4.14 Public Services

4.14.1 Introduction to Resources and Regulatory Requirements

This section discusses public services located within the study area or with service boundaries within the study area. The study area is defined as a one-half mile boundary around the project alternatives. The public services that were considered are fire and emergency medical services (including hospitals), police, schools (public and private), mail delivery services, and solid waste and recycling collection in the cities of Seattle, Mercer Island, Bellevue, and Redmond. There are no federal facilities (e.g., post offices, court houses, or U.S. Coast Guard facilities) located in the study area. This section also reviews project-related operations that may lead to increases or changes in emergency response services related to crime or other emergency response incidents.

A safety and security management plan (SSMP) is required for major capital projects funded through the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) as indicated in the Federal Transportation Administration (FTA) circular FTA C 5800.1 (FTA, 2007). The SSMP is used to establish the safety and security organization required for the project as well as to integrate safety and security throughout the project life cycle (i.e., design, construction, and operation). Required SSMP contents relevant to fire and emergency medical services include creating a Fire/Life Safety Committee; safety, security, and emergency plans; and emergency preparedness (i.e., exercises and drills) to provide a safe environment for Sound Transit passengers, employees, and persons interacting with the project.

4.14.2 Affected Environment

This section discusses the location and service areas for fire, police, emergency providers, hospitals, schools, and solid waste recycling collection located within the study area. Exhibits showing these facilities are located in Section 4.4, Neighborhoods (see Exhibits 4.4-1 through 4.4-6). The following subsections describe the affected environment for key public services.

4.14.2.1 Fire and Emergency Medical Services

The cities of Seattle, Mercer Island, Bellevue, and Redmond provide fire and emergency medical services within the study area. The outcome of emergency situations can be determined within minutes of the response. Any delay can make a difference in the effectiveness of the response to an accident or other incident. The following key medical emergency facilities within or near the study area serve the study area:

- Harborview Medical Center, located at 325 9th Street in Seattle, is the nearest hospital to Segment A (see Exhibit 4.4-1 in Section 4.4, Social Impacts, Community Facilities, and Neighborhoods). The Harborview Medical Center is also the headquarters for the Seattle Fire Department's Medic One Program that provides advanced life support activities and would respond to fires, hazardous materials calls, and rescue calls within the Segment A study area.
- Overlake Hospital Medical Center, a regional medical center, is located at 1035 116th Avenue NE in Bellevue (see Exhibit 4.4-5). Overlake Hospital is also the location of one of the four Medic One units that provide service to eastern King County, including Bellevue.
- Group Health Cooperative has constructed a multi-specialty medical center located immediately south of Overlake Hospital Medical Center in Bellevue and a primary care service is under construction within the study area, near Downtown Redmond at 159th Place NE and Redmond Way.

In addition, the Bellevue Public Safety Training Center, located at 1838 116th Avenue NE (see Exhibit 4.4-5) in Segment D provides training facilities and services for City of Bellevue police and fire personnel, regional emergency services, the King County Sheriffs Office, and other rescue groups. This facility also includes a helicopter landing facility.

Seattle, Mercer Island, and Bellevue have prepared response plans and made mutual aid agreements related to responding to calls along Interstate 90 (I-90). They employ a seamless response, which means the closest unit to an incident is dispatched and is not focused on the jurisdiction. The Seattle Fire Department responds to calls eastbound across the I-90 Floating Bridge. The department also takes advantage of the D2 Roadway (the high-occupancy vehicle [HOV] ramps) from Seattle to I-90. The Mercer Island Fire Department is responsible for incidents along the I-90 corridor in the westbound direction from the East Channel Bridge to west of the Mt. Baker Tunnel and eastbound from the I-90 Floating Bridge to the Factoria exit. If the peak direction traffic flow permits, these departments make use of the I-90 center

roadway to access the emergency scene should the westbound or eastbound lanes be congested or hamper the ability to travel to the scene of the incident (Tubbs, 2007). The Mercer Island Fire Department does not use the 60th Avenue ramp access to the center lanes because it cannot accommodate the turning radius needed for fire trucks and because of its insufficient sight distance.

Table 4.14-1 lists the 2006 average response times (i.e., the elapsed time, in minutes) from when the first company of a responding department is dispatched to when the first company arrives at the emergency scene.

4.14.2.2 Police

The police departments for the cities of Seattle, Mercer Island, Bellevue, and Redmond patrol and respond to calls within the city limits for each of the cities within the study area. Average response times for the police departments are approximately 7 minutes for Seattle, less then 6 minutes for Mercer Island, and approximately 6 minutes for Bellevue. The City of Redmond does not typically release its average response times. In addition to the police departments within each jurisdiction, the Washington State Patrol also responds to calls for service along I-5, I-90, I-405, State Route (SR) 520, and SR 202, and the King County Sheriff's Office responds to calls along Metro Transit routes. Both of these agencies also assist other agencies through mutual aid agreements. The Washington State Patrol and the King County Sheriff's office do not record and maintain response time statistics.

The King County District Court, East Division, Bellevue Facility, at 585 112th Avenue SE (see Section 4.4, Exhibit 4.4-4), provides court services for the cities of Bellevue and Newcastle and is located within Surrey Downs Park in Segment C. King County plans to relocate the facility.

Sound Transit compared Uniform Crime Reporting Program data for the study area with King County and Washington State numbers to illustrate the crime rates at a local, regional, and statewide scale. The review covered the years 2004, 2005, and 2006. The program was created to provide uniform crime statistics for the nation and maintains criminal statistics for violent crimes (i.e., murder, forcible rape, robbery, and aggravated assaults) and property crimes (i.e., burglary, larceny-theft, motor vehicle theft, and arson).

Overall, the total number of crimes has decreased over the past 3 years in the study area for each jurisdiction, with a few exceptions for nonproperty-related crimes. The Seattle Police Department maintains crime statistics by 2000 U.S. Census tracts, and Segment A is within the boundaries of Census Tracts 93, 94, and 95. Crimes associated with light rail are more likely to occur at a station than along a light rail route (Liggett, et al., 2002). The only station located within any of the Seattle census tracts is the Rainier Station, in Census Tract 95. Table 4.14-2 includes this census tract and compares violent and property crimes in the study area with crimes at the county and state level.

TABLE 4.14-1
Fire Department Average Response Times

Responder	Average Response Time		
	Fire, Rescue, Hazard Materials	Basic Life Support	Advanced Life Support
Seattle Fire Department (2006 data)	4.31 minutes	3.65 minutes	3.69 minutes
Mercer Island Fire Department (2006 data)	8.50 minutes	6.17 minutes	6.17 minutes
Bellevue Fire Department (2005 data)	6.57 minutes	6.57 minutes	6.57 minutes
Redmond Fire Department	Not Available	Not Available	Not Available

TABLE 4.14-2
2006 Violent and Property Crime Rates

Jurisdiction	Part I Offenses (Violent and Property Crimes)	Violent Crime Rate (per 1,000 population)	Property Crime Rate (per 1,000 population)
Seattle			
City-wide	43,919	7.2	68.7
Census Tract 95	448	8.3	69.9
Mercer Island	487	1.0	21.3
Bellevue	4,462	1.6	36.6
Redmond	1,808	1.3	35.0
King County	103,194	4.2	51.5
Washington State	306,347	3.4	44.7

Source: Seattle Police Department, 2007; Washington Association of Sheriffs and Police Chiefs, 2007.

4.14.2.3 Schools

The East Link Project alternatives are located within the following school districts: Seattle School District, Mercer Island School District, Bellevue School District, and Lake Washington School District. In addition to the public schools, private schools and a post-secondary school are also located within the study area. Schools within the study area are illustrated in Section 4.4, Exhibits 4.4-1 to 4.4-6.

Elementary school students in all of the school districts use school bus transportation provided by the districts. In addition to the bus transportation provided by the school districts, middle school and high school students also use King County Metro buses. Students who attend Lake Washington Technical College primarily use their own vehicles.

4.14.2.4 Solid Waste and Recycling Collection

The following companies provide solid waste and recycling collection for the jurisdictions within the study area:

- Waste Management is currently contracted to provide commercial collection within the Seattle portion of the study area as well as the collection of solid waste and recycling from residential and commercial customers for the City of Redmond.
- Rabanco (a subsidiary of Allied Waste Services) is contracted to provide residential collection of solid waste and recycling within the Seattle portion of the study area. Solid waste collected in Seattle is currently shipped to landfills outside of King County.
- Rabanco Eastside Disposal and Recycling provides residential and commercial collection within Mercer Island and Bellevue. Materials are taken to two transfer facilities located outside of the study area (Houghton Transfer Station in Kirkland and the Factoria Transfer Station in Bellevue). Solid waste collected at these facilities is compacted and taken to the Cedar Hills Regional Landfill in Maple Valley.

Collection vehicles travel throughout the roadways in the study area.

4.14.3 Environmental Impacts

Public services may be affected by project operation or by project construction. Sound Transit determined impacts by reviewing design drawings and documentation related to construction of the project to identify what could cause changes in the travel and response times for public service vehicles or impede access to public service facilities. Documents reviewed included those prepared for similar light rail projects: the Seattle Strategic Planning Office document *Staying on Track: Review of Public Safety and Security on Light Rail Systems* (City of Seattle, 1999) and *The Geography of Transit Crime: Documentation and Evaluation of Crime Incidence on and around the Green Line Stations in Los Angeles* (Liggett, et al, 2002). Sound Transit qualitatively compared the crime rates of the cities within the study area to the overall crime rate of King County and then performed literature reviews associated with crime and light rail systems to evaluate potential crime level increases from the project.

4.14.3.1 No Build Alternative

The No Build Alternative would have no impacts on public service in the study area.

4.14.3.2 Impacts During Operation

Impacts Common to All Alternatives

Safety is one of the Sound Transit design criteria used to avoid conflicts with vehicular, bicyclist, and pedestrian traffic. The East Link alternatives are located within exclusive or semi-exclusive (for at-grade profiles) rights-of-way. Implementation of the required SSMP would minimize impacts on fire and emergency medical services during operation of the project. The project would not lead to an unplanned or induced increase in population, so it would not require additional public services beyond those already planned.

Fire and Emergency Medical Services

The project would be predominantly in its own (exclusive) right-of-way and it would have minimal conflicts with vehicular traffic, bicycles, and pedestrians. In addition, emergency incidents on the project are expected to be minimal because the facilities would be made of nonflammable materials. The vehicles would be electrically powered and would not use combustible fuels.

Fire and emergency service vehicles would have to use different methods and, in some cases, different equipment, when responding to incidents associated with at-grade, elevated, and tunnel profiles. The following text provides information on the methods that would be used to respond to incidents associated with these different profiles.

The at-grade alternatives would not share the right-of-way travel lane with other vehicles because the at-grade right-of-way would be semi-exclusive and curb separated from vehicles, except at intersections with cross traffic. Intersection crossings would be designed to provide light rail vehicles with priority signaling over automobile movements. In addition, it is expected that vehicle traffic would have separated left-hand turn lanes with their own signal time; however, emergency response vehicles would be allowed to make these turns at their discretion.

Raised curbing is expected to minimize accidents between light rail vehicles and general traffic. However, in certain sections to be determined during final design, the raised curbing would be mountable, allowing emergency response vehicles to travel across the light rail tracks. In areas where there is no mountable curbing, emergency response vehicles would need to take longer routes by backtracking from the next signalized intersection or taking other routes through to the incident. Sound Transit would also provide emergency medical services (EMS) signal priority for signalized intersections and designated mid-block crossings of the light rail tracks, where appropriate. EMS signal priority would allow the light rail vehicles to proceed if they are too close to the signal; otherwise, it would stop and emergency and service vehicles would proceed through the signal unimpeded.

Fire department regulations and procedures prevent the placement of fire hoses over active railroad tracks, so light rail operations would need to temporarily shut down during emergencies. Design considerations could include the placement of additional fire hydrants on either side of at-grade tracks to avoid laying fire hoses over the tracks.

In the event of an emergency incident, access for fire and emergency medical services to elevated and tunnel sections of the track and stations would be more difficult than on the at-grade sections. Emergency service providers and Sound Transit personnel would be trained to respond to emergencies.

Access to tunnel sections would be maintained for prompt response times and the safety of passengers and emergency service providers. To minimize impacts during operation, tunnels and elevated sections would be designed to provide emergency access and evacuation in conformance with state and local codes and with *NFPA 130: Standard for Fixed Guideway Transit Systems, 2007 Edition* (National Fire Protection Association [NFPA], 2007). Methods of access and evacuation that could be implemented during emergencies on the elevated and tunnel sections of rails and stations include using another train on the adjacent track, stairways (public and emergency), emergency walkways, escalators, and elevators as applicable and as long as it is safe to do so. Responders would use water standpipes or other fire fighting and emergency features incorporated in the light rail design. When a second train is not practical, Sound Transit would follow state and local fire codes and NFPA 130. All local fire departments in the study area have ladder trucks to properly respond to elevated incidents.

The tunnel stations would include a number of safety design features. Design features to address

fire prevention, ventilation and fire protection, and evacuation could include the following:

- Tunnels and underground stations would be constructed of noncombustible materials.
- Automatic fire suppression equipment would protect electrical components.
- Systems of emergency ventilation shafts, fans, and dampers would direct fresh air into selected areas and remove smoke from areas during an emergency.
- Passengers would be evacuated by reversing trains out of the tunnel; transferring passengers to a rescue train; allowing passengers to exit the tunnel by using elevators or emergency stairways or by walking out of the tunnel; or by having passengers use a cross passage (a passage connecting the two tunnels) to access the other tunnel.
- Signs would be located in tunnels to identify the locations of passages and station and tunnel openings.
- Tunnels would include emergency lighting, telephone connections, and underground communications for safety officials.

A required component of the SSMP is the formation of the Fire/Life Safety Committee, which would review safety requirements and obtain concurrence from local authorities that have jurisdiction. The Fire/Life Safety Committee would be composed of representatives from local fire, police, and building code agencies and from Sound Transit. The Fire/Life Safety Committee would develop solutions regarding access to the light rail system, emergency routes, water and fire hydrant needs, training, costs, and other design features so that the light rail system would not compromise fire and life safety in the project vicinity. During construction, the Fire/Life Safety Committee would address any safety issues that happen to arise and proposed changes that could affect safety. In addition, safety and security issues would be reviewed at community meetings to identify concerns and potential hazards and vulnerabilities.

In addition to the Fire/Life Safety Committee, Sound Transit would continue to consult local jurisdictions throughout design to minimize impacts from the project on response time and accidents requiring fire and emergency medical vehicles. In addition, precise emergency procedures and necessary equipment would be determined during final design.

Police

Police vehicles traveling along the light rail corridor should not experience increased response times in areas of exclusive right-of-way. In areas where there is semi-exclusive right-of-way, police vehicles would have the same issues described above for fire and emergency medical services. In addition, similar to fire and emergency medical responders, police could experience difficulty in responding to calls when elevated or tunnel trains are located between stations.

A literature review found that crime occurring at stations is directly related to crime levels in the surrounding area. The most common types of crimes relate to property crime and quality of life crimes (i.e., vandalism, public drunkenness, and littering), with violent crime comprising only a small percentage. If crimes were to occur along the project corridor, it would likely occur at a station or a park-and-ride lot. However, increases in activity (i.e., number of people) and the introduction of security measures could act as a deterrent to crime.

Sound Transit applies principles of Crime Prevention through Environmental Design (CPTED), the use of specific hardware and equipment, the use of personnel at the stations as well as on the trains, and community outreach to reduce the potential for criminal activities. The stations would be designed using CPTED principles and include numerous features to address security issues. The design of the stations would be spacious, well lit, and uncluttered, and would provide open access. Attention would be given to lines of sight and visibility, with corners, dark or hidden areas, and opaque shelter screens eliminated or minimized. Public waiting areas, including station platforms, would be easily visible to other patrons and to police and Sound Transit security personnel. CPTED design measures minimize impacts by controlling passenger movements with specified traffic flow patterns or a central platform; creating areas that can be easily viewed by closed-circuit television (CCTV) cameras or persons (including transparent exterior walls and good lighting); using vandal-proof surfaces and lighting; and using easily maintained materials. Other measures to minimize crime include the use of equipment (i.e., CCTV, sealed fareboxes, and automatically sealed exits), the use of anti-crime programs such as anti-graffiti

programs, and the use of police from local jurisdictions and Sound Transit security personnel. In areas where Sound Transit would provide public restrooms at terminus stations, the restrooms would be located in a safe and secure area of the facility; would provide CCTV security in entry areas and the restrooms; would use durable, easily cleanable, and vandal-resistant materials for construction, including lighting; and would locate the restrooms where they would not conflict with the facility operations or general flow of traffic. Sound Transit would implement these measures as appropriate.

The East Link Project would be policed during operation (i.e., 20 hours a day), including uniformed police officers and Sound Transit security personnel. Light rail train operators would be trained in how to respond in emergencies. There would be closed-circuit cameras feeding images to a 24-hour security office and a passenger emergency telephone at each station platform that connects patrons directly to the security office. Public address systems and variable message signs would be provided in stations throughout the system, as would public telephones at stations.

Sound Transit would build upon existing plans (i.e., *University Link Safety and Security Management Plan, SSMP 2007* [Sound Transit, 2007c]) and use its existing design criteria (i.e., design requirements for lighting, unobstructed views, vandalism, alarms, and other measures) to meet the latest FTA guidelines on safety and security. In addition, as part of the SSMP, Sound Transit would address how the project would meet Department of Homeland Security requirements, including applicable security directives issued by the Transportation Security Administration in order to address issues related to terrorist threats.

Consistent with literature findings that crime is reflective of the surrounding neighborhoods, no adverse impacts on police services are expected.

Schools

None of the project segments would result in the acquisition of any school property, nor would any of the alternatives travel within established grade school crossing zones. For the most part, East Link Project alternatives would not travel through residential neighborhoods where school buses travel to pick up elementary school children. The *Transit Service Integration Plan* (Sound Transit, 2007b), developed in cooperation with King County Metro, shows that Metro bus routes would either be modified or deleted to complement the East Link Project; therefore, no adverse impacts related to school transportation are anticipated. Chapter 3, Transportation Environment and Consequences, explains that there would be overall improved transit travel times. Some school bus routes may need to be modified where left turns conflict with at-grade alternatives.

Postal Services

No adverse impacts on postal collection or delivery in the East Link study area would occur during light rail operation. None of the postal routes would be negatively affected or experience delay or altered services due to changes in existing roadways. Some collection routes may need to be rerouted where left turns conflict with at-grade alternatives.

Solid Waste and Recycling Collection

No adverse impacts on solid waste collection and disposal in the East Link study area would occur during light rail operation. None of the collection routes would be negatively affected or experience delay or altered services due to changes in existing roadways. Some collection routes may need to be rerouted where left turns conflict with at-grade alternatives.

Segment A

Fire and Emergency Medical Services

Sound Transit has completed a *Mount Baker and First Hill Tunnel/Lids Draft Fire and Life Safety Report* (Sound Transit, 2007a), which identifies the existing conditions and applicable code requirements and makes recommendations to retrofit the existing tunnels in order to provide a safe environment for Sound Transit passengers, employees, and emergency response providers. Recommendations include training for transit and emergency service providers at least twice a year during operation. There are two design options for the light rail tracks: direct fixation rails with the tracks located on top of the road surface, and embedded rails where the tracks are embedded into the road surface. With direct rail fixation, standard light rail tunnel emergency response procedures would have to be implemented, including accessing emergencies with another light rail car or rail vehicle. With the placement of embedded rails, fire and emergency medical vehicles would have the ability to drive their equipment into the light rail tunnel when responding to any calls within the tunnel(s) or adjacent tunnels.

The conversion of the I-90 center roadway to use by light rail vehicles would prevent emergency services (i.e., fire trucks and ambulances) from using the center roadway (center roadway is available in peak direction only) due to the width of the maintenance roadway (approximately 10 feet) and the minimum requirements for most emergency service vehicles (approximately 11 feet). Emergency response would be restricted to the outer roadways of I-90, most likely the HOV lanes. Without the ability to use the center roadway, response times for emergency vehicles could increase depending on the congestion levels on I-90. However, as discussed in Chapter 3, Transportation Environment and Consequences, congestion periods would be less with the project than without.

The design option for joint use of the D2 Roadway (part of the I-90 center roadway) with buses may allow the Seattle Fire Department to continue to use the D2 Roadway (HOV lanes) when responding to calls. In addition, a safety and security plan for D2 Roadway joint operations would be developed and implemented before joint bus and rail use begins. If the D2 Roadway becomes rail only, fire and emergency vehicles would need to use the other I-90 ramps and the local arterial street network to access incidents and response times may be impacted.

Police

The Rainier Station is surrounded by a neighborhood with a crime rate that is the highest in the study area and higher than the county average. This station would be designed with camera surveillance, bright lighting, and other security measures. Sound Transit security personnel would monitor this station as necessary. Similar to fire and emergency vehicles, police vehicles would also lose access to the I-90 center roadway, which would result in impacts similar to those discussed under Segment A, Fire and Emergency Medical Services.

Segment B

Fire and Emergency Medical Services

Only the Bellevue Way Alternative (B1) may affect emergency service. B1 would travel directly in front of Bellevue Fire Department Station 1 but would not result in impacts on access and egress because there would be a signal with left-turn access allowed into and out of the fire station. Should a light rail train be passing in front of the station during a response to an emergency, there could be an increase in response time of a few seconds. Sound Transit would install EMS signal priority to minimize this occurrence. In addition, the Bellevue Way Alternative (B1) north of the Bellevue Way SE and 112th Avenue SE intersection has more driveways to adjacent businesses and residences than the other at-grade Segment B alternatives, resulting in a greater access issue for emergency service vehicles. The BNSF Alternative (B7) would result in the fewest access issues because most of the alternative is located within existing BNSF right-of-way. The 112th SE Elevated Alternative (B2E) would also result in minimal access issues because the alternative is elevated above the roadway and would not prevent access. The 112th SE At-Grade Alternative (B2A) and 112th SE Bypass Alternative (B3) would have similar access issues along 112th Avenue SE, but there are not as many access points as there are along the Bellevue Way Alternative (B1) and therefore there would be fewer and less severe impacts.

Police

Segment B alternatives include either the South Bellevue or 118th Station, both of which include a structured park–and-ride facility. Typically, the rates of petty crimes at park-and-ride lots are comparable to existing crimes rates at nearby business parking lots; however, with the implementation of security measures (i.e., lighting and surveillance), the overall crime rate for the surrounding areas is not expected to increase. In addition, there are existing park-and-ride lots associated with the stations or located close to stations in Segment B (i.e., South Bellevue and Wilburton), and the introduction of light rail is unlikely to change the incidence of crime at these park-and-ride lots. Police response times would receive the same affects as discussed in Fire and Emergency Medical Services in Segment B. Therefore, no impacts are anticipated on local police services.

Segment C

Fire and Emergency Medical Services

Only the at-grade Couplet Alternative (C4A) would result in semi-exclusive right-of-way in Segment C, which may affect emergency response on 108th and 110th avenues NE. One lane of traffic would be dedicated to the project on both roadways, thereby reducing travel flow and response times for emergency vehicles using these roadways. C4A would also restrict left-hand turn lanes at several intersections and would cause minor increases in emergency response times. Refer to Chapter 3, Transportation Environment and Consequences, for complete information on the intersection movements.

The Bellevue Way Tunnel (C1T) and 106th NE Tunnel (C2T) alternatives would change NE 6th Street, east of the Bellevue Transit Center, from two lanes in each direction to one lane in each direction for one block in front of the Meydenbauer Center. Emergency response would not be affected by this change due to the relative short distance of roadway that would be affected. In addition, there would be no impacts on access to and from Overlake Hospital for Segment C alternatives traveling on NE 12th Street, nor impacts to the new Group Health Medical Center from the I-405 crossing at NE 6th Street.

There would be no additional impacts or differences in impacts for the connectors from the Segment B and D alternatives associated with Segment C. The connectors from Segment B are either elevated or transition into a tunnel, and the connectors to Segment D are either within the BNSF right-of-way or elevated along NE 12th Street.

Police

The tunnel alternatives—Bellevue Way Tunnel (C1T), 106th NE Tunnel (C2T), and 108th NE Tunnel (C3T)—would include underground stations that have been shown in studies to result in more crime than elevated or at-grade stations (Liggett, et al., 2002). However, because of Sound Transit design criteria for lighting, surveillance, and open corridors and because of project-dedicated police monitoring, crime would be minimized, and there would be no impact on local police services. Other potential design features to address safety and security in tunnels could include the following:

- Spacious, well-lit, and uncluttered station areas with uniform lighting throughout
- Central control center with CCTV monitoring the station, elevators, and stairwells
- Sound Transit staff in a central control center able to operate elevators, fire doors, air vents and electricity as well as monitor train operations
- Light rail train operators providing additional watch in the tunnel and reporting any problems to the central control center
- Passenger assistance telephones to provide direct contact with security or emergency response personnel
- Roving security personnel

Police response times would have the same affects as discussed under Fire and Emergency Medical Services in Segment C. In addition, the 106th NE and 108th NE tunnel alternatives (C2T and C3T) connecting from the 112th SE At-Grade Alternative (B2A) would require the relocation of the King County District Court; however, the county has plans to move this facility in the near future, and, if that occurs, no operational impacts are anticipated.

Segment D

Fire and Emergency Medical Services

The only impact on emergency access would be the removal of free left-hand turn lanes for the NE 20th Alternative (D3). The retained-cut sections along NE 20th Street and 152nd Avenue NE would restrict left-turning movements except at intersections, causing emergency service vehicles to backtrack for some incidents. This would not substantially affect response times, because major intersections would be preserved. The NE 16th At-Grade (D2A) and NE 20th (D3) alternatives cross the intersection of NE 16th Street and 132nd Avenue NE just south of Bellevue Fire Department Station 6 and, should a light rail train be in the intersection during a response to an emergency, there could be an increase in response time of a few seconds. Sound Transit would install EMS signal priority to minimize this occurrence.

Police

Police vehicles would be subject to the same access issues as those described in Fire and Emergency Medical Services for Segment D. All Segment D alternatives include structured park-and-ride lots in Bellevue and/or Redmond (130th and Overlake Transit Center stations). These facilities would include the same security design measures as listed for Segment B, resulting in no substantial impact on police services.

Segment E

Fire and Emergency Medical Services

No additional impacts on fire or medical response services are anticipated other then those discussed under Impacts Common to All Alternatives. The Marymoor Alternative (E2) would travel along 161st Avenue NE adjacent to Redmond Fire Department Station 11 but would not affect response times for emergency services because emergency vehicles exit the station onto NE 85th Street. Access to the parking garage may require a more circuitous route if the access off 161st Avenue NE is used by fire and emergency service vehicles.

Police
No additional impacts on police response times are anticipated other then those discussed under Impacts Common to All Alternatives. All Segment E alternatives include a structured park-and-ride lot at the SE Redmond Station that would include the same security design measures as listed for Segment B, resulting in no substantial impact on police services.

4.14.3.3 Impacts During Construction

Impacts Common to All Alternatives

Construction of the project alternatives would result in increased congestion along adjacent roadways as a result of temporary lane and roadway closures, shifts in roadway alignments, detours necessary for construction, and construction activities associated with the project. This could affect access and response times for public service providers (i.e., fire and emergency medical, police, school buses including King County Metro buses, and solid waste and recycling vehicles). However, Sound Transit would make provisions to maintain the required access during established periods or keep one lane of traffic open (especially on main arterials) and, whenever possible, accommodate additional access during peak travel hours. Prior to construction, traffic control plans would be reviewed and approved by applicable agencies before implementation.

Prior to construction, Sound Transit would coordinate with public service providers on required detour routes and lane closures in order to minimize increases in travel and response times and to avoid interference with the collection of solid waste and recyclables or the transportation of students. As a result, public services would not be adversely affected during construction.

Fire and Emergency Medical
During construction, access and egress for fire and emergency medical vehicles would be maintained at all times, which would minimize impacts on response and travel times within all project segments. Emergency service providers may need to develop contingency plans in coordination with Sound Transit to reduce response and travel times. Coordination would need to occur with any fire departments where construction may affect access to hydrants or require water line relocations.

Police
In high-traffic locations and/or pedestrian locations, additional police may be required to direct traffic, especially in areas where trenching for retained-cut and elevated sections would occur, to minimize impacts on vehicles and pedestrians. Sound Transit would coordinate with the different jurisdictions and the Washington State Patrol to provide adequate police staffing. Police may need to respond to additional incidents associated with traffic congestion due to construction activities, especially along primary arterials. Construction may involve closing roadways for periods of time. Circulation changes would be coordinated with the local police and emergency service providers ahead of time.

Schools
There would be no construction close to schools; therefore, there would be no impacts associated with construction, such as noise and dust, on students or school employees. Construction could result in the temporary rerouting of school buses, along with King County Metro and Sound Transit buses, that may affect middle and high school students. In addition, construction could require the temporary relocation of transit bus stops; however, this is not anticipated to affect middle and high school students because it is expected that bus stops would be relocated in the near vicinity.

Postal Services
Postal vehicles could experience delays; however, access and egress for postal vehicles would be maintained at all times to minimize impacts. If certain access points need to be closed, alternative access points would be developed in coordination with the local post office.

Solid Waste and Recycling Collection
Collection vehicles could experience delays on collection routes; however, access and egress for solid waste and recycling collection vehicles would be maintained at all times to minimize impacts on collection. If certain access points are required to be closed, alternative access points, collection locations, or other measures would be developed in coordination with the solid waste and recycling companies. Construction activities would increase the amount of construction and demolition debris; however, there are a number of facilities in the Puget Sound region where the materials could be disposed or recycled, so no impacts are anticipated.

Segment A

On I-90, construction would primarily occur within the existing center roadway, separate from westbound and eastbound traffic; therefore,

impacts on public services would be minimized. The center roadway would not be available for access to incidents on the outer roadways. This could result in impacts on response times. The new I-90 two-way HOV lanes would be in operation during construction of the East Link Project and would provide emergency vehicles with another travel lane to bypass general traffic. Emergency vehicles may need to respond to incidents within the I-90 center roadway during construction and may need to use the outer roadways to access such an incident.

Segment B

There are no additional impacts other than those described above under Impacts Common to All Alternatives; however, there are differences between the alternatives in terms of disruption and access. The Bellevue Way Alternative (B1) would cause more disruption to circulation and public service access because of the greater number of access points to businesses and residences compared to the other Segment B alternatives. In addition, B1 would require construction to occur directly in front of Bellevue Fire Department Station 1, which may require additional measures to make sure access and egress is maintained. The BNSF Alternative (B7) would be the most limiting for public access because construction would occur within BNSF and Washington State Department of Transportation (WSDOT) rights-of-way where there are no access or egress points.

Segment C

Construction activity for the at-grade Couplet Alternative (C4A) would cause more disruption to circulation and public service access, but the disruption would have the shortest duration of the Segment C alternatives. Construction of the 110th NE Elevated (C8E) and 112th NE Elevated (C7E) alternatives may cause longer delays in access but fewer roadway closures than C4A. The construction of cut-and-cover tunnel sections for the Bellevue Way Tunnel (C1T) and 106th NE Tunnel (C2T) alternatives would cause the longest period of construction and would be the most limiting for public service access. The 108th NE Tunnel Alternative (C3T) would be almost entirely bored with limited cut-and-cover compared to C1T and C2T, resulting in fewer impacts related to disruption of circulation and public service access. For the tunnel alternatives (C1T, C2T, and C3T), the Bellevue fire and police departments would require special training for any incidents that could occur associated with tunnel construction. This training would be developed as part of the SSMP and in coordination with the Fire/Life Safety Committee.

Alternatives crossing at the NE 12th Avenue (i.e., the Couplet [C4A], 108th NE Tunnel [C3T], 112th NE Elevated [C7E], and 110th NE Elevated [C8E] alternatives) would result in construction impacts near Overlake Hospital Medical Center and Group Health Medical Center. Any required lane closures or detours would need to be coordinated with these hospitals to maintain access for emergency medical vehicles. Coordination would also need to occur to prevent interruptions in utility service (e.g., water, electrical) to these Medic One facilities. See Section 4.15, Utilities, for further information on utility relocations and disruptions.

There would be no additional impacts or differences related to construction impacts and the connectors from the Segment B and D alternatives associated with Segment C.

Segment D

There are no additional impacts other than those described above under Impacts Common to All Alternatives; however, there are differences between the alternatives in terms of disruption and access. The NE 20th Alternative (D3) would cause the greatest amount of disruption to circulation and public service access because of the construction activities associated with the retained cut along NE 20th Street and 152nd Avenue NE. The SR 520 Alternative (D5) would result is the least disruption because the alternative is located on the south side of SR 520, primarily adjacent to WSDOT right-of-way. The NE 16th At-Grade Alternative (D2A) and NE 16th Elevated Alternative (D2E) follow the same route and would result in similar impacts during construction.

Segment E

There are no additional impacts other than those described above under Impacts Common to All Alternatives.

4.14.3.4 Maintenance Facilities

Impacts During Operation

No impacts on public services are anticipated from any of the maintenance facility alternatives during operation, because these facilities are closed to public access and do not obstruct access or create new solid waste removal requirements.

Impacts During Construction

Construction of the 116th Maintenance Facility (MF1) would require relocation of the Bellevue

Public Safety Training Center, but this would not result in negative impacts on fire and emergency medical services because this facility is primarily used for training local residents. Construction of the BNSF Maintenance Facility (MF2) or the SR 520 Maintenance Facility (MF3) would not result in negative impacts on public services. Construction of the SE Redmond Maintenance Facility (MF5) could create noise and dust impacts near the Lake Washington Technical College Redmond Corporate Campus.

4.14.4 Potential Mitigation Measures

The Fire Life Safety Committee and other Sound Transit safety and security specialists would continue to address public service issues throughout design, construction, and operation.

4.14.4.1 Operation Mitigation Measures

Some minor delays in response time may result where alternatives consist of a semi-exclusive (at-grade) trackway. Emergency vehicles may be required to go around these facilities or use other adjacent roadways. Access to fire hydrants may either require temporarily stopping light rail service or, as deemed necessary during final design, installing fire hydrants on either side of at-grade trackway. These situations would not result in an adverse impact on public services and no mitigation would be necessary during operation.

Although the overall crime rate typically does not increase due to light rail projects, research from other systems shows that some petty crimes may occur at stations and, more likely, at park-and-ride facilities. To minimize these occurrences, Sound Transit would create and implement an SSMP and employ Crime Prevention through Environmental Design (CPTED) design principles directed at reducing crime incidents at stations and park-and-ride lots. Therefore, there would be no need for additional mitigation measures. Other measures to minimize crime would include the use of equipment (i.e., closed circuit TV, sealed fareboxes, and automatically sealed exits), the use of anti-crime programs such as anti-graffiti programs, and the use of security personnel.

4.14.4.2 Construction Mitigation Measures

During construction, several roadways would be fully or partially closed or access may be limited. This may cause minor delays on emergency response times and cause detours for other public services. Sound Transit would coordinate with public service providers to maintain reliable emergency access and alternative plans or routes to minimize delays in response times. Sound Transit would also coordinate any utility relocations, and work with solid waste and recycling companies and schools should any rerouting of collection or bus routes need to occur. Postal collection and delivery and solid waste and recycling collection would be maintained at all addresses. No additional mitigation would be required.