

STADIUM DISTRICT URBAN DESIGN, LAND USE AND FEASIBILITY STUDY CONCEPTUAL-LEVEL ENVIRONMENTAL IMPACT EVALUATION

Stadium District Project Description

In 2000, the City of Seattle established the Stadium Transition Area Overlay District, which is a 93-acre area comprised of CenturyLink Field, Safeco Field and surrounding areas to the east, west and south of those stadiums. The overlay district applied additional zoning standards beyond the base zoning to achieve certain goals for the district, including improving the pedestrian environment and connections to Downtown, discouraging encroachment into industrial areas, and permitting a mix of uses to support the pedestrian-oriented character of the area. Specifically, the Stadium District area includes the following existing uses¹:

- CenturyLink Field – 67,000 seat professional football/soccer stadium;
- SafeCo Field – 47,000 seat professional baseball stadium;
- WaMu Theatre and Events Center – 7,200 seat theatre and performing arts center;
- parking structures and surface lots containing approximately 6,500 parking spaces;
- approximately 420,000 gross square feet (gsf) of commercial/office uses;
- approximately 220,000 gsf of warehousing/light industrial/distribution uses;
- approximately five (5) acres of vacant land currently used for staging and construction of the SR-99 Alaska Way Viaduct Replacement Project; and
- approximately 4.5 acres of land occupied by the Burlington Northern Santa Fe (BNSF) railroad tracks.

The ***Stadium District Urban Design, Land Use and Feasibility Study*** (*Stadium District Study*) is intended to consider policy and regulatory changes that better orient the District to the needs and experiences of stadium patrons, improve pedestrian connections to and from the stadiums, and create a pedestrian-friendly streetscape that is compatible with Pioneer Square, while also recognizing the importance of preserving industrial uses outside of the District.

The recommended Stadium District area encompasses approximately 95 acres, including 36 acres of land that would be removed from the Downtown Urban Center designation in the City's *Comprehensive Plan* and 59 acres of land that would be removed from the Duwamish Manufacturing/Industrial Center (MIC) designation. If enacted, the *Stadium District Study*

¹ A proposed basketball/hockey area within the Stadium District is also under review by the City of Seattle (Master Use Permit #3014195) and is assumed to be located in the Stadium District for the purposes of this analysis (the assumed site is bounded by 1st Avenue South, South Massachusetts Street, South Holgate Street, and the railroad tracks).

recommendations would result in modest changes to allowable land uses, and could result in some subsequent changes to land use (zoning) regulations.

Changes that could take place due to the *Stadium District Study* recommendations would occur primarily on the three identified catalyst sites: the **WOSCA site**, the **King Street Station Overtracks site**, and the **South Occidental Block**. The overall impact of the change that could occur is the increment of allowable development, change in allowable uses and building form, and the associated impacts that would result from development of land on the catalyst sites – when compared to the development that could otherwise occur under existing regulations.

The following is a conceptual-level environmental evaluation that is intended to inform the *Stadium District Study*. Because this area is largely developed, changes that could occur as a result of the *Stadium District Study* would primarily occur on the three identified catalyst sites. As such, this environmental evaluation provides a two-level, programmatic overview of potential environmental influences associated with: **1)** the entire Stadium District, and **2)** three catalyst sites within the District. The analysis that is included at each level examines probable, key environmental factors that should be considered in planning a redevelopment effort, as well as possible environmental impacts that may occur and mitigation that may be necessary as a result of redevelopment. The increment of change expected to be attributable to the recommendations of the *Stadium District Study* for each of the three catalyst sites is summarized in this document and described in the *Stadium District Study*. It is anticipated that significant changes would not occur in other portions of the Stadium District area that would not otherwise occur under the existing land use regulations.

Environmental Considerations, Potential Impacts, and Potential Mitigation Measures

AREA-WIDE FACTORS

Earth

Environmental Considerations

Potential development in the *Stadium District Study* area would need to consider potential earth-related environmental issues that could arise during site development -- in particular potential seismic hazards that would affect design and construction of future buildings. Due to the location of the area within the Seattle Fault Zone and within the City's designated Environmentally Critical Area for liquefaction, as well as the presence of fill soils beneath the area, potential development would be required to provide additional engineering studies and potential mitigation measures related to seismic hazards and liquefaction.

Impacts

Future development that could occur as a result of the *Stadium District Study* would likely result in potential impacts to geology and soils due to construction of new buildings and/or infrastructure. Potential construction-related impacts include clearing and grading activities that would result in soil disturbances, ground vibrations, and erosion. Such activities could result in the settlement of loose soils in the vicinity of the site and could cause damage to nearby structures.

As noted, the *Stadium District Study* area is located within the Seattle Fault Zone and a liquefaction-prone area. As a result, future development in the *Stadium District Study* area would have an elevated risk of seismic damage due to its location in the Seattle Fault Zone and the presence of fill soils in the former tidelands that comprise the study area. Potential seismic impacts could include liquefaction, lateral spreading, and tsunamis.

Mitigation

Possible strategies to minimize potential impacts to geology and soils could include:

- Construction activities, including clearing, grading and excavation, would be conducted in accordance with applicable City of Seattle requirements and best management practices could be implemented to potential impacts from soil disturbances (i.e., erosion, ground vibrations, etc.).
- Future development would be subject to the requirements of the City of Seattle Building Code. Seattle adopted the *2009 International Building Code*, with amendments specific to Seattle. The Code requires increased structural strength to limit potential seismic hazard impacts; potential measures could include:
 - Design structures in accordance with relevant and appropriate seismic design methods to mitigate liquefaction and ground settlement.
 - Design structures to meet or exceed earthquake loading requirements as noted in the current building code.

Groundwater

Environmental Considerations

Potential groundwater issues that could be considered in conjunction with development in the *Stadium District Study* area include construction-related issues such as alterations to groundwater flow, release of pollutants, and dewatering activities. Development within the study area would also need to consider the existing depth to groundwater. In the south portion of the study area, depths are typically five to eight feet below ground surface and in the north portion of the study area, they may be ten to twelve feet below ground surface. Groundwater level studies could be included as part of a geotechnical analysis of the site prior to development.

Impacts

Future development within the *Stadium District Study* area could result in potential impacts to groundwater. Potential groundwater impacts could include the following: alterations of groundwater flow associated with construction retaining walls; the release of pollutants during construction activities (i.e., sediment, oil, grease, etc.), which could affect water quality; and implementation of dewatering activities during construction, which could draw groundwater flow toward excavated areas.

Mitigation

Possible measures to minimize potential impacts to groundwater could include:

- Perimeter drainage systems could be installed if groundwater flow is altered by retaining walls.
- Groundwater quality investigations could be conducted prior to construction to determine if contaminated areas are present within potential development sites. If contaminated sites are discovered, the contamination could be remediated/removed prior to construction (see Environmental Site Hazards discussion below for further details).

Environmental Site Hazards

Environmental Considerations

Several prior studies have been conducted in the *Stadium District Study* area, particularly along the 1st Avenue South corridor, which indicate that potential contaminants may be present, including solvents, petroleum products, and metals such as mercury, silver, lead, zinc, copper and poly-chlorinated biphenyls (PCBs). Potential site development within the study area would likely require additional analysis regarding the presence of on-site contaminants and could require cleanup/remediation activities depending on the extent of contamination.

Impacts

Historically, a large portion of the *Stadium District Study* area has been utilized for industrial and commercial uses and several prior studies have indicated that residual contaminants could be present in the study area, such as mercury, silver, lead, zinc, copper and poly-chlorinated biphenyls (PCBs). The probable presence of contaminants in soils and/or groundwater would indicate that there is an increased risk of potential exposure to hazardous substances with future development in the Stadium District.

Due to the likely presence of contaminants, there could be an increased risk of contaminant disturbance and potential for releases during construction activities with the Stadium District Study area. The provision of residential uses within the study area (i.e., northern portion of the WOSCA site and possibly the King Street Overtracks site) could also result in increased exposure to potential contaminants due to the long-term presence of residents within certain areas of the study area. However, current regulatory practices would mandate that further site-specific assessments and potential remediation actions (if necessary) would be implemented prior to or during construction and would reduce the potential for exposure to hazardous contaminants.

Mitigation

Possible measures to minimize potential impacts from environmental site hazards could include the following:

- Future development would be compliant with current regulations associated with hazardous materials and could include various forms of site investigations, records research, cleanup plans, and compliance with regulatory processes. Such actions would take into account whether residential uses would be present, which would entail a higher level of cleanup.

Noise

Environmental Considerations

Depending upon the proposed land use, potential development in the *Stadium District Study* area may need to consider potential noise-related environmental issues that could arise during development in the area. Future development, in particular potential residential development on the WOSCA site and/or the Overtracks site, would need to consider potential noise-related impacts that could affect future residents on-site and project costs. Noise sources include the existing railroad operations, roadways, Port/nearby industrial operations, aircraft overflights, and the stadiums. Design considerations could be implemented into new development to limit the impacts of existing environmental noise on future residents and/or businesses.

Impacts

Several portions of the *Stadium District Study* area are located in close proximity to highways/arterials, railroads, Port/industrial uses, and stadiums and at times may be subjected to relatively high noise levels. Noise from roadway traffic, sirens, railroad operations, industrial operations, and aircraft all contribute to the ambient noise environment in the area. In Seattle, these sources are exempt from land use noise standards. Potential residential development in the study area (i.e., the WOSCA site and/or the Overtracks site) could face the greatest exposure to high noise levels and could result in noise impacts to potential residents within the study area. However, potential building design and construction measures could be incorporated into potential residential development that would reduce interior noise levels and minimize potential impacts.

In addition, future development in the *Stadium District Study* area would result in construction-related noise (primarily from site preparation and excavation activities) that would add to the ambient noise environment of the area. However, construction-related noise would be temporary in nature and any development that would occur within the area would be subject to the City of Seattle's applicable noise requirements (see the Mitigation discussion below for

further details). As a result, no significant impacts from construction-related noise are anticipated.

Mitigation

Possible measures to minimize potential noise impacts could include:

- The design and construction of future development (in particular potential residential development) could include sound transmission class (STC)-rated construction materials and methods in exterior walls to minimize noise levels from surrounding uses. Other methods could also be provided to reduce noise levels for future residences, including demonstrating that operable windows are not present or providing triple-pane glazing.
- Construction activities associated with future development could include the following:
 - Limit construction activities to between the hours of 7:00 AM and 10:00 PM.
 - Equip construction equipment with adequate mufflers, silencers or engine enclosures to reduce engine noise.
 - Require contractors to use the quietest equipment available and maintain all equipment to reduce noise levels.
 - Locate stationary equipment and staging areas away from sensitive users.
 - Install temporary noise barriers, shields or curtains around stationary equipment.
- Consideration could be given to incorporating recognition of existing noisy operations (e.g., rail, port, etc.) as part of a sale or lease agreement – similar in a sense to a right-to-farm notice that is prevalent in many rural areas. This could entail having potential residents sign a no-protest agreement or other type of covenant.

Land Use

Environmental Considerations

Potential land use compatibility impacts and height, bulk and scale impacts would need to be considered as part of future development in the *Stadium District Study* area. The location of future development (in particular residential development) should be considered to ensure that new land uses are compatible with surrounding uses. Future development would also need to consider height, bulk and scale features, particularly as they relate to surrounding uses, the existing City skyline and their potential effects on views from the existing stadiums.

Impacts

The *Stadium District Study* recommends modifying Seattle's *Comprehensive Plan* to create an independent land use category to recognize the unique functions and characteristics of the district. Proposed modifications would inform the preferred mix and range of land uses, including sports/entertainment, commercial/retail, office, lodging and light industry, as well as limited residential uses in specific locations on catalyst development sites. Policies would also be adopted to minimize incompatibilities associated with adjacent industrial operations, promote urban design for an inviting and safe public realm, guide building form, character and scale, encourage shared parking strategies, and address particular and critical transportation demands for mobility within and through the Stadium District.

With the exception of areas occupied by stadiums/events centers, the majority of the Stadium District would continue to include a mix of commercial, light industrial and office uses. Lodging uses would be permitted throughout the district to provide more balanced support for retail and restaurant uses to support stadium and exhibition hall events and provide area for corporate lodging needs. Residential uses may be allowed on catalyst sites (i.e., north half of the WOSCA site and/or the Overtracks site) and would be carefully sited to ensure compatibility with nearby Port of Seattle and industrial uses.

Future development in the *Stadium District Study* area would be intended to promote a distinctive urban form that would consider views to and from the area, the City's skyline and historic character through the design, scale, height, massing and placement of new buildings within the area.

Mitigation

Possible measures to minimize potential land use impacts could include:

- Potential land use impacts with new residences would be mitigated by limiting the location of residential uses to specific locations within catalyst sites (i.e., north half of the WOSCA site and/or the King Street Overtracks site) and providing screening or building design features to limit the exposure to potential light, glare and noise impacts.
- Potential residents could be required to sign a no-protest agreement or other type of covenant to limit complaints from residents regarding the existing industrial and stadium/event uses in the site vicinity.
- Design strategies/development standards could be incorporated into specific building design as part of the design review process to ensure that the height, bulk and scale of potential buildings would be compatible with and would not significantly impact surrounding uses.

Population/Housing

Environmental Considerations

The *Stadium District Study* included an analysis of housing considerations for the area and determined that residential development in the Stadium District would be financially feasible and marketable.

Impacts

Future development within the *Stadium District Study* area could include new residential uses on specific locations within catalyst sites (i.e., north half of the WOSCA site and/or the King Street Overtracks site). These new residential uses could add 500 to 700 new dwelling units within the study area with an additional population of 500 to 1,400 or more.

Mitigation

Significant population and housing impacts would not be anticipated and associated mitigation measures are not identified.

Historic/Cultural

Environmental Considerations

Future development in the *Stadium District Study* area would likely consider that any development that would necessitate the demolition of buildings that are over 50 years old would require a historical building assessment as part of the City of Seattle's historical review process. If it is determined that a structure satisfies criteria for Landmark status designation, mitigation measures would be required as part of the project to allow development on the site. Consideration should also be given to excavation activities associated with construction and their potential to encounter cultural resources, particularly in areas in which excavations of 15 to 35 feet below the current ground surface are proposed.²

Impacts

Potential development under the *Stadium District Study* would require demolition and excavation activities that could affect potential historic and cultural resources in the study area. Prior to any demolition activities, any building that is over 50 years old would be required to go through the City of Seattle's historical review process to determine whether the structure satisfies the criteria for landmark consideration. In addition, excavation activities associated with construction would have the potential to affect archaeological and cultural resources in the study area. Measures would be provided that would protect archaeological and cultural resources in the event that they are inadvertently discovered during excavation.

Mitigation

Possible measures to minimize potential land use impacts could include:

- If a building is designated a City Landmark, the developer/applicant could work with the City's Landmarks Preservation Board and the City Council to develop a Controls and Incentives Agreement. Once designated, any changes to historic features would be subject to the City's Certificate of Approval Process.
- An Inadvertent Discovery Plan could be prepared for projects in the event that archaeological materials or human remains are discovered. The Plan would provide notification and consultation with the Washington State Department of Archaeology and Historic Preservation (DAHP), Tribes and the City of Seattle (Department of Planning and Development) if such materials are discovered.

Aesthetics

Environmental Considerations

Future development in the *Stadium District Study* area would need to consider the existing aesthetic character of the Stadium District to ensure that potential buildings are designed to be consistent and complementary to the area. Future building locations and building heights would also need to take into account existing views to and through the Stadium District, in particular views from the existing stadiums, views from designated viewpoints, and views from scenic routes.

² 15 to 35 feet represents the approximate depth of fills that were deposited in the site vicinity in the early 1900s.

Impacts

Potential development in the *Stadium District Study* area would change the aesthetic character of the district; however, building design is intended to complement the existing character of the Stadium District and the overall City's skyline. Future development would be visible from designated viewpoints (*Seattle Views – An Inventory of 86 Public Views Protected Under SEPA, May 2002*) and scenic routes within and adjacent to the study area and could affect views to and from Downtown and adjacent areas east of the *Stadium District Study* area. Scenic routes in and adjacent to the study area include 4th Avenue South, South Royal Brougham Way, I-5, and I-90. Future development would be located adjacent to the 4th Avenue South scenic route (King Street Overtracks site) and Royal Brougham Way (WOSCA site) and strategies could be examined to reduce potential visual impacts on these scenic routes.

Mitigation

Possible measures to minimize aesthetic impacts could include:

- Design review.
- Future development would be expected to cultivate a distinctive urban form by considering iconic views to and from the Stadium District, the City's skyline, and historic development character when considering height, scale, massing and placement in the design of new buildings.
- Future development of the King Street Overtracks site and WOSCA site could include design strategies to reduce impacts to the scenic routes along 4th Avenue South and South Royal Brougham Way (see the discussion below for each specific catalyst site for further details).

Light/Glare/Shadows

Environmental Considerations

Potential development in the *Stadium District Study* area would need to consider pedestrian lighting design to create a safe environment, while also minimizing potential light and glare-related impacts to adjacent off-site uses. An analysis of potential shadow impacts and/or glare impacts could be required as part of development review, particularly projects that include highrise structures.

Existing light and glare in the Stadium District could impact potential development in the *Stadium District Study* area. Existing light and glare sources include: vehicles travelling on the SR99 highway; stadium lighting that is sometimes on late into the night and into early morning hours; and Port of Seattle terminal flood lighting that is illuminated through the night in instances. Mitigation measures would need to be considered in order to ensure potential incompatibilities with nearby uses due to light and glare are not created, or are minimized.

Impacts

Light, glare and shadows in the Stadium District would be expected to increase with future development of the study area. New development in the study area would result in increased light and glare from the proposed buildings and associated vehicle traffic; however, additional light and glare would be consistent with the urban environment of the surrounding area. Future

development could also result in increased shadows on public places within and/or proximate to the study area, particularly as they relate to a highrise structures. Depending upon façade design, reflectivity of glazing, and building orientation, reflected solar glare could be a factor for motorists on major traffic corridors.

Light and glare impacts from existing sources could also be received by new development in the Stadium District. Potential impacts could be created from existing uses, if new uses were to lead to incompatibilities with the existing uses, including Port of Seattle Terminal 46 operations, and stadium event operations. However, mitigation measures could be employed to alleviate such potential incompatibility impacts.

Mitigation

Possible measures to minimize potential light, glare and shadow impacts could include:

- Future development could incorporate design features that minimize light, glare and shadow impacts, including lighting design measures and selecting exterior building materials to minimize reflection.
- Future development could include design features that would minimize potential light and glare impacts from existing sources on new uses (in particular residential uses). Design features to minimize light and glare incompatibilities between new and existing uses should be considered with regard to existing light and glare, including: railroad operations, stadium lighting, and Port of Seattle terminal operations. Design features could include building orientation and required inclusion of operable window treatments to minimize or cancel unwanted light and glare into interior spaces.
- Where appropriate, shadow and/or glare analyses could be performed as part of the permitting process.
- Consideration could be given to incorporation recognition of existing light and glare sources (i.e., rail, Port, stadiums, etc.) as part of sale or lease agreements – similar in a sense to a right-to-farm notice that is prevalent in many rural areas. This could entail having potential residents sign a no-protest agreement or other type of covenant.

Transportation

Environmental Considerations

Potential development in the *Stadium District Study* area would need to consider the project's potential impact on pedestrian and vehicular transportation circulation, as well as parking within and proximate to the Stadium District. Key factors include: existing traffic, loading and parking; site access limitations, trip generation associated with new development, traffic volumes and associated intersection/roadway operation impacts, and pedestrian and bicycle access. In particular, a focus should be placed on maintaining and/or enhancing access for freight traffic associated with adjacent Port and industrial operations.

Impacts

Potential future development in the *Stadium District Study* area would result in an associated increase in vehicle trips to and from the study area. New vehicle trips would result in increased traffic volumes on area roadways and would affect intersection operations in the study area and

site vicinity. To the extent that future development in the Stadium District results in additional traffic volumes along 1st Avenue South, traffic along this corridor, including freight traffic, could experience additional delays. Additional traffic volumes and congestion could also result in an increase in adverse traffic conditions during stadium events. In addition, pedestrian and bicycle traffic would be expected to increase as a result of future development, which could lead to increased conflicts between pedestrians/bicyclists and vehicles.

Additional development within the Stadium District would result in an increase in parking demand within and proximate to the District. It is expected that off-site parking would be necessary to fulfill a portion of the increased parking demand. On-street parking could fulfill a portion of the demand as well; however, some on-street parking could be displaced with development in the study area.

Mitigation

The following policies have been identified as modifications to the City's *Comprehensive Plan* relative to the Stadium District and could minimize potential transportation-related impacts:

- Capitalize on transportation investments in and near the Stadium District by enhancing connections to and through the district to optimize the convenience and safety of all relevant modes of moving people, freight and services.
- Support and enhance freight access through the district to nearby industrial operations, including the Port of Seattle Terminal 46 operations.
- Encourage collaborative and integrated transportation management among major sports and entertainment uses and other uses in and adjacent to the Stadium District.
- Encourage coordinated and shared parking strategies to address event and day-to-day parking needs in the district, as an alternative to new sole purpose parking structures. Additional parking strategies such as ePark and implementing market rate, on-street paid parking would also encourage non-automotive modes of travel to reduce the demand for parking.

The proposal also includes the following transportation system enhancements that would minimize potential transportation impacts:

- Occidental Avenue South between South King Street and South Royal Brougham Way would be improved as a shared space that would emphasize slower vehicle travel and intermodal mingling. Streetscape improvements would include decorative paving, lighting, plantings and street furnishings.
- Occidental Avenue South between Edgar Martinez Drive and Massachusetts Street would be improved to include wide sidewalks and emphasize slower vehicle travel and intermodal mingling. Streetscape improvements would include wide sidewalks, decorative paving, lighting, plantings and street furnishings.
- 1st Avenue South between South King Street and Holgate Avenue South would be improved to include wider sidewalks, street trees, planted medians and enhance pedestrian crossings. While no traffic lanes would be removed, the pedestrian realm

would be widened south of Atlantic South through the removal of the parking lane on the eastern curb.

- South Charles Street would be designated as a shared facility for bicycles, pedestrians and cars that would connect between the shared-use path west of the WOSCA site and Occidental Avenue, using the already planned signalized intersection at South Charles Street and 1st Avenue South.
- A new signalized intersection would be provided midway between South Charles Street and South Royal Brougham Way to provide access for vehicles and pedestrians to new uses on the WOSCA site.
- Recommendations would be made for enhancements to the City of Seattle Bicycle Master Plan, including identifying South King Street as an east-west bicycle connection.
- Recommendations would be made that a signal along 1st Avenue South would be designed to accommodate pedestrian crossings, but minimize delays for north-south traffic flows through signal synchronization and other ITS solutions.

Public Utilities

Environmental Considerations

Potential development in the *Stadium District Study* area would need to verify the existing location and condition of utilities to serve potential buildings, and ensure that specific utility purveyors have the capacity to adequately serve increased demand associated with the new development.

Impacts

Future development in the *Stadium District Study* area would result in increased demands for public utilities, including natural gas (Puget Sound Energy), electricity (Seattle City Light), telecommunications (multiple purveyors), water and sewer (Seattle Public Utilities), and solid waste (Seattle Public Utilities). While demand for utilities would be anticipated to increase, no significant impacts to utilities are anticipated.

Mitigation

No significant impacts to public utilities are anticipated and no mitigation measures would be necessary.

CATALYST SITES

Within the Stadium District are three key sites with the potential for major change in terms of the character and success of the district as a whole. The three Catalyst sites include: **1) the WOSCA site, 2) King Street Station Overtracks site, and 3) the South Occidental Block site.** The following is an overview of each site together with environmental considerations, impacts and mitigation. This environmental information is presented in terms of broad factors that would be common to each Catalyst Sites and considerations specific to each site.

Catalyst Site Descriptions

WOSCA Site

The **WOSCA** site is generally bounded by South Dearborn Street to the north, First Avenue South to the east, South Royal Brougham Way to the south, and Alaskan Way South to the west. Under the *Stadium District Study*, the WOSCA site is envisioned to include a mix of commercial and residential development, as well as open space. Retail uses could be located at the ground level to engage with the street and open space use, and a plaza-type area could be located at the southern end of the site at South Royal Brougham Way and opposite of the existing plaza at Safeco Field.

The site is approximately 4.2 acres in size and measures approximately 1,375 feet in generally a north-south direction and 120 feet in an east-west direction. The City's *Comprehensive Plan* designation indicates that this site is part of the Duwamish MIC. The site is zoned Industrial Commercial (IC) with a 65-foot height limit. The recommended *Comprehensive Plan* designation would be Stadium District, with proposed land use regulations/zoning to encourage a mix of commercial, hotel, and/or residential development.

Under existing regulations, a buildout with commercial office uses totaling approximately 400,000 gsf is expected, as well as ground floor retail uses and approximately 600-800 parking spaces. Buildout under provisions of the *Stadium District Study* could include approximately 200,000-300,000 gsf of commercial office uses, 300-400 residential units or hotel rooms, 1-2 acres of open space, and 600-800 parking spaces; ground floor retail uses would also be included in some locations.

Overtracks Site

The **King Street Station Overtracks** site (Overtracks site) consists of the area over the BNSF railroad tracks and is generally bounded by South Weller Street to the north, Fourth Avenue South to the east, South Royal Brougham Way to the south, and CenturyLink Field to the west. Under the *Stadium District Study*, the Overtracks site is envisioned to include a mix of office/commercial development and residential units, with retail/active uses fronting to the adjacent stadiums. New pedestrian connections and pass-throughs would also provide enhance pedestrian amenities for users connecting between the Chinatown/International District and the Stadium District.

The Overtracks site is approximately 4.5 acres of potentially usable development area that would be located on a structure spanning the existing railroad tracks. The City's *Comprehensive Plan* designation is Downtown Urban Center. The site is zoned Pioneer Square Mixed with an 85-foot height limit for commercial uses and 150-foot height limit for residential uses; a portion of the site is designated as Duwamish MIC with a 65-foot height limit. The

recommended *Comprehensive Plan* designation would be Stadium District and proposed land use regulations/zoning would encourage commercial and residential uses with pedestrian connections.

The existing regulations would not be likely to allow development of the Overtracks site in the near future due to economic feasibility factors. However, under the *Stadium District Study*, approximately 300,000 gsf of commercial/office uses 250-300 residential units or hotel rooms, active retail uses fronting onto 4th Avenue and the stadium facilities, and up to 50,000 gsf of pedestrian connections and pass-throughs.

South Occidental Block Site

The **South Occidental Block** site consists of seven parcels that are generally bounded by Edgar Martinez Drive to the north, Occidental Avenue South to the east, Massachusetts Street to the south, and 1st Avenue South to the west. Under the *Stadium District Study*, the South Occidental Block site is envisioned to accommodate future infill development that would front onto 1st Avenue S, which would serve as the formal entry for development; Occidental Avenue South would serve as an informal entry. Major land use changes are not proposed for the South Occidental Block and development could include approximately 200,000 to 300,000 gross square feet of commercial or light industrial uses with buildings up to 85 feet tall.

The site is approximately 2.3 acres and currently includes 32,000 sq. ft. of vacant land, 63,000 sq. ft. of commercial/office uses, 49,500 sq. ft. of warehouse uses, and 23,000 sq. ft. of retail/entertainment uses. The City's *Comprehensive Plan* designation is Duwamish MIC and the zoning designation is IC with an 85-foot height limit. The recommended *Comprehensive Plan* designation would be Stadium District; no major land use changes are proposed.

Under the existing regulations, approximately 375,000 gsf of commercial/office uses would be anticipated on the site. Based on the recommendations of the Stadium District Study, approximately 500,000 gsf of development could occur, including ground floor commercial/retail with upper level office or lodging uses.

Environmental Considerations and Mitigation Measures

Earth

Environmental Considerations

Development on the Catalyst sites would need to consider potential earth-related environmental factors, including potential seismic hazard-related issues that could be required during the construction of future buildings. Due to the location of the area within the Seattle Fault Zone and within a liquefaction-prone area, as well as the presence of fill soils beneath the area, potential development could be required to provide additional engineering studies and potential mitigation measures related to seismic hazards/liquefaction-prone areas.

- **WOSCA site:** Due to the size of this site, it is anticipated that development would require the largest amount of grading/excavation activities of the three sites and would need to consider those impacts on the site geology and potential seismic hazard areas. In addition, consideration would need to be given to the site's proximity and relationship to the SR-99 Tunnel.

- Overtracks site: Development of a building to span the existing railroad tracks would require specific engineering studies regarding the foundation supports for such a building and their effect on site geology and potential seismic hazard areas.
- South Occidental Block site: Earth-related considerations would be similar to those mentioned above.

Impacts

The Catalyst sites are essentially flat and contain no steep slopes. Soils in this area consist of fill, the sites are located within the Seattle Fault Zone, and are in a City-designated liquefaction-prone area. Future development of the sites would result in potential impacts to geology and soils due to construction of new buildings and/or infrastructure. Potential construction-related impacts could include clearing and grading activities that would result in soil disturbances, ground vibrations, and erosion.

As a result of proximity to the Seattle Fault Zone and the presence of fill soils, potential seismic impacts could include liquefaction, lateral spreading, and tsunamis.

- WOSCA site: Construction would result in the greatest amount of excavation and impacts to existing site geology.
- Overtracks site: Development on-site would require a more limited amount of excavation due to the nature of the site and the existing railroad.
- South Occidental Block site: Development on the site would require a more limited amount of excavation due to the site of the existing site area.

Mitigation

Possible strategies to minimize potential impacts to geology and soils could include:

- Construction activities, including clearing, grading and excavation, would be conducted in accordance with applicable City of Seattle requirements and best management practices could be implemented to potential impacts from soil disturbances (i.e. erosion, ground vibrations, etc.).
- Future development would be subject to the requirements of the City of Seattle's building code, which requires increased structural strength that would limit potential seismic hazard impacts, potential measures could include:
 - Design structures in accordance with relevant and appropriate seismic design methods to mitigate liquefaction and ground settlement.
 - Design structures to meet or exceed earthquake loading requirements as noted in the current building code.

Groundwater

Environmental Considerations

Potential groundwater issues that should be considered as part of development on the Catalyst sites include: construction-related factors (e.g., alterations to groundwater flow), release of

pollutants, and dewatering activities. Development within the study area would also need to consider the existing depths to groundwater as they relate to potential excavations for building construction and long-term operation.

- WOSCA site: Groundwater considerations for the WOSCA site would be similar to those described above.
- Overtracks site: Groundwater considerations for the Overtracks site would be similar to those described above.
- South Occidental Block site: Groundwater considerations for the South Occidental Block site would be similar to those described above.

Impacts

Development on the Catalyst sites could result in potential impacts to groundwater. Potential groundwater impacts associated with development include: alterations of groundwater flow associated with construction retaining walls; release of pollutants during construction activities (i.e., sediment, oil, grease, etc.), which could affect water quality; and, implementation of dewatering activities during construction, which could draw groundwater flow toward excavated areas.

- WOSCA site: Groundwater impacts would be similar to those described above.
- Overtracks site: Groundwater impacts would be similar to those described above.
- South Occidental Block site: Groundwater impacts would be similar to those described above.

Mitigation

Possible measures to minimize potential impacts to groundwater could include:

- Perimeter drainage systems could be installed if groundwater flow is altered by retaining walls.
- Groundwater quality investigations could be conducted prior to construction to determine if contaminated areas are present within potential development sites. If contaminated areas are discovered, the contamination could be remediated/removed prior to construction (see Environmental Site Hazards discussion below for further details).

Environmental Site Hazards

Environmental Considerations

Several prior studies have been conducted in the vicinity of the Catalyst sites, which indicate that potential contaminants may be present, including solvents, petroleum products, and metals such as mercury, silver, lead, zinc, copper and poly-chlorinated biphenyls (PCBs). Potential development within the study area could require additional analysis regarding the presence of on-site contaminants and could also require additional cleanup/remediation activities depending on the extent of contamination.

- WOSCA site: Prior studies have documented potential contaminants within the 1st Avenue South Corridor (adjacent to the site) and would need to be considered as part of development. Cleanup/remediation activities could be required. Potential residential development would require more stringent cleanup requirements.
- Overtracks site: If contaminants are located on or adjacent to the site, measures could be required to limit potential exposure for future residents.
- South Occidental Block site: Prior studies have documented potential contaminants within the 1st Avenue South Corridor (adjacent and to the west of the site) and would need to be considered as part of development. Cleanup/remediation activities could be required if contaminants are located on-site.

Impacts

Residual contaminants may be present in the area of the Catalyst sites, including solvents, gasoline and petroleum products, mercury, lead, silver, zinc, and PCBs. Future development on the sites could encounter potential contaminants during the construction process and could result in the disturbance and release of hazardous materials. On-site investigations would be required if hazardous materials are documented on-site and remediation/cleanup activities would be required, if necessary.

In addition, potential residential development could also result in increased exposure to potential contaminants due to the long-term presence of residents within certain areas of the study area. However, current regulatory practices would mandate that further site-specific assessments and potential remediation actions (if necessary) would be implemented prior to or during construction and would reduce the potential for exposure to hazardous contaminants.

- WOSCA site: Potential contaminants on and/or adjacent to the WOSCA could result in increased exposure for on-site residents. If located on-site, potential contaminants would be required to be remediated to allow for residential uses.
- Overtracks site: If located on-site, potential contaminants could result in increased exposure for new residents and would be required to be remediated to allow for residential uses.
- South Occidental Block site: Cleanup/remediation activities could be required if contaminants are located on-site.

Mitigation

Possible measures to minimize potential impacts from environmental site hazards could include the following:

- Future development would be compliant with current regulations associated with hazardous materials and could include various forms of site investigations, records research, cleanup plans, and compliance with regulatory processes. Such actions would take into account whether residential uses would be present, which would entail a higher level of cleanup.

Noise

Environmental Considerations

Potential development on the Catalyst sites would need to consider potential noise-related environmental issues that could arise during site redevelopment. Future development could experience potential noise impacts from existing adjacent uses (i.e., industrial uses, roadways/highways, and railroad operations). Development on the sites could require additional noise analyses to determine the potential noise levels that could affect future development on-site and building design mitigation measures could be required to be incorporated into the construction of future buildings to ensure that noise levels are appropriate for residences and businesses.

- WOSCA site: Potential residential uses on the site could experience high noise levels due to the proximity to roadways, and Port and industrial uses. Consideration could be given to include building design features to limit noise and minimize impacts on residential uses.
- Overtracks site: Potential residential uses on the site could experience high noise levels due to the proximity to stadium and railroad operations, and roadways. Consideration could be given to include building design features to limit noise and minimize impacts on residential uses.
- South Occidental Block site: Noise levels from highways, stadium and railroad operations, and industrial uses could affect potential businesses. Design features could be incorporated into new buildings to limit noise impacts.

Impacts

The Catalyst sites are located in close proximity to highways/arterials (Alaskan Way South, 1st Avenue South, and South Royal Brougham Way), railroads and industrial uses, and are subject to relatively high noise levels. Noise from roadway traffic, sirens, railroad operations, industrial operations, aircraft and spectators associated with the stadiums all contribute to the ambient noise environment. Potential development on the sites could be exposed to increased noise levels and could result in noise impacts to potential land uses.

In addition, future development of the sites would result in construction-related noise (primarily from site preparation and excavation activities) that would add to the overall noise environment of the area. However, construction-related noise would be temporary in nature and any development that would occur within the area would be subject to the City of Seattle's applicable noise requirements (see the Mitigation discussion below for further details). As a result, significant impacts from construction-related noise would not be anticipated.

- WOSCA site: Potential development (especially residential uses) could be exposed to high levels of noise from adjacent roadway operations and industrial uses.
- Overtracks site: New development (especially residential uses) could be exposed to high levels of noise from adjacent railroad and roadway operations.
- South Occidental Block site: Potential commercial/light industrial development could be exposed to high levels of noise from adjacent roadway operations and industrial uses.

Mitigation

Possible measures to minimize potential noise impacts could include:

- The design and construction of future development on the Catalyst sites (in particular potential residential development) could include sound transmission class (STC)-rated construction materials and methods in exterior walls to minimize noise levels from surrounding uses. Other methods could also be provided to reduce noise levels for future residences, including demonstrating that operable windows are not present or providing triple-pane glass windows.
- Construction activities associated with future development could include the following measures to minimize potential noise levels:
 - Limit construction activities to between the hours of 7:00 AM and 10:00 PM.
 - Equip construction equipment with adequate mufflers, silencers or engine enclosures to reduce engine noise.
 - Require contractors to use the quietest equipment available and maintain all equipment to reduce noise levels.
 - Locate stationary equipment and staging areas away from sensitive users.
 - Install temporary noise barriers, shields or curtains around stationary equipment.
- Consideration could be given to incorporating recognition of existing noisy operations (e.g., rail, port, etc.) as part of a sale or lease agreement – similar in a sense to a right-to-farm notice that is prevalent in many rural areas. This could entail having potential residents sign a no-protest agreement or other type of covenant.

Land Use

Environmental Considerations

Future development on the Catalyst sites would need to consider potential land use-related issues associated with development, including compatibility impacts and height, bulk and scale impacts. The location and design of specific buildings would need to consider their compatibility with surrounding uses, including existing industrial uses and the existing stadiums. Future development would also need to consider height, bulk and scale features, particularly as they relate to surrounding uses, the existing City skyline, and their potential effects on views from the existing stadiums or designated viewpoints (*Seattle Views – An Inventory of 86 Public Views Protected Under SEPA, May 2002*).

- WOSCA site: Potential development (including the types of uses and their locations on the site) would consider the compatibility with existing industrial uses and the existing stadiums. Height, bulk and scale features should also be considered, particularly as they relate to a potential tower structure and its effect on the City skyline and views from the stadiums.
- Overtracks site: New development (including the types of uses and their locations on the site) would consider the compatibility with existing railroad operations and stadiums. Height, bulk and scale should also be considered as it relates to adjacent buildings and views of downtown, particularly from 4th Avenue South.

- South Occidental Block site: Specific buildings would need to consider their compatibility with surrounding uses, including existing industrial uses and the existing stadiums. Height, bulk and scale should also be considered for compatibility with surrounding uses.

Impacts

As described above, the Stadium District Study would modify the City's *Comprehensive Plan* to create an independent land use category to recognize the unique functions and characteristics of the district, including the Catalyst sites. Development patterns on the site could be altered and density on the sites could be increased to include a variety of uses (residential uses, commercial/light industrial uses, open space areas, etc.). Potential development on the Catalyst sites could include buildings taller than those in the site vicinity (with the exception of the existing stadiums). Design strategies could also be incorporated into potential development on the sites and would ensure that the potential height, bulk and scale of future would not significantly impact adjacent uses.

- WOSCA site: Development patterns on the site would be altered and density on the site would be increased to possibly include residential uses, mid-rise commercial/light industrial uses, and open space areas. The location of the residential uses in the north portion of the site would complement existing housing in the Pioneer Square area to the north and could be designed to minimize potential conflicts with the Port of Seattle and other nearby industrial uses. Development could include buildings taller than those in the site vicinity (with the exception of the existing stadiums). In particular, a potential residential tower structure in the north portion of the site would provide an increase in building height and scale.
- Overtracks site: Development on the site would increase the density on the site to include commercial/office uses, residential uses, and ground-level retail uses. New pedestrian connections would also be provided to create enhanced pedestrian pass-throughs between the International District and the Stadium District. The location of residential uses above the existing railroad operations could result in compatibility issues between these uses (i.e., noise, light and glare, vibration, etc.). Potential development on the Overtracks site could include a taller, denser development than those that currently exist in the site vicinity (with the exception of the existing stadiums and North Lot development).
- South Occidental Block site: Development patterns on the site would remain similar and could include lodging and commercial development. These potential uses would be generally compatible with existing surrounding commercial and industrial uses in the site vicinity. Potential buildings could be slightly greater in height than the existing structures on the site, but would be within the maximum building heights identified for the area.

Mitigation

Possible measures to minimize potential land use impacts could include:

- Potential land use impacts with new residences would be mitigated by locating residential uses in the north portion of the WOSCA site and Overtracks site, which would complement existing residential uses in Pioneer Square and minimize conflicts with the existing nearby Port of Seattle uses and industrial uses. In addition, screening and/or building design features could be implemented to limit the exposure to potential light, glare and noise impacts.

- Potential residents could be required to sign a no-protest agreement or other type of covenant strategy to limit complaints from residents regarding the existing industrial and stadium/event uses in the site vicinity.
- Design strategies could be incorporated into specific building design as part of the design review process to ensure that the height, bulk and scale of potential buildings would be compatible and would not significantly impact surrounding uses.

Population/Housing

Environmental Considerations

The *Stadium District Study* included an analysis of housing considerations for the area, including residential development on portions of the Catalyst sites, and determined that residential development in the Stadium District would be financially feasible and marketable.

- WOSCA site: Future residential development would need to consider the existing housing stock and supply in the Pioneer Square area to the north and east of the site, as well as potential conflicts with nearby Port and industrial uses.
- Overtracks site: Potential residential development would need to consider the existing housing stock and supply in the Pioneer Square area and International District area, as well as potential conflicts with existing railroad operations.
- South Occidental Block site: Residential development is not anticipated for this site.

Impacts

Future development on the Catalyst sites could include new residential uses within the Stadium District. New residential development could add approximately 500 to 700 new dwelling units within the study area with an additional population of approximately 500 to 1,400 people, or more.

- WOSCA site: New residential development on the WOSCA site could add approximately 300 housing units within the study area with an associated population of 300 to 600+ occupants. New housing would provide more market rate residences near the planned and existing housing in Pioneer Square and the International District. Locating the housing in the north portion of the WOSCA site could also minimize potential conflicts with the Port of Seattle and other industrial uses.
- Overtracks site: New residential development on the site could add approximately 250 – 500 new housing units on the site with an associated population of 250 to 500+ occupants. New housing would provide more market rate residences near the planned and existing housing in Pioneer Square and the International District.
- South Occidental Block site: Residential development is not anticipated for this site.

Mitigation

No significant population and housing impacts are anticipated and no mitigation measures are necessary.

Historic/Cultural

Environmental Considerations

Future development on the Catalyst sites would need to consider that any development that would require demolition of buildings that are 50 years or age or older would require a historical building assessment as part of the City of Seattle's historical review process. If the City determines that the structure satisfies criteria for Landmark designation, it could be designated a City Landmark. If designated, specific mitigation measures would be required to authorize development on-site. Consideration should also be given to excavation activities associated with construction and their potential to encounter archaeological materials, particularly areas that would require excavations greater than 15 to 35 feet below the current ground surface.

- WOSCA site: There are buildings at the south end of the site. These buildings would need to be analyzed for landmark consideration if they are over 50 years of age. Consideration should also be given to construction activities and their potential to unearth archaeological resources.
- Overtracks site: No demolition of any buildings that are 50 years old or greater is anticipated; however, consideration should also be given to excavation activities associated with construction and their potential to encounter archaeological resources.
- South Occidental Block site: Existing buildings on the site would need to be analyzed for landmark consideration if they are over 50 years of age. Consideration should also be given to construction activities and their potential to unearth archaeological resources.

Impacts

Future development of the Catalyst sites would require demolition and excavation activities that could affect potential historic and cultural resources in the study area. Prior to any demolition activities, any building that is over 50 years old would be required to go through the City of Seattle's historical review process to determine whether it would satisfy criteria for Landmark consideration. In addition, excavation activities associated with construction would have the potential to affect archaeological and cultural resources in the study area. Measures would be provided that would protect archaeological and cultural resources in the event that they are inadvertently discovered during excavation.

- WOSCA site: Potential impacts could occur if existing buildings are over 50 years old and determined to have landmark status. Excavation activities associated with construction would have the potential to affect archaeological and cultural resources in the study area.
- Overtracks site: Construction activities would have the potential to affect archaeological and cultural resources in the study area.
- South Occidental Block site: Impacts could occur if existing buildings are over 50 years old and determined to have landmark status. Excavation activities associated with construction would have the potential to affect archaeological and cultural resources in the study area.

Mitigation

Possible measures to minimize potential land use impacts could include:

- If the structure is designated a City Landmark, the developer/applicant would coordinate with the Landmarks Preservation Board and the City Council to develop a Controls and Incentives Agreement. Any changes to historic features would be required to comply with the City's Certificate of Approval Process.
- An Inadvertent Discovery Plan could be prepared for projects in the event that archaeological materials or human remains are discovered. The Plan would provide notification and consultation with the Washington State Department of Archaeology and Historic Preservation (DAHP), Tribes and the City of Seattle if such materials are discovered.

Aesthetics

Environmental Considerations

Future development on the Catalyst sites would need to consider the existing aesthetic character of the Stadium District to ensure that potential buildings are designed to be consistent and complementary to the area. Future buildings locations and building heights would also need to take into account existing views to and through the Stadium District, in particular views from the existing stadiums, as well as the potential effect on the City's skyline.

- WOSCA site: Consideration would need to be given to the potential building locations, building design, and building height on the site. Development should attempt to complement the character of the surrounding area and consider the site's frontage on 1st Avenue South. A potential tower structure on the site should also consider the effect on the City's skyline, as well as potential impacts to views from the stadiums.
- Overtracks site: Future development should take into account the potential buildings' frontage along 4th Avenue South, as well as adjacent to CenturyLink Field. Future building locations and building heights would also need to consider existing views to and through the Stadium District, in particular views from the stadiums and along the 4th Avenue South scenic route, as well as the potential affect on the City skyline. Consideration should also be given to create a visual corridor through the site towards King Street Station.
- South Occidental Block site: Future buildings' locations and building development would need to take into account existing views to and through the Stadium District, in particular views from the stadiums and along 1st Avenue South.

Impacts

Future development on the Catalyst sites would change the aesthetic character of the site; however, building design is intended to complement the existing character of the Stadium District and the overall City's skyline. Future development would be visible from scenic routes in the vicinity (e.g., South Royal Brougham Way and 4th Avenue South) and could alter public views from these locations. Strategies could also be examined through the design review process to ensure that potential development on the sites is complementary to the area and minimizes aesthetic impacts and impacts to public views.

- WOSCA site: Development would substantially change the aesthetic character of the site. Potential buildings could alter views along South Royal Brougham Way and 1st Avenue South, as well as views of the City skyline and from the stadiums. A potential

residential tower structure on the northern portion of the site would create a strong architectural presence and contribute to the urban form of isolated tall/large elements in this portion of the City's skyline.

- Overtracks site: Future development would change the aesthetic character of the site and would be taller than many of the surrounding development (with the exception of the existing stadiums and North Lot development). Development would be visible from the 4th Avenue South scenic route and could block a portion of the view towards the Downtown skyline to the north, as well as views of King Street Station.
- South Occidental Block site: Development could result in minor changes to the aesthetic character of the site. Potential development could be slightly taller than existing development on the site and in the site vicinity, but would be encouraged to retain character elements of the South Occidental Block. Views toward Downtown from this area are already partially blocked and proposed development on this site would not affect views toward Downtown.

Mitigation

Possible measures to minimize potential aesthetic impacts could include:

- Design review would be required which could identify strategies to minimize potential aesthetic impacts.
- Future development would be intended to cultivate a distinctive urban form by considering iconic views to and from the Stadium District, the City's skyline, and historic development character when considering height, scale, massing and placement in the design of new buildings. In particular, the location of a tower structure at the north end of the site would minimize potential impacts to public views from Safeco Field and Century Link Field.
- Future development of the Catalyst sites could include design strategies to complement the existing scenic routes along South Royal Brougham Way and 4th Avenue South.

Light/Glare/Shadows

Environmental Considerations

Potential development on the Catalyst sites would likely consider lighting design features to create a safe environment, while also minimizing potential light and glare impacts to adjacent off-site uses. An analysis of potential shadow impacts relative to public parks and plazas could also be required with development, particularly for projects that include tall buildings.

In addition, the Catalyst sites are located in proximity to existing sources of light and glare, and new development on the sites would be subject to receiving light and glare from the existing uses and activities. Existing sources of light and glare include: vehicles travelling on the SR 99 highway; stadium lighting from CenturyLink Field and Safeco Field that can last late into the night and into early morning hours; and Port of Seattle terminal flood lighting that is illuminated through the night in some instances. Mitigation measures would need to be considered in order to ensure potential incompatibilities with nearby uses due to light and glare are not created, or are minimized.

- WOSCA site: Building design would need to consider the potential lighting and glare impacts on adjacent uses, and the light and glare impacts from existing sources that would be received by new uses on the site. In particular, light and glare from the SR99 roadway, Port of Seattle Terminal 46, and stadium lights would need to be considered. Potential development on the site, particularly a future tower structure, would likely require an analysis of potential shadow impacts on adjacent uses
- Overtracks site: Building design would need to consider the potential lighting and glare impacts on adjacent uses, and the light and glare impacts from existing sources that would be received by new uses on the site. In particular, the operations of the existing railroad, and stadium lighting from CenturyLink Field would need to be considered. Depending on the height of a potential building a shadow analysis could be required.
- South Occidental Block site: Building design would need to consider the potential lighting and glare impacts on adjacent uses and the light and glare impacts from existing sources that would be received by new uses on the site. In particular, stadium lighting from Safeco Field would need to be considered. Based on the height limits for the site, it is anticipated that a shadow analysis would not be required.

Impacts

Light, glare and shadows in the Stadium District could increase with future development on the Catalyst sites. New development in the study area would result in increased light and glare from the proposed buildings and associated vehicle traffic; however, the additional light and glare would be consistent with urban environment of the surrounding area. Future development could also result in increased shadows on public places within and proximate to the study area, particularly as they relate to potential tower structures and other mid-rise structures that could be developed on the sites. Depending upon façade design, reflectivity of glazing, and building orientation, reflected solar glare could be a factor for motorists on adjacent major traffic corridors.

In addition, light and glare impacts from existing sources could be received by new uses in the District. Potential impacts could be created for existing uses, if new uses were to lead to incompatibilities with the existing uses -- including Port of Seattle Terminal 46 operations, and stadium event operations. However, mitigation measures could be employed to alleviate such potential incompatibility impacts.

- WOSCA site: Light and glare would increase with new development on the site and could affect adjacent uses. New development could result in increased shadows on and off-site, particularly as they relate to a potential new tower structure. New development, particularly of residential uses in a tower, could receive light and glare impacts from the Port of Seattle Terminal 46 operations and CenturyLink Field lights. A residential use on the WOSCA site would be within approximately 350 feet of Terminal 46 at its closest point and within approximately 500 feet of CenturyLink Field.
- Overtracks site: New development would result in increased light, glare and shadows on the site. Potential development on the Overtracks site (in particular residential uses) could be affected by light and glare from existing railroad operations beneath the site, and from CenturyLink Field lights.
- South Occidental Block site: Light and glare would increase with new development on the site. A minimal increase in shadows would also be anticipated with development.

New development in the block could receive light and glare impacts from nearby existing uses, in particular Safeco Field which is directly across Edgar Martinez Drive from the block. Residential uses are not proposed to be allowed in the South Occidental block.

Mitigation

Possible measures to minimize potential light, glare and shadow impacts could include:

- Future development could incorporate design features that would minimize light, glare and shadow impacts, including lighting design measures and selecting exterior building materials to minimize reflection.
- Future development could also include design features that would minimize potential light and glare impacts from existing light and glare sources on new uses (in particular residential uses). Design features to minimize light and glare incompatibilities between new and existing uses should be considered with regard to existing light and glare sources including: railroad operations, stadium lights, and Port of Seattle Terminal operations. Design features could include building orientation, and required inclusion of operable window treatments to minimize or cancel unwanted light and glare into interior spaces.
- Where appropriate, shadow and/or glare analyses could be performed as part of the permitting process.
- Consideration could be given to incorporating recognition of existing light and glare sources (e.g., rail, port, stadiums etc.) as part of a sale or lease agreement – similar in a sense to a right-to-farm notice that is prevalent in many rural areas. This could entail having potential residents sign a no-protest agreement or other type of covenant.

Transportation

Environmental Considerations

Potential development on the Catalyst sites would need to consider the project's potential impact on pedestrian and vehicular transportation circulation, and parking in the Stadium District, including site access to potential buildings, trip generation associated with new development, traffic volumes and associated intersection/roadway operation impacts, and pedestrian and bicycle access. In particular, a focus should be placed on maintaining and/or enhancing access for freight traffic associated with adjacent industrial operations in the site vicinity. The completion of a project-specific transportation analysis could be required as part of the development of the Catalyst sites. In addition, parking demand associated with a specific project would need to be considered as part of the project design.

- WOSCA site: Consideration should be given to the number of trips that would be generated by development on the site and the potential impact on traffic in the area, particularly access to the site vicinity for nearby freight traffic and industrial operations. Parking demand would be a consideration, including potential shared parking opportunities as part of an underground garage. Consideration should also be given to a potential mid-block crossing across 1st Avenue South.
- Overtracks site: Trip generation and the potential impacts on traffic operations should be considered. Site access to the Overtracks site should also be analyzed.

Consideration should also be given to creating pedestrian connections through the site between the International District and Stadium District, as well as creating a pedestrian amenity between the site and Century Link Field.

- South Occidental Block site: Development-related trip generation should be considered, particularly the potential effect on traffic operations and access for freight traffic and industrial operations in the site vicinity.

Impacts

Potential future development on the Catalyst sites would result in an associated increase in vehicle trips to and from the site. New vehicle trips would result in increased traffic volumes on area roadways and would affect intersection operations in the study area and site vicinity. To the extent that future development in the Stadium District results in additional traffic volumes along 1st Avenue South, traffic along this corridor, including freight traffic, could experience additional delays. Additional traffic volumes and congestion could also result in an increase in adverse traffic conditions during stadium events. In addition, pedestrian and bicycle traffic would also be anticipated to increase as a result of future development, which could lead to increased conflicts between pedestrians/bicyclists and vehicles. An increase in parking demand would also be associated with future development of the Catalyst sites. Shared use parking could be included as part of development to serve site uses and double as event-related parking.

- WOSCA site: Future development would result in increased vehicle trip generation³ on the site (approximately 320-550 PM peak hour trips) which could impact traffic volumes and traffic operations in the site vicinity. Impacts to traffic operations could also affect freight mobility and industrial operations in the site vicinity. Increased development on the site would also result in additional demands for parking, which could largely be accommodated onsite. A potential mid-block crossing would create additional access for pedestrians/bicycles, but could also result in increased conflicts with vehicles on 1st Avenue.
- Overtracks site: New vehicle trips (approximately 200-600 PM peak hour trips) would result in increased traffic volumes on area roadways and would affect intersection operations in the site vicinity. Increased development on the site would also result in additional demands for parking, which could largely be accommodated onsite. New pedestrian/bicycle connections would be provided through the site which could lead to increased conflicts between pedestrians/bicyclists and vehicles.

Indications are that the BNSF trackage through this site is the main line between rail points south and north of the City. While preliminary research is inconclusive, if this line is designated as critical infrastructure by Homeland Security any disruption to freight travel on this line could be problematic.

- South Occidental Block site: Increased trip generation associated with new development would affect traffic operations in the area and could impact freight mobility

³ It should be noted that all of the vehicle trip generation estimates would vary based on the mode of transportation that people use to travel to the Stadium District. Given the increasingly urban context of the area and potential future improvements to transit access, vehicular trips would likely be at the low ranges of the estimates noted in this analysis.

and industrial operations in the area. Compared to the uses that are on the site today, vehicle trips could increase by 350-850 PM peak trips under the proposal. However, the existing site is not currently built out to meet its full development potential under the current zoning, and the proposal would result in only an increase of 220 PM peak hour trips when compared to the full development potential of the site. Increased development would result in additional demands for parking. New pedestrian/bicycle connections could also be provided through the site, which could lead to increased conflicts between pedestrians/bicyclists and vehicles.

Mitigation

The following policies have been identified as part of the modifications to the *Comprehensive Plan* associated with the Stadium District and could minimize potential transportation impacts:

- Capitalize on transportation investments in and near the Stadium District by enhancing connections to and through the district to optimize the convenience and safety of all relevant modes of moving people, freight and services.
 - A potential mid-block crossing that aligns with the central portion of the WOSCA site would provide increased access to the site, as well as enhanced amenities and opportunities for pedestrians.
 - Additional pedestrian connections would be provided through the Overtracks site that would provide additional access over the existing railroad tracks and create new connections between the International District and the Stadium District.
- Support and enhance freight access through the district to nearby industrial operations, including the Port of Seattle Terminal 46 operations.
- Encourage coordinated and shared parking strategies to address event and day-to-day parking needs in the district, as an alternative to new sole purpose parking structures. A shared use parking garage could be provided on the Catalyst sites and could double as event-related parking. Additional parking strategies such as ePark and implementing market rate, on-street paid parking would also encourage non-automotive modes to travel to reduce the demand for parking.

The proposal also includes the following transportation system enhancements that would minimize potential transportation impacts:

- Occidental Avenue South between South King Street and South Royal Brougham Way would be improved as a shared space that would emphasize slower vehicle travel and intermodal mingling. Streetscape improvements would include decorative paving, lighting, plantings and street furnishings.
- Occidental Avenue South between Edgar Martinez Drive and Massachusetts Street would be improved to include wide sidewalks and emphasize slower vehicle travel and intermodal mingling. Streetscape improvements would include wide sidewalks, decorative paving, lighting, plantings and street furnishings.
- 1st Avenue South between South King Street and Holgate Avenue South would be improved to include wider sidewalks, street trees, planted medians and enhance

pedestrian crossings. While no traffic lanes would be removed, the pedestrian realm would be widened south of Atlantic South through the removal of the parking lane on the eastern curb.

- South Charles Street would be designated as a shared facility for bicycles, pedestrians and cars that would connect between the shared-use path west of the WOSCA site and Occidental Avenue, using the already planned signalized intersection at South Charles Street and 1st Avenue South.
- A new signalized intersection would be provided midway between South Charles Street and South Royal Brougham Way to provide access for vehicles and pedestrians to new uses on the WOSCA site.
- Recommendations would be made for enhancements to the City of Seattle Bicycle Master Plan, including identifying South King Street as an east-west bicycle connection.
- Recommendations would be made that a signal along 1st Avenue South would be designed to accommodate pedestrian crossings, but minimize delays for north-south traffic flows through signal synchronization and other ITS solutions.

Public Utilities

Environmental Considerations

Potential development on the Catalyst sites would need to verify the existing location and condition of utilities to serve potential buildings, and ensure that specific utility purveyors have the capacity to serve increased demand associated with new development in the area.

- WOSCA site: Existing utility connections and their capacity would be considered as part of future development.
- Overtracks site: Current utility connections and their ability to serve new development would be considered; specifically, utility access over the existing railroad tracks would need to be analyzed.
- South Occidental Block site: Existing utility connections and their capacity would be considered as part of future development.

Impacts

Future development on the Catalyst sites would result in increased demands for public utilities, including natural gas (Puget Sound Energy), electricity (Seattle City Light), telecommunications (multiple purveyors), water and sewer (Seattle Public Utilities), and solid waste (Seattle Public Utilities). While demand for utilities would be anticipated to increase, no significant impacts to utilities are anticipated.

- WOSCA site: New development on the site would result in increased demand for public utilities; no significant impacts, however, are anticipated.
- Overtracks site: Future development would increase demand for utilities and would not significantly affect utility purveyors.

- South Occidental Block site: New development on the site would result in increased demand for public utilities, but not significant impacts would be anticipated.

Mitigation

No significant impacts to public utilities are anticipated and no mitigation measures are necessary.