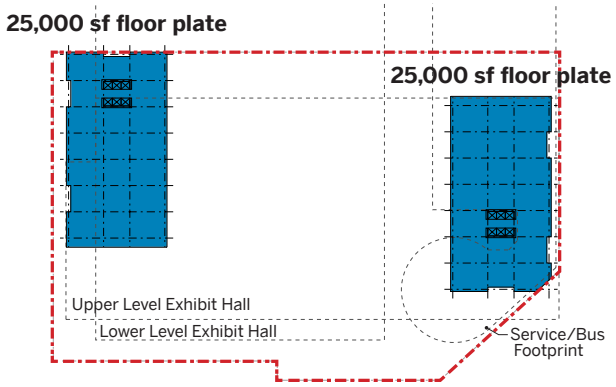
Site Area ..... 204,034 sf

Area at Base FAR ..... 1,020,170 sf
Area with Bonus FAR ..... 1,785,298 sf *(no TDRs)*
Area at Maximum FAR ..... 2,040,340 sf

Area required for WSCTCE ..... 677,000 sf

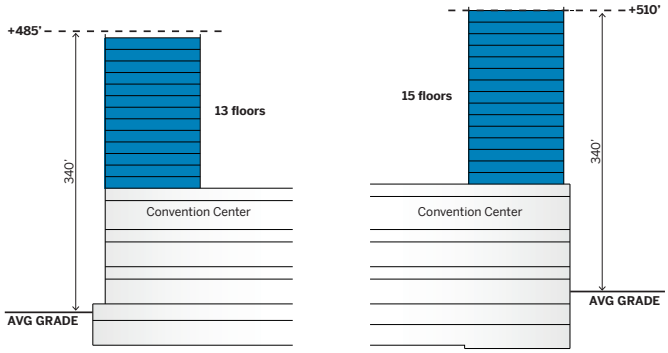
Available Bonus FAR ..... 1,108,298 sf *(no TDRs)*

CPS Site - OFFICE

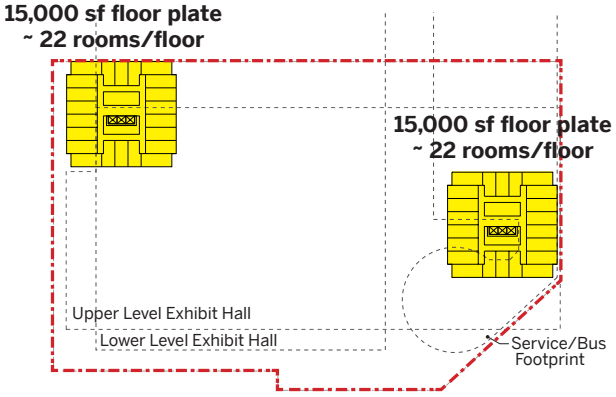


CPS Site - OFFICE

Available Bonus FAR ..... 1,108,298 sf *(no TDRs)*
Total GSF ..... 700,000 sf
Unused FAR ..... 408,298 sf

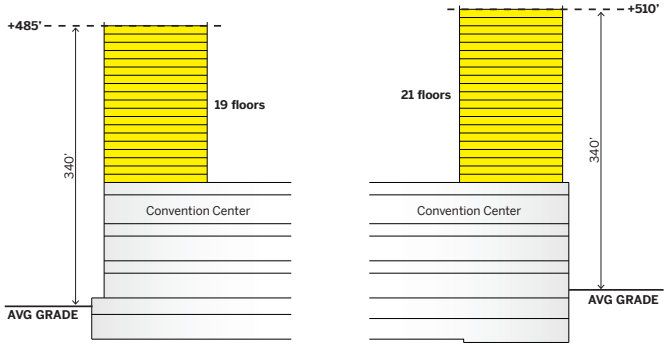


CPS Site - HOTEL



CPS Site - HOTEL

Available Bonus FAR ..... 1,108,298 sf *(no TDRs)*
Total GSF ..... 600,000 sf
Unused FAR ..... 508,298 sf



Northwest Site *(Parcel 1)*

Base FAR 5.00
Bonus FAR ..... 8.75 *(no TDRs -75%)*
Maximum FAR 10.00

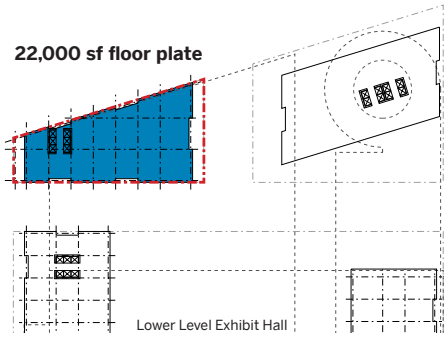
Site Area ..... 25,484 sf

Area at Base FAR ..... 127,420 sf
Area with Bonus FAR ..... 222,985 sf *(no TDRs)*
Area at Maximum FAR ..... 254,840 sf

Area required for WSCTCE ..... 0 sf

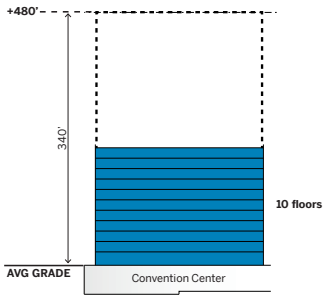
Available Bonus FAR ..... 222,985 sf *(no TDRs)*

Northwest Site *(Parcel 1)* - OFFICE

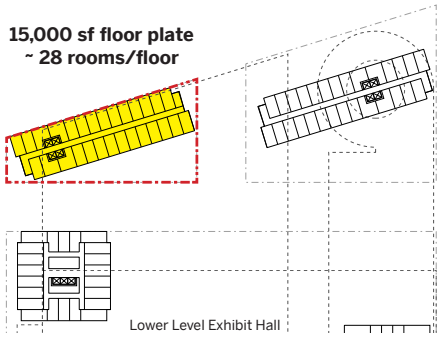


Northwest Site *(Parcel 1)* - OFFICE

Available Bonus FAR ..... 222,985 sf *(no TDRs)*
Total GSF ..... 220,000 sf
Unused FAR ..... 2,985 sf

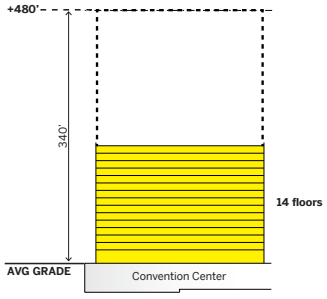


Northwest Site *(Parcel 1)* - HOTEL



Northwest Site *(Parcel 1)* - HOTEL

Available Bonus FAR ..... 222,985 sf *(no TDRs)*
Total GSF ..... 210,000 sf
Unused FAR ..... 12,985 sf



Northeast Site *(Parcels 2 + 3)*

Base FAR 5.00
Bonus FAR ..... 8.75 *(no TDRs - 75%)*
Maximum FAR 10.00

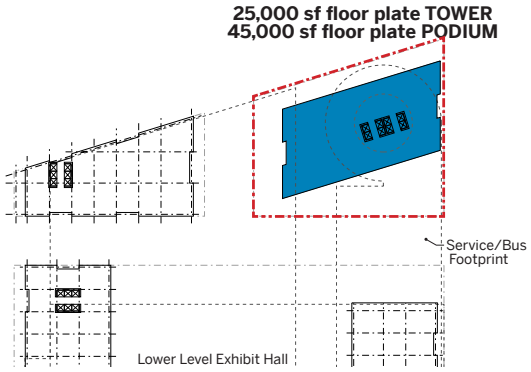
Site Area ..... 50,922 sf *(incl alley)*

Area at Base FAR ..... 254,610 sf
Area with Bonus FAR ..... 445,568 sf *(no TDRs)*
Area at Maximum FAR ..... 509,220 sf

Area required for WSCTCE ..... 50,922 sf *(ramp + dock)*

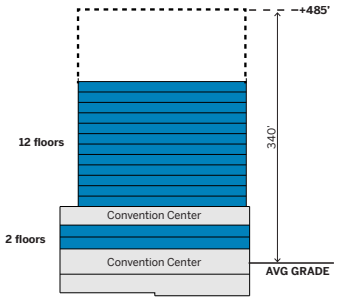
Available Bonus FAR ..... 394,646 sf *(no TDRs)*

Northeast Site *(Parcels 2 + 3)* - OFFICE

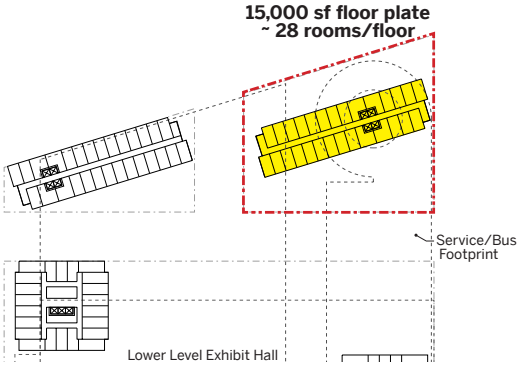


Northeast Site *(Parcels 2 + 3)* - OFFICE

Available Bonus FAR ..... 394,646 sf *(no TDRs)*
Total GSF ..... 390,000 sf
Unused FAR ..... 4,646 sf

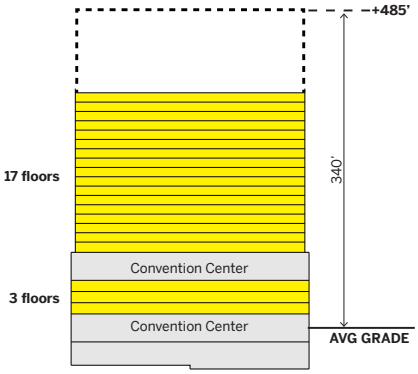


Northeast Site *(Parcels 2 + 3)* - HOTEL



Northeast Site *(Parcels 2 + 3)* - HOTEL

Available Bonus FAR ..... 394,646 sf *(no TDRs)*
Total GSF ..... 390,000 sf
Unused FAR ..... 4,646 sf



The following chart summarizes the development potential of each site. The development capacity and height available are defined, followed by development options considering the potential for office or hotel uses. The parking program is then defined and summarized with the convention center's needs.

CPS Site

CPS Site Alternate Site

SITE DEVELOPMENT CAPACITY	CPS Site	Northwest - Parcel #1	Northeast - Parcel #2/3
Site Area	204,034	25,484	50,922
Base Far	5.0	5.0	5.0
Base Capacity	1,020,170	127,420	254,610
Amenity Bonus (75% of base max)	8.75	8.75	8.75
Bonus Capacity	1,785,298	222,985	445,568
TDR - Maximum FAR	10.0	10.0	10.0
TDR - Maximum Capacity	2,040,340	254,840	509,220
Convention Center Area	677,000	0	50,922
Potential Codevelopment Area (w/bonus)	1,108,298	222,985	394,646
Potential Codevelopment Area (w/TDR)	1,363,340	254,840	458,298

HEIGHT AVAILABLE	CPS Site		Northwest - Parcel #1	Northeast - Parcel #2/3
Height Limit (above avg. grade)	340		340	340
	Ninth	Boren		
Podium Height (above avg. grade)	142	119	0	81
Available Height (above avg. grade)	198	221	340	259

DEVELOPMENT OPTIONS	CPS Site		Northwest - Parcel #1		Northeast - Parcel #2/3	
	Ninth Hotel	Boren Office	Hotel	Office	Hotel	Office
Rooms per Floor	22		28		28	
Area per Floor	15,000	25,000	15,000	22,000	15,000	25,000
Height per Floor	10	14	10	14	10	14
Number of Floors to Height Limit	19	15	34	24	25	18
Height Limit - Number of Rooms	418		952		700	
Height Limit - Floor Area	285,000	375,000	510,000	528,000	375,000	450,000
Height Limit - Total Codevelopment	hotel+office:	660,000	hotel:	510,000	office:	450,000
Area at FAR Limit (bonus max)	1,108,298		222,985		394,646	
Unused FAR	448,298					
FAR Shortfall			-287,015		-55,355	
Number of Floors at FAR Limit (bonus max)	19	15	14		15	
At Full Capacity	19	15	34		18	
Unused Height at FAR Limit	Less than 1 floor		200 feet (20 floors)		49 feet (3 floors)	
	Scheme is limited by Height		Scheme is limited by FAR		Scheme is limited by FAR	
Transfer of Development Rights						
Unused Development Rights	448,298					
Development Rights to Maximize Height			-287,015		-55,355	
TOTAL FAR TRANSFER FROM CPS			342,370			

PARKING PROGRAM (w/FAR Transfer)	CPS Site	Northwest - Parcel #1	Northeast - Parcel #2/3
Convention Center Program Area	1,230,000		
Parking at 1/1,000 sf (zoning max)	1,230		
Hotel - estimated number of rooms	400	800	
Hotel Parking at .65 per room	260	520	
Office Floor Area	375,000		450,000
Office Parking at 1 space per 1,000 sf	375		450

TOTAL PARKING SPACES	
Convention Center	1,230
Codevelopment	1,605

PARKING 1E: AREA = 180,700sf = approx. 450 STALLS

PARKING 1D: AREA = 105,600sf = approx. 264 STALLS

PARKING 1C: AREA = 168,500sf = approx. 421 STALLS

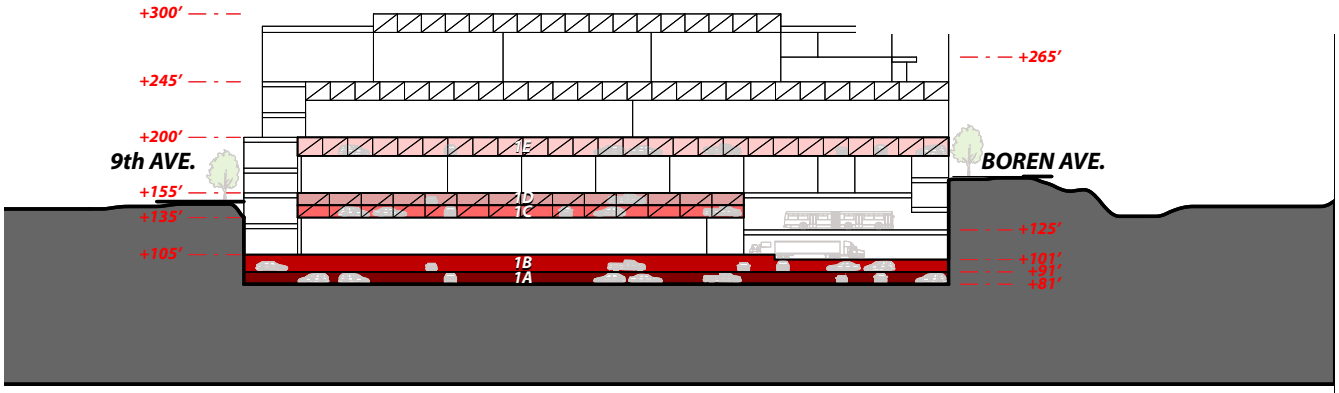
PARKING 1B: AREA = 319,000sf = approx. 797 STALLS

PARKING 1A: AREA = 319,000sf = approx. 797 STALLS

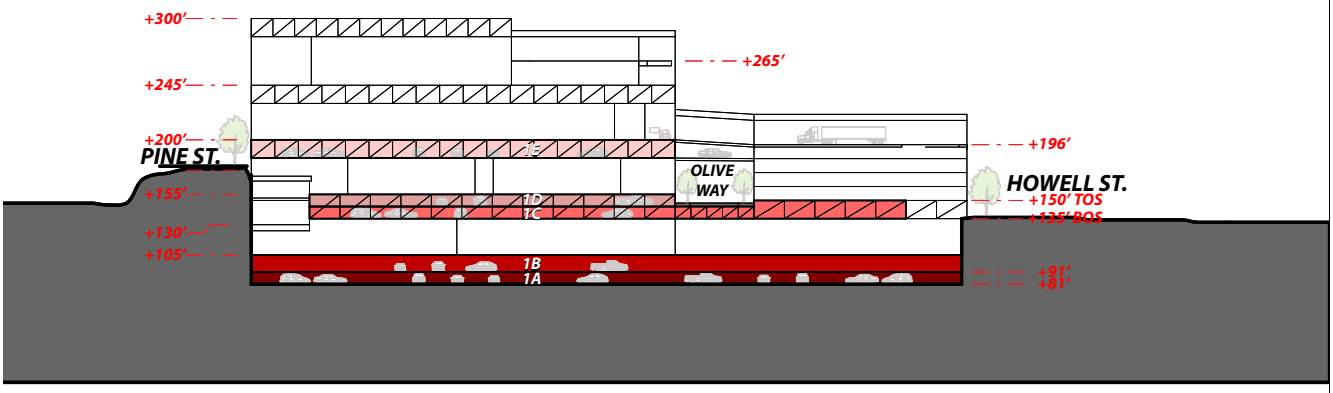
TOTAL = approx. 2,729 STALLS

Parking

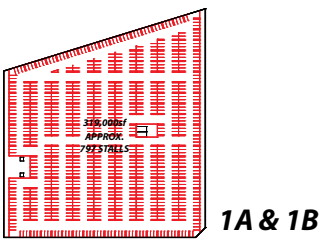
Parking for the convention center would total approximately 1,100 spaces, located in the truss spaces framing the exhibit halls – Parking Areas 1C, 1D and 1E. Codevelopment parking would be beneath the exhibit hall footprint – Parking Areas 1A and 1B, yielding approximately 1,600 parking stalls.



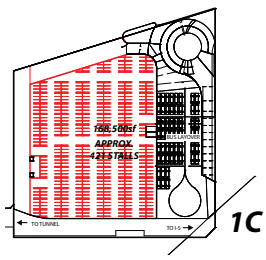
EAST-WEST SECTION



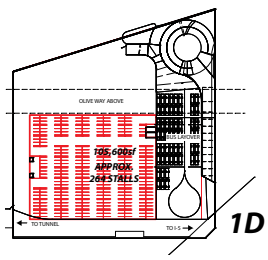
NORTH-SOUTH SECTION



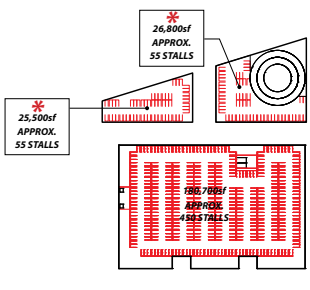
1A & 1B



1C



1D



1E

LMN

Section 8: Cost and Schedule Projections

Section 8: Cost and Schedule Projections

Project Cost Budget

A Cost Plan was prepared for the Preferred Alternative on the CPS Alternate Site (see Appendix) and a Total Project Cost Budget was shared with the WSCC Expansion Committee, see below.

12/17/2012

PRELIMINARY - FOR DISCUSSION

		2012 CPS Alternative Site	Notes
WSCC Base Facility Construction:			
Exhibit Halls		310,000	
Meeting Rooms		100,000	
Ballroom		55,000	
Total Net Area		465,000	Total Rentable Area
Total Gross Area		1,163,700	Convention Center Only
Cost per Square Foot	$	463.78	includes sitework, loading, building
TOTAL WSCC BASE FACILITY CONSTRUCTION COST	**$**	**539,702,000**	includes a 15% estimating contingency
WSCC Affiliated Construction:			all items below include 30% contingency
Olive Way Reconstruction	$	21,264,000	
Parking Construction (WSCC only - 1,000 cars)	$	43,044,000	Convention Center associated only
Terry Avenue Extension with Truck Access Ramp	$	42,800,000	New street lid between Pike and Pine - does not include potential Park Lid
TOTAL WSCC AFFILIATED CONSTRUCTION COST	**$**	**107,108,000**	
TOTAL WSCC CONSTRUCTION COST	**$**	**646,810,000**	
Transit-Related Construction:			
Transit Related Items	$	32,020,000	92,400 sf
TOTAL TRANSIT-RELATED CONSTRUCTION COST	**$**	**32,020,000**	
Sale Tax on Construction		9.50%	
Escalation		16.88%	3.5% annual rate
Soft Costs		32.42%	average

Phasing Options

Recognizing Metro's stated desire for continuous operations during convention center construction, a workshop was held with representatives of Metro, WSCC, LMN and Davis Langdon to discuss alternatives for phasing the construction. Two options emerged from the workshop.

Phasing Option 1

Phasing Option 1 incorporates Metro's full site program including continuous operations of full transit facility access, bus layover and passenger facilities during convention center construction. Accomplishing this requires that the convention center and reconfigured Metro components be built over three phases.

Phase One would build the convention center's loading dock, truck access ramp and Metro's bus layover. During construction, Metro would access the tunnel along the southern edge of the site and surface streets via the ramp adjacent to Ninth Avenue. The existing street access ramp would be demolished. The existing bus layover and passenger facility would remain in operation during this phase of construction.

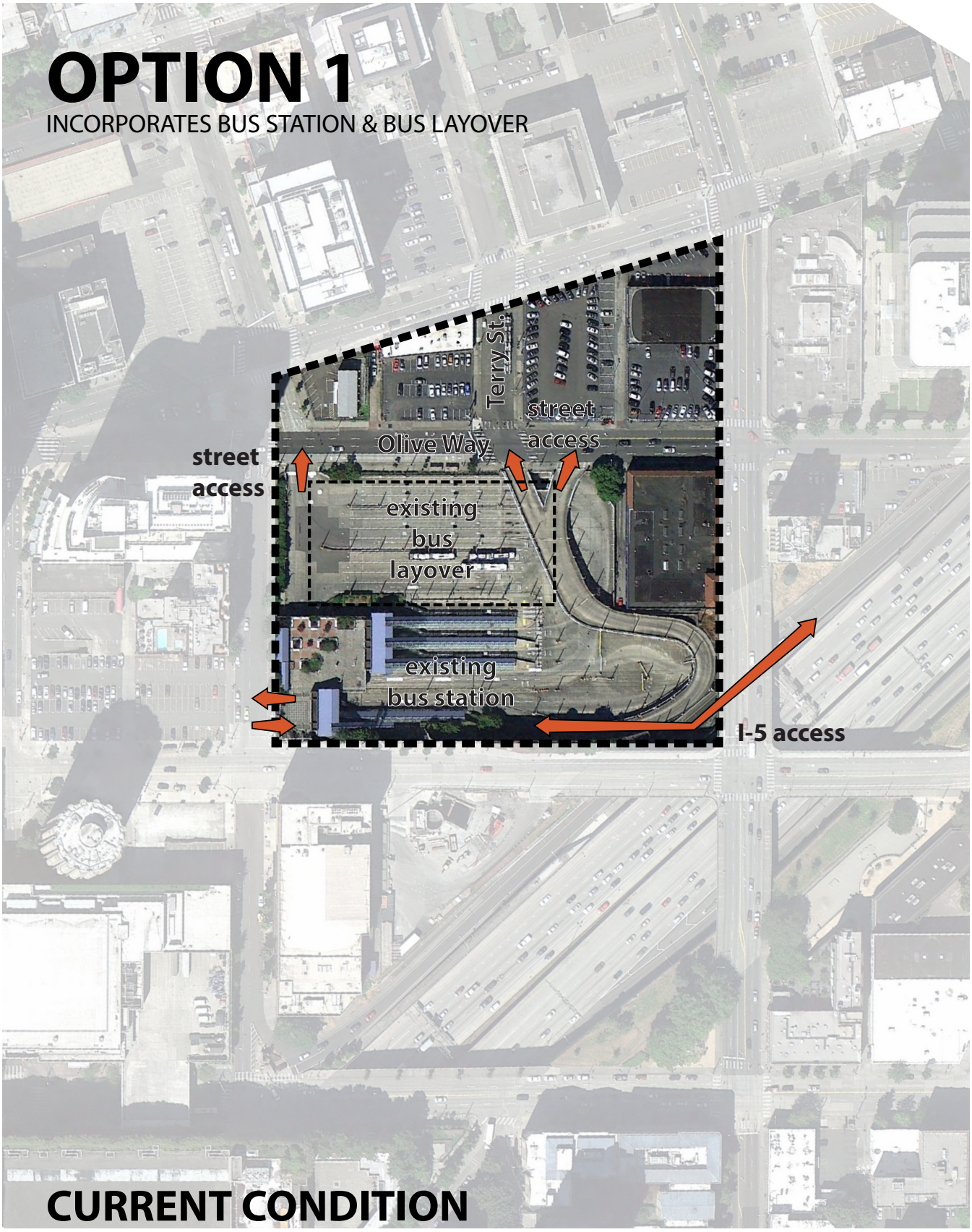
With the completion of Phase One, street access and passenger facilities would be provided via the new bus layover area. Phase Two would build the new tunnel access mezzanine, along the southern edge of the site. Tunnel access would via the ramp adjacent to Ninth Avenue during construction of this phase. During this phase the final pieces along the southern edge of the site, at the tunnel and the I-5 access points, would be built utilizing night and weekend construction.

Phase Three would build the remainder of the convention center.

Phasing Option 1 is a lengthy alternative, adding approximately 22 months to the duration of the baseline construction – the construction duration of the convention center with no phasing.

OPTION 1

INCORPORATES BUS STATION & BUS LAYOVER

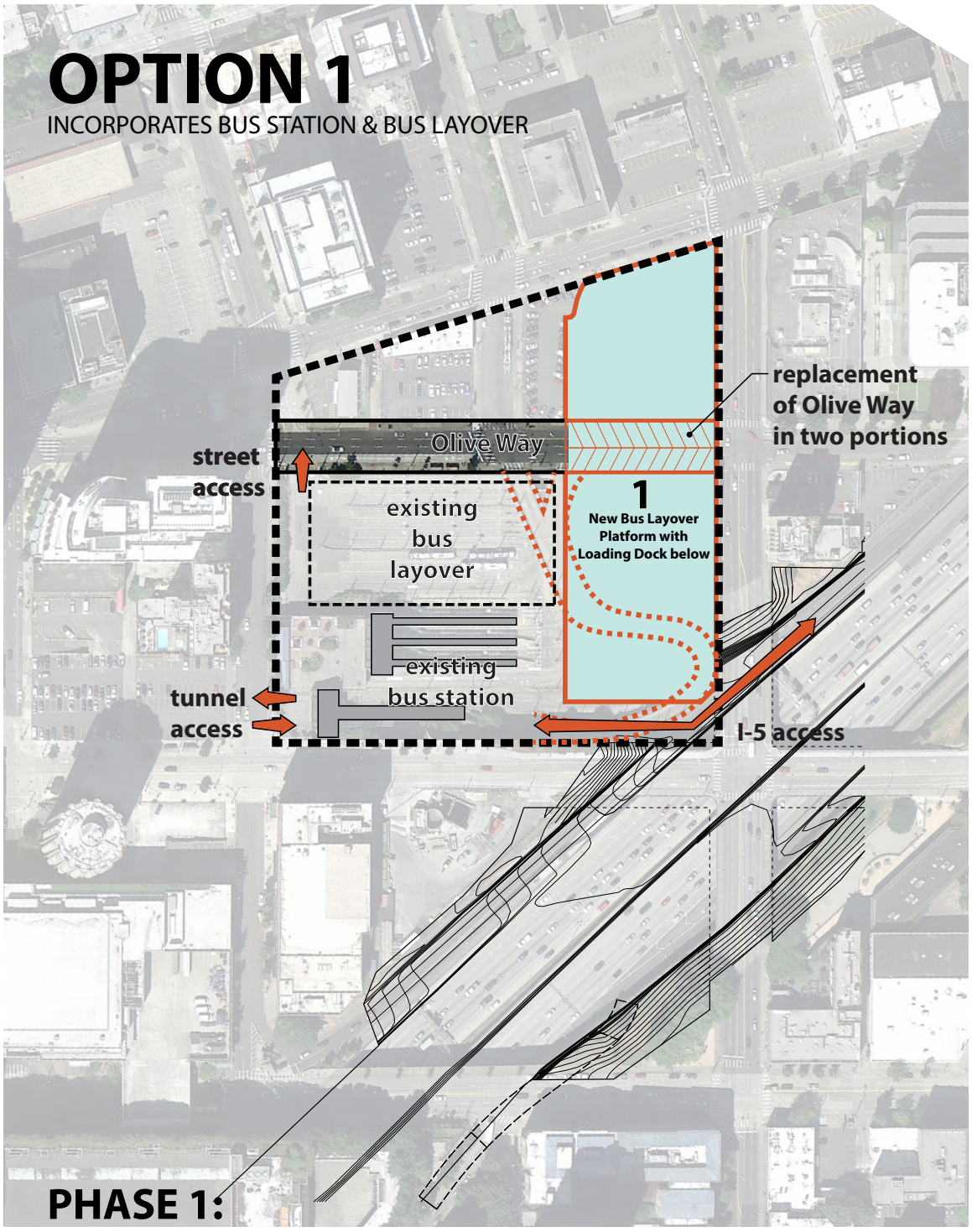


CURRENT CONDITION

LMN

OPTION 1

INCORPORATES BUS STATION & BUS LAYOVER



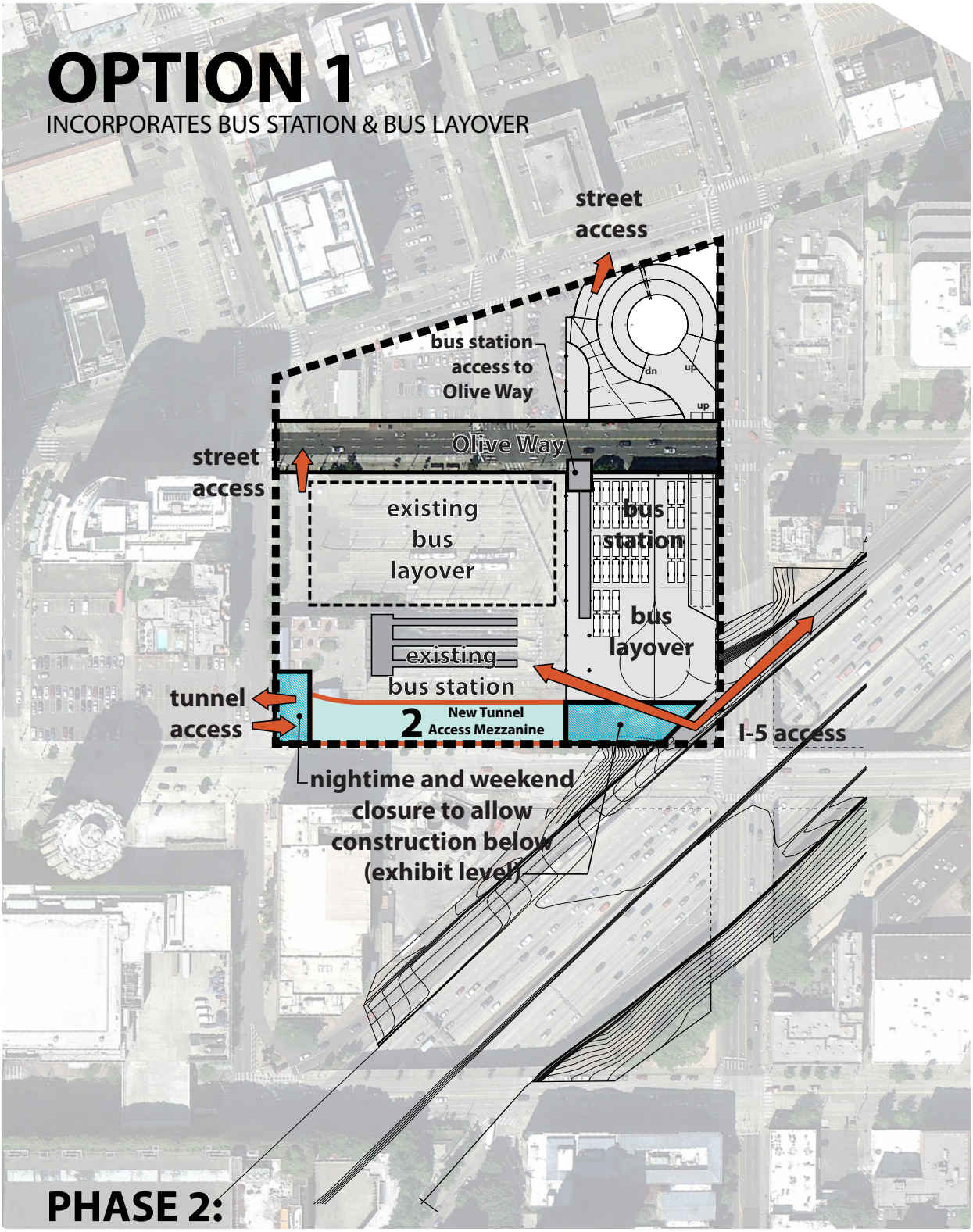
PHASE 1:

New Bus Layover Platform with Loading Dock below

- Demolition of current street access ramp
- Street access maintained on the corner of 9th Ave. and Olive Way
- I-5 access maintained
- Tunnel access maintained
- Existing Bus Station maintained
- Existing Bus Layover maintained

OPTION 1

INCORPORATES BUS STATION & BUS LAYOVER



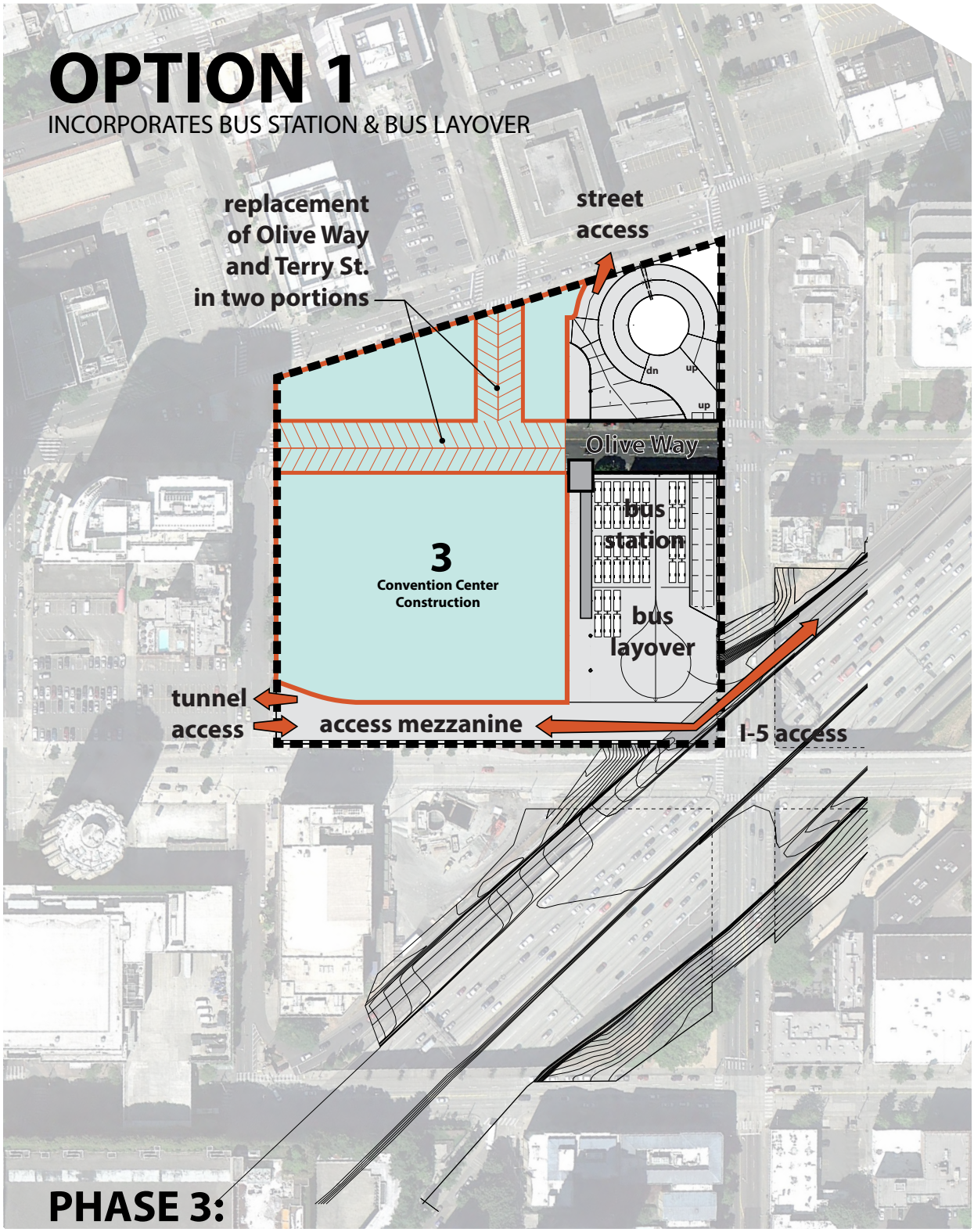
PHASE 2:

New Tunnel Access Mezzanine

- Street access maintained on the corner of 9th Ave. and Olive Way
- Street access through new Phase 1 Bus Layover/street ramp
- I-5 access maintained - nightime and weekend construction as shown
- Tunnel access maintained - nightime and weekend construction as shown
- Bus Station on new Phase 1 Bus Layover with pedestrian access to Olive Way
- Bus Layover maintained

OPTION 1

INCORPORATES BUS STATION & BUS LAYOVER



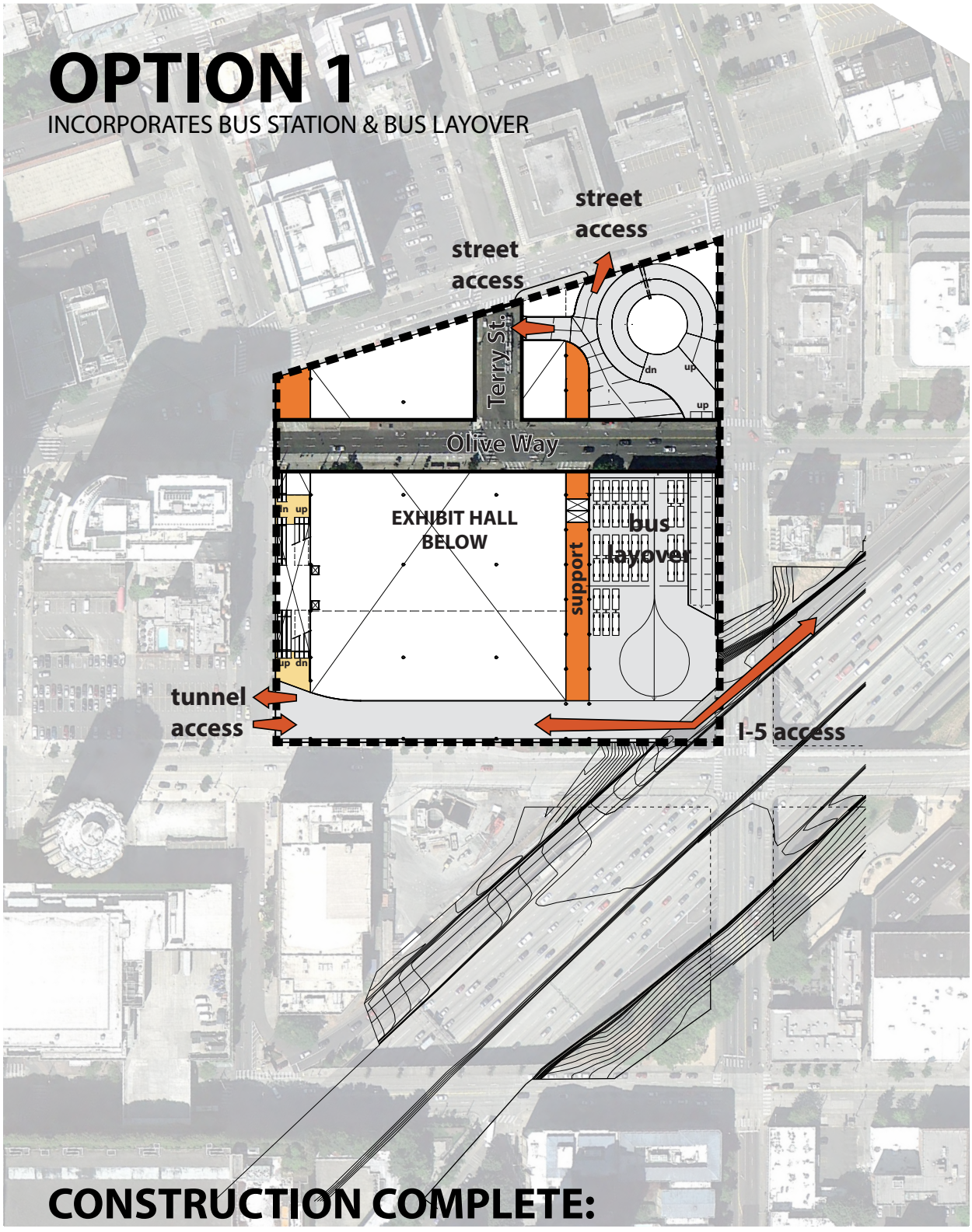
PHASE 3:

Convention Center Construction

- Street access through new Phase 1 Bus Layover/street ramp
- I-5 access through new Phase 2 Tunnel Access Mezzanine
- Tunnel access through Phase 2 Tunnel Access Mezzanine
- Bus Station on new Phase 1 Bus Layover with pedestrian access to Olive Way
- Bus Layover maintained on new Phase 1 Bus Layover/street ramp

OPTION 1

INCORPORATES BUS STATION & BUS LAYOVER



CONSTRUCTION COMPLETE:

- Street access to Olive Way and Terry St.
- I-5 access through new Phase 2 Tunnel Access Mezzanine - until 2021
- Tunnel access through new Phase 2 Tunnel Access Mezzanine
- Bus Layover for 27 buses
- Bus Station moved off-site - post 2021

LMN

Phasing Option 2

Phasing Option 2 takes a more streamlined approach providing transit access to the tunnel, Interstate 5 and surface streets, but providing bus layover and passenger facilities off-site. Accomplishing this requires that the convention center and reconfigured Metro components be built over two phases.

Phase One would build the convention center. Metro would maintain connectivity between I-5, the tunnel and surface streets along the southern and western edges. This option does not include an on-site bus layover area, but provides a street access ramp above the convention center's loading dock, connecting the tunnel and I-5 to surface streets.

With the completion of the street access ramp, Phase Two would commence with Phase 2a - the construction of the tunnel access mezzanine. During this period, Metro would access the tunnel via the ramp adjacent to Ninth Avenue. With the completion of Phase 2a, the ramp adjacent to Ninth Avenue would be removed for the construction of the convention center's western edge – Phase 2b.

Phasing Option 2 adds approximately 4 months to the baseline schedule and is much less expensive than Option 1. See below.

OPTION 2

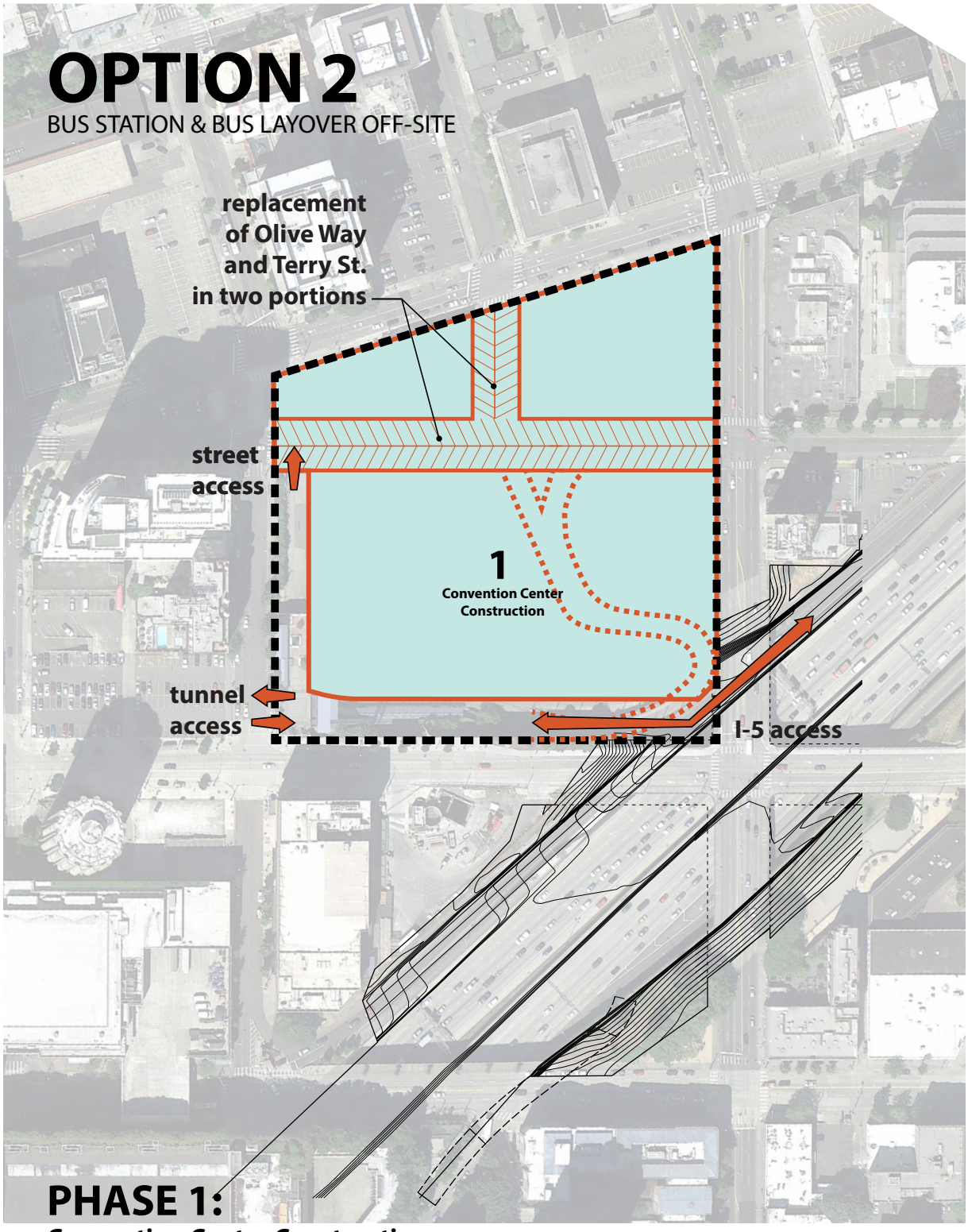
BUS STATION & BUS LAYOVER OFF-SITE

CURRENT CONDITION

LMN

OPTION 2

BUS STATION & BUS LAYOVER OFF-SITE



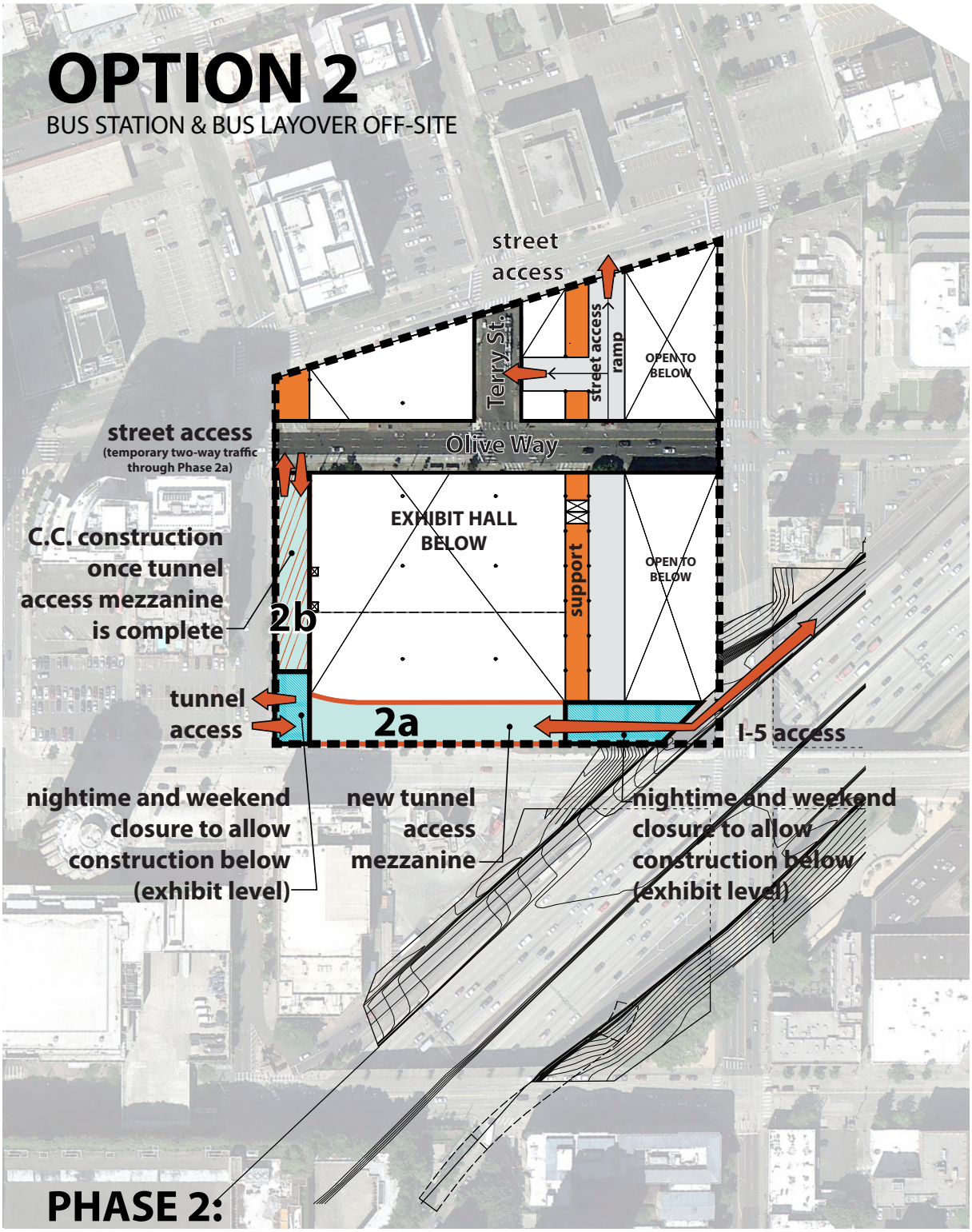
PHASE 1:

Convention Center Construction

- Demolition of current street access ramp
- Street access maintained on the corner of 9th Ave. and Olive Way
- I-5 access maintained
- Tunnel access maintained
- Existing Bus Station moved off-site
- Existing Bus Layover moved off-site

OPTION 2

BUS STATION & BUS LAYOVER OFF-SITE



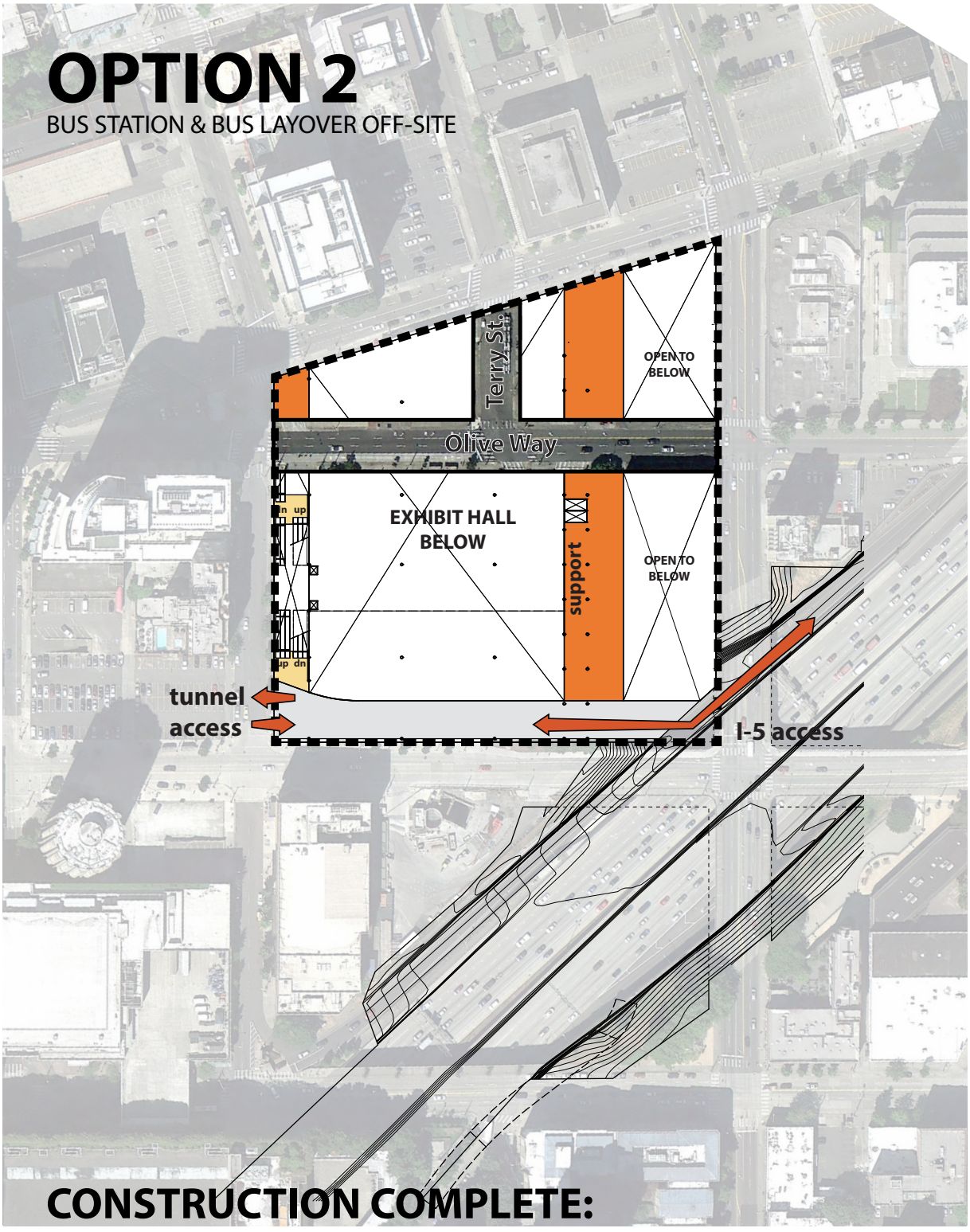
PHASE 2:

Tunnel Access Mezzanine

- Street access through new Phase 1 street ramp above loading dock
- Street and tunnel access maintained on the corner of 9th Ave. and Olive Way - until access mezzanine is complete
- I-5 access maintained - nightime and weekend construction as shown
- Tunnel access maintained - nightime and weekend construction as shown
- Bus Layover and Bus Station are off-site

OPTION 2

BUS STATION & BUS LAYOVER OFF-SITE

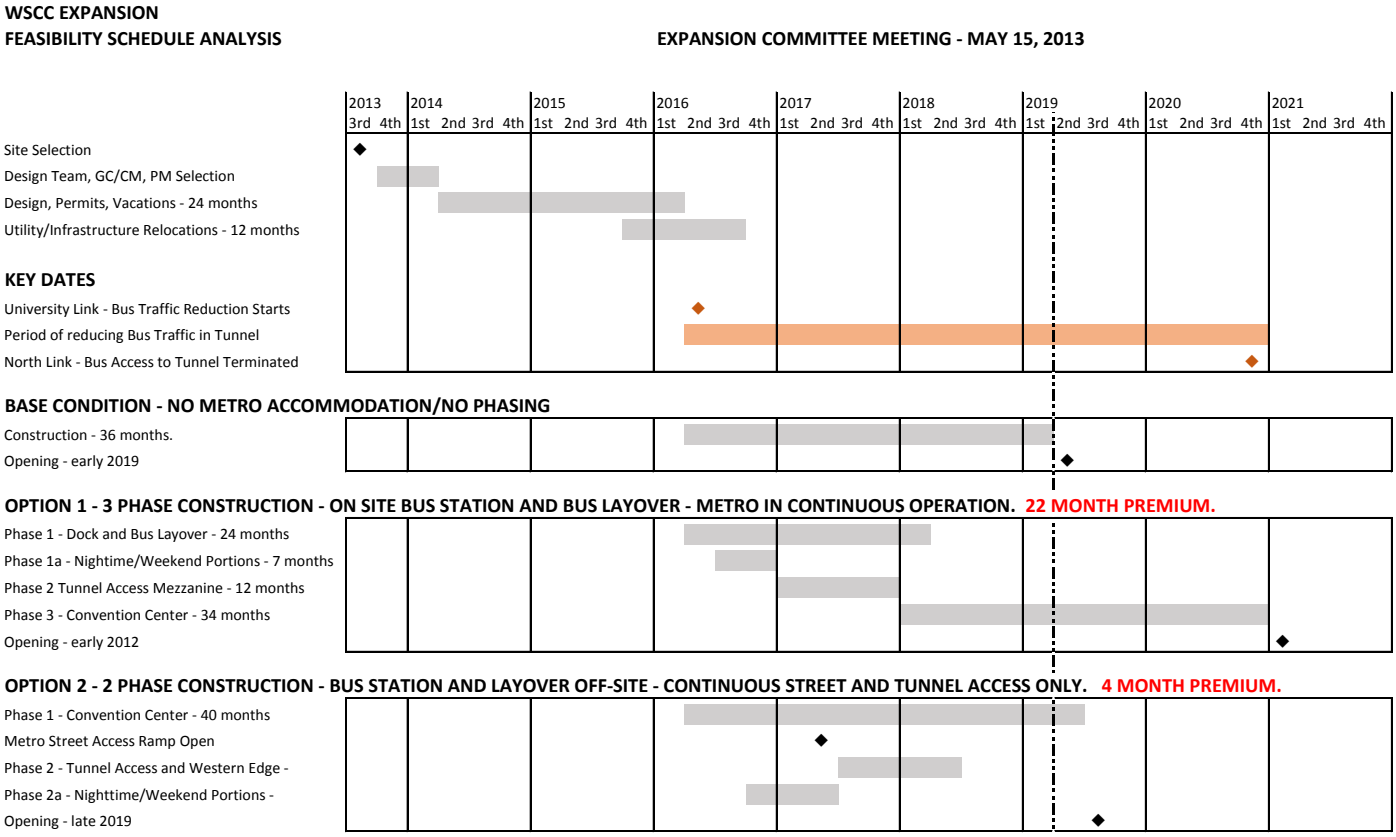


CONSTRUCTION COMPLETE:

- Street access through new Phase 1 Street Access Ramp re-purposed to new C.C. support area - post 2021
- I-5 access through new Phase 2 Tunnel Access Mezzanine - until 2021
- Tunnel access through new Phase 2 Tunnel Access Mezzanine
- Passenger facility off-site and at Westlake Center

Phasing Schedules

The baseline schedule was developed in order to assess the calendar impact of the two phasing options. The baseline construction schedule defines the construction period anticipated for the convention center alone, with no phasing.



Phasing Costs

The costs of phasing Option 1 and Phasing Option 2 were added to the Total Project Cost Budget.

5/28/2013

PRELIMINARY - FOR DISCUSSION

		2012 CPS Alternative Site	Notes
WSCC Base Facility Construction:			
Exhibit Halls		310,000	
Meeting Rooms		100,000	
Ballroom		55,000	
Total Net Area		465,000	Total Rentable Area
Total Gross Area		1,163,700	Convention Center Only
Cost per Square Foot	$	476.24	includes site clearance and relocations, sitework, loading, building
TOTAL WSCC BASE FACILITY CONSTRUCTION COST	**$**	**554,202,000**	includes a 15% estimating contingency increased $14,500,000 - bus layover adjustment
WSCC Affiliated Construction:			all items below include 15-25% contingency
Olive Way Reconstruction	$	21,264,000	
Parking Construction (WSCC only - 1,000 cars)	$	43,044,000	Convention Center associated only
Terry Avenue Extension with Truck Access Ramp	$	35,000,000	New street lid between Pike and Pine - does not include potential Park Lid
TOTAL WSCC AFFILIATED CONSTRUCTION COST	**$**	**99,308,000**	**increased $22,472,000 - transit related**
TOTAL WSCC CONSTRUCTION COST	**$**	**653,510,000**	
Transit-Related Construction:			
Transit Related Facility Construction	$	47,792,000	Includes Bus Station at Level 125
Phasing Option 1	$	164,000,000	22 month phasing impact
TOTAL TRANSIT-RELATED CONSTRUCTION COST-PHASING OPTION 1	**$**	**211,792,000**	
Transit Related Facility Construction	$	47,792,000	Includes Bus Station at Level 125
Deduction for Relocation of Bus Layover/Passenger Station	$	(35,000,000)	
Phasing Option 2	$	53,870,000	4 month phasing impact
TOTAL TRANSIT-RELATED CONSTRUCTION COST-PHASING OPTION 2	**$**	**66,662,000**	
Sales Tax on Construction		9.50%	
Escalation		16.88%	3.5% annual rate
Soft Costs		32.42%	average

Phasing Summary

The baseline schedule (no phasing) illustrates an approximate 3 year construction schedule, with the convention center expansion opening in the 1st quarter of 2019.

Phasing Option 1 provides full site access to Metro during the full extent on the convention center construction. However it lengthens the construction duration by 22 months and increases the project budget by $164 million. The convention center in phasing option 2 can be expected to open early in 2021. The cost impacts does not include the "lost business" that could expected during that 22 month period.

Phasing Option 2 provides a reduced site program to Metro, thereby reducing the phasing impacts. Option 2 lengthens the construction duration by 4 months over the baseline, and increases the project budget by $54 million. The convention center in phasing option 2 can be expected to open mid-2019.

Section 9: Conclusions

Section 9: Conclusions

The focus of 2008 Feasibility Study was the determination of the physical feasibility of achieving the WSCC program goals on the CPS site. The study showed that while the overall 2008 program goals could be achieved, the physical limitations of the CPS site resulted in compromises in the amount of contiguous exhibit hall area and the approach to freight loading, utilizing oversize elevators.

The 2012 Feasibility Study aimed to serve the convention and meeting needs for the region over a 20 – 25 year planning horizon, investigating more ambitious program targets including larger contiguous exhibit hall areas and a more conventional approach to freight loading. The 2012 program was achieved on a larger site, incorporating available parcels to the north of the CPS site to create the CPS Alternate Site. The 2012 study continued into 2013 with the specific analysis of freight access options and phasing scenarios.

The conclusions following the body of feasibility analysis described herein include:

- Program: The development of new convention facilities generally achieving the 2012 Expansion Program Goals of 300,000 square feet of exhibit space, 100,000 square feet of meeting space, a 50,000 – 60,000 square foot ballroom, and appropriately sized support space, is feasible on a site encompassing the CPS and adjacent properties – referred to herein as the CPS Alternate Site.
- Freight Loading: The new facilities can be configured in such a way that direct-drive freight loading to the exhibit halls can be achieved.
- Freight Access: A freight access path to the new facilities utilizing the current Hubbell Place approach coupled with an extension of Terry Avenue is physically feasible.
- Metro Transit Operations: Metro Transit access to the Downtown Seattle Transit Tunnel and to the I-5 express lanes is physically feasible under the revised convention center configuration, as are passenger facilities for transit routes utilizing the Convention Place Station, a bus layover area for up to 27 busses, and other existing transit functions.
- Transit operations can be accommodated during the construction of the WSCC facilities, but at a significant incremental cost and impact to the construction schedule. The scope of operations during construction is dependent on the mix of transit operations to be accommodated and on the timing of removal of Metro bus routes from the DSTT as Sound Transit LINK light rail service to the UW and to Northgate is initiated.
- Codevelopment Opportunities: The addition of the property north of Olive Way adds significant opportunity for private co-development as part of the overall project.

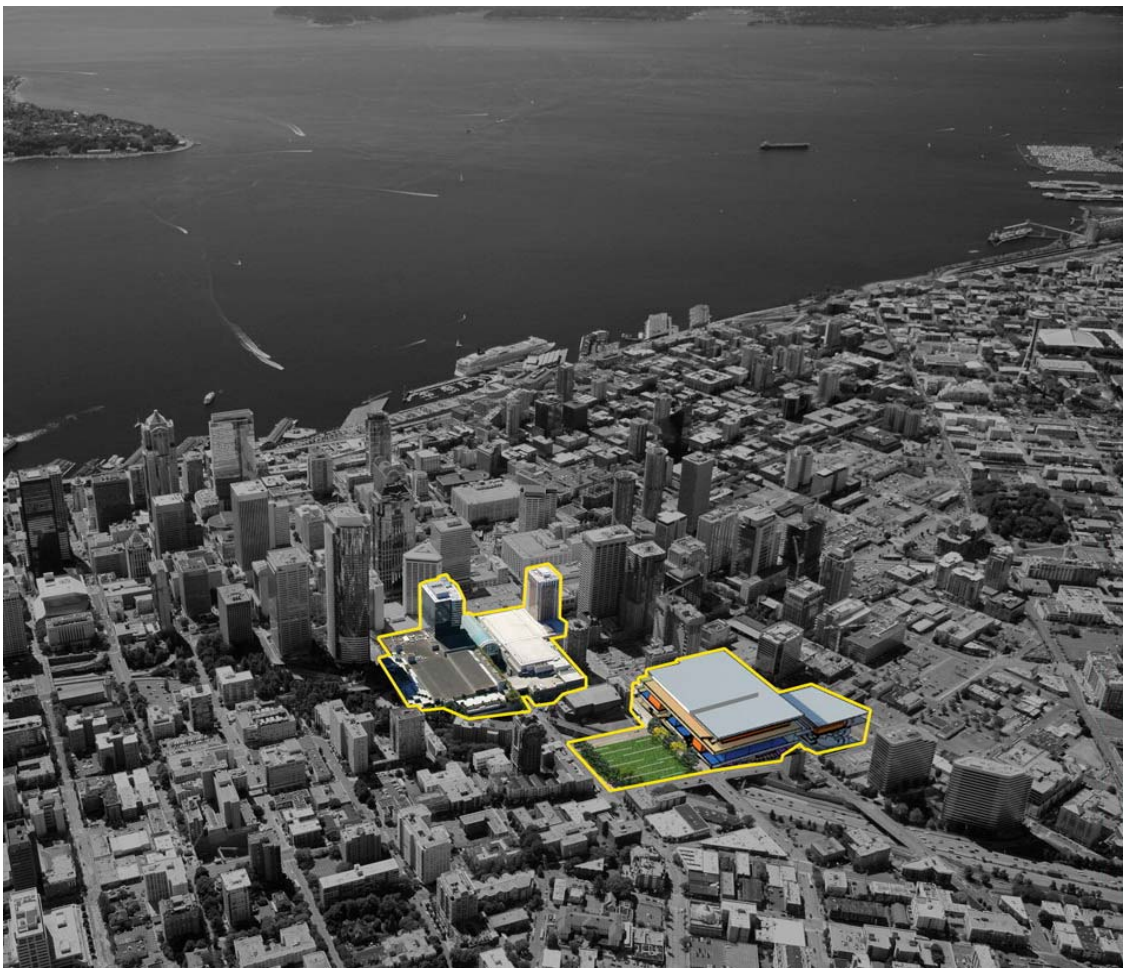
Section 10: Appendix

Section X: Appendix

I. Cost Report

Washington State Convention Center

Convention Place Station Site Expansion Study



LMN

Washington State Convention Center

Convention Place Station Site Expansion Study

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Washington State Convention Center
Convention Place Station Site Expansion Study

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Washington State Convention Center
Convention Place Station Site Expansion Study

Overall Summary

	SF AREA	$/SF	DEC 2012 TOTAL	ESCALATION DATE	ESCALATION RATE	ESCALATION TOTAL	SOFT COST %	SOFT COST ALLOW	PROJECT COST
			$x1,000		3.75% PA	$x1,000		$x1,000	Rounded
Building Construction									
B1 Level 105	220,000	420.41	**92,490**	Apr 17	17.10%	**108,309**	35.00%	37,908	**146,000**
B2 Level 125 Mezzanine	33,000	416.18	**13,734**	Apr 17	17.10%	**16,083**	35.00%	5,629	**22,000**
B3 Level 155	200,000	429.53	**85,906**	Apr 17	17.10%	**100,599**	35.00%	35,210	**136,000**
B4 Level 175 Mezzanine	49,000	409.90	**20,085**	Apr 17	17.10%	**23,520**	35.00%	8,232	**32,000**
B5 Level 200	200,000	436.28	**87,255**	Apr 17	17.10%	**102,179**	35.00%	35,763	**138,000**
B6 Level 245	200,000	490.91	**98,181**	Apr 17	17.10%	**114,974**	35.00%	40,241	**155,000**
B8 Central Utility Plant	40,000	643.00	**25,720**	Apr 17	17.10%	**30,119**	35.00%	10,542	**41,000**
B9 Sustainability and Energy Initiatives			**20,000**	Apr 17	17.10%	**23,421**	35.00%	8,197	**32,000**
TOTAL BUILDING CONSTRUCTION	942,000	470.67	443,371			519,204		181,721	702,000
Loading and Truck Circulation									
L1 Level 105 Loading Dock	100,000	235.00	**23,500**	Apr 17	17.10%	**27,519**	35.00%	9,632	**37,000**
L2 Level 200 Loading Platform	36,000	250.00	**9,000**	Apr 17	17.10%	**10,539**	35.00%	3,689	**14,000**
L3 Truck Ramp From Grade To Level 105	16,000	225.00	**3,600**	Apr 17	17.10%	**4,216**	35.00%	1,476	**6,000**
L4 Truck Circulation Ramp	68,000	200.00	**13,600**	Apr 17	17.10%	**15,926**	35.00%	5,574	**22,000**
L5 Truck Bridge Over Olive Way	1,700	1,500.00	**2,550**	Apr 17	17.10%	**2,986**	35.00%	1,045	**4,000**
TOTAL LOADING AND TRUCK CIRCULATION	221,700	235.68	**52,250**			**61,187**		21,415	**83,000**
TOTAL BUILDING AND LOADING	**1,163,700**	425.90	**495,621**			**580,391**		203,137	**785,000**
Site Preparation									
X1 Site Demolition			**4,000**	Jun 15	10.47%	**4,419**	20.00%	884	**5,000**
X2 Site Clearance	319,000	6.00	**1,914**	Jun 15	10.47%	**2,114**	20.00%	423	**3,000**
X3 Utility and Tunnel Infrastructure Relocations / Impacts			**10,000**	Jun 15	10.47%	**11,047**	20.00%	2,209	**13,000**
X4 Excavation and Shoring To Level 105	319,000	104.29	**33,268**	Jun 15	10.47%	**36,752**	20.00%	7,350	**44,000**
TOTAL SITE PREPARATION	319,000	154.17	**49,182**			**54,333**		10,867	**65,000**
Program Related Sitework									
S1 Perimeter Sidewalk and Streetscape	44,000	100.00	**4,400**	Jan 18	21.37%	**5,340**	20.00%	1,068	**6,000**
S2 Site Utilities			**5,000**	Jan 18	21.37%	**6,068**	20.00%	1,214	**7,000**
TOTAL PROGRAM RELATED SITEWORK			**9,400**			**11,408**		2,282	**13,000**
RECOMMENDED BUDGET FOR BASE PROGRAM	**1,163,700**	476.24	**554,202**			**646,132**		216,285	**863,000**
R1 Reconstruction of Olive Way			21,264	Jan 17	20.37%	25,595	30.00%	7,678	33,000
TOTAL INCLUDING RECONSTRUCTION OF OLIVE WAY			575,467			671,727		223,963	896,000

Washington State Convention Center
Convention Place Station Site Expansion Study

Overall Summary

			SF AREA	$/SF	DEC 2012 TOTAL	ESCALATION DATE	ESCALATION RATE	ESCALATION TOTAL	SOFT COST %	SOFT COST ALLOW	PROJECT COST
					$x1,000		3.75% PA	$x1,000		$x1,000	Rounded
Parking											
P1	Level 135 Parking In Truss Space (421 Stalls)		168,500	90.00	**15,165**	Apr 17	10.47%	**17,759**	25.00%	4,440	**22,000**
P2	Level 145 Parking In Truss Space (264 Stalls)		105,600	110.00	**11,616**	Apr 17	10.47%	**13,603**	25.00%	3,401	**17,000**
P3	Level 190 Parking In Truss Space (450 Stalls)		180,700	90.00	**16,263**	Apr 17	10.47%	**19,045**	25.00%	4,761	**24,000**
TOTAL PARKING			454,800	94.64	**43,044**			**50,406**		12,602	**63,000**
Off-Site Construction Options and Cost Ranges											
O1	New Terry Extension and Truck Bridge	High			**40,000**	Jan 17	20.37%	**48,146**	30.00%	14,444	**63,000**
		Low			**30,000**	Jan 17	20.37%	**36,110**	30.00%	10,833	**47,000**
TOTAL OFF-SITE CONSTRUCTION (MID RANGE)					**35,000**			**42,128**		12,638	**55,000**
TOTAL PROJECT COST BUDGET INCLUDING PARKING AND OFF-SITE					**653,511**			**764,261**		**249,203**	**1,014,000**
Transit Related Construction											
T1	Access Ramps From Howell		8,400	300.00	**2,520**	Jan 16	16.03%	**2,924**	30.00%	877	**4,000**
T2	Bus Layover Area		57,000	150.00	**8,550**	Jan 16	16.03%	**9,921**	30.00%	2,976	**13,000**
T3	Tunnel Access Drive		27,000	250.00	**6,750**	Jan 16	16.03%	**7,832**	30.00%	2,350	**10,000**
T4	I-5 Access Improvements				**6,000**	Jan 16	16.03%	**6,962**	30.00%	2,089	**9,000**
T5	Bus Tunnel Impacts and Interface				**3,000**	Jan 16	16.03%	**3,481**	30.00%	1,044	**5,000**
T6	Transit Related Site Utilities				**2,000**	Jan 16	16.03%	**2,321**	30.00%	696	**3,000**
T7	Transit Station at Level 125 - Designed For Short Term Use Through 2021				**18,972**	Jan 16	16.03%	**22,013**	30.00%	6,604	**29,000**
TOTAL TRANSIT RELATED CONSTRUCTION			92,400	517.23	**47,792**			**55,453**		16,636	**73,000**
TOTAL PROJECT COST BUDGET INCLUDING TRANSIT RELATED CONSTRUC					**701,303**			**819,714**		**265,839**	**1,087,000**
Optional Program Elements											
B7	Level 265 Mezzanine		79,000	446.16	**35,247**	Apr 17	17.10%	**41,276**	35.00%	14,446	**56,000**
P4	Level 91 Parking (797 Stalls)		319,000	250.00	**79,750**	Jun 15	10.47%	**88,102**	25.00%	22,026	**110,000**
P5	Level 81 Parking (797 Stalls)		319,000	200.00	**63,800**	Jun 15	10.47%	**70,482**	25.00%	17,620	**88,000**
O2	Reconstruction of Pike Street Bridge	High			**12,000**	Jan 17	20.37%	**14,444**	30.00%	4,333	**19,000**
		Low			**8,000**	Jan 17	20.37%	**9,629**	30.00%	2,889	**13,000**
O3	Public Park Cap	High	100,000	1,500.00	**150,000**	Jan 17	20.37%	**180,548**	30.00%	54,164	**235,000**
		Low	50,000	750.00	**37,500**	Jan 17	20.37%	**45,137**	30.00%	13,541	**59,000**

Washington State Convention Center
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Overall Summary

	SF AREA	$/SF	DEC 2012 TOTAL	DATE	ESCALATION RATE	ESCALATION TOTAL	SOFT COST %	SOFT COST ALLOW	PROJECT COST
			$x1,000		3.75% PA	$x1,000		$x1,000	Rounded
PHASING OPTIONS									
Phasing Option 1 - Incorporates Bus Station and Bus Layover									
Total Project Cost Budget Including Transit Related Construction			**701,303**			**819,714**		265,839	**1,087,000**
H01 Phasing Loading Dock / Layover as Separate Contract			**12,000**	Apr 17	17.10%	**14,052**	30.00%	4,216	**18,000**
H02 Phasing Olive Way East Reconstruction In Two Portions			**4,000**	Jan 17	20.37%	**4,815**	30.00%	1,444	**6,000**
H03 Phasing and Complexity of Transit Construction			**4,779**	Jan 16	16.03%	**5,545**	30.00%	1,664	**7,000**
H04 Premium for Temporary Bus Station On Layover Area			**1,028**	Jan 17	20.37%	**1,238**	30.00%	371	**2,000**
H05 Complex excavation, night and weekend work for Tunnel Access Drive			**6,750**	Jan 16	16.03%	**7,832**	30.00%	2,350	**10,000**
H06 Sequencing, night and weekend work for I-5 Access Ramp			**5,000**	Jan 16	16.03%	**5,802**	30.00%	1,740	**8,000**
H07 Temporary Protection of Layover and Access Drive	84,000	75.00	**6,300**	Jan 16	16.03%	**7,310**	30.00%	2,193	**10,000**
H08 Phasing Olive Way West Reconstruction In Two Portions			**4,000**	Jan 16	16.03%	**4,641**	30.00%	1,392	**6,000**
H09 Additional Escalation For Phased Construction	22	MO	**45,318**			**45,318**	30.00%	13,595	**59,000**
H10 Risk and Phasing Contingency	4	%	**24,546**			**28,690**		9,304	**38,000**
TOTAL PHASING PREMIUM FOR OPTION 1			**113,721**			**125,243**		38,270	**164,000**
TOTAL PROJECT COST BUDGET FOR PHASE 1			**815,024**			**944,958**		**304,109**	**1,251,000**
Phasing Option 2 - Bus Station and Bus Layover Off-Site									
Total Project Cost for Base Program (from above)			**701,303**			**819,714**		265,839	**1,087,000**
T2 Bus Layover Area	(57,000)	150.00	**(8,550)**	Jan 16	16.03%	**(9,921)**	30.00%	(2,976)	**(13,000)**
T7 Transit Station at Level 125 - Designed For Short Term Use Through 2021			**(18,972)**	Jan 16	16.03%	**(22,013)**	30.00%	(6,604)	**(29,000)**
T8 Street Access Ramp	19,500	225.00	**4,388**	Apr 17	17.10%	**5,138**	30.00%	1,541	**7,000**
SUBTOTAL ADJUSTED SCOPE WITHOUT BUS LAYOVER AND STATION			**673,781**			**787,780**		256,259	**1,052,000**
H21 Phasing Olive Way Reconstruction In Two Portions			**4,000**	Jan 17	20.37%	**4,815**	30.00%	1,444	**6,000**
H22 Complex excavation, night and weekend work for Tunnel Access Drive			**6,750**	Jan 16	16.03%	**7,832**	30.00%	2,350	**10,000**
H23 Phased construction of West Edge			**9,000**	Apr 17	17.10%	**10,539**	30.00%	3,162	**14,000**
H24 Sequencing, night and weekend work for I-5 Access Ramp			**5,000**	Jan 16	16.03%	**5,802**	30.00%	1,740	**8,000**
H25 Offsite Land, Development and Construction of Bus Station and Layover									***excluded***
H26 Temporary Protection of Access Drive	27,000	75.00	**2,025**	Jan 16	16.03%	**2,350**	30.00%	705	**3,000**
H27 Additional Escalation For Phased Construction	4	MO	**1,202**			**1,202**	30.00%	360	**2,000**
H28 Risk and Phasing Contingency	1	%	**7,013**			**8,197**		2,658	**10,870**
TOTAL PHASING PREMIUM FOR OPTION 2			**34,990**			**40,736**		12,420	**53,870**
TOTAL PROJECT COST BUDGET FOR PHASE 2			**713,158**			**833,654**		**270,220**	**1,105,870**

Washington State Convention Center
Convention Place Station Site Expansion Study

Basis of Estimate

Assumptions and Clarifications

This cost plan is based on the following documents:

1 Plans, elevations and sections provided for Convention Place Station Site Expansion Study dated 11.26.2012
2 Plan of truck access across Pike received 11.26.2012
3 Plan of truck access below Pike received 11.26.2012
4 Option 1 Parking Diagram
5 Construction Sequencing Diagrams received 05.01.2012
6 Discussions with LMN Architects

This estimate is based on the following assumptions and clarifications:

Site Clearance and Preparation

1 An allowance for $2,000,000 is included for demolition of structures on the site
2 An allowance of $3,500,000 is included for relocation of utilities existing on the site
3 Olive Way is assumed to be closed and demolished as part of the excavation of the basement construction
4 Excavated material is assumed not to be hazardous and disposed of within a 30 mile radius of the site
5 The shoring system assumes the use of tie-backs into the street beyond the property line
6 The excavation is assumed to be above the water table, an a $250,000 allowance is included for dewatering the excavation due to weather
7 An allowance of $100,000 is included for erosion control measures during the excavation

Convention Center Construction

1 The foundation system is assumed to be concrete piles with pile caps and grade beams
2 An allowance is included for (4) piles per column
3 Piles are assumed to be 100'-0" long
4 No permanent dewatering system is included
5 Below grade construction is assumed to be concrete perimeters walls with structural steel floor framing
6 Structure above grade is assumed to be structural steel with metal deck and normal weight concrete fill
7 Floor boxes are included in the exhibit halls
8 No catwalks are included
9 Exterior wall cladding composite rate of $125.00/sf complete, including canopies, sunshades, light control, louvers, and other exterior appurtenances
10 The main roof covering is assumed to be tapered insulation with single ply
11 A roof garden or enhanced roof finish is included for the terrace areas, but not included for the main roof
12 An allowance of 5,000sf is included for skylights
13 Interior partitions are based on typical interior partition ratios for the spaces, and assume a relatively open circulation concept
14 Interior finishes are assumed to be typical for the space, including painted open trusses (no ceiling) in exhibit spaces, carpet throughout except certain back of house areas. Wall finishes are typically paint finish, with an allowance for some acoustical treatment.
15 A raised floor system is not included
16 Two oversized high capacity freight elevators are included
17 Three standard traction passenger elevators are included
18 Plumbing systems are assumed to be typical for the space, including standard plumbing fixtures in restrooms, roof drainage systems for a flat roof concept and necessary other plumbing systems
19 A central plant is assumed, with no tie-back to capacity in the existing facility

Washington State Convention Center
Convention Place Station Site Expansion Study

Basis of Estimate

Sitework

1 New street scape improvements are included to the perimeter of the site
2 An allowance of $ 5,000,000 is included for new site utilities

Off-site Construction

1 An allowance is included for reconstruction of Olive Way
2 An allowance is included for construction of a new overpass at Terry that links Pine and Pike
3 An allowance is included for construction of a new public park and cap over the existing freeway bounded by Pine, Pike, Boren and the new Terry St extension
4 An allowance is included for construction of a new truck bridge connecting Pike Street with the new loading dock, crossing the existing freeway

Other Assumptions and Clarifications

1 An allowance of $20,000,000 is included for specific features to enhance sustainability and energy efficiency

Contingencies

1 A 15% estimating contingency is included in the estimates for all scopes except the off-site construction. This is to reflect the level of information available and the confidence level of the estimate.
2 A 25% estimating contingency is included for the off-site construction scopes due to the preliminary information and potentially higher risk associated with this construction
3 A 3% risk and phasing contingency is included for Phasing Option 1 to recognize the additional complexity and uncertainty associated with this option
4 A 1% risk and phasing contingency is included for Phasing Option 2 to recognize the additional complexity and uncertainty associated with this option

Escalation

1 Escalation is calculated to midpoint of construction based on start dates stated in the overall summary
2 Escalation is calculated at 3.75% per annum, compounded

Soft Costs

1 Soft cost allowances are included on the Overall Summary at a variable percentage based on the scope of work. These percentages are based on benchmark and historical data, but should be reviewed in detail and confirmed by the Owner as part of the budget
2 Note that Washington State Sales Tax is included in the soft cost allowance. This should be considered when comparing soft cost amounts to other facilities in other states where sales tax is only included on materials and included in the construction budget.
3 Project soft costs include:

CM/GC Preconstruction Services
Design and Consultant Services
Furnishings and Fixtures
Equipment, including AV and telecom data
Artwork
Federal, State and Local Agency Costs
Management reserve
Contingencies on Project Costs
Escalation on Project Costs
Washington State Sales Tax

Other Costs Not Included In This Estimate

The following additional costs have specifically not been included in the cost plan

1 Phasing or inefficient sequencing of the construction work except as identified in Phasing Options

Washington State Convention Center
Convention Place Station Site Expansion Study

Basis of Estimate

2 Underpinning of any existing structures

3 Temporary relocation of transit facilities except as identified in Phasing Options

4 Permanent relocation of transit facitilies, including land, development and construction of off-site bus station and layover facilities in Phasing Option 2

5 Codevelopment, impact and capacity for codevelopment and codevelopment infrastructure, including program areas

6 Acquisition costs for land, easements, rights of way

7 Mitigation costs

8 Management contingencies and reserves

9 Escalation on construction costs beyond a completion date of 2018 for base option, 2021 for Option 1 and 2019 for Option 2

Washington State Convention Center
Convention Place Station Site Expansion Study

Site Preparation

Item Description	Quantity	Unit	Rate	Total
Excavation and Shoring To Level 105				
Excavation				
Excavation for basement	635,046	CY	15.00	9,525,694
Haul and disposal of excavated material	635,046	CY	10.00	6,350,463
Shoring				
Perimeter shoring, including tie-backs				
9th Avenue	20,051	SF	75.00	1,503,788
Pine Street	39,828	SF	75.00	2,987,100
Howell Street	21,083	SF	75.00	1,581,225
Boren Ave	40,503	SF	75.00	3,037,725
Miscellaneous				
Temporary dewatering of excavation	1	LS	250,000.00	250,000
Erosion control provisions	1	LS	100,000.00	100,000
Subtotal Cost Before Markups				**25,335,995**
Z10 Contingency	15.00%			3,800,399
Z11 Temporary Protection	0.00%			
Z12 Sequencing	0.00%			
Z21 General Conditions	5.00%			1,456,820
Z22 General Requirements	3.00%			917,796
Z23 Insurances and Bond	2.50%			787,775
Z24 Fee	3.00%			968,964
Z30 Escalation to Midpoint (Apr 2018)	0.00%			*see overall summary*
				33,267,749

Washington State Convention Center
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Convention Center Expansion Areas & Control Quantities

	SF		SF
Areas			
Enclosed Areas		Program Areas	
Level 105	220,000	Exhibit Hall	310,000
Level 125 Mezzanine	33,000	Meeting Rooms	140,000
Level 155	200,000	Ballroom	50,000
Level 175 Mezzanine	49,000	Prefunction / Registration	209,000
Level 200	200,000	Support	154,500
Level 245	200,000	Kitchen	15,000
Level 265	79,000	Circulation	94,500
Central Plant	40,000	Central Plant	40,000
Subtotal of Enclosed Areas	1,021,000	Exterior Terrace	8,000
TOTAL GROSS FLOOR AREA	**1,021,000**		**1,021,000**

Control Quantities			Ratio to GFA
Net Program Area	500,000	SF	0.490
Number of stories (x1,000)	7	EA	0.000
Gross Area	1,021,000	SF	1.000
Enclosed Area	1,021,000	SF	1.000
Covered Area	0	SF	-
Footprint Area	277,750	SF	0.272
Volume	38,800,000	CF	38.002
Basement Volume	11,000,000	CF	10.774
Gross Wall Area	376,480	SF	0.369
Retaining Wall Area	58,688	SF	0.057
Finished Wall Area	317,793	SF	0.311
Roof Area - Flat	277,750	SF	0.272
Roof Area - Sloping	0	SF	-
Roof Area - Total	277,750	SF	0.272
Roof Glazing Area	5,000	SF	0.005
Interior Partition Length	0	LF	-
Finished Area	1,021,000	SF	1.000
Elevators (x10,000)	5	EA	0.049

Washington State Convention Center
Convention Place Station Site Expansion Study

Convention Center Expansion Summary

			%	$/SF	TOTAL
			Gross Area:	1,021,000 SF	
A10	Foundations		4%	17.00	17,357
A20	Basement Construction		1%	4.31	4,400
A	Substructure		5%	21.31	21,757
B10	Superstructure		18%	78.63	80,284
B20	Exterior Enclosure		9%	42.24	43,130
B30	Roofing		1%	6.39	6,526
B	Shell		28%	127.27	129,940
C10	Interior Construction		7%	31.61	32,269
C20	Stairways		1%	3.00	3,063
C30	Interior Finishes		5%	23.47	23,968
C	Interiors		13%	58.08	59,300
D10	Conveying Systems		3%	12.49	12,753
D20	Plumbing Systems		2%	9.27	9,469
D30	Heating, Ventilation & Air Conditioning		9%	40.35	41,200
D40	Fire Protection		1%	5.96	6,086
D50	Electrical Lighting, Power & Communications		11%	49.47	50,510
D	Services		26%	117.55	120,018
E10	Equipment		4%	15.97	16,306
E20	Furnishings		0%	1.81	1,845
E	Equipment & Furnishings		4%	17.78	18,151
F10	Special Construction		0%	0.00	0
F20	Selective Demolition		0%	0.00	0
F	Special Construction & Demolition		0%	0.00	0
BUILDING ELEMENTAL COST BEFORE CONTINGENCIES			76%	341.98	349,164
Z10	Contingency	15.00%	11%	51.30	52,375
Z11	Temporary Protection	0.00%	0%	0.00	0
Z12	Sequencing	0.00%	0%	0.00	0
BUILDING ELEMENTAL COST INCLUDING CONTINGENCIES			88%	393.28	401,539
Z21	General Conditions	5.00%	4%	19.66	20,077
Z22	General Requirements	3.00%	3%	12.39	12,648
Z23	Insurances and Bond	2.50%	2%	10.63	10,857
Z24	Fee	3.00%	3%	13.08	13,354
BUILDING CONSTRUCTION COST BEFORE ESCALATION			100%	449.04	458,475
Z30	See Overall Summary For Escalation	0.00%	0%	0.00	0
RECOMMENDED BUDGET			100%	449.05	458,475

A B C D E F

Washington State Convention Center
Convention Place Station Site Expansion Study

Cost By Program Element for Convention Center Expansion

	Space Name	Gross Area		$/SF		Total ($x1,000)
105	Exhibit Hall	170,000	$	428.00	$	72,760
105	Support	31,500	$	392.00	$	12,348
105	Circulation	18,500	$	399.00	$	7,382
SUBTOTAL - LEVEL 105		**220,000**	**$**	**420.41**	**$**	**92,490**
125	Support	18,000	$	413.00	$	7,434
125	Circulation	15,000	$	420.00	$	6,300
SUBTOTAL - LEVEL 125 MEZZANINE		**33,000**	**$**	**416.18**	**$**	**13,734**
155	Meeting Rooms	65,000	$	483.00	$	31,395
155	Prefunction / Registration	100,000	$	400.00	$	40,000
155	Support	27,000	$	413.00	$	11,151
155	Circulation	8,000	$	420.00	$	3,360
SUBTOTAL - LEVEL 155		**200,000**	**$**	**429.53**	**$**	**85,906**
175	Prefunction / Registration	16,000	$	400.00	$	6,400
175	Support	25,000	$	413.00	$	10,325
175	Circulation	8,000	$	420.00	$	3,360
SUBTOTAL - LEVEL 175 MEZZANINE		**49,000**	**$**	**409.90**	**$**	**20,085**
200	Exhibit Hall	140,000	$	449.00	$	62,860
200	Support	23,000	$	413.00	$	9,499
200	Circulation	33,000	$	420.00	$	13,860
200	Exterior Terrace	4,000	$	259.00	$	1,036
SUBTOTAL - LEVEL 200		**200,000**	**$**	**436.28**	**$**	**87,255**
245	Meeting Rooms	35,000	$	483.00	$	16,905
245	Ballroom	50,000	$	581.00	$	29,050
245	Kitchen	15,000	$	829.00	$	12,435
245	Prefunction / Registration	73,000	$	400.00	$	29,200
245	Support	15,000	$	413.00	$	6,195
245	Circulation	8,000	$	420.00	$	3,360
245	Exterior Terrace	4,000	$	259.00	$	1,036
SUBTOTAL - LEVEL 245		**200,000**	**$**	**490.91**	**$**	**98,181**
265	Meeting Rooms	40,000	$	483.00	$	19,320
265	Prefunction / Registration	20,000	$	400.00	$	8,000
265	Support	15,000	$	413.00	$	6,195
265	Circulation	4,000	$	433.00	$	1,732
SUBTOTAL - LEVEL 265 MEZZANINE		**79,000**	**$**	**446.16**	**$**	**35,247**
CP	Central Plant	40,000	$	643.00	$	25,720
SUBTOTAL - CENTRAL PLANT		**40,000**	**$**	**643.00**	**$**	**25,720**
TOTAL		**1,021,000**	**$**	**449.18**	**$**	**458,618**

Washington State Convention Center
Convention Place Station Site Expansion Study

Transit Related Construction

Item Description	Quantity	Unit	Rate	Total
Alternate 1: Transit Station at Level 125 - Designed For Short Term Use Through 2021				
Structure				
Platform slab structure, 420' x 30'	12,600	SF	60.00	756,000
Slab topping for transit	37,950	SF	5.00	189,750
Station structure at level 162	3,200	SF	100.00	320,000
Tunnel interface	2	EA	100,000.00	200,000
Other structural impacts	1	LS	50,000.00	50,000
Miscellaneous secondary framing	1	LS	50,000.00	50,000
Pads and curbs	1	LS	50,000.00	50,000
Exterior closure				
Station cladding differentiation	2,100	SF	50.00	105,000
Entrance doors	12	PR	10,000.00	120,000
Exit doors - emergency	8	PR	7,000.00	56,000
Canopy	1	LS	100,000.00	100,000
Miscellaneous exterior work and detailing	1	LS	75,000.00	75,000
Roofing				*with convention center*
Interior partitions				
Separation wall	14,375	SF	50.00	718,750
Partition walls	500	LF	250.00	125,000
Shaft walls	12,480	SF	30.00	374,400
Interior doors and frames, transit grade	20	EA	6,000.00	120,000
Railings and guardrails	1	LS	100,000.00	100,000
Interior finishes				
Platform	12,600	SF	20.00	252,000
Station - complete	3,200	SF	50.00	160,000
Open area ceiling	37,950	SF	5.00	189,750
Perimeter walls	32,000	SF	5.00	160,000
Interest feature at walls opposite platform	11,500	SF	10.00	115,000
Architectural detailing	1	LS	75,000.00	75,000
Acoustic mitigation	37,950	SF	25.00	948,750
Specialties and equipment				
Signage and graphics	1	LS	250,000.00	250,000
Platform seating, equipment and furnishings	1	LS	150,000.00	150,000
Station equipment and furnishings	1	LS	75,000.00	75,000
Stairs and vertical transportation				
Exit stairs	6	FLT	40,000.00	240,000
Platform access stairs and finish	1	FLT	120,000.00	120,000
Escalators - transit grade	2	EA	600,000.00	1,200,000

Washington State Convention Center
Convention Place Station Site Expansion Study

Transit Related Construction

Item Description	Quantity	Unit	Rate	Total
Elevator, 2 stop hydraulic	1	EA	200,000.00	200,000
Mechanical and electrical				
Plumbing	1	LS	100,000.00	100,000
Mechanical ventilation and exhaust, not air conditioned	41,150	SF	40.00	1,646,000
Tunnel impacts	1	LS	150,000.00	150,000
Electrical, including lighting	41,150	SF	80.00	3,292,000
Fire protection	41,150	SF	10.00	411,500
Alternate Cost Before Markups				**13,244,900**
Z10 Contingency	15.00%			1,986,735
Z11 Temporary Protection	0.00%			
Z12 Sequencing	5.00%			761,582
Z21 General Conditions	7.00%			1,119,525
Z22 General Requirements	4.00%			684,510
Z23 Insurances and Bond	2.50%			444,931
Z24 Fee	4.00%			729,687
Z30 Escalation to Midpoint (Apr 2018)	0.00%		*see Overall Summary*	
				18,971,870

Washington State Convention Center
Convention Place Station Site Expansion Study

Off-Site Construction

Item Description	Quantity	Unit	Rate	Total
Reconstruction Of Olive Way				
Street Closure	1	LS	100,000.00	100,000
Temporary Facilities and Signage	1	LS	175,000.00	175,000
Premium for additional structure over new Exhibit Hall below	37,375	SF	150.00	5,606,250
Modification of Existing Structure at 9th & Boren	2	LOC	1,500,000.00	3,000,000
Roadway	23,000	SF	25.00	575,000
Sidewalk	11,500	SF	20.00	230,000
Perimeter Walls & Guardrail	575	LF	300.00	172,500
Storm Water Drainage	37,375	SF	15.00	560,625
Street Lighting	37,375	SF	10.00	373,750
Utilities and Connections Allowance	1	LS	500,000.00	500,000
Traffic Control Signals and Signage				
9th Ave Intersection	1	LS	350,000.00	350,000
Boren Intersection	1	LS	350,000.00	350,000
Terry Intersection	1	LS	350,000.00	350,000
Subtotal Cost Before Markups				**12,343,125**
Z10 Contingency	30.00%			3,702,938
Z11 Temporary Protection	3.00%			481,382
Z12 Sequencing	5.00%			826,372
Z21 General Conditions	10.00%			1,735,382
Z22 General Requirements	3.00%			572,676
Z23 Insurances and Bond	3.00%			589,856
Z24 Fee	5.00%			1,012,587
Z30 Escalation to Midpoint (Apr 2018)	0.00%		*see Overall Summary*	
				21,264,317

Washington State Convention Center
Convention Place Station Site Expansion Study

Off-Site Construction

Item Description	Quantity	Unit	Rate	Total
Public Park Cap				
Cap Structure Over I-5 Freeway	100,000	SF	500.00	50,000,000
Modification of Existing Structure				
Along Pike Street	270	LF	7,500.00	2,025,000
Along Pine Street	270	LF	7,500.00	2,025,000
Lighting to Tunnel Below	100,000	SF	15.00	1,500,000
Ventilation and Exhaust System In Tunnel	100,000	SF	25.00	2,500,000
Ventilation Shaft, and Enclosure Through park	1	LS	500,000.00	500,000
Fire Protection in Tunnel	100,000	SF	10.00	1,000,000
Video Surveillance and Security	100,000	SF	18.00	1,800,000
Waterproofing and Coverslab Over Structure	100,000	SF	35.00	3,500,000
Perimeter Sidewalk and Curb	12,800	SF	25.00	320,000
Patch Repair Asphalt at Existing Street Surfaces	910	LF	500.00	455,000
Public Park Surface Improvements	93,000	SF	120.00	11,160,000
Public Park Amenities	93,000	SF	75.00	6,975,000
Public Park Storm Water Disposal	93,000	SF	30.00	2,790,000
Public Park Utilities	93,000	SF	10.00	930,000
Subtotal Cost Before Markups				**87,480,000**
Z10 Contingency	30.00%			26,244,000
Z11 Temporary Protection	3.00%			3,411,720
Z12 Sequencing	5.00%			5,856,786
Z21 General Conditions	10.00%			12,299,251
Z22 General Requirements	3.00%			4,058,753
Z23 Insurances and Bond	3.00%			4,180,515
Z24 Fee	5.00%			7,176,551
Z30 Escalation to Midpoint (Apr 2018)	0.00%			*see Overall Summary*
				150,707,576

Washington State Convention Center
Convention Place Station Site Expansion Study

Off-Site Construction

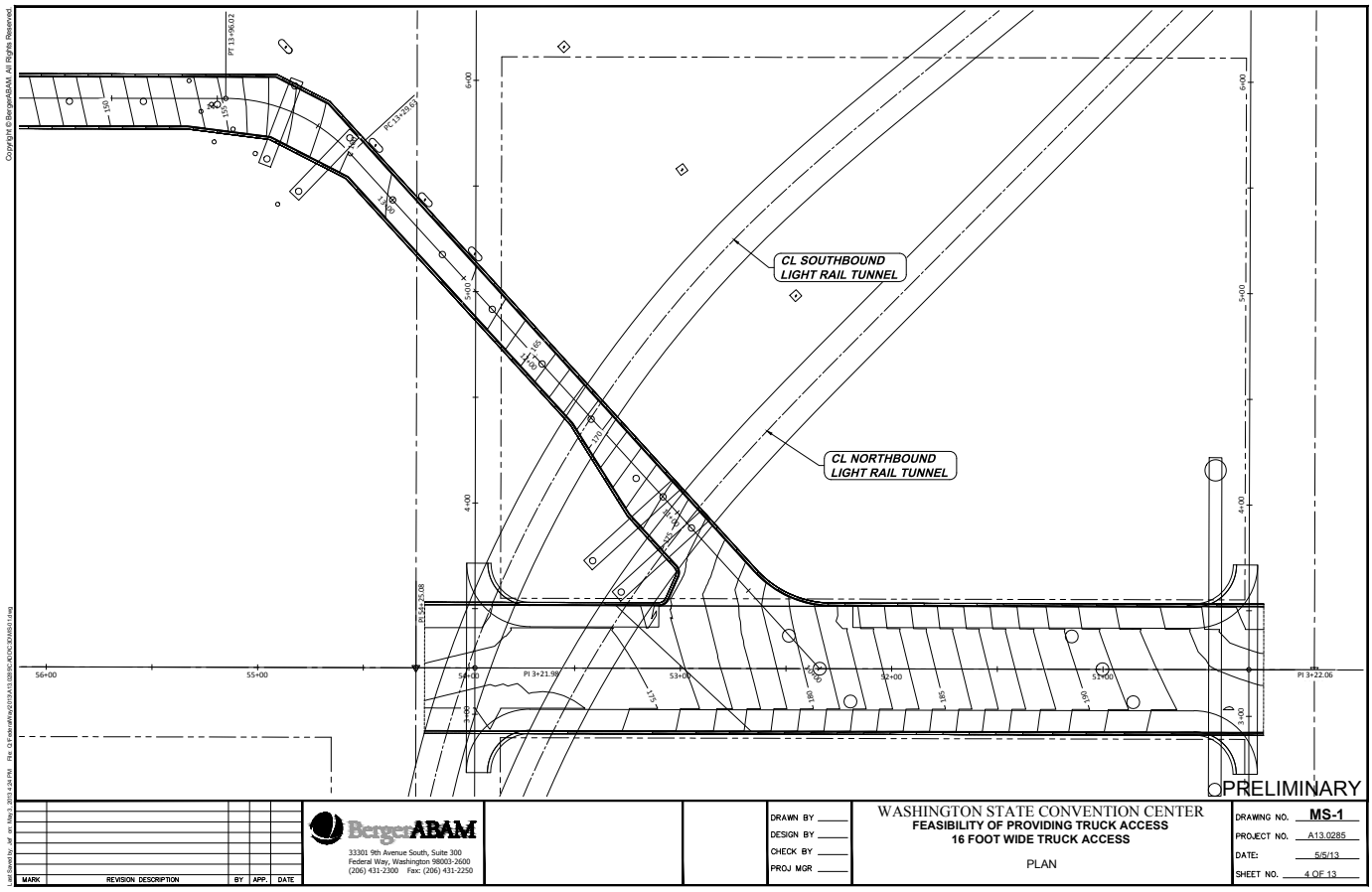
Item Description	Quantity	Unit	Rate	Total
New Terry Extension Between Pine and Pike and Truck Bridge				
Bridge Structure. Over I-5 Freeway				
Demolition and site preparation	2	LOC	150,000.00	300,000
Drilled shaft, 8'-0" dia x 80'-0"	894	CY	1,000.00	893,609
Mobilization and demobilization	2	LOC	100,000.00	200,000
Pile caps	300	CY	1,500.00	450,000
Grading and earthwork	2,400	SF	100.00	240,000
Concrete columns	150	LF	3,000.00	450,000
Structure over freeway	25,000	SF	275.00	6,875,000
Temporary protection structure	25,000	SF	75.00	1,875,000
Modification of existing structure - allowance	2	LOC	750,000.00	1,500,000
Roadway	15,000	SF	25.00	375,000
Sidewalk	10,000	SF	20.00	200,000
Perimeter Walls & Guardrail	740	LF	600.00	444,000
Storm Water Drainage	25,000	SF	15.00	375,000
Street Lighting	25,000	SF	10.00	250,000
Utilities and Connections Allowance	1	LS	500,000.00	500,000
Traffic Control Signals & Signage	1	LS	350,000.00	350,000
Truck Bridge Road Section				
Spanning Express Lanes, 25'-0" Clear Above Expressway, 16'-0" Clear Under Pine Street				
Demolition and site preparation	7,000	SF	25.00	175,000
Drilled shafts, 6'-0" dia x 50'-0"	785	CY	1,000.00	785,398
Mobilization and demobilization	1	LS	100,000.00	100,000
Pile caps	300	CY	1,500.00	450,000
Grading and earthwork	7,000	SF	50.00	350,000
Concrete columns	375	LF	2,000.00	750,000
Structure over express lanes	8,500	SF	250.00	2,125,000
Temporary protection structure	8,500	SF	75.00	637,500
Roadway	8,500	SF	25.00	212,500
Perimeter Wall and Guardrail	740	LF	600.00	444,000
Storm Water Drainage	8,500	SF	15.00	127,500
Street Lighting				
Truck Bridge Area	8,500	SF	10.00	85,000
Express Lanes level revisions	8,500	SF	10.00	85,000
Utilities and Connections Allowance	1	LS	500,000.00	500,000
Traffic Control Signals and Signage				
Terry Intersection	1	LS	350,000.00	350,000
Subtotal Cost Before Markups				**22,454,507**

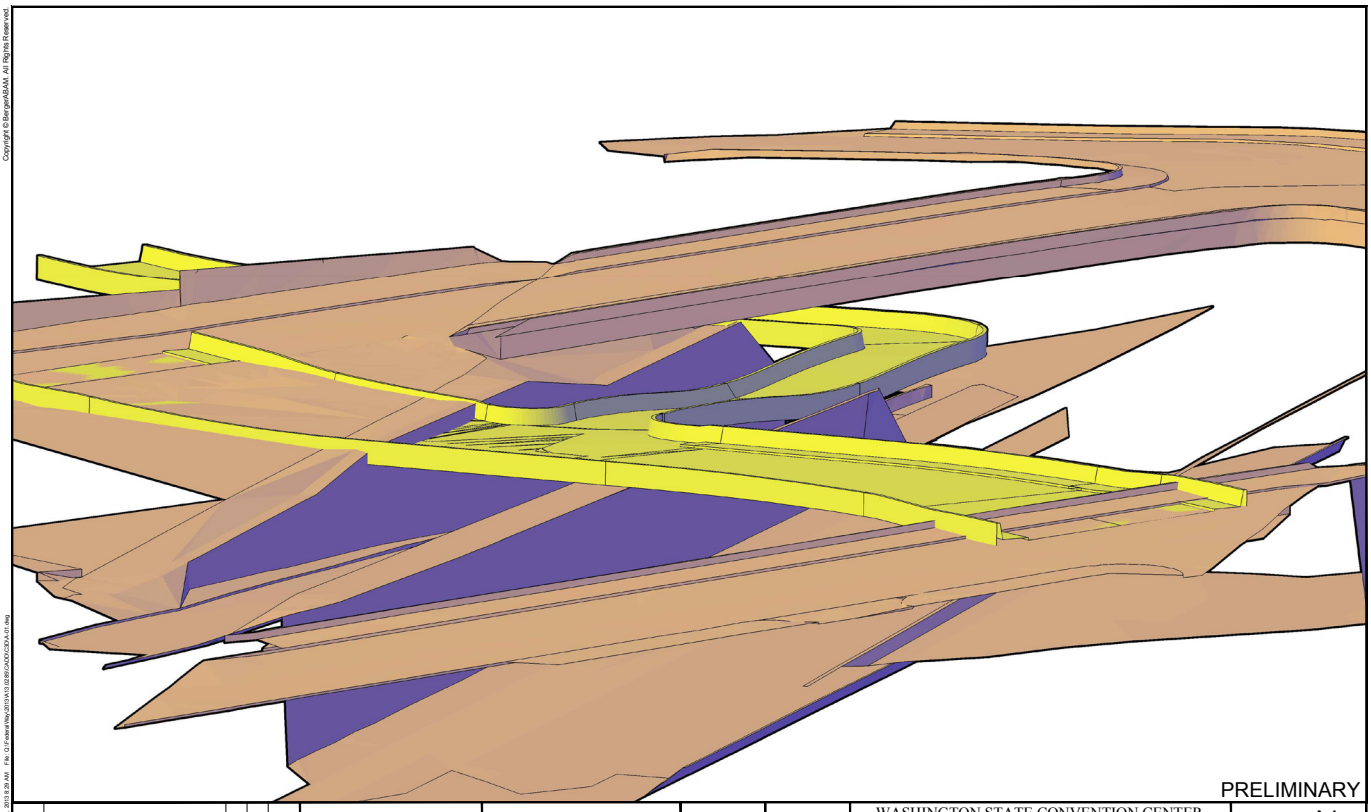
Washington State Convention Center
Convention Place Station Site Expansion Study

Off-Site Construction

Item Description	Quantity	Unit	Rate	Total
Z10 Contingency	25.00%			5,613,627
Z11 Mobilization	8.00%			2,245,451
Z12 Sequencing	2.00%			606,272
Z21 General Conditions	10.00%			3,091,986
Z22 General Requirements	3.00%			1,020,355
Z23 Insurances and Bond	3.00%			1,050,966
Z24 Fee	4.00%			1,443,326
Z30 Escalation to Midpoint (Apr 2018)	0.00%			*see Overall Summary*
				37,526,489

II. Terry Avenue Feasibility Analysis





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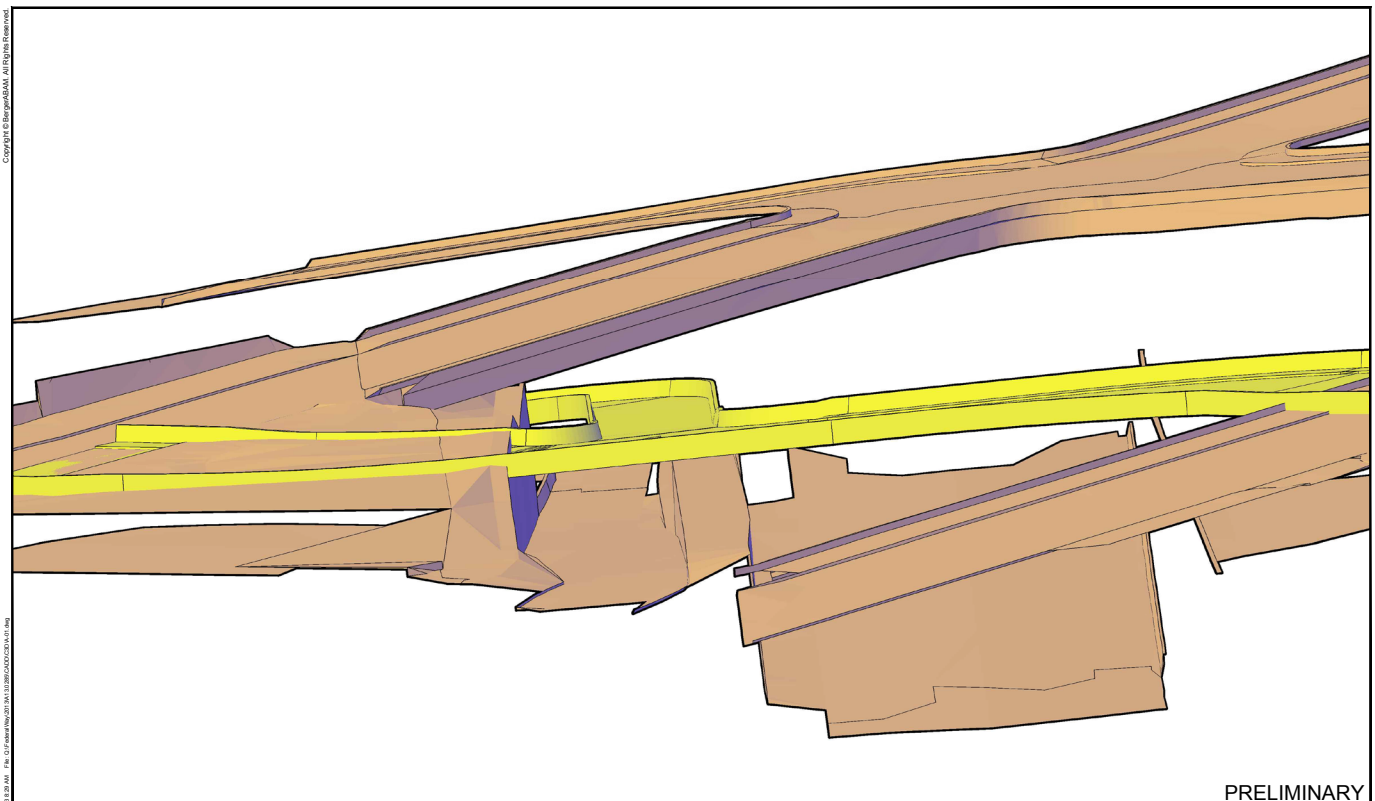
FEASIBILITY OF PROVIDING TRUCK ACCESS
3D VIEW
SHEET 1

DRAWING NO. A-1
PROJECT NO. A13.0285
DATE: 4/8/13
SHEET NO. 1 OF 14



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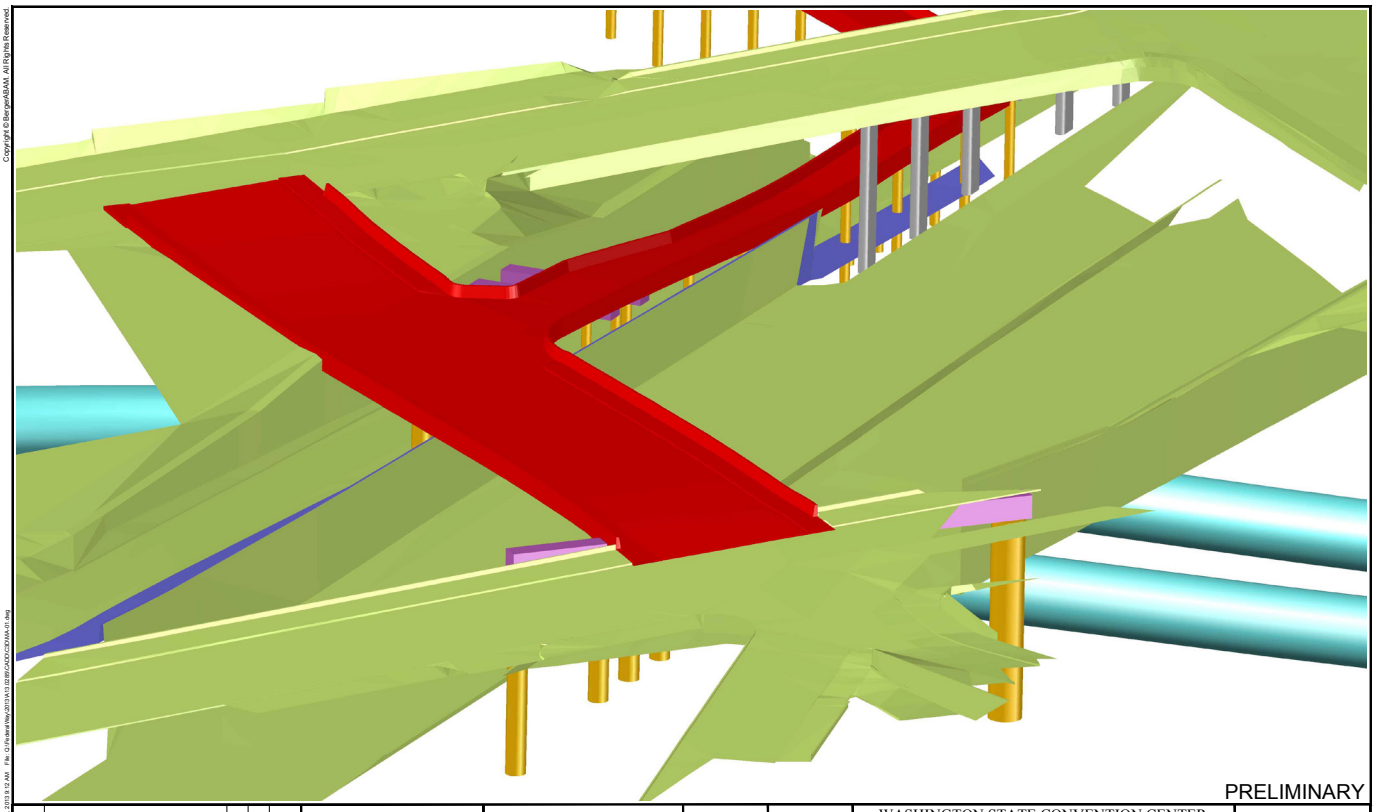
FEASIBILITY OF PROVIDING TRUCK ACCESS
3D VIEW
SHEET 2

DRAWING NO. A-2
PROJECT NO. A13.0285
DATE: 4/8/13
SHEET NO. 2 OF 14



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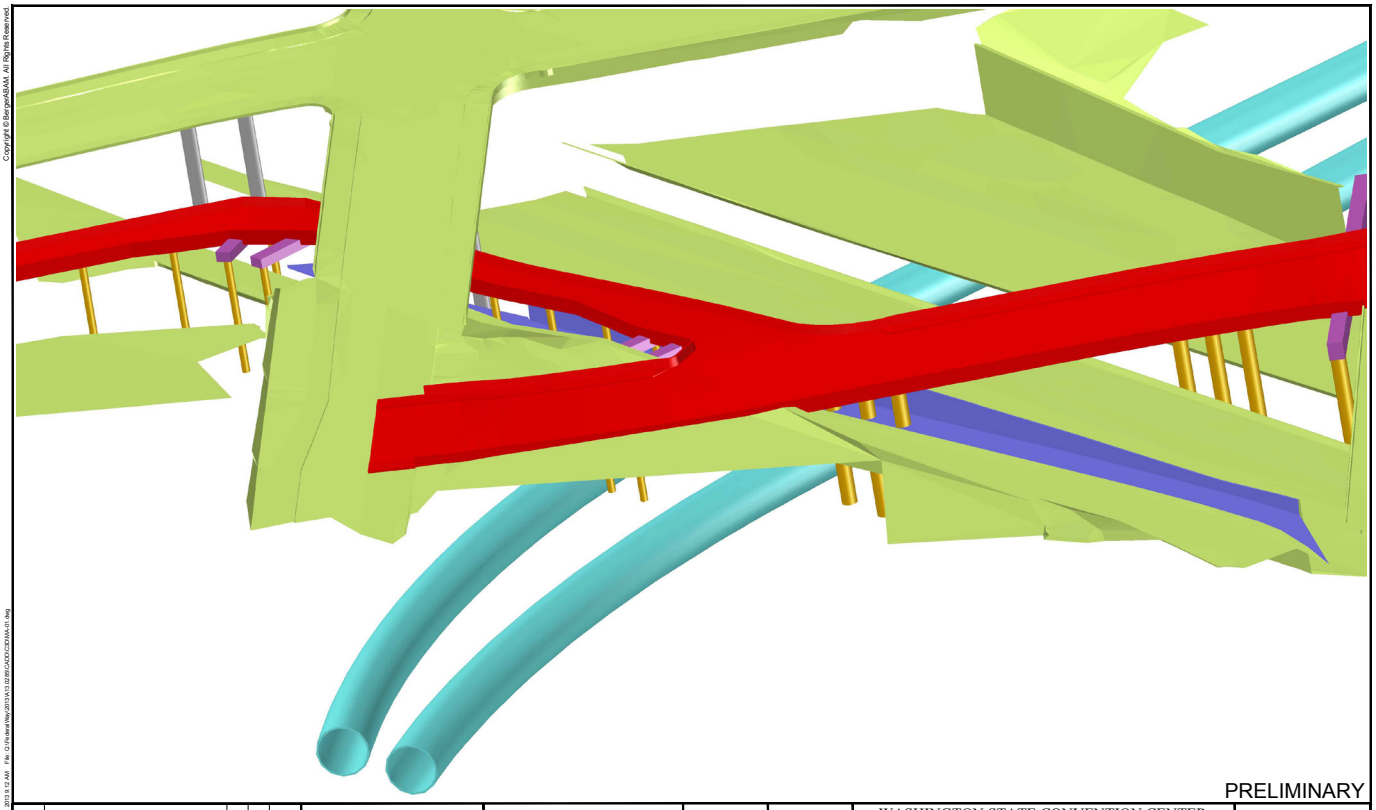
FEASIBILITY OF PROVIDING TRUCK ACCESS
16 FOOT WIDE TRUCK ACCESS
3D VIEW
SHEET 1

DRAWING NO. MA-1
PROJECT NO. A13.0285
DATE: 5/5/13
SHEET NO. 1 OF 13



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16 FOOT WIDE TRUCK ACCESS
3D VIEW
SHEET 2

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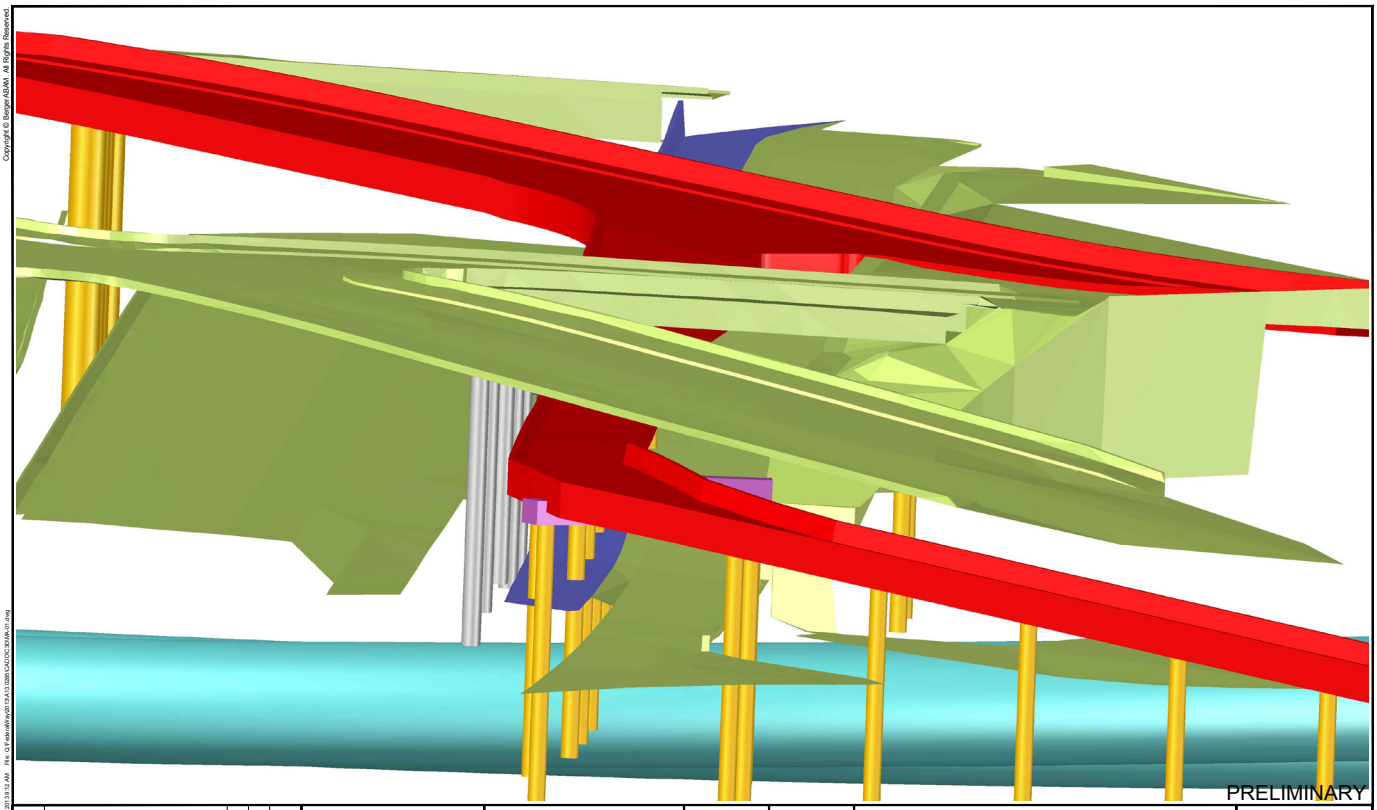
PROJECT NO. A13.0285
DATE: 5/5/13
SHEET NO. 2 OF 13



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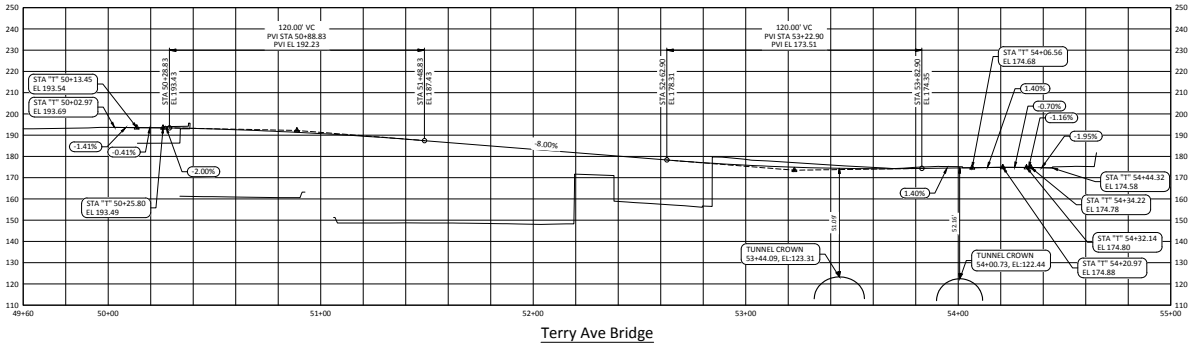
16 FOOT WIDE TRUCK ACCESS
3D VIEW
SHEET 3

DRAWING NO. MA-3
PROJECT NO. A13.0285
DATE: 5/5/13
SHEET NO. 3 OF 13



Terry Ave Bridge

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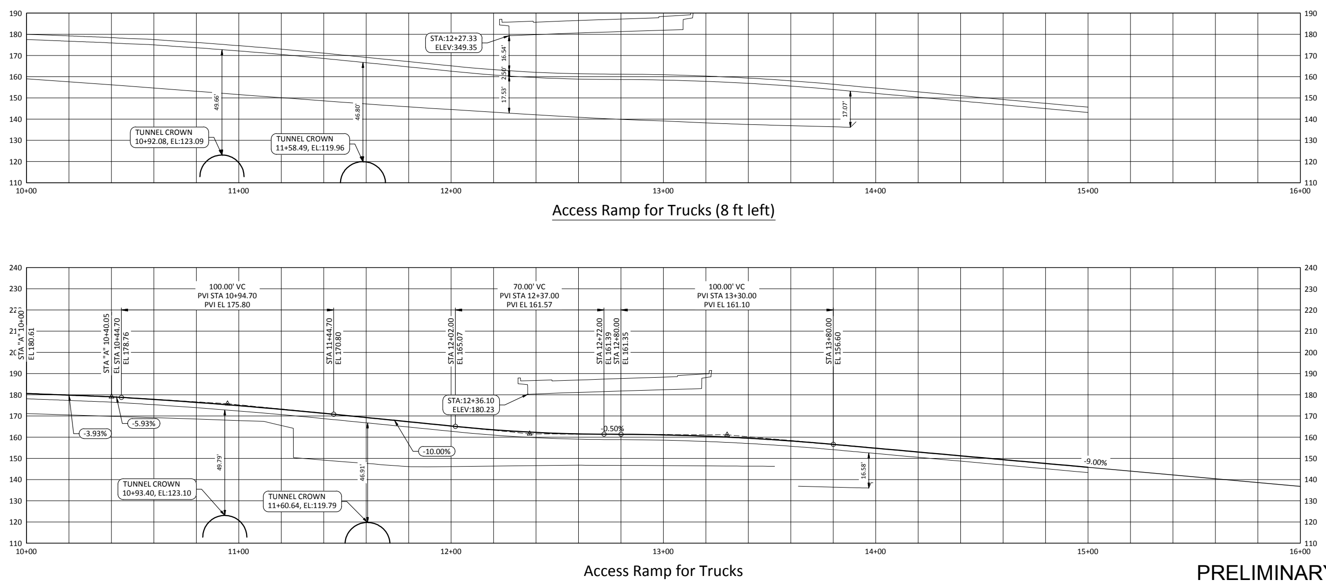
16 FOOT WIDE TRUCK ACCESS
PROFILE - TERRY AVENUE

DRAWING NO. MS-2
PROJECT NO. A13.0285
DATE: 5/5/13
SHEET NO. 5 OF 13



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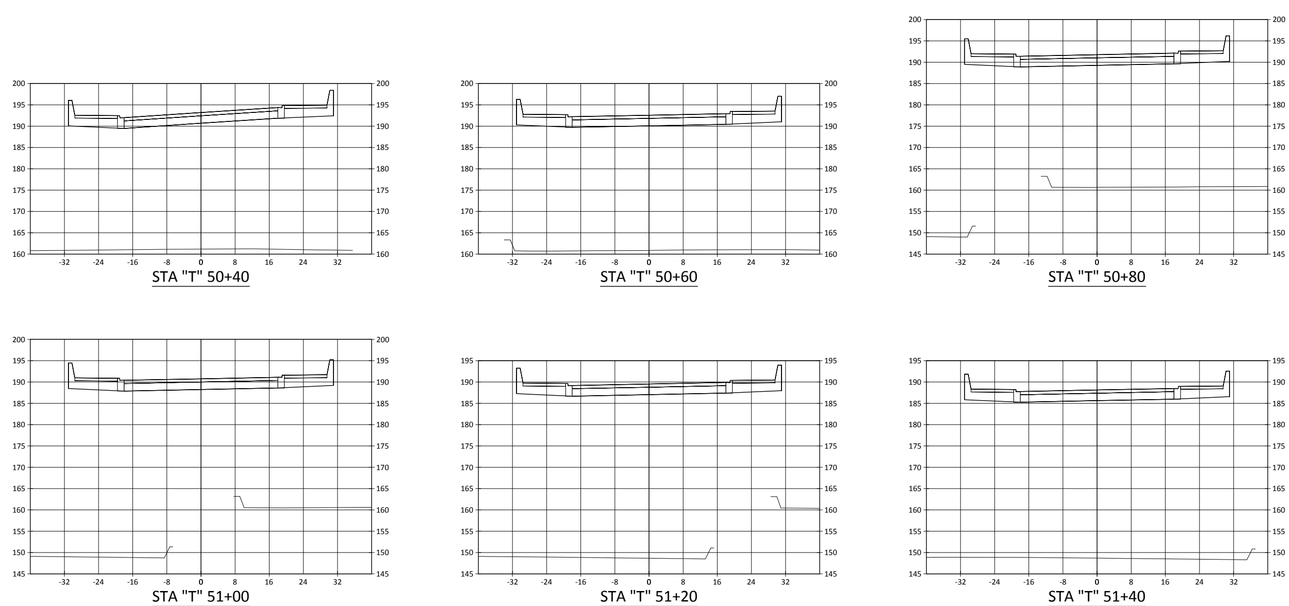
FEASIBILITY OF PROVIDING TRUCK ACCESS
16 FOOT WIDE TRUCK ACCESS
PROFILE - TRUCK ACCESS RAMP

DRAWING NO. **MS-3**
PROJECT NO. A13.0285
DATE: 5/5/13
SHEET NO. 6 OF 13



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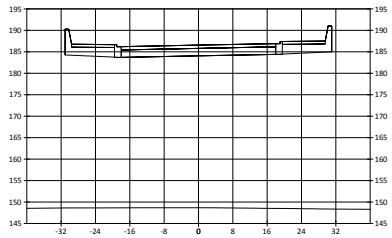
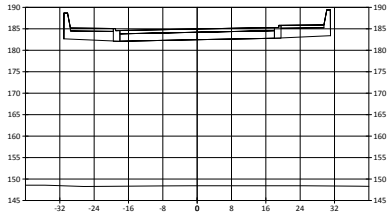
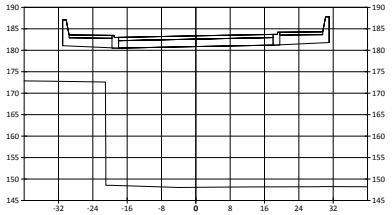
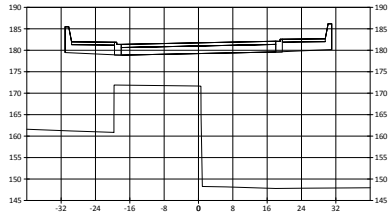
FEASIBILITY OF PROVIDING TRUCK ACCESS
16 FOOT WIDE TRUCK ACCESS
SECTIONS - TERRY AVENUE BRIDGE
SHEET 1

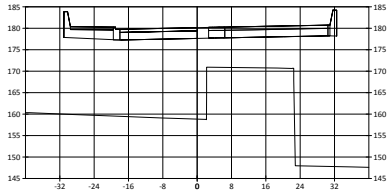
DRAWING NO. **MS-4**
PROJECT NO. A13.0285
DATE: 5/5/13
SHEET NO. 7 OF 13

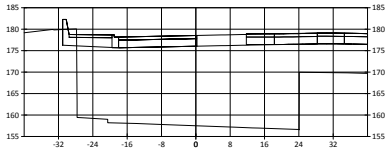


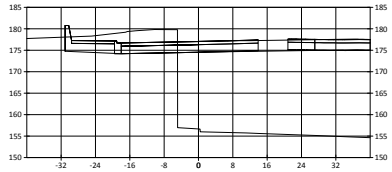


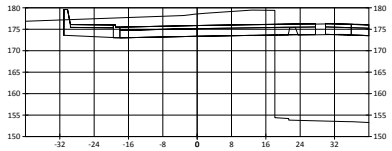












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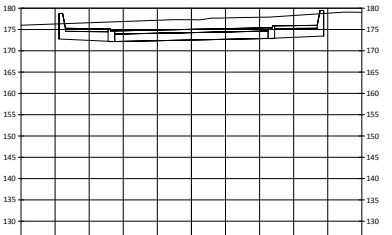
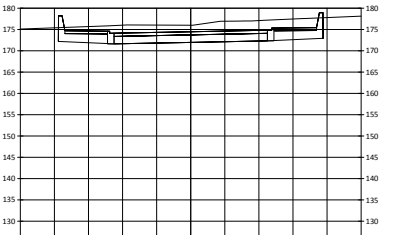
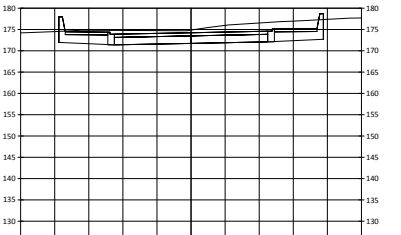
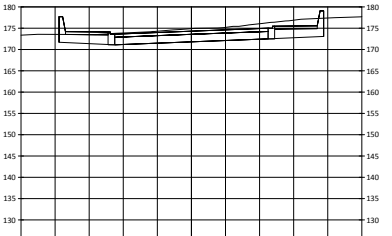
16 FOOT WIDE TRUCK ACCESS
SECTIONS - TERRY AVENUE BRIDGE
SHEET 2

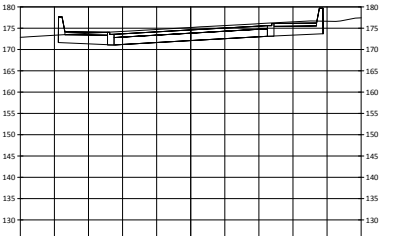
DRAWING NO. **MS-5**
PROJECT NO. A13.0285
DATE: 5/5/13
SHEET NO. 8 OF 13

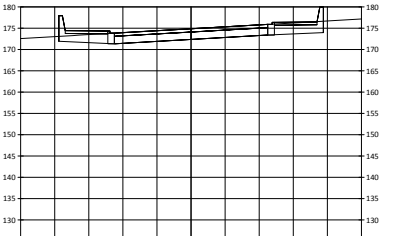












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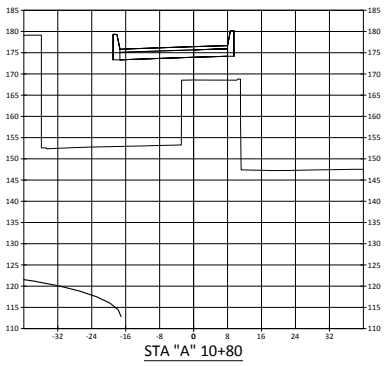
WASHINGTON STATE CONVENTION CENTER
FEASIBILITY OF PROVIDING TRUCK ACCESS
16 FOOT WIDE TRUCK ACCESS
SECTIONS - TERRY AVENUE BRIDGE
SHEET 3

DRAWING NO. **MS-6**
PROJECT NO. A13.0285
DATE: 5/5/13
SHEET NO. 9 OF 13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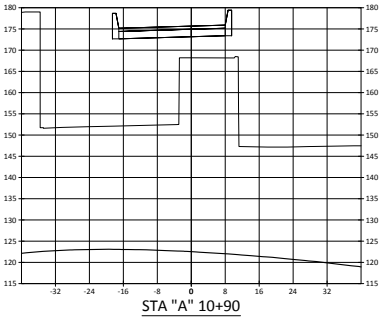
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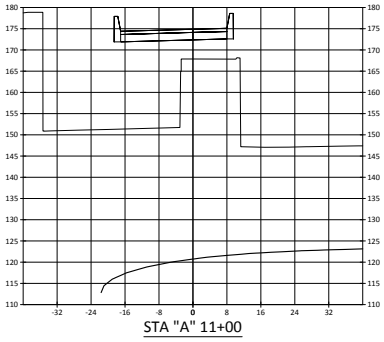
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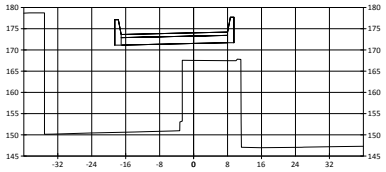
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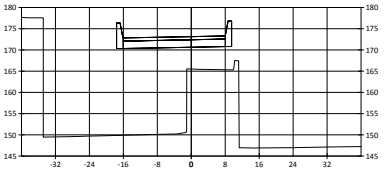
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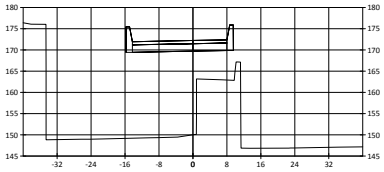
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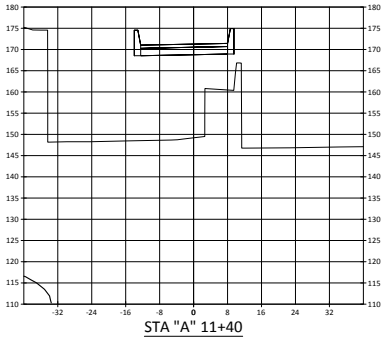
WASHINGTON STATE CONVENTION CENTER
FEASIBILITY OF PROVIDING TRUCK ACCESS
16 FOOT WIDE TRUCK ACCESS
SECTIONS - TRUCK ACCESS RAMP
SHEET 1

DRAWING NO. **MS-7**
PROJECT NO. A13.0285
DATE: 5/5/13
SHEET NO. 10 OF 13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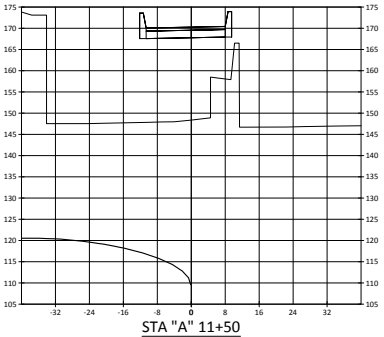
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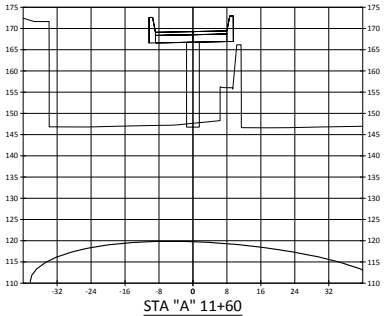
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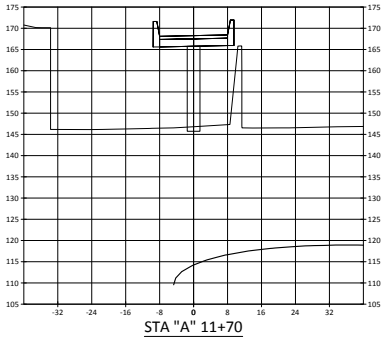
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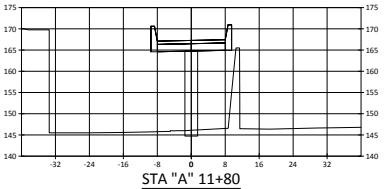
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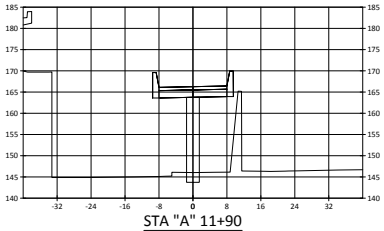
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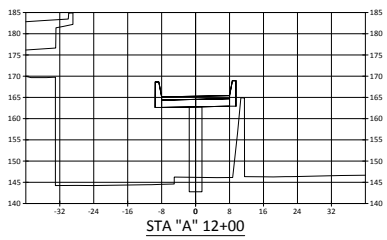
WASHINGTON STATE CONVENTION CENTER
FEASIBILITY OF PROVIDING TRUCK ACCESS
16 FOOT WIDE TRUCK ACCESS
SECTIONS - TRUCK ACCESS RAMP
SHEET 2

DRAWING NO. **MS-8**
PROJECT NO. A13.0285
DATE: 5/5/13
SHEET NO. 11 OF 13



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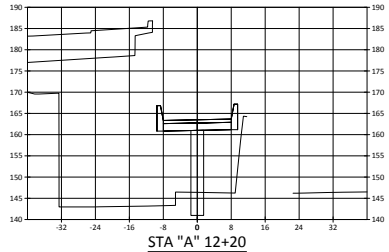

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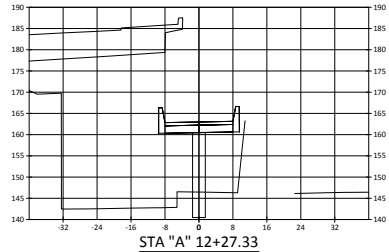

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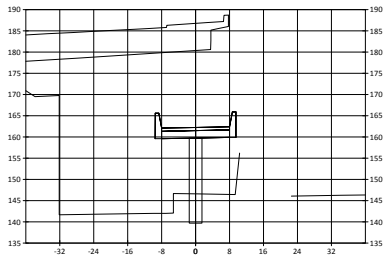

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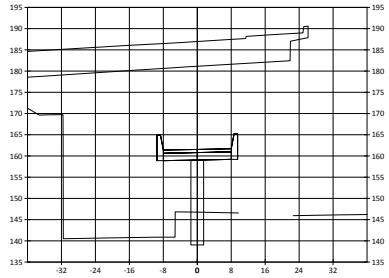

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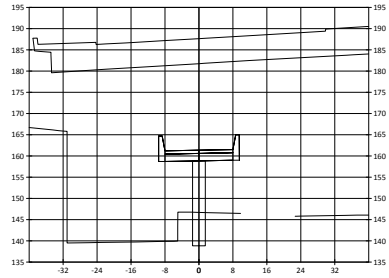

STA "A" 12+80

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FEASIBILITY OF PROVIDING TRUCK ACCESS
16 FOOT WIDE TRUCK ACCESS
SECTIONS - TRUCK ACCESS RAMP
SHEET 3

DRAWING NO. **MS-9**
PROJECT NO. A13.0285
DATE: 5/5/13
SHEET NO. 12 OF 13

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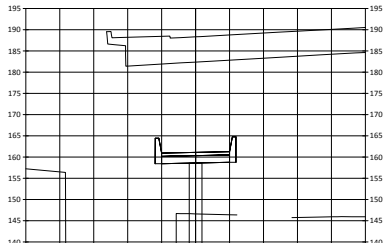

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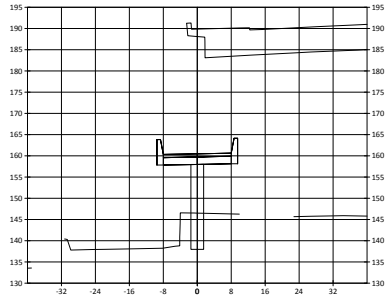

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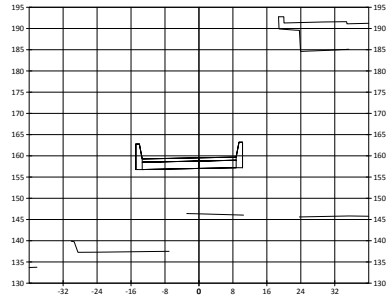

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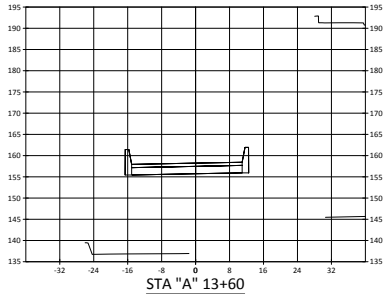

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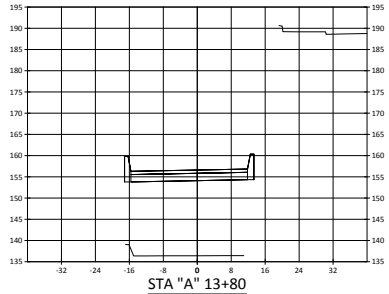

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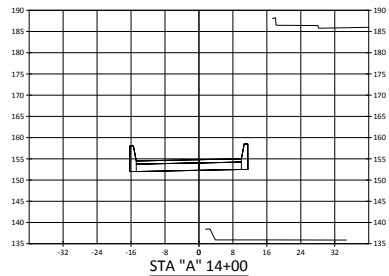

STA "A" 14+00

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FEASIBILITY OF PROVIDING TRUCK ACCESS
16 FOOT WIDE TRUCK ACCESS
SECTIONS - TRUCK ACCESS RAMP
SHEET 4

DRAWING NO. **MS-10**
PROJECT NO. A13.0285
DATE: 5/5/13
SHEET NO. 13 OF 13

Last Saved by: Jeff on: Thu 5, 2013 4:24 PM File: O:\Federal Way\2013\A13.0285\CAD\CSE\MS-01.dwg

III. Surface Route Analysis

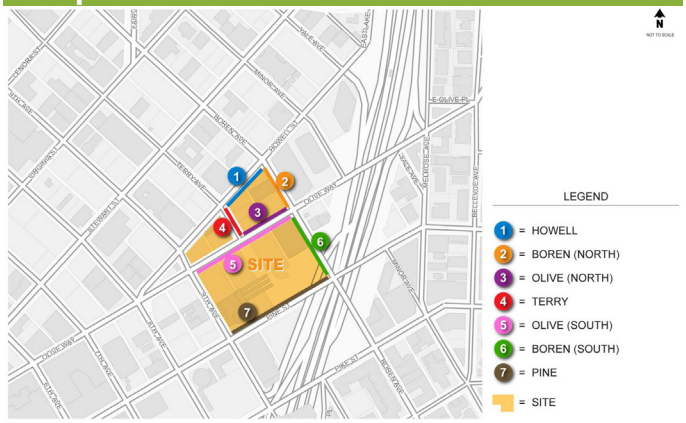
WSCC Expansion

Truck Traffic Surface Access Options

Washington State Convention Center at convention place

transpoGROUP

Explored Each Block Face for Access



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Preferred: Surface Street Truck Access Option

- Prioritized NE corner
- Preferred option extends Hubbell Place

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Other Surface Access Options

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Preferred Inbound Requirements

- Angled Entry at Olive
- Intersection modifications
  - Olive Way / Boren
  - Pike Street / Boren
- New signal at Pike Street / Terry Ave
- Improved Hubbell Place / Terry Connection

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Preferred Outbound Requirements

- Angled Exit to Howell
- Turn through 2nd eastbound lane (bus only)

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General

- Surface options appear “feasible”
- Some improvement requirements are potentially significant issues
- Any option appears likely to result in a hours restriction to avoid commuter peak in afternoon

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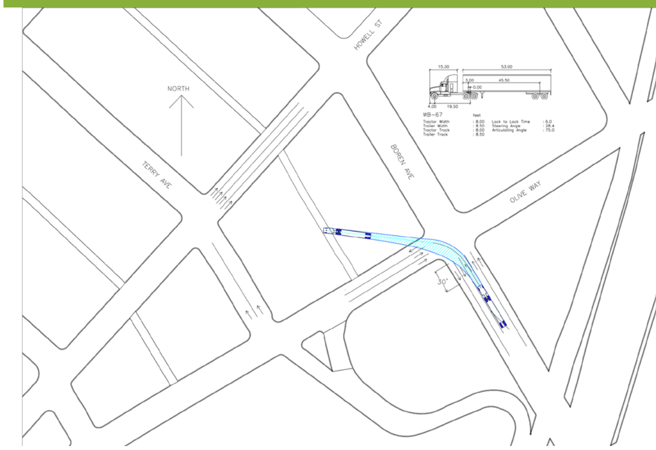

Previous Assessment:

- WSCC desire for 24/7 truck activity
- Peak Period Congestion on Surface Streets
- At that point >> Solution to avoid using congested surface streets

Washington State Convention Center at convention place

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Additional Data & Analysis

(to support contingency planning)

- Traffic Counts
- Intersection LOS
- Queuing
- Field Checks

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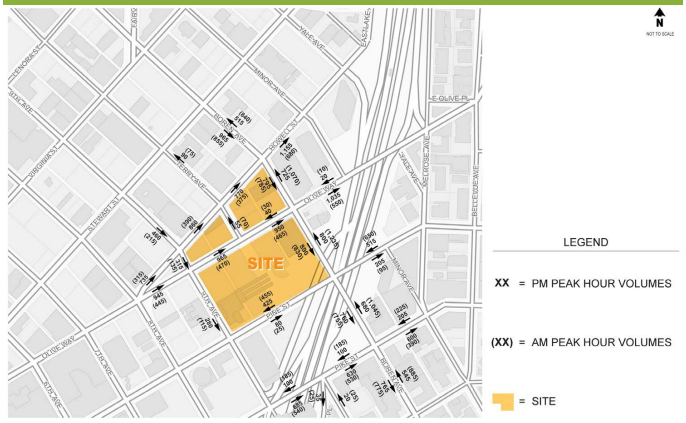
AM & PM Peak Hour Counts



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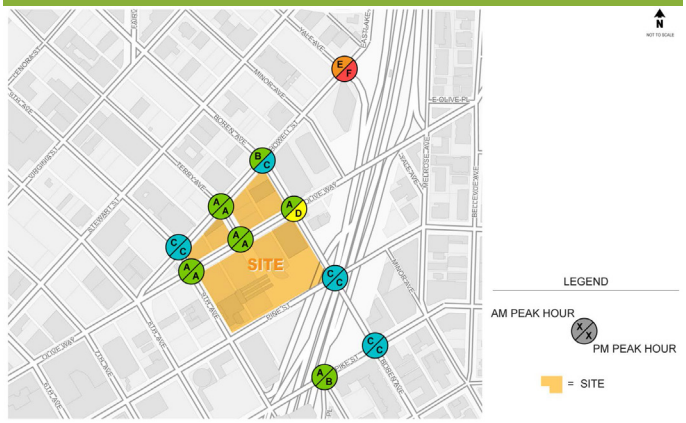
Peak Hour Intersection Level of Service



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Assessment

- Level of Service does not reflect actual conditions
- Congestion at freeway & Yale/Howell cause backups
  - Howell Street
  - Boren Avenue
  - Others
- PM Peak Hour problematic for Truck Access

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WSCC Expansion

Truck Traffic Surface Access Options

Inbound Route Assessments

May 15, 2013

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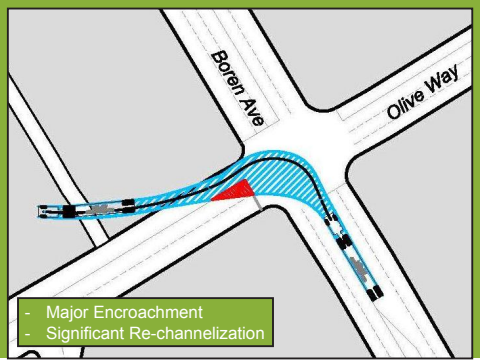
Route 1 – Hubbell Place Extension

Turn 3/4 – Boren to Olive, Olive into Site



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Route Assessments
Route 1 – Hubbell Place Extension

- ✓ Shortest / Most Direct Route
- ✓ Consistent With Existing Truck Routing
- ✓ Intersection Modifications at 3 Locations
- ✓ Significant Turn Impact at Olive / Boren
- ✓ *Shortest **observed** Travel Time*
  - ***Limited sample (one-day)** - previous observations suggest much worse operations, queuing/gridlock on Boren during PM peak hour.*

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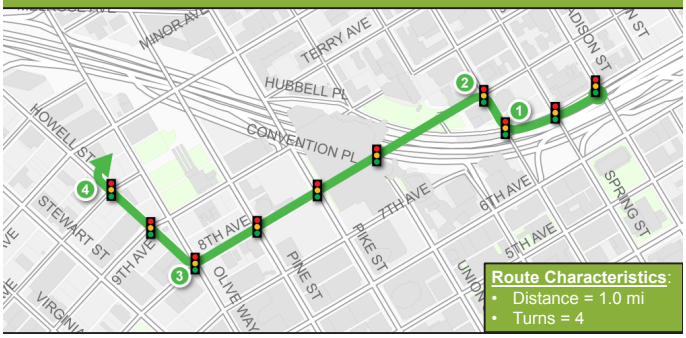
Route 2 – 8th Avenue



Route Characteristics:
- Distance = 1.0 mi
- Turns = 4

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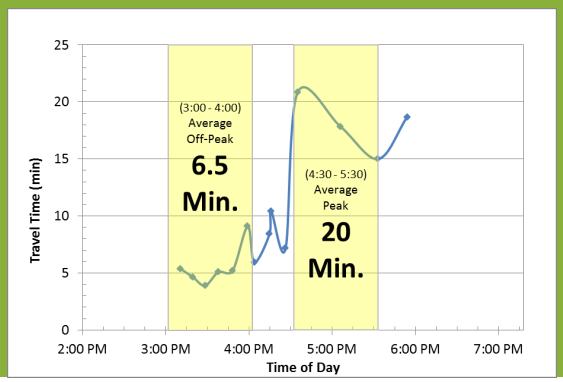
Route 2 – 8th Avenue
Travel Time Summary



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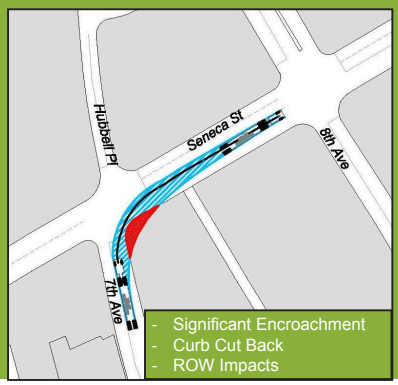
Route 2 – 8th Avenue
Turn 1 – 7th to Seneca



- Significant Encroachment
- Curb Cut Back
- ROW Impacts

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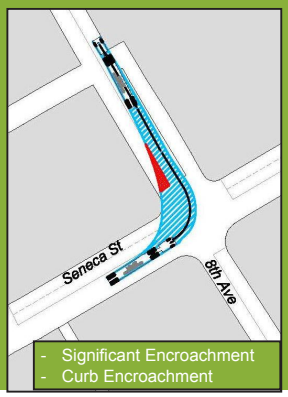
Route 2 – 8th Avenue
Turn 2 – Seneca to 8th



- Significant Encroachment
- Curb Encroachment

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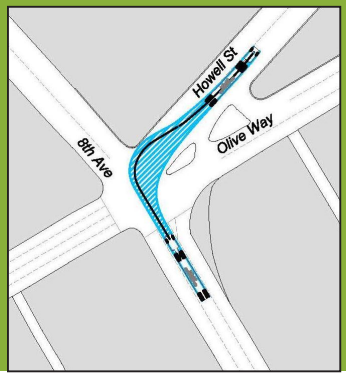
Route 2 – 8th Avenue
Turn 3 – 8th to Howell



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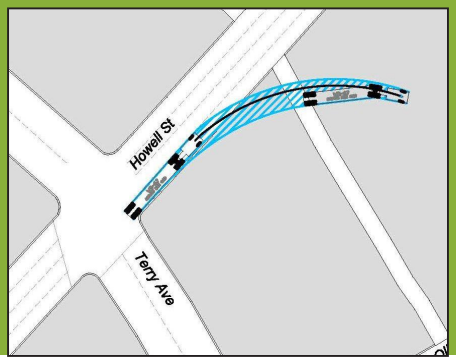
LMN

Route 2 – 8th Avenue
Turn 4 – Howell into Site



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Route Assessments
Route 2 – 8th Avenue

- ✓ Consistent With Existing Truck Routing (Via Madison Exit)
- ✓ Significant Turn Impacts at 2 Locations
  - Impacts at Seneca/8th Avenue in particular may result in a fatal flaw without complete intersection redo.
- ✓ *Longest **Observed** Travel Time During PM Peak Period*
  - Based on a single sample day

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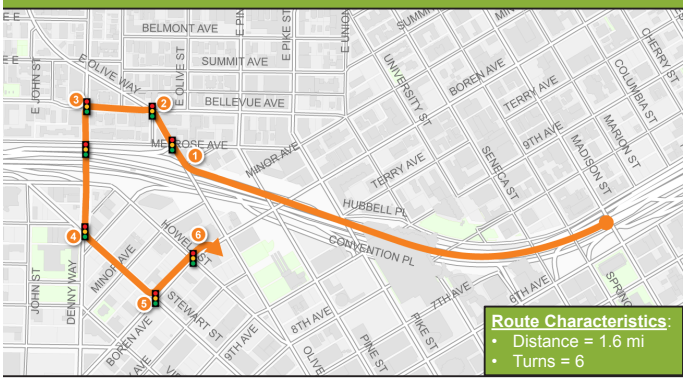
Route 3 – Olive / Denny Loop



Route Characteristics:
- Distance = 1.6 mi
- Turns = 6

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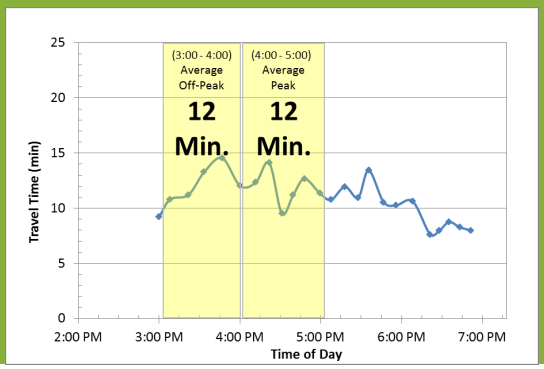
Route 3 – Olive / Denny Loop
Travel Time Summary



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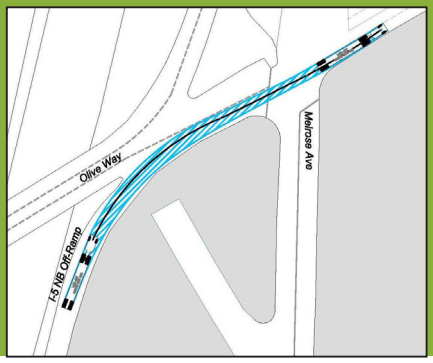
Route 3 – Olive / Denny Loop
Turn 1 – I-5 Ramp to Olive



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Route 3 – Olive / Denny Loop
Turn 2 – Olive to Bellevue

- Removal of Parking on Bellevue Ave

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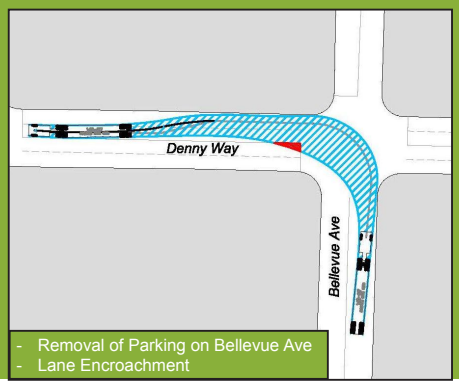
Route 3 – Olive / Denny Loop
Turn 3 – Bellevue to Denny



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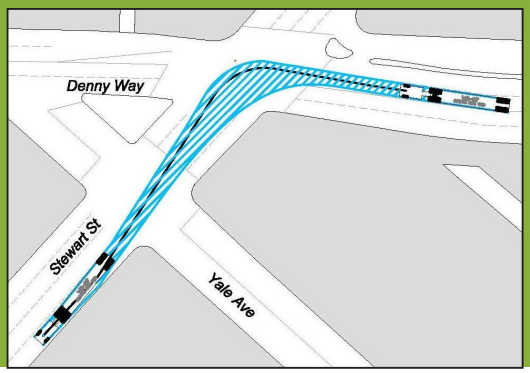
Route 3 – Olive / Denny Loop
Turn 4 – Denny to Stewart



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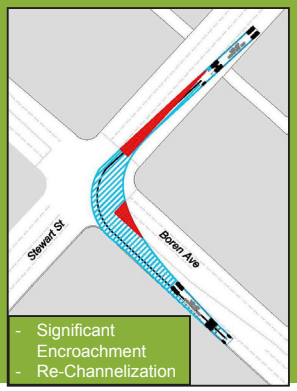
Route 3 – Olive / Denny Loop
Turn 5 – Stewart to Boren



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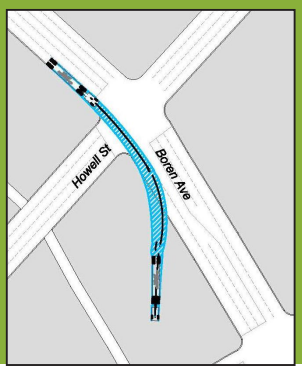
Route 3 – Olive / Denny Loop
Turn 6 – Boren into Site



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Route Assessments
Route 3 – Olive / Denny Loop

- ✓ Largest Number of Required Turns
- ✓ Intersection Modifications at 2 Locations
- ✓ Significant Turn Impact at Stewart / Boren
- ✓ *Longest Off-Peak Travel Time –*
  - *Most significant considering number of hours of operation during off-peak periods*
- ✓ *Travel Time Consistent During Off-Peak and PM Peak*
  - *Single observation day*

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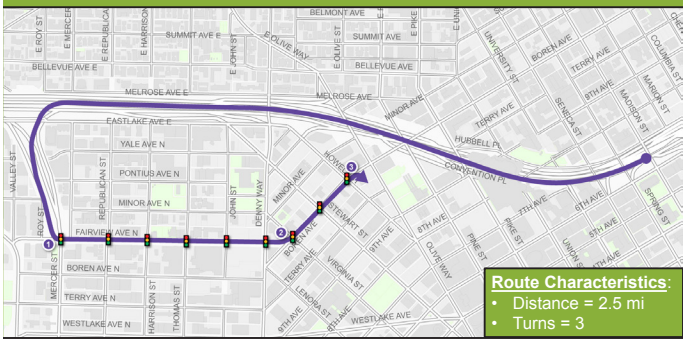
Route 4 – Mercer / Fairview



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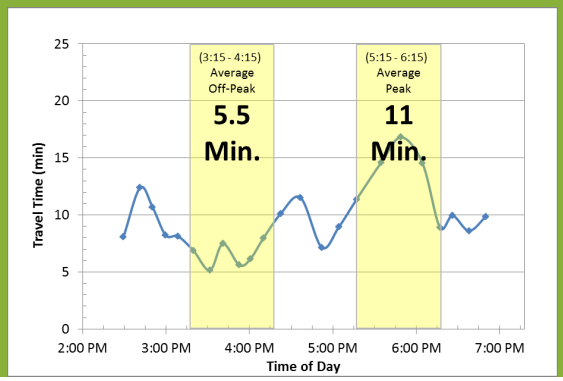
Route 4 Travel Time Summary



Washington State Convention Center at convention place

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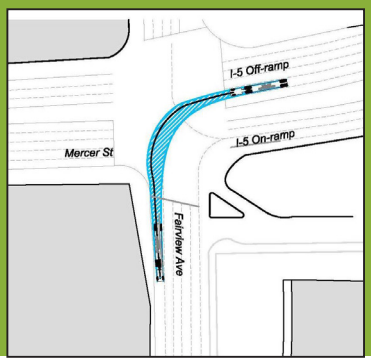
Route 4 – Mercer / Fairview
Turn 1 – Mercer Off-Ramp to Fairview



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Route 4 – Mercer / Fairview
Turn 2 – Fairview to Boren

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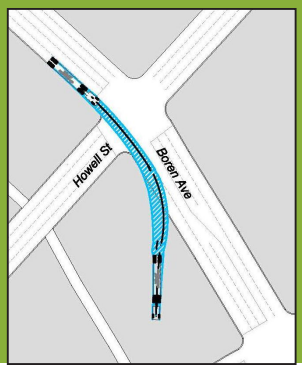
Route 4 – Mercer / Fairview
Turn 3 – Boren into Site



Washington State Convention Center at convention place

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Route Assessments
Route 4 – Mercer / Fairview

- ✓ Longest Route (Including Freeway)
- ✓ Fewest Required Turns
- ✓ No Significant Turn Impacts
- ✓ Favorable Observed Travel Time Comparison
  - ✓ Note: Variable Depending on Freeway Congestion

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Summary Comparisons

Washington State Convention Center at convention place

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Summary Comparisons
Route Distance (From I-5 NB @ Madison)

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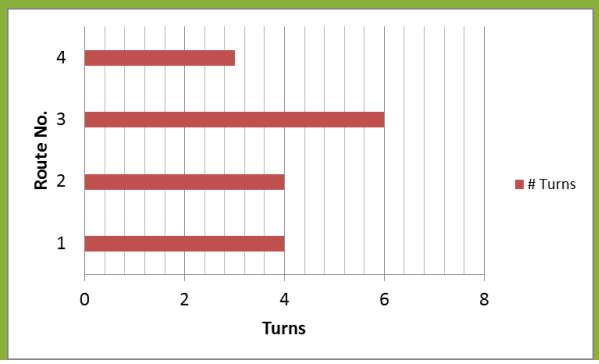
Summary Comparisons
Summary of Number of Truck Turns



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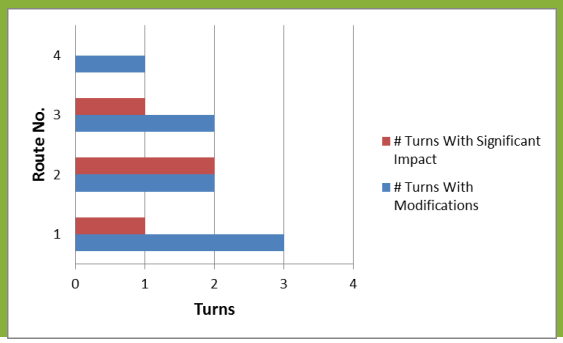
Summary Comparisons
Intersection Modifications and Significant Impacts Summary



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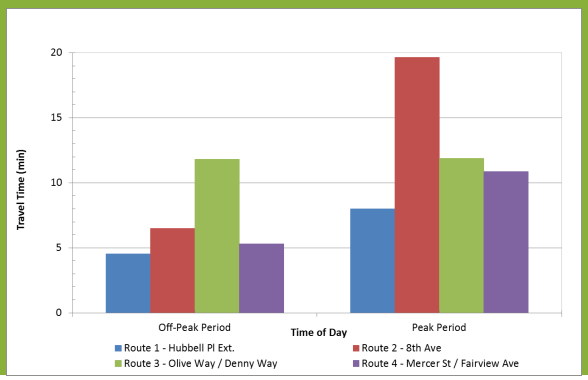
Summary Comparisons
Off-Peak and Peak Period Summary



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Other Considerations

- Variance of traffic congestion – sensitivity of comparative analysis;
- Outbound surface congestion on Howell to Yale affects all options (see Option 2 inbound PM peak);
- The number of additional trucks on system –
  - 70 to120 trucks per day (peak move in/move out)
  - 10 to 15 trucks per hour added to surface streets
  - Average 1 truck every 4-6 minutes… variable.
- At peak impact of trucks substantial; impact of intersection blockage in event of incomplete turning movement→ very significant

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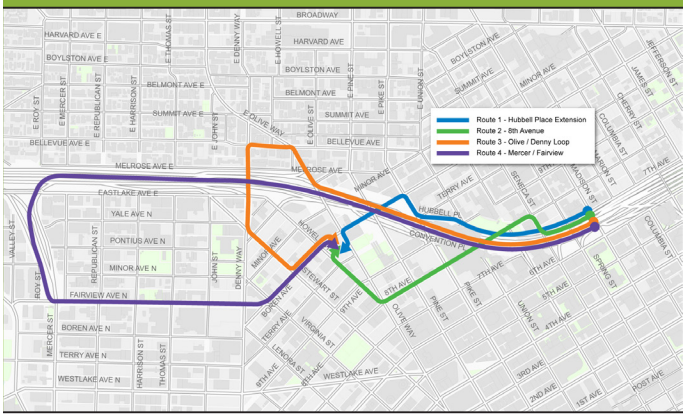
Inbound Surface Route Options



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Other Considerations (Continued)

- Neighborhood Sensitivities;
- Likelihood of restricted hours of operations;
- Additional Impact of Parking Access;
- Other downtown developments will add to congestion;

What we Think We Know…

- A number of the surface options appear physically feasible;
- All routes will be impacted by surface street congestion;
- Inbound impacts vary (as described);
- Outbound Impacts would be the same for all – Howell Street eastbound to I-5 at Yale (significant delays most days)

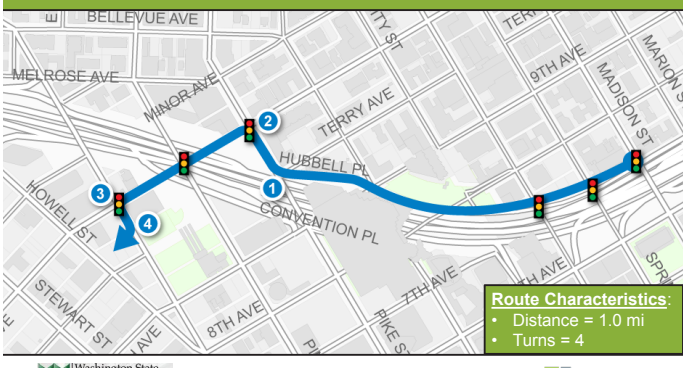
What we Think We Know (continued)

- ***Route 1*** *most similar to current patterns; however Boren congestion impacts operations;*
- ***Route 4*** *is the longest, but requires the least number of turns, none critical;*
- **Route 2** would be have significant route feasibility issues at Seneca; and is the longest observed travel time;
- **Route 3** has the most required turns; and is the most circuitous.

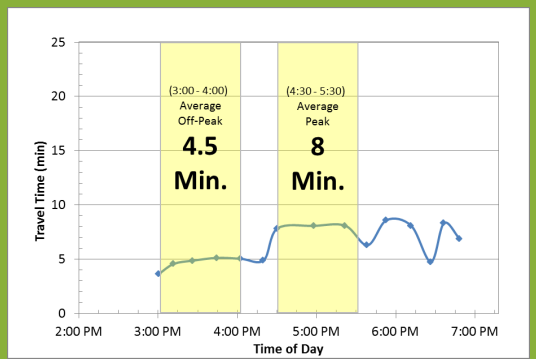
Assessment Criteria

- Distance (Including Freeway)
- Number of Turns
- Truck Turning Paths
- Off-Peak Travel Time
- PM Peak Period Travel Time
- Other considerations

Route 1 – Hubbell Place Extension

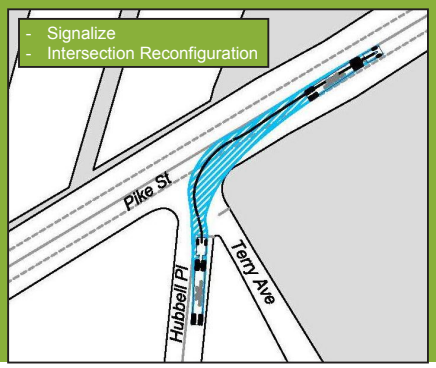


Route 1 – Hubbell Place Extension
Travel Time Summary



Route 1 – Hubbell Place Extension

Turn 1 - Hubbell to Pike



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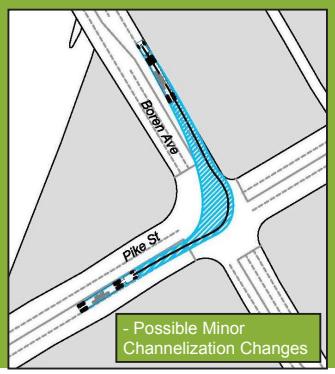
Route 1 – Hubbell Place Extension

Turn 2 - Pike to Boren



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WSCC Expansion

Truck Traffic Surface Access Options

Inbound Route Assessments

May 28, 2013

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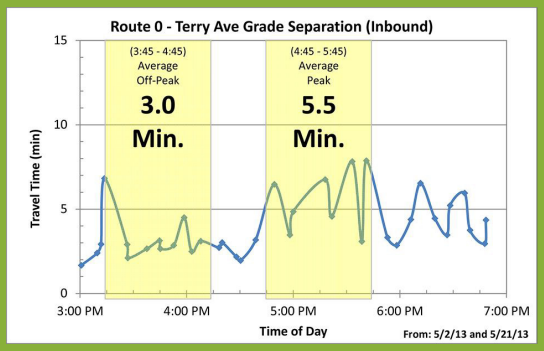

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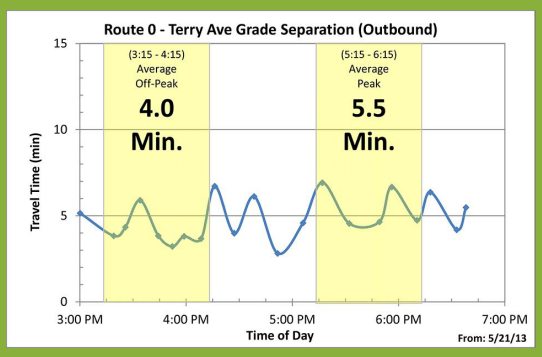

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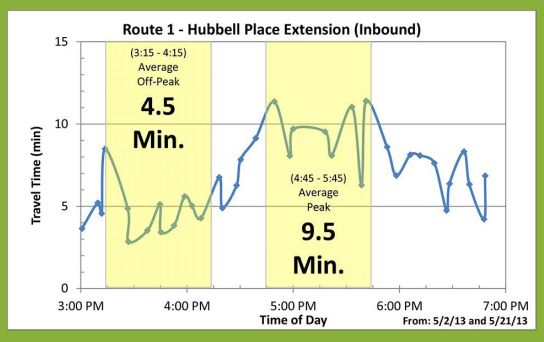

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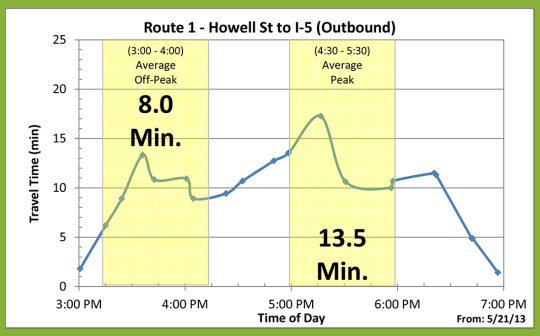
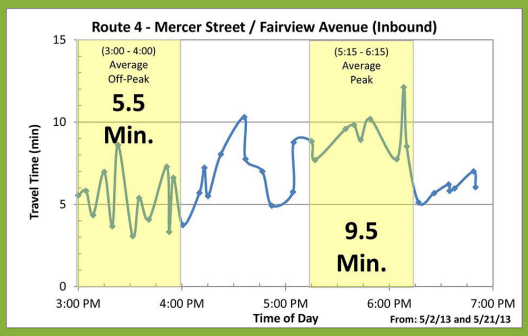
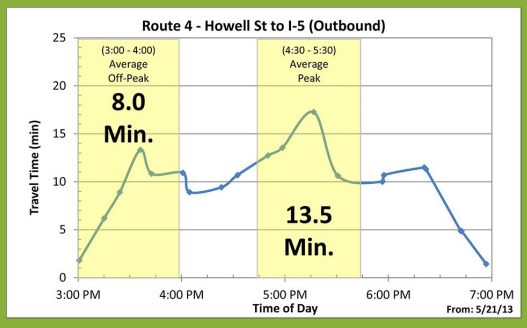
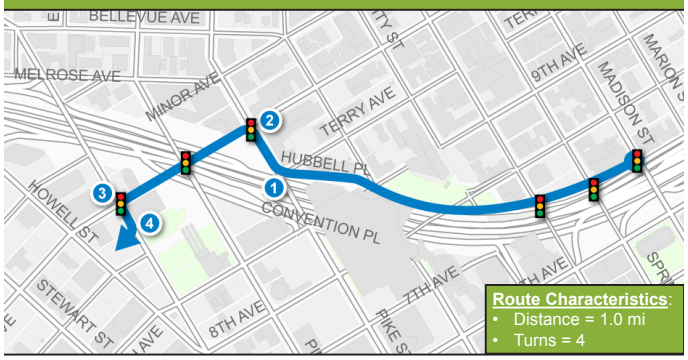


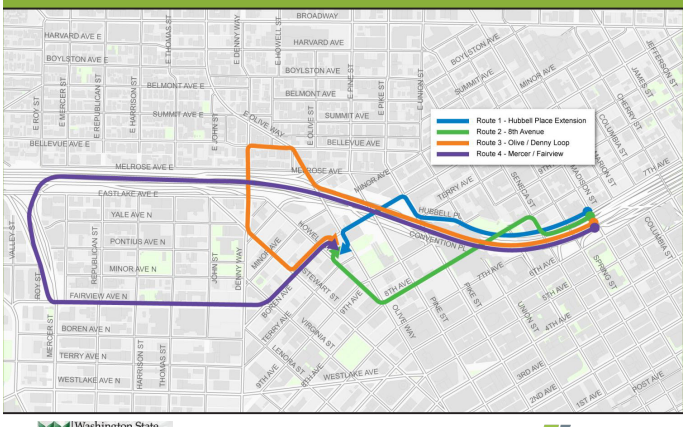




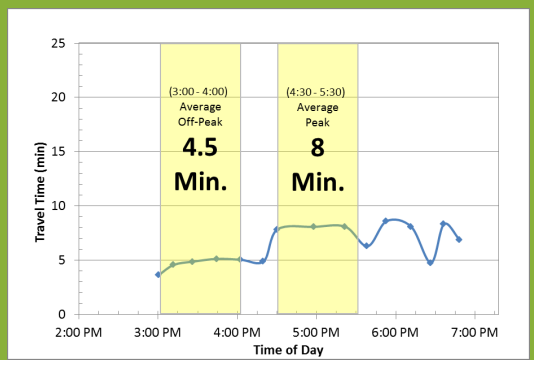
Route 1 – Hubbell Place Extension



Inbound Surface Route Options

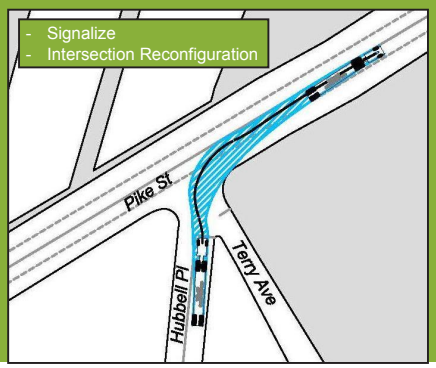


Route 1 – Hubbell Place Extension
Travel Time Summary



Route 1 – Hubbell Place Extension

Turn 1 - Hubbell to Pike



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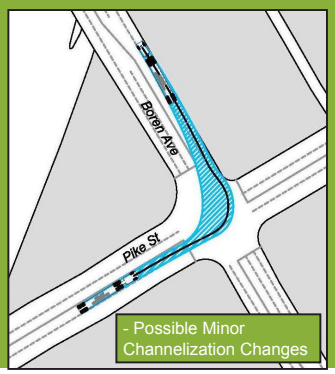
Route 1 – Hubbell Place Extension

Turn 2 - Pike to Boren



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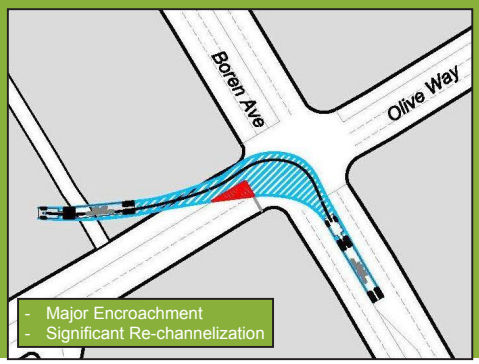
Route 1 – Hubbell Place Extension

Turn 3/4 – Boren to Olive, Olive into Site



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Route Assessments

Route 1 – Hubbell Place Extension

- ✓ Shortest / Most Direct Route
- ✓ Consistent With Existing Truck Routing
- ✓ Intersection Modifications at 3 Locations
- ✓ Significant Turn Impact at Olive / Boren
- ✓ *Shortest **observed** Travel Time*
  - ***Limited sample (one-day)** - previous observations suggest much worse operations, queuing/gridlock on Boren during PM peak hour.*

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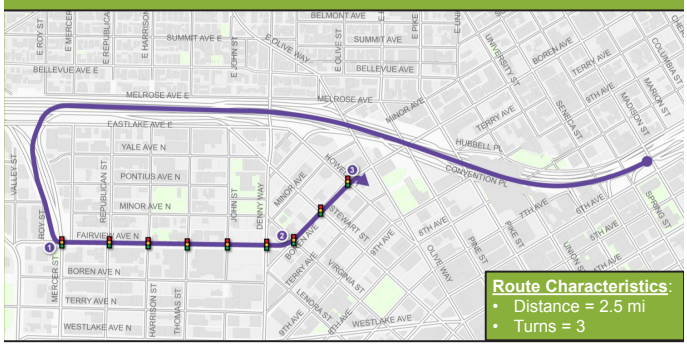
Route 4 – Mercer / Fairview



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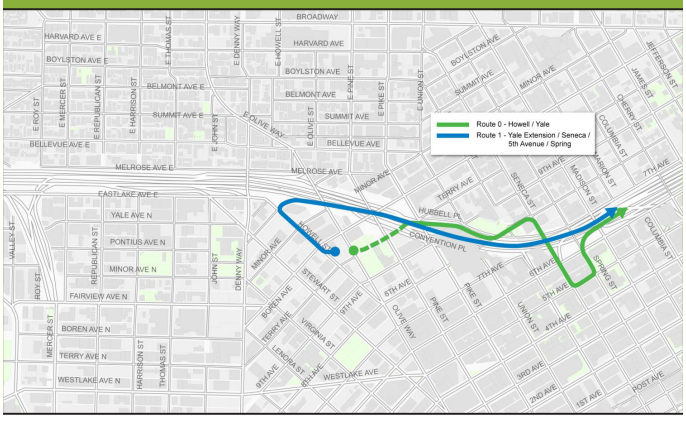
Outbound Surface Route Options



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Summary Comparisons
Route Distance (From I-5 NB @ Madison)

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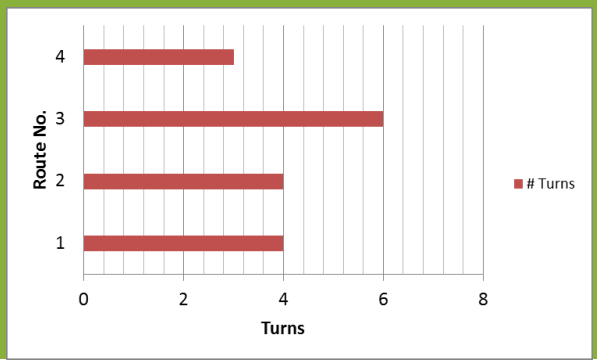
Summary Comparisons
Summary of Number of Truck Turns



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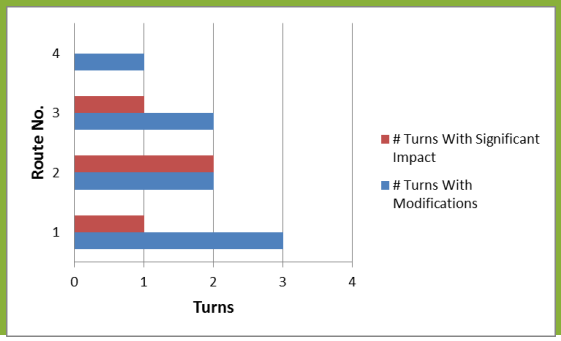
Intersection Modifications and Significant Impacts Summary



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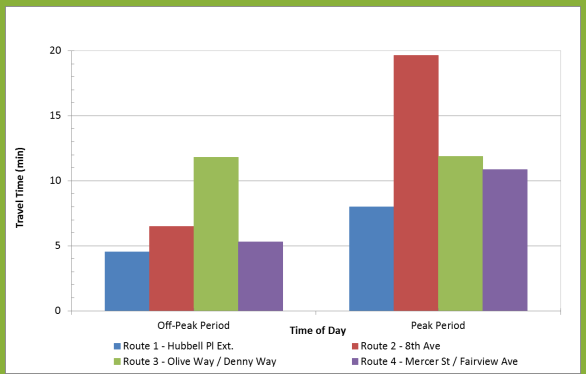
Summary Comparisons
Off-Peak and Peak Period Summary



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