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 0.5-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. This section also reviews project-related operations that might 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 C5800.1 (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; developing safety, security, and emergency plans; and implementing 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 and recycling collection located within the study area. Exhibits showing these facilities are located in Section 4.4, Social Impacts, Community Facilities, and 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 responds 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 Medical Center 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 two facilities in the study area. The Bellevue Medical Center, located at 11511 NE 10th Street, is immediately south of Overlake Hospital Medical Center, and the Redmond Medical Center at Riverpark, at 15809 Bear Creek Parkway, is located in Downtown Redmond.

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 Sheriff's 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, then these departments use 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 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 city within the study area. Average response times for the police departments are approximately 6.5 minutes for Seattle, less than 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 King County Metro routes. Both of these agencies also assist other agencies through mutual aid agreements. Sound Transit contracts with the King County Sheriff's Office and works in partnership with local law enforcement to create a safe regional transit system. 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 2006, 2007, and 2008. 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 gradually decreased over the past 3 years in the study area for Seattle, Redmond, and King County, as well as for Washington State. Crime statistics for Mercer Island and Bellevue show a small drop in 2007 and a small increase in 2008. Table 4.14-2 compares violent and property crimes in the study area cities with crimes at the county and state level.

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 postsecondary 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:

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 (2008 data)	4.32 minutes	3.75 minutes	3.76 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

Source: Seattle Fire Department, 2008; City of Mercer Island, 2007; City of Bellevue, 2007

TABLE 4.14-2
2008 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	36,346	5.8	55.5
Mercer Island	436	0.6	18.7
Bellevue	4,478	1.4	36.2
Redmond	1,751	1.3	32.9
King County	7,693	1.6	20.9
Washington State	264,158	3.2	36.9

Source: Washington Association of Sheriffs and Police Chiefs, 2008.

- Waste Management and Cleanscapes are currently contracted to provide commercial and residential collection within the Seattle portion of the study area. Waste Management provides services south of I-90 and Cleanscapes provides services north of I-90. 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.
- Waste Management is contracted to provide solid waste collection and recycling from residential and commercial customers for the City of Redmond.

Collection vehicles travel throughout the roadways in the study area.

4.14.2.5 Other Public Services

There are several U.S. Postal Service facilities in the study area vicinity, as follows:

- Pioneer Square, 91 South Jackson Street, Seattle
- International, 414 6th Avenue South, Seattle
- Terminal Finance Station, 2420 4th Avenue South, Seattle
- Mercer Island, 3040 78th Avenue SE, Mercer Island
- Bellevue, 1171 Bellevue Way NE, Bellevue
- Midlakes, 11405 NE 2nd Place, Bellevue
- Crossroads, 15731 NE 8th Street, Bellevue
- Redmond, 16135 NE 85th Street, Redmond
- Redmond Carrier Annex, 7241 185th Avenue NE, Redmond

There is a U.S. Social Security Administration facility at 505 106th Avenue NE in Downtown Bellevue and at 675 South Lane Street in the International District in Seattle.

4.14.3 Environmental Impacts

Public services might be affected by project operation or by project construction. Sound Transit determined impacts by reviewing design drawings and documentation related to project construction 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* (Loukaitou-Sideris et al., 2002). Sound Transit qualitatively compared the crime rates of the cities within the study area with 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.

This section summarizes the impacts that could result from the East Link Project and the No Build Alternative. For the project, the discussion of impacts covers the general impacts that are common to all segments, and then the key impacts for each segment are discussed.

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 semiexclusive (for at-grade profiles) rights-of-way. Implementing the required SSMP would minimize impacts on fire and emergency medical services during project operation. 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 semiexclusive 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. To prevent conflicts at unsignalized at-grade crossings, there would be gates with bells to warn people. The vehicles would also have bells and horns. Bells, gates, and horns are activated according to safety guidelines.

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. In general, light rail vehicles that travel without gates have a lower signal priority than EMS and law enforcement vehicles in order to improve response times and increase safety of first responders. Light rail trains that cross streets/intersections with automatic gate crossings require emergency vehicles to yield for their movement. However, there are exceptions depending on the prevailing situation. As part of Sound Transit's work with local jurisdictions, further details associated with signal prioritization and protocols would be developed.

Fire department regulations and procedures prevent placing fire hoses over active railroad tracks, so light rail operations would need to temporarily shut down during emergencies. Design considerations could include placing 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. Access to trains on elevated and tunnel sections would likely be provided via trains on the adjacent guideway. 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 for 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, 2010 Edition* (National Fire Protection Association [NFPA], 2010). 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 is reviewing safety requirements and obtaining concurrence from local authorities that have jurisdiction. The Fire/Life Safety Committee comprises 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. In addition, safety and security issues would be reviewed at community meetings to identify and address 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. Sound Transit also has a Safety Outreach Program that reaches out to the community to encourage safe driving, bicycling, and walking behavior around the light rail alignment to prevent accidents.

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 semiexclusive 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 at elevated or tunnel sections of track or stations. However, generally, trains would proceed to the nearest station for a response.

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, then 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 contracts with the King County Sheriff's Office and works in partnership with local law enforcement to create a safe regional transit system. 2010 crime statistics show that the crime rate per number of riders at transit facilities and on light rail and commuter rail trains is substantially lower compared with overall per capita crime rates in Seattle, Tukwila, and SeaTac.

Sound Transit applies principles of Crime Prevention through Environmental Design (CPTED), uses specific hardware and equipment, and employs personnel at the stations as well as on the trains 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 vandalproof surfaces and lighting; and using easily maintained materials.

Other measures to minimize crime include using equipment (i.e., CCTV, sealed fareboxes on ticket vending machines, and automatically sealed exits), using anticrime programs (such as anti-graffiti programs), and having Sound Transit police, police from local jurisdictions, and Sound Transit security personnel patrol the stations and the trains. 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 traffic flow. Sound Transit would implement these measures as appropriate.

Uniformed police officers and Sound Transit security personnel would police the East Link Project during operation (i.e., 20 hours a day). Light rail train operators would be trained in how to respond in emergencies. There would be CCTV 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 2010* [Sound Transit, 2010]) 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 U.S. 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

No project alternative would acquire any school property, nor would any alternative 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, 2007a), developed in cooperation with King County Metro, shows that Metro bus routes would either be modified or eliminated 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 might 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. No postal routes would be negatively affected or experience delay or altered services due to changes in existing roadways. Some collection routes might 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. No collection routes would be negatively affected or experience delay or altered services due to changes in existing roadways. Some collection routes might need to be rerouted where left turns conflict with at-grade alternatives.

Segment A

Fire and Emergency Medical Services

For *Preferred Interstate 90 Alternative (A1)*, Sound Transit has completed a *Mount Baker and First Hill Tunnel/Lids Draft Fire and Life Safety Report* (Sound Transit, 2007b), which identifies the existing conditions and applicable code requirements and recommends retrofitting the existing tunnels in order to provide a safe environment for Sound Transit passengers, employees, and emergency response providers. The report also recommends training for transit and emergency service providers at least twice each year during operation. There are two design options for the light rail tracks with *Preferred Alternative A1*: (1) direct fixation rails with the tracks located on top of the road surface, and (2) 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 embedded rails, fire and emergency medical vehicles would be able to drive their equipment into the light rail tunnel when responding to any calls within the tunnel(s) or adjacent tunnels.

Converting the I-90 center roadway for use by light rail vehicles for *Preferred Alternative A1* would prevent large emergency vehicles (i.e., fire trucks and ambulances) from using the center roadway.

Currently, emergency vehicles can use the center roadway when traffic in this HOV lane is going in the direction that they are traveling. Limited emergency access to the center roadway would still be available via the maintenance roadway, but in general, emergency response would be restricted to the outer roadways of I-90, most likely the HOV lanes. Without the unrestricted 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 fewer with the project than without.

The *Preferred Alternative A1* design option for joint use of the D2 Roadway (part of the I-90 center roadway) with buses might 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, then fire and emergency vehicles would need to use the other I-90 ramps and the local arterial street network to access incidents; as a result, response times might be impacted.

Police

The Rainier Station with *Preferred Alternative A1* 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

For both *Preferred 112th SE Modified Alternative (B2M)* connecting to *Preferred Alternative C11A* or *C9T,* there would be minimal access issues for emergency service providers because the alternatives would be located east of Bellevue Way SE and 112th Avenue SE, and there are few access points. *Preferred Alternative B2M* connecting to *Preferred Alternative C9T* includes a design option to close access into Bellefield Office Park at SE 15th Street; however, a crash gate would remain in order to maintain current emergency access service. *Preferred Alternative B2M* connecting to *Preferred Alternative C11A* would cross over to the median of 112th Avenue SE and would require a gate for northbound traffic. Should a light rail train be crossing over the northbound lanes during a response to an emergency, there could be a slight increase in response time. Sound Transit would install EMS signal-priority devices to minimize this occurrence.

Of the other Segment B alternatives, only Alternative B1 might affect emergency service. Alternative 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, 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.

Alternative B7 would result in the fewest access issues because most of the alternative is located within existing former BNSF Railway 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), 112th SE Bypass Alternative (B3), and the B3 - 114th Extension Design Option would have similar access issues along 112th Avenue SE, but there are not as many access points as there are along the Alternative B1 route, and therefore, there would be fewer and less severe impacts.

Police

Both *Preferred Alternative B2M* connecting to *Preferred Alternative C11A* or *C9T* include a South Bellevue Station, which would have a structured park-and-ride facility. By implementing security measures at this structured park-and-ride facility (i.e., lighting and surveillance), the overall crime rate for the surrounding area is not expected to increase as a result of the presence of this facility. In addition, there is an existing park-and-ride lot (i.e., the Wilburton Park-and-Ride) located relatively close to the SE 8th Station, which is part of *Preferred Alternative B2M* connecting to *C9T.* Introducing light rail is unlikely to change the incidence of crime at the Wilburton Park-and-Ride. This station would not be built if the C9T - East Main Station Design Option was chosen. Police response times would have the same impacts as discussed in Fire and Emergency Medical Services in Segment B. Therefore, no impacts are anticipated on local police services.

Each of the other Segment B alternatives, except Alternative B7, would include a South Bellevue Station and an associated structured park-and-ride facility. Alternative B7 would include a station, the 118th Station, which would also have a structured park–and-ride facility. Similar to the structured park-and-ride facility at the South Bellevue Station under *Preferred Alternative B2M*, the 118th Station park-and-ride facility is not expected to increase crime in the surrounding area. Police response times would receive the same effects 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

Preferred Alternative C11A would remove access to 112th Avenue SE from SE 4th Street and also remove access to Main Street from 110th Avenue SE and 110th Place SE. Emergency vehicles would still be able to access homes in the Surrey Downs neighborhood from SE 1st Place, SE 2nd Street, and SE 11th Street. This change is expected to have a minor effect on emergency response times.

Preferred Alternative C11A would also result in a semiexclusive right-of-way in Segment C, which might affect emergency response on 108th Avenue NE. Vehicular traffic would be reduced to one lane in either direction on 108th Avenue NE, thereby reducing travel flow and slightly increasing response times for emergency vehicles using this road. *Preferred Alternative C11A* would also restrict left-hand turns at intersections and would cause minor increases in emergency response times. There would be no impacts on access to or from Overlake Hospital nor impacts to Group Health Medical Center from the I-405 crossing at NE 6th Street. Refer to Chapter 3, Transportation Environment and Consequences, for complete information on changes to intersection movements.

Preferred Alternative C9T would be predominantly grade-separated and is not expected to affect emergency response times due to the relatively minor changes it would make to the existing street network. This alternative is also not expected to affect access to or from Overlake Hospital Medical Center or Group Health Medical Center. This alternative would remove a portion of the King County District Court building; however, the County has plans to move this facility in the near future, and if that occurs, no operational impacts are anticipated.

Alternatives C4A and C9A would result in semiexclusive right-of-way in Segment C, which might affect emergency response on 108th and 110th Avenues NE. Traffic would be reduced in some sections of these roadways to one lane in either direction, thereby reducing travel flow and slightly increasing response times for emergency vehicles using these roadways. Both alternatives would also restrict left-hand turns at several intersections and would cause minor increases in emergency response times.

Alternatives C7E, C8E, and C14E would be predominately grade-separated (i.e., elevated) and are not expected to affect emergency response times in the area. Alternatives C1T and C2T 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 or from Overlake Hospital Medical Center for Segment C alternatives traveling on NE 12th Street, nor impacts to 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 former BNSF Railway right-of-way or elevated along NE 12th Street.

Police

Changes in police response times for *Preferred Alternative C11A* would be similar to those described under Fire and Emergency Medical Services for this alternative. *Preferred Alternative C9T* would include an underground station, the Bellevue Transit Center Station. Studies have shown that underground stations result in more crime than elevated or at-grade stations (Loukaitou-Sideris 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. The impact on local police services as a result of this alternative is, therefore, expected to be minimal.

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 with the capability to provide additional watch in the tunnel and report any problems to the central control center
- Passenger assistance telephones to provide direct contact with security or emergency response personnel
- Roving security personnel

Under *Preferred Alternative C9T*, the north entrance to the Bellevue Transit Center Station would be located adjacent to Bellevue City Hall, which houses the Bellevue Police Department. This alternative would also remove parking at the Bellevue City Hall parking garage. This parking impact is not expected to have a negative effect on local police services. The potential at-grade C9T - East Main Station Design Option would be unlikely to change the incidence of crime along 112th Avenue SE. Because police response times would not be affected, no impacts are anticipated on local police services.

The underground stations associated with Alternatives C1T, C2T, and C3T would have minimal impacts on local police services for the same reasons as those described under Police for *Preferred Alternative C9T*. Alternative C9A would result in the loss of parking at Bellevue City Hall, but to a lesser degree than that described under *Preferred Alternative C9T*. The Bellevue Police Department is also housed at Bellevue City Hall, but this parking loss is not expected to result in a negative impact on local police services. In general, police response times would have the same effects as discussed under Fire and Emergency Medical Services in Segment C. In addition, Alternatives C2T and C3T connecting from Alternative B2A would relocate the King County District Court; however, the County has plans to move this facility in the near future, and if that occurs, then no operational impacts are anticipated.

Segment D

Fire and Emergency Medical Services

Preferred NE 16th At-Grade Alternative (D2A) would cross the intersection of NE 16th Street and 132nd Avenue NE at-grade just south of Bellevue Fire Department Station 6. Should a light rail train be in this intersection during a response to an emergency, there could be a slight increase of a few seconds in response time. Sound Transit would install EMS signal priority to minimize this effect.

Under 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. Alternative D3 would also cross the intersection of NE 16th Street and 132nd Avenue NE at-grade just south of Bellevue Fire Department Station 6, similar to *Preferred Alternative D2A*. Alternative D3 would have a similar effect on response times from this station as *Preferred Alternative D2A*, and similarly, Sound Transit would install EMS signal priority to minimize this effect.

Police

Preferred Alternative D2A would include structured park-and-ride lots in Bellevue and Redmond (130th and Overlake Transit Center Stations, respectively). These facilities would include the same security design measures as listed for Segment B, resulting in no substantial impact on police services.

Police vehicles would be subject to the same access issues as those described in Fire and Emergency Medical Services for Alternative D3. Alternatives D2E, D3, and D5 would include structured park-and-ride lots in Bellevue and/or Redmond (130th and Overlake Transit Center Stations, respectively) depending on the alternative. 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

With *Preferred Marymoor Alternative (E2)*, no additional impacts on fire or medical response services are anticipated other than those discussed under Impacts Common to All Alternatives. No additional impacts on fire or medical response services are anticipated other than those discussed under Impacts Common to All Alternatives. The E2 - Redmond Transit Center Station Design Option 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.

Police

No additional impacts on police response times with *Preferred Alternative E2* are anticipated other than those discussed under Impacts Common to All Alternatives. *Preferred Alternative E2* would 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.

With the other Segment E alternatives, no additional impacts on police response times are anticipated other than those discussed under Impacts Common to All Alternatives. Alternatives E1 and E4 both would include a structured park-and-ride lot at the SE Redmond Station with 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 might 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 might affect access to hydrants or require water line relocations. In addition, during construction, the Fire/Life Safety Committee would address any safety issues that happen to arise and propose changes that could affect safety.

Police

In high-traffic and/or pedestrian locations, additional police might be required to direct tunnel traffic, especially in areas where trenching for tunnel, 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 might need to respond to additional incidents associated with traffic congestion due to construction activities, especially along primary arterials. Construction might 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 might affect middle and high school students. In addition, construction could require temporarily relocating 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, then 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 for *Preferred Alternative A1* 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 operating during construction of the East Link Project and would provide emergency vehicles with another travel lane to bypass general traffic. Emergency vehicles might need to respond to incidents within the I-90 center roadway during construction and might need to use the outer roadways to access such an incident.

Segment B

Preferred Alternative B2M connecting to *Preferred Alternative C11A* or *C9T* would not result in any additional construction-related impacts other than those described above under Impacts Common to All Alternatives. However, *Preferred Alternative B2M* connecting to *Preferred Alternative C11A* would have a generally higher level of disruption and access issues because it would shift from the east side of 112th Avenue SE to the center of 112th Avenue SE and continues north in the center of this road until reaching Segment C, as opposed to remaining on the east side of 112th Avenue SE with *Preferred Alternative B2M* connecting to *Preferred Alternative C9T*.

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. 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 with the other Segment B alternatives. In addition, Alternative B1 would require construction to occur directly in front of Bellevue Fire Department Station 1, which might require additional measures to make sure access and egress is maintained. Alternative B7 would have the least impact on circulation and public access because construction would occur within former BNSF Railway and Washington State Department of Transportation (WSDOT) rights-of-way where there are no access or egress points. Access to these rights-of-way would be provided to emergency service providers to respond to emergencies.

Segment C

Construction of *Preferred Alternative C11A* or *C9T* would not result in any additional construction-related impacts other than those described above under Impacts Common to All Alternatives. Construction of the cut-and-cover tunnel under *Preferred Alternative C9T* would likely result in a longer and more intense period of construction than *Preferred Alternative C11A* and would likely result in more general disruption and public service access issues along 110th Avenue NE, including temporary restrictions on ingress and egress from the parking area at Bellevue City Hall, which houses the Bellevue Police Department. In addition, under *Preferred Alternative C9T*, 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.

Construction activity for Alternatives C4A or C9A would cause more disruption to circulation and public service access, including temporary restrictions on ingress and egress from the parking area at Bellevue City Hall, which houses the Bellevue Police Department, but the disruption would also likely have the shortest duration of the Segment C alternatives. Construction of Alternatives C8E, C7E, or C14E might cause longer delays in access but also result in fewer roadway closures than the at-grade Segment C alternatives would. The construction of cut-and-cover tunnel sections for Alternatives C1T or C2T would cause the longest period of construction, would be the most limiting for public service access, and would have similar general disruptive impacts as *Preferred Alternative C9T*. Alternative C3T would be almost entirely bored with limited cut-and-cover construction compared with *Preferred Alternative C9T* and Alternatives C1T and C2T, resulting in fewer impacts related to disruption of circulation and public service access. As with *Preferred Alternative C9T*, tunnel construction for Alternative C1T, C2T, or C3T would require the Bellevue Fire and Police Departments to receive 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 I-405 at NE 12th Street (i.e., Alternatives C4A, C3T, C7E, and C8E) 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

Preferred Alternative D2A would not result in any additional construction-related impacts other than those described above under Impacts Common to All Alternatives.

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

Segment E

Preferred Alternative E2 would not result in any additional construction-related impacts other than those described above under Impacts Common to All Alternatives. The other Segment E alternatives would result in no additional impacts other than those described above under Impacts Common to All Alternatives. Alternative E1 would likely result in slightly more disruption and access issues than Alternative E4 due to its slightly greater length.

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 relocate the Bellevue Public Safety Training Center at 1828 116th Avenue NE. This facility is used by the City of Bellevue as a training facility for police and fire department staff. Sound Transit would work with the City of Bellevue to minimize the disruptive effect of this relocation. 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 might result where alternatives consist of a semi-exclusive (at-grade) trackway. Emergency vehicles might be required to go around these facilities or use other adjacent roadways. Access to fire hydrants might 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 might 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 CPTED design principles directed at reducing crime incidents at stations and park-and-ride lots. Other measures to minimize crime would include using equipment (i.e., CCTV cameras, sealed fareboxes on ticket vending machines, and automatically sealed exits), using anti-graffiti materials, and employing security personnel. In addition, Sound Transit contracts with the County Sheriff, a private security firm, and works with local law enforcement to provide police services along the light rail system. With these public safety programs in place, there would be no need for additional mitigation measures.

4.14.4.2 Construction Mitigation Measures

During construction, several roadways would be fully or partially closed, thus limiting access and requiring detours. This might cause minor delays on emergency response times and cause detours for other public services. Sound Transit would coordinate with public service providers before and during construction to maintain reliable emergency access and alternative plans or routes to minimize delays in response times. Sound Transit would also coordinate with solid waste and recycling companies and schools should any rerouting of collection or school 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.