

APPENDIX D4.15

Social Resources and Environmental Justice Impacts and Mitigation Summary

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The information in Tables D4.15-1 and D4.15-2 summarizes the adverse and beneficial impacts of the LPA and general mitigation commitments addressing operation and construction impacts, respectively. It also concludes the effectiveness of proposed mitigation in reducing impacts in the last column and whether the effects would require further analysis of effects on environmental justice populations. These tables are also referenced in the cumulative impacts analysis for the potential of the Center City Connector to provide incremental contribution toward cumulative impacts.

Per EO 12898 and USDOT Order 5610.2(a), the first step in an Environmental Justice analysis requires the determination of whether any adverse effects would result from the propose project, and then secondarily, whether any of the high and adverse effects would result in disproportionate impacts on minority and low income populations.

Table D4.15-1 indicates that no adverse effects would result from the LPA during operation. The LPA would result in beneficial impacts during operation. Table D4.15-1 indicates that while construction would result in short-term impacts, no adverse effects are anticipated after implementing BMPs and mitigation measures because most of the construction segments would only result in disturbance for less than 8 months of the maximum 2-year construction period. These conclusions are also incorporated in the Chapter 5, Cumulative Impacts. The cumulative analysis finds that the Center City Connector in combination with reasonably foreseeable future actions would result in the potential for beneficial cumulative impacts during operation, but for potential high-intensity with low magnitude cumulative impacts during construction. Therefore, mitigation measures for cumulative impacts are proposed and summarized below after Table D4.15-2. Following these mitigation measures, the cumulative impacts during construction, would not result in disproportionately high and adverse impacts on minority and low-income populations.

Table D4.15-1 Operation Impacts and Mitigation Summary

Element of the Environment	Operational Impact Summary	Mitigation	Adverse Impacts After Mitigation; further EJ analysis warranted
Transportation	<ul style="list-style-type: none"> ▪ No noticeable change in regional trips or freight traffic. ▪ Improves movement of persons in study area and for those on connecting streetcars systems, including approximately 15,100 more streetcar system riders compared to 2014 ridership; improves transit travel times, 	<ul style="list-style-type: none"> ▪ Work with King County Metro and Community Transit through design and implementation on bus re-routing and changes to bus stops (specifically Routes 16, 66, 12). ▪ Coordinate and resolve electric trolley buses crossing wire conflicts, through minimizing crossings, provide electric trolley bus 	Project would result in beneficial impacts; no additional analysis is warranted.

Element of the Environment	Operational Impact Summary	Mitigation	Adverse Impacts After Mitigation; further EJ analysis warranted
	<p>reliability, and convenience.</p> <ul style="list-style-type: none"> ▪ Minor changes to bus routes 12, 16, and 66, and elimination or rerouting of route 99 bus service. ▪ Conflicts with Electric Trolley Buses crossing wire ▪ Conflicts with five driveways along First Avenue ▪ Reduces First Avenue from four lanes during peak hour to two lanes (same as current travel lanes during non-peak hours); reduces vehicle carrying capacity while increasing person travel capacity via streetcar between frequent destinations. See Section 4.1.3 for more detail. ▪ Intersections along the LPA alignment on average would experience an approximately 26% increase in delay (from 13 to 17 seconds per vehicle) in 2018 and an approximately 40% increase in delay (from 18 to 26 seconds per vehicle) in 2035 within the study area; but only one intersection (Westlake at Republican) would fall below a failing level-of-service threshold. ▪ Eliminates 4 of 7 northbound-to-westbound and 2 of 5 southbound-to- 	<p>overhead contact system (OCS) maintenance assistance, and provide electric trolley bus special hardware to manage crossings.</p> <ul style="list-style-type: none"> ▪ Use coordination signal timing to minimize cross traffic intersection delays. ▪ Modify, sign and stripe right-in and right out for five driveways along First Ave. ▪ Ensure safe movement and access for pedestrians and bike access at intersections. ▪ Relocate and sign new bike route. ▪ Implement strategies to encourage use of off-street parking facilities and provide necessary loading zones where possible. ▪ Implement signing and wayfinding to existing and sponsored parking garages. ▪ Maintain all day loading zones where possible or find nearby locations for new loading zones. ▪ Allow loading access during streetcar off-service hour periods. 	

Element of the Environment	Operational Impact Summary	Mitigation	Adverse Impacts After Mitigation; further EJ analysis warranted
	<p>eastbound left-hand turns.</p> <ul style="list-style-type: none"> ▪ Increase in pedestrians at station areas. ▪ Relocates one bike lane on Stewart Street. ▪ Loss of approximately 194 parking and vehicle loading zones (of 230 total), most of which are peak-restricted parking along First Avenue and Stewart Street and 11 of which are on Republican Street. 		
Air Quality and Greenhouse Gases	<ul style="list-style-type: none"> ▪ Slight increase in carbon monoxide concentrations at some intersections; none would cause an exceedance in air quality standards. ▪ Reduced mobile source air toxics emissions along the entire corridor. ▪ Reduced direct greenhouse gas emissions. 	<ul style="list-style-type: none"> ▪ No mitigation is required. 	Project would result in beneficial impacts; no additional analysis is warranted.
Noise and Vibration	<ul style="list-style-type: none"> ▪ 10 potential noise impacts, which would be substantially eliminated by operating speeds of 10 to 15 mph in these areas (at stations and corners). ▪ 7 potential vibration impacts, which would be substantially eliminated by operating speeds of 10 to 15 mph in these areas (at stations and corners), except an existing impact at one building along South Lake Union tracks. 	<ul style="list-style-type: none"> ▪ If necessary, reduce bell sound levels or relocate bells below FTA thresholds. ▪ If necessary, relocate crossovers and use spring-loaded frogs or resilient track fasteners to mitigate for vibration. 	No adverse impacts; no additional analysis is warranted.
Land Use/Property Acquisition	<ul style="list-style-type: none"> ▪ No property acquisition and no displacements. 	<ul style="list-style-type: none"> ▪ No mitigation is required. 	No adverse impacts; no additional analysis is warranted.

Element of the Environment	Operational Impact Summary	Mitigation	Adverse Impacts After Mitigation; further EJ analysis warranted
	<ul style="list-style-type: none"> ▪ Consistent with regional and local goals and policies. 		
Economics	<ul style="list-style-type: none"> ▪ No business displacements. ▪ No reduction in property tax revenues. ▪ Loss of on-street parking mitigated with adequate off-street parking. ▪ Supports projected growth via enhanced connectivity. ▪ Creation of 22 new permanent jobs to operate project. 	<ul style="list-style-type: none"> ▪ No mitigation is required. 	Project would result in beneficial impacts; no additional analysis is warranted.
Social and Community Impacts	<ul style="list-style-type: none"> ▪ Better connections between neighborhoods in Seattle. ▪ More reliable transportation. ▪ Easier access to certain parts of downtown. 	<ul style="list-style-type: none"> ▪ No mitigation is required. 	Project would result in beneficial impacts; no additional analysis is warranted.
Visual and Aesthetics	<ul style="list-style-type: none"> ▪ Visible project features include streetcars, trackway, OCS poles, and overhead wires, but the project would not lower visual quality of the corridor. ▪ Locating a TPSS in Westlake Square would have a minor visual impact but would not lower visual quality. ▪ No noticeable light and glare effects ▪ Streetcar passing through intersections would not block protected views more than typical traffic does. 	<ul style="list-style-type: none"> ▪ No mitigation is required. 	No adverse impacts; no additional analysis is warranted.
Water Quality	<ul style="list-style-type: none"> ▪ Replaces 3.9 acres of existing pollutant-generating impervious surface. 	<ul style="list-style-type: none"> ▪ Measures consistent with applicable regulations. 	No adverse impacts; no additional analysis is warranted.

Element of the Environment	Operational Impact Summary	Mitigation	Adverse Impacts After Mitigation; further EJ analysis warranted
Utilities, Energy, and EMF	<ul style="list-style-type: none"> ▪ Permanent relocation of utilities from under trackway. ▪ No conflicts with electromagnetic fields. ▪ Additional use of electric energy for streetcar power, but project would reduce fossil fuel energy usage for inner city trips. 	<ul style="list-style-type: none"> ▪ No mitigation is required. 	No adverse impacts; no additional analysis is warranted.
Geology and Soils	<ul style="list-style-type: none"> ▪ None. 	<ul style="list-style-type: none"> ▪ No mitigation is required. 	No adverse impacts; no additional analysis is warranted.
Hazardous Materials	<ul style="list-style-type: none"> ▪ Continued long-term management of one high-risk hazardous materials site on currently owned City property. ▪ Potential accidental spills of hazardous materials at operations and maintenance facilities (OMFs). 	<ul style="list-style-type: none"> ▪ City of Seattle would continue to own liability for cleanup responsibility at Chinatown-International District OMF and implement spill prevention planning. 	No adverse impacts; no additional analysis is warranted.
Public Services and Safety	<ul style="list-style-type: none"> ▪ Minor increase in peak period travel time (less than 30 seconds) in 2035, but emergency vehicles could use trackway to circumvent traffic at their discretion. ▪ Reduced loading zones may alter when and where postal and waste service can be delivered. 	<ul style="list-style-type: none"> ▪ No mitigation is required. 	No adverse impacts; no additional analysis is warranted.
Parks and Recreational Resources	<ul style="list-style-type: none"> ▪ Potential placement of TPSS on Westlake Square, which would not change use or function of the square. ▪ Better access to some park resources. 	<ul style="list-style-type: none"> ▪ Other TPSS site alternatives may be chosen or aesthetic treatments applied to TPSS in Westlake Square and placement outside of pedestrian access. 	No adverse impacts; no additional analysis is warranted.
Historic, Archaeological, Architectural, and Cultural Resources	<ul style="list-style-type: none"> ▪ Minor impacts from OCS clips attached to façades or OCS suspension poles placed in areaways and potential 	<ul style="list-style-type: none"> ▪ No mitigation is required. 	No adverse impacts; no additional analysis is warranted.

Element of the Environment	Operational Impact Summary	Mitigation	Adverse Impacts After Mitigation; further EJ analysis warranted
	placement of TPSS inside Bon Macy’s parking garage. <ul style="list-style-type: none"> No adverse effects under Section 106. 		
Cumulative	<ul style="list-style-type: none"> Center City Connector along with other proposed projects would provide enhanced cross Seattle connectivity. 	<ul style="list-style-type: none"> No mitigation is required. 	Project would result in beneficial impacts; no additional analysis is warranted.

Table D4.15-2 Construction Impacts and Mitigation Summary

Resource Discipline	Impact Summary	Mitigation	Adverse Impacts
Transportation	<ul style="list-style-type: none"> No impacts on regional trips or freight traffic. Slight increase in traffic congestion. Diversion of northbound traffic to adjacent streets around Pioneer Square segment under construction. Hindered access to Alaskan Way as detour around Pioneer Square will degrade intersections below standards, unless four lanes of Alaskan Way can be restored during this time. Detours for bus transit service. Pedestrian access would be maintained, but detours of bicyclists around construction activities. Loss of on-street parking and loading zones in construction area. Additional congestion during large events, especially in Pioneer Square segment construction. 	<ul style="list-style-type: none"> Coordinate Transit with Metro, Community Transit, Sound Transit, and Washington State Ferries, and provide passengers with advanced notice of potential bus stop changes. Collaborate with Metro to implement best practices for bus rerouting and relocating stops. Provide infrastructure for electric trolley buses to run battery powered and determine most efficient use of de-energizing buses through consulting with Metro. Provide a traffic control plan. Bicycle detours with advance signage would begin prior to construction. Parking measures would be same as operational measures. Coordinate with City’s Special Events Committee and Seattle Police Department traffic control to provide enhanced 	Construction impacts are not anticipated to result in high and adverse impacts, and implementing best management practices and mitigation measures would further minimize impacts. No additional analysis is warranted.

Resource Discipline	Impact Summary	Mitigation	Adverse Impacts
		awareness and alternative mode access.	
Air Quality and Greenhouse Gases	<ul style="list-style-type: none"> ▪ Temporary increases in fugitive dust, engine exhaust, volatile organic compounds, and other emissions; none that would exceed air quality standards. 	<ul style="list-style-type: none"> ▪ Implement BMPs to control fugitive dust. ▪ Schedule work to minimize disruption of vehicle traffic. ▪ Ensure construction equipment is in good working order to minimize exhaust emissions. 	
Noise and Vibration	<ul style="list-style-type: none"> ▪ 10 potential noise impacts, which would be substantially eliminated by operating speeds of 10 to 15 mph in these areas (at stations and corners). ▪ 7 potential vibration impacts, which would be substantially eliminated by operating speeds of 10 to 15 mph in these areas (at stations and corners), except an existing impact at one building along South Lake Union tracks. 	<ul style="list-style-type: none"> ▪ Develop a noise control plan that would identify specific measures, such as limiting idling of equipment, and installation of barriers around noisier equipment. ▪ Satisfy Seattle Municipal Code by obtaining a noise variance from the City of Seattle for work that exceeds allowable noise levels. ▪ Implement a vibration control plan requiring staggered vibration-inducing activities and minimized equipment and haul routes along residential areas, and safe buffers from areaways. 	
Land Use/Property Acquisition	<ul style="list-style-type: none"> ▪ No property acquisition and no displacements. ▪ Consistent with regional and local goals and policies. 	<ul style="list-style-type: none"> ▪ No mitigation required. 	Construction impacts are not anticipated to result in adverse impacts, and the implementing best management practices and mitigation measures would further minimize impacts. No additional analysis is warranted.
Economics	<ul style="list-style-type: none"> ▪ No business displacements. ▪ No reduction in property tax revenues. ▪ Loss of on-street parking mitigated with adequate off-street parking. 	<ul style="list-style-type: none"> ▪ Develop and implement a plan to address the needs of businesses in the construction area to improve signage, access and implement promotional marketing strategies as well as 	

Resource Discipline	Impact Summary	Mitigation	Adverse Impacts
	<ul style="list-style-type: none"> ▪ Supports projected growth via enhanced connectivity. ▪ Creation of 22 new permanent jobs to operate project. 	<p>providing two-way communication during construction and implement transportation and parking strategies.</p>	
Social and Community Impacts	<ul style="list-style-type: none"> ▪ Better connections between neighborhoods in Seattle. ▪ More reliable transportation. ▪ Easier access to certain parts of downtown. 	<ul style="list-style-type: none"> ▪ Develop and implement a Public Information Plan to maintain open and regular communication channels through target outreach and regular meetings with direct access to outreach staff. 	
Visual and Aesthetics	<ul style="list-style-type: none"> ▪ Visible project features include streetcars, trackway, OCS poles, and overhead wires, but the project would not lower visual quality of the corridor. ▪ Locating a TPSS in Westlake Square would have a minor visual impact but would not lower visual quality. ▪ No noticeable light and glare effects ▪ Streetcar passing through intersections would not block protected views more than typical traffic does. 	<ul style="list-style-type: none"> ▪ Screening of construction activities and shielding construction lighting from adjacent land uses. 	
Water Quality	<ul style="list-style-type: none"> ▪ Replaces 3.9 acres of existing pollutant-generating impervious surface. 	<ul style="list-style-type: none"> ▪ BMPs consistent with applicable regulations for erosion control measures. 	
Utilities, Energy, and EMF	<ul style="list-style-type: none"> ▪ Permanent relocation of utilities from under trackway. ▪ No conflicts with electromagnetic fields. ▪ Additional use of electric energy for streetcar power, but project would reduce fossil fuel energy usage for inner city trips. 	<ul style="list-style-type: none"> ▪ Development of a Utility Relocation Plan prior to construction, including coordination with utility providers, plan to restore disrupted utilities and, if necessary, provide temporary connection services. ▪ No mitigation required for temporary increased energy use during construction. 	

Resource Discipline	Impact Summary	Mitigation	Adverse Impacts
Geology and Soils	<ul style="list-style-type: none"> ▪ None. 	<ul style="list-style-type: none"> ▪ No mitigation is required. 	<p>Construction impacts are not anticipated to result in adverse impacts, and the implementing best management practices and mitigation measures would further minimize impacts. No additional analysis is warranted.</p>
Hazardous Materials	<ul style="list-style-type: none"> ▪ Continued long-term management of one high-risk hazardous materials site on currently owned City property. ▪ Potential accidental spills of hazardous materials at OMFs. 	<ul style="list-style-type: none"> ▪ Implement BMPs to avoid or clean-up before construction and implement a spill prevention plan according to regulatory requirements to characterize, manage, and dispose of contaminated soils if encountered. 	
Public Services and Safety	<ul style="list-style-type: none"> ▪ Minor increase in peak period travel time (less than 30 seconds) in 2035, but emergency vehicles could use trackway to circumvent traffic at their discretion. ▪ Reduced loading zones may alter when and where postal and waste service can be delivered. 	<ul style="list-style-type: none"> ▪ Coordination with emergency service providers on traffic control plans, routine updates on closures and detours with reliable access to construction areas. ▪ Relocation delivery and loading areas prior to beginning construction. 	
Parks and Recreational Resources	<ul style="list-style-type: none"> ▪ Potential placement of TPSS on Westlake Square, which would not change use or function of the square. ▪ Better access to some park resources. 	<ul style="list-style-type: none"> ▪ No mitigation is required 	
Historic, Archaeological, Architectural, and Cultural Resources	<ul style="list-style-type: none"> ▪ Minor impacts from OCS clips attached to façades or OCS suspension poles placed in areaways and potential placement of TPSS inside Bon Macy’s parking garage. ▪ No adverse effects under Section 106. 	<ul style="list-style-type: none"> ▪ Finalize and Implement as necessary the Archaeological Monitoring Plan and an Inadvertent Discovery Plan. 	

Resource Discipline	Impact Summary	Mitigation	Adverse Impacts
Cumulative	<ul style="list-style-type: none"> ▪ Cumulative impacts on roadway, transit, parking, noise; economic impacts on businesses, residential community, visual, delays and routing planning for emergency response. 	<ul style="list-style-type: none"> ▪ See below discussion 	Construction impacts may result in only short term adverse traffic impacts depending on Alaska Way roadway status, but implementing best management practices and mitigation measures would minimize impacts. No additional analysis is warranted.

Summary of Mitigation Measure for Cumulative Impacts

SDOT will convene a project coordination committee consisting of representatives of SDOT, the Washington State Department of Transportation, King County Metro, Washington State Ferries, the Port of Seattle, and Community Transit (agencies that participated in the Regional Transit Coordination for Downtown Seattle Committee). This committee will be responsible for resolving potential schedule conflicts between major public projects. As necessary, private development contractors will be included in coordination and construction phasing strategies.

Issues for this project coordination committee include traffic circulation, detour routes, or staggered construction sequencing in efforts to avoid concentrations of congestion, overlap in transit detours, and relocated stops, and managing loss of parking and changes to bike routes during construction, as warranted. Additionally, SDOT will coordinate construction activities through the SDOT Street Use Construction Hub Coordination Program. The HUB team consists of project and on-site coordinators who assess work throughout construction in areas where multiple, simultaneous construction projects (both public and private) are occurring. The HUB team also coordinates with other City departments.

Mitigation measures also include coordinating within the project coordination committee to implement avoidance and minimization strategies on overlapping noise impacts, strains on businesses, disruptions on residents and public, visual nuisances, and delays and rerouting emergency responses. More details on specific measures are available in Chapter 5, Cumulative Impacts, and in Chapter 6, Mitigation Measures.

