Appendix C Environmental Justice

C.1 Introduction and Regulatory Framework

This appendix describes the opportunities provided to minority and low-income populations to actively participate in the East Link Project planning process and evaluates whether the project would result in any disproportionately high and adverse effects on individuals in these populations. The analysis was prepared in compliance with Presidential Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (EO 12898), dated February 11, 1994, and with the U.S. Department of Transportation (USDOT) Order to Address Environmental Justice in Minority Populations and Low-Income Populations (DOT Order).

EO 12898, issued by President William Clinton in 1994, provides that "each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority and low-income populations." The executive order addresses the importance of public participation in the review process. USDOT issued the DOT Order, which establishes the procedures to use in order to comply with EO 12898 in order to avoid disproportionately high and adverse effects on minority and low-income populations. The DOT Order requires agencies to take two actions:

- 1. Explicitly consider human health and environmental effects related to transportation projects that may have disproportionately high and adverse effects on minority or low-income populations.
- 2. Implement procedures to provide "meaningful opportunities for public involvement" by members of minority or low-income populations during project planning and development (DOT Order § 5(b)(1)).

The DOT Order further provides that "In making determinations regarding disproportionately high and adverse effects on minority and low-income populations, mitigation and enhancement measures that will be taken and all offsetting benefits to the affected minority and low-income populations may be taken into account, as well as the design, comparative impacts, and the relevant number of similar existing system elements in non-minority and non-low-income areas" (DOT Order § 8(b)).

The following definitions are from the DOT Order for disproportionately high and adverse effects, minority persons, and low-income persons:

- Disproportionately high and adverse effect on minority and low-income populations means an adverse effect that: is predominately borne by a minority population and/or a low-income population, or would be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that would be suffered by the non-minority population and/or non-lowincome population (DOT Order 5610.2, § Appendix 1(g)).
- 2. A minority is a person who meets the following criteria:
 - Black (a person having origins in any of the black racial groups of Africa)
 - Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race)
 - Asian American (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands)
 - American Indian or Alaskan Native (a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition) (DOT Order 5610.2, § Appendix 1(c))
- 3. A low-income person is identified as a person whose median household income is at or below the Department of Health and Human Services poverty guidelines (DOT Order 5610.2, § Appendix 1(b)).

C.2 Methodology and Approach

The environmental justice analysis for the East Link Project was completed following the guidance documented in Sound Transit's *Environmental Action* Team Issue Paper No. 36 Implementing Environmental Justice Pursuant to Executive Order 12898 and the Department of Transportation Order to Address Environmental Justice in Minority Populations and Low-Income Populations (Sound Transit, 2001). The issue paper was written to provide specific guidance about environmental justice methodology for impact assessment and public outreach. The issue paper describes the three processes to be used when implementing an environmental justice analysis: public involvement processes, analyzing potential disproportionate high and adverse effects, and documentation.

The environmental justice analysis describes the demographics of the East Link Project study area using the most recent U.S. census data available at the time the analysis was initiated (2000); provides information on the efforts that Sound Transit has made to involve minority and low-income populations in the East Link Project; and assesses whether the East Link Project would result in disproportionately high and adverse effects on minority and low-income populations, taking into consideration mitigation and enhancement measures and project benefits, as appropriate. The analysis of potentially disproportionate high and adverse effects is based upon the information developed in this Final EIS and the accompanying technical appendices in Appendix F and the technical reports in Appendix H.

C.3 Study Area Demographics

The study area that was used for the environmental justice analysis is a 0.5-mile radius around the East Link Project alternatives. This radius was identified as the area most likely to receive the greatest impact, both positive and negative, as a result of the project. Sound Transit reviewed 2000 Census data to determine the demographic composition of minority and low-income populations located within the study area, then developed geographic information system (GIS) maps to illustrate the minority and income characteristics of the population in the study area. The study area includes census blocks or census block groups that are either located entirely or partially within the 0.5-mile radius. Minority populations were analyzed at the census block level, while income information was reviewed at the census block group level because income information is not available at the census block level. Exhibits C-1 and C-2 show minority percentages in the study area, and Exhibits C-3 and C-4 show percentages of the population below the poverty line.

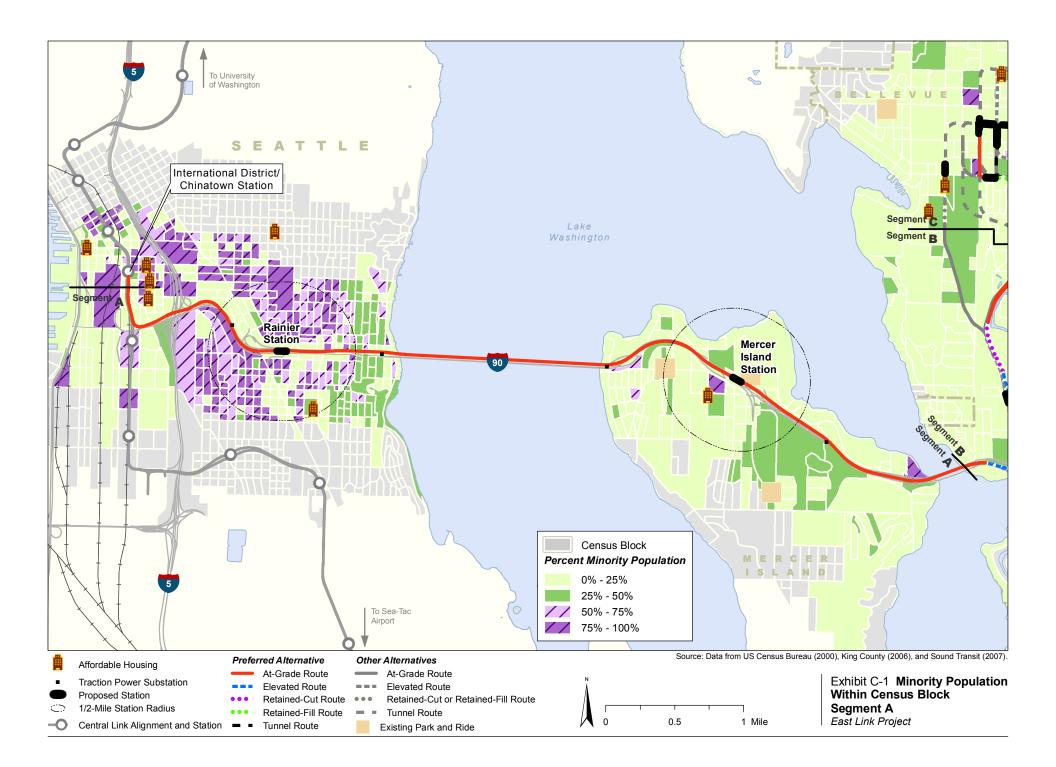
As shown in Exhibits C-1 and C-2, most of the census block groups and blocks in the study area have minority population concentrations in the 0 percent to 25 percent and 25 percent to 50 percent ranges. The higher concentrations of minority populations are located within Segment A in the City of Seattle, specifically in neighborhoods in the Chinatown/International District, Central Area, and North Rainier Valley. As shown in Exhibits C-3 and C-4, most of the low-income population concentrations within the Census Block Groups are in the 0 percent to 25 percent range. A higher concentration of low-income population is also located in the Chinatown/International District, Central Area, and North Rainier Valley neighborhoods of Seattle in Segment A, although these are largely in the 25 percent to 50 percent range. Additional information on the benefits of the project to these groups is discussed in Section C.6.

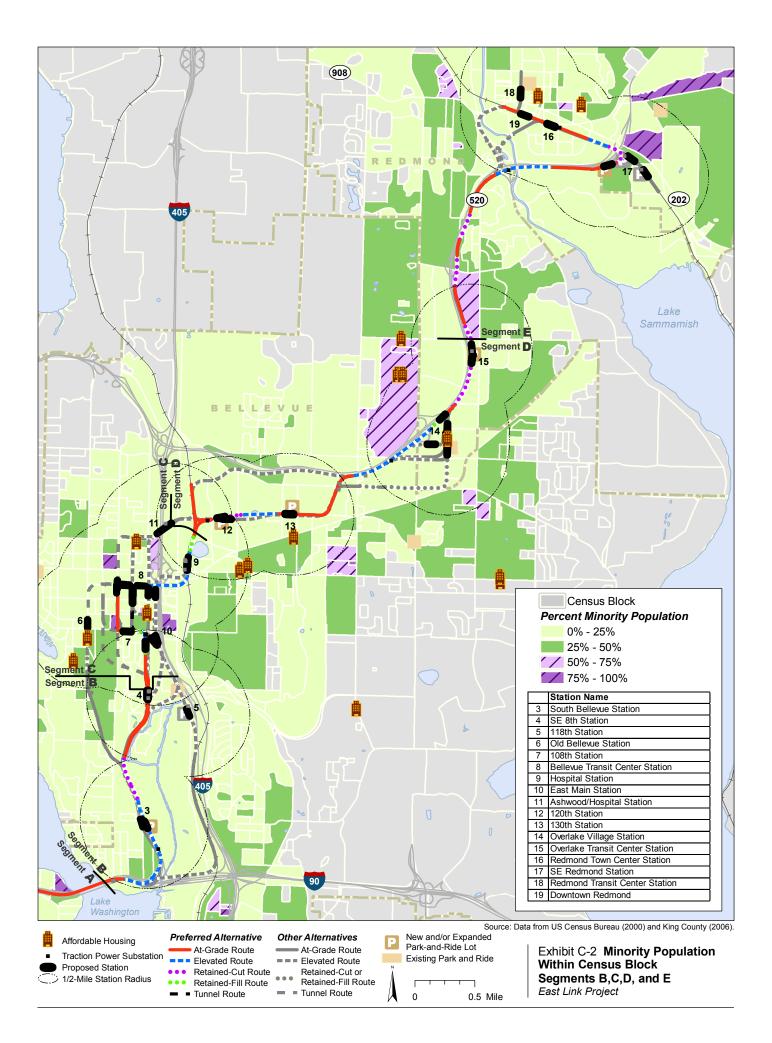
What are Census Tracts, Block Groups, and Blocks?

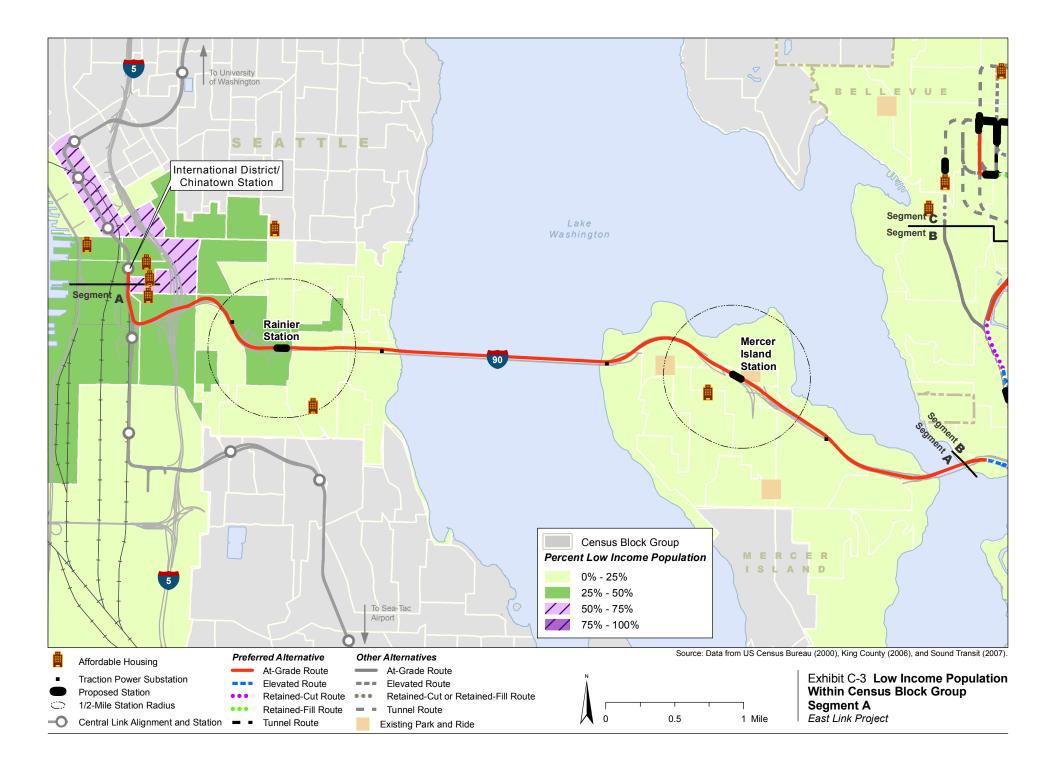
A census tract is a small subdivision of an urban area used by the U.S. Census Bureau to identify population and housing statistics. Census blocks are subdivisions of census tracts and are the smallest unit of census geography for which the Census Bureau collects data. The boundaries of census blocks are generally streets or other notable physical features and often correspond to a city block. A census block group is a combination of census blocks, typically encompassing two to four city blocks. The census collects some information at the block level, some at the block group level, and some at the tract level.

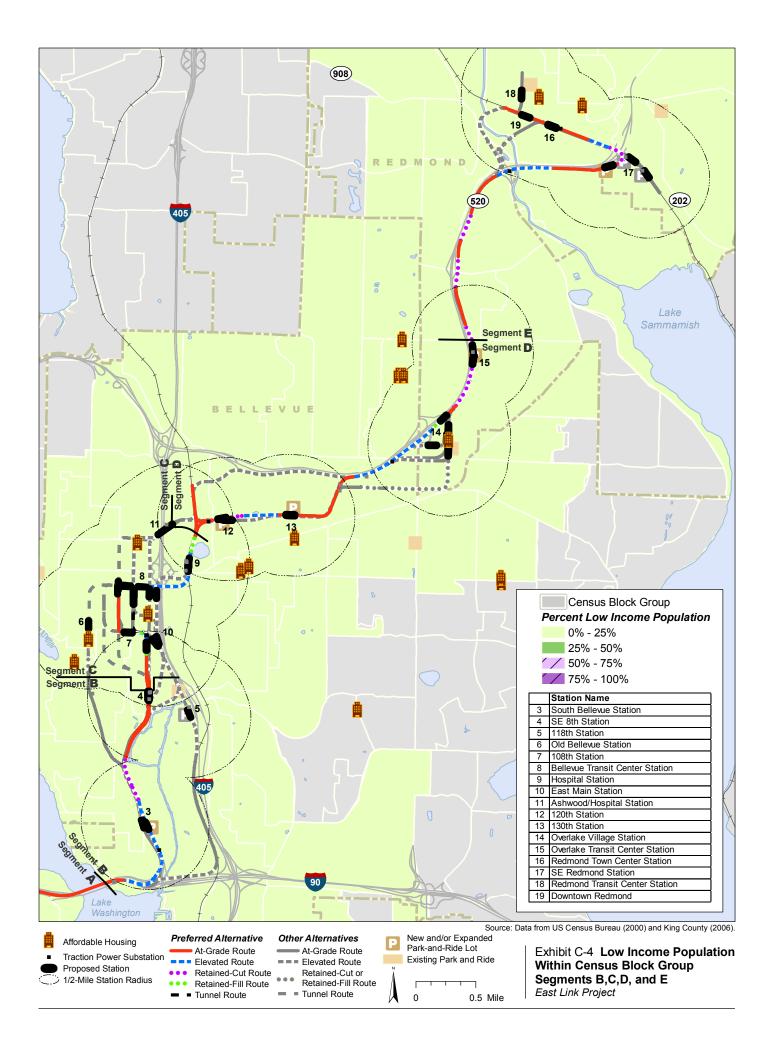
The 2000 Census data may no longer reflect current conditions in some areas within 0.5 mile of the East Link Project alternatives. For example, redevelopment within census block groups and census blocks in Downtown Bellevue and east of Downtown Redmond (Segments C and E) has resulted in areas where populations have been relocated and no residential populations exist. To supplement the Census data, Sound Transit collected and reviewed data for public elementary schools within attendance boundaries that cross the study area because such data are more current that Census data.

The analysis used elementary schools because their attendance boundaries tend to be more representative of the study area and are smaller than middle and high school boundaries. However, the attendance boundaries for these elementary schools do include areas that fall outside of the study area.









Consequently, the minority and low-income population data in Table C-1 are representative of children who may live anywhere within the attendance boundaries and not necessarily within the study area. Although the school data do not provide for a direct comparison with the Census data, they are useful in giving a more recent general demographic characterization of the population of the study area because the U.S. Census data are more than 10 years old and despite the mismatch of the boundaries. In addition, student data for the Seattle Public Schools represents those students who attend the school and may not reside in the surrounding area due to the ability of parents to select which Seattle public school their children can attend. Data were collected from the U.S. Department of Education Common Core of Data for Seattle Public Schools, Mercer Island School District, Bellevue School District, and the Lake Washington School District and are based on the 2008-2009 school year. School data enrollment is characterized by race/ethnicity and as a result there may be differences in the demographic information as it relates to Census data, which includes separate tables for race and ethnicity. The low-income information collected is based on students who participate in a free-lunch program.

When the minority populations of the 2008-2009 school year data are compared to the 2000 Census data, most of the areas in the study area appear similar and there are no major differences except in the Seattle area. In the Seattle area, the school data for the four elementary schools in the study area (Beacon Hill, Leschi, Thurgood Marshall, and Gatzert) indicate that approximately 91 percent of the elementary students are considered minority, which may indicate the overall population would be similar, whereas the Census data indicate the minority population to be approximately 51 percent, a potential 40-percent increase since the 2000 Census. The low-income data are similar for all areas. Because the elementary school information is based only on the portion of the general population that attends public schools, the data may not truly reflect the actual population that resides in the East Link Project study area. Therefore, as stated earlier, the school data and the Census data do not allow for direct comparisons, only for potential indicators in changing demographics.

The Census data may not reflect the current conditions for the areas where the project would result in the relocation of residents. If the analysis of project effects, mitigation measures, and project benefits had indicated potential disproportionately high and adverse effects, additional demographic analysis in the areas discussed above would have been performed to determine with greater specificity the populations that would be affected. However, as described in Section C.5, no potential disproportionately high and adverse effects were identified

C.4 Outreach to Minority and Low-Income Populations

As part of East Link Project public outreach, Sound Transit has made it a priority to engage diverse minority and low-income populations early in the planning and development process by providing materials and making them available in multiple formats. Public participation is a key component of EO 12898 and the DOT Order. Sound Transit has developed numerous events and tools to successfully engage and communicate with the public, including scoping meetings, workshops, fact sheets/handouts, posters, display advertisements, stakeholder briefings, project information provided at community events and festivals, and a project website that is regularly updated throughout the project. General public involvement in the project is described in Appendix B, Public and Agency Involvement.

Before scoping, Sound Transit reviewed the minority and income characteristics of the population in the East Link Project vicinity to identify minority and lowincome populations. Based on this information, public involvement has included, and will continue to include, outreach at key milestones specific to those groups using the public involvement tools developed by Sound Transit. Initially, based on 2000 Census data, Sound Transit literature included a language block (i.e., text box on the literature) translated into Russian, Chinese, Spanish, and Tagalog regarding contacting and speaking with Sound Transit staff in those languages about the East Link Project. Based on community input, in 2008 Vietnamese and Farsi were included in the language blocks, and in 2010 Tagalog and Farsi were removed and Korean, Hindi, and Japanese were included in the language blocks. Sound Transit has identified organizations that serve minority, non-English speaking, or low-income populations within the East Link Project vicinity and these organizations have been entered into the project mailing list.

TABLE C-1

Public Elementary School Demographics

School	Total Students	Totals for Whom Minority Data Were Provided	American Indian/Alaskan Native	Asian/Pacific Islander	Black	Hispanic	White	Free Lunch
Segment A, Interstate 90						·		
Beacon Hill Elementary	401	401	6	202	53	101	39	192
Leschi Elementary	274	274	4	11	215	23	21	173
Thurgood Marshall Elementary	268	268	1	42	151	56	18	198
Gatzert Elementary	309	309	6	70	129	74	30	243
West Mercer Elementary	659	641	3	125	8	13	492	13
Totals	1,911	1,893	20	450	556	267	600	819
Percent of Totals			1.0	23.8	29.4	14.1	31.7	43.3
Segment B, South Bellevue								
Enatai Elementary	459	410	0	89	12	32	277	42
Woodridge Elementary	488	434	0	152	16	28	238	85
Totals	947	844	0	241	28	60	515	127
Percent of Totals			0.0	28.6	3.3	7.1	61.0	13.4
Segment C, Downtown Bellevu	ie							
Enatai Elementary	459	410	0	89	12	32	277	42
Woodridge Elementary	488	434	0	152	16	28	238	85
Clyde Hill Elementary	580	528	3	157	3	10	355	15
Totals	1,527	1,372	3	398	31	70	870	142
Percent of Totals			0.2	29.0	2.3	5.1	63.4	9.3
Segment D, Bel-Red/Overlake								
Stevenson Elementary	635	595	0	329	34	121	111	155
Ardmore Elementary	296	264	0	88	9	80	87	84
Totals	931	859	0	417	43	320	198	239
Percent of Totals			0.0	48.5	5.0	36.8	23.1	25.7
Segment E, Downtown Redmo	nd							
Rush Elementary	393	379	2	97	10	34	236	24
Audubon Elementary	454	424	0	128	5	16	275	24
Redmond Elementary	423	388	2	87	22	62	215	104
Totals	1,270	1,191	4	312	37	112	726	152
Percent of Totals			0.3	26.2	3.1	9.4	61.0	12.0

Source: National Center for Education Statistics, 2010

These organizations were sent postcards associated with scoping, Draft EIS, and Supplemental Draft EIS (SDEIS) public meetings and hearings. Follow-up phone calls were made to find out whether the organizations needed any additional information about the East Link Project, and they were reminded how they could submit public comments. Organizations were also asked if they would like project staff to meet with members of their organization to review the scoping information. Staff have met with and briefed the management team of Hopelink, which serves the greater Eastside community.

Public involvement and outreach actions targeted at minority and low-income populations, as defined under the DOT Order, include the following efforts:

- Perform continued consultation with key community organizations for assistance in outreach to minority and low-income individuals.
- Provide agency and project-specific information to key community organizations that serve the minority and/or low-income populations prevalent in the areas to be served by or in the vicinity of the East Link Project.
- Present project information at meetings held at community venues in locations with minority and/or low-income populations likely to be served by the East Link Project and/or directly affected by construction activities.
- Provide publication-specific translated language blocks, in Russian, Chinese Mandarin, Spanish, Vietnamese, Korean, Hindi, and Japanese on outreach materials produced for the East Link Project.
- Offer interpretation services for all public meetings for deaf and non-English speaking community members.
- If Sound Transit is contacted by anyone who has limited use of English, Sound Transit staff can access an immediate over-the-phone interpretation service provided by Telelanguage, a full-service language interpretation and translation company that provides interpretation in 150 languages, 24 hours a day and 7 days a week

Additional project specific processes related to outreach are discussed as follows.

C.4.1 Scoping Meetings

Sound Transit began the Draft EIS process for East Link in 2006 with four public scoping meetings that were held at locations throughout the East Link Project vicinity, providing a variety of locations and dates to maximize opportunity for attendance. The scoping meetings were advertised by sending postcards to over 150,000 residents and businesses in the project vicinity, including the list of organizations that served minority and low-income households. In addition, display advertisements with the scoping meeting details were placed in local publications. Sound Transit received approximately 300 written and oral comments, which included expressions regarding preferences for a particular alternative or addressing a specific segment or some larger concern for the East Link Project as a whole.

In addition to the public scoping meetings, Sound Transit held an agency scoping meeting and invited tribes with interests in the East Link Project vicinity. Sound Transit identified the Muckleshoot Tribe, Snoqualmie Tribe, Suquamish Tribe, Tulalip Tribe, Yakama Tribe, and Duwamish Tribe as those tribes with interests in the project vicinity. The project vicinity does not include any tribal lands, but the tribes are expected to have interests regarding natural and cultural resources. Communications and coordination with the tribes regarding cultural resources are documented in the Historic and Archaeological Resources Technical Report (Appendix H4).

C.4.1.1 Targeted Outreach January 2007 through September 2008

In early 2007, Sound Transit held a series of five East Link Project route and station workshops at locations throughout the project vicinity in order to educate workshop participants about the project. The workshops also were intended to obtain design feedback and community knowledge to assist in the development of station concepts, right-of-way requirements, and routes, and to identify any neighborhood-specific issues. Sound Transit mailed workshop notification flyers to over 85,000 residential and business addresses that were within 0.5 mile of all alternatives based on postal carrier routes, as well as all of Mercer Island. These carrier routes include minority and low-income residents. Common themes at these workshops included preserving key community and environmental resources, minimizing changes in the character of neighborhoods, providing direct access to stations, and preventing noise and visual impacts of an elevated guideway.

Advertisements for the scoping meetings and workshops included postings in a number of ethnic publications, such as *Chinese Post, El Mundo, Russian World*, and *The Skanner*. Notice of the meetings was also posted at community centers, public libraries, and post offices in Seattle, Mercer Island, Bellevue, and Redmond.

In mid-2007, Sound Transit expanded the list of organizations that serve minority, non-English speaking, low-income, and senior populations in East King County and mailed each (approximately 50 organizations) an outreach letter and a packet of East Link Project information. These organizations included service organizations (i.e., Bellevue Family YMCA, Department of Social and Health Services [DSHS] King Eastside Community Services Office, Eastside Refugee and Immigrant Coalition [ERIC], Hopelink, and Senior Services), ethnic churches (i.e., Holy Cross Chinese Lutheran Church, Bellevue First Romanian, and Highland Covenant Church), and foreign language schools (i.e., Northwest Chinese School and Bel-Red Bilingual Academy). The information was sent to inform these organizations about the project as well as to learn about the populations they serve and obtain contact information of individuals who would like to be kept informed on the East Link Project. Offers were made in the letter to translate any of the project-related information into a different language to facilitate populations learning about the project. Sound Transit made follow-up telephone calls to each organization and asked if there were any questions or to inquire about meeting with the organization. Sound Transit conducted additional follow-up with these organizations, and additional meetings were held as the project continued. On September 7, 2007, Sound Transit staff met with Barb Tuininga, the coordinator the City of Bellevue Mini City Hall located in Crossroad Mall in northeast Bellevue to discuss Sound Transit's outreach to minority or low-income populations in east King County and to find out more information about the minority and low-income populations that use the Mini City Hall services.

In March 2008, a project update was mailed to over 85,000 businesses and residences located within 0.5 mile of the alternatives, including all of Mercer Island, and anyone who requested to be on the East Link mailing list. In addition, Sound Transit mailed the project update to the 50 community organizations previously identified. The project update provides information on the project status and next steps, as well as reminding the public that Sound Transit staff is available to meet with them to answer any questions they might have about the project. Throughout this period, Sound Transit has maintained an up-to-date East Link Project webpage with project-related information, frequently asked questions (FAQs), a document library, and staff contact information.

C.4.1.2 Targeted Outreach for the Draft EIS Release

The release of the Draft EIS included a public notice, request for comments, and public hearings and opportunities for comment. Additional targeted outreach to the 50 community groups and organizations serving low-income, minority, and senior populations in the project vicinity was also conducted around the release of the Draft EIS and the subsequent comment period. Sound Transit prepared a Draft EIS fact sheet and translated the Draft EIS fact sheet into Russian, Chinese, Spanish, Tagalog, Vietnamese, and Farsi, then distributed these to the community groups and made them available on the project website and at the public hearings. The fact sheet and translations were also distributed at public places such as Bellevue's Mini City Hall, community centers, and public libraries. Staff also translated the fact sheet into additional languages upon request. Each community group was sent a letter with a packet of information to accomplish the following:

- Notify them that the Draft EIS is available
- Tell them where to find the Draft EIS online or how to request a hard copy
- Define what the comment period is
- Explain how to comment on the Draft EIS
- Provide details on the public hearings

Staff followed up with a phone call to each group to answer questions, explain the comment period process, explain how they can provide comments, offer to provide a briefing to staff or clients, and ask whether they would like additional copies of the Draft EIS fact sheet or other materials in English or translated into the language they identify.

Sound Transit translated display advertisements announcing the release of the Draft EIS and comment period for publication in minority newspapers that serve the Eastside. The East Link Project website was also updated during this time with information on the Draft EIS process; a link to the electronic version of the Draft EIS document; the comment period, time, and location of public hearings; how to request an interpreter at the meeting; and how to submit a comment.

C.4.1.3 Targeted Outreach for the Supplemental Draft EIS Release

The release of the SDEIS in November 2010 included the following forms of outreach:

• Public notice in local newspapers and online publications

- Announcement of the public hearing and project update sent to the addresses or post office boxes of those who live within 0.5 mile of the proposed alternatives
- Email notice to those in the project database and project listserv
- Notice on the Sound Transit website and East Link Project website
- Public hearing

Before the SDEIS was published, Sound Transit reviewed and updated its list of community groups and organizations. The agency then conducted additional targeted outreach to 85 community groups and organizations serving low-income, minority, and senior populations in the project vicinity around the release of the SDEIS and the subsequent comment period. Sound Transit prepared a SDEIS fact sheet and translated it into Russian, Chinese Mandarin, Spanish, Vietnamese, Korean, Hindi, Japanese, and Braille and made it available to community groups and individuals. Sound Transit conducted similar activities as during the distribution of the 2008 Draft EIS, which included distributing the fact sheets, providing translations at public places, and distributing a letter and making telephone calls to each community group and organization offering a separate briefing and opportunities to speak directly to staff.

Sound Transit translated display advertisements announcing the release of the SDEIS and comment period for publication in minority newspapers that serve the Eastside. The East Link Project website was updated with information on the SDEIS process; a link to the electronic version of the SDEIS document; the comment period, time, and location of the public hearing; how to request an interpreter at the meeting; and how to submit a comment.

C.4.1.4 Targeted Outreach for the Final EIS Release

The release of the Final EIS included the following forms of outreach:

- Public notice in local and online newspapers
- Email notification to the project listserv
- Postcard to those in the project database
- Notice on the Sound Transit website and East Link Project website
- Announcement sent to addresses or post office boxes of those who live within 0.5 mile of the proposed alternatives, including community groups and organizations who serve them

The above outreach was carried out in an effort to ensure notification of the Final EIS and provide opportunities for community members and organizations to discuss the Final EIS with project staff. The Final EIS was circulated as required under the National Environmental Policy Act (NEPA) and the State Environmental Policy Act (SEPA) and includes the responses to comments made on the Draft EIS and the SDEIS.

Similar to outreach activities for the 2008 Draft EIS and the 2010 SDEIS, Sound Transit sent each identified community group and organization a letter and fact sheet on the Final EIS with information regarding its publication. Fact sheets were translated it into Russian, Chinese Mandarin, Spanish, Vietnamese, Korean, Hindi, Japanese, and Braille and were made available to community groups and individuals. Staff followed up with telephone calls to each group to answer questions, offer to provide a briefing to staff or clients, and ask whether they would like material translated into the language they identify. In addition to placing display advertisements in local newspapers and online publications, Sound Transit translated display advertisements announcing the release of the Final EIS in minority newspapers that serve the Eastside. The East Link Project website was updated with a link to the electronic version of the Final EIS document, how to contact staff for questions or request an interpreter, and next steps of the project.

C.5 Project Impacts and Mitigation

The DOT Order requires agencies to explicitly consider human health and environmental effects related to transportation projects that may have a disproportionately high and adverse effect on minority or low-income populations. Section 8.b of the DOT Order allows for mitigation and enhancement measures to be taken into consideration when determining project impacts. Table C-2 summarizes the impacts identified in the elements that have been analyzed for the EIS and that can be differentially distributed, as well as any mitigation that would reduce or eliminate the impacts. Overall, the East Link Project would result in impacts that would affect all populations to the same degree. Table C-2 also provides information for those elements where the project would result in beneficial impacts or the impacts would accrue to a different degree to minority and low-income populations. Most impacts associated with the East Link Project would be effectively mitigated, and the remaining impacts would be limited in scope and/or duration. Therefore, the East

Link Project would not result in any impacts that would be considered disproportionately high and adverse under EO 12898 and the DOT Order. Complete information on the project impacts is provided in Chapters 3 and 4 of this Final EIS. Mitigation measures are provided in Appendix I.

In addition, as described in Section C.6, the East Link Project would have several beneficial effects, particularly for minority and low-income populations. These benefits further support the conclusion that no disproportionately high and adverse effects would result.

C.6 Project Benefits

Under the DOT Order, the benefits of a proposed transportation project may be taken into account when determining whether any disproportionately high and adverse effects on minority and low-income populations would occur. Operating the East Link Project would provide a number of benefits, including improved access to transit; a safer, more reliable, and more efficient transportation system; improved mobility through the project vicinity; transit travel time savings; improved accessibility to employment; and extended transit service hours.

While all populations within the project's service area would realize these benefits to the same extent, they would accrue to a higher degree to minority and lowincome populations as described in the following subsections. These transit benefits further support the conclusion that the East Link Project would not result in disproportionately high and adverse effects on minority and/or low-income populations.

TABLE C-2

Summary of Potential Impacts and Mitigation

Element of the Environment	Impact Summary for Build Alternatives	Mitigation Summary
Transportation	 Improved transit travel times, reliability, and convenience. Approximately a 0.2 percent reduction in both vehicle miles traveled and vehicle hours traveled. Impacts related to the loss of parking spaces and impacts on property access and circulation related to the loss of lefthand turn movements and turning restrictions of right in and right out. Beneficial for all populations who use transit, including minority and low-income populations. 	 Turn pockets would be provided to increase capacity and improve intersection level of service. Sound Transit would work with business districts to develop impact minimization efforts during construction. U-turn movements would be provided at intersections, where movement is allowed. Sound Transit would work with the local agencies regarding stations that are located within the median of roadways to ensure that appropriate treatments are provided for safe and effective pedestrian access.
Acquisitions, Displacements, and Relocations	 Segment A would have no impacts, but the other segments would require full property acquisitions and displacement of existing uses. Depending on the alternative and/or design option selected, full acquisitions range from 1 to 20 in Segment B, 4 to 36 in Segment C, 2 to 18 in Segment D, 6 to 16 in Segment E, and 3 to 18 for the Maintenance Facility. Residential relocations would occur within Segments B, C, and E, where the minority and low-income population concentrations are low. 	 Residents and businesses displaced by the East Link Project would receive compensation and relocation assistance in accordance with the provisions of Sound Transit's adopted Real Estate Property Acquisition and Relocation Policy, Procedures, and Guidelines. Residents and businesses would be compensated for portions of property required for project – temporary or permanent use.
Land Use	 Acquisitions in all the segments represent only a small portion of the land available in the study area, and some property acquired could be sold and redeveloped after construction. Land acquired would convert from existing use to a transportation-related use. All alternatives would be consistent with regional and local plans and polices. 	No mitigation is required or proposed.

 TABLE C-2 CONTINUED

 Summary of Potential Impacts and Mitigation

Element of the Environment	Impact Summary for Build Alternatives	Mitigation Summary
Economics	 Aside from Segment A, all segments would result in business and employee displacements; however it is expected that business displacements would be relocated, and, therefore, no long-term impacts on employees are anticipated. Aside from Segment A, there would be temporary reduction in tax revenues due to property acquisitions and conversions of land; however, redevelopment is expected to offset the initial loss and the economic benefits from transit-oriented development could result in additional tax revenues and business and employment growth Build alternatives could result in changes in access, circulation, and the loss of parking, which could result in economic impacts for some of the businesses in the project vicinity. Based upon a review of the businesses that could be displaced, none were identified that provide any services that would be considered uniquely important to minority and/or low-income populations (e.g., ethnic grocery store or food bank). Businesses could be owned by minorities or employ minorities and/or low-income populations; however, it is expected that the businesses would be relocated and no jobs would be lost. Impacts would not accrue to a greater degree to minority or low-income populations. 	Businesses displaced by the East Link Project would receive compensation and relocation assistance in accordance with the provisions of Sound Transit's adopted Real Estate Property Acquisition and Relocation Policy, Procedures, and Guidelines.
Social, Neighborhoods, Community	 East Link would provide a reliable mode of transportation and improved transit accessibility. East Link would not result in adverse effects on any of the identified neighborhoods in the project vicinity. Project would not create any barriers to interaction and could enhance cohesion as new meeting points for adjoining neighborhoods. Increased transit access and transit- oriented development could also improve cohesion. The East Link Project would result in beneficial impacts for all populations. 	No mitigation is required or proposed.
Visual and Aesthetic Resources	 Segments A and D would have no impacts, and Segments B, C, and E would experience impacts on the existing visual quality for most of the alternatives. In general, these impacts would be the result of vegetation removal, construction of retaining walls, and the introduction of an elevated structure depending on the alternative. In Segment C, the portions of the tunnel alternatives underground would not change any visual quality categories and the elevated alternatives would block views. There would be no differences in impacts on all populations. 	 Where applicable, Sound Transit would provide replacement landscaping and consult with affected jurisdictions. Where possible, Sound Transit would preserve existing vegetation.
Air Quality	 No new violations of federal air quality standards would occur, and a slight decrease in regional air emissions is anticipated. The East Link Project would result in beneficial effects for all populations. 	No mitigation is required or proposed.
Noise and Vibration	 Noise impacts on living and sleeping quarters would be mitigated. Most of the vibration impacts would be mitigated. Areas where vibration impacts could not be mitigated include a commercial location and up to two multifamily residences in Segment C (depending on the connection with Segment B) and a single-family residence in Segment E. None of these locations contain minority or low-income population where the impacts would accrue to a different degree. There would be no differences in the noise and vibration impacts on all populations. 	Noise and vibration impacts would be mitigated by installing residential sound insulation, sound walls, special trackwork, or other measures.

TABLE C-2 CONTINUED

Summary of Potential Impacts and Mitigation

Element of the Environment	Impact Summary for Build Alternatives	Mitigation Summary
Ecosystems	 None of the alternatives in any of the project segments would result in any adverse effect on threatened or endangered species. Segment A would not have any impacts. Segments B, C, D, and E would all have wetland impacts and/or the loss of high-value habitat. There would be no negative impacts on fish passages or fish habitat after mitigation. 	 Compensatory mitigation-to-impact ratios would be used for replacement of wetlands. Improved habitat features would be provided to improve salmonid spawning and rearing functions.
Water Resources	 Overall, the East Link Project would increase the amount of existing impervious surface area by approximately 16 to 35 acres (including a maintenance facility), depending on the alternatives selected. Alternatives would result in a reduction in groundwater recharge; however, because the project is linear, it is not expected to result in a substantial decline in groundwater level or other serious groundwater impacts. 	 Stormwater would be managed according to applicable regulatory requirements. No additional mitigation would be required or proposed.
Hazardous Materials	 Use of and generation of hazardous materials would occur at the maintenance facility. No known potential hazardous material sites would be impacted by Segment A or the Maintenance Facility sites. All Segment B, C, D, and E alternatives have the potential to encounter high-risk sites. 	 Hazardous waste would be managed and contaminated sites cleaned up according to applicable regulatory requirements. Engineering controls would be constructed to minimize and contain releases and spills.
Electromagnetic Fields	• Anticipated electromagnetic field intensities would not result in impacts that would negatively affect human health. Locations of human exposure within and adjacent to the light rail line are considerably below established exposure guidelines.	No mitigation is required or proposed.
Public Services	 The alternatives are not expected to result in any negative impacts on overall crime rates in the surrounding neighborhoods. There is the potential for minor increases in response times due to loss of some left-hand turns, and access for fire and emergency medical services at elevated sections of the track and stations would be more difficult than on the atgrade sections. These situations would not result in any adverse impacts on public services since these situations are few and infrequent. 	 Sound Transit would implement a Security and Safety Management Plan and a Fire and Life Safety Committee to address safety and security issues throughout design, construction, and operation. Measures to minimize crime would include the use of equipment (e.g., closed-circuit television, sealed fareboxes, and automatically sealed exits), the use of anti-crime programs such as anti-graffiti programs, and the use of security personnel.
Utilities	• No long-term impacts on natural gas, electricity, telephone, telecommunications, water, or wastewater are expected with any of the alternatives in any of the segments.	No mitigation is required or proposed.
Historic and Archaeological	 The project would be located in proximity to historic properties in Segments A, B, C, D, and E. Potential impacts could occur at three historic resources depending on the alternatives selected: the Justice White House with Alternative E4; the potential Surrey Downs Historic District during construction of <i>Preferred Alternative C11A</i> or Alternatives C2T, C3T, or C4A; and the Winters House during the construction of <i>Preferred Alternative B2M</i>. No archaeological sites were encountered during investigations. 	A draft Memorandum of Agreement to refine the mitigation measures for the Winters House, potential Surrey Downs Historic District, and Archaeological resources is included in Appendix I.
Parkland and Open Space	 Aside from Segment D, all segments would acquire parkland and open space. Segment A would require 0.4 to 0.6 acre from three parks, depending on whether the pedestrian bridge is selected. Segment B would require between 0.7 and 3.0 acres, depending on the alternative, on up to two parks, including the complete acquisition of the Bellevue Way greenbelt (deemed an insignificant park resource by City of Bellevue) under Alternative B1. Within Segment C, affected parkland would be between 0 and 1.4 acres, depending on the alternative, on up to three parks. 	 Where necessary, Sound Transit would acquire replacement land pursuant to Washington State Recreation and Conservation Office and Section 6(f) requirements or provide financial compensation as agreed with the affected jurisdiction. Other measures would include maintaining access where feasible.

TABLE C-2 CONTINUED

Summary of Potential Impacts and Mitigation

Element of the Environment	Impact Summary for Build Alternatives	Mitigation Summary
	With the Segment C alternatives that would affect McCormick Park during construction, there is the potential for a net gain of up to 1.6 acres of parkland after construction. Segment E would require between 0.2 and 2.0 acres of parklands from up to seven parks and trails, depending on the alternative.	
Construction (construction-related impacts are temporary and limited in duration)	 Aside from Segment A, there would be temporary lane closures, traffic detours, loss of parking, and increased truck traffic for all alternatives, which could negatively affect residents, businesses, and public service providers. Temporary impacts on the quality of existing land uses due to construction-related activities, including increases in noise levels, dust, traffic congestion, and increased access difficulty. Adverse impacts on businesses due to lack of access, circulation, and parking. Increased access and response times for public service providers (fire and emergency medical, police, school buses including King County Metro buses, and solid waste and recycling vehicles). Temporary visual quality impacts due to the removal of vegetation and demolition of structures. Potential release of hazardous materials during demolition of buildings. Relocation of utilities in during construction in Segments B through E. Construction impacts on historic buildings, including include the temporary loss of access along with visual impacts, noise, vibration, and the dust and debris from construction activities. For park users, increased noise, dust, and temporary access restrictions where alternatives are located adjacent to or on park property. Construction easements and staging areas resulting in temporary impacts on parks within Segment B, C, and E, including the Mercer Slough Nature Park, Surrey Downs Park, McCormick Park, and Marymoor Park. 	 Haul routes would be developed as approved by local jurisdictions to avoid residential neighborhoods to the extent possible. Property access would be maintained as much as possible. Detour signage would be provided where needed. Sound Transit would work with business districts to develop impact minimization efforts during construction. Sound Transit would coordinate and work with public service providers on developing any required detour routes and lane closures to minimize increases in travel and response times or interference with collecting solid waste and recyclables or transporting students. Access and egress for fire and emergency medical would be maintained at all times, which would minimize impacts on response and travel times within all project segments. Disturbed parks would be restored after construction. Other construction period mitigation measures would include maintaining access during construction and providing financial compensation for temporarily using land outside the light rail right-of-way for construction. Noise and visual screening would be provided from adjacent land uses where appropriate. Any temporary property use during construction would be compensated according to the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Code of Federal Regulations Title 49, Part 24), and the State of Washington's relocation and property acquisition regulations (Revised Code of Washington 8.26). Precautions would be taken that historic properties are protected from wibrations, excavations, dirt, dust, and damage from heavy equipment. Best management practices would be implemented to control dust and stormwater runoff. Sites where contamination might be present will be assessed, including surveying structures to determine whether they contain hazardous building materials. A spill pollution control and countermeasure plan and a stormwater pollution prevent

FTA

Federal Transit Administration Washington State Historic Preservation Office SHPO

C.6.1 Improved Access to Transit

Improved access to transit would result for all those populations within the service area and in particular for those populations residing within 0.5 mile of the stations because of the proximity to the stations. In addition, the extended transit service hours (20 hours per day, Monday through Friday) would also improve access to transit for all populations within the service area due to the longer service period. The demographic makeup of potential ridership was estimated using the demographics of the areas within 0.5 mile of the stations for each of the project alternatives. One-half mile was used because studies have shown residents would walk this distance to access transit. These estimates are based on a GIS extraction of 2000 Census data for the census blocks and census block groups within each station area, and the population data for residents living within the station areas were then

aggregated to create a demographic profile of the total population that would have improved access to transit benefit. Table C-3 lists the populations that would have improved access to transit within 0.5 mile of stations for each alternative within each segment.

Based on the information in Table C-3, the minority population concentration ranges from 14.4 to 50.7 percent and low-income population ranges from 4.7 to 13.7 percent for those populations that are within 0.5 mile of the stations within each segment. Segment A has the highest concentrations of minority and low-income populations that would be provided access, which is primarily around the Rainer Station. The Rainier Station, bus routes serving this station, and the East Link connection to the Central Link system would provide greater access for residents of the Rainier Valley and Central District.

TABLE C-3

Access to Light Rail Stations for Minority and Low-Income Populations

Project Alternative a	and Connection	No. of Stations	2000 Census Block Population with Access	Minority Population with Access	2000 Census Block Group Population	2000 Low-Income Population with Access
Segment A, Interstate 90						
Preferred Interstate 90 Alternative (A1)	-	2	12,114	6,145 (50.7%)	19,977	2,742 (13.7%)
Segment B, South Bellevue						
Preferred 112th SE Modified	To Preferred Alternative C11A	1	2,747	406 (14.4%)	4,912	229 (4.7%)
Alternative (B2M)	To Preferred Alternative C9T ^b	2	5,664	1,059 (18.7%)	12,070	661 (5.5%)
Bellevue Way Alternative (B1)	-	1	2,810	406 (14.4%)	4,912	229(4.7%)
112th SE At-Grade Alternative (B2A) ^a	-	2	5,417	1,020 (18.8%)	11,045	614 (5.6%)
112th SE Elevated Alternative (B2E) ^a	-	2	5,589	1,037 (18.6%)	10,963	541(4.9%)
112th SE Bypass Alternative (B3)	-	1	2,747	406 (14.8%)	4,912	229 (4.7%)
B3 - 114th Extension Design Option	-	1	2,747	406 (14.8%)	4,912	229 (4.7%)
BNSF Alternative (B7)	-	1	3,024	590 (19.5%)	5,422	243 (4.5%)
Segment C, Downtown Bellevue						
Preferred 108th NE At-Grade Alternative (C11A)	-	3	9,264	2,234 (24.1%)	15,218	1,184 (7.8%)
Preferred 110th NE Tunnel	From Alternative B2A and B2E ^a	2	5,393	1,284 (23.8%)	11,794	855 (7.2%)
Alternative (C9T)	From Alternative B3 and B7 ^a	3	7,027	1,686 (24.0%)	14,412	963 (6.7%)
C9T - East Main Station Design Option $^{\rm b}$	From Preferred Alternative B2M	3	7,371	1,874 (25.4%)	16,353	1,211 (7.4%)
Bellevue Way Tunnel Alternative (C1T)	-	3	10,289	2,338 (22.7%)	16,890	1,188 (7.0%)

TABLE C-3 CONTINUED

Access to Light Rail Stations for Minority and Low-Income Populations

Project Alternative a	and Connection	No. of Stations	2000 Census Block Population with Access	Minority Population with Access	2000 Census Block Group Population	2000 Low-Income Population with Access
106th NE Tuppel Alternative (COT)	From Alternative B2A and B2E ^a	2	7,095	1,686 (23.8%)	13,182	891 (6.8%)
106th NE Tunnel Alternative (C2T)	From Alternative B3 and B7 ^a	3	9,003	2,122 (23.6%)	15,800	999 (6.3%)
100th NE Turnel Alternative (COT)	From Alternative B2A and B2E ^a	2	6,557	1,410 (21.5%)	12,025	781 (6.5%)
108th NE Tunnel Alternative (C3T)	From Alternative B3 and B7 ^a	3	8,523	1,910 (22.4%)	14,643	889 (6.1%)
At Oracle Occurring Alternative (CAA)	From Alternative B2A and B2E ^a	3	6,755	1,446 (21.4%)	12,025	781 (6.5%)
At-Grade Couplet Alternative (C4A)	From Alternative B3 and B7 ^a	3	8,721	1,946 (22.3%)	14,643	889 (6.1%)
	From Alternative B2A and B2E ^a	2	5,242	1,222 (23.3%)	10,637	745 (7.0%)
112th NE Elevated Alternative (C7E)	From Alternative B3 and B7 ^a	3	6,352	1,463 (23.0%)	13,255	853 (6.4%)
	From Alternative B2A and B2E ^a	2	4,526	942 (20.8%)	10,637	745 (7.0%)
110th NE Elevated Alternative (C8E)	From Alternative B3 and B7 ^a	3	6,492	1,442 (22.2%)	13,255	853 (6.4%)
	From Alternative B2A	2	5,024	1,256 (25.0%)	11,794	855 (7.2%)
110th NE At-Grade Alternative (C9A)	From Alternative B3 and B7 ^a	3	6,900	1,683 (24.4%)	14,412	963 (6.7%)
114th NE Elevated Alternative (C14E)	-	2	5,659	1,415 (25.0%)	10,270	795 (7.7%)
Segment D, Bel-Red/Overlake						
Preferred NE 16th At-Grade Alternative (D2A) [°]	-	4	14,352	5,745 (40.0%)	25,011	1,902 (7.6%)
D2A - NE 24th Design Option	-	4	17,652	7,195 (40.8%)	32,553	2,606 (8.0%)
NE 16th Elevated Alternative (D2E)	-	3	12,158	5,131 (42.2%)	26,030	2,290 (8.8%)
SR 520 Alternative (D5)	-	1	8,243	3,522 (42.7%)	13,987	1,238 (8.9%)
Segment E, Downtown Redmond						
Preferred Marymoor Alternative (E2)	-	2	8,692	2,389 (27.5%)	19,352	1,592 (8.2%)
E2 - Redmond Transit Center Design Option	-	3	9,824	2,602 (26.5%)	20,344	1,670 (8.2%)
Redmond Way Alternative (E1)	-	2	8,637	2,421 (28.0%)	14,642	1,361 (9.3%)
Leary Way Alternative (E4)	-	2	8,647	2,430 (28.1%)	14,642	1,361 (9.3%)

^a These alternatives contain the same population numbers and, therefore, were combined.

^b An C9T - East Main Station Design Option has no SE 8th Station in Segment B with *Preferred Alternative C9T* connectors; therefore, the demographics are the same as *Preferred Alternative B2M* connecting to *Preferred Alternative C11A*.

[°]D2A - 120th Station Design Option would have the same impacts as those for *Preferred Alternative D2A*. Source: U.S. Census, 2000.

In the other segments, the minority and low-income percentages of the population that would receive the benefit are similar; however, there are project alternatives that include a larger number of stations than other alternatives within a particular segment and, therefore, would have a larger population receiving the benefit of improved transit access. This is not well reflected among the Segment D alternatives, where the SR 520 Alternative (D5) has two fewer stations than the others, but the ridership is similar. The Bel-Red and Overlake area in Segment D is planned for high-density employment, and, therefore, access to job opportunities may not be as great with D5 for transit riders because of fewer stations.

It has been documented in a number of studies that minority and low-income populations tend to make greater use of transit service than other groups, indicating that the transit service improvements are generally more important to these populations than to other members of the population. Data from the American Public Transportation Association (APTA, 2008) indicates that in 2007 approximately 60 percent of all transit passengers were minority. In addition, data from the 2000 U.S. Census for King County (USDOT, 2004) indicate that 23 percent of all workers who take public transit to get to and from work are from households earning less than \$30,000 per year. These same individuals comprise only about 12 percent of all workers in the county. In other words, the rate at which these individuals take public transit is almost twice their rate of occurrence in the county worker pool. With low-income populations taking public transit at a higher rate than their higher income counterparts, the transit operations benefits provided by the project would be key benefits to low-income populations.

C.6.2 Transit Travel Time Savings

Another benefit of the East Link Project would be a reduction in average transit travel times for East Link users. Average transit travel time is the time that it takes someone to travel from door to door (i.e., from the front door of their home to the front door of their work) by a composite of modes (i.e., auto, bus, bicycle, pedestrian, and light rail). The Sound Transit Ridership Model was used to calculate the travel time savings with transit trips in the afternoon (PM) travel period. Trips originate from throughout the region and are destined for each station cluster in the PM peak period. Because most trips in the PM peak period are made by individuals from the workplace to home, the outcome largely describes morning (AM) transit travel time savings also (only in the opposite direction) by those who reside in the station clusters. The results of the transit travel time savings analysis for those who reside in the East Link Project study area are summarized in Table C-4. As shown in Table C-4, the East Link Project would improve the average transit travel time between 7 and 24 percent over the No Build Alternative, depending on the station area cluster. In addition to these travel time savings, the extended transit service hours (20 hours per day, Monday through Friday) would be another substantial transit benefit, particularly to transit users who work outside the typical 8:00 a.m. to 5:00 p.m. work day and may be faced with limited bus schedules.

TABLE C-4

Transit Travel Time Savings Benefits of Select East Link Alternatives by 2030^a

Station Area Cluster	No Build Alternative Average Travel Time (minutes)	Average Travel Time with East Link (minutes)	Average Travel Time Savings (minutes)	Travel Time Savings Relative to No Build Alternative (%)
Segment A, Interstate 90		·	•	
Rainer	52	45	7	14
Mercer Island	50	41	9	18
Segment B, South Bellevue		·	•	
South Bellevue	50	43	7	14
118th	60	48	12	20
SE 8th	58	47	11	19
Segment C, Downtown Bellevue		·	•	
East Main	64	52	12	19
Old Bellevue	60	51	9	15
Bellevue Transit Center	60	52	8	13
108th	62	52	10	16
Hospital	64	55	9	14
Ashwood/Hospital	60	52	8	13
Segment D, Bel-Red/Overlake				
120th	62	54	8	13
130th	64	58	6	9
Overlake Village	63	56	7	11
Overlake Transit Center	60	56	4	7

TABLE C-4 CONTINUED

Transit Travel Time Savings Benefits of Select East Link Alternatives by 2030^a

Station Area Cluster	No Build Alternative Average Travel Time (minutes)	Average Travel Time with East Link (minutes)	Average Travel Time Savings (minutes)	Travel Time Savings Relative to No Build Alternative (%)	
Segment E, Downtown Redmond					
SE Redmond	66	50	16	24	
Redmond Town Center	70	56	14	20	
Downtown Redmond	71	58	13	18	
Redmond Transit Center	71	61	10	14	

^a Travel time is a composite of all modes of transportation (i.e., auto, bus, walking, bicycle, light rail) used to complete the trip from door to door.

As described in Section C.6.1, these benefits are particularly important to low-income populations as well as minority populations, who tend to make greater use of transit than other groups.

C.6.3 Improved Access to Employment

With the improvements in travel times, users of East Link would be able to travel longer distances in the same amount of time, which could provide new employment opportunities. This benefit is particularly important for the transit-dependent populations that cannot use the bus to access many areas in the project vicinity because of the extended travel times or bus routes that do not serve their destinations well.

Because the East Link Project is expected to improve travel times over the No Build Alternative, users of East Link would have the opportunity to look for employment in areas that were previously considered too time-consuming or difficult to reach. The East Link Project would also provide reliable connections to the large employment centers of Seattle and Bellevue.

C.7 Conclusion

As described above, the East Link Project would not result in any effects that would be considered high and adverse under EO 12898 and the DOT Order. For the most part, project impacts would be limited in scope and others would be mitigated through the implementation of effective mitigation measures. Because the project would not result in disproportionately high and adverse effects, further analysis of the minority and income characteristics of effected populations is not warranted.

The East Link Project would provide substantial benefits that would positively affect minority and lowincome populations in the areas surrounding the light rail stations. These benefits include improved access to transit; a safer, more reliable, and more efficient transportation system; improved mobility through the project vicinity; transit travel time savings; improved accessibility to employment; and extended transit service hours. These offsetting benefits further support the conclusion that the East Link Project would not result in disproportionately high and adverse effects as defined in EO 12898 or the DOT Order.

C.8 References

APTA. 2008. 2007 Public Transportation Fact Book. http://www.apta.com/research/stats/factbook/inde <u>x.cfm</u>. American Public Transportation Association. Accessed May 1, 2008.

National Center for Education Statistics. *Common Core* of *Data Public Schools*. 2010. http://nces.ed.gov/ccd/schoolsearch/. Accessed November 29, 2010.

Sound Transit. 2001. Environmental Action Team Issue Paper No. 36 Implementing Environmental Justice Pursuant to Executive Order 12898 and the Department of Transportation Order to Address Environmental Justice in Minority Populations and Low-Income Populations.

U.S. Census Bureau. 2000. *Census American Factfinder*. <u>http://factfinder.census.gov/</u>

<u>home/saff/main.html?_lang=en</u>. Accessed September 2007.

U.S. Department of Transportation, Washington DC. 2004.