

## CHAPTER 5 ENVIRONMENTAL CONSEQUENCES - CUMULATIVE IMPACTS

### 5.0 METHODOLOGY

The CEQ regulations that implement the procedural provisions of NEPA define cumulative effects as “the impact on the environment which results from the incremental consequences of an action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions” (40 CFR 1508.7). To assist Federal agencies in assessing cumulative impacts under NEPA, CEQ developed a handbook entitled *Considering Cumulative Effects under the National Environmental Policy Act*. SEA followed these guidelines in its evaluation of whether planned and reasonably foreseeable projects in the area in combination with potential impacts of operations or construction activities of the Bayport Loop Proposed Action and Alternatives would cumulatively result in significant adverse environmental impacts.

To avoid confusion among the different projects presented in this chapter, the analysis refers to the Bayport Loop Proposed Action, the Bayport Loop Build Alternatives, and the Bayport Loop No-Build Alternative, where appropriate.

The following projects were evaluated, because they are planned or reasonably foreseeable projects taking place in the same area as the Bayport Loop Proposed Action and Alternatives:

- Proposed Bayport Container/Cruise Terminal (Bayport Terminal) that includes:
  - Proposed rail line for Bayport Terminal access, to be built along SH 146 corridor.
  - Projects from the 2025 Metropolitan Transportation Plan.
- Proposed Shoal Point Container Terminal in Texas City.
- Potential modifications to SH 146.
- Widening of Genoa-Red Bluff Road between Beltway 8 and Red Bluff Road.
- City of Pasadena’s Light Industrial District.
- City of Houston’s Water Treatment Plant Expansions.
- Ellington Field Master Plan.
- Deer Park School District potential land development.
- American Acryl manufacturing facility development.

The geographic scope and time frame of the cumulative impacts analysis varies depending on the environmental resource category under consideration. SEA analyzed the cumulative impacts for those situations where planned or reasonably foreseeable projects overlapped with the Bayport Loop Proposed Action and Alternatives in terms of geographic area and time frame. Cumulative impacts can stem from both construction and operations impacts. This analysis differentiates,

where appropriate, between cumulative impacts associated with short-term, but overlapping, construction impacts and longer-term overlapping impacts associated with rail operations.

## 5.1 IMPACT ANALYSIS

SEA identified the combined interaction of the Bayport Loop Proposed Action and Alternatives and other planned or reasonably foreseeable projects. SEA then identified the potential cumulative impacts for all of the environmental resource categories described in Chapters 3 and 4. SEA has determined that the proposed construction of approximately 13 miles of new rail line and the operation of two trains per day, on average, under the proposed Bayport Loop Build-Out, would not create any notable cumulative impacts in the project area. Each of the environmental resource categories is described below.

### 5.1.1 Rail Operations and Safety

Two additional reasonably foreseeable projects would generate rail traffic in the project area. These are the proposed Bayport Terminal and the proposed Shoal Point Container Terminal. These projects could generate rail traffic that would intersect with rail traffic from the Bayport Loop Build Alternatives or No-Build Alternative on the Strang Subdivision, and GH&H line, and at Harrisburg and Manchester Junctions. Neither of these projects would create rail traffic that would operate on the proposed new rail line for the Bayport Loop Build Alternatives.

The Port of Houston Authority (PHA) proposes with its Bayport Terminal project to develop a major marine terminal complex on approximately 1,091 acres along the south side of the Bayport Ship Channel, five miles south of its existing facilities at the Barbours Cut Terminal. As stated in the Bayport Terminal Draft EIS, prepared by USACE Galveston District, rail traffic associated with the proposed port facility is expected to eventually average approximately eight trains per day sometime after 2012. These trains would operate on a proposed PTRA rail line in UP's right-of-way in the SH 146 corridor to Strang Yard. Because PHA proposes to construct a new rail line in the SH 146 corridor, trains from the proposed Bayport Terminal would not operate on the Bayport Loop or the Bayport Loop Industrial Lead and hence, there would be no intersection with Bayport Loop rail traffic on these lines. The eight trains would share portions of the UP Strang Subdivision in the SH 225 corridor with Bayport Loop trains under the No-Action and No-Build Alternatives. Bayport Terminal trains would operate over the PTRA rail lines in the SH 225 corridor to the point where the PTRA tracks merge with UP's Strang Subdivision at Deer Park; diverge again at Sinco Junction; and reconverge at Manchester Junction before entering Tower 30 or Harrisburg Junction. The route the trains would take beyond these junctions has not been identified. The Bayport Terminal Draft EIS also states that a new intermodal rail yard would be constructed on 123 acres at the Terminal site, with construction beginning midway through the Terminal's development in 2010. Construction of the final portion of the yard is not expected to begin until 2023. Until the new yard is fully operational, cargo would be transported by trucks to the Barbours Cut rail facility, which is approximately five miles north of the proposed Bayport Terminal, and then dispatched by rail over the PTRA lines and Strang Subdivision in the SH 225 corridor. It is uncertain how many trains would be generated out of Barbours Cut on the PTRA line and Strang Subdivision in the years before the proposed intermodal yard and rail line in the SH 146 corridor would be completed.

The City of Texas City, in partnership with Texas City International Terminals, is proposing to construct a container terminal adjacent to the Texas City Channel and Galveston Bay, approximately 22 miles south of the Bayport Loop Proposed Action and Alternatives. They propose to construct a 6-berth marine container terminal on approximately 400 acres of a leveed-dredge-material area known as Shoal Point. The Draft EIS for the Shoal Point Container Terminal, prepared by USACE Galveston District, states that at completion in 2025, rail traffic would be expected to equal four trains per day. Although the Draft EIS does not indicate the anticipated route for these trains, they could operate on either or both the GH&H line and the BNSF line from Galveston running further to the west. SEA has conservatively estimated for analytical purposes that the traffic would, on average, split between the GH&H line and the BNSF route. This is conservative because, depending on final destination, UP could use trackage rights on the BNSF route to avoid some or all of Houston. The time-sensitivity of intermodal trains would increase the need to avoid Houston if possible.

**Strang Subdivision.** The Bayport Loop No-Build Alternative would involve the operation of two BNSF trains per day over the UP's Strang Subdivision to access the Bayport Loop Industrial Lead. Thus, the increase in rail traffic over the parts of the Strang Subdivision where UP and the PTRC run together and through Manchester Junction to either Tower 30 or Harrisburg Junction after 2012 from the combination of the Bayport Loop No-Build Alternative and the proposed Bayport Terminal could be ten trains per day. This cumulative rail traffic could arise approximately ten years after operations would commence under the Bayport Loop No-Build Alternative. However, the Strang Subdivision should be capable of accommodating approximately 50 trains per day and is adequately equipped with Centralized Traffic Control signal systems that provide for efficient train operation, as well as speed restrictions, which help ensure operational safety. The jointly operated Spring Dispatching Center provides an additional control over rail operations in the Houston area and ensures that rail traffic operates safely and efficiently. SEA has concluded from its assessment that the Strang Subdivision and Harrisburg and Manchester Junctions have adequate capacity to accommodate the combined potential volume of rail traffic. For these same reasons, SEA has concluded that adequate capacity exists to safely and efficiently absorb the combination of these ten trains possibly intersecting at or near Tower 30 with two trains per day from the proposed Shoal Point Container Facility. Similarly, the two trains per day on the GH&H that the Build Alternatives would generate combined with two trains per day from Shoal Point, would not adversely affect capacity.

**GH&H Line.** The Bayport Loop Build Alternatives would involve the operation of two trains per day over the GH&H line. The proposed Shoal Point Container Terminal project could eventually operate four trains per day over this line. An average of 3.4 trains per day currently operate on the GH&H line. The GH&H should be capable of accommodating at least 15-16 trains per day. The GH&H line is governed by Track Warrant Control and the restricted speed limits, in the segment that would be used by the Bayport Loop Build Alternatives, provide a safe operating environment. SEA is not able to accurately predict future rail traffic volumes especially those over twenty years into the future. However, given the controls and speed limits, SEA has concluded that this potential addition of two trains per day to the GH&H line would not cause an adverse rail operations and safety impact when considered cumulatively with the two trains from the Bayport Loop Build Alternatives.

**Bayport Loop.** The eight trains from the proposed Bayport Terminal would move north and south across the Bayport Loop Build Segment at Port Road which would have two trains per day. The Bayport Terminal trains would also cross the existing UP lines near Port Road which would have 10.5 trains per day. Given the proposed restricted operating speeds on the lines and the low volume of traffic predicted for the Bayport Loop Build Segment, these cumulative operations would have a negative impact on safety and operations.

### **5.1.2 Hazardous Materials Transportation Safety**

Section 4.2 indicated that the overall risk from the Proposed Action and Alternatives would be low (i.e., where risk is a function of both the low likelihood of release and the potential consequences). Two reasonably foreseeable projects would generate rail traffic in the project area. These are the proposed Bayport Terminal and the proposed Shoal Point Container Terminal. As described in Section 5.1.1, these projects could generate rail traffic that would intersect with rail traffic from the Bayport Loop Build Alternatives or No-Build Alternative on the Strang Subdivision, Bayport Loop, and GH&H line, and at Tower 30 Harrisburg Junction. However, these two projects are not expected to involve notable rail transportation of hazardous materials.

Although these two projects might increase the amount of rail traffic volume, Section 4.2 illustrated that rail lines with a higher number of trains per day than the combined traffic that could occur from these cumulative operations have a low likelihood of release. The consequences would not change because intermodal traffic carries a small amount of hazardous material relative to other types of trains. In addition, adequate rail operations and safety controls are in place to handle the proposed volume increase. Therefore, SEA has determined that the overall cumulative risk would be low.

### **5.1.3 Pipeline Safety**

A number of reasonably foreseeable road expansion and development projects could involve crossing the same pipelines that the Bayport Loop Build Alternatives would cross. These include widening Genoa-Red Bluff Road near its intersection with Red Bluff Road, potential changes to SH 146, the City of Pasadena's planned industrial district, the City of Houston's draft plan to extend Space Center Boulevard to meet SH 3 as part of the updating of the Ellington Field master plan, and construction of the proposed PTR A rail line in the SH 146 corridor to access the proposed Bayport Terminal.

While each of these projects has the potential to impact pipelines, they would all occur at different locations and at different times. All of the projects would be subject to compliance with state and Federal regulations and industry safety standards concerning construction over or near pipelines. SEA has determined that the proposed pipeline crossings associated with the Bayport Loop Build Alternatives would pose a negligible accident risk to resources in the area. Thus, because pipeline crossings associated with the various projects are likely to be separated both geographically and in time frame, and performed under controlled conditions, SEA has determined that there would be negligible cumulative impacts.

### 5.1.4 Grade Crossings Delay and Safety

Two reasonably foreseeable projects would generate rail traffic that could impact the same grade crossings on the same roads as the Bayport Loop Proposed Action and Alternatives. These are the proposed Bayport Terminal and the proposed Shoal Point Container Terminal. These projects could affect grade crossings delay and safety on the Strang Subdivision, and GH&H line. In addition, the Bayport Terminal could impact Port Road and Old SH 146.

**Build Alternatives.** As part of the Bayport Terminal project, road and rail facilities would be constructed and/or improved in order to provide adequate access to the proposed marine facilities. Several of these facilities would be adjacent to or near a Build Segment of the Bayport Loop Build Alternatives along Port Road. Port Road and Old SH 146 would experience increased traffic flows as a result of the Bayport Terminal project, and both would have an at-grade crossing with the Bayport Loop Build Alternatives. Vehicle delay would increase with increased vehicle traffic. For example, if vehicle traffic doubles, then the average delay per vehicle would increase by 0.1 second or less. Based on the very short duration of the increased delay, SEA considers the cumulative safety impacts to be insignificant. As part of the Bayport Terminal project, Port Road also would be widened to four and then six lanes, increasing its capacity and avoiding any increase in average delay per vehicle unless vehicle traffic more than triples.

The proposed Bayport Terminal project would involve construction of new connections of Port Road to SH 146 that would provide highway/rail grade-separated access, in addition to the existing entrance and exit ramps, that would significantly reduce delays below current levels at this intersection. The net result would be that even with a quadrupling of road traffic and the construction of the new rail segment, average delay per vehicle along Port Road would likely decrease. Some overlap of construction periods for the two projects along Port Road from SH 146 eastward to the end of the Port Road segment of the Bayport Loop Build Alternatives could occur and could have short-term cumulative impacts on traffic flow during construction.

Construction of the proposed PTRA rail line in the SH 146 corridor would involve crossing Choate Road at-grade and Fairmont Parkway and Spencer Highway with grade-separated crossings. The Bayport Loop Build Alternatives do not impact these roads, and hence, there would be no cumulative impact.

In addition, the Bayport Terminal's proposed Southern Access Road would carry cruise passenger and other traffic but would have no grade crossings with the Bayport Loop Build Alternatives.

The Shoal Point Container Terminal could eventually generate four trains per day on the GH&H line by 2025. The DEIS for the Shoal Point Container Terminal indicates that the average increase in delay per vehicle in a 24-hour period would be 0.5 seconds at highway/rail at-grade crossings on the GH&H line between the Shoal Point Build and No-Build Alternatives. The grade crossing analysis for the Bayport Loop Build Alternatives indicates that there would be negligible impacts to grade crossing delay and safety on the GH&H line.

**No-Build Alternative.** Potential cumulative impacts associated with the Bayport Loop No-Build Alternative would be similar in most respects to those identified for the Build Alternatives. Rail traffic (measured in trains/day) would increase in the vicinity of the intersection of SH 146 and Port Road, but no appreciable adverse safety or delay impacts are anticipated due to the planned widening of Port Road and new connections between Port Road and SH 146. Because the Bayport Loop No-Build Alternative does not involve construction, no cumulative impacts associated with construction would occur. The No-Build Alternative also would not impact Choate Road and the crossing of Spencer Highway would be grade separated. The No-Build Alternative would cross Fairmont Parkway, but no cumulative impact would result from the Bayport Terminal project because the PTRA and UP crossings would be grade separated. Finally, the estimated increase in the average delay per vehicle at highway/rail at-grade crossings along the portion of the GH&H line that would be used by the Bayport Loop No-Build Alternative averages less than 0.5 seconds.

Given that the grade crossings delay and safety analysis for the Bayport Loop Build Alternatives at highway/rail at-grade crossings found that negligible impacts would occur as a result of the project and that the impacts from the two other projects discussed above are also negligible, potential cumulative impacts would be less than significant.

### 5.1.5 Noise and Vibration

The proposed Bayport Terminal and Shoal Point Terminal projects could intersect the noise footprint of the Bayport Loop Proposed Action and Alternatives. The potential for eight trains per day to be generated by the proposed Bayport Terminal could increase noise levels at Tower 30 and Harrisburg Junction, and possibly on the Strang Subdivision, depending on the route taken by these potential trains. However, this would not occur until after 2012. The additional eight trains would cause an increase in the 65  $L_{dn}$  contour at grade crossings and could impact additional noise-sensitive receptors. However, the rail traffic from the Bayport Terminal would not reach eight trains per day immediately in 2012, but would grow over time to reach eight trains per day. Under the No-Build Alternative, the Bayport Loop traffic would add two trains to the Bayport Industrial Lead and the Bayport Terminal would add eight trains adjacent to the Bayport Industrial Lead. This combined increase in traffic of ten trains over a base of 7.4 trains would be more than a doubling of traffic if the baseline traffic stayed the same. In general, a doubling of railroad traffic results in a 3 dBA increase. Therefore, cumulative impacts could be adverse under certain conditions. Such conditions include the effect of building shielding, train speed, and the presence of sensitive receptors. However, SEA cannot reasonably foresee baseline traffic out to 2012. The level of impact from these potential trains would also depend on the levels of background noise in 2012 and the numbers of sensitive receptors, which cannot be accurately predicted. The combined increase of ten trains per day on the Strang Subdivision would be less than a doubling and therefore the cumulative impacts would not be adverse.

The potential increase in rail traffic of two trains per day on the GH&H line that could result from the proposed Shoal Point Container Terminal project, combined with the two trains per day from the Bayport Loop Build Alternatives could have an adverse affect by doubling the number of trains per day if the base remained the same through 2025.

Regarding cumulative vibration impacts, unlike noise, vibration impacts are evaluated on the basis of maximum level. For areas where rail traffic currently exists, vibrations resulting from additional rail traffic would not constitute an impact because maximum vibration levels would be essentially unchanged.

### 5.1.6 Climate and Air Quality

All of the projects listed in Section 5.0 have the potential to generate some air quality impacts. All planned and foreseeable projects with emissions sources must be considered for authorization under the State Implementation Plan (SIP) to ensure that cumulative emissions do not prevent the Houston-Galveston Area from attaining NAAQS. The SIP is designed to include construction activity and operational emissions for attainment of the ozone air quality standard by 2007. Because the Bayport Loop Proposed Action and Alternatives would emit less than the 25 tons per year (during both construction and operation), no conformity analysis is needed. In addition, the Bayport Loop Proposed Action and Alternatives would not significantly affect BNSF and UP voluntary emission reductions commitments (two tons of NO<sub>x</sub> per day, included in the SIP). Therefore, the air quality impacts of the Bayport Loop Proposed Action and Alternatives can be assumed to be *de minimus*, and hence, when combined with other planned or reasonably foreseeable projects, would not have a significant cumulative adverse impact on air quality.

### 5.1.7 Water Resources

Several of the projects listed in Section 5.0 have the potential to affect water resources in the Bayport Loop project area including the proposed Bayport Terminal, the proposed Shoal Point Container Terminal, the proposed Pasadena Light Industrial District, and a possible expansion of Space Center Boulevard. However, only the proposed Bayport Terminal is likely to have effects that are measurable within the same watershed. Therefore, SEA evaluated the cumulative impact of the Bayport Terminal project and the Bayport Loop Proposed Action and Alternatives to groundwater, surface waters, wetlands, and floodplains. All but the eastern terminus of the Bayport Loop Proposed Action is located in a different drainage basin (San Jacinto Brazos Coastal Basin) from the Bayport Terminal project (Bayport Ship Channel/Galveston Bay). Therefore, the cumulative effects on surface water bodies, wetlands, and floodplains are expected to be minimal. SEA has determined that because the San Jacinto Brazos Coastal Basin discharges into the upper Galveston Bay, there is a potential for cumulative impact to water resources and water quality in the Galveston Bay region. The Galveston Bay is designated as a National Estuary. The Upper Galveston Bay is listed on the Draft 2002 Impaired Waterbodies list (TNRCC, 2002) and experiences low dissolved oxygen levels fairly regularly.

Both the Bayport Loop Build Alternatives and the Bayport Terminal project would have to secure regulatory permits or meet regulatory requirements for impacts to jurisdictional wetlands and waters of the U.S. The Bayport Loop Proposed Action would result in the disturbance of approximately 2.84 acres of jurisdictional wetlands and approximately 4.22 acres of non-jurisdictional wetlands. The Bayport Terminal project would result in the filling of about 2.5 acres of jurisdictional wetlands, 104 acres of non-jurisdictional wetlands, and the dredging of 150 acres of bay bottom. The permits for filling of jurisdictional wetlands would require compensation to ensure no net loss of jurisdictional wetlands. The Bayport Terminal project

anticipates creating about 12.38 acres of wetlands and preserving about 163 acres of wetlands to compensate for impacts to wetlands and waters of the U.S. The Bayport Loop Proposed Action would create about 0.32 acres of tidal marsh and preserve about 1.5 acres of jurisdictional wetlands (Gilgai) and 5 to 6 acres of non-jurisdictional coastal prairie wetlands to compensate for wetland impacts. The required storm water, Water Quality Certification from the TCEQ, and Section 404 permit from the USACE would require implementation of BMPs to protect water quality. Both projects would result in the permanent conversion of 100-year floodplains but they would have to meet design requirements that ensure that flooding is not exacerbated. These design, permit, and compensation requirements would ensure that adverse cumulative impacts do not occur to surface waters, wetlands, or floodplains. SEA has determined that the cumulative impact to water resources, including groundwater, surface waters, wetlands, and floodplains, from the Bayport Loop Proposed Action and Alternatives and other planned or reasonably foreseeable projects would not be significantly adverse.

### **5.1.8 Biological Resources**

SEA evaluated the potential cumulative impacts to plant, wildlife and fish communities, including Essential Fish Habitat (EFH), and threatened and endangered species from the Bayport Terminal project and the Bayport Loop Proposed Action and Alternatives. SEA concluded that the Bayport Terminal project was the only other project that would have measurable impacts within the same ecoregion. The two projects would affect about 174 acres of EFH in the Galveston Bay/Gulf of Mexico (Bayport Loop Proposed Action – less than one acre and Bayport Terminal Project - 173 acres). However, the acreage of EFH affected is a relatively small fraction of the EFH within the area managed by the Gulf of Mexico Fishery Management Plan. The Bayport Terminal project includes EFH mitigation required by the NMFS to ensure that less than adverse impacts result from the project. The Applicants for the Bayport Loop project have proposed a conceptual mitigation plan that would compensate for EFH impacts by creating about 0.32 acres of tidal marsh and restoring stream bank/bottom along Taylor Bayou. Neither project would adversely affect a state or Federally protected species or critical habitat for the species. SEA has concluded that there would be no cumulative impact to the Texas prairie dawn or the coastal prairie community. SEA has determined that the cumulative impact to biological resources from the Bayport Loop Proposed Action and Alternatives and other planned or reasonably foreseeable projects would not be adverse.

### **5.1.9 Topography, Geology, and Soils**

SEA has determined that there would be no impacts to topography, geology, and soils from the Bayport Loop Proposed Action and Alternatives. Therefore, there would be no cumulative impacts stemming from implementation of this project.

### **5.1.10 Land Use**

Several reasonably foreseeable projects in the area may convert land from one use to another. These projects include the Ellington Field Master Plan, the development of the City of Pasadena's Light Industrial District, the proposed Bayport Terminal, the potential Deer Park School District school construction, the City of Houston's Water Treatment Plant expansion, and

the American Acryl manufacturing plant development. The Bayport Loop Build Alternatives would convert to rail use approximately 150 acres of land that is currently maintained under a mixture of land use categories. These categories include commercial/industrial, mixed forest, and grassland.

The Ellington Field Master Plan is currently being developed and is likely to include plans for the 240-acre parcel of land owned by the City of Houston, which is located at the south-east corner of the airport property. This land is currently grassland and could be converted to a combination of industrial, light industrial, or office use.

The City of Pasadena has plans to develop land south of the Pasadena Convention Center for an industrial district. This would convert grassland and mixed forest land to industrial use.

The proposed Bayport Terminal would be located on the south side of the Bayport Ship Channel to the north of Seabrook. The PHA proposes to construct the port facilities on approximately 1,091 acres of what is mostly open space land that is now mixed forest, grasslands, and wetlands.

The Deer Park School District also owns a parcel of land on Genoa-Red Bluff Road between Space Center Boulevard and the gas plants that it may eventually use for construction of a new school.

The City of Houston is planning to increase the size of its Water Treatment Plant on Genoa-Red Bluff Road to meet future projected demands that stem from population growth. This expansion could eventually consume all the Water Treatment Plant's land, which is currently grassland, up to the boundary of Ellington Field.

American Acryl acquired approximately 200 acres of property in the Pasadena Industrial District at Bayport (Port Road and Old Highway 146) for a proposed acrylic acid manufacturing facility. Site development is underway and production is scheduled to begin by the end of 2002.

SEA evaluated the contribution of the Bayport Loop Build Alternatives to cumulative land use impacts in the south-east Harris County area. Given the small acreage of land required for the Bayport Loop Build Alternatives and the continued development of industrial, commercial, residential, and institutional facilities in the project area, SEA concluded that construction of the Bayport Loop Build Alternatives would not contribute to a significant cumulative land use impact.

#### **5.1.11 Socioeconomics**

Two projects in the area may create overlapping socioeconomic impacts with the proposed Bayport Loop Build-Out. These are the proposed Bayport Terminal and the proposed Shoal Point Container Terminal. The Bayport Terminal is expected to create approximately 39,300 new jobs by 2030 and may attract 50,000 new residents to Harris County. The Shoal Point Container Terminal may create approximately 1,248 jobs at completion in 2025. In contrast, the Bayport Loop Build Alternatives may create 250 temporary jobs during construction only. Operation of the Bayport Loop Build-Out is unlikely to lead to noticeable job creation.

SEA has determined that the socioeconomic effects of the Bayport Loop Proposed Action would be negligible and hence it would not contribute to cumulative socioeconomic impacts in the project area.

#### **5.1.12 Energy**

SEA has determined that there would be almost no impacts to energy from the Bayport Loop Proposed Action and Alternatives. Therefore, there would be no cumulative impacts stemming from implementation of this project.

#### **5.1.13 Hazardous Materials/Waste Sites**

SEA has determined that there would be no impacts to hazardous materials/waste sites from the Bayport Loop Proposed Action and Alternatives. Therefore, there would be no cumulative impacts stemming from implementation of this project.

#### **5.1.14 Cultural Resources**

SEA has determined that there would be no impacts to cultural resources from the Bayport Loop Proposed Action and Alternatives. Therefore, there would be no cumulative impacts stemming from implementation of this project.

#### **5.1.15 Navigation**

SEA has determined that there would be almost no impacts to navigation from the Bayport Loop Proposed Action and Alternatives. Therefore, there would be no cumulative impacts stemming from implementation of this project.

#### **5.1.16 Environmental Justice**

Two reasonably foreseeable projects could generate environmental justice effects in the project area. These are the proposed Bayport Terminal and the proposed Shoal Point Container Terminal. Although the Draft EIS for the Bayport Terminal indicates that there would be negligible environmental justice impacts, and the Draft EIS for the Shoal Point Container Terminal indicates a similar level of impact, these projects could generate rail traffic that would operate on the Strang Subdivision and GH&H line. As discussed in Section 5.1.5, there is a potential for adverse noise affects from these two projects on the GH&H and Bayport Industrial Lead near environmental justice communities along these lines.

However, it is not possible to accurately predict noise impacts at grade crossings on these lines ten years into the future when the rail traffic from the proposed Bayport Terminal would begin, or over twenty years into the future when completion of the Shoal Point Container Terminal is expected. Thus, predictions about cumulative impacts on minority or low-income populations in the vicinity of the Bayport Loop Build Alternatives would be speculative. The cumulative effect on noise from rail activity from the Bayport Loop Proposed Action and Alternatives and the two proposed port projects could extend the 65  $L_{dn}$  contour to capture additional sensitive receptors

around grade crossings. Some of these receptors may be characterized as environmental justice communities. The contribution of the Bayport Loop Proposed Action and Alternatives to these future noise impacts would be minor, given that the project would generate two trains per day. SEA has concluded that cumulative impacts to environmental justice communities would be less than significant.