ENVIRONMENTAL ASSESSMENT

State Project No. 15-371

Seaview Avenue Corridor Project, Bridgeport, Connecticut

Prepared for:

State of Connecticut Department of Transportation
Newington, Connecticut

Federal Highway Administration Connecticut Division
Glastonbury, Connecticut

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Approved for Circulation:

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Federal Aid Project No.: H072(001)
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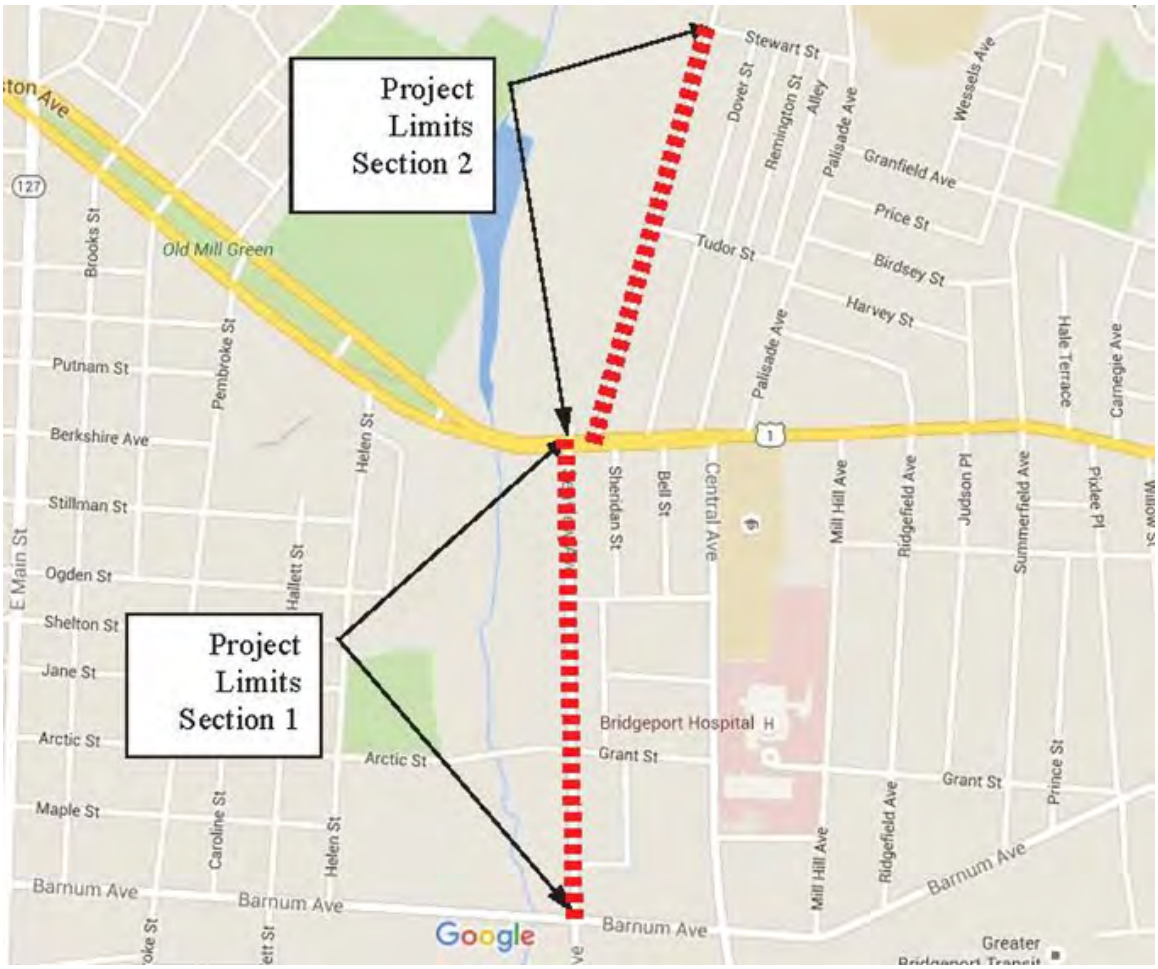
Project Description:

This proposed project consists of a roadway corridor made up of two distinct sections (see below and Appendix A), which would involve improvements (rehabilitation and widening) to existing roadways (Seaview Avenue) as well as construction of new sections of roadway in the vicinity of Bond Street in the City of Bridgeport. The proposed project sections are as described below.

- Section 1 includes Seaview Avenue from Barnum Avenue to Boston Avenue (US Route 1). Improvements on this part of the corridor will include minor road widening, pavement rehabilitation, replacement of traffic signal equipment (including pedestrian) at the Barnum Avenue and Seaview Avenue intersection, new sidewalks, curbs and pedestrian scale lighting on the east side of the roadway and a new 10 foot (ft) multi-use trail along the west side of the roadway separated from the road by a 5-ft buffer strip that will include streetscape enhancements (pedestrian scale lighting and plantings). The cross section of the roadway will be maintained as is (one [1]) travel lane in each direction, with on-street parking on the east side of the road. New left turn lanes will be introduced at the Barnum/Seaview and Boston Avenue/Bond Street intersections. The intersection at US Route 1 (Boston Avenue) will be realigned to accommodate a four-way intersection with Seaview Avenue and a relocated Bond Street. Operational improvements in this section include incorporating new left turn lanes on Boston Avenue, Bond Street and Seaview Avenue and traffic signal replacement to accommodate the new intersection alignment.
- Section 2 includes the portion of the corridor along Bond Street from US Route 1 (Boston Avenue) to Stewart Street. Improvements to this section of the proposed project will include the construction of a new roadway and relocation of Bond Street slightly to the west of its current alignment. Configuration of this road will be 1 lane in each direction and will include left turning lanes along the corridor to facilitate access to current and future potential development. Work will include the incorporation of streetscape improvements (planted medians, street trees etc.). The existing Bond Street footprint will be rehabilitated and modified to become a frontage road with additional on-street parking.



Location Map – Proposed Seaview Avenue/Bond Street Corridor Improvement Project

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PART I: PUBLIC INVOLVEMENT AND AGENCY COORDINATION

A. Public Involvement

Was there a notice of an opportunity of a public hearing when the EA was published?

Yes [X] No [ ]

What public involvement activities (legal notices, letters to affected property owners/residents, meetings, newspaper articles, etc.) have occurred for this project? *(Include any pertinent information as an appendix.).*

On April 7, 2015, the Connecticut Department of Transportation (CTDOT), Bureau of Policy and Planning, published a notification of the proposed Seaview Avenue project in the Connecticut Environmental Monitor. This scoping notice was published to comply with requirements of the Connecticut Environmental Policy Act (CEPA). The notice was entitled ***Notice of Scoping for the Seaview Avenue Corridor Improvements***. It described the proposed project and solicited written comments from the public and indicated that a Public Scoping Meeting could be requested of the sponsoring agency (CTDOT) if 25 or more people or an association representing 25 or more members were to request the scoping meeting (see copy of Notice of Scoping in Appendix B). However, no scoping meeting was requested following publication of the Notice in the Environmental Monitor.

The City of Bridgeport initiated public outreach in December 2016 and held informational meetings including those listed below.

- Neighborhood Revitalization Zone – Mill Hill Information Meeting held on December 19, 2016
- Corridor Residences Public Information Meeting held January 19, 2017

In addition, a Public Hearing has been scheduled for February 8, 2018 (with a snow date of February 22, 2018). The Environmental Assessment (EA) will be made available to the public at least 15 days prior to the Public Hearing. The public will be given 15 days following the Public Hearing to provide comments.
As a separate process, the requirements of CEPA will be satisfied through completion of an environmental checklist, which will be published in the Environmental Monitor.

Will this project involve substantial controversy concerning community and/or natural resource impacts? (*Add remarks below if answer is Yes.)*

Yes [X] No [ ]

Remarks: Public comments on the proposed project have been received. Over 20 local residents and groups responded to the April 7, 2015 Notice of Scoping (see Appendix B). Many of the respondents expressed opposition to the proposed project, and a summary of the issues of concern identified is provided below.

- Many commenters expressed concern regarding indirect impacts on existing undeveloped land, specifically the land owned by Sporting Goods Properties, Inc., which has been identified as the planned location for development of the Lake Success Eco Business Park. Generally, the concerns regarding development of this area were related to loss of wildlife habitat, negative impacts on air quality, flooding, stormwater management, and erosion. The Connecticut Department of Energy and Environmental Protection (CTDEEP) also identified a concern regarding impacts to adjacent residential areas related to the displacement of rodents.
- The State of Connecticut Department of Public Health, Drinking Water Section noted that the proposed project is within the water supply service area for Aquarion Water Company (AWC, PWSID #CT0150011), and requested that CTDOT consult with AWC on any proposed relocation or replacement of water distribution mains within the proposed project area.
- Many commenters expressed concerns about community impacts, including: increased traffic and resultant negative impacts on air quality; impacts on access to the new Warren Harding High School (currently under construction); and general construction period impacts, including potential limiting of access to Bridgeport Hospital.
- Several comments were received that suggested that funding should be spent on revitalizing existing developed areas, rather than investing in the Lake Success Eco Business Park (located on a parcel owned by Sporting Goods Properties, Inc.).

It should be noted that at the time of publication of the Notice of Scoping on April 7, 2015, the project included a proposed roadway extension north from the Stewart Street/Bond Street intersection to the property identified as the potential Lake Success Eco Business Park (i.e., the parcel of land owned by Sporting Goods Properties, Inc.). The current project has been scaled back and terminates at the Stewart Street/Bond Street intersection. Therefore, the northern extension is no longer proposed. In addition, this project has never included development of the Lake Success Eco Business Park itself.

Other comments received requested that a more robust public outreach program be undertaken to afford the public and stakeholders better opportunities to provide input. To address this concern, the City of Bridgeport initiated outreach efforts involving stakeholder meetings as described in other sections of this EA. In addition, a Public Hearing will be held as part of the National Environmental Policy Act (NEPA) process. The Public Hearing is scheduled for January 24, 2018 (with a snow date of January 31, 2018). The EA will be made available to the public at least 15 days prior to the Public Hearing.

B. Agency Coordination

The proposed Seaview Avenue project, in one form or another, has been planned for over a decade, and has involved coordination with numerous federal and state agencies, as well as the local communities. More recently, and specifically for this proposed project (as described in Part II.B of this form), consultations with the following agencies has been undertaken:

- Federal Highway Administration (FHWA);
- City of Bridgeport;
- Connecticut Department of Energy and Environmental Protection (CTDEEP);
- Delaware Nation Cultural Preservation Department;
- Delaware Lenape Tribe;
- Mohegan Tribal Historic Preservation Officer & Archaeology Department Manager;
- Mashantucket Pequot Tribal Nation;

- Connecticut Department of Economic and Community Development, State Historic Preservation Office; and
- MetroCOG

Additional agency coordination is anticipated as design moves forward, and potential impacts are identified.

PART II: PROJECT PURPOSE AND NEED AND ALTERNATIVES

Name of the Project: Seaview Avenue Corridor Improvements Project

Project Location: City of Bridgeport Connecticut. The proposed project consists of two sections: 1) Section 1, which includes the Seaview Avenue corridor beginning at Barnum Avenue and extending approximately 2,500 feet north to Boston Avenue (US Route1); and 2) Section 2, which would include a new alignment just west of, and parallel to Bond Street from Boston Avenue approximately 2,250 feet north to Stewart Street. The proposed alignment for the proposed project is shown on the figures in Appendix A.

Logical Termini/Limits of Work: The proposed project follows the Seaview Avenue and Bond Street corridors, with the southern limits of work just to the south of the intersection of Seaview Avenue and Barnum Avenue, and the northern limits at the intersection of Bond Street and Stewart Street. This proposed project does not include the privately-owned, and planned development of the Lake Success Eco Business Park (LSEBP).

A. Purpose and Need

Seaview Avenue serves an important local transportation function and is one of the few roadways in Bridgeport connecting I-95 with US Route 1 (Boston Avenue). The existing two-lane roadway is in poor condition and does not safely, efficiently, and adequately accommodate the type and volume of traffic currently using this route. Any development or expansion of businesses in the Seaview Avenue area, are expected to further exacerbate the existing traffic and safety problems (see Traffic Signal Study, Appendix E). Therefore, the purpose and need of the proposed project is focused on roadway function, capacity, and safety, and includes the following elements (not necessarily in order of priority):

- Improve traffic circulation patterns;
- Improve operation of the Boston Avenue intersection for vehicular traffic, bicyclists, and pedestrians;
- Provide aesthetic and pedestrian safety improvements along the entire corridor; and
- Provide access to underutilized properties while preserving neighborhood integrity.

B. Project Description

Existing Conditions:

The Seaview Avenue corridor is located in a section of Bridgeport that has historically been a primary industrial hub. Currently, Seaview Avenue in the proposed project area is bordered by a mixture of light industrial and residential development. The corridor is characterized by several large industrial complexes, including both extant and abandoned businesses, deteriorated or demolished buildings, unused parking lots, and underutilized space. Current municipal zoning adjacent to the corridor includes light industrial, multi-family residential, and office/retail. The light industrial zone extends on the western side of Seaview Avenue from Barnum Avenue (the southern terminus of the proposed project) northward to the northern project terminus. Areas on the immediate east side of the Seaview Avenue and Bond Street corridor are zoned primarily residential, and include densely-situated housing units. Several blocks east of the corridor is a substantially higher percentage of residential properties, with an interspersion of commercial, institutional, and industrial uses as well. The Yellow Mill Channel, including Stillman Pond, lies to the west of the corridor beyond a narrow strip of deteriorated industrial properties that includes the former General Electric (GE) facility bordering on the west side of Bond Street.

In the proposed project area, both Seaview Avenue and Bond Street are currently two-lane streets (one lane in either direction) with sidewalks and limited space (width) for on-street parking. Seaview Avenue is the most direct route between I-95 and Boston Avenue (US Route 1), but it is narrow and congested, and presents traffic problems because it is used by both local traffic and through commuter and commercial traffic. There are no turning lanes at intersections and existing facilities are in very poor condition (bituminous pavements, concrete curb and bituminous and concrete sidewalks). In addition, the low railroad underpass just south of Barnum Avenue prevents passage by larger vehicles. The Barnum Avenue and Boston Avenue (US Route 1) intersections along Seaview Avenue have 4-way traffic signals; the Grant Street intersection contains 4-way stop signs, and other side streets intersecting Seaview Avenue (e.g., Huron Street, Ogden Street Ext) contain stop signs. Existing aerial utilities, including power, communication, and cable, are located primarily along the western side of the road. Underground utilities include telephone, gas, water and a combined storm and sanitary sewer system as well as a separate storm system in portions of the roadway.

Bond Street is also a narrow 2-way street with on-street parking only along the eastern side of the roadway. There are no turning lanes at intersections, and the existing facilities are in poor condition (bituminous pavement, concrete curbing and sidewalks). Existing aerial utilities include power, communications and cable and are located primarily on the eastern side of the road. Underground utilities include telephone, gas, water and a combined storm and sanitary sewer system as well as a separate stormwater system in a portion of the roadway.

Summary of Proposed Project:

The proposed project includes reconstruction, streetscape enhancements, and a new transportation corridor centered on portions of the Seaview Avenue and Bond Street corridors. The proposed project includes two distinct sections: 1) Section 1, which begins at Barnum Avenue extending north to Boston Avenue (US Route 1); and 2) Section 2, from the Seaview Avenue-Boston Avenue intersection north to the Bond Street-Stewart Street intersection. The proposed project will provide improved access to the new Harding High School, and adjacent industrially-zoned lands. The LSEBP development is not part of this project.

Improvements on Seaview Avenue from Barnum Avenue to Boston Avenue (US Route 1) are expected to include minor roadway widening, pavement rehabilitation, replacement and upgrade of traffic signal equipment, new sidewalks, streetscape enhancements (including new median). The intersection with US Route 1 will be realigned to create a “normalized” four-way intersection with Seaview Avenue and Bond Street, thus eliminating the current offset alignment of the north-south legs. North of Boston Avenue, the proposed arterial roadway will be adjacent to (west of) the existing Bond Street alignment all the way to the intersection with Stewart Street. The total length of the proposed project corridor is approximately 4,750 feet.

Finally, in areas where there are existing combined sewer facilities (approximately Huron Avenue to Boston Avenue), it is the intent of the project to eliminate the combined system and construct a new storm drainage system.

Preferred Alternative Description:

- **Section 1 - Seaview Avenue from Barnum Avenue to Boston Avenue (US Route 1):** Improvements will include pavement rehabilitation, replacement and/or upgrade of traffic signal equipment, new sidewalks and curbs, streetscape enhancements, and potential relocation of above ground utilities. The intersection at Boston Avenue (US Route 1) would be realigned to accommodate a four-way intersection with Seaview Avenue and relocated Bond Street. Operational improvements in this section include incorporating left turn lanes at Seaview Avenue/Barnum Avenue and Seaview Avenue/Boston Avenue intersections along with new traffic signal equipment at these intersections.
- **Section 2 - Bond Street from US Route 1 to Stewart Street:** Improvements in this section would include the construction of a new three-lane roadway and relocation of Bond Street slightly to the west. Configuration of this road will be one lane in each direction and will include left turning lanes along the corridor to facilitate access to current and future potential development along Bond Street between Boston Avenue and Stewart Street. No additional left turn lanes are proposed at the intersection of Stewart Street and Bond Street and the intersection will remain as an all way stop sign controlled intersection. Work will include the incorporation of streetscape improvements (planted medians, street trees etc.) The existing Bond Street footprint will be rehabilitated and modified to become a frontage road with additional on-street parking.

Is an access modification required? Yes [ ] No [X]

If yes, when did the FHWA grant a conditional approval of the access modification?

C. Other Alternatives Considered

As part of a separate and earlier project (Project 15-288), the Seaview Avenue corridor was evaluated as part of a larger effort for developing transportation improvements between I-95 and Boston Avenue (see Final Federal Environmental Assessment, Final Connecticut Environmental Impact Evaluation and Section 4(f) Evaluation, Seaview Avenue Corridor, Bridgeport, CT dated March 2006). In that assessment, a number of alternatives were reviewed including those listed below.

Alternative 1 – Two-lane upgrade to conform to current roadway standards.
Alternative 2 – Four-lane widening, maintaining existing Seaview Avenue centerline.
Alternative 3 – Four-lane widening, shifting the Seaview Avenue centerline west.
Alternative 4 – Three-lane widening, shifting the Seaview Avenue centerline west.
Alternative 5 – Combined Seaview Avenue upgrade and construction of two-lane arterial.
Alternative 6 – New limited-access arterial west of Seaview Avenue.
Alternatives 6a–6d – Alignment variations focused on the approach to the US Route 1 intersection with Seaview Avenue.

The study eventually resulted in the selection of Alternative 6 as the proposed action given the anticipated detrimental neighborhood impacts of the previous more extensive widening and alignment proposals. However, since the time of the study, based on available funding sources and recognition of the greater impacts of the chosen alternative, it was determined that the proposed design would be targeted to improving existing infrastructure to safely handle existing and expected traffic volumes (see Traffic Signal Study in Appendix E) while adhering to available levels of funding. As a consequence, none of the previously studied alternatives are being considered for the current proposed project. This current project

is proposed to include limited widening and improvements between Barnum Avenue and Boston Avenue where there are right-of-way (ROW) restrictions and/or adjacent resources, and where there are potentially less restrictive areas north of Boston Avenue, more extensive widening along Bond Street to the west. This will have a much smaller project footprint, and fewer impacts than the previously studied alternatives.

The No-build Alternative is not feasible, prudent, or practicable because (*Mark all that apply*):

☒ It would not correct existing capacity deficiencies;
☒ It would not correct existing safety hazards;
☒ It would not correct the existing roadway geometric deficiencies;
☒ It would not correct existing deteriorated conditions and maintenance problems; or
☐ It would result in serious impacts to the motoring public and general welfare of the economy.
☐ Other (describe): _____.

D. Maintenance of Traffic During Construction

Maintenance of Traffic During Construction:		
	Yes	**No**
Is a temporary bridge proposed?		X
Is a temporary roadway proposed?		X
Will the project involve the use of a detour or require ramp closure? (describe in remarks)	X	
Provisions will be made for access by local traffic and so posted.	X	
Provisions will be made for through-traffic dependent businesses.	X	
Provisions will be made to accommodate any local special events.	X	
Will the proposed maintenance of traffic plan change the environmental consequences of the action?		X
Is there substantial controversy associated with the proposed method for the maintenance of traffic plan?		X

Remarks:
There may be a need for signed temporary local detours during critical construction activities (Barnum Avenue to Boston Avenue), but it is anticipated that measures such as providing for alternating one-way traffic can mitigate impacts for the majority of work. Construction activities north of US Route 1 (Boston Avenue) can be mainly built off line so no detours or significant impacts to traffic are expected. Note that ramp closures or modifications are not required as part of this proposed project.

E. Estimated Project Cost and Schedule

Estimated Project Cost and Schedule:	
Total Project Costs:	Based on 2019 projected pricing, the total cost for Sections 1 and 2 of the proposed project (i.e., the roadway corridor from Barnum Avenue to Stewart Street including the frontage road and parking on Bond Street) is estimated at $13,700,000
Anticipated Start Date of Construction:	Project construction is anticipated to begin in the Spring of 2019
Date Project Incorporated into STIP:	February 25, 2015
Date Project Incorporated into TIP:	February 25, 2015

Remarks:
Four Congressional earmarks are providing funding for this proposed project, including the following:

- CT072: Construct New Arterial Road from Barnum Ave north to proposed Lake Success Business Park;
- CT114: Restructure and Widen Seaview Avenue in Bridgeport to Accommodate Future Development;
- CT145: Construct New Arterial Roadway from Boston Avenue North to Proposed Lake Success Business Park; and
- CT010: Construct Seaview Avenue Corridor Project.

Although several of the earmarks make reference to the Lake Success Business Park, this project does not include development of the Lake Success Business Park.

F. Right-of-Way

Land Use Impacts	*Number of Relocations*	*Total Takings*	*Partial Takings*	*Easements (Slope or Drainage)*
Residential:	0	0	1	To Be Determined
Commercial:	0	0	10	To Be Determined
Other:				
Other:				
TOTAL:	0	0	11	To Be Determined

	Yes	No
Is a conceptual relocation study required?		X
Has utility relocation coordinated been initiated?		X

Remarks:
The right-of-way (ROW) impacts along Seaview Avenue should generally be marginal, and would likely entail only minor sliver takings. A total of 10 commercial and one residential property will likely be

impacted. These impacts are necessary to accommodate the additional roadway widths proposed (increasing from 45 feet for the existing roadway to 53 feet for the proposed roadway between Barnum Avenue and Boston Avenue). All sliver takings are expected to occur along the western side of Seaview Avenue and most would impact commercial properties (between Barnum Avenue and Boston Avenue).

More significant takings are likely along one property on the west side of Bond Street. This property, owned by General Electric, is between US Route 1 (Boston Avenue) and Stewart Street. No takings or ROW acquisitions are expected along the east side of Seaview Avenue or Bond Street. The takings indicated here are approximate and will be further evaluated as design progresses. In addition, minor easements to accommodate proposed slopes and drainage system improvements may be required. The need for these easements will be determined at a later date as design progresses.

PART III: IDENTIFICATION AND EVALUATION OF IMPACTS OF THE PREFERRED ALTERNATIVE

A. Surface Water Resources

Surface Water Resources		
	Present? (Yes/No)	**Impacts? (Yes/No)**
Federal Wild and Scenic Rivers	No	No
Waters listed on Federal Nationwide River Inventory	No	No
Navigable Waterways	No	No
Reservoirs	No	No
Lakes	No	No
Detention Basins or Storm Water Management Facilities	No	No
Other: Yellow Mill Channel – adjacent to the project area	Yes	Yes

If any Yes answers above, please discuss here.

The proposed project site is located in an urbanized area, and is not in proximity to designated Wild and Scenic Rivers, or surface waters on the Nationwide River Inventory list. The project is also not anticipated to directly impact reservoirs, lakes, or detention basins or stormwater management facilities. Only minor modifications to the existing roadway drainage systems are anticipated, which may potentially result in minor direct impacts to Yellow Mill Channel.

Connecticut's 2014 Integrated Water Quality Report indicates that the water quality in Stillman Pond and Success Lake, both outside the proposed project corridor and part of Yellow Mill Channel and its watershed, are impaired for the designated uses identified in the table below. The identified causes include lead, cadmium, and mercury, and the potential sources are listed as industrial point source discharges, illicit discharges, remediation sites, and groundwater contamination. The proposed roadway improvements associated with the Seaview Avenue Project that could potentially contribute to degradation of water quality are most likely temporary in nature (most likely to occur during construction), and minor in scope. These impacts will be avoided or minimized by following Best Management Practices (BMPs) during construction to control erosion and sedimentation, and through proper handling of any contaminated soil or groundwater that may be encountered. Typically, long-term impacts on water quality associated with the roadways are often associated with stormwater runoff from new paved or impervious surfaces. In the case of the Seaview Avenue Project, it is noteworthy that a large portion of the watershed surrounding the roadway corridor is already covered by impervious surfaces. Therefore, the proposed project is not likely to adversely affect water quality. Additionally, given the anticipated inclusion of permanent stormwater management and green infrastructure features in the project design, it would be expected that stormwater quality would improve over existing conditions.

Waterbody Segment ID	Waterbody Name	Waterbody Type	Waterbody Size	Units	Impaired Designated Use	Cause	Comments
CT7103-00-2-L3_01	Success Lake (Bridgeport)	Freshwater Lake	15.79	Acres	Habitat for Fish, Other Aquatic Life, and Wildlife	Lead, Mercury	Potential sources include industrial point source discharges, illicit discharges, remediation sites, groundwater contamination
CT7103-00-2-L4_01	Stillman Pond (Bridgeport)	Freshwater Lake	4.97	Acres	Fish Consumption	Cadmium, Lead, Mercury	Potential sources include industrial point source discharges, illicit discharges, remediation sites, groundwater contamination

Source: 2014 State of Connecticut Integrated Water Quality Report, July 2014.
Note: Success Lake in Bridgeport, CT receives urban stormwater runoff from two streams that provide flow from north of the site.

B. Wetlands and Other Waters of the U.S.

Wetlands and Other Waters of the U.S.	Present? (Yes/No)	Impacts? (Yes/No)
Wetlands	Yes	Yes
Other Waters of the U.S.	Yes	Yes
Total Area in Project Limits: N/A		
Total Area Impacted: Less than 1 acre due to potential impacts associated with installation of drainage structures in wetlands and/or other waters of the US.		

Remarks:
The Seaview Avenue corridor and surrounding areas are highly urbanized, and in large part do not include wetlands. Available National Wetland Inventory (NWI) mapping does not identify any wetland areas within the potential footprint of the project corridor. NWI does identify several mapped wetland areas associated with Stillman Pond (an impoundment that is part of Yellow Mill Channel) and Yellow Mill Channel located to the west and north of Seaview Avenue and Bond Street, and generally outside of the proposed project corridor. Geographic Information System (GIS) data from the City of Bridgeport also

indicates that there are potential areas of hydric soils associated with Yellow Mill Channel north of Stewart Street, and outside of the potential footprint of the roadway itself. However, installation of new or improved drainage system structures within wetlands may be required. This may result in minor impacts on jurisdictional wetlands requiring approval from both the Corps of Engineers and from CTDEEP. A determination of the need and appropriate permit review process will be determined once detailed drainage design information is available.

A portion of the proposed project corridor located south of Grant Street is located within the Coastal Boundary, as defined by Section 22a-94 of the Connecticut General Statutes (CGS). Although the corridor does not involve direct impacts in waterfront areas or on coastal resources, an assessment of potential impacts on coastal resources will be conducted as design proceeds through coordination with the proper regulatory agencies. Any required permits will be secured as the project progresses.

C. Drinking Water Sources

Drinking Water Sources	Present? (Yes/No)	Impacts? (Yes/No)
Surface Supply Watershed	No	No
Potential Water Company Lands	No	No
Wells (Community, Non-community, Aquifer Protection)	No	No
Sole Source Aquifer Protection Area	No	No
Aquifer Protection Area	No	No

Remarks:
Drinking water for the City of Bridgeport, including the Seaview Avenue corridor and surrounding area is provided by a series of reservoirs and wells owned by Aquarion Water Company (AWC) of Connecticut. The closest drinking water reservoir is Trap Falls Reservoir in Shelton, CT, located more than 3 miles from the northern limits of the project corridor. There also are no CTDEEP identified Aquifer Protection Areas, Sole Source Aquifer Protection Areas, or community wells near the project corridor. Through the scoping process, the State of Connecticut Department of Public Health, Drinking Water Section commented that the proposed project site is not within a public drinking water supply source water area. However, they did note that the proposed project site falls within the public water supply service area for the AWC (PWSID #CT0150011) Main System and requested that the project proponent consult with AWC regarding any proposed water distribution main relocations or replacements. Therefore, given the lack of direct impacts on a source water supply, and that coordination with AWC regarding water main relocations or replacements will occur as design progresses, impacts to drinking water are not anticipated as a result of implementing the Seaview Avenue Project.

D. Floodplains

Floodplains	Present? (Yes/No)	Impacts? (Yes/No)
100-year Floodplain	Yes	Yes
Floodway	Yes	No
	Yes	**No**
Will the project have a "significant encroachment" on a floodplain (100-year flood) or floodway?		X
Will a flood management certification be required?	X	

Remarks:
Yellow Mill Channel includes an associated floodway and floodplain area for much of its length from its mouth at Bridgeport Harbor, to Success Lake, well north of the Seaview Avenue project corridor. However, this floodway and floodplain area is located west of Seaview Avenue and Bond Street, largely outside of the potential proposed project footprint. No impacts on the floodway for Yellow Mill Channel are anticipated from this proposed project. However, installation of new or improved drainage structures within the 100-year floodplain may be required as part of this project. Any impacts would be anticipated to be minor. A final determination of potential floodplain impacts and any required permitting will be made following completion of a detailed drainage design.

E. Terrestrial Habitat

Terrestrial Habitat	Yes	No
Unique or high-quality habitat Present?		X
Does project need DEEP Fisheries Coordination?		X

Remarks:
The proposed project corridor is generally very highly urbanized and developed, and for the most part is comprised of vacant and occupied industrial land, and a mix of residential and commercial properties. There is very little intact terrestrial habitat, with the exception of a narrow, vegetated stream corridor along Yellow Mill Channel, and the larger LSEBP to west and north of the proposed project area. The habitat in proximity to Yellow Mill Channel is not unique and does not constitute or include high quality habitats. In many areas of the Yellow Mill Channel corridor, invasive species are dominant, and the area has been impacted by anthropogenic activities (i.e., the habitat is disturbed from previous activities, and refuse and other debris is abundant). Based on the current design, no direct impacts on wetlands are anticipated for the roadway corridor itself. Any impacts to these resources would be limited to those associated with installation of drainage system and short-term construction period impacts resulting from erosion and sedimentation. These short-term impacts will be minimized by following Best Management Practices, and through installation of appropriate erosion and sedimentation controls. Additionally, potential impacts resulting from water quality are likely to be minimal given that the design of the proposed project will incorporate appropriate stormwater treatment for roadway surfaces.

F. Threatened and Endangered Species

Threatened and Endangered Species	Present? (Yes/No)	Impacts? (Yes/No)
Within the known range of any federally protected species	Yes	No
Critical habitat within project area	No	No
Federal species found in project area	No	No
State species found in project area	No	No
Within 1 mile of known hibernacula for Northern long-eared bat	No	No
	Yes	**No**
Will trees be cut as part of this project?	X	

Remarks:
The Seaview Avenue corridor is generally situated in an urbanized setting. Although some vegetation and tree cutting will be necessary to construct the project, the only clearing or tree cutting will be limited to individual or small clusters of trees. Substantial tree clearing is not required for this project.

A review of CTDEEPs Natural Diversity Database map for Bridgeport (map dated December 2016) indicates that the proposed project corridor is located outside of any mapped areas of state or federally-listed threatened or endangered species. However, a query conducted on the US Fish and Wildlife Service Information for Planning and Conservation (IPaC) website, indicates that red knot (*Calidris canutus rufa*), may be potentially affected by activities in the proposed project area. Red knot is listed as a threatened species under the federal Endangered Species Act, and its winter range includes the Connecticut coastline. Its preferred habitat includes tidal flats and shoreline areas, and when migrating can be found on coastal mudflats and tidal zones, and at times on open sandy beaches. As currently proposed, the Seaview Avenue Project does not involve proposed work in proximity to any of these habitats. Given this, impacts on red knot, or any other threatened or endangered species, are not anticipated to occur as a result of implementing the proposed Seaview Avenue Project.

G. Section 106 of the National Historic Preservation Act

Section 106 Consultation and Tribal Consultation	Yes	No
Are any NR-eligible or NR-listed resources present?	X	
Are any National Historic Landmarks present?		X
Has OEP reviewed the project and determined/recommended a finding?	X	
Has SHPO Consultation (if applicable) been completed?	X	
Has Tribal Consultation been completed?	X	
Is the project within the Quinebaug-Shetucket Heritage Corridor or the Upper Housatonic Valley Heritage Area?		X
If the recommended finding was an adverse effect, has an MOA been completed? Enter date of signed MOA:_____		

Remarks:
Information provided by CTDOT indicates that there are historic resources located immediately adjacent to the proposed project corridor (Determination of Effect Memorandum from Scott Speal, dated 3/9/15). This includes the Remington City Historic District (National Register ID#90001426), located along the east side of Bond Street, between Tudor and Stewart Streets (along Section 2). However, all work proposed on Section 2 will occur to the west of Bond Street, and therefore no direct impacts are anticipated on this historic district or the individual buildings that comprise it.

Other resources near the proposed project corridor identified by CTDOT as eligible for National Register of Historic Places (NRHP) listing include the New York, New Haven & Hartford RR Embankment and Stone Arch Culvert near the Yellow Mill Channel, neither of which will be affected by the project. There are also some 7 other NRHP-listed districts within a mile of the project limits, but none of these resources will be impacted. In addition, there are several early 20th century mixed commercial/residential buildings along the proposed route that could be considered eligible for the NRHP, but for the most part the area is characterized by relatively non-descript 20th century suburban development. The CTDOT also evaluated the potential for archaeological resources, but determined that due to past land development and soil type, no archaeologically sensitive resources would be impacted by the Seaview Avenue Project. Finally, FHWA consulted with Mashantucket Pequot, Mohegan, Delaware Lenape, and Delaware Nation Tribes, and none expressed concerns regarding the proposed project. Consultation was also completed with the Narragansett Tribe with no response.

CTDOT also determined that it is unlikely that the proposed project would encounter sensitive archaeological resources, given the high degree of disturbance. As a result of all of these efforts, a determination of no adverse effect was made for the project. In a letter dated November 3, 2016, the Connecticut State Historic Preservation Office concurred with the determination of no adverse effect, requesting that extreme caution be exercised during any vibration producing activities (Appendix C). With that determination, CTDOT and FHWA have concluded their responsibilities under Section 106 of the National Historic Preservation Act for the Seaview Avenue Project.

H. Section 4(f) of the US DOT Act
Section 6(f) of the Land and Water Conservation Act

Section 4(F) and 6(F) Resources		Present? (Yes/No)	Impacts? (Yes/No)
Section 4(f): Publicly-owned parks, recreation areas, or wildlife and waterfowl refuges of national, state, or local significance		No	No
Section 4(f): Historic Sites of national, state, or local significance present		Yes	No
Properties protected by Section 6(f) of the Land and Water Conservation Fund Act		No	No
		Yes	**No**
Would the project qualify for a Section 4(f) exception?			X
Would the project result in a use of a Section 4(f) property?			X
If yes, would project need:			
	4(f) de minimis impact?		
	4(f) programmatic evaluation?		
	4(f) individual evaluation?		
Would project result in the permanent conversion of a Section 6(f) property to a non-recreation use?		N/A	N/A

Remarks:
As noted above, the proposed project will not use any publicly-owned parks, recreation areas, or wildlife and waterfowl refuges of national, state, or local significance. In addition, as outlined above, the proposed project is located immediately adjacent to, but not in, the Remington City NRHP Historic District. Coordination with the State Historic Preservation Office (SHPO) resulted in a determination of no adverse effect on this NRHP-listed resource.
No permanent, temporary, or constructive uses are proposed as the project is currently planned, and therefore no impacts are anticipated under Section 4(f).

Similarly, there are no properties protected by Section 6(f) of the Land and Water Conservation Fund Act within the project corridor. Therefore, no impacts on Section 6(f) resources are anticipated as a result of implementing the proposed project.

I. Air Quality

Air Quality		Non-Attainment	Maintenance	Attainment
What is the designation for this project area?				
	CO	☐	☒	☒
	PM2.5	☐	☒	☒
			Yes	**No**
Is the project exempt from conformity analysis?			☐	☒
If NO:				
	Is the project on the current TIP/STIP?		☒	☐
	Is a project level emissions analysis required?		☒	☐
	Is the project categorically excluded from analysis of potential MSAT effects?		☐	☒
	Does the project have potential for MSATs effects requiring a qualitative or quantitative analysis?		☒	☐

Remarks:
The proposed project is located within the NY-Northern NJ-Long Island non-attainment area for ozone, and was re-classified as being moderate non-attainment in June of 2016. It is also in an attainment/maintenance area for particulate matter less than or equal to 2.5 microns (PM2.5) in size and carbon monoxide (CO). A project level conformity determination (Appendix F) was completed and the project was determined to have satisfied the criteria for conformity, based on the following:

- The MPO's current Transportation Plan and 2015-2018 Statewide Transportation Improvement Program (STIP) were determined to be in conformity by FHWA as of July 28, 2014;
- The proposed project is included in the MPO's current TIP; and
- A hotspot analysis of CO determined that the proposed project will not cause or contribute to any new violations or increase the frequency or severity of any existing CO violations. In addition, the project is not of the type listed in 40 CFR 93.123(b)(1) as an air quality concern for PM2.5, and therefore the Clean Air Act requirements are met without hotspot analysis.

A qualitative assessment of Mobil Source Air Toxics (MSATs) concluded that emissions of MSATs may result in localized areas where concentrations are higher as a result of implementing the proposed project. However, the magnitude and duration of the increases cannot be reliably quantified. In addition, regionally, it is anticipated that MSAT will be substantially lower over time due to federal vehicle and fuel regulations, and fleet turnover.

In conclusion, the air quality assessment completed as part of this proposed project was determined to be in conformity with the Clean Air Act, as amended.

J. Noise

Noise	Yes	No
Does the project require a noise analysis in accordance with FHWA's regulations and the CTDOT traffic noise policy?	X	

Remarks:
The CTDOT completed a noise analysis using the FHWA-approved traffic noise prediction model (Traffic Noise Model 2.5 [TNM 2.5]) to derive existing and future noise levels, and to determine potential noise impacts associated with the proposed project. Results of the modeling effort indicated that traffic noise levels for existing conditions varied from 47 to 67 decibels hourly equivalent sound level (Leq(h)). The modeled traffic noise levels for future build conditions were calculated to vary between 47 and 67 decibels Leq(h). Of the modeled locations, five receptors were determined to approach or equal the Department's Noise Abatement Criteria of 67 decibels Leq(h). These receptors showed an impact from both the existing and future build roadways. However, the modeling effort also indicated that substantial noise increases are not predicted as a result of the proposed project. Because of the number of driveway curb cuts and limited available roadside space, no feasible abatement measures can be provided to minimize the traffic noise levels for the impacted receptors (23 CFR 772.13(d)(ii)). A summary report describing the noise modeling effort and results is included in Appendix G of this document.

K. Hazardous Materials and Waste Sites

Hazardous Materials and Waste Sites	Yes	No
Are there any known hazardous materials or waste sites within the project corridor?	X	-

Remarks:
The proposed project vicinity includes sites with known contamination issues. This includes the former General Electric (GE) facility located on the west side of Bond Street and to the north of US Route 1 (Boston Avenue), a hazardous waste management facility under Connecticut law and a federal Resource Conservation and Recovery Act (RCRA) site. Several hazardous waste areas were associated with a large industrial facility that occupied the site from approximately 1912 to 2012. Buildings have been removed and hazardous waste areas have been investigated and remediated in recent years in preparation for sale and redevelopment of the property. Remediation activities at the site have included removal and off-site disposal of contaminated soil and groundwater, backfilling excavations with clean rock and soil materials, and monitoring for residual contamination. Some of the hazardous material areas will be capped in place. Contaminants found at the site have included metals, PCBs, petroleum hydrocarbons, volatile organic compounds, light non-aqueous phase liquids, and solvents. The City of Bridgeport is currently constructing the new Warren Harding High School on a portion of this location. Remediation activities are expected to continue on the site in general, until corrective actions at the entire site have been completed.

More recently, the CTDOT completed a Corridor Land Use Evaluation in October 2016. This study involved a review of environmental database information, municipal land use records and ownership, a windshield survey, and an evaluation of relative environmental risk. Out of 107 properties evaluated, 88 were

determined to be low risk. However, five abutting properties met the criteria as having moderate environmental risk, and an additional 14 properties were ranked as high environmental risk. Based on these results it was determined that additional study should be performed in areas of anticipated intrusive activities along the roadway and/or rights-of-way that are on or adjacent to parcels identified as moderate or high-risk. This more detailed investigation of potential contaminated soils and groundwater within the proposed project footprint will be completed as design proceeds and more detailed information is available. Should there be contaminated soils or groundwater present in areas proposed for construction remediation procedures will be put in place to mitigate potential impacts. As a consequence, significant impacts associated with hazardous materials or waste sites are not anticipated as a result of implementing the project.

L. Community Impacts

Community Impacts	Yes	No
Does the project result in substantial impacts to community cohesion?		X
Does the project result in substantial impacts to local/regional development patterns in the area?		X
Does the project result in substantial impacts to the local tax base or property values?		X
Would the project result in substantial impacts to health and educational facilities, emergency services, religious institutions, community facilities, public transportation services, or pedestrian and bicycle facilities within the project area?		X

Remarks:
The proposed project will likely provide improved economic activity for the surrounding community by facilitating more efficient traffic flow to and from existing underutilized and abandoned industrial properties. These improvements will likely expand the existing tax base, boost property values, and provide enhanced safety for the traveling public, as well as pedestrians and bicyclists. This is a particularly important benefit given the need for efficient and safe traffic and pedestrian movement to and from the new Warren Harding High School. Additional benefits to the community will be realized through the inclusion of parking and streetscape features in the design, providing visual and aesthetic improvements for residents and the traveling public.

Negative impacts to the community are likely to predominantly occur during the construction period, and would include such factors as intermittent interruptions in the flow of traffic, noise and dust generated by construction equipment, and air quality impacts resulting from emissions from construction equipment. However, these impacts would likely be minor in scope, short in duration, and can be minimized and/or mitigated. On balance, it is anticipated that the proposed Seaview Avenue Project will have a positive impact on the surrounding community.

M. Environmental Justice (E.O. 12898)

Environmental Justice (E.O. 12898)	Yes	No
Are any EJ populations located within the project area?	X	
Would the project result in disproportionately high and adverse impacts to EJ populations?		X

Remarks:
Presidential Executive Order (EO) 12898, *Federal Actions To Address Environmental Justice in Minority Populations and Low-Income Populations*, was signed by President Clinton in 1994. This EO directs federal agencies to identify and address disproportionately high and adverse human health or environmental effects on minority and low-income populations. Studies to assess these types of impacts were completed as part of the 2006 Final Environmental Assessment/Final Connecticut Environmental Impact Evaluation and Section 4(f) Evaluation for the Seaview Avenue Corridor Project. This previous study identified the presence of minority and low-income populations in the Seaview Avenue corridor area, and determined that residents and neighborhoods would benefit from traffic improvements, visual and aesthetic improvements, and prospects for improved long-term employment opportunities. At the same time, it was noted that residents of the area would be temporarily affected by adverse conditions during construction (i.e., increased noise and traffic, reduced air quality). There was consensus among community representatives (i.e., from the local neighborhoods) involved in proposed project outreach meetings as part of the 2006 studies, that the adverse proposed project impacts could be sufficiently minimized and mitigated, and that, overall, the residents would benefit from the positive aspects of the improvement project.

An evaluation of the most current Census demographic and income data available from the United States Census Bureau indicates that approximately 25.8 % of the residents of the City of Bridgeport live below the poverty level (based on 2000 census data). More recent data collected as part of the American Community Survey (ACS) identified a total of 22.9% of the population of the City of Bridgeport living below the poverty level based on 5 years of data collected between 2011 and 2015. The 2015 ACS also estimated the percentage of minority populations living within the City at 76.8%. In addition, by the Connecticut General Statutes (CGS) 22a-20a, the City of Bridgeport qualifies as an environmental justice community because of its status as a Distressed Municipality, as defined under the statute. The CGS (Section 32-9(b)) outlines the requirements to qualify as a distressed municipality, which is based on a multitude of factors including; per capita income, percentage of population living below the poverty level, unemployment rate, and population and employment decline. However, although the proposed project is located in a Distressed Municipality, it would not likely require preparation of an Environmental Justice Public Participation Plan. The proposed project involves work largely within the existing right-of-way (ROW), with only a short section of Bond Street relocated to improve operational efficiency between the intersection of Seaview Avenue, Barnum Avenue, and Bond Street. As a consequence, the impacts associated with this proposed project are anticipated to be relatively minor and largely limited to the construction period. Therefore, there are no foreseeable adverse social, economic, or environmental effects proposed to occur on minority and low-income populations.

N. Indirect and Cumulative Impacts

Remarks:
The proposed project will not result in substantial indirect and cumulative impacts. The Council on Environmental Quality (CEQ) defines indirect effects on the environment that may result from a transportation project as those caused by the action that occur later in time or farther removed in distance, but are still reasonably foreseeable. CEQ defines cumulative effects on the environment as those resulting from the incremental impact of the action when combined with other past, present, and reasonably foreseeable future actions in the vicinity of the proposed project or action. Indirect and cumulative effects are often difficult to differentiate and the two types can be evaluated or considered as one.

The indirect and cumulative impacts associated with the Seaview Avenue Project (Project) have been evaluated consistent with the guidance outlined in the *National Cooperative Highway Research Program (NCHRP) Report 466 – Desk Reference for Estimating the Indirect Effects of Proposed Transportation Projects* and CEQ's *Considering Cumulative Effects Under the National Environmental Policy Act*. The following section describes the potential indirect and cumulative impacts using the 8-step process as described in the NCHRP Report 466.

Step 1. Scoping.

As described in Part I. B., interagency coordination has occurred throughout the scoping and planning stages of the proposed project. Additional scoping and coordination with federal and state agencies will be ongoing throughout planning and design. The primary agencies consulted to date have included the FHWA, the CTDOT, CTDEEP, the Connecticut Historical Commission, the City of Bridgeport, and numerous local planning commissions. Additional project scoping was completed through publication of a scoping notice in the Connecticut Environmental Monitor in April 2015.

The purpose of the proposed project is to improve the function, capacity, and safety of Seaview Avenue and is described in greater detail in the project's Purpose and Need in Part II.A. The project's logical termini/limits of work are provided in Part II.

Step 2. Identify the Study Area's Direction and Goals.

The proposed Seaview Avenue project is primarily a roadway project intended to improve safety, efficiency, traffic flow and connectivity in the project limits; provide aesthetic and pedestrian safety improvements; and provide access to existing businesses and underutilized, abandoned, or vacant properties.

The public involvement process is described in Part I.A. Over 20 local residents and groups provided comments on the proposed project as a result of the April 7, 2015 Notice of Scoping (see Appendix B) published in the Environmental Monitor. All respondents expressed opposition to the proposed project, with many referencing potential indirect impacts on existing privately-owned undeveloped land, specifically the land owned by Sporting Goods Properties, Inc., a subsidiary of DuPont Corporation (Sporting Goods parcel), and identified as the potential location for future development of the Lake Success Eco Business Park (LSEBP). The concerns regarding development of this area were predominantly

related to potential loss of wildlife habitat, negative impacts on air quality, flooding, stormwater management, and erosion. However, development of the LSEBP is not part of the proposed Seaview Avenue project, and when, or even if, a development is to occur at the site is unclear. Nevertheless, given that the primary concerns identified in comments received through scoping have largely focused on this potential development project, the analysis presented here focused on potential impacts associated with land development on the Sporting Goods parcel and associated with the potential LSEBP development.

Step 3. Inventory the Study Area's Notable Features.

Wetland/Water Resources (see Part III. A. – F): The proposed project area is situated in a densely developed urban industrial/commercial setting. Much of the project corridor consists of urban streetscapes with little to no undeveloped land and natural resources present. As described in Part III, to the west of and parallel to the proposed project corridor is the Yellow Mill Channel, including associated wetlands and surface water impoundments. However, there are no surface water or groundwater sources in the project area, or in the City of Bridgeport, used for public water supply. The Federal Emergency Management Agency (FEMA) has mapped floodway and floodplain areas associated with Yellow Mill Channel; there is no coastal flood hazard zone within the proposed project area.

The CT DEEP Natural Diversity Database indicates there are no records of rare, threatened or endangered species within the proposed project area. A query conducted of the US Fish and Wildlife Service' Information for Planning and Conservation (IPaC) website, identified that red knot (*Calidris canutus rufa*) may be potentially affected by activities in the area of the project site. Red knot is listed as a threatened species under the federal Endangered Species Act, and its winter range includes the Connecticut coastline. Its preferred habitat includes tidal flats and shoreline areas, and when migrating or winter can be found on coastal mudflats and tidal zones, and at times on open sandy beaches. As currently proposed, the Seaview Avenue project would not involve proposed work in proximity to any of these habitats. Given this, impacts on red knot, or any other threatened or endangered species, are not anticipated to occur. In general, wildlife known or expected to inhabit the project area are generalist species tolerant of intense human disturbance.

To the north of the proposed project site is the 422-acre Sporting Goods parcel, which is located in Bridgeport and the Town of Stratford, CT. The property is a former explosives and munitions manufacturing and testing site that was operated until 1986 and that contained manufacturing operations, storage buildings, and open test-firing ranges. Since these operations were halted, remedial activities at the site have included soil and water decontamination, on-site disposal of contaminated soils, demolition of structures and removal of unexploded ordinances. There are approximately 55 acres of Areas of Environmental Concern (AECs) scattered over the site, which as a whole are designated as an interim-status Resource Conservation and Recovery Act (RCRA) facility. Currently, the storage and treatment of hazardous materials are allowed on site, and there are ongoing soil, wetlands, and groundwater remediation efforts being undertaken.

The majority of the Sporting Goods parcel is currently woodland habitat with an extensive network of roadways connecting former industrial developments and excavated areas. Topography is highly variable and there are approximately 70 acres of wetlands, waterbodies, and waterways, including the 17-acre Lake Success located at the center of the site. The assemblage of wildlife using the site is diverse, but not

considered unique. Bird taxa mostly consist of species common to the area; the perimeter fence and a lack of connection to other habitat blocks appear to limit the occurrence of some mammal and herptile species. The site supports a well-studied and managed population of white-tailed deer (*Odocoileus virginianus*). In general, wildlife known or expected to inhabit the project area are generalist species tolerant of intense human disturbance.

Like the proposed Seaview Avenue project corridor, mapping available from the CT DEEP Natural Diversity Database indicates there are no records of rare, threatened or endangered species at the Sporting Goods parcel. However, a query conducted of the US Fish and Wildlife Service' Information for Planning and Conservation (IPaC) website for the LSEBP/Sporting Goods parcel, identified that red knot (*Calidris canutus rufa*) may be potentially affected by activities in the area of the subject parcel. Similar to the roadway corridor, the LSEBP/Sporting Goods parcel does not include tidal or intertidal areas, and therefore does not include the preferred habitat of the red knot. Given this, impacts on red knot are not anticipated.

In addition to red knot, the IPaC query identified the potential for impacts on northern long-eared bat (NLEB; *Myotis septentrionalis*) for activities conducted on the LSEBP/Sporting Goods parcel. The NLEB was recently listed as threatened under the federal Endangered Species Act due to mortality largely caused by white-nose syndrome. A review of available mapping provided by USFWS indicates that there are no known NLEB hibernacula within 0.25 miles of the Seaview Avenue Project, and there are no documented maternity roost trees in the State of Connecticut. Given this, impacts on NLEB, or other threatened or endangered species, are not anticipated to occur as a result of implementing the proposed project. Should development be proposed on the LSEBP/Sporting Goods parcel, consultation with the USFWS regarding NLEB may be required.

Historic and Archaeological Resources (see Part III.G.): CTDOT has made a determination that while there are several National Register-listed properties and districts in the vicinity of the Seaview Avenue project corridor, the proposed project itself will have no adverse effect on historic properties within or adjacent to the proposed project area. With this determination, FHWA concluded its responsibilities under Section 106 of the National Historic Preservation Act.

With regard to the proposed LSEBP/Sporting Goods parcel, CTDOT recognizes that there is the potential for historic properties to be located within that site—both in the form of historic structures related to the land's former use as a munitions testing facility dating back to the 19th Century, as well as in the form of pre-European Contact indigenous archaeological sites. The current undertaking as presently proposed, however, is seen as having no potential to create indirect effects to said parcel given the fact that the road improvements under consideration do not actually create new or increased access to the property. The presently proposed project limits do not extend to the LSEBP/Sporting Goods parcel, and it would be necessary to construct a substantial additional section of roadway corridor in order to provide access, and result in additional associated impacts. The Connecticut State Historic Preservation Office (SHPO) has expressed agreement with CTDOT in this finding, as outlined in its November 3, 2016 letter.

Although the proposed project corridor is located immediately adjacent to the Remington City NRHP Historic District, this project would not directly impact any recreational properties protected under Section 4(f) or Section 6(f). Concerning the potential LSEBP/Sporting Goods parcel site, no State or

National Register historic listed or eligible sites are presently known to exist on the site. The site is privately-owned and therefore does not include any publicly-owned recreation properties.

Step 4. Identify Impact-Causing Activities of Proposed Action and Alternative.

As described in Part III. A – M, the proposed project would likely result in relatively minor or no direct impacts on wetland resources, surface waters, and floodplain areas. These impacts would primarily be associated with grading and filling activities, and installation of drainage system components. Any impacts would predominantly occur during construction. These impacts would also be largely avoided or minimized by following Best Management Practices and through implementation of standard erosion and sediment control measures. Given the project context and the intensity of these impacts, the notable features listed above would not be significantly affected.

Step 5. Identify Potentially Significant Indirect Effects for Analysis.

Significant indirect effects are not anticipated, but generally speaking, indirect effects may result from increased traffic or changes in traffic patterns in the area, increased opportunities for institutional, commercial, and industrial development of previously developed properties in the Seaview Avenue/Bond Street corridors, and opportunities (i.e., from new street access) for future development within other adjoining parcels. This could include the potential development of a business park on industrial property to the north of the proposed project corridor (i.e., the LSEBP). However, the LSEBP has been proposed for many years and it is unclear when, or even if, the project will move forward. Nevertheless, potential indirect impacts assuming some development of the LSEBP and other areas in proximity to the proposed project are provided below.

Potentially negative indirect effects of the proposed project include:

- Increased traffic congestion, noise, and possible lowering of air quality in this part of Bridgeport; and
- Impacts to wetland/water resources and wildlife that are present adjacent to the proposed project corridor (Yellow Mill Channel) and those in the Sporting Goods parcel to the north of the corridor resulting from future development.

Potentially significant positive or beneficial indirect effects include:

- improved/enhanced safety and traffic flow in this part of the city;
- new and enhanced economic development/growth and associated socioeconomic benefits to the local and regional areas;
- addition of local jobs with new development;
- revitalization of the urban environments and aesthetic qualities within and near the project area;
- expanded common spaces, and better access to Warren Harding High School and other community facilities and infrastructure;
- opportunities to utilize/develop brownfield sites; and
- increased property values.

Step 6. Analyze Indirect Effects.

The indirect effects would be limited to neighborhoods within or immediately adjacent to the Seaview Avenue/Bond Street corridor. As described in Step 5, indirect effects would likely be both positive and negative. The indirect impacts would primarily be related to the rehabilitation and redevelopment of vacant and underutilized properties along the corridor as well as the potential development of a moderately-sized business park on the Sporting Goods parcel located to the north of the of the proposed Seaview Avenue project. In 2015, the owners of the 422-acre Sporting Goods property publicly presented a development proposal for the LSEBP. This development was presented as low-density 1.2 million square feet of office and commercial space in 16 buildings, a parking garage, and potentially a 100,000-square-foot hotel. The owners committed to retaining over half the site as undeveloped.

Given the history of previous development at the 422-acre Sporting Goods property, it can reasonably be assumed that future development would generally occur in areas previously developed and outside of the 70+ acres of wetland resources under state and federal jurisdiction.

Step 7. Evaluate Analysis Results.

It is assumed that implementation of the proposed Seaview Avenue Project will result in some level of indirect and cumulative effects, as presented above. The project context is within a densely-developed urban environment having an adjacent large previously-developed forested area. This privately-owned forested parcel is undergoing remediation due to substantial past contamination. Potential future indirect and cumulative impacts consist of increased traffic, minor impacts to wetland/water resources, and loss of some forested upland habitat.

Step 8. Assess Consequences and Develop Mitigation.

Both positive and negative indirect/cumulative effects would be expected under the proposed project. Using the available information, a list of effects that can be reasonably predicted has been identified and qualitatively described. The degrees or extents of each effect or effect type have not been quantified.

In terms of controversy, some local citizens have expressed opposition to the proposed project because they believe it could eventually lead to the development of the LSEBP on the Sporting Goods parcel. Some local citizens have expressed their desire that the property be left as is. Though the proposed project's sponsoring agencies have no control over indirect and cumulative effects, it is assumed that plans for future development of the LSEBP, if it is to occur, and other properties accessed from Seaview Avenue, would be thoroughly reviewed, and that the local, state, and federal permitting processes would require avoidance, minimization, and mitigation of adverse impacts to regulated natural resources (e.g., wetlands, waterbodies, floodplains). As a result, although indirect effects are expected, given the context and intensity of these impacts, it is unlikely the indirect and cumulative impacts would be significant.

O. Permits Checklist

Permits Checklist	Yes	No
Flood Management Certification	X	
Inland Wetlands/Watercourses Permits	X	
Stormwater Permit	X	
Department of Public Health Permits		X
Section 401 Water Quality Certification	X	
Dam Safety Permits		X
Coastal Permits/Certifications		X
Section 404 Permit	X	
U.S. Coast Guard Permit		X

Remarks:
The CTDOT has completed a Permit Need Determination Form, which is included as Attachment D.

PART IV: ENVIRONMENTAL AND PROJECT COMMITMENTS

List all Environmental and Project Commitments (in numerical format) for the project.

1. Provide for appropriate stormwater treatment for new drainage system.
2. Follow Best Management Practices and implement appropriate erosion and sediment control during construction.
3. Consult with the Aquarion Water Company (AWC) on the locations of water distribution mains and any potential relocations or replacements.
4. Permit requirements pursuant to Connecticut Inland Wetlands and Watercourses Act and Section 404 of the Clean Water Act to be determined following completion of detailed drainage design.
5. The Delaware Nation requested that if any archaeological remains are discovered during the construction process that construction be halted until an archaeologist can view and assess the finds.
6. Additional commitments may be required pursuant to permit conditions.

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Appendix A – Figures

Project Location Map - Proposed Seaview Avenue/Bond Street Corridor

Improvement Project

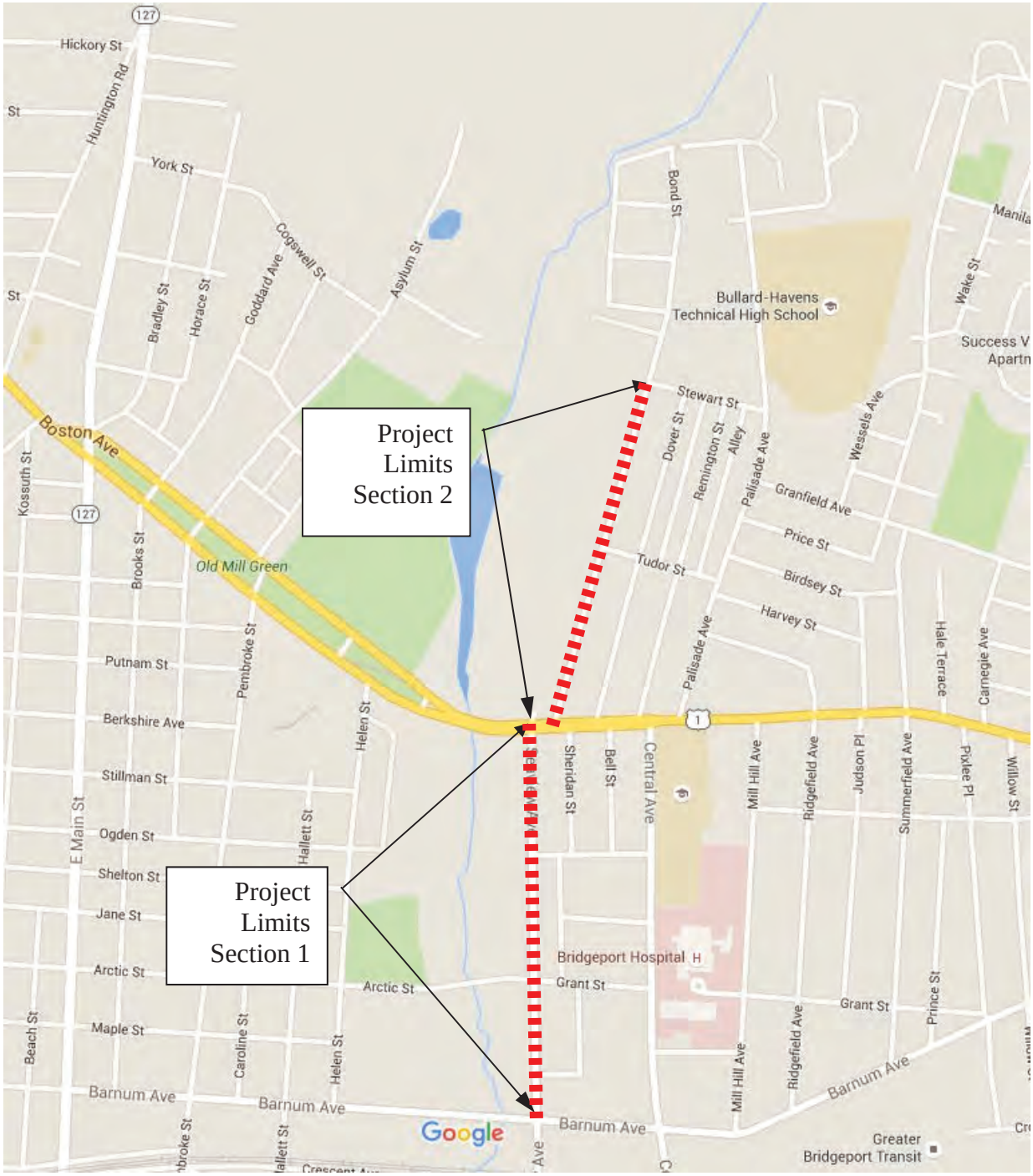
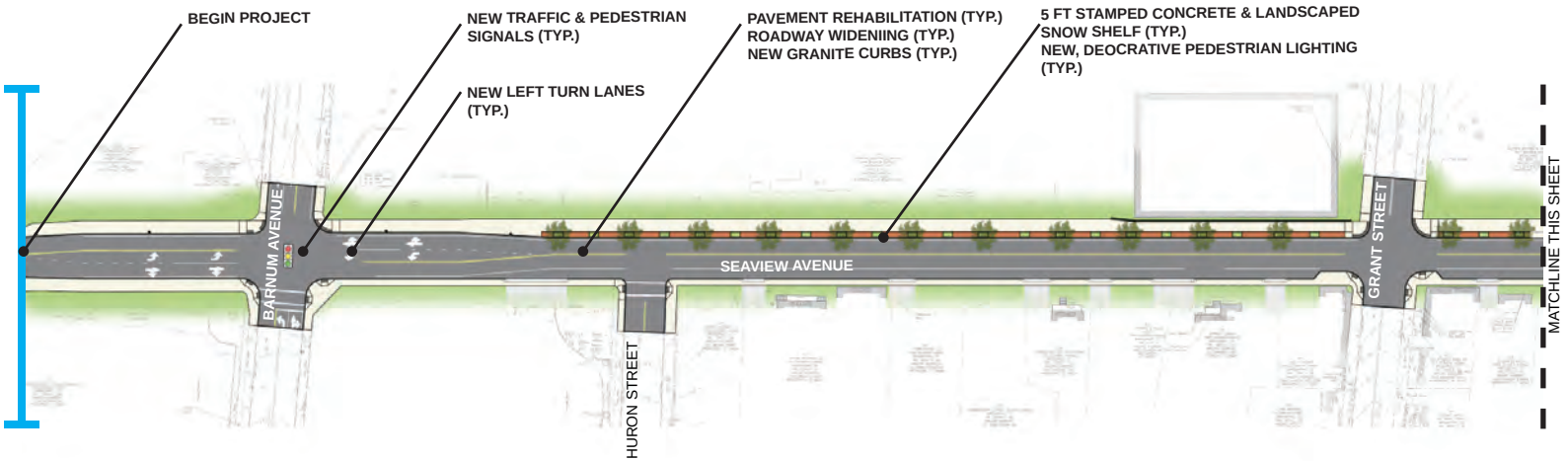


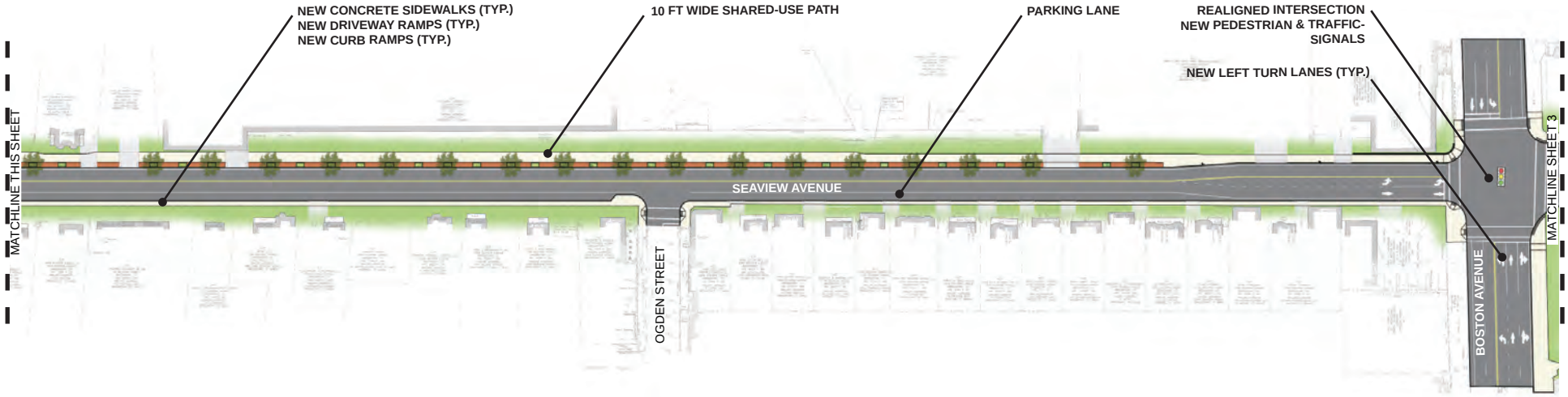
FIGURE NO. 1

Federal Aid Project No.: H072(001)
State Project No.: 15-371

N

SEAVIEW AVENUE

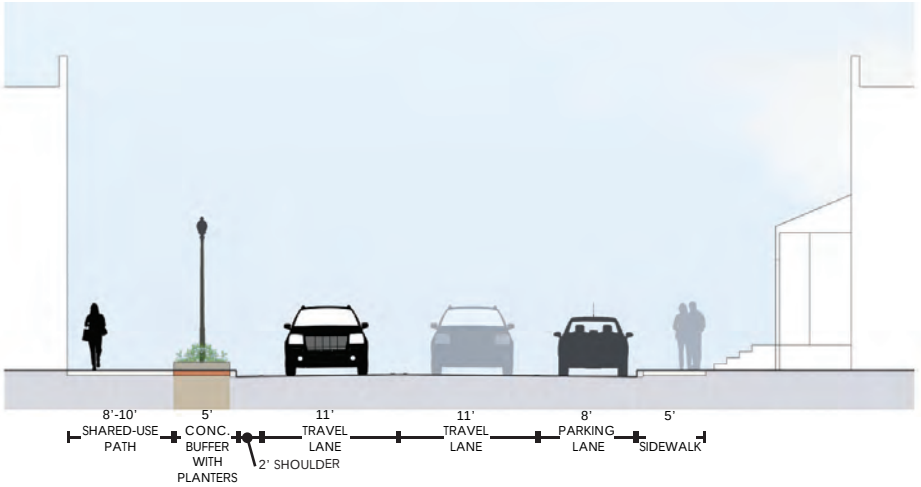




SHEET 1 / SECTION 1
BARNUM AVENUE TO BOSTON AVENUE

Stantec

TYPICAL SECTION/ELEVATION



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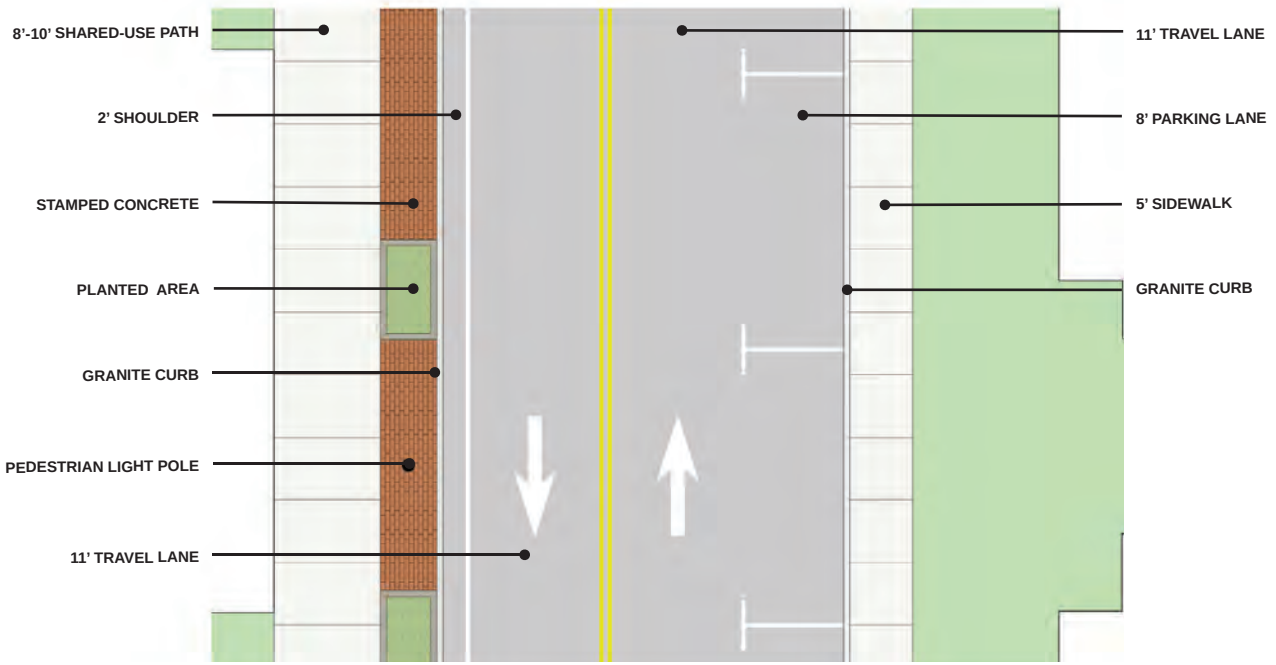

SHEET 2 / SECTION 1
BARNUM AVENUE TO BOSTON AVENUE

Stantec

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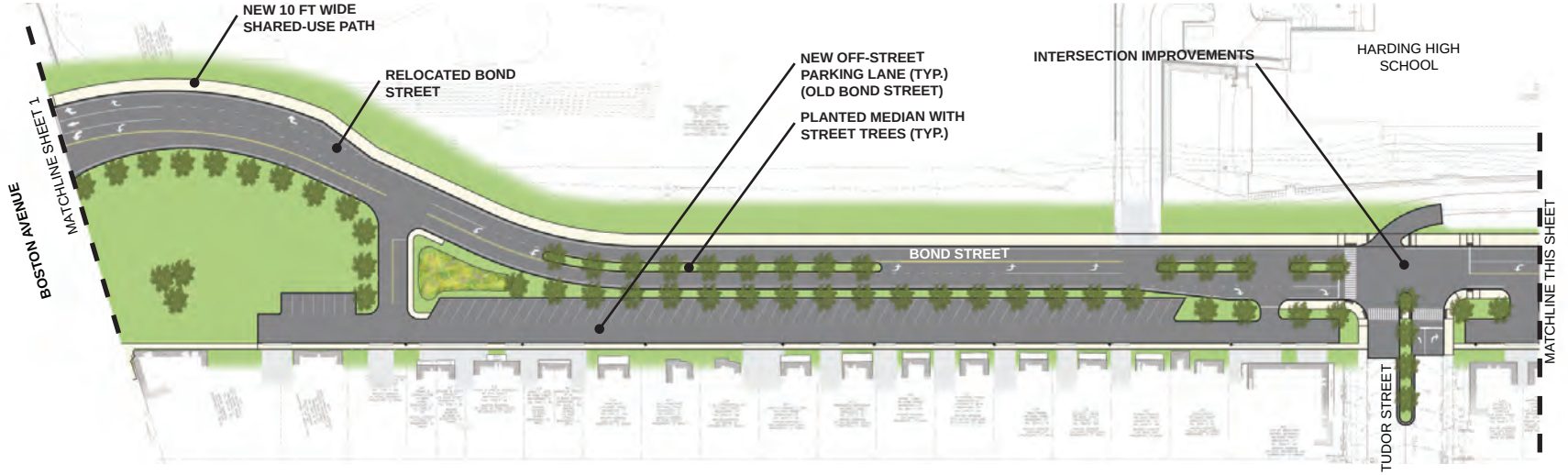
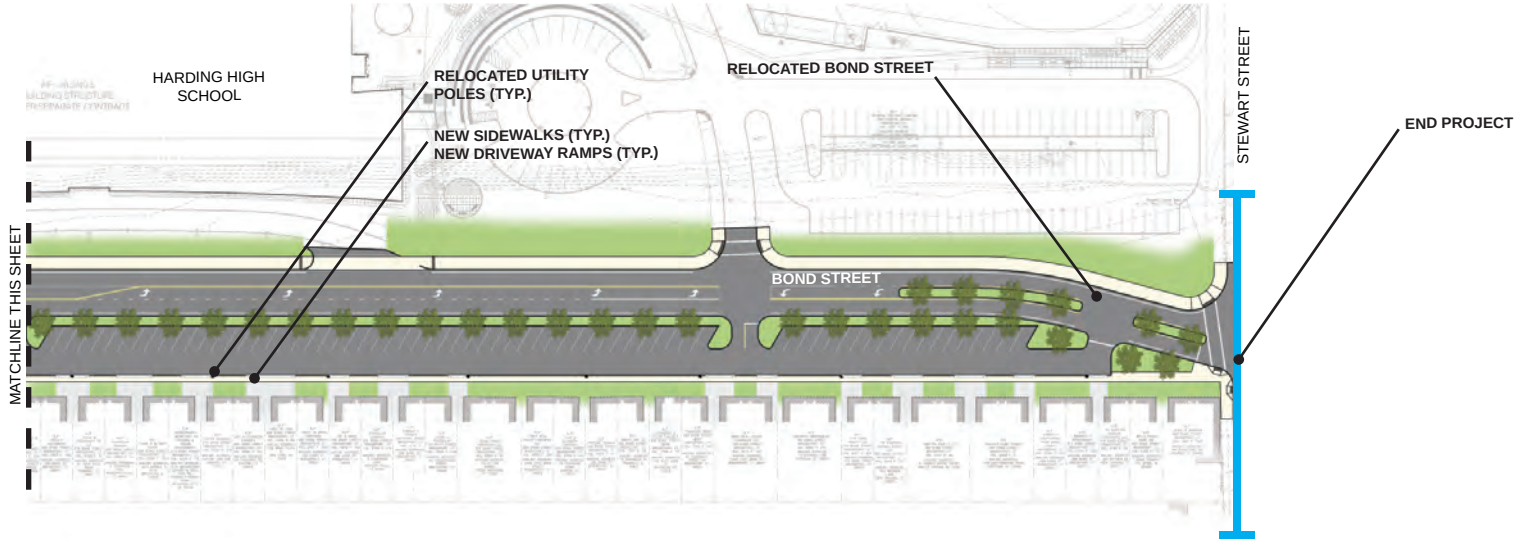
BOND STREET

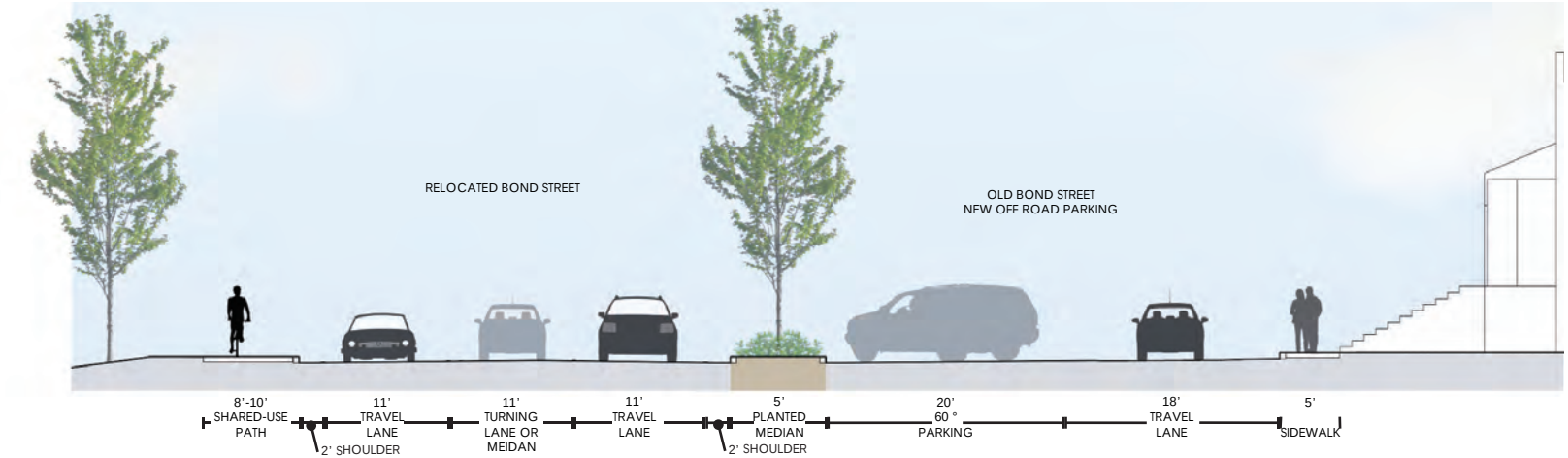




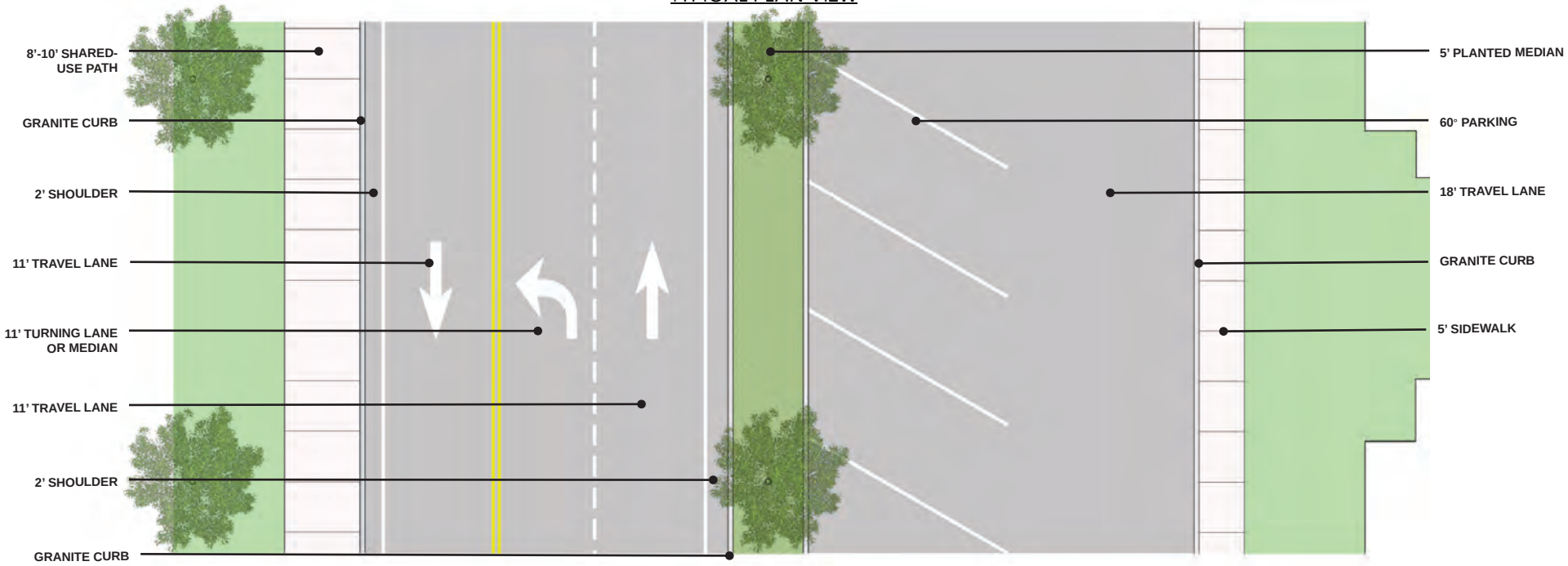
SHEET 3 / SECTION 2
BOSTON AVENUE TO STEWART STREET

Stantec

TYPICAL SECTION/ELEVATION



TYPICAL PLAN VIEW



SHEET 4 / SECTION 2
BOSTON AVENUE TO STEWART STREET

Stantec

Appendix B – Public Scoping Notice and Comments Received

3. Notice of Scoping for Seaview Avenue Corridor Improvements

Municipality where proposed project might be located: Bridgeport, Connecticut

Project Location: Along Seaview Avenue beginning at Barnum Avenue and extending approximately 2,500 feet north to Boston Avenue (US Route 1), then continuing northerly along a new alignment just west of, and parallel to Bond Street from Boston Avenue approximately 2,250 feet north to Stewart Street, and then extending approximately 600 feet to the west from Stewart Street.

Project Description: The City of Bridgeport, with technical and financial assistance from the Connecticut Department of Transportation (CTDOT) and the Federal Highway Administration (FHWA), proposes reconstruction, streetscape enhancements, and a new transportation corridor centered upon Seaview Avenue in Bridgeport. The project will reconstruct and provide streetscape enhancements on Seaview Avenue and construct a new arterial roadway which will provide access to the planned Lake Success Business Park (LSBP), as well as the new Harding High School which is to be located at 379 Bond Street and is scheduled to open in Fall 2017.

Improvements on Seaview Avenue from Barnum Avenue to US Route 1 are anticipated to include pavement rehabilitation, replacement and upgrade of traffic signal equipment, new sidewalks, streetscape enhancements, transit service features, and relocation of above ground utilities to below grade. The intersection at US Route 1 will be realigned to accommodate a "normalized" four-way intersection with Seaview Avenue and Bond Street, thus eliminating the current offset alignment of the north/south legs. The new proposed arterial roadway is adjacent to the existing Bond Street alignment north of US Route 1 to the intersection with Stewart Street, and would continue westerly from the present Stewart Street alignment to provide access to the proposed LSBP. Based on the final preliminary engineering determination of the most suitable access point for the proposed LSBP, a new structure may also be proposed spanning the Yellow Mill Channel.

Project Maps: Click here to view a location map and an aerial view of the project area.

Written comments from the public are welcomed and will be accepted until the close of business on: Friday May 7, 2015

Any person can ask the sponsoring agency to hold a Public Scoping Meeting by sending such a request to the address below. If a meeting is requested by 25 or more individuals, or by an association that represents 25 or more members, the sponsoring agency shall schedule a Public Scoping Meeting. Such requests must be made by Thursday April 17, 2015.

Written comments and/or requests for a Public Scoping Meeting should be sent to:

Name: Mr. Mark W. Alexander, Transportation Assistant Planning Director
Agency: Connecticut Department of Transportation
Bureau of Policy and Planning

Address: 2800 Berlin Turnpike
Newington, CT 06131
Fax: 860-594-3028
E-Mail: dot.environmentalplanning@ct.gov

If you have questions about the public meeting, or other questions about the scoping for this project, contact:

Name: Mr. Jonathan M. Dean, Project Engineer
Agency: Connecticut Department of Transportation
Bureau of Engineering and Construction
Address: 2800 Berlin Turnpike
Newington, CT 06131
Phone: 860-594-3211
E-Mail: jonathan.dean@ct.gov

Dean, Jonathan M

From: Fleming, Kevin
Sent: Tuesday, April 28, 2015 8:55 AM
To: Dean, Jonathan M
Subject: FW: Seaview Corridor, Bridgeport

Sent: Friday, April 24, 2015 10:14 AM
To: DOT Environmental Planning
Subject: Seaview Corridor, Bridgeport

I oppose the Seaview Corridor project in Bridgeport. First of all it is a waste of money, especially the railroad over/under pass. (Meant to allow semi's to get to a local industry).
Secondly it will run too close to the new location of the Harding High School scheduled to be built on the old GE Factory property.
Thirdly it will increase air polution by increasing traffic.
Fourth it is not needed for just an ofice pary (which I also oppose on environmental grounds).
Respectfully,
Allen W.

Dean, Jonathan M

From: Fleming, Kevin
Sent: Thursday, April 30, 2015 7:20 AM
To: Dean, Jonathan M
Subject: FW: Remington Woods

From: Amy Olver
Sent: Wednesday, April 29, 2015 10:14 PM
To: DOT Environmental Planning
Subject: Remington Woods

ATTN: Mr. Mark Alexander

I am writing to express strong opposition to the Seaview Avenue project. As a long time resident of Bridgeport and Strratford, I feel that is vital that Reminigton Woods be protected from development. The proposed Seaview Avenue project would begin the destruction of this site. In protecting and preserving Remington Woods, we would be developing a legacy that would serve generations by creating an urban oasis.

Sincerely,
Amy Olver

Dean, Jonathan M

From: Fleming, Kevin
Sent: Tuesday, April 28, 2015 8:57 AM
To: Dean, Jonathan M
Subject: FW: I oppose the seaview project

From: anastasia hansen
Sent: Sunday, April 26, 2015 12:52 PM
To: DOT Environmental Planning
Subject: I oppose the seaview project

Leave the woods be! You will be tearing down wild life homes, oxygen production and neighborhood memories!

Dean, Jonathan M

From: Fleming, Kevin
Sent: Tuesday, May 05, 2015 10:41 AM
To: Dean, Jonathan M
Subject: FW: Seaview Avenue Project, Bridgeport (Letter to the Editor)

From: Angela Capinera
Sent: Tuesday, May 05, 2015 10:25 AM
To: DOT Environmental Planning
Subject: Seaview Avenue Project, Bridgeport (Letter to the Editor)

May 5, 2015

Mr. Mark W. Alexander
c/o CT DOT Bureau of Policy and Planning
2800 Berlin Turnpike
Newington, CT

Mr. Alexander,

Good morning. My name is Angela Capinera. I currently reside in Stratford, CT and am writing in response to the proposed Seaview Avenue expansion/ corridor work proposed in Bridgeport, CT.

For your information, I am blind carbon copying several individuals and news publications on this email who have interest in the project.

In summation, I am opposed to the expansion of Seaview Avenue in Bridgeport. I have been opposed to this project for years and my objections, along with others who oppose this, have fallen on many "deaf" ears.

I don't know if you have come down to see this area, to sit, observe, watch,and drive through yourself. It is a nightmare at any time of the day or night. It has been for my entire lifetime in this area. I am a life-long resident of this area and lived for a decade in Stratford in the area that abutted Seaview Avenue. I had to frequently drive through when commuting and also had to frequently detour through when traffic in other areas was backlogged. I still frequently drive through here.

Seaview Avenue crosses Boston Avenue, one of Bridgeport's busiest and most congested traffic areas. Making a left hand turn can mean several turns of a traffic light or if someone is trying to turn left, it is almost impossible.

Seaview Avenue also runs right behind one of the area's biggest hospitals and a Level Two Trauma Center for the area: Bridgeport Hospital. I volunteer with a local Emergency Medical Service and most of our patients request to be taken there or we bring in high level medical traumas to Bridgeport Hospital. I am afraid any construction in this area could mean a delay in medical care, especially for trauma and pediatric patients.

On this note, the roads in this area are already poorly maintained and again, and this has been my entire experience of living and driving in the area. There are frequently pot holes and ripped up concrete. The roads are always patched and never fully paved. The driving conditions in a regular passenger car are

nauseating and are only made worse when in the back of an ambulance. When we hit a pot hole, even going regular travel for non-life threatening illness, everyone can feel it. I have had people cry out in pain and fear and patients are usually warned, or can tell, when we reach Bridgeport. My point being: Bridgeport was told that they will have to pay 20% of this project and right now the municipality does not even have the money to properly maintain the roads it has.

Another part of my opposition is the quality of life and dissemination of information about this proposed project. Within a quarter of a mile, there is a high school, a magnet school, several senior citizen living complexes, and a working-class community that is grossly under-served and already suffers from a high crime rate, including murder and drug-trafficking. There already are no safe places for the children who live there to go: no green parks, no green large recreational areas, and the sidewalks, if any, are not maintained. Many trees have been lost due to weather and age and have never been replaced. The air quality is very poor and this becomes very apparent when the weather is hazy, hot, and humid. Asthma rates are some of the highest in the area. Bringing in more road, more concrete, more pavement and the people who live in the area suffer from this.

I'm sure you are aware that this is being proposed for a new industrial park. Please be aware that Bridgeport and Stratford both currently cannot fill the empty buildings they have already. There are buildings in Bridgeport that have permits still in the windows dating back to 2007 where nothing was ever done or finished. Stratford has similar buildings that are sitting empty. Both municipalities would be better served remediating what they already have available than making the quality of life poorer for their citizens.

Finally, please be aware most people are not aware of the impact the project would have on them, in both Bridgeport and Stratford. Stratford Library was the only place that held the binders with information on this and they have since been moved out of main placement. Bridgeport residents were not, and have not, been given similar access. There have been a few newspaper articles here and there but no concentrated effort to inform area residents about this project: no public hearings, no referendums, no ballot votes. Ultimately they will be bearing the biggest brunt of the cost for this. Bridgeport and Stratford already have two of the highest mill rates in the area, at 41 and 38 respectively, and already have a lot of trouble making their budgets and many citizens go with depleted services and people like myself, who spend countless hours volunteering in public service with no reward or compensation, are the only ones helping make up that shortfall.

I have talked to people in both places and few people know about the project and ultimately how the project will impact them and long-term future area residents. Just today I read an article that new business creation is down 14%. I know Bridgeport is trying and so is Stratford but a quick shot in the arm of economics versus long-term quality of life is a poor choice. The DOT would be better off giving Bridgeport money for urban trees and road improvements for exisitng roads, maybe a bike path, a walking path, a nature path or two, would be nice, too. People planting trees and maintaining roads and park space on a regular basis offer better economic stimulus than high medical bills and a populus that is suffering and constantly sick.

Again, I respectfully request that the Connecticut Department of Transportation does not pay for or approve the Seaview Avenue expansion project and instead seeks other means to help support and improve the quality of life for the residents of Seaview Avenue and surrounding areas.

Thank you very much for taking your time to read this and have a wonderful day.

Sincerely,

Angela Capinera
29 Blamey Circle
Stratford, CT 06614

(203) 414-5176

Welcome to the Best Learning Experience Ever!
www.yourmindinbloom.wordpress.com
1-203-414-5176
Find us on Facebook: https://www.facebook.com/pages/Your-Mind-in-Bloom/
Find us on LinkedIn: Angela Capinera

Dean, Jonathan M

From: Fleming, Kevin
Sent: Tuesday, April 28, 2015 8:55 AM
To: Dean, Jonathan M
Subject: FW: OPPOSE the development of Seaview Avenue

-----Original Message-----
From: Cheryl Ann Ford
Sent: Friday, April 24, 2015 8:23 AM
To: DOT Environmental Planning
Subject: OPPOSE the development of Seaview Avenue

Please count me in as opposing the development of Seaview Avenue!!

Ann Ford
104 Shoreham Village Drive
Fairfield, CT 06824
203-255-9956

Dean, Jonathan M

From: Fleming, Kevin
Sent: Wednesday, May 06, 2015 3:55 PM
To: Dean, Jonathan M
Subject: FW: OPPOSE the EXTENSION of SEAVIEW AVE.

fyi
From: lady beth
Sent: Wednesday, May 06, 2015 3:47 PM
To: DOT Environmental Planning
Subject: Fwd: OPPOSE the EXTENSION of SEAVIEW AVE.

---------- Forwarded message ----------
From: **lady beth** <>
Date: Wed, May 6, 2015 at 3:36 PM
Subject: OPPOSE the EXTENSION of SEAVIEW AVE.
To: mark.w.alexander@po.state.ct.us, mdaly@ctpost.com, lady beth <>

Dear Mark W. Alexander of the DOT:

I OPPOSE the extension of Seaview Ave. for Environmental, Economical and Health reasons. The extension of Seaview Ave. into the 422 acres of Remington Woods would enable Dupont Corporation to knock down and destroy the Woods in order to put up office buildings and a parking lot. I am for preserving Remington Woods. The GREEN PLAN , CT.'s legislative goal of preserving 21 percent of Ct.'s land by 2023 will never be reached if 422 acre Remington Woods is destroyed by extending Seaview Ave.

The loss of Remington Woods and the extension of Seaview Ave. would worsen air quality by increasing traffic and by destroying the air cleaning properties of trees. This added pollution and CO2 (carbon) will contribute to the problems of climate change and high asthma rates in Bridgeport.

Remington Woods is home to deer, foxes, the box turtle, hundreds of birds and thousands of trees. If Remington Woods is destroyed, where will all these animals go live?? If Remington Woods is paved over with a road, it will cause flooding in the area when it rains.

Critics of the idea of preserving Remington Woods claim that destroying the Woods for development will increase Bridgeport's tax base. But taxpayers will have to foot the bill to build and maintain an extended Seaview Ave, plus pay for all the required new infrastructure into the Woods (such as gas, electric, water, and sewage lines). It will cost taxpayers millions of dollars more in services than we will recoup in taxes by developing the Woods.

Sincerely,
A Concerned Citizen and Nature Lover
Beth Lazar
1241 Main St. Apt.728
Bridgeport Ct. 06604 Phone: 203-336-9781

STATE OF CONNECTICUT
DEPARTMENT OF PUBLIC HEALTH

Jewel Mullen, M.D., M.P.H., M.P.A.
Commissioner

Dannel P. Malloy
Governor
Nancy Wyman
Lt. Governor

May 7, 2015

Mark Alexander
Transportation Assistant Planning Director
Connecticut Department of Transportation
Bureau of Policy and Planning
2800 Berlin Turnpike
Newington, CT 06131

Re: Notice of Scoping Seaview Avenue Corridor Improvements

Dear Mr. Alexander:

The Department of Public Health Drinking Water Section's (DWS) Source Assessment and Protection Unit has reviewed the above Notice of Scoping. The subject project is not in a public drinking water supply source water area, but it is within the public water supply service area of the Aquarion Water Company Main System (AWC, PWSID #CT0150011). The Department of Transportation should consult with the AWC on the locations of water distribution mains and coordinate with the AWC on potential relocation or replacement of water distribution mains within the project area.

If you have any questions regarding these comments, please call Pat Bisacky of this office at (860)509-7333.

Sincerely,

Eric McPhee
Supervising Environmental Analyst
Drinking Water Section

Cc: John Walsh, AWC
Tom Chyra, P. E., DPH DWS

Keeping Connecticut Healthy
DPH
Connecticut Department of Public Health

Phone: (860) 509-7333 • Fax: (860) 509-7359 • VP: (860) 899-1611
410 Capitol Avenue, MS#51WAT, P.O. Box 340308
Hartford, Connecticut 06134-0308
www.ct.gov/dph

April 28, 2015

Dear Mr. Alexander,

I oppose the Seaview Ave project

I want to save Remington Woods

We need an urban park

Cary Ericson

Dean, Jonathan M

From: Fleming, Kevin
Sent: Tuesday, April 28, 2015 8:56 AM
To: Dean, Jonathan M
Subject: FW: Remington Woods

From: Cathy Topolski
Sent: Friday, April 24, 2015 2:21 PM
To: DOT Environmental Planning
Subject: Remington Woods

I have lived in Stratford for most of my life and I am in the area of the Remington Woods section. I oppose the Seaview Avenue project because it will destroy the Remington Woods which is one part of Bridgeport that is so beautiful and serene. It is a slice of heaven right here in a busy, dirty, dusty city. Why not just destroy a part of nature - that is the American way. No matter what, the almighty buck comes first when it comes to tiny animals that cannot defend themselves. Why make the "Park City" worse by getting rid of the nasty woods and put up brick and mortar instead..... Of all the things on earth, nature is the one sustaining factor for us all.
No more destruction in this area.
Cathy Topolski

Dean, Jonathan M

From: Fleming, Kevin
Sent: Tuesday, April 28, 2015 8:55 AM
To: Dean, Jonathan M
Subject: FW: Seaview Avenue project

From: Dan Pflug
Sent: Friday, April 24, 2015 1:24 PM
To: DOT Environmental Planning
Subject: Seaview Avenue project

Hi Mark,

My name is Dan Pflug and I'm a Fairfield resident. I'm writing to say that I oppose the Seaview Avenue project. Please consider the negative environmental impact.

Sincerely,
Dan

Fermat Capital Management, LLC
615 Riverside Avenue, Westport, CT 06880
Tel: 203.454.6812
Fax: 203.227.9509

CONNECTICUT DEPARTMENT OF

ENERGY & ENVIRONMENTAL PROTECTION

OFFICE OF ENVIRONMENTAL REVIEW

79 ELM STREET, HARTFORD, CT 06106-5127

To: Mark W. Alexander - Transportation Assistant Planning Director
DOT - Bureau of Engineering & Construction, 2800 Berlin Turnpike, Newington

From: David J. Fox - Senior Environmental Analyst **Telephone:** 860-424-4111

E-Mail: david.fox@ct.gov

Date: May 8, 2015

Subject: Seaview Avenue Corridor Improvements, Bridgeport

The Department of Energy & Environmental Protection (DEEP) is responding to the Notice of Scoping for the proposed project in Bridgeport to reconstruct Seaview Avenue from Barnum Avenue to U.S. Route 1 and extend the roadway northerly to Stewart Street and then westerly to provide access to the planned Lake Success Business Park. The following comments are submitted for your consideration.

Any NEPA/CEPA document prepared for this project should evaluate the indirect impacts resulting from development of the Lake Success Business Park. Since providing access to the park is one of the project's objectives and it appears that the park's successful development is dependent on this project, analyses of the park's impact must be an integral part of the document. Obviously, the projected traffic generated by the park will be considered in design of Seaview Avenue and the access roadway. Potential impacts to the natural resources, (wetlands, flora, fauna, etc.) resulting from development of the large property should also be evaluated to the extent possible utilizing any conceptual plans that have been developed.

The project description notes that a new crossing of the Yellow Mill Channel may be required to facilitate access to the Lake Success Business Park. If this is the case, the project will require an inland wetland and watercourse permit from the Inland Water Resources Division as well as a Section 404 permit from the U.S. Army Corps of Engineers. In addition to the direct impacts of the watercourse crossing, potential impacts to wetland areas within the Lake Success Business Park would be evaluated during the permit process.

Portions of the project area are within the 100-year flood zone on the community's Flood Insurance Rate Map. The 100-year flood zone extends several hundred feet east of the Yellow Mill Channel north of Route 1; the new roadway may impinge on the flood zone. The potential crossing of the mill channel would traverse the floodplain and the floodway. If there is construction within the 100-year flood zone, the project must be certified by as being in compliance with flood and stormwater management standards specified in section 25-68d of the Connecticut General Statutes (CGS) and section 25-68h-2 through 25-68h-3 of the Regulations of Connecticut State Agencies (RCSA). In order to obtain flood certification, it must be demonstrated that there will be no work in the floodway that will result in any (greater than 0.00 feet) increase in the water surface elevation for the 10- or 100-year event as determined by hydraulic modeling.

Bridgeport has combined storm and sanitary sewers. Historically, wet weather management to eliminate combined sewer overflows (CSO) in combined sewer areas has been achieved through a combination of increased treatment plant capacity, construction of storage tunnels and tanks, or separation of storm and sanitary flows into separate pipe networks, collectively referred to as grey infrastructure. It is now recognized that green infrastructure or low impact development (LID) practices can be a cost-effective and environmentally preferable stormwater management approach when used to support grey infrastructure. In many cases, implementation has relied upon pairing green infrastructure with cost-effective grey infrastructure and identifying opportunities to incorporate green infrastructure elements into other ongoing city projects. This project provides such an opportunity.

The Department urges that green infrastructure or LID techniques be utilized to the greatest extent practicable in designing the stormwater collection system for the reconstructed and new roadway as well as during subsequent private development of the business park. Water quality and quantity benefits are maximized when multiple techniques are grouped together. Consequently, we typically recommend the utilization of one, or a combination of, the following measures:

- the use of pervious pavement or grid pavers (which are very compatible for parking lot and fire lane applications), or impervious pavement without curbs or with notched curbs to direct runoff to properly designed and installed infiltration areas,
- the use of vegetated swales, tree box filters, and/or infiltration islands to infiltrate and treat stormwater runoff (from building roofs, roads and parking lots),
- the minimization of access road widths and parking lot areas to the maximum extent possible to reduce the area of impervious surface,
- if soil conditions permit, the use of dry wells to manage runoff from the building roofs,
- the use of vegetated roofs (green roofs) to reduce the runoff from buildings,
- incorporation of proper physical barriers or operational procedures to prevent release of pollutants from special activity areas (e.g. loading docks, maintenance and service areas, dumpsters),
- the installation of rainwater harvesting systems to capture stormwater from building roofs for the purpose of reuse for irrigation, and
- providing for pollution prevention measures to reduce the introduction of pollutants to the environment.

The Department has compiled a listing of web resources with information about watershed management, green infrastructure and LID best management practices. It may be found on-line at: LID Resources.

The effectiveness of various LID techniques that rely on infiltration depends on the soil types present at the site. According to the Natural Resources Conservation Service's Soil Web Survey, the soils along the roadway route consist of udorthents and urban land. These soils are unrated in their suitability for various stormwater management practices. However, infiltration practices may be suitable at this site. Soil mapping consists of a minimum 3 acres map unit and soils may vary substantially within each mapping unit. Test pits should be dug in areas planned for infiltration practices to verify soil suitability and/or limitations. Planning should insure that areas to be used for infiltration are not compacted during the construction process by vehicles or

machinery. The siting of areas for infiltration must also consider any existing soil or groundwater contamination.

The portion of the proposed project area south of Grant Street is within Connecticut's coastal boundary as defined by section 22a-94 of the CGS and is subject to the provisions of the Connecticut Coastal Management Act (CCMA), sections 22a-90 through 22a-112. The site is not a waterfront property and does not possess sensitive coastal resources. Coastal management concerns which should be addressed in future phases of the project planning process are the potential mobilization of pollutants in contaminated soils and appropriate use of urban retrofit stormwater best management practices, wherever possible.

The ongoing remediation of the Lake Success Business Park property, formerly known as Remington Woods, is being overseen by the U.S. EPA. under a RCRA section 3008(h) consent order (I-90-1005). The Remington Arms Company had used the property for production, testing, storage and disposal of small and large caliber ammunition and powders and operated a hazardous waste lagoon as part of their wastewater treatment system. Although considerable progress has been made in investigating and remediating contamination on the property, the current remediation schedule extends into 2020.

In order to mitigate potential air quality impacts from construction activities in this urban environment, the Department recommends the following measures.

For large construction projects, the Department typically encourages the use of newer off-road construction equipment that meets the latest EPA or California Air Resources Board (CARB) standards. If that newer equipment cannot be used, equipment with the best available controls on diesel emissions including retrofitting with diesel oxidation catalysts or particulate filters in addition to the use of ultra-low sulfur fuel would be the second choice that can be effective in reducing exhaust emissions. The use of newer equipment that meets EPA standards would obviate the need for retrofits.

The Department also encourages the use of newer on-road vehicles that meet either the latest EPA or California Air Resources Board (CARB) standards for construction projects. These on-road vehicles include dump trucks, fuel delivery trucks and other vehicles typically found at construction sites. On-road vehicles older than the 2007-model year typically should be retrofitted with diesel oxidation catalysts or diesel particulate filters for projects. Again, the use of newer vehicles that meet EPA standards would eliminate the need for retrofits.

Additionally, Section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies (RCSA) limits the idling of mobile sources to 3 minutes. This regulation applies to most vehicles such as trucks and other diesel engine-powered vehicles commonly used on construction sites. Adhering to the regulation will reduce unnecessary idling at truck staging zones, delivery or truck dumping areas and further reduce on-road and construction equipment emissions. Use of posted signs indicating the three-minute idling limit is recommended. It should be noted that only DEEP can enforce Section 22a-174-18(b)(3)(C) of the RCSA. Therefore, it is recommended that the project sponsor include language similar to the anti-idling

regulations in the contract specifications for construction in order to allow them to enforce idling restrictions at the project site without the involvement of the Department.

As construction commences, the discovery of hazardous materials, hazardous waste and/or contaminated soils would be a potential throughout the project corridor. It is assumed that ConnDOT's standard procedures, such as preparing Land Use Evaluation reports (Task 110) and Preliminary Evaluation reports (Task 120), would be employed to evaluate the potential to encounter contamination. A site-specific hazardous materials management plan should be developed prior to commencement of construction and a health and safety plan for construction workers should also be prepared. The Department's standard comments concerning construction projects in urban areas are submitted for your information:

Development plans in urban areas that entail soil excavation should include a protocol for sampling and analysis of potentially contaminated soil. Soil with contaminant levels that exceed the applicable criteria of the Remediation Standard Regulations, that is not hazardous waste, is considered to be special waste. The disposal of special wastes, as defined in section 22a-209-1 of the Regulations of Connecticut State Agencies (RCSA), requires written authorization from the Waste Engineering and Enforcement Division prior to delivery to any solid waste disposal facility in Connecticut. If clean fill is to be segregated from waste material, there must be strict adherence to the definition of clean fill, as provided in Section 22a-209-1 of the RCSA. In addition, the regulations prohibit the disposal of more than 10 cubic yards of stumps, brush or woodchips on the site, either buried or on the surface. A fact sheet regarding disposal of special wastes and the authorization application form may be obtained at: Special Waste Fact Sheet.

The Waste Engineering & Enforcement Division has issued a *General Permit for Contaminated Soil and/or Sediment Management (Staging & Transfer)* (DEP-SW-GP-001). It establishes a uniform set of environmentally protective management measures for stockpiling soils when they are generated during construction or utility installation projects where contaminated soils are typically managed (held temporarily during characterization procedures to determine a final disposition). Temporary storage of less than 1000 cubic yards of contaminated soils (which are not hazardous waste) at the excavation site does not require registration, provided that activities are conducted in accordance with the applicable conditions of the general permit. Registration is required for on-site storage of more than 1000 cubic yards for more than 45 days or transfer of more than 10 cubic yards off-site. A fact sheet describing the general permit, a copy of the general permit and registration forms are available on-line at: Soil Management GP.

The DEEP Office of Environmental Justice is aware that previous extensive construction projects in urban environments have resulted in displacement of rodents that result in problem infestations in neighboring areas. Prior to construction, a comprehensive survey of the project area should be conducted to identify rodent nesting/feeding areas. An extermination plan should be developed in coordination with municipal health officials to be implemented before construction activities commence. The project site and surrounding areas should be monitored to

confirm the success of the extermination efforts and investigate any reports of rodents. Additional extermination efforts should be implemented, as necessary.

The Natural Diversity Data Base has no records of extant populations of Federally listed endangered or threatened species or species listed by the State, pursuant to section 26-306 of the CGS, as endangered, threatened or special concern, that occur within the project roadway corridor. The Natural Diversity Data Base response includes all information regarding critical biological resources available at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey and cooperating units of DEEP, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the Data Base should not be substitutes for on-site surveys required for environmental assessments. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the Data Base as it becomes available. The result of this review does not preclude the possibility that listed species may be encountered on site and that additional action may be necessary to remain in compliance with certain state permits.

Thank you for the opportunity to review this proposal. If you have any questions concerning these comments, please contact me.

cc: Jeff Caiola, DEEP/IWRD
John Gaucher, DEEP/OLISP
Robert Gilmore, DEEP/IWRD
Robert Hannon, DEEP/OPPD
Amanda Killeen, DEEP/RD
Edith Pestana, DEEP/OEJ
Denise Ruzicka, DEEP/WPSD

Dean, Jonathan M

From: Fleming, Kevin
Sent: Thursday, May 07, 2015 3:21 PM
To: Dean, Jonathan M
Subject: FW: Remington Woods

Another comment

From: Alexander, Mark W
Sent: Thursday, May 07, 2015 3:20 PM
To: Fleming, Kevin
Subject: FW: Remington Woods

Comment on Seaview Ave.

Mark W. Alexander
Transportation Assistant Planning Director
Bureau of Policy and Planning
Connecticut Department of Transportation
Mark.W.Alexander@ct.gov
telephone: (860) 594-2931
fax: (860) 594-3028

From: Elanie Borno
Sent: Wednesday, May 06, 2015 7:06 PM
To: Alexander, Mark W
Subject: Remington Woods

i feel that as a Bridgeport resident, it would be more beneficial to our city that the downtown area be revitalized instead of spending the taxpayers money on a new project. I'm sure you would agree that downtown is a disgrace. Also, to many residents, including myself, we worry about all of the animals that live at Remington Woods.

Dean, Jonathan M

From: Fleming, Kevin
Sent: Monday, May 04, 2015 7:12 AM
To: Dean, Jonathan M
Subject: FW: A "Thank You" Message To The CT DOT, And A Message That We Strongly Oppose The Proposed "Seaview Avenue Extension" Development Proposed For The Remington Woods Area!!

-----Original Message-----
From: Frank Cronson
Sent: Sunday, May 03, 2015 4:00 PM
To: DOT Environmental Planning
Subject: A "Thank You" Message To The CT DOT, And A Message That We Strongly Oppose The Proposed "Seaview Avenue Extension" Development Proposed For The Remington Woods Area!!

Attention To:
Mr Mark W. Alexander,
CT State Dept Of Transportation,
Bureau of Policy and Planning

Firstly, a big "Thank You" to all at the CT DOT, who manage to keep us traveling safely on the Roads and Highways throughout CT--especially during unpredictable and challenging weather conditions, as we have had this past winter!

That being said, we wish to add our voices to the many who Strongly Oppose The Proposed "Seaview Avenue Extension" Development Project For The Remington Woods Area!!

In this issue, we agree with the many points raised by Peter McKnight, Chairmen of the Friends of Remington Woods, and Eastern Fairfield County Sierra Group!

Remington Woods is a truly unexpected gem--as an almost completely undeveloped natural area, it is a rare gift that has been bequeathed to all of us by a set of unusual historical circumstances--this is especially so as it is located where it is most needed--in the midst of a densely populated and already highly developed Greater Bridgeport Area of Fairfield County--an area which is already overburdened with almost continuous traffic jams during rush hours, and even on weekends!

In our travels around the State of Connecticut and the USA, and in our studies, we have seen many beautiful examples of how a standing forest, a wetland, a lake, a mountain, a former farmland or an otherwise un-developed or under-developed area, can be wisely and brilliantly preserved as a Natural Area, and incorporated elegantly into the planning of a municipality!

This can be done in ways that are manifestly cost-effective--while providing for multiple uses--primarily as a wildlife nature sanctuary and parkland preserve--which is, by definition, a healthy air replenishment and buffer zone--in the middle of an otherwise dense urban center!

We would strongly recommend a visit to Mill Mountain Park, in the midst of the City of Roanoke, Virginia--which also features the excellent Mill Mountain Zoo on top!

Also recommended are visits to several such areas in South-Eastern Florida, such as the Wakodahatchee Wetlands Boardwalk, a part of a former water treatment area, 13026 Jog Road, Delray Beach, FL 33446, and the nearby Green Cay Nature Center and Wetlands, a former farmstead, 12800 Hagen Ranch Road, Boynton Beach, FL33437, just for two examples!

We appreciate the CT DOT for taking into consideration the opinions and very strong feelings of the residents and citizens of CT in the Greater Bridgeport Area, whose lives are to be most affected by any decisions with regard to planning of traffic patterns and usage in the area of Remington Woods!

Respectfully Submitted,

--Frank V Cronson and Lorraine

Sent from my iPhone

Sincerely,

Frank V. Cronson

Sincerely,

Frank V. Cronson

Sincerely,

Frank V. Cronson

Dean, Jonathan M

From: Fleming, Kevin
Sent: Tuesday, April 28, 2015 8:56 AM
To: Dean, Jonathan M
Subject: FW: Remington Woods under attack ....again!

From: jacek ziemski
Sent: Friday, April 24, 2015 2:29 PM
To: DOT Environmental Planning
Subject: RE: Remington Woods under attack ....again!

I OPPOSE the Seaview Avenue project.

jacek ziemski

Dean, Jonathan M

From: Fleming, Kevin
Sent: Tuesday, April 28, 2015 8:55 AM
To: Dean, Jonathan M
Subject: FW: WE ABUSE SEAVIEW AVENUE PROJECT

From: Jaclyn and Rob Rothenberg
Sent: Friday, April 24, 2015 6:57 AM
To: DOT Environmental Planning
Subject: WE ABUSE SEAVIEW AVENUE PROJECT

WE ABUSE SEAVIEW AVENUE PROJECT

THIS LAND IS A GEM TO STRATFORD AND BRIDGEPORT, develop on the many other properties.

In honor of earth day, leave the trees and land, this gem.

Sincerely,
Jaclyn and Rob Rothenberg, Stratford

Dean, Jonathan M

From: Fleming, Kevin
Sent: Tuesday, April 28, 2015 8:56 AM
To: Dean, Jonathan M
Subject: FW: Protect Remington Woods; Oppose Seaview Avenue expansion project

---

From: Kevin Malone
Sent: Friday, April 24, 2015 10:42 PM
To: DOT Environmental Planning
Subject: Protect Remington Woods; Oppose Seaview Avenue expansion project

I am writing to express my concern for the Remington Woods property and the potential adverse impact that it might suffer from the proposed Seaview Avenue project. Remington Woods is the greatest forested area in the City of Bridgeport and should be protected to the greatest extent possible.

Thank you for your concern.

Kevin Malone
Trumbull, CT

Dean, Jonathan M

From: Fleming, Kevin
Sent: Tuesday, April 28, 2015 8:56 AM
To: Dean, Jonathan M
Subject: FW: Seaview Avenue Project

From: Peter McKnight
Sent: Friday, April 24, 2015 3:46 PM
To: DOT Environmental Planning
Subject: Seaview Avenue Project

Mark W. Alexander

DOT's Bureau of Policy and Planning

Dear Mr. Alexander,

I'm writing to oppose the reconstruction and extension of Seaview Avenue that would lead into the Remington Woods site in Bridgeport.

This is the grossest example of corporate welfare that benefits DuPont but not the people of Bridgeport, and has the capacity to harm neighborhoods along the route of this road.

In addition, Remington Woods is a valuable open space that should be preserved, not opened up to development with the aid of the state.

And finally, the infrastructure along I95 and the Metronorth corridor is where development should be encouraged, not an area so far removed for existing infrastructure.

There are plenty of brownspaces that could be cleaned and utilized along that corridor. There is no need to build a new road to an open space so far from the areas that are best suited to development.

Sincerely,

Peter McKnight

Chairman

Friends of Remington Woods

59 Robin Lane

Fairfield CT 06824

203-257-6796

Dean, Jonathan M

From: Fleming, Kevin
Sent: Tuesday, April 28, 2015 8:55 AM
To: Dean, Jonathan M
Subject: FW: Stop Remington Woods Development

From: Tim Ryan
Sent: Friday, April 24, 2015 1:07 PM
To: DOT Environmental Planning
Subject: Stop Remington Woods Development

To: Mark W. Alexander, of the DOT's Bureau of Policy and Planning

Please stop the proposed Development of Remington Woods…keep Remington Woods a "Woods". There is no reason to destroy forever this bucolic setting between Stratford and Bridgeport. There are plenty of "brown fields" in the area to use and the neighbors of both areas would benefit from using these sites to build office parks, etc.

Thank you,

Tim Ryan
Trumbull CT

Dean, Jonathan M

From: Fleming, Kevin
Sent: Tuesday, April 28, 2015 8:56 AM
To: Dean, Jonathan M
Subject: FW: oppose the Seaview ave project

From: Robert zeleznik
Sent: Saturday, April 25, 2015 8:42 AM
To: DOT Environmental Planning
Subject: oppose the Seaview ave project

Those woods need to be saved, there are to many reasons to say why. pease find it in your heart and not your wallet to save the wildlife that thrive there. thank you

Dean, Jonathan M

From: Fleming, Kevin
Sent: Tuesday, April 28, 2015 8:57 AM
To: Dean, Jonathan M
Subject: FW: Seaview avenue project

-----Original Message-----
From: Larry Lavely
Sent: Sunday, April 26, 2015 10:45 PM
To: DOT Environmental Planning
Subject: Seaview avenue project

I'm writing to oppose the seaview avenue project. A dear friend sent me word that you were planning on cutting one of the last remaining wooded areas in Connecticut. We should team up to stop deforestation at all cost. Not only climate change real but depleting wood lands has shown an increase in co2 in our atmosphere. Regardless of what kind of profit you could make, it's useless if people are dying because they can't breathe. Please so not remove any more wooded areas. They are necessary for our survival. Thank you.

Larry Lavely
1490 Verdale Dr.
Cincinnati, OH 45230

513-274-7507

Dean, Jonathan M

To: Fleming, Kevin
Subject: RE: Seaview ave Project.

From: Fleming, Kevin
Sent: Wednesday, April 29, 2015 7:17 AM
To: Dean, Jonathan M
Subject: FW: Seaview ave Project.

From: joan mccoy
Sent: Tuesday, April 28, 2015 6:31 PM
To: DOT Environmental Planning
Subject: Seaview ave Project.

I am writing to let you know that I oppose the Seaview Ave Project. Thank you. Sincerely, Joan McCoy Fairfield, Ct

Connecticut Chapter
2074 Park St. Ste.308
Hartford, Connecticut 06106
www.connecticut.sierraclub.org

Mark W. Alexander
DOT Bureau of Policy and Planning
2800 Berlin Turnpike
Newington, CT 06111

Dear Mr. Alexander,

My name is Roberta Paro and I'm the Chair of the Sierra Club's Connecticut Chapter. By way of background, the Connecticut Chapter has a long history of opposing the development of Remington Woods and instead supports its preservation as open space.

The proposed reconstruction and extension of Seaview Avenue that would lead into the Remington Woods site in Bridgeport has the capacity to harm neighborhoods along its route and would carry the pollution of thousands of trucks and cars. Studies by Yale University (School of Public Health, 1998) and by the Urban Land Institute (2005) indicate that the City of Bridgeport would reap negative net returns on investment and incur environmental harm through the development of Remington Woods. We also question why the state would, as it contemplates cutting funds for open space, allocate funds to destroy open space?

The infrastructure along I-95 and the Metro-North corridor is where development should be encouraged, not in Remington Woods, an area far removed from existing infrastructure. The money proposed for expensive and unnecessary roads would be better spent on remediation of the large number of brown field sites along the I-95, Metro-North corridor.

There is no need or benefit to building an expensive new road to an open space so far from the areas that are best suited to development. For all the reasons listed above and because of the benefits of preserving Remington Woods as open space, the Sierra Club's Connecticut Chapter opposes the proposed reconstruction and extension of Seaview Avenue and the development of Remington Woods..

Preserving Remington Woods as an urban forest provides many health and environmental benefits including improved air quality, reduction in soil erosion, and decreases in storm water management to name just a few. http://www.ecology.com/2012/10/31/benefits-urban-trees/ provides a list of many benefits of urban trees, along with a list of references. Remington Woods is a unique place that cannot be replaced.

Sincerely,

Roberta Paro

Roberta Paro, Chair
Sierra Club Connecticut Chapter

Dean, Jonathan M

From: Fleming, Kevin
Sent: Thursday, May 07, 2015 4:10 PM
To: Dean, Jonathan M
Subject: FW: Oppose Seaview Ave corridor

From: Mary Ellen LEmay
Sent: Thursday, May 07, 2015 3:42 PM
To: DOT Environmental Planning
Subject: Oppose Seaview Ave corridor

Dear Mr. Alexander,

I formally oppose the state funding for the Seaview Avenue corridor in Bridgeport.

It is a poor use of state and city funds because it clearly does not follow any of the parameters of a Transit Oriented Development or the Sustainable Urban development. Funding should be spent on the main transportation hubs in the Bridgeport region and Seaview Avenue is NOT one of them.

This misguided funding will simply support opening a corridor to more sprawl that will destroy a 400 acre urban forest…that is NOT smart growth and NOT TOD. Creating a road to access planned "office park developments" does not seem sensible with the high rate of office park vacancies in the region currently.

There is so much more to be done in Bridgeport, especially redevelopment of Brownfields, a new train station and new schools….Seaview ave is not a good use of funds.

Sincerely

MaryEllen Lemay
Trumbull CT

--
Mary Ellen Lemay, MBA, MEM
Master of Environmental Management
Yale School of Forestry and Environmental Studies
Principal, Eco-Sites LLC.

TO Mark W. Alexander, DOT
FAX 860 594 3028

RE: Petitions Opposing the Extention of Beaview Ave for Environmental & Economic Reasons

From Beth Hazar 203 336-9781

Enclosed are seven pages of petitions signed by 97 Ct. Residents Opposing the Extention of Beaview Ave. for Environmental and Economic Reasons. The majority of the signees are Bridgeport and Stratford Residents Here's the breakdown by town/City

Ansonia 1
Avon 1
* Bridgeport 56
Derby 1
Darien 1
Easton 1
East Haven 1
Fairfield 6
Hamden 1
New Haven 3
North Haven 1
Milford 3
Monroe 1
Shelton 1
* Stratford 14
Stamford 2
Trumball 3
Westport 1

From Fax:
From Fax: 203 368 9896

To Mark W. Alexander DOT

We, the Undersigned OPPOSE the Extention of Seaview Avenue on both Enviromental and Economical Reasons. The Road would enable Dupont to knockdown and destroy Remington woods. We are for preserving the woods. The loss of Remington woods and the Extention of Seaview Ave would worsen air quality by increasing traffic, by destroying the air cleaning properties of the trees. Extending Seaview Ave, maintaining the new Road, and all the required new infrastructure into the woods (such as gas, Electric, water, Seawage lines) would cost taxpayers millions of dollars - It will cost taxpayers more in services than we would recoup in taxes by developing the woods.

	NAME	City & ZIP Code	Email
1	Jesse Davis	BPT. 06604	JESSEDAVIS97@HOTMAIL.C
2	Lucia Munk	North Haven, 06473	mlucher@aol.com
3	Persephone Hunter	Derby, 06418	perci hunter@yahoo.com
4	Warren Hinton	Bpt 06610	iphone9220@gmail.com
5	Sonia Islam	Bpt 06605	Sni.17@live.com
6	Malik Ashley	BPT 06606	malikoshley@aol.com
7	Alfredo Rivera Jr.	BPT 06604	Raven'c1995@gmail.com
8	Aram Rivera	BPT 06610	airamrivera27@gmail.com
9	Joey Andrasi	Trumbull 06611	joeyandrasi@yahoo.
10	Monika Molz	Stratford 06614	Monika22pl@aol.com
11	Darlyne Deardy	Stratford CT	darlyne_deardy@yahoo.com
12	Marcia L. Smith	Hamden, CT	mackelshouse@yahoo.com
13	Sean O'Keefe	Stratford CT 06614	SOkeefe5@gmail.com
14	Jennie Salgado	Bridgeport 06604	jennielee9796@gmail.com

To Mark W. Alexander ~~to~~ DOT

We, the Undersigned OPPOSE the Extention of Seaview Avenue on both Enviromental and Economical Reasons. The Road would Enable Dupont to knockdown and destroy Remington woods. We are for preserving the woods. The loss of Remington woods and the Extention of Seaview Ave would adversen air quality by increasing traffic & by destroying the air cleaning properties of the trees. Extending Seaview Ave, maintaining the new Road, And all the Required New Infrastructure into the woods (such as gas, Electric, water, Seauge lines) would cost taxpayers millions of dollars - It will cost taxpayers more in services than we would recoup in taxes by developing the woods

	NAME	City & ZIP Code	Email
1	Ronald Neuhauser	East Haven 06513	rnantidote@gmail.c
2	James Moss	New Haven 06511	jamesmossmusic@gmail.
3	Beth HAZAR	Bridgeport Ct. 06604	LadyBeth885@gmail.com
4	Jonathan Davis	Bridgeport CT 06604	tawawawellness@optor
5	Marylou Thompson	Bridgeport, CT 06604	timez.win2012@gmail.c
6	RAZU M. BRANCH	BRIDGEPORT 06606	MAGNACENT@GMOIL.COM
7	Karen J. Edwards	Stratford Ct	edwards.197@Hotmail.c
8	MRS BARBARA BRESLER	Bpt 06604	
9	Richard Fewell	Bpt 06606	FEW89A@Yahoo.com
10	Elisabeth Van Tuyl	Bpt 06605	JDSOLTIS@earthlink.ne
11	JEFFREY P. Kohut	Bpt 06606	JPKohut1@aol.com
12	Elaine Clayton	Westport 06880	
13	William Fowler	New Haven 06511	
14	Deolinda Ruas	Bpt Ct. 06604	DEEDAGR65@gmail.com

To Mark W. Alexander c/o DOT

We, the Undersigned OPPOSE the Extention of Seaview Avenue on both Enviromental and Economical Reasons. The Road would Enable Dupont to knock down and destroy Remington woods. We are for preserving the woods. The loss of Remington woods and the Extention of Seaview Ave would worsen air quality by increasing traffic & by destroying the air cleaning properties of the trees. Extending Seaview Ave, maintaining the new Road, And all the Required New Infrastructure into the woods (such as gas, Electric, water, Seauge lines) would cost taxpayers Millions of dollars - It will cost taxpayers more in services than we would recoup in taxes by developing the woods.

	NAME	City & ZIP Code	Email
1	Lukas Guimaraes	Milford 06460	lguim003@comment.c
2	Carmen Mendivil	Bridgeport 06604	carmenmendivil@hotmail.com
3	Alessandra Pane	Fairfield 06825	panea15@gmail.co
4	James St.Fleur	Bridgeport 06606	Jcraze15@gmail.com
5	Michele Ocasio	Bridgeport 06607	MLOcasio@gmail.c
6	Niko Sarmiento	Stratford, 06614	Nikorage@yahoo.com
7	Rai Buchanan	Stratford, 06614	Rai Knight@yahoo.co
8	Bobbi Jahelka	Bridgeport, 06610	bobbi1993@gmail.com
9	Vladimir Petrov	Bridgeport, 06610	masterrod@gmail.com
10	ARIAN DAGAO	Stfd. CT 06614	Idydolphin68@yahoo.
11	Lamar Robinson	Bridgeport, CT 0666	Lamar_Rob716@Yahoo.
12	Carmen Medina	Stfd CT 06615	Medina.Laprieta@gmai
13	Jacki Bannister	Stfd CT 06614	Jbannisterhse@gmail.com

To Mark W. Alexander c/o DOT

We, the Undersigned OPPOSE the Extention of Seaview Avenue on both Enviromental and Economical Reasons. The Road would Enable Dupont to knockdown and destroy Remington woods. We are for preserving the woods. The loss of Remington woods and the Extention of Seaview Ave would worsen air quality by increasing traffic, by destroying the air cleaning properties of the trees. Extending Seaview Ave, Maintaining the new Road, And all the Required New Infrastructure into the woods (Such as gas, Electric, water, Seauge lines) would cost taxpayers Millions of dollars. It will cost taxpayers more in services than we would Recoop in taxes by developing the woods

	NAME	City & ZIP Code	Email
1	Kristen Rizzo	Ansonia 06401	Krizzio0822@snet.net
2	Joanna Schetelich	Darien, 06820	josieboo13@yahoo.com
3	YASMINE RUSSELL	Stratford, 06615	y.a.s.russell@snet.net
4	Brenna McIntyre	Milford 06460	mcintyrebrenna@gmail.com
5	Peter Parkes	stratford 06615	PJParkes667@aol.com
6	Marie Benoit	Trumbull, 06611	MBH10801@yahoo.com
7	Jan Schaeffer	BPT, CT 06604	janschaeffler@yahoo.com
8	Jacob Hemenway	Shelton, CT 06484	jacobthemenway@hotmail.com
9	Edie Cassidy	Bpt CT 06605	[illegible]
10	JEFF SCHWARTZ	FAIRFIELD CT 06825	
11	CHEO SONNEBORN	EASTON 06612	CheoSonneborn@gmail.com
12	EVERETT HARKINS	Bpt, CT 06604	
13	Patricia Ginoni	Bpt CT 06604	N
14	Eileen Arlington	Bpt, CT 06604	
15			

To Mark W. Alexander c/o DOT

We, the Undersigned OPPOSE the Extention of Seaview Avenue on both Environmental and Economical Reasons. The Road would enable Dupont to knockdown and destroy Remington woods. We are for preserving the woods. The loss of Remington woods and the Extention of Seaview Ave would worsen air quality by increasing traffic by destroying the air cleaning properties of the trees. Extending Seaview Ave, maintaining the new Road, and all the required new infrastructure into the woods (such as gas, electric, water, sewage lines) would cost taxpayers millions of dollars. It will cost taxpayers more in services than we would recoup in taxes by developing the woods.

	Name	City & ZipCode	Email
1	Felicia Pck	Bpt 06608	Felicia.pck712@gmail
2	Kimberly Zapata	Bpt 06606	Kimmie.zapata@yahoo
3	Omar Wright	Bpt 06606	omarrashawn.dexter.gt@gm
4	Carlos Arguelles	Bpt 06605	Carlos.Arguelles16@gmail.com
5	Marlin Espinal	Bpt 06606	espinalmarlin@yahoo.c
6	Danielle Dunaney	BPT 06606	ddunaney22@hotmail.com
7	Cidonnie Cothe	BPT 06608	Cothecidonnie.n@gmail.com
8	Julio Reinoso	Bpt 06604	JPReino@yahoo.com
9	Maria Castiello	Mford 06460	maria.castiello@yahoo.c
10	Tanisha Gardner	Bpt 06606	Tgardner7429@gmail.com
11	Sarah Urbina	Bpt. 06606	Sarahjurbina@yahoo.co
12	Thomas Johnson	Bpt 06606	Bobthingama@yahoo.co
13	Marla Metivier	Bridgeport 06610	ccreativeartist53@aol.com
14	Jordan Mendez	Bpt, 06606	Siksense02@gmail.com

To Mark W. Alexander c/o DOT

We, the Undersigned OPPOSE the Extention of Seaview Avenue on both Enviromental and Economical Reasons. The Road would Enable Dupont to Knock down and destroy Remington woods. We are for preserving the woods. The loss of Remington woods and the Extention of Seaview Ave would worsen air quality by increasing traffic by destroying the air cleaning properties of the trees. Extending Seaview Ave, Maintaining the new Road, And all the Required New Infrastructure into the woods (Such as gas, Electric, water, Seuage lines) would cost taxpayers millions of dollars. It will cost taxpayers more in services than we would recoop in taxes by developing the woods

	NAME	City & ZipCode	Email
1	Robert Wyckoff	New Haven 06515	eikos.rtw@gmail.com
2	Kyle Osborne	Trumbull 06611	Kyle_Osborne43@yahoo.com
3	Ryan Lahiff	Fairfield 06825	RPRLahiff@gmail.com
4	Yovanny Goris	Stamford 06902	Yovanny Goris @ Hotmail
5	Anthony Reyes	Stamford 06907	Anthony Reyes 829@yahoo.com
6	Jillian Woods	Monroe 06468	woodsx@aol.com
7	Dana Minopoli	Bpt 06606	danaminopoli.hq4u@gmail.com
8	Hank Moody	Stratford 06614	Hankhateu all @gmai
9	Elyjah Magliocchetti	Stratford 06614	Elymags2k@gmail.com
10	Alice Gorham-Wiggins	Bpt 06604	gwiggins@bridgeportlibrary.org
11	Willie D. Vereen	Bpt. CT 06606	wdvereen@yahoo.com
12	Isaac Pena	strat CT 06614	Ipena1saac@gmail.com
13	Charlene Grime	Bpt. CT 06605	Cgrime6@gmail.com
14	Jackie Joyner	Bpt CT 06606	jhjoynerzoo1@yahoo.com
15			

To Mark W. Alexander c/o DOT

We, the Undersigned OPPOSE the Extention of Beaview Avenue on both Environmental and Economical Reasons. The Road would enable Dupont to knock down and destroy Remington woods. We are for preserving the woods. The loss of Remington woods and the Extention of Beaview Ave would worsen air quality by increasing traffic, by destroying the air cleaning properties of the trees. Extending Beaview Ave, maintaining the new Road, and all the required new infrastructure into the woods (such as gas, Electric, water, Sewage lines) would cost taxpayers millions of dollars. It will cost taxpayers more in services than we would recoup in taxes by developing the woods.

	Name	City & ZIP Code	Email
1	Jessica Wolf	Fairfield 06825	JWolf05@gmail.com
2	Barbara Edinberg	Fairfield, 06825	bcedinberg@gmail.com
3	Nyrasia Lamax	Bridgeport, 06607	futureactress28@gmail.com
4	KENYA FLAVIUS	BRIDGEPORT, CT 06610	KENYAFLAVIUS@gmail
5	Samantha Neverson	Bridgeport, CT 06610	S.Neverson@hotmail.com
6	VERNITA WILLIAMS	BRIDGEPORT 06610	VernitaWilliams01@gmail
7	DAVID FLAVIUS	BRIDGEPORT CT 06610	DAVIDEFLAY@hotmail.com
8	Catherine Willis	~~Bridgeport 06607~~ → Bridgeport 06607	Addisauntie@yahoo.com
9	Tamara Cornell	Bridgeport 06606 →	Tamaletta@yahoo.com
10	Linda Wolfson	Avon 06001	Lindawolfe@yahoo.com
11	Susan Ratanaruy	Avon	sratanaruy@hotmail.com
12	Robert Belletzkie	Fairfield, CT	RBelletzkie12@Gmail
13	MICHAEL BORGES	Bridgeport, CT	
14	Ashley Verdejo	Bridgeport 06604	ashverdejo@gmail

Dean, Jonathan M

From: Fleming, Kevin
Sent: Tuesday, April 28, 2015 8:56 AM
To: Dean, Jonathan M
Subject: FW: Seaview Avenue, Remington Woods Project

From: Shirley Backus
Sent: Friday, April 24, 2015 11:33 PM
To: DOT Environmental Planning
Subject: Seaview Avenue, Remington Woods Project

It's sad that the almighty dollar has blinded so many people to the value of open space. The office park that's set to destroy over 419 acres of woodland is a huge mistake. It's not going to reap the benefits that DuPont and the developers are promising us.

Who's going to move into these offices? If there is such a high demand for office space, why is that beautiful office building in Stratford, on the corner of Main Street and Fenelon, still available? Why are there so many available signs along the Post Road in Milford? If few, if any, businesses move in, there will be few, if any, additional jobs, and little, if any, additional revenue. The recent minimum wage increases will cause businesses to downsize, laying off workers and/or go out of business altogether. The demand for office space will decline. With no demand for such offices, this project is doomed for failure.

Instead, we will be losing the best air filter available in an area that was recently determined to be one of the most polluted cities in the country. More than 70% of the world's land area has already been developed. That's 70% less air pollution filtration. 70% less oxygen. 70% more carbon dioxide. As more and more woodlands are destroyed, we will experience more storms, and more severe storms, costing countless millions of dollars. We will experience more record-breaking heat waves in the summer as well as more record-breaking cold spells in the winter. We will require more energy consumption to keep our homes comfortable.

I applaud the efforts to rebuild on the old General Electric site, but the woodland known as Remington Woods must be preserved. It is imperative that we stop destroying woodlands and re-use/replace blighted buildings instead. Developers paint glorious pictures of jobs and revenue that are irresistible, but we must retain our common sense and see what is truly needed. By not allowing developers to build on woodlands, we will force them to clean up blight and improve our cities and towns.

Please reject the Seaview Avenue project and protect this valuable woodland.

Sincerely,

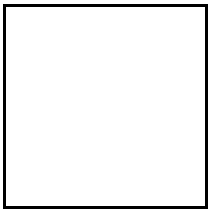
Shirley B. Backus
181 Ridge Road
Stratford, CT 06614
(203) 375-4809

Dean, Jonathan M

From: Fleming, Kevin
Sent: Tuesday, April 28, 2015 8:57 AM
To: Dean, Jonathan M
Subject: FW: oppose Seaview Ave Project

From: Tina
Sent: Sunday, April 26, 2015 12:33 PM
To: DOT Environmental Planning
Subject: oppose Seaview Ave Project

I oppose the Seaview Ave project in Bpt.
Save the woods!!!



203-463-8233

Appendix C – Agency Correspondence

The Delaware Nation
Cultural Preservation Office
P.O. Box 825 - 31064 State Highway 281- Anadarko, OK 73005
Phone: 405/247-2448 – Fax: 405/247-8905

NAGPRA ext. 1403
Section 106 ext. 1181
Museum ext. 1181
Library ext. 1196
Clerk ext. 1182

February 10, 2015

RE: HPR-CT – Multiple Projects in towns located in Fairfield County, CT

Ms. Herrell,

The Delaware Nation Cultural Preservation Department received correspondence regarding the above referenced project. Our office is committed to protecting sites important to tribal heritage, culture and religion. Furthermore, the tribe is particularly concerned with archaeological sites that may contain human burials or remains, and associated funerary objects.

As described in your correspondence and upon research of our database(s) and files, we find that the Lenape people occupied this area either prehistorically or historically. However, the location of the project does not endanger cultural or religious sites of interest to the Delaware Nation. Please continue with the project as planned. However, should this project inadvertently uncover an archaeological site or object(s), we request that you halt all construction and ground disturbance activities and immediately contact the appropriate state agencies, as well as our office (within 24 hours).

Please Note the Delaware Nation, the Delaware Tribe of Indians, and the Stockbridge Munsee Band of Mohican Indians are the only Federally Recognized Delaware/Lenape entities in the United States and consultation must be made only with designated staff of these three tribes. We appreciate your cooperation in contacting the Delaware Nation Cultural Preservation Office to conduct proper Section 106 consultation. Should you have any questions regarding this email or future consultation feel free to contact our offices at 405-247-2448 or by email nalligood@delawarenation.com.

Sincerely,

Nekole Alligood
Director

Delaware Tribe Historic Preservation Representatives
Department of Anthropology
Gladfelter Hall
Temple University
1115 W. Polett Walk
Philadelphia, PA 19122
temple@delawaretribe.org

February 7, 2015

U.S. Department of Transportation
Connecticut Division
Attn: Michelle Herrell
628-2 Hebron Avenue, Suite 303
Glastonbury, CT 06033

Re: State Project #15-371, Site name: Seaview Avenue Corridor Project

Dear Michelle Herrell,

Thank you for notifying the Delaware Tribe of the plans for the above referenced project. Our review indicates that there are no religious or culturally significant sites within the selected project area and we have no objection to the proposed project. We defer further comment to your office.

We ask that if any archaeological remains (artifacts, subsurface features, etc.) are discovered during the construction process that construction be halted until an archaeologist can view and assess the finds. Furthermore, we ask that if any human remains are accidentally unearthed during the course of the project that you cease development immediately and inform the Delaware Tribe of Indians of the inadvertent discovery. If you have any questions, feel free to contact this office by phone at (609) 220-1047 or by e-mail at temple@delawaretribe.org.

Sincerely,

Blair Fink

Blair Fink
Delaware Tribe Historic Preservation Representatives
Department of Anthropology
Gladfelter Hall
Temple University
1115 W. Polett Walk
Philadelphia, PA 19122

From: James Quinn
Sent: Tuesday, March 03, 2015 3:30 PM
To: Herrell, Michelle (FHWA)
Subject: Tribal Consultation Package

Hello Michelle,

Please find the following comments:

No Properties:
Canal Path Picnic Area
Improvements to Buttrick Trail
Replacement of Bridge #04071
State #117-149
South Main Street and Mile High Road Pedestrian Improvements
State #96-192
State #84-100
State #15-371
State #25-145

Please see the following comments:
State # 42-319: Due to the presence of moderately sensitive soils I support OEP's recommendation for a Phase I survey

Scantic River Trail: Can the trail be re-rerouted from the north side of the barn to avoid further impacts to the site from which ceramics and a significant amount of charcoal were found? This appears that it may be a domestic site.

Norwalk River Valley Trail: Can the proposed impacts to the "Wolfpit" site be minimized or avoided by following the recommendations in the Phase I report?

Replacement of Bridge #05165: Can the proposed project be placed entirely within the existing footprint and alignment?

State #113-107: Can the stipulations put forth by OEP be met? If not, then I support a Phase I survey.

State #113-108: Can the stipulations put forth by OEP be met? If not, then I support a Phase I survey.

Southington 131-190: Due to the presence of intact soils that may be present within the "triangle formed by Route 10, Route 322, and Old Turnpike Road," a Phase I Recon is warranted.

Sorry it took longer than usual to respond. Please let me know if you have any questions.

Best regards,
James

James Quinn
The Mohegan Tribe
Mohegan Tribal Historic Preservation Officer & Archaeology Department Manager
13 Crow Hill Rd.
Uncasville, CT
Office: 860-862-6893
Cell: 860-367-1573

From: Turnbull, Marissa
Sent: Monday, March 02, 2015 2:57 PM
To: Herrell, Michelle (FHWA)
Subject: RE: Tribal Consultation Package

Good afternoon Ms. Herrell:

Attached please find MPTN comments on the proposed projects submitted by the Federal Highway Administration in cooperation with the Connecticut State Department of Transportation.

Warm Regards,
Marissa

Marissa Turnbull | Tribal Historic Preservation Officer
Natural Resources Protection & Regulatory Affairs

Mashantucket Pequot Tribal Nation
550 Trolley Line Blvd., P.O. Box 3202, Mashantucket, CT 06338-3202
T: 860.396.7570 | F: 860.396.6745
mturnbull@mptn-nsn.gov

State Project #15-371
Seaview Avenue Corridor Project, Bridgeport (Fairfield County)
Based on a review of the information provided, there does not appear to be any impact to potentially significant religious and cultural resources for the Mashantucket Pequot Tribe. This office agrees with OEP's expectation "to advance a finding of no adverse effect to historic properties." Please keep me informed of any further developments with respect to this project.

Department of Economic and Community Development

Connecticut
still revolutionary

November 3, 2016

Mr. Mark Alexander
Office of Environmental Planning
Department of Transportation
2800 Berlin Turnpike
P.O. Box 317546
Newington, CT 06131-7546

Subject: Project No. 15-371
Seaview Avenue Corridor Project
Bridgeport, Connecticut

Dear Mr. Alexander,

The State Historic Preservation Office (SHPO) has examined information provided regarding changes to the referenced project. SHPO recognizes that the scope of the project fundamentally remains the same, but the corridor has been reduced in its overall length. This office understands that the improvements will consist of two sections. The first section includes minor road widening, pavement rehabilitation, and other upgrades along Seaview Avenue between Barnum Avenue to the south and US Route 1 to the north. The second section will realign Bond Street to the west of its current configuration between US Route 1 to the south and Stewart Street in the north. Because the proposed work will largely be confined to existing rights-of-way and disturbed soils, it is unlikely that significant archeological deposits would be impacted by the proposed activities. As you noted previously, the project area is situated adjacent to the Remington City Historic District, a property listed on the National Register of Historic Places. SHPO would like to add that extreme caution should be exercised during vibration producing activities, due to the close proximity of the adjacent historic buildings. With this precautionary measure taken into consideration, the proposed Seaview Avenue Corridor Project will not have permanent impacts to the character defining features of the historic properties and there will be no adverse effects.

SHPO appreciates the opportunity to review and comment upon this determination. These comments are provided in accordance with Section 106 of the National Historic Preservation Act. For additional information, please contact me at (860) 256-2764 or catherine.labadia@ct.gov.

Sincerely,

Catherine Labadia
Deputy State Historic Preservation Officer

Appendix D – CTDOT Preliminary Permit Need Determination Form

CONNECTICUT DEPARTMENT OF TRANSPORTATION

PERMIT NEED DETERMINATION FORM

A location map, detailed project description and any available plans must accompany this request. Submittals are to be sent to the Office of Environmental Planning. This document is to be completed by the OEP and is not final until signed by the Supervisor of the Water and Natural Resources Unit of OEP.

State Project #: 15-371
CORE Project #: _____
DOT Design contact: Jonathan Dean - CE Design Local Roads
Phone: (860)594-3211
FDP Date: _____
Anticipated Construction Start Date: _____
Towns (s): Bridgeport

Scope Review Date: _____
Waterway(s): Yellow Mill Channel
Drainage Area to site: 3.06 sq. mi.
Bridge Number: _____
Town or State Initiated: City Initiated
Funding Source: High Priority Projects (SAFETEA-LU)
Inspected By: City

Project Description: Reconstruction of Seaview Ave and construction of new arterial to provide access to LSBP.

Section 1: State Permitting Requirements

Flood Management Certification*
- ☐ Not Required
- ☐ Additional Information Required
- ☐ Flood Management General
- ☐ Flood Management Certification
- ☐ Flood Management Exemption

401 Water Quality Certification
- ☐ Not Required
- ☐ Additional Information Required
- ☐ Automatic (ACOE Category 1)
- ☐ Needed via CT PGP Addendum Form
- ☐ Coastal 401 via DEEP OLISP
- ☐ Individual 401

Inland Wetlands / Watercourses Permits
- ☐ Not Required
- ☐ Additional Information Required
- ☐ Emergency Authorization
- ☐ Temporary Authorization
- ☐ DMP Activity *(Maintenance Activities only)*
- ☐ DMP Activity *(Rails Maintenance Activities only)*
- ☐ Water Resource Construction Activities (General)
- ☐ IWW Individual Permit

Dam Safety Permits
- ☐ Not Required
- ☐ Additional Information Required
- ☐ Dam Safety Repair and Alteration (General)
- ☐ Dam Construction

Stormwater Permit
- ☐ Not Required
- ☐ Additional Information Required
- ☐ Stormwater Permit (1 or more acres of disturbance)**

Coastal Permits - Long Island Sound Programs
- ☐ Not Required
- ☐ Additional Information Required
- ☐ Emergency Authorization
- ☐ Temporary Authorization
- ☐ CAM Consistency – OEP Internal Sign-off
- ☐ CAM Consistency – DEEP OLISP Approval
- ☐ Alert to Routine Maintenance
- ☐ Certificate of Permission
- ☐ Structures, Dredging and Fill
- ☐ Structures, Dredging and Fill, and Tidal Wetlands

Department of Public Health (DPH) Permits
- ☐ Not Required
- ☐ Additional Information Required
- ☐ Water Company Land General Permit
- ☐ Water Company Land Change in Use

**Coordination with the DOT Hydraulic and Drainage Unit will be required to finalize Flood Management permitting requirements.*
*** Coordination with OEP's Water/Noise Compliance Unit will be required to finalize stormwater permit requirements.*

Notes / Additional Information Required:

Section 2: Federal Permitting Requirements

Section 404 / Section 10 Permits (ACOE)

- ☐ Not Required
- ☐ Additional Information Required
- ☐ Emergency Authorization
- ☐ Category 1
- ☐ Category 2
- ☐ Individual Permit

United States Coast Guard (USCG)*

- ☐ Not Required
- ☐ Additional Information Required
- ☐ Coast Guard Coordination

**Coordination with FHWA will be required to determine USCG permitting requirements.*

Notes / Additional Information Required:

Section 3: Department Coordination Requirements / BMP's

Water Resources

- ☐ No Concerns Noted
- ☐ DEEP Boating Concerns
- ☐ Impaired Water body
- ☐ Watershed/Water Co. Land/Reservoir
- ☐ Public Wells
- ☐ Aquifer Protection Area
- ☐ Sole Source Aquifer Protection Area*

Natural Resources

- ☐ No Concerns Noted
- ☐ DEEP Property Acquisition Required
- ☐ Wild and Scenic River Designation
- ☐ Prime Farmland
- ☐ DEEP Fisheries Coordination
- ☐ NDDB Coordination
- ☐ NDDB Coordination (for Stormwater Permit)**

**EPA Coordination to be made in conjunction with FHWA.*

***If a stormwater permit is required, NDDB coordination must occur if species are located within 1/4mile of the project site.*

Notes / Additional Information Required:

Section 4: Permit and Department Coordination Requirements / BMPs for Municipal Projects

This is the only section that will be completed by OEP for Municipal Projects. State and Federal Permit Requirements are to be determined by the Municipality. Flood Management permitting will need to be approved prior to submission of any State and/or Federal Permits required for a municipal project.

Flood Management Certification*

- ☑ Not Required 1
- ☐ Additional Information Required
- ☐ Flood Management General
- ☐ Flood Management MOU Process
- ☐ Flood Management Certification (DEEP)
- ☐ Flood Management Exemption

Natural Resources

- ☑ No Concerns Noted 2
- ☐ DEEP Fisheries Coordination
- ☐ NDDB Coordination

**Coordination with the DOT Hydraulic and Drainage Unit will be required to finalize Flood Management permitting requirements.*

Notes / Additional Information Required:

1. Project area is adjacent to a mapped FEMA floodplain.
2. Under current design there are no fisheries or species related issues associated with this project.

Southern limits of this project are within the mapped State Coastal Boundary, coordination with DEEP LRD will be needed.

Reviewed By: Christopher Samorajczyk Date: 6/14/17

Approved By: _____ Date: 6/14/17

OEP Transportation Supervising Planner

Approval is based on project plans dated: PD Plan Set 5/2017

If project scope or project limits change in any way, permit needs may change and must be coordinated with the OEP.

Appendix E – Traffic Signal Study

Traffic Design Services
Seaview Avenue Road Improvements
Bridgeport, CT

TRAFFIC SIGNAL STUDY

December, 2016

Connecticut Department of Transportation
Project No. 15-371:
Seaview Avenue Road Improvements

Prepared by: **VN Engineers, Inc.**
116 Washington Avenue
North Haven, CT 06473
(203) 234-7862

TRAFFIC STUDY

SEAVIEW AVENUE ROAD IMPROVEMENTS

BRIDGEPORT, CONNECTICUT

STATE PROJECT NO. 15-371

December, 2016

CONNECTICUT DEPARTMENT OF TRANSPORTATION

Prepared By:
VN Engineers, Inc.
116 Washington Avenue
North Haven, CT 06473
(203) 234-7862

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APPENDICES

LIST OF FIGURES

LIST OF TABLES

1.0 INTRODUCTION

This report was conducted to determine how proposed design year traffic volumes will impact several intersections in and around the Seaview Avenue Corridor Improvements project in Bridgeport, Connecticut. This report will document the capacity, queuing, and safety analyses along with other traffic signal related calculations conducted for the project.

A new traffic signal (state owned) connecting the existing Seaview Avenue with the relocated Bond Street was designed for the intersection of Boston Avenue at Seaview Avenue and the relocated Bond Street and Stewart Street. The existing three-way intersection was redesigned to accommodate four-way traffic. This new intersection will utilize all new equipment, utilize far side heads, span wire and loop detectors.

A new traffic signal (city owned) connecting the relocated Bond Street with Stewart Street was proposed using far side heads, span wire or mast arms and loop detectors. The signal design was intended to utilize state conventions and City standards however a signal warrant performed in this report indicates that a signal at this intersection is not warranted.

Traffic signal modifications will be conducted at the intersection of Seaview Avenue at Barnum Avenue (city owned). To address improvements on Seaview Avenue the signal will be designed using state conventions and utilize City standards. The study intersections are listed in **Table 1** and a map of the study area is shown in **Fig. 1**.

Table 1: **Study Intersection Locations**

Intersection Number
City Signal
#15-095 – Seaview Avenue @ Barnum Avenue
State Signal
#015-226 – U.S. Route 1 (Boston Avenue) @ Seaview Avenue

2.0 EXISTING CONDITIONS

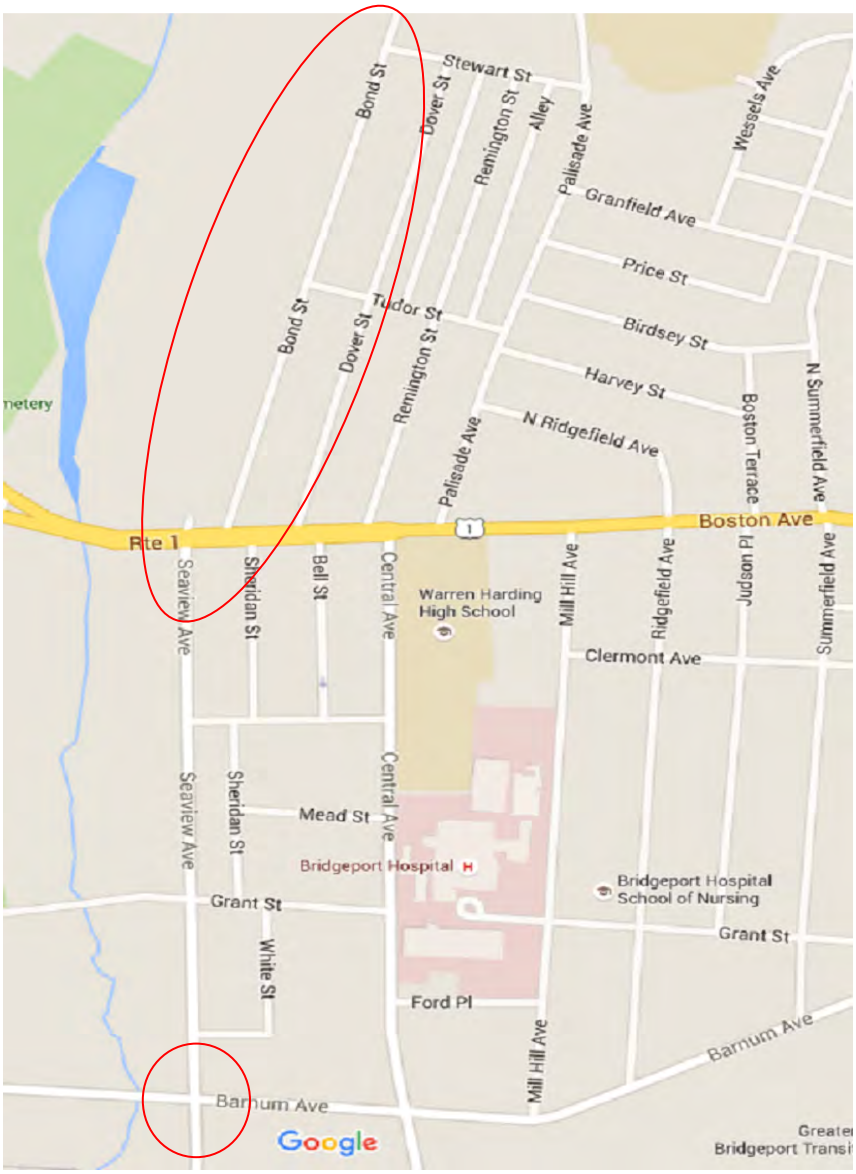
The study area intersections are located in Bridgeport and are formed by the following roadways: Seaview Avenue, Barnum Avenue, Boston Avenue, Bond Street and Stewart Street.

Seaview Avenue is classified as a minor arterial that is roughly 2 miles long running mostly north to south between US 1 (Boston Avenue principal arterial) and Central Avenue. It is a two-lane roadway south of Jefferson Street, a four-lane roadway between Jefferson Street and the I-95 on-off ramps and a two-lane roadway from the I-95 to its terminus at Boston Avenue. The speed limit is posted at various locations as 25 miles per hour. The roadway primarily serves residential land uses from Central Avenue northward to Jefferson Street, where on-street parking is permitted. Between Jefferson Street and Fifth Street it is primarily open space and commercial land uses. Fifth Street to Barnum Avenue primarily serves residential land uses and has a low-

clearance (11'-1") railroad bridge that serves the Metro North rail line. Barnum Avenue to Boston Avenue is primarily residential with parking on the east side and commercial on the west.

Barnum Avenue is classified as a minor arterial and is a two-lane roadway running east to west for approximately 2.25 miles through Bridgeport and into Stratford. The speed limit on Barnum Avenue is 25 miles per hour. There are striped shoulders with no parking allowed. Land uses along Barnum Avenue include businesses on the west side of Seaview Avenue with primarily residential to the east side.

Figure 1: Study Area



Boston Avenue is a two-lane principal arterial running approximately 2.5 miles east to west from Barnum Avenue to Glenwood Avenue. Boston Avenue with a posted speed limits of 25 and 30 miles per hour. The street serves residential land uses (single family homes and apartment buildings) but also serves a significant amount of through traffic. Parking is allowed on both sides of the roadway along the eastern sections to Bruce Avenue.

Bond Street is a two-lane local road with a posted speed limit of 25 miles per hour. It serves a neighborhood of mostly single family homes and Bridgeport Manor assisted living facility. Parking is allowed on both sides of the roadway.

Stewart Street is less than a quarter of a mile long and is classified as a local roadway. It is a two-lane road that provides connectivity between Bond Street and Palisade Avenue. The speed limit is not posted on Beardsley Avenue and it is therefore assumed to be 25 miles per hour.

The intersection of Seaview Avenue at Barnum Avenue is currently controlled by a City owned traffic signal. Existing lane arrangements include:

- one lane approach in all directions.

The phasing is two way with a concurrent pedestrian phase. There are sidewalks along both sides of Seaview Avenue and Barnum Avenue and curb ramps on each corner of the intersection. Crosswalks are located on all four legs of the intersection with corresponding pedestrian signal heads. There are optical detectors to accommodate emergency vehicle pre-emption on the eastbound, and westbound approaches.

The intersection of Seaview Avenue at Boston Avenue is controlled by a State-owned traffic signal. Existing lane arrangements include:

- one lane approach in the northbound direction.
- two lane approaches in the eastbound and westbound directions.
- one lane approach southbound offset from Seaview Avenue on Bond Street.

The intersection currently has three legs with Bond Street offset just to the east. The two intersections operate with one controller. There are currently curb ramps for some crossings but limited pushbuttons and pedestrian signal heads to accommodate crossing three legs of the intersection. Pushbuttons and pedestrian heads are located on the north side of Boston Avenue. There are no heads or buttons to cross Seaview Avenue or Bond Street. Sidewalks are located along all of the intersecting roadways and curb ramps exist at each corner except along on the south side of the road.

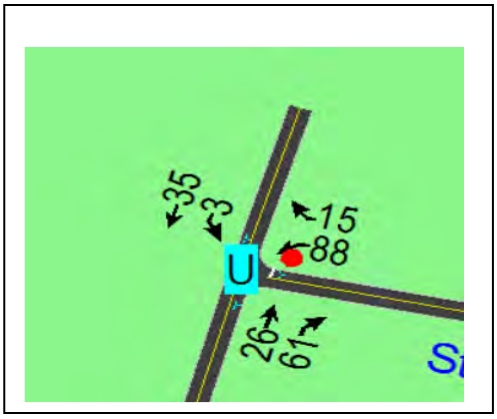
The intersection of Bond Street at Stewart Street is three way with a stop sign on the Stewart Street approach. There are sidewalks on both roads but no crosswalks or ramps.

3.0 TRAFFIC VOLUMES

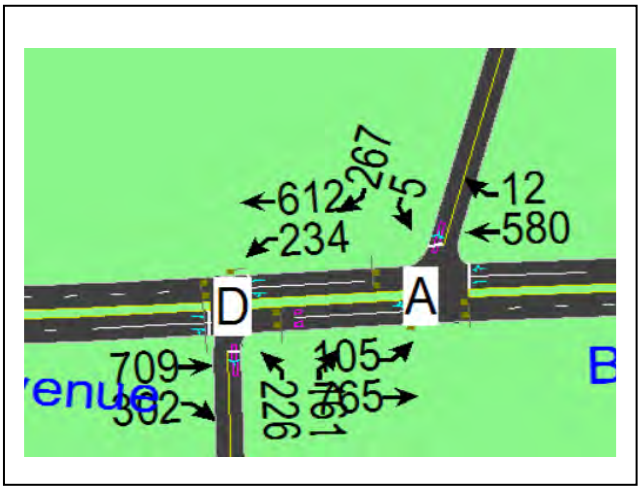
Two sets of traffic volumes were considered in the analysis for this report: existing volumes and the 2040 Design Year. There are two projects nearby that are expected to modify travel patterns and volumes in the Seaview Avenue project area. The Greater Bridgeport Regional Council is in the process of developing a Transit Oriented Development plan for the Barnum Avenue train station area, which is in close proximity the Seaview Avenue project site. Trip distribution and proposed traffic volumes were provided by Stantec. These volumes were used directly for 2040 Design Year analysis. The existing peak-hour turning movement volumes are shown in **Figure 2** & **Figure 4** and the projected 2040 Design Year peak-hour turning movement volumes are shown in **Figure 3** & **Figure 5**.

Figure 2: Existing AM Turning Movement Volumes

Bond Street @ Stewart Street



Boston Avenue / Bond Street @ Seaview Avenue



Seaview Avenue @ Barnum Avenue

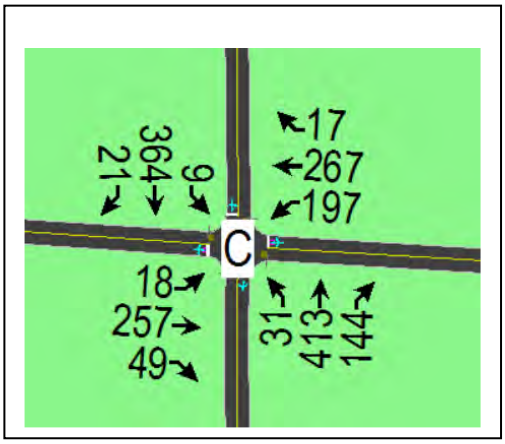
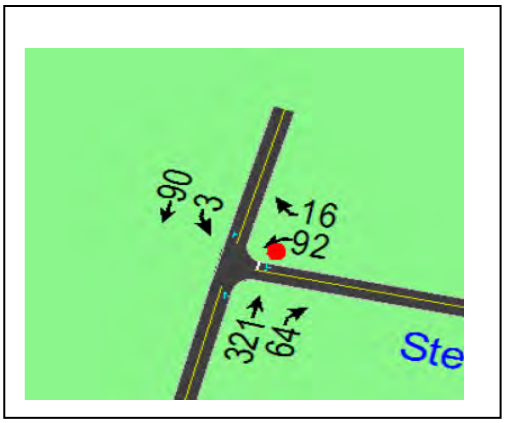
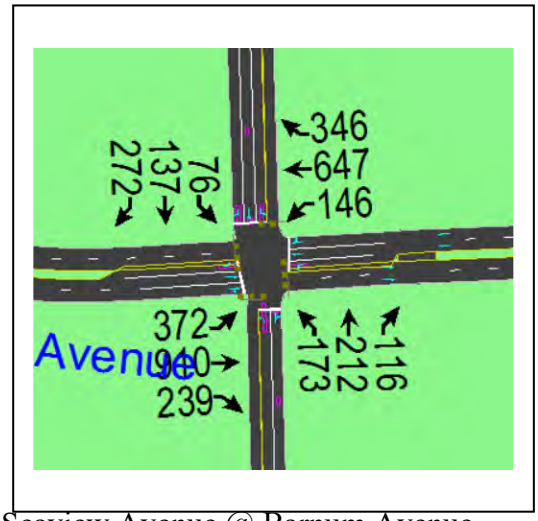


Figure 3: Design Year (2040) AM Turning Movement Volumes

Bond Street @ Stewart Street



Boston Avenue / Bond Street @ Seaview Avenue



Seaview Avenue @ Barnum Avenue

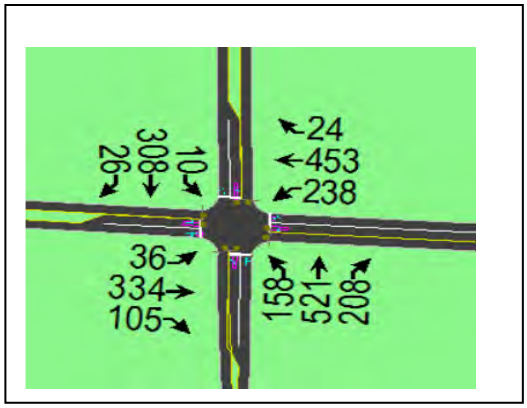
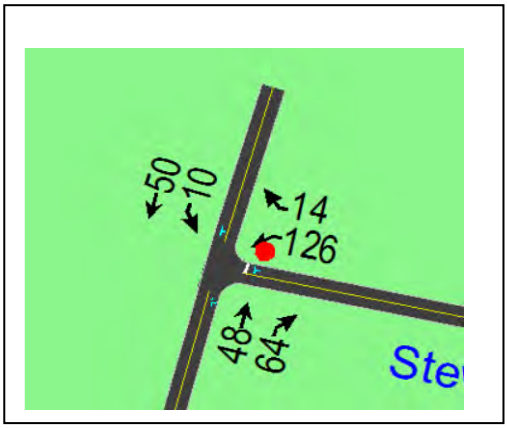
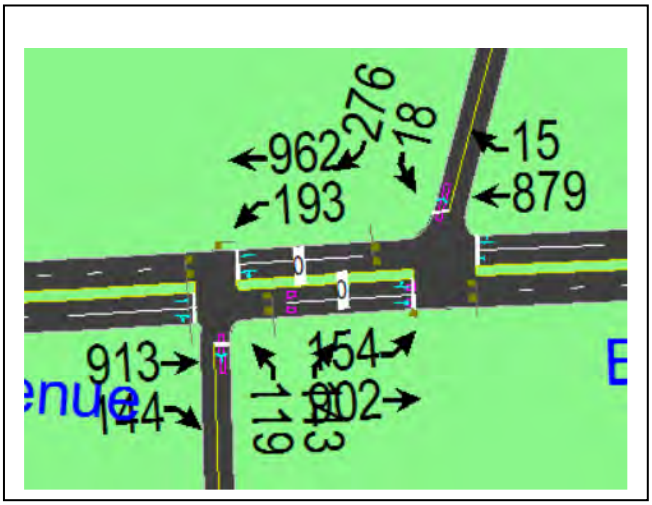


Figure 4: Existing PM Turning Movement Volumes

Bond Street @ Stewart Street



Boston Avenue / Bond Street @ Seaview Avenue



Seaview Avenue @ Barnum Avenue

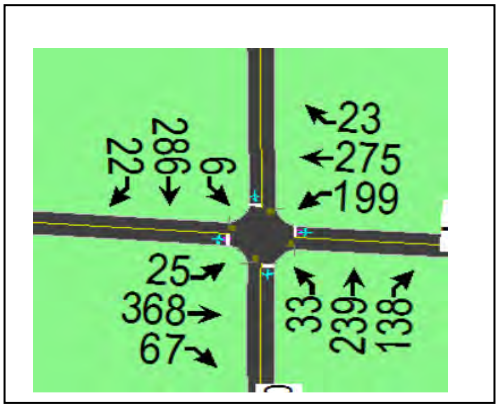
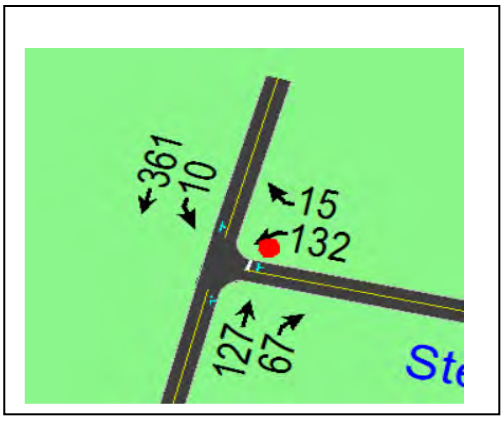
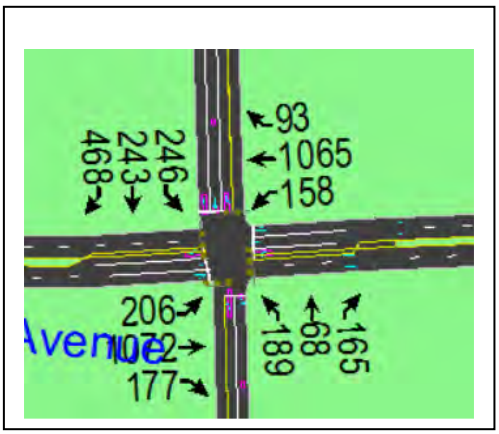


Figure 5: Design Year (2040) PM Turning Movement Volumes

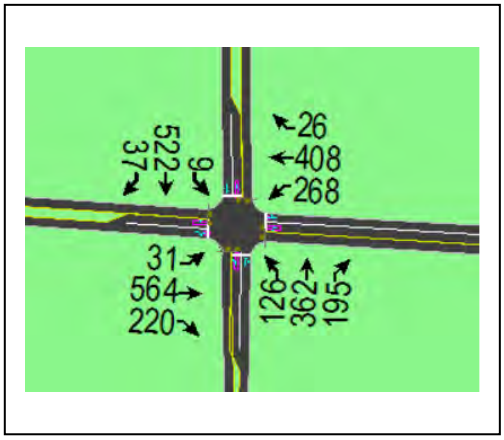
Bond Street @ Stewart Street



Boston Avenue / Bond Street @ Seaview Avenue



Seaview Avenue @ Barnum Avenue



4.0 OPERATIONAL ANALYSIS

Signal revisions for this project are being performed in order to accommodate increased roadway volumes due to the improvements of the Seaview Avenue corridor. The roadways will be widened at some intersections to allow for additional auxiliary lanes and/or modified lane arrangements.

To provide traffic signal designs that optimize traffic operations throughout the study area, safety, Level of Service, and queuing analysis was undertaken. The analysis was done to inform lane arrangement, phasing, and timing choices for the corridor.

4.1 SAFETY ANALYSIS

Historical accident data for the three intersections in the study area have been evaluated. The data was obtained from The Connecticut Department of Transportation's Crash Data and Analysis Unit for the time period between January 1, 2012 and December 31, 2014 (the latest available at the time of this report).

Seaview Avenue at Barnum Avenue

A total of forty-three (43) crashes were reported at the intersection of Seaview Avenue at Barnum Avenue: 11 in 2012, 20 in 2013, and 12 in 2014. The types of collisions included ten (10) angle, twelve (12) rear end, three (3) turning same direction, two (2) turning opposite direction, five (5) sideswipe same direction, three (3) turning intersecting, two (2) sideswipe opposite direction, two (2) with fixed objects, one (1) backing up and one (1) involved pedestrians. The contributing factor for four (4) of these accidents was determined to be a violation of traffic control, eleven (11) were attributed to following too closely, eleven (11) failed to grant right of way, seven (7) used an improper passing maneuver, two (2) due to unsafe backing, four (4) due to driver loss of control and one (1) to both unsafe use of a highway by pedestrian and one unknown. **Twenty-three (23) of these crashes occurred during daylight hours under dry pavement conditions with the rest during nighttime**. Thirty-Six (36) of the crashes occurred in the intersection with the other seven (7) occurring in the approaches to the intersection. All of the vehicles involved were classified as automobiles. A summary of the accident data is shown in Table 1. This intersection is currently signal-controlled. The high frequency of accidents indicates driver error in most cases.

Table 1: Seaview Avenue @ Barnum Avenue Accident Summary

Accident Type	**# of Accidents**
Turning - Same Direction	3
Turning - Intersecting paths	3
Turning - Opposite Direction	2
Angle	10
Rend End	12
Sideswipe Same Direction	5
Sideswipe Opposite Direction	2
Fixed Object	2
Pedestrian	1

Accident Severity	**# of Accidents**
Injury	14
Property Damage Only	29

Contributing Factors	**# of Accidents**
Violated traffic Control	4
Failed to grant right of way	9
Following too Closely	10
Improper Passing Maneuver	4
Improper Turning Maneuver	3

Pavement Conditions	**# of Accidents**
Dry	33
Wet	9

Time of Year	**# of Accidents**
December - February	7
March - May	11
June - August	14
September - November	8

Time of Day	**# of Accidents**
6:00 AM - 10:00 AM	2
10:00 AM - 4:00 PM	5
4:00 PM - 7:00 PM	10
7:00 PM - 12:00 Mid	5
12:00 Mid - 6:00 AM	12

Vehicle Type	**# of Vehicles**
Automobile	43
Single Unit Truck	0

Direction of All Vehicles	**# of Vehicles**
WB (Barnum Ave)	27
SB (Seaview Ave)	16

Light Condition	**# of Accidents**
Daylight	23
Dark-Lighted	19

Seaview Avenue at Boston Avenue

At the intersection of Seaview Avenue at Boston Avenue there were a total of nine (9) recorded crashes: six (6) in 2012, one (1) in 2013 and two (2) in 2014. The majority of crashes at this location were rear-end type collisions with three (3) occurrences and sideswipe same direction with three (3) occurrences. Other collision types during the study period include one (1) turning - same direction, one (1) backing up and one (1) fixed object collision. Three (3) crashes occurred during daylight hours and five (5) took place at night. The pavement conditions were dry at the time of these crashes with the exceptions of three (3) wet surface incidents. The rear end collisions cited following too closely (3) as contributing factors to the crashes. Three (3) accidents has injuries while the remaining five (5) just had property damage. A summary of the accident data is shown in Table 2. The historic accident data for this intersection does not indicate a clear pattern of accidents of a specific type or at a specific approach. Also, the number of crashes for the time period evaluated is not extraordinary considering the traffic conditions and urbanized location. Therefore, no changes to the signal design are being made based on the results of the accident analysis. All changes at this intersection will be due to the proposed reconfiguration. Loop detectors will be installed on all intersection approaches, back plates will be installed on all signal heads, and clearance intervals will be recalculated. The traffic signal will also be coordinated with the adjacent ones on Boston Avenue. Auxiliary lanes are also being added on the northbound, eastbound and westbound approaches to this intersection to separate some of the turning movements from through traffic and improve operation. The signal head locations will also be placed in more visible locations (far side), using a box span design.

Table 2: Seaview Avenue at Boston Avenue Accident Summary

Accident Type	# of Accidents
Sideswipe Same Direction	3
Rear End	3
Fixed Object	1
Backing	1
Turning Same Direction	1

Accident Severity	# of Accidents
Injury	3
Property Damage Only	6

Contributing Factors	# of Accidents
Driver Lost Control	2
Speed too Fast for Conditions	1
Following too Closely	3
Improper Turning Maneuver	1
Failed to Grant Right of Way	1
Unsafe Backing	1

Pavement Conditions	# of Accidents
Dry	6
Wet	2

Time of Year	# of Accidents
December - February	1
March - May	2
June - August	4
September - November	2

Time of Day	# of Accidents
6:00 AM - 10:00 AM	2
10:00 AM - 4:00 PM	1
4:00 PM - 7:00 PM	1
7:00 PM - 12:00 Mid	3
12:00 Mid - 6:00 AM	2

Vehicle Type	# of Vehicles
Automobile	9
Single Unit Truck	0

Direction of All Vehicles	# of Vehicles
NB (Boston Ave)	3
SB (Boston Ave)	6

Light Condition	# of Accidents
Daylight	3
Dark-Lighted	5

Stewart Avenue @ Bond Street

At the intersection of Stewart Avenue at Bond Street there were a total of five (5) recorded crashes: one (1) in 2012, three (3) in 2013, one (1) in 2014. Five different types of crashes were recorded at this location. One (1) rear-end type collision, one (1) turning - same direction, one (1) sideswipe - opposite direction, one (1) fixed object incident and one (1) involving a pedestrian. All five (5) of these crashes involved vehicles heading northbound on Bond Street. A summary of the accident data is shown in Table 3. There is not a clear pattern of accidents at this intersection and the number of accidents is low. As part of the upgrades to the corridor and corresponding increase in traffic this intersection was considered for signalization however, the results from the signal warrant analysis do not meet any of the eight warrants needed to make the intersection signalized. If volumes are high enough to meet any of the warrants needed for signal installation in the future, then this intersection could possibly have a signal installed.

Table 3: Stewart Street @ Bond Street Accident Summary

Accident Type	# of Accidents
Turning - Same Direction	1
Sideswipe Opposite Direction	1
Fixed Object	1
Rear End	1
Pedestrian	1

Accident Severity	# of Accidents
Injury	2
Property Damage Only	3

Contributing Factors	# of Accidents
Driver Illness	1
Unknown	1
Unsafe use of Highway by Ped	1
Improper Passing Maneuver	1
Driverless Vehicle	1

Pavement Conditions	# of Accidents
Dry	5
Wet	0

Time of Year	# of Accidents
December - February	2
March - May	0
June - August	2
September - November	1

Time of Day	# of Accidents
6:00 AM - 10:00 AM	1
10:00 AM - 4:00 PM	2
4:00 PM - 7:00 PM	0
7:00 PM - 12:00 Mid	2
12:00 Mid - 6:00 AM	0

Vehicle Type	# of Vehicles
Automobile	5
Single Unit Truck	0

Direction of All Vehicles	# of Vehicles
NB (Bond St)	5
SB (Bond St)	0

Light Condition	# of Accidents
Daylight	2
Dark-Lighted	3

4.2 PEDESTRIAN CROSSING NEEDS

Pedestrian crossings are currently provided at both the Seaview Avenue at Barnum Avenue and Seaview at Boston Avenue intersections. The existing crossings will be maintained at Barnum Avenue utilizing the existing equipment with new equipment provided at the northeast and southwest corners. The new equipment will include new pedestrian heads, faces and push buttons. New ramps and painted crosswalks will be installed at all crossings. Due to slight adjustments to the alignment at this intersection, new crossing times will be calculated.

The intersection of Boston Avenue at Seaview Avenue will be rebuilt with a new alignment. Currently this intersection is Pedestrian facilities will be added for all four approaches. The crossings will utilize concurrent pedestrian phases in order to not significantly impact the overall intersection capacity. Crossing times will be calculated for each crossing leg.

The intersection of Stewart Street with the relocated Bond Street will remain un-signalized with crossings at all four corners.

4.3 LEVEL OF SERVICE AND QUEUE ANALYSIS

The Level of Service and queuing analysis accounted for the intersection and traffic signal improvements planned for the project. Established procedures for estimating Levels of Service and extent of queues were utilized to analyze each study-area intersection. The analysis was conducted using SYNCHRO Traffic Signal Coordination Software, Version 9 (Build 902, Rev. 153), published by Trafficware Ltd.

The analysis determined a Level of Service (LOS) for each of the intersections using an alphanumeric rating system similar to common academic grading methodology (A, B, C, D, E, and F). It should be noted that LOS C or better is commonly considered to be a “desirable” traffic operation, while LOS D is commonly considered to be “acceptable” in urban areas.

In conjunction with the capacity analysis, an evaluation of traffic backups, commonly called “queues,” was undertaken for approaches to the study intersections. Queue lengths were determined for all lane groups on all approaches.

Improvements to the Seaview Avenue at Barnum Avenue intersection are as follows:

- Revised timings will be incorporated utilizing the existing cycle length (70 sec) in order to stay within the coordinated system.
- Left turn lanes will be added in the eastbound and westbound directions on Seaview Avenue.
- Left turn lanes will be added in the northbound and southbound directions on Barnum Avenue.
- Phase lengths, timings, and offsets will be optimized to fit into current City signal system.

- Existing preemption will be relocated to new mast arms.

Changes to the Seaview Avenue at Boston Avenue (US Route1) are as follows:

- The eastbound approach will be reconfigured to have one exclusive left turn lane, one thru lane and one shared thru/right-turn lane.
- The westbound approach will be reconfigured to have one exclusive left turn lane, one thru lane and one shared thru/right-turn lane.
- The new southbound approach will have one exclusive left-turn lane, one thru lane, and one right-turn lane.
- The existing northbound approach will be modified to add an exclusive left turn lane and one shared thru/right-turn lane.
- Pedestrian accommodations will be added including concurrent pedestrian phases.
- Existing Emergency Vehicle Pre-Emption equipment will be relocated to the new span wire.
- New traffic equipment will be installed including far side heads, span wire and loop detectors.
- Phase lengths, timings, and offsets will be optimized to fit into the state closed loop system. The state closed loop system runs from 06:00 am to 11:30 pm with a (90 sec) cycle length. Outside those hours, the signal runs under flash operation.

Bond Street at Stewart Street intersection are as follows:

- The intersection will have 4 way stop control.
- Pedestrian accommodations will include ramps and crosswalks.

The results of the existing conditions and build analyses for the design year are shown in Tables 3 and 4 respectively. Table 3 shows level of service for existing volumes reassigned to the proposed alignment. Queue lengths assume an average vehicle length of 25 feet. Volume to Capacity ratios and available storage lengths are also shown in the tables. Available storage shown is the length of a turn lane or the distance to an adjacent major intersection, as appropriate. **Appendix A** contains details of the Existing and Build intersection calculations and analyses.

Table 4: Existing Traffic Volumes

	AM				PM			
Intersection/Movement	Ave. Delay (sec/veh)	LOS	V/C	95th %ile Queue (feet)	Ave. Delay (sec/veh)	LOS	V/C	95th %ile Queue (feet)
Seaview Avenue at Barnum Avenue								
Barnum Ave. EB LTR	10.1	B	0.38	130	11.9	B	0.50	189
Barnum Ave. WB LTR	15.5	B	0.76	#163	18.0	B	0.79	m154
Barnum Ave. NB LTR	43.6	D	0.94	#465	19.6	B	0.62	219
Barnum Ave. SB LTR	21.2	C	0.61	236	17.9	B	0.45	167
Overall	25.0	C	0.94		16.7	B	0.79	
Seaview Avenue at Boston Avenue								
Seaview Ave. NB LR	157.9	F	1.23	#470	13.4	B	0.56	245
Boston Ave. EB TR	14.5	B	0.65	261	7.7	A	0.77	126
Boston Ave. WB LT	7.7	A	1.00dl	35	39.8	D	0.74	#210
Overall	36.7	D	1.23		13.6	B	0.77	
Bond Street at Stewart Street								
Bond St. NB TR	0.0	A	0.05	0	0.0	A	0.07	0
Bond St. SB LT	0.0	A	0.00	0	1.3	A	0.01	1
Stewart Street WB LR	9.6	A	0.13	11	10.4	B	0.19	17
Overall	4.4	A			4.9	A		

Table 5: Design Year 2040 Analysis Summary

	AM				PM			
Intersection/Movement	Ave. Delay (sec/veh)	LOS	V/C	95th %ile Queue (feet)	Ave. Delay (sec/veh)	LOS	V/C	95th %ile Queue (feet)
Seaview Avenue at Barnum Avenue								
Barnum Ave. EB L	8.8	A	0.11	19	8.0	A	0.08	18
Barnum Ave. EB TR	31.7	C	0.79	#340	97.1	F	1.13	#652
Barnum Ave. WB L	16.4	B	0.60	m84	140.9	F	1.21	m#220
Barnum Ave. WB TR	15.5	B	0.58	m192	16.6	B	0.54	m276
Barnum Ave. NB L	23.9	C	0.60	#92	20.2	C	0.53	70
Barnum Ave. NB TR	117.6	F	1.18	#677	37.0	D	0.88	#488
Barnum Ave. SB L	12.7	B	0.05	11	11.9	B	0.04	10
Barnum Ave. SB TR	27.3	C	0.66	224	72.6	E	1.03	#496
Overall	51.3	D	1.18		66.9	E	1.21	
Seaview Avenue at Boston Avenue								
Seaview Ave. NB L	24.3	C	0.45	130	25.4	C	057	130
Seaview Ave. NB TR	37.2	D	0.73	#314	17.3	B	0.51	133
Seaview Ave. SB L	22.7	C	0.32	63	28.9	C	0.68	#172
Seaview Ave. SB T	31.7	C	0.36	128	29.6	C	0.49	201
Seaview Ave. SB R	7.0	A	0.51	64	28.5	D	0.88	#388
Boston Ave. EB L	58.2	E	0.96	#363	36.5	D	0.78	#187
Boston Ave. EB TR	22.7	C	0.80	380	33.4	C	0.92	#517
Boston Ave. WB L	21.3	C	0.69	m48	20.7	C	0.75	m50
Boston Ave. WB TR	23.0	C	0.80	266	25.5	C	0.87	m350
Overall	26.9	C	0.96		29.7	C	0.92	
Bond Street at Stewart Street								
Bond St. NB TR	0.0	A	0.30	0	0.30	A	0.30	0
Bond St. SB LT	0.0	A	0.00	0	0.0	A	0.01	1
Stewart Street WB LR	13.5	B	0.13	21	16.4	C	0.34	38
Overall	2.5	A			3.5	A		

5.0 SIGNAL WARRANT ANALYSIS

Bond Street at Stewart Street.

Bond Street at Stewart Street is currently a 3-way intersection with one approach lane in each direction. The intersection currently utilizes stop control. This signal warrant analysis is being performed to determine whether the proposed development in the area and associated increase in traffic volumes will warrant a signal being installed.

An engineering study of traffic conditions, physical characteristics and pedestrian characteristics of a location needs to be performed to justify whether a signal is justified at a location. The investigation needs to include a study of the existing operation of the intersection as well the following warrants:

Warrant 1, Eight-hour Vehicular Volume

Warrant 2, Four-Hour Vehicular Volume

Warrant 3, Peak Hour

Warrant 4, Pedestrian Volume

Warrant 5, School Crossing

Warrant 6, Coordinated Signal System

Warrant 7, Crash Experience

Warrant 8, Roadway Network

Warrant 9, Intersection Near a Grade Crossing

Warrant 1, Eight-hour Vehicular Volume:

Table 4C-1. Warrant 1, Eight-Hour Vehicular Volume

Condition A—Minimum Vehicular Volume

Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	500	400	350	280	150	120	105	84
2 or more	1	600	480	420	336	150	120	105	84
2 or more	2 or more	600	480	420	336	200	160	140	112
1	2 or more	500	400	350	280	200	160	140	112

Condition B—Interruption of Continuous Traffic

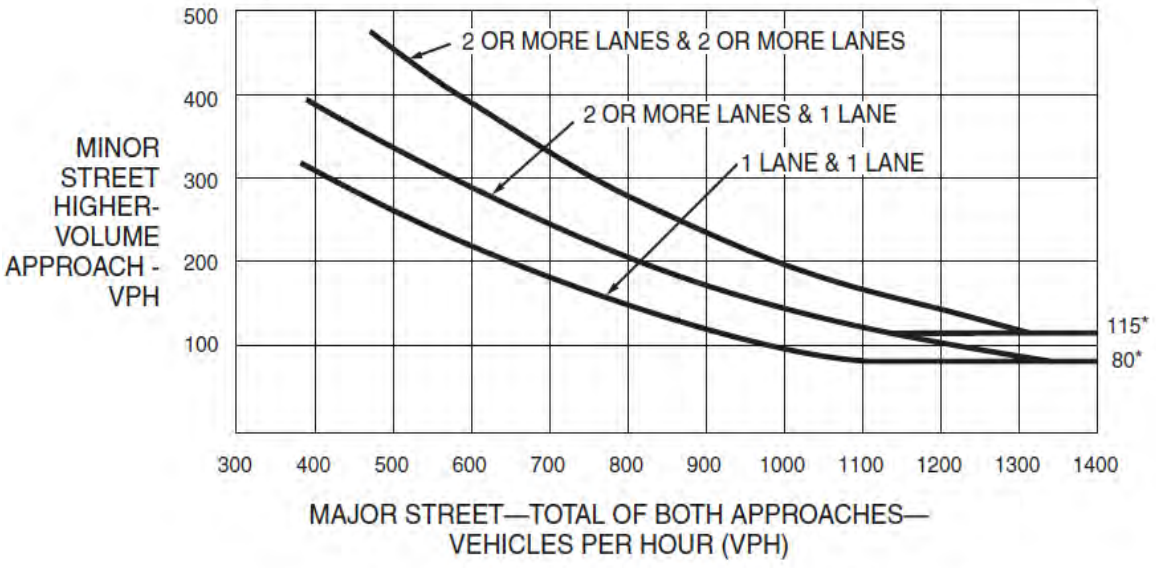
Number of lanes for moving traffic on each approach		Vehicles per hour on major street (total of both approaches)				Vehicles per hour on higher-volume minor-street approach (one direction only)			
Major Street	Minor Street	100%[a]	80%[b]	70%[c]	56%[d]	100%[a]	80%[b]	70%[c]	56%[d]
1	1	750	600	525	420	75	60	53	42
2 or more	1	900	720	630	504	75	60	53	42
2 or more	2 or more	900	720	630	504	100	80	70	56
1	2 or more	750	600	525	420	100	80	70	56

[a] Basic minimum hourly volume
[b] Used for combination of Conditions A and B after adequate trial of other remedial measures
[c] May be used when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000
[d] May be used for combination of Conditions A and B after adequate trial of other remedial measures when the major-street speed exceeds 40 mph or in an isolated community with a population of less than 10,000

- Not applicable. Eight-hour count volumes are not available at the time of this study. Only proposed peak hour volumes were provided.

Warrant 2, Four-hour Vehicular Volume:

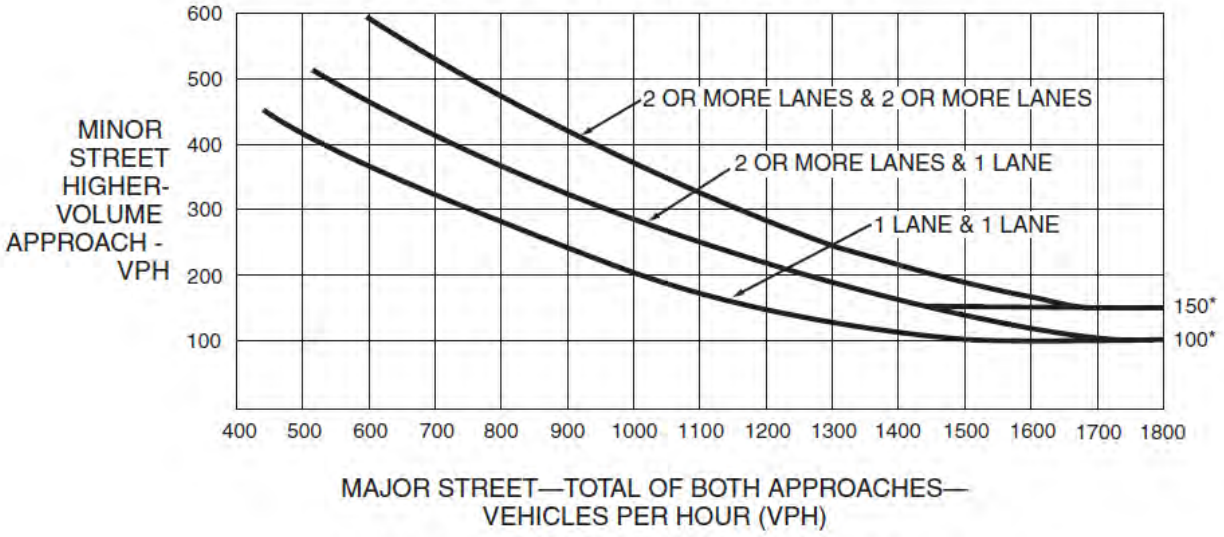
Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



*Note: 115 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 80 vph applies as the lower threshold volume for a minor-street approach with one lane.

- Not applicable. Four-hour count volumes are not available at the time of this study. Only proposed peak hour volumes were provided.

Figure 4C-3. Warrant 3, Peak Hour

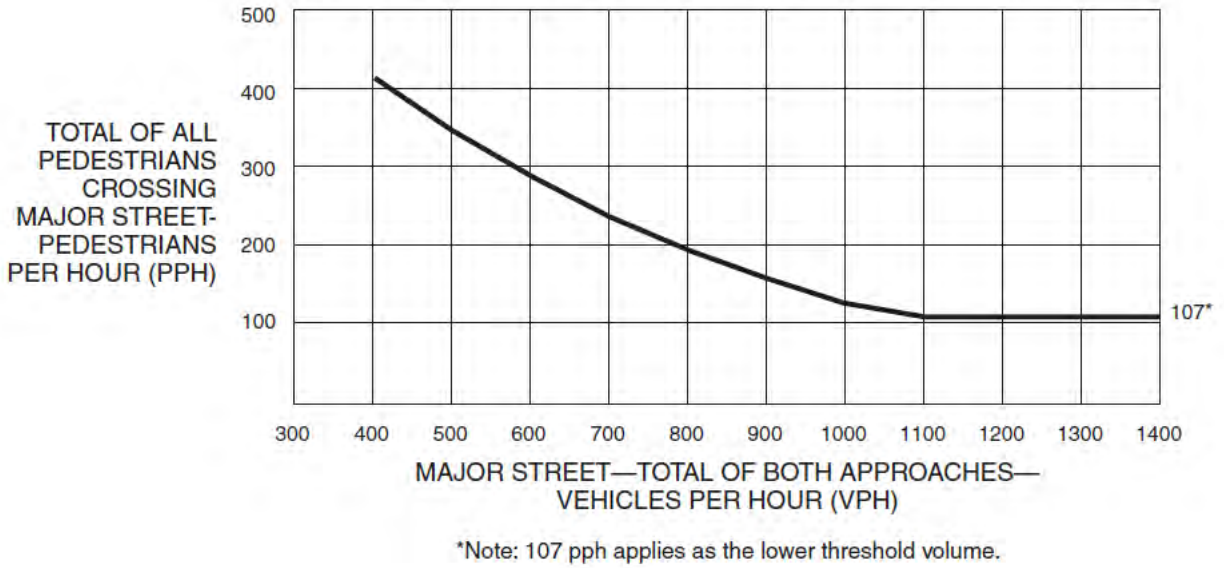


*Note: 150 vph applies as the lower threshold volume for a minor-street approach with two or more lanes and 100 vph applies as the lower threshold volume for a minor-street approach with one lane.

- This intersection does not meet this warrant. Projected two way volumes on Bond Street are 417 vehicles during the PM peak hour, corresponding volumes on Stewart Street are not high (108 veh). After plotting these points on the graph volumes are not high enough during either peak hour for this warrant to be met.

Warrant 4, Pedestrian Volume:

Figure 4C-5. Warrant 4, Pedestrian Four-Hour Volume

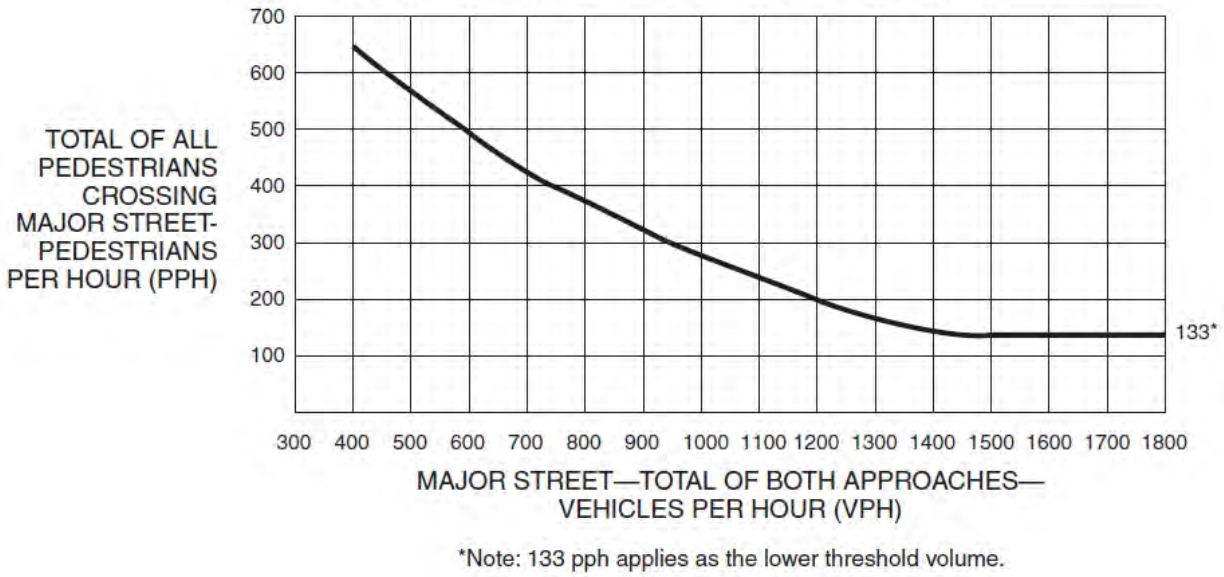


*Note: 107 pph applies as the lower threshold volume.

- Not applicable. Pedestrian volumes are not available at the time of this study.

Warrant 5, Pedestrian Peak Hour Volume:

Figure 4C-7. Warrant 4, Pedestrian Peak Hour



*Note: 133 pph applies as the lower threshold volume.

- Not applicable. Pedestrian volumes are not available.

Warrant 6, Coordinated Signal System:

- Not applicable. This intersection is not part of a coordinated system.

Warrant 7, Crash Experience:

- The crash experience warrant is met at an intersection if there were 5 or more accidents during a one year period. In 2013 there were 3 accidents which falls short of this threshold. The other condition that must be met is for any 8 hours on an average day the vehicles per hour given in both of the 80 percent columns on condition A in table 4C-1 or condition B on table 4C-1 on the major approach and pedestrian volumes are not less than 80 percent of the requirements in the pedestrian warrant. This intersection does not meet the warrant.

Warrant 8, Roadway Network:

- Not applicable. Pedestrian volumes are not available.

Warrant 9, Intersection Near A Grade Crossing:

- Not applicable. This intersection is not near any railroad crossings.

Conclusion:

At the time of this study, the intersection at Bond Street and Stewart Street does not meet any of the nine warrants necessary to warrant the installation of a signalized system. A signal can still be installed at a location that is under development or construction and where it is not possible to obtain a traffic count that would represent future traffic conditions, hourly volumes should be estimated as part of an engineering study for comparison with traffic signal warrants. This proposed intersection also falls near a school so future pedestrian traffic could be higher and thus meet the pedestrian peak hour warrant.

6.0 INTERSECTION DESIGN STATEMENT

Currently the intersections of Seaview Avenue at Barnum Avenue and Seaview Avenue at Boston Avenue are signalized and will remain signalized. The intersection of Bond Street at Stewart Street is currently stop-controlled and will remain that way under the new alignment.

Seaview Avenue at Barnum Avenue

The intersection of Seaview Avenue at Barnum Avenue Street is pre-timed, coordinated, has fire pre-emption, push buttons and pedestrian signal heads. The existing signal will only be modified using City standards to address equipment replacement due to roadwork. All new equipment is not proposed.

Seaview Avenue at Boston Avenue

The intersection of Seaview Avenue at Boston Avenue is pre-timed and coordinated closed loop with the state system. The intersection currently is offset for vehicles traveling northbound from Seaview to Bond street. The new alignment will remove the offset and Bond Street will be realigned. The old Bond Street will be closed to Boston Avenue and will become a frontage road for local residents. The proposed signal design includes a "box" span wire design, new span poles, and loop detectors. Curb ramps, pushbuttons, and countdown pedestrian signal heads included in the design are in accordance with the latest standards, and a concurrent pedestrian signal phase will facilitate crossing all legs of the intersection. The existing Emergency Vehicle Pre-Emption equipment will be relocated to the new signal span wire.

Bond Street at Stewart Street

The intersection of Bond Street at Stewart Street is currently un-signalized, with a stop-controlled approach on Stewart Street and limited pedestrian accommodations. The design for this intersection includes signalization. The entire intersection will be re-aligned with the relocated Bond Street just to the west.

7.0 CONCLUSIONS

Traffic signal improvements include roadway widening to accommodate auxiliary turn lanes at the study intersections, pedestrian accommodations will be upgraded to the latest standards, a complete replacement of traffic signal equipment at Boston Avenue at Seaview Avenue and some new traffic signal equipment at the Town signal located at Barnum Avenue and Seaview Avenue that is impacted by construction. The intersections will be coordinated (time based) for city and (closed loop) for the state signal. The existing Emergency Vehicle Pre-Emption equipment will be relocated or added. Safety, Level of Service, and queueing analysis were done in order to optimize traffic flow in the Seaview Avenue project area. The 2040 design year conditions were evaluated to account for traffic signal improvements to the intersections of Boston Avenue at Seaview Avenue, Seaview Avenue at Barnum Avenue, and Bond Street at Stewart Street.

Safety analysis indicated that the types of accidents involving turning vehicles that have recently occurred at the intersection of Boston Avenue at Seaview Avenue can be reduced with the proposed lane configuration changes and realignment of the intersection approaches. Safety analysis at the intersection of Seaview Avenue at Barnum Avenue revealed a large number of accidents, with no explicit pattern. As discussed above, lane improvements and upgrading the signal design to current standards at this location should reduce the number of accidents at this intersection. The Level of Service analysis shows that each intersection in the study area is expected to operate acceptably (at Level of Service D or better) through the 2040 design year for both AM and PM peak periods.

APPENDIX A

EXISTING & BUILD CONDITIONS CALCULATIONS AND ANALYSIS

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	88	15	26	61	3	35
Future Volume (Veh/h)	88	15	26	61	3	35
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	98	17	29	68	3	39
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	108	63			97	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	108	63			97	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	89	98			100	
cM capacity (veh/h)	883	996			1484	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	115	97	42
Volume Left	98	0	3
Volume Right	17	68	0
cSH	898	1700	1484
Volume to Capacity	0.13	0.06	0.00
Queue Length 95th (ft)	11	0	0
Control Delay (s)	9.6	0.0	0.5
Lane LOS	A		A
Approach Delay (s)	9.6	0.0	0.5
Approach LOS	A		

Intersection Summary			
Average Delay	4.4		
Intersection Capacity Utilization	17.6%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1	Ø3	Ø4	Ø7
Lane Configurations										
Traffic Volume (vph)	709	302	234	612	226	161				
Future Volume (vph)	709	302	234	612	226	161				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00				
Ped Bike Factor	0.90			0.99	0.98					
Frt	0.955				0.944					
Flt Protected				0.986	0.972					
Satd. Flow (prot)	3036	0	0	3423	1623	0				
Flt Permitted				0.539	0.972					
Satd. Flow (perm)	3036	0	0	1849	1622	0				
Right Turn on Red		Yes				Yes				
Satd. Flow (RTOR)	118				36					
Link Speed (mph)	25			25	25					
Link Distance (ft)	449			160	1566					
Travel Time (s)	12.2			4.4	42.7					
Confl. Peds. (#/hr)		102	102		1	22				
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89				
Heavy Vehicles (%)	3%	2%	4%	4%	5%	6%				
Adj. Flow (vph)	797	339	263	688	254	181				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	1136	0	0	951	435	0				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Left	Left	Right				
Median Width(ft)	8			8	12					
Link Offset(ft)	0			0	0					
Crosswalk Width(ft)	0			8	16					
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00				
Turning Speed (mph)		9	15		15	9				
Number of Detectors	0		1	0	1					
Detector Template			Left							
Leading Detector (ft)	0		20	0	24					
Trailing Detector (ft)	0		0	0	-6					
Detector 1 Position(ft)	6		0	6	-6					
Detector 1 Size(ft)	20		20	20	30					
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex					
Detector 1 Channel										
Detector 1 Extend (s)	0.0		0.0	0.0	0.0					
Detector 1 Queue (s)	0.0		0.0	0.0	0.0					
Detector 1 Delay (s)	0.0		0.0	0.0	0.0					
Turn Type	NA		custom	NA	Prot					
Protected Phases	6			2 7	8		1	3	4	7
Permitted Phases			2							
Detector Phase	6		2	2 7	8					
Switch Phase										
Minimum Initial (s)	47.0		39.0		9.0		5.0	9.0	15.0	15.0
Minimum Split (s)	52.0		44.0		13.0		8.0	13.0	19.0	19.0
Total Split (s)	52.0		44.0		19.0		8.0	19.0	19.0	19.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1	Ø3	Ø4	Ø7
Total Split (%)	57.8%		48.9%		21.1%		9%	21%	21%	21%
Yellow Time (s)	4.0		4.0		3.0		3.0	3.0	3.0	3.0
All-Red Time (s)	1.0		1.0		1.0		0.0	1.0	1.0	1.0
Lost Time Adjust (s)	-3.0				-3.0					
Total Lost Time (s)	2.0				1.0					
Lead/Lag			Lag		Lag		Lead	Lead	Lag	Lead
Lead-Lag Optimize?			Yes		Yes		Yes	Yes	Yes	Yes
Recall Mode	C-Max		C-Max		None		Max	None	None	None
Act Effct Green (s)	50.0			62.0	18.0					
Actuated g/C Ratio	0.56			0.69	0.20					
v/c Ratio	0.65			1.00dl	1.23					
Control Delay	14.5			7.4	157.9					
Queue Delay	0.0			0.3	0.0					
Total Delay	14.5			7.7	157.9					
LOS	B			A	F					
Approach Delay	14.5			7.7	157.9					
Approach LOS	B			A	F					
Queue Length 50th (ft)	197			42	~293					
Queue Length 95th (ft)	261			35	#470					
Internal Link Dist (ft)	369			80	1486					
Turn Bay Length (ft)										
Base Capacity (vph)	1739			1273	353					
Starvation Cap Reductn	0			51	0					
Spillback Cap Reductn	0			0	0					
Storage Cap Reductn	0			0	0					
Reduced v/c Ratio	0.65			0.78	1.23					

Intersection Summary

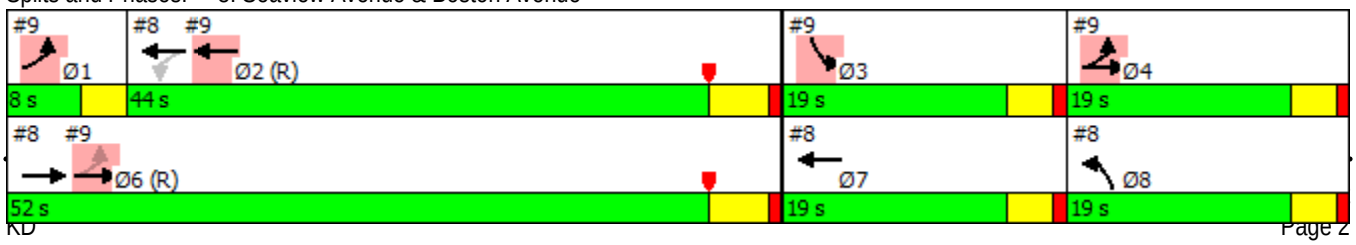
Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 65 (72%), Referenced to phase 2:WBTL and 6:EBT, Start of Yellow
Natural Cycle: 85
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.23
Intersection Signal Delay: 36.7 Intersection LOS: D
Intersection Capacity Utilization 104.9% ICU Level of Service G
Analysis Period (min) 15

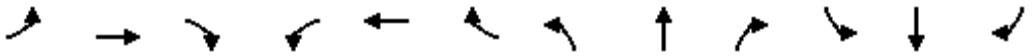
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

Splits and Phases: 8: Seaview Avenue & Boston Avenue



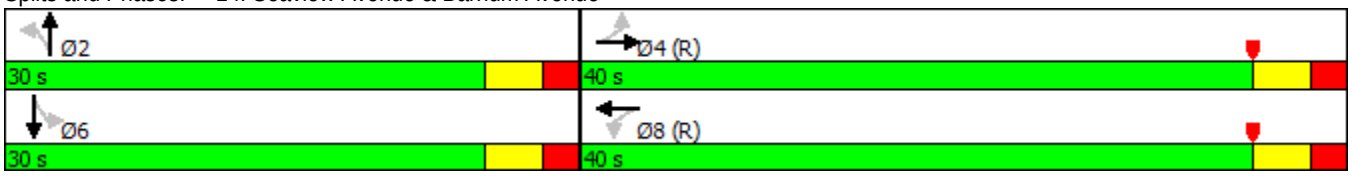


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	257	49	197	267	17	31	413	144	9	364	21
Future Volume (vph)	18	257	49	197	267	17	31	413	144	9	364	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			1.00	
Frt		0.980			0.995			0.967			0.993	
Flt Protected		0.997			0.980			0.997			0.999	
Satd. Flow (prot)	0	1785	0	0	1779	0	0	1751	0	0	1808	0
Flt Permitted		0.966			0.712			0.969			0.987	
Satd. Flow (perm)	0	1729	0	0	1293	0	0	1701	0	0	1786	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)		20			4			28				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		636			442			394			890	
Travel Time (s)		17.3			12.1			10.7			24.3	
Confl. Peds. (#/hr)	8					8	14		2	2		14
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	20	286	54	219	297	19	34	459	160	10	404	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	360	0	0	535	0	0	653	0	0	437	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	57.1%	57.1%		57.1%	57.1%		42.9%	42.9%		42.9%	42.9%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-3.0			-3.0			-3.0			-3.0	
Total Lost Time (s)		2.0			2.0			2.0			2.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		38.0			38.0			28.0			28.0	
Actuated g/C Ratio		0.54			0.54			0.40			0.40	
v/c Ratio		0.38			0.76			0.94			0.61	
Control Delay		10.1			15.5			43.6			21.2	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		10.1			15.5			43.6			21.2	
LOS		B			B			D			C	
Approach Delay		10.1			15.5			43.6			21.2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		B			B			D			C	
Queue Length 50th (ft)		76			75			252			145	
Queue Length 95th (ft)		130			#163			#465			236	
Internal Link Dist (ft)		556			362			314			810	
Turn Bay Length (ft)												
Base Capacity (vph)		947			703			697			714	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.38			0.76			0.94			0.61	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 5 (7%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow			
Natural Cycle: 70			
Control Type: Pretimed			
Maximum v/c Ratio: 0.94			
Intersection Signal Delay: 25.0		Intersection LOS: C	
Intersection Capacity Utilization 114.8%		ICU Level of Service H	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 14: Seaview Avenue & Barnum Avenue



Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	126	14	48	64	10	50
Future Volume (Veh/h)	126	14	48	64	10	50
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	140	16	53	71	11	56
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	166	88			124	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	166	88			124	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	83	98			99	
cM capacity (veh/h)	813	964			1450	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	156	124	67
Volume Left	140	0	11
Volume Right	16	71	0
cSH	826	1700	1450
Volume to Capacity	0.19	0.07	0.01
Queue Length 95th (ft)	17	0	1
Control Delay (s)	10.4	0.0	1.3
Lane LOS	B		A
Approach Delay (s)	10.4	0.0	1.3
Approach LOS	B		

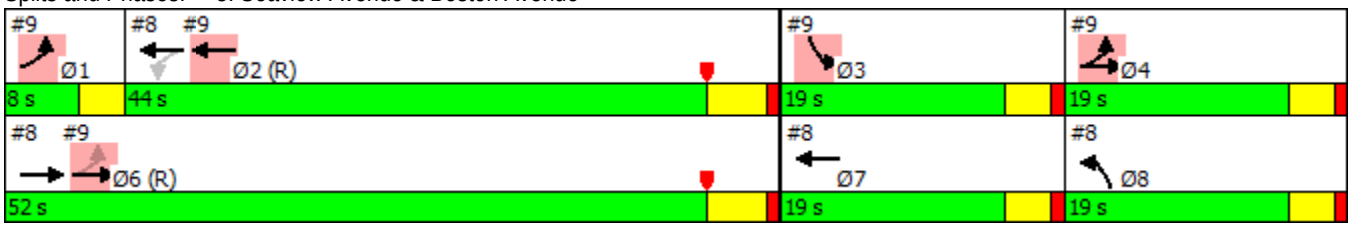
Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	24.4%	ICU Level of Service	A
Analysis Period (min)	15		

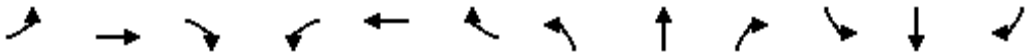
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1	Ø3	Ø4	Ø7
Lane Configurations										
Traffic Volume (vph)	913	144	193	962	119	143				
Future Volume (vph)	913	144	193	962	119	143				
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900				
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00				
Ped Bike Factor	0.96			0.99	0.98					
Frt	0.980				0.926					
Flt Protected				0.992	0.978					
Satd. Flow (prot)	3351	0	0	3546	1655	0				
Flt Permitted				0.619	0.978					
Satd. Flow (perm)	3351	0	0	2194	1654	0				
Right Turn on Red		Yes				Yes				
Satd. Flow (RTOR)	31				60					
Link Speed (mph)	25			25	25					
Link Distance (ft)	449			160	1566					
Travel Time (s)	12.2			4.4	42.7					
Confl. Peds. (#/hr)		102	102		1	22				
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99				
Heavy Vehicles (%)	1%	1%	1%	1%	2%	1%				
Adj. Flow (vph)	922	145	195	972	120	144				
Shared Lane Traffic (%)										
Lane Group Flow (vph)	1067	0	0	1167	264	0				
Enter Blocked Intersection	No	No	No	No	No	No				
Lane Alignment	Left	Right	Left	Left	Left	Right				
Median Width(ft)	8			8	12					
Link Offset(ft)	0			0	0					
Crosswalk Width(ft)	0			8	16					
Two way Left Turn Lane										
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00				
Turning Speed (mph)		9	15		15	9				
Number of Detectors	0		1	0	1					
Detector Template			Left							
Leading Detector (ft)	0		20	0	24					
Trailing Detector (ft)	0		0	0	-6					
Detector 1 Position(ft)	6		0	6	-6					
Detector 1 Size(ft)	20		20	20	30					
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex					
Detector 1 Channel										
Detector 1 Extend (s)	0.0		0.0	0.0	0.0					
Detector 1 Queue (s)	0.0		0.0	0.0	0.0					
Detector 1 Delay (s)	0.0		0.0	0.0	0.0					
Turn Type	NA		custom	NA	Prot					
Protected Phases	6			2 7	8		1	3	4	7
Permitted Phases			2							
Detector Phase	6		2	2 7	8					
Switch Phase										
Minimum Initial (s)	47.0		39.0		9.0		5.0	9.0	15.0	15.0
Minimum Split (s)	52.0		44.0		13.0		8.0	13.0	19.0	19.0
Total Split (s)	52.0		44.0		19.0		8.0	19.0	19.0	19.0

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	Ø1	Ø3	Ø4	Ø7
Total Split (%)	57.8%		48.9%		21.1%		9%	21%	21%	21%
Yellow Time (s)	4.0		4.0		3.0		3.0	3.0	3.0	3.0
All-Red Time (s)	1.0		1.0		1.0		0.0	1.0	1.0	1.0
Lost Time Adjust (s)	-3.0				-3.0					
Total Lost Time (s)	2.0				1.0					
Lead/Lag			Lag		Lag		Lead	Lead	Lag	Lead
Lead-Lag Optimize?			Yes		Yes		Yes	Yes	Yes	Yes
Recall Mode	C-Max		C-Max		None		Max	None	None	None
Act Effct Green (s)	51.3			62.0	16.7					
Actuated g/C Ratio	0.57			0.69	0.19					
v/c Ratio	0.56			0.77	0.74					
Control Delay	13.4			6.8	39.8					
Queue Delay	0.0			0.9	0.0					
Total Delay	13.4			7.7	39.8					
LOS	B			A	D					
Approach Delay	13.4			7.7	39.8					
Approach LOS	B			A	D					
Queue Length 50th (ft)	187			30	108					
Queue Length 95th (ft)	245			126	#210					
Internal Link Dist (ft)	369			80	1486					
Turn Bay Length (ft)										
Base Capacity (vph)	1921			1511	379					
Starvation Cap Reductn	0			131	0					
Spillback Cap Reductn	0			0	0					
Storage Cap Reductn	0			0	0					
Reduced v/c Ratio	0.56			0.85	0.70					

Intersection Summary	
Area Type:	Other
Cycle Length: 90	
Actuated Cycle Length: 90	
Offset: 65 (72%), Referenced to phase 2:WBTL and 6:EBT, Start of Yellow	
Natural Cycle: 85	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.77	
Intersection Signal Delay: 13.6	Intersection LOS: B
Intersection Capacity Utilization 98.2%	ICU Level of Service F
Analysis Period (min) 15	
# 95th percentile volume exceeds capacity, queue may be longer.	
Queue shown is maximum after two cycles.	

Splits and Phases: 8: Seaview Avenue & Boston Avenue



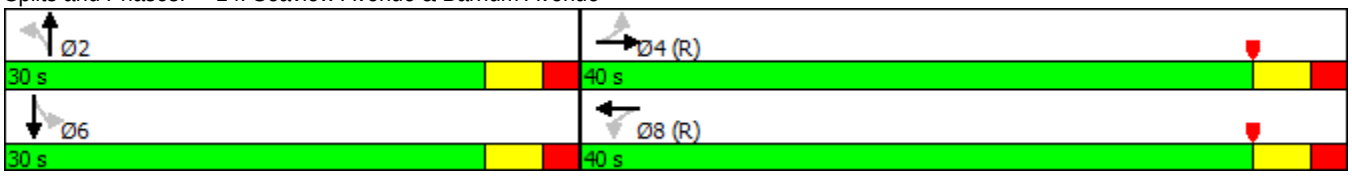


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	368	67	199	275	23	33	239	138	6	286	22
Future Volume (vph)	25	368	67	199	275	23	33	239	138	6	286	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00			1.00			0.99			1.00	
Frt		0.980			0.994			0.955			0.991	
Flt Protected		0.997			0.980			0.996			0.999	
Satd. Flow (prot)	0	1820	0	0	1811	0	0	1757	0	0	1838	0
Flt Permitted		0.964			0.653			0.956			0.993	
Satd. Flow (perm)	0	1759	0	0	1207	0	0	1685	0	0	1827	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)		19			5			43				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		636			442			394			890	
Travel Time (s)		17.3			12.1			10.7			24.3	
Confl. Peds. (#/hr)	8					8	14		2	2		14
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	26	387	71	209	289	24	35	252	145	6	301	23
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	484	0	0	522	0	0	432	0	0	330	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Minimum Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (s)	40.0	40.0		40.0	40.0		30.0	30.0		30.0	30.0	
Total Split (%)	57.1%	57.1%		57.1%	57.1%		42.9%	42.9%		42.9%	42.9%	
Yellow Time (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)		-3.0			-3.0			-3.0			-3.0	
Total Lost Time (s)		2.0			2.0			2.0			2.0	
Lead/Lag												
Lead-Lag Optimize?												
Act Effct Green (s)		38.0			38.0			28.0			28.0	
Actuated g/C Ratio		0.54			0.54			0.40			0.40	
v/c Ratio		0.50			0.79			0.62			0.45	
Control Delay		11.9			18.0			19.6			17.9	
Queue Delay		0.0			0.0			0.0			0.0	
Total Delay		11.9			18.0			19.6			17.9	
LOS		B			B			B			B	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach Delay		11.9			18.0			19.6			17.9	
Approach LOS		B			B			B			B	
Queue Length 50th (ft)		115			96			129			101	
Queue Length 95th (ft)		189			m154			219			167	
Internal Link Dist (ft)		556			362			314			810	
Turn Bay Length (ft)												
Base Capacity (vph)		963			657			699			730	
Starvation Cap Reductn		0			0			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.50			0.79			0.62			0.45	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 5 (7%), Referenced to phase 4:EBTL and 8:WBTL, Start of Yellow			
Natural Cycle: 70			
Control Type: Pretimed			
Maximum v/c Ratio: 0.79			
Intersection Signal Delay: 16.7		Intersection LOS: B	
Intersection Capacity Utilization 108.1%		ICU Level of Service G	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

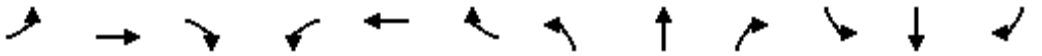
Splits and Phases: 14: Seaview Avenue & Barnum Avenue



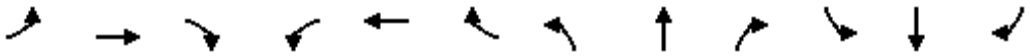
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	92	16	321	64	3	90
Future Volume (Veh/h)	92	16	321	64	3	90
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	102	18	357	71	3	100
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	498	392			428	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	498	392			428	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	81	97			100	
cM capacity (veh/h)	526	652			1121	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	120	428	103
Volume Left	102	0	3
Volume Right	18	71	0
cSH	542	1700	1121
Volume to Capacity	0.22	0.25	0.00
Queue Length 95th (ft)	21	0	0
Control Delay (s)	13.5	0.0	0.3
Lane LOS	B		A
Approach Delay (s)	13.5	0.0	0.3
Approach LOS	B		

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	33.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	372	910	239	146	647	346	173	212	116	76	137	272
Future Volume (vph)	372	910	239	146	647	346	173	212	116	76	137	272
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	116		0	150		0	200		150	200		220
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.93					1.00	0.98				
Frt		0.969			0.948			0.947				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	3176	0	1736	3291	0	1719	1687	0	1736	1827	1553
Flt Permitted	0.114			0.117			0.514			0.235		
Satd. Flow (perm)	208	3176	0	214	3291	0	929	1687	0	429	1827	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		52			127			30				302
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		449			160			1566			420	
Travel Time (s)		12.2			4.4			42.7			11.5	
Confl. Peds. (#/hr)			102	102			1		22			
Peak Hour Factor	0.90	0.89	0.89	0.89	0.89	0.90	0.89	0.90	0.89	0.90	0.90	0.90
Heavy Vehicles (%)	4%	3%	2%	4%	4%	4%	5%	4%	6%	4%	4%	4%
Adj. Flow (vph)	413	1022	269	164	727	384	194	236	130	84	152	302
Shared Lane Traffic (%)												
Lane Group Flow (vph)	413	1291	0	164	1111	0	194	366	0	84	152	302
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		8			8			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		0			8			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0		1	0		1	2		1	2	1
Detector Template	Left			Left				Thru		Left	Thru	Right
Leading Detector (ft)	20	0		20	0		24	100		20	100	20
Trailing Detector (ft)	0	0		0	0		-6	0		0	0	0
Detector 1 Position(ft)	0	6		0	6		-6	0		0	0	0
Detector 1 Size(ft)	20	20		20	20		30	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

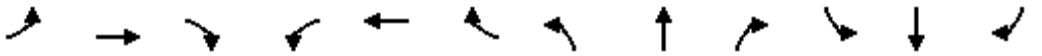


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		4
Detector Phase	5	2		1	6		3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	31.0		5.0	31.0		5.0	9.0		5.0	17.0	17.0
Minimum Split (s)	9.0	36.0		9.0	36.0		9.0	25.0		9.0	22.0	22.0
Total Split (s)	19.0	47.0		9.0	37.0		11.0	25.0		9.0	23.0	23.0
Total Split (%)	21.1%	52.2%		10.0%	41.1%		12.2%	27.8%		10.0%	25.6%	25.6%
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	3.0		3.5	4.0	4.0
All-Red Time (s)	0.5	1.0		0.5	1.0		0.5	1.0		0.5	1.0	1.0
Lost Time Adjust (s)	-3.0	-3.0		-3.0	-4.0		-3.0	-3.0		-3.0	-3.0	-3.0
Total Lost Time (s)	1.0	2.0		1.0	1.0		1.0	1.0		1.0	2.0	2.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Recall Mode	None	C-Max		None	Max		None	None		None	Max	Max
Act Effct Green (s)	55.0	45.0		44.0	36.0		33.0	25.8		30.0	21.0	21.0
Actuated g/C Ratio	0.61	0.50		0.49	0.40		0.37	0.29		0.33	0.23	0.23
v/c Ratio	0.96	0.80		0.69	0.80		0.45	0.73		0.32	0.36	0.51
Control Delay	58.2	22.7		21.3	23.0		24.3	37.2		22.7	31.7	7.0
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	58.2	22.7		21.3	23.0		24.3	37.2		22.7	31.7	7.0
LOS	E	C		C	C		C	D		C	C	A
Approach Delay		31.3			22.8			32.8			16.4	
Approach LOS		C			C			C			B	
Queue Length 50th (ft)	178	295		42	266		77	177		31	73	0
Queue Length 95th (ft)	#363	380		m48	m311		130	#314		63	128	64
Internal Link Dist (ft)		369			80			1486			340	
Turn Bay Length (ft)	116			150			200			200		220
Base Capacity (vph)	432	1614		239	1392		428	504		259	426	593
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.96	0.80		0.69	0.80		0.45	0.73		0.32	0.36	0.51

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 26.9 Intersection LOS: C
Intersection Capacity Utilization 86.7% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Seaview Avenue & Boston Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	36	334	105	238	453	24	158	521	208	10	308	26
Future Volume (vph)	36	334	105	238	453	24	158	521	208	10	308	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	375		0	120		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99				1.00		0.99	0.99			1.00	
Frt		0.964			0.992			0.957			0.988	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1761	0	1736	1809	0	1736	1736	0	1736	1798	0
Flt Permitted	0.392			0.173			0.271			0.182		
Satd. Flow (perm)	711	1761	0	316	1809	0	489	1736	0	332	1798	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)		24			5			31				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		636			442			394			890	
Travel Time (s)		17.3			12.1			10.7			24.3	
Confl. Peds. (#/hr)	8					8	14		2	2		14
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	40	371	117	264	503	27	176	579	231	11	342	29
Shared Lane Traffic (%)												
Lane Group Flow (vph)	40	488	0	264	530	0	176	810	0	11	371	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	6		20	6		20	0		20	0	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	1.0	20.0		1.0	30.0		1.0	17.0		1.0	17.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	5.0	25.0		5.0	35.0		5.0	22.0		5.0	22.0	
Total Split (s)	5.0	25.0		15.0	35.0		6.0	25.0		5.0	24.0	
Total Split (%)	7.1%	35.7%		21.4%	50.0%		8.6%	35.7%		7.1%	34.3%	
Yellow Time (s)	3.5	3.0		3.5	3.0		3.5	3.0		3.5	3.0	
All-Red Time (s)	0.5	2.0		0.5	2.0		0.5	2.0		0.5	2.0	
Lost Time Adjust (s)	-3.0	-3.0		-3.0	-3.0		-3.0	-3.0		-3.0	-3.0	
Total Lost Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?		Yes		Yes								
Recall Mode	None	Max		None	C-Max		None	None		None	None	
Act Effct Green (s)	29.0	24.0		39.0	35.0		29.0	27.0		27.0	22.0	
Actuated g/C Ratio	0.41	0.34		0.56	0.50		0.41	0.39		0.39	0.31	
v/c Ratio	0.11	0.79		0.60	0.58		0.60	1.18		0.05	0.66	
Control Delay	8.8	31.7		16.4	15.5		23.9	117.6		12.7	27.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	8.8	31.7		16.4	15.5		23.9	117.6		12.7	27.3	
LOS	A	C		B	B		C	F		B	C	
Approach Delay		30.0			15.8			100.8			26.9	
Approach LOS		C			B			F			C	
Queue Length 50th (ft)	7	181		67	157		48	~410		3	136	
Queue Length 95th (ft)	19	#340		m84	m192		#92	#677		11	224	
Internal Link Dist (ft)		556			362			314			810	
Turn Bay Length (ft)	100			375			120			100		
Base Capacity (vph)	352	618		460	907		291	689		208	565	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.11	0.79		0.57	0.58		0.60	1.18		0.05	0.66	

Intersection Summary

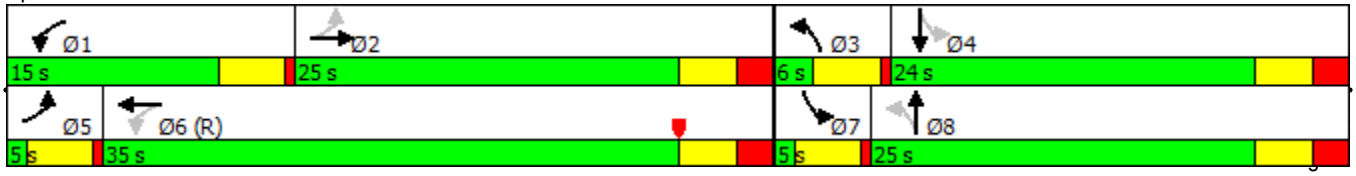
Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Offset: 0 (0%), Referenced to phase 6:WBTL, Start of Yellow
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.18
Intersection Signal Delay: 51.3 Intersection LOS: D
Intersection Capacity Utilization 94.0% ICU Level of Service F
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

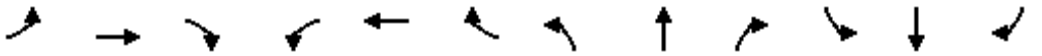
Splits and Phases: 14: Seaview Avenue & Barnum Avenue



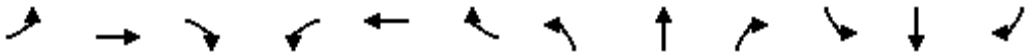
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	132	15	127	67	10	361
Future Volume (Veh/h)	132	15	127	67	10	361
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	147	17	141	74	11	401
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	601	178			215	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	601	178			215	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	68	98			99	
cM capacity (veh/h)	456	860			1343	

Direction, Lane #	WB 1	NB 1	SB 1
Volume Total	164	215	412
Volume Left	147	0	11
Volume Right	17	74	0
cSH	480	1700	1343
Volume to Capacity	0.34	0.13	0.01
Queue Length 95th (ft)	38	0	1
Control Delay (s)	16.4	0.0	0.3
Lane LOS	C		A
Approach Delay (s)	16.4	0.0	0.3
Approach LOS	C		

Intersection Summary			
Average Delay	3.5		
Intersection Capacity Utilization	41.9%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	206	1072	177	158	1065	93	189	68	165	246	243	468
Future Volume (vph)	206	1072	177	158	1065	93	189	68	165	246	243	468
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	116		0	150		0	200		150	200		220
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.97					1.00	0.97				
Frt		0.979			0.988			0.894				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	3331	0	1736	3429	0	1719	1566	0	1736	1827	1553
Flt Permitted	0.103			0.105			0.442			0.354		
Satd. Flow (perm)	188	3331	0	192	3429	0	799	1566	0	647	1827	1553
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		27			13			133				175
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		449			160			1566			420	
Travel Time (s)		12.2			4.4			42.7			11.5	
Confl. Peds. (#/hr)			102	102			1		22			
Peak Hour Factor	0.90	0.89	0.89	0.89	0.89	0.90	0.89	0.90	0.89	0.90	0.90	0.90
Heavy Vehicles (%)	4%	3%	2%	4%	4%	4%	5%	4%	6%	4%	4%	4%
Adj. Flow (vph)	229	1204	199	178	1197	103	212	76	185	273	270	520
Shared Lane Traffic (%)												
Lane Group Flow (vph)	229	1403	0	178	1300	0	212	261	0	273	270	520
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		8			8			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		0			8			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	0		1	0		1	2		1	2	1
Detector Template	Left			Left				Thru		Left	Thru	Right
Leading Detector (ft)	20	0		20	0		24	100		20	100	20
Trailing Detector (ft)	0	0		0	0		-6	0		0	0	0
Detector 1 Position(ft)	0	6		0	6		-6	0		0	0	0
Detector 1 Size(ft)	20	20		20	20		30	6		20	6	20
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Detector 2 Position(ft)								94			94	
Detector 2 Size(ft)								6			6	
Detector 2 Type								Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)								0.0			0.0	

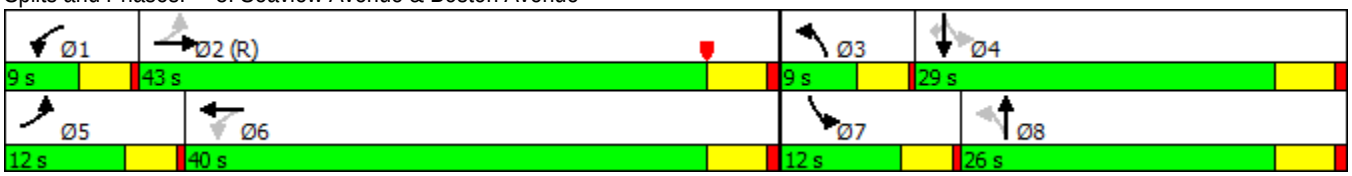


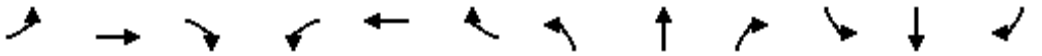
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	Perm
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		4
Detector Phase	5	2		1	6		3	8		7	4	4
Switch Phase												
Minimum Initial (s)	5.0	32.0		5.0	27.0		5.0	18.0		5.0	18.0	18.0
Minimum Split (s)	9.0	37.0		9.0	32.0		9.0	26.0		9.0	26.0	26.0
Total Split (s)	12.0	43.0		9.0	40.0		9.0	26.0		12.0	29.0	29.0
Total Split (%)	13.3%	47.8%		10.0%	44.4%		10.0%	28.9%		13.3%	32.2%	32.2%
Maximum Green (s)	8.0	38.0		5.0	35.0		5.0	21.0		8.0	24.0	24.0
Yellow Time (s)	3.5	4.0		3.5	4.0		3.5	4.0		3.5	4.0	4.0
All-Red Time (s)	0.5	1.0		0.5	1.0		0.5	1.0		0.5	1.0	1.0
Lost Time Adjust (s)	-3.0	-3.0		-3.0	-4.0		-3.0	-3.0		-3.0	-3.0	-3.0
Total Lost Time (s)	1.0	2.0		1.0	1.0		1.0	2.0		1.0	2.0	2.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Recall Mode	None	C-Max		None	Max		None	Max		None	Max	Max
Walk Time (s)		22.0			22.0			20.0			20.0	20.0
Flash Dont Walk (s)		1.0			1.0			1.0			1.0	1.0
Pedestrian Calls (#/hr)		23			23			1			1	1
Act Effct Green (s)	51.0	41.0		47.0	39.0		33.0	24.0		37.0	27.0	27.0
Actuated g/C Ratio	0.57	0.46		0.52	0.43		0.37	0.27		0.41	0.30	0.30
v/c Ratio	0.78	0.92		0.75	0.87		0.57	0.51		0.68	0.49	0.88
Control Delay	36.5	33.4		20.7	25.5		25.4	17.3		28.9	29.6	38.7
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Total Delay	36.5	33.4		20.7	25.5		25.4	17.3		28.9	29.6	38.7
LOS	D	C		C	C		C	B		C	C	D
Approach Delay		33.8			25.0			20.9			33.9	
Approach LOS		C			C			C			C	
Queue Length 50th (ft)	74	372		48	349		79	58		106	126	194
Queue Length 95th (ft)	#187	#517		m50	m350		130	133		#172	201	#388
Internal Link Dist (ft)		369			80			1486			340	
Turn Bay Length (ft)	116			150			200			200		220
Base Capacity (vph)	295	1532		237	1493		374	515		399	548	588
Starvation Cap Reductn	0	0		0	0		0	0		0	0	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.78	0.92		0.75	0.87		0.57	0.51		0.68	0.49	0.88

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 0 (0%), Referenced to phase 2:EBTL, Start of Yellow			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 29.7		Intersection LOS: C	

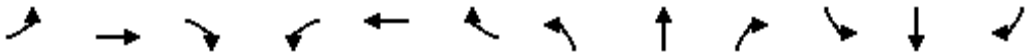
Intersection Capacity Utilization 89.3% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 8: Seaview Avenue & Boston Avenue





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	564	220	268	408	26	126	362	195	9	522	37
Future Volume (vph)	31	564	220	268	408	26	126	362	195	9	522	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	375		0	120		0	100		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99				1.00			0.99			1.00	
Frt		0.958			0.991			0.947			0.990	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1736	1750	0	1736	1806	0	1736	1715	0	1736	1803	0
Flt Permitted	0.348			0.120			0.189			0.198		
Satd. Flow (perm)	632	1750	0	219	1806	0	345	1715	0	362	1803	0
Right Turn on Red			Yes			Yes			Yes			No
Satd. Flow (RTOR)		35			6			40				
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		636			442			394			890	
Travel Time (s)		17.3			12.1			10.7			24.3	
Confl. Peds. (#/hr)	8					8	14		2	2		14
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	34	627	244	298	453	29	140	402	217	10	580	41
Shared Lane Traffic (%)												
Lane Group Flow (vph)	34	871	0	298	482	0	140	619	0	10	621	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	1		1	1		1	0		1	0	
Detector Template	Left			Left			Left			Left		
Leading Detector (ft)	20	6		20	6		20	0		20	0	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Turn Type	pm+pt	NA		pm+pt	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		1	6		3	8		7	4	
Switch Phase												
Minimum Initial (s)	3.0	24.0		3.0	27.0		3.0	19.0		3.0	19.0	



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Minimum Split (s)	7.0	29.0		7.0	32.0		7.0	24.0		7.0	24.0	
Total Split (s)	7.0	32.0		7.0	32.0		7.0	24.0		7.0	24.0	
Total Split (%)	10.0%	45.7%		10.0%	45.7%		10.0%	34.3%		10.0%	34.3%	
Maximum Green (s)	3.0	27.0		3.0	27.0		3.0	19.0		3.0	19.0	
Yellow Time (s)	3.5	3.0		3.5	3.0		3.5	3.0		3.5	3.0	
All-Red Time (s)	0.5	2.0		0.5	2.0		0.5	2.0		0.5	2.0	
Lost Time Adjust (s)	-3.0	-3.0		-3.0	-3.0		-3.0	-3.0		-3.0	-3.0	
Total Lost Time (s)	1.0	2.0		1.0	2.0		1.0	2.0		1.0	2.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	Max		None	Max		None	C-Max		None	C-Max	
Walk Time (s)		5.0			5.0			5.0			5.0	
Flash Dont Walk (s)		11.0			11.0			11.0			11.0	
Pedestrian Calls (#/hr)		4			4			8			8	
Act Effct Green (s)	37.0	30.0		37.6	34.2		29.8	27.6		29.2	23.4	
Actuated g/C Ratio	0.53	0.43		0.54	0.49		0.43	0.39		0.42	0.33	
v/c Ratio	0.08	1.13		1.21	0.54		0.53	0.88		0.04	1.03	
Control Delay	8.0	97.1		140.9	16.6		20.2	37.0		11.9	72.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	8.0	97.1		140.9	16.6		20.2	37.0		11.9	72.6	
LOS	A	F		F	B		C	D		B	E	
Approach Delay		93.7			64.1			33.9			71.6	
Approach LOS		F			E			C			E	
Queue Length 50th (ft)	6	~439		~111	161		36	218		2	~310	
Queue Length 95th (ft)	18	#652		m#220	m276		70	#488		10	#496	
Internal Link Dist (ft)		556			362			314			810	
Turn Bay Length (ft)	100			375			120			100		
Base Capacity (vph)	428	770		247	885		266	700		268	602	
Starvation Cap Reductn	0	0		0	0		0	0		0	0	
Spillback Cap Reductn	0	0		0	0		0	0		0	0	
Storage Cap Reductn	0	0		0	0		0	0		0	0	
Reduced v/c Ratio	0.08	1.13		1.21	0.54		0.53	0.88		0.04	1.03	

Intersection Summary			
Area Type:	Other		
Cycle Length: 70			
Actuated Cycle Length: 70			
Offset: 0 (0%), Referenced to phase 4:SBTL and 8:NBTL, Start of Yellow			
Natural Cycle: 100			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.21			
Intersection Signal Delay: 66.9		Intersection LOS: E	
Intersection Capacity Utilization 108.0%		ICU Level of Service G	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 14: Seaview Avenue & Barnum Avenue

APPENDIX B

SUPPORT DOCUMENTATION

Level of Service Criteria for Signalized Intersections:

LOS A describes operations with very low delay, up to 10 second per vehicle. This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

LOS B describes operations with delay greater than 10 and up to 20 second per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with a LOS A, causing higher levels of average delay.

LOS C describes operations with delay greater than 20 and up to 35 second per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

LOS D describes operations with delay greater than 35 and up to 55 second per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are frequent occurrences.

LOS E describes operations with delay greater than 55 and up to 80 second per vehicle. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.

LOS F describes operations with delay in excess of 80 second per vehicle. This level, considered to be unacceptable to most drivers, often occurs with over saturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing factors.

Appendix F – Air Quality Assessment

STATE OF CONNECTICUT
DEPARTMENT OF TRANSPORTATION

memorandum

COM-09A REV.2/91 Printed on Recycled or Recovered Paper

Subject Air Quality Assessment
Project 0015-0371
Seaview Avenue Corridor Project
City of Bridgeport

Date February 7, 2017

To: Jonathan M. Dean
Project Engineer
Bureau of Engineering & Construction

From: Judy B. Raymond *ext.2032*
Transportation Supervising Planner
Bureau of Policy & Planning

In response to your January 10, 2017 request, an air quality assessment has been completed for the subject project.

Project-level Conformity Determination

Project level conformity determination for the Seaview Avenue Corridor project in the City of Bridgeport.

Federal regulations concerning the conformity of transportation projects developed, funded or approved by the USDOT and by metropolitan planning organizations (MPOs) are contained in 40 CFR Part 93. The Proposed Action (project) is included in the Metropolitan Council of Governments (MetroCOG) current Long Range Transportation Plan ("Plan") and current Transportation Improvement Program (TIP).

In accordance with 40 CFR §93.109, the applicable criteria and procedures for determining the conformity of a project which is from a conforming Transportation Plan and TIP are listed in Table 1 of 40 CFR §93.109(b). These criteria have been determined to be satisfied for the Proposed Action as follows:

- **Currently Conforming Plan and TIP** – The MPO's current Transportation Plan and the FY 2015-2018 Statewide Transportation Improvement Program (STIP), which incorporates the MPO's current TIP, were determined to be in conformity by FHWA as of July 28, 2014.

- **Project from a Conforming Plan and TIP** – This project is identified in the MPO's current Transportation Plan and is included in the MPO's current TIP. The scope of this project, as described in this environmental document, is consistent with the scope identified in the current Plan and TIP.

- **CO, PM_{10} and $PM_{2.5}$ Hot Spots** – This project will not cause or contribute to any new violations or increase the frequency or severity of any existing CO or $PM_{2.5}$ violations in CO and $PM_{2.5}$ maintenance areas as evidenced by the results of the CO hotspot analysis contained herein. *NOTE:* This project is located within the boundaries of the portion

of the state which has been classified as attainment maintenance for $PM_{2.5}$. A project level conformity determination is required for PM2.5. However, this project is not of the type listed in 40 CFR §93.123(b)(1) as an air quality concern. Therefore, Clean Air Act and 40 CFR §93.116 requirements are met without an explicit PM2.5 hotspot analysis.

CO Hot Spot Analysis

Results are provided for the top CO concentrations at select sensitive receptor locations in the project vicinity. The peak hour carbon monoxide (CO) concentration is 4.40 parts per million (ppm) and the 8-hour CO concentration is 3.07 ppm at the intersection of Seaview Avenue and Barnum Avenue in Bridgeport for the year 2035. The peak hour carbon monoxide (CO) concentration is 4.50 parts per million (ppm) and the 8-hour CO concentration is 3.14 ppm at the intersection of Seaview Avenue and Route 1 Boston Avenue in Bridgeport for the year 2035. The national ambient air quality standards for CO are 35 ppm for the 1-hour and 9 ppm for an 8-hour period.

Location	1-hr ppm	8-hr ppm
Seaview Avenue at Barnum Avenue	4.40	3.07
Seaview Avenue at Route 1 Boston Avenue	4.50	3.14

This project is located within the boundaries of the portion of the state which has been designated as attainment-maintenance for CO. The results of this analysis show that the project will not result in exacerbating an existing violation or create a new local CO violation and is therefore in conformity.

- **PM_{10} and $PM_{2.5}$ Control Measures** – This project must comply with PM_{10} and $PM_{2.5}$ control measures in the SIP. There are no PM_{10} or $PM_{2.5}$ control measures in the current SIP, so this criterion is met.

- **Emissions Budget and/or Interim Emissions** - This project has been demonstrated to be consistent with the motor vehicle emissions budgets in the SIP as evidenced by the Connecticut Department of Transportation's Ozone Air Quality Conformity Determination for the 2012-2015 Transportation Improvement Program.

Mobile Source Air Toxics

In accordance with FHWA Memorandum, "Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents", dated October 18, 2016, (https://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/msat/index.cfm) this project requires a qualitative analysis or discussion of Mobile Source Air Toxics effects.

A qualitative analysis provides a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the various alternatives. The qualitative assessment

presented below is derived in part from a study conducted by the FHWA entitled *A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives*, found at:
https://www.fhwa.dot.gov/environment/air_quality/air_toxics/research_and_analysis/mobile_source_air_toxics/msatemissions.cfm.

For this project on the Seaview Avenue corridor from Barnum Avenue to Route 1 Boston Avenue and Bond Street in Bridgeport, the amount of MSAT emitted would be proportional to the vehicle miles traveled, or VMT, assuming that other variables such as fleet mix are the same for each alternative. Due to the scope of work for this project, the VMT estimated for the Build Alternative does not increase from that of the No Build Alternative, because the daily traffic volumes associated with the intersection are expected to remain the same with the realignment of Bond Street at Route 1 Boston Avenue and Seaview Avenue. Refer to the table below for VMT figures. In addition, any potential emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds; according to U.S. Environmental Protection Agency's (EPA's) MOVES2010b model, emissions of all of the priority MSAT decrease as speed increases. Also, emissions will likely be lower than present levels in the design year as a result of EPA's national control programs that are projected to reduce annual MSAT emissions by over 80 percent between 2010 and 2050. Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is so great (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future in nearly all cases.

Seaview Avenue at Route 1 Boston Avenue and Bond Street VMT	No Build	Build
Seaview Avenue at Route 1 Boston Avenue and Bond Street	6,174	6,174

The intersection improvements contemplated as part of the Build Alternative will have the effect of moving some traffic closer to nearby homes, schools, and businesses; therefore, with the Build Alternative there may be localized areas where ambient concentrations of MSAT could be higher than the No Build Alternative. However, the magnitude and the duration of these potential increases compared to the No Build Alternative cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts. In sum, when intersections are built or improved upon, the localized level of MSAT emissions for the Build Alternative could be higher relative to the No Build Alternative, but this could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also, MSAT will be lower in other locations when traffic shifts away from them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region-wide MSAT levels to be significantly lower than today.

In FHWA's view, information is incomplete or unavailable to credibly predict the project-specific health impacts due to changes in MSAT emissions associated with a proposed set of

highway alternatives. The outcome of such an assessment, adverse or not, would be influenced more by the uncertainty introduced into the process through assumption and speculation rather than any genuine insight into the actual health impacts directly attributable to MSAT exposure associated with a proposed action.

The EPA is responsible for protecting the public health and welfare from any known or anticipated effect of an air pollutant. They are the lead authority for administering the Clean Air Act and its amendments and have specific statutory obligations with respect to hazardous air pollutants and MSAT. The EPA is in the continual process of assessing human health effects, exposures, and risks posed by air pollutants. They maintain the Integrated Risk Information System (IRIS), which is "a compilation of electronic reports on specific substances found in the environment and their potential to cause human health effects" (EPA, http://www.epa.gov/iris/). Each report contains assessments of non-cancerous and cancerous effects for individual compounds and quantitative estimates of risk levels from lifetime oral and inhalation exposures with uncertainty spanning perhaps an order of magnitude.

Other organizations are also active in the research and analyses of the human health effects of MSAT, including the Health Effects Institute (HEI). Two HEI studies are summarized in Appendix D of "FHWA's Interim Guidance Update on Mobile source Air Toxic Analysis in NEPA Documents". Among the adverse health effects linked to MSAT compounds at high exposures are; cancer in humans in occupational settings; cancer in animals; and irritation to the respiratory tract, including the exacerbation of asthma. Less obvious is the adverse human health effects of MSAT compounds at current environmental concentrations (HEI, https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects) or in the future as vehicle emissions substantially decrease.

The methodologies for forecasting health impacts include emissions modeling; dispersion modeling; exposure modeling; and then final determination of health impacts - each step in the process building on the model predictions obtained in the previous step. All are encumbered by technical shortcomings or uncertain science that prevents a more complete differentiation of the MSAT health impacts among a set of project alternatives. These difficulties are magnified for lifetime (i.e., 70 year) assessments, particularly because unsupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emissions rates) over that time frame, since such information is unavailable.

It is particularly difficult to reliably forecast 70-year lifetime MSAT concentrations and exposure near roadways; to determine the portion of time that people are actually exposed at a specific location; and to establish the extent attributable to a proposed action, especially given that some of the information needed is unavailable.

There are considerable uncertainties associated with the existing estimates of toxicity of the various MSAT, because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population, a concern expressed by HEI

(https://www.healtheffects.org/publication/mobile-source-air-toxics-critical-review-literature-exposure-and-health-effects). As a result, there is no national consensus on air dose-response values assumed to protect the public health and welfare for MSAT compounds, and in particular for diesel PM. The EPA (https://www.epa.gov/risk) and the HEI (https://www.healtheffects.org/publication/diesel-emissions-and-lung-cancer-epidemiology-and-quantitative-risk-assessment) have not established a basis for quantitative risk assessment of diesel PM in ambient settings.

There is also the lack of a national consensus on an acceptable level of risk. The current context is the process used by the EPA as provided by the Clean Air Act to determine whether more stringent controls are required in order to provide an ample margin of safety to protect public health or to prevent an adverse environmental effect for industrial sources subject to the maximum achievable control technology standards, such as benzene emissions from refineries. The decision framework is a two-step process. The first step requires EPA to determine an "acceptable" level of risk due to emissions from a source, which is generally no greater than approximately 100 in a million. Additional factors are considered in the second step, the goal of which is to maximize the number of people with risks less than 1 in a million due to emissions from a source. The results of this statutory two-step process do not guarantee that cancer risks from exposure to air toxics are less than 1 in a million; in some cases, the residual risk determination could result in maximum individual cancer risks that are as high as approximately 100 in a million. In a June 2008 decision, the U.S. Court of Appeals for the District of Columbia Circuit upheld EPA's approach to addressing risk in its two step decision framework. Information is incomplete or unavailable to establish that even the largest of highway projects would result in levels of risk greater than deemed acceptable.

Because of the limitations in the methodologies for forecasting health impacts described, any predicted difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with predicting the impacts. Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against project benefits, such as reducing traffic congestion, accident rates, and fatalities plus improved access for emergency response, that are better suited for quantitative analysis.

In summary, the Proposed Action has been determined to be in conformity with the Clean Air Act, as amended, pursuant to all applicable EPA regulations.

If there are any questions, please contact Ryan Dolan at (860) 594-2027.

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Appendix G – Noise Study

Connecticut Department of Transportation
State Project No. 15-371
Seaview Avenue Corridor Project
City of Bridgeport
Traffic Noise Analysis
September 2017

INTRODUCTION AN D PROJECT DESCRIPTION

Project Description

The proposed project is located on Seaview Avenue from the intersection with Barnum Avenue to Boston Avenue (Route 1), approximately 2,650 feet, and Bond Street from the intersection of Boston Avenue (Route 1) to Steward Street, approximately 2,285 feet.

The project includes slight widening of Seaview Avenue and constructing a shared-use path along the west side of the road separated from the roadway by a concrete buffer strip. Bond Street will be realigned to the west which will parallel the existing Bond Street from Boston Ave to Steward Street. Constructing the new parallel roadway allows for the existing Bond Street area to be reconstructed as a one-way frontage road and include a formalized angled parking area to address parking deficits within the area.

Existing Land Use

Land uses along Seaview Avenue are predominately residential along the eastern side and commercial/industrial along the west side.

Land uses along Bond Street are residential and the Apostolic Church along the eastern side of the roadway. Also, the abandoned and remediated General Electric Property is located along the western boundary. The new Harding High School is currently under construction on a northern portion of the GE property, across from the Bond Street/Tudor Street and Bond Street/Steward Street intersections.

Model Validation

Using the ambient noise field measurements listed in Table 2, the TNM 2.5 was validated for accuracy, in accordance with 23 CFR §772.11(d)(2). The locations where field measurements were taken were included into the noise model for the existing conditions to determine the modeled noise at each location. Table 2 compares the measured Leq versus modeled Leq for the 7 sites. Based on FHWA's guidance, if the measured Leq and modeled Leq are within 3 dB(A), the model is valid. Therefore, based on the data in Table 2, the uses of the noise model developed for this project is considered valid for predicting sound levels for the existing and build alternatives (Table 4).

Locations not meeting the ± 3 decibels for validation where most likely influenced by variables that cannot be accounted for in the TNM 2.5. These variables may include aircraft flyovers, emergency vehicle sirens, noise and vibrations emanating from construction activities in the area, atmospherics, etc.

TABLE 2: FHWA TNM MODEL VALIDATION LOCATIONS May 27, 2017				
Site	**Time Period**	**Measured Leq**	**Modeled Leq**	**Difference**
1856 Seaview Avenue	12:00 PM to 12:15 PM	67.2	67.7	0.5
2134 Seaview Avenue	11:40 AM to 11:55 AM	65.8	64.8	-1.0
Apostolic Church on Bond Street	11:20 AM to 11:35 AM	65.9	66.1	0.2
96 Bond Street	11:00 AM to 11:15 AM	66.1	65.8	-0.3
422 Bond Street	10:40 AM to 10:55 AM	58.4	56.6	-1.8
NOTES: Difference = Measured Leq minus Modeled Leq.				

ANALYSIS

Model Used and Assumptions

The Federal Highway Administration (FHWA) noise prediction model (Traffic Noise Model 2.5 (TNM 2.5)) was used to derive existing and future noise levels. The existing and future hourly traffic counts and the posted speed limits for the local roadway network were used for the existing and future build scenarios for the roadway networks.

Traffic Noise Impacts

The FHWA developed Noise Abatement Criteria (NAC) for varying land use categories to determine if and where traffic noise impacts occur. Project No. 15-371 contains residential and industrial/commercial land use categories (Figures 1 and 2). Residential locations would only be considered to have a noise impact if noise levels reach an hourly equivalent level of 67 decibels Leq(h) or greater or the ambient noise levels are exceeded by 15 decibels. Industrial/commercial locations would be impacted if noise levels reach an hourly equivalent level of 72 decibels Leq(h) or greater or the ambient noise levels are exceeded by 15 decibels.

Based on the Department's current Noise Abatement Policy, the Department considers a predicted noise level within 1 dB(A) as "approaching" the NAC. A predicted increase of 15 dB(A) or more is considered by the Department to substantially exceed the existing noise level.

Modeled Results

The modeled traffic noise levels for the existing condition and design year build scenarios are highlighted in Table 1:

Table 1: Modeled Existing and Build Conditions

Receptor Number	NAC Activity Category	Calculated Existing Leq(h)	Calculated Future Build Leq(h)
BondStrt1	B	47	47
BondStrt2	B	64	64
BondStrt3	B	62	62
BondStrt4	B	60	60
BondStrt5 - 422 Bond Street[1]	B	58	57
BondStrt6	B	56	56
BondStrt7	B	55	55
BondStrt8	B	55	55
BondStrt9	B	55	55
BondStrt10	B	56	56
BondStrt11	B	56	56
BondStrt12	B	56	56
BondStrt13	B	57	57
BondStrt14	B	58	58
BondStrt15	B	59	59
BondStrt16	B	65	65
BondStrt17	B	65	65
BondStrt18	B	65	65
BondStrt19[2]	B	66	66
BondStrt20	B	65	65
BondStrt21 - 96 Bond Street[1,2]	B	66	66
BondStrt22	B	64	64
BondStrt23	B	65	65
BondStrt24-Church[1,2]	C,D	66	66
BondStrt25	B	67	67
BondStrt26	B	49	49
BondStrt27	B	48	48
BondStrt28	B	48	48
BondStrt29	B	53	53
BondStrt30	B	50	50
BondStrt31	B	49	49
BondStrt32	B	50	50
BondStrt33	B	50	50
SV1[2]	B	67	67
SV2	B	64	64

SV3[2]	B	67	67
SV4	B	65	65
SV5[2]	B	66	66
SV6	B	65	65
SV7	B	64	64
SV8	B	57	57
SV9	B	54	54
SV10	B	53	53
SV11	B	55	55
SV12	B	56	56
SV13	B	56	56
SV14	B	55	55
SV15	B	54	54
SV16	B	64	64
SV17	B	53	53
1856 Seaview Avenue[1]	B	67	63
2134 Seaview Avenue[1]	B	66	65

[1]Field Measured Location
[2]Impacted Receptor

The modeled traffic noise levels for existing conditions varies from 47 to 67 decibels Leq(h). The modeled traffic noise levels for future build conditions will vary between 47 to 67 decibels Leq(h). Of the modeled locations, five Receptors approach or are equal to the NAC of 67 decibels Leq(h). These receptors show an impact from both the existing roadways and the future build roadways. There are no substantial noise increases predicted.

Results

Noise abatement measures are not being proposed. No feasible abatement measures can be provided to minimize the traffic noise levels for the impacted receptors due to the significant number of driveway curb cuts associated with the properties and the limited space for the construction of abatement (23 CFR 772.13(d)(ii)).


BondStr25
SV16
SV17
SV8
SV7
SV9
2134 Seaview Avenue
SV6
SV10
SV5
SV11
SV4
SV12
SV3
SV2
SV13
1856 Seaview Avenue
SV14
SV1
SV15
Seaview Avenue Legend
Field Monitor
Building_Rows
Local_Roads
Project No. 15-371
City of Bridgeport
Seaview Avenue
TNM Analysis Layout

Figure 1


BondStrt3
BondStrt4
BondStrt5 - 422 Bond Street
BondStrt6
BondStrt7
BondStrt26
BondStrt8
BondStrt9
BondStrt27
BondStrt10
BondStrt28
BondStrt11
BondStrt12
BondStrt13
BondStrt14
BondStrt29
BondStrt15
BondStrt16
BondStrt17
BondStrt18
BondStrt19
BondStrt30
BondStrt20
BondStrt21 - 96 Bond Street
BondStrt31
BondStrt22
BondStrt23
BondStrt32
BondStrt24 - Church
BondStrt33
BondStrt25
SV16
SV17
SV8
Bond Street Legend
Field Monitor
Building_Rows
Local_Roads
Project No. 15-371
City of Bridgeport
Bond Street
TNM Analysis Layout

Figure 2