

24-1 INTRODUCTION

This chapter summarizes and responds to comments on the Draft Environmental Impact Statement (DEIS) for the Tappan Zee Hudson River Crossing Project. The Federal Highway Administration, acting as federal lead agency, and the New York State Department of Transportation (NYSDOT) and New York State Thruway Authority (NYSTA), acting as joint lead agencies signed the cover sheet of the DEIS on January 18, 2012, and the document was made publicly available. A notice of its availability was published in the Federal Register on January 27, 2012, which established the public comment period on the document.

The public comment period was initially scheduled to conclude on March 15, 2012, but in response to public comments, FHWA, NYSDOT, and NYSTA extended the public comment period to March 30, 2012. Two public hearings were held during the public comment period. The first was on February 28, 2012 at the Palisades Mall in West Nyack, New York, and the second was on March 1, 2012 at the Westchester Marriott in Tarrytown, New York. A court reporter was on hand to accept oral comments on the DEIS at the hearings. Written comments (email and letters) were accepted throughout the public comment period. Written comments received after March 30, 2012 were also accepted. All substantive comments on the DEIS have been responded to in this Final Environmental Impact Statement (FEIS).

Section 2 contains a summary of these relevant comments and a response to each. These summaries convey the substance of the comments made, but do not necessarily quote the comments verbatim. Comments are organized by subject matter and generally parallel the chapter structure of the DEIS. Where more than one commenter expressed similar views, those comments have been grouped and addressed together.

Some commenters did not make specific comments related to the proposed approach or methodology for the impact assessments. Others suggested editorial changes. Where relevant and appropriate these edits, as well as other substantive changes to the DEIS, have been incorporated into this FEIS.

Section 3 lists the public agencies, elected officials, organizations, and individuals that provided relevant comments on the DEIS. Volume III of this FEIS contains the written comments received on the DEIS, including transcripts of the public hearings.

¹ This chapter is new to the FEIS.

24-2 RESPONSES TO COMMENTS ON THE DEIS

24-2-1 CHAPTER 1: PURPOSE AND NEED

C 1-1: Several commenters stated that the project should consider mobility, congestion, and safety improvements along the 30-mile corridor of Interstate 87/287.

The original project considered regional transportation needs within the I-287 corridor to alleviate traffic congestion and improve safety between Port Chester and Suffern. If the original purpose of the project was to improve regional infrastructure, then it would follow that a plan that does not include mass transit, or alternatives to low-occupancy vehicles, would fall short of recognizing the future needs of the region. On October 12, 2011, both the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) rescinded the Notice of Intent for the Tappan Zee Bridge/I-287 Corridor Project and issued instead a Notice of Intent for the Tappan Zee Hudson River Crossing Project. If the proposed action is now limited to maintaining the “link in the regional and national transportation network,” then it fails to consider the project’s original purposes—improved infrastructure, reduced congestion, and safety. While maintaining the Tappan Zee Bridge link across the Hudson River is surely of critical importance for regional transportation, the project must contemplate the need for smart growth and the environmental review must thoroughly analyze the project’s impacts on the entire I-287 Corridor and the region.

R 1-1: Many planning studies have identified the replacement of the Tappan Zee Bridge as a critical need for the Lower Hudson Valley. The Tappan Zee Hudson River Crossing Project addresses this need based on the structural, operational and safety, security, and mobility deficiencies of the existing Tappan Zee Bridge. The replacement of the Tappan Zee Bridge is considered a high-priority project by the federal and state government and is being advanced at this time. The proposed replacement of the Tappan Zee Bridge would not preclude other initiatives to enhance mobility along the Interstate 87/287 corridor should these projects be advanced independently at some point in the future.

C 1-2: Several commenters expressed concern as to whether a new bridge is actually needed.

R 1-2: As identified in the DEIS, the existing bridge does not meet current standards for its design or traffic operations. The Tappan Zee Hudson River Crossing Project would address the structural, operational, mobility, safety, and security limitations and deficiencies of the existing Tappan Zee Bridge.

C 1-3: The health and beauty of the Hudson River are more important to me than cars. Leave it the way it is. We must enter a new era where growth is replaced with sustainability.

- R 1-3:** The Tappan Zee Hudson River crossing is an important route for both passenger vehicles and freight. It is the only interstate highway crossing of the Hudson River for the 48-mile stretch between the George Washington Bridge (Interstate 95) and the Newburgh-Beacon Bridge (Interstate 84). It is a vital link between the population and employment centers of Rockland and Westchester Counties, is a major route for freight movement, and is an emergency evacuation route. The absence of a highway crossing at this location would have extensive impacts on local, regional, and national mobility, economy, and security.
- C 1-4:** The DEIS does not actually say how or why increased lane size will decrease accident rates.
- R 1-4:** The American Association of State Highway Transportation Officials (AASHTO) identifies 12 feet as its standard lane width for urban, interstate highways. At 12 feet or greater, drivers can best achieve interstate highway speed with safe buffer for passing vehicles and a comfortable distance for minor fluctuations in vehicle control. Standard lane widths are one of many considerations to improve safety of the Tappan Zee Hudson River crossing.
- C 1-5:** The document should also reference recent and projected growth in Orange County.
- R 1-5:** Future traffic volumes on the bridge are projected using the New York Metropolitan Transportation Council (NYMTC) regional forecasts, which include the entire commuter shed of the Tappan Zee Bridge, including Orange County. The growth rates cited in Chapter 1, "Purpose and Need," are illustrative of trends in the immediate vicinity of the Tappan Zee Bridge and are not intended to discount growth in other parts of the New York Metropolitan region.
- C 1-6:** In section 1-5, one of the clearly defined "Deficiencies" of the existing bridge is "Mobility Deficiency." However, not one of the Goals or Objectives addresses mobility deficiencies.
- R 1-6:** The mobility deficiencies of the existing bridge relate to its non-standard features with respect to traffic operations, and its difficulties in terms of safety and timely emergency response. The goals and objectives for the project address these deficiencies. Furthermore, the Replacement Bridge Alternative would include a shared-use path, which would improve trans-Hudson mobility for bicyclists and pedestrians.
- C 1-7:** Population data used in the DEIS should be corrected to reflect that Rockland County has grown from 89,000 in 1950 to 311,000 in 2010 (not 299,000) and that the 2010 Westchester County population was 949,113 (not 962,000). It should also be noted that the 2010-2047 population and employment projections for Rockland County obtained from NYMTC are not consistent with projections commissioned by the County. Further, NYMTC has provided updated population and employment projections for 2040 based on the 2010 census. The EIS should reflect these updates.

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R 1-7: Project development for federally-sponsored transportation planning projects requires consistency with population and employment using forecasts by the local Metropolitan Planning Organization, NYMTC in this case. Therefore, NYMTC data are cited in the DEIS.

The DEIS cites projections used for the modeling of traffic, which were based on socioeconomic data published prior to September 2011. The revised socioeconomic data released by NYMTC in September 2011 included projected 2040 population and employment figures that for Rockland and Westchester were roughly 1 to 5 percent higher than prior NYMTC estimates. From a transportation perspective, the full impact of these types of changes on travel patterns and volumes in the future analysis years would likely be very small given the size of these changes and the various factors that drive trip making. There are myriad factors that affect trip making beyond the number of residents or jobs. However, when considered cumulatively, a small change in these projections would have a limited effect on the 2017 and 2047 travel volumes and patterns predicted in the DEIS.

C 1-8: Several commenters stated that the study area should be expanded, citing the following reasons:

- The bridge would be able to accommodate transit and therefore must consider the more widespread effects from future transit;
- Haverstraw Bay and the Piermont Marsh are identified as a “Significant Coastal Fish and Wildlife Habitat,” which is in proximity to the study area. Impacts on local and migrating species must be assessed;
- There are roadway improvements that are needed in proximity to the study area to better address traffic conditions and safety.

R 1-8: The Tappan Zee Hudson River Crossing Project is examining alternatives to address the deficiencies of the existing Tappan Zee Bridge and is not a corridor study. The study area reflected in the DEIS considers the direct effects of construction and operation of a new bridge and was defined based on the limits of its construction. Where potential effects may extend beyond ¼ mile of the bridge, study areas were expanded in consultation with FHWA and other regulatory and resource agencies.

C 1-9: Several commenters favored the project’s expedited environmental review and design-build process and stressed that construction of the Replacement Bridge Alternative is beneficial to local and regional communities and economies.

R 1-9: Comment noted.

C 1-10: Several commenters acknowledged and thanked the project sponsors for their outreach efforts throughout project development.

R 1-10: Comment noted.

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C 1-11: Several commenters expressed the need for the project given the shortcomings of the existing Tappan Zee Bridge.

R 1-11: Comment noted.

C 1-12: Several commenters were pleased that the replacement bridge would include infrastructure for future transit and stressed the importance of moving the project forward while it has state and federal support and financing. They stated that transit, and associated environmental reviews, should not delay the project and could be incorporated when funding is available, and that at such time that transit could be implemented, previous corridor analyses could be built upon.

R 1-12: Comment noted.

24-2-2 CHAPTER 2: PROJECT ALTERNATIVES

24-2-2-1 GENERAL

C 2-1: Many commenters stated that the DEIS did not present the public with a range of alternatives and a sufficient comparison of costs, environmental impacts, and benefits. Commenters felt that the elimination of alternatives was not sufficiently justified and that each should be fully evaluated. It was also stated that the No Build Alternative was not seriously considered and that the design options presented in the DEIS are not really alternatives.

R 2-1: As stated in FHWA National Environmental Policy Act (NEPA) guidance, if an alternative does not satisfy the purpose and need for the action, it should not be included in the analysis as a reasonable alternative. However, the EIS should document all alternatives considered, and all reasons that an alternative was eliminated from detailed consideration.

The DEIS considered five alternatives—No Build Alternative, Replacement Bridge Alternative, Rehabilitation Alternative, Tunnel Alternative, and Single Span Alternative. As documented in the DEIS and as further described in response to comments below, the Rehabilitation Alternative, Tunnel Alternative, and Single Structure Alternative were not considered reasonable due to engineering, constructability, cost, and/or environmental considerations, and each was eliminated based on multiple factors. The elimination of the rehabilitation and tunnel alternatives was based on a review of prior studies in the context of the current project. These prior studies were publicly available and have also been provided upon specific requests by multiple parties during the public review of this DEIS. The Single Structure Alternative was raised during the public scoping period, and it was considered and eliminated in the DEIS.

The DEIS assessed the No Build and Replacement Bridge Alternatives in detail, and fully documented the environmental effects of each consistent with NEPA and the State Environmental Quality Review Act (SEQRA) requirements. To provide for flexibility in the design-build procurement, the DEIS considered options for the design of the Replacement Bridge

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Alternative, and it documented the potential environmental impacts of these options. The DEIS did not imply that such options are alternatives in and of themselves, but rather, treated these options as design considerations for the final proposal for a replacement bridge.

With consideration of public comments, agency coordination, and consultation under Section 106 of the National Historic Preservation Act, and review under Section 4(f) of the U.S. Department of Transportation Act, FHWA, NYSDOT, and NYSTA have taken a “hard look” at the Replacement Bridge Alternative and have made refinements to project elements to avoid, minimize, or mitigate its potential adverse environmental impacts.

- C 2-2:** The DEIS did not consider a smaller, less expensive bridge nor did it adequately justify the need for a bridge twice as wide as the existing bridge.
- R 2-2:** A smaller bridge may not be substantially less expensive. Furthermore, the goals and objectives of the project identify redundancy as a key element in ensuring the structural integrity and the operational flexibility of a replacement bridge. As described in Chapter 2, “Project Alternatives,” NYSTA would maintain traffic flow across the Hudson River to the maximum extent feasible, even if one of the two structures must be closed. To provide adequate capacity for such short-term traffic operations, each of two road decks would need a minimum width of 87 feet to provide for seven temporary lanes and an adequate buffer for two-way traffic operations. To that end, the southern structure would be 87 feet wide, and the northern structure would be 96 feet wide to accommodate traffic lanes, shoulders, emergency access, and the shared-use path. A smaller structure would not meet the project objective to provide for service redundancy and might lack additional traffic lanes, emergency access, and a shared-use path.
- C 2-3:** The DEIS states "Future transit alternatives are presently not considered reasonably foreseeable transportation improvements. (FHWA defines reasonably foreseeable as being part of the fiscally constrained portion of the Metropolitan Planning Organization's [MPO] long range plan)." Based on this logic, a replacement bridge is also not "reasonably foreseeable" as it is also not part of the fiscally constrained portion of the MPO's long range plan.
- R 2-3:** Subsequent to publication of the DEIS, FHWA, NYSTA, and NYSDOT are coordinating with NYMTC to include the project in the current Transportation Improvement Program (TIP) and fiscally-constrained regional plan. In May and June, NYMTC held a 30-day public comment period for its notice to include the Replacement Bridge Alternative in the TIP. FHWA, NYSDOT, NYSTA, and NYMTC continue to coordinate on amending the TIP and Plan prior to the issuance of a Record of Decision for the Tappan Zee Hudson River Crossing Project.
- C 2-4:** The Replacement Bridge Alternative would include design measures to accommodate future transit (i.e., constant grades, additional width, a gap

between the structures, and increased design loadings). This raises several very interesting and complex questions:

- Provision of the infrastructure for future transit increases the project's cost and a wide range of products (e.g., more concrete and steel) and activities (e.g., more piles to be driven, more dredging, more truck traffic, more workers, a longer construction period, etc.) that cause increased impacts in most if not all resource areas.
- The alternative of no increased transit infrastructure should be evaluated in the EIS, so that everyone understands the costs, environmental impacts, and cumulative impacts associated with the provision of transit.

R 2-4: The purpose and need and goals and objectives of the project were subject to public review during project scoping in October and November of 2011. As set forth in Chapter 1, "Purpose and Need," one of the identified goals of the project is to maximize the public investment such that transit service could be implemented at a later date when it is financially feasible and after any necessary environmental reviews have been completed. An alternative that would not maximize the public investment would not meet the project's stated purpose and need, and therefore, would not be considered reasonable and need not be studied in the EIS. Provisions for a potential future load are included in the Replacement Bridge Alternative, and the environmental effects of these design measures are studied in the EIS.

C 2-5: The proposed design's inclusion of extra-wide lanes for emergency access, while an improvement for public safety, are not standard bridge design practice, and have not been sufficiently analyzed in comparison with the discarded alternatives or with the unimplemented transit options.

R 2-5: The extra-wide shoulders are not a standard highway design feature. However, they maximize the public investment by allowing space for future options on the replacement bridge.

C 2-6: Much of Nyack was sacrificed with the original bridge and highway. Alternatives to minimize impacts on the Village of South Nyack must be considered.

R 2-6: Potential effects on upland communities were a serious consideration in the development of project alternatives. To that end, NYSDOT and NYSTA examined alternatives that would incorporate the existing highway connections to the maximum extent feasible while ensuring the uninterrupted flow of traffic across the Tappan Zee Bridge. Furthermore, in response to public comments on the DEIS, NYSDOT and NYSTA have adopted refinements to the vertical profile of the Rockland County landing to substantially reduce the need for property acquisition in the Village of South Nyack and to avoid reconstruction of the South Broadway Bridge. Thus, the Replacement Bridge Alternative has minimal new impacts on the Village of South Nyack.

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24-2-2-2 NO BUILD ALTERNATIVE

C 2-7: The DEIS states that “NYSTA estimates that an additional \$1.3 billion would be spent over the next decade to keep the existing bridge in a state of good repair.” This number is also often cited in the media but it has never been substantiated by the state. More detail is needed as it conflicts with other state cost estimates. In 2010, NYSTA assembled a request for TIGER funds to support a project called the “Tappan Zee Bridge Repair Project.” That application asserted that that project would cost \$239 million dollars and extend the useful life of the bridge by 20 years. In 2011, the NYSTA General Revenue Bond Anticipation Notes, Series 2011A offering stated that between 2012 and 2015, the anticipated cost for capital projects “to keep the bridge in good condition for the immediate future” was \$66.5 million. This discrepancy must be reconciled.

R 2-7: The 2010 TIGER (Transportation Investment Generating Economic Recovery) funds application was for the re-decking of the existing bridge which is currently underway. The statement regarding useful life is in regard to the structural deck and wearing surface and by no means intimated other improvements would not be required in the near future if the bridge was not planned to be replaced. The \$66 million estimate between 2012 and 2015 included in the General Revenue Bond Anticipation Notes is close to updated costs for bridge maintenance under the No Build Alternative.

C 2-8: The EIS says that NYSTA estimates that it would spend \$1.3 billion to maintain and repair the bridge over the next decade. Please provide details on this spending on an annual basis and list the repairs that would be made and how much would they cost. How much will be spent on maintaining and repairing the bridge until the new bridge is ready to open?

R 2-8: A detailed estimate of expenditures for the No Build Alternative is provided in **Appendix A-6** of the FEIS.

24-2-2-3 REPLACEMENT BRIDGE ALTERNATIVE

C 2-9: A number of commenters expressed a preference for the Cable-stayed Main Span Option.

R 2-9: Comment noted.

C 2-10: A number of commenters expressed a preference for the Arch Main Span Option.

R 2-10: Comment noted.

C 2-11: Some commenters questioned the location of the replacement bridge and questioned whether the location is final. Commenters suggested alternate locations for the replacement bridge such as closer to Interstate 95, further north, or somewhere else between the existing location and the Newburgh-Beacon Bridge. Reasons cited for an alternative location included:

- Less potential for environmental effects;
 - It is illogical to construct a bridge at the widest part of the river; and
 - An alternative location could avoid a densely populated area.
- R 2-11:** The proposed location of the Replacement Bridge Alternative allows for the continued use of upland highway connections to the maximum extent feasible, thereby avoiding the construction of substantial new highway infrastructure. NYSTA and NYSDOT thus avoid the need to acquire substantial amounts of property outside the existing right-of-way and other potential impacts on the built and natural environment.
- C 2-12:** An alternative location to the south could take advantage of vacant land, create a shorter and straighter bridge, and avoid impacts on The Quay.
- R 2-12:** As described in the DEIS, an alignment to the south would require cutting into the hill in Grand View-on-Hudson and would displace approximately 30 properties, with potential implications for up to 20 additional properties in order to stabilize the hill. A northern alignment also allows for a straight approach to the Westchester toll plaza. A southern alignment would result in a conflict between the new crossing's horizontal curvature and the approach to the toll plaza in Westchester County and Interchange 10 (Route 9W) in Rockland County, which would not meet design and safety standards. With a southern alignment, a temporary toll plaza to the south of the existing plaza would be required during construction and would impact properties south of the existing NYSTA right-of-way along Van Wart Avenue. Furthermore, the DEIS identifies measures to mitigate the potential adverse impacts of the Replacement Bridge Alternative on The Quay.
- C 2-13:** Commenters offered a number of design suggestions and considerations for the Replacement Bridge Alternative, such as:
- Include a heated roadway to melt snow and ice;
 - Use steel instead of precast concrete;
 - Use composite materials;
 - Use stainless steel or other materials that can withstand corrosion;
 - Ensure road surface is safe during inclement weather;
 - Include arrangements for a gas pipeline, electrical transmission, and cell phone or wireless;
 - It should be designed to withstand an earthquake;
 - It should be designed with at least a 100- or 150-year lifespan; and
 - Use expansion joints to accommodate the region's climate.
- R 2-13:** The Replacement Bridge Alternative would be designed to meet all relevant federal and state standards for materials, safety, and operations with consideration for the overall cost, logistics, and available means and methods. The Replacement Bridge Alternative would be designed for a 100-

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year life-span before major maintenance is required, using appropriate materials to achieve the required strength and durability.

C 2-14: The navigational clearance of the Replacement Bridge should be 155 feet, which is equal to the Bear Mountain Bridge and allows for passage by larger vessels.

R 2-14: The Replacement Bridge Alternative has been designed in consultation with the U.S. Coast Guard (USCG), and a navigable clearance of 139 feet would be provided, consistent with the existing bridge.

C 2-15: Commenters offered design suggestions in relation to the toll plaza, including:

- Include faster “high-speed” E-ZPass lanes, possibly two 50 MPH lanes and two 35 MPH lanes;
- Instead of rebuilding the toll plaza, install open road tolling.

R 2-15: The Tappan Zee Hudson River crossing must accommodate both E-ZPass and cash customers. The proposed toll plaza would include 3 highway speed (55 MPH) E-ZPass lanes and 7 cash/E-ZPass lanes. However, the selected design-build contractor would be required to develop a toll plaza design with the potential for total cashless tolling.

C 2-16: How close will the bridge be to the Tappan Landing neighborhood?

R 2-16: The Replacement Bridge would be approximately 350 feet south of the Tappan Landing neighborhood.

C 2-17: A number of commenters expressed concerns regarding Interchange 10 (Route 9W) in the Village of South Nyack. Commenters urged that the economic potential of South Nyack be considered and advocated for improvements, such as:

- Simplifying the interchange;
- Returning the land to the Village of South Nyack;
- Creating a landscaped area;
- Cleaning up its appearance and maintaining a more orderly vehicle and equipment storage area; and
- Developing a lid park over Interstate 87/287.

R 2-17: Interchange 10 (Route 9W) is outside the limits of construction for the Replacement Bridge Alternative, and therefore, is not studied in this EIS. The Replacement Bridge Alternative would not preclude future improvements to Interchange 10 (Route 9W).

C 2-18: Commenters expressed preference for the Short and Long Span Options. Those in favor of the Short Span Option felt that the replacement bridge would have a lower and visually less obstructive profile. Those in favor of the

Long Span Option felt that it would result in fewer environmental and navigational impacts.

- R 2-18:** The DEIS documents the environmental impacts of both the Long and Short Span Options to identify an envelope for the possible design of the replacement bridge. In most respects, the environmental impacts of the Short and Long Span Options do not meaningfully differ. **Table 24-1** compares the principal differences between the Short and Long Span Options.

While it is true that the net change in structure will add marginally more water column and benthic surface under the Long Span Option (net gain of 0.6 acres under the long span option versus a net loss of 0.9 acres under the Short Span Option), this potential difference is likely to be offset by other environmental advantages offered by the Short Span Option. First, it is anticipated that the Long Span Option would require about 8 acres more dredging and 7 acres more armoring than the Short Span Option. Second, the range of hydroacoustic effects to fish was predicted to be low for both options but the upper end of the effects range was projected to be higher under the Long Span Option scenario (except for sturgeon). Third, for most other Replacement Bridge activities that could result in impacts to fish habitat, the potential impacts of each option are equivalent (e.g., construction of the permanent platform, stormwater effects on water quality). Furthermore, while the Biological Opinion (see **Appendix F**) indicated a greater number of sturgeon could potentially be physiologically affected during pile driving under the Short Span Option, the take numbers established by NMFS in assessing projected losses to injury or mortality associated with pile driving and dredging effects were extremely low and equivalent for both options. Finally, since permanent or temporary impacts to Essential Fish Habitat (EFH) and other species associated with either option will be mitigated. Since neither option offers a clear environmental advantage over the other, it is prudent to provide the potential contractors with some latitude in their selection of the option to be constructed.

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**Table 24-1
Effects of Construction and Operation of the Replacement Bridge on
Natural and Visual Resources**

Resource Affected	Construction		Operation	
	Short Span	Long Span	Short Span	Long Span
Water quality (stormwater runoff)	-	-	Net decrease of TSS; Net increase of total phosphorus by 4.8 pounds per year (10% increase). No resulting adverse impacts to water quality or Class SB water quality standards.	Same as Short Span
USACE wetlands	Possibly up to 2 acres disturbed	Same as Short Span	Either no permanent loss of freshwater wetlands, or offset by mitigation.	Same as Short Span
NYSDEC littoral zone tidal wetlands	0.11 acres disturbed	Same as Short Span	No permanent loss of littoral zone tidal wetlands.	Same as Short Span
NYSDEC tidal wetland adjacent areas	0.01 acres disturbed	Same as Short Span	No permanent loss of tidal wetland adjacent areas.	Same as Short Span
Stream and forested wetland corridor, Westchester County	0.26 acres disturbed – upland construction of temporary access road.	Same as Short Span	No permanent adverse impact.	Same as Short Span
Open water benthic habitat	Approximately 165 acres dredged Approximately 160 acres of armoring of the dredged channel	Approximately 173 acres dredged Approximately 167 acres armoring of the dredged channel	Net loss of 0.92 acres	Net gain of 0.58 acres
Oyster habitat	13 acres removed due to dredging and armoring of the bottom. Unavoidable adverse impact.	Same as Short Span	13 acres lost due to dredging and armoring. Unavoidable adverse impact.	Same as Short Span
Benthic macroinvertebrates (suspended sediment from construction activities)	Increase in suspended sediment expected to be within tolerance levels; Minimal impacts to organisms, no adverse impacts to benthic communities in the region.	Same as Short Span	-	-

Table 24-1
Effects of Construction and Operation of the Replacement Bridge on
Natural and Visual Resources

Resource Affected	Construction		Operation	
	Short Span	Long Span	Short Span	Long Span
Benthic macroinvertebrates (existing bridge demolition)	Loss of bottom habitat during demolition; Rapid recolonization expected. Minimal impacts.	Same as Short Span	Removal of species attached to existing bridge would be offset by colonization of new bridge. No adverse impacts.	Same as Short Span
Aquatic habitat affected by shading (Platforms)	10.38 acres covered by platform areas, access road, access road bridge.	Same as Short Span	2.44 acres covered by permanent platform.	Same as Short Span
Aquatic habitat affected by shading*: Western approach	-	-	0.34-1.07 Height-to-Width ratios, compared to 0.25-0.34 for existing bridge.	0.21-0.92 Height-to-Width ratios, compared to 0.25-0.34 for existing bridge.
Aquatic habitat affected by shading*: Main span	-	-	1.15-1.47 Height-to-Width ratios, compared to 0.60-1.33 for existing bridge.	1.07-1.43 Height-to-Width ratios, compared to 0.60-1.33 for existing bridge.
Aquatic habitat affected by shading*: Eastern approach	-	-	1.15-1.67 Height-to-Width ratios, compared to 1.13-1.57 for existing bridge.	0.83-1.67 Height-to-Width ratios, compared to 1.13-1.57 for existing bridge.
Fish (dredging)	Dredging of approximately 165 acres would result in temporary reduction of benthic fauna; no substantial reduction of foraging opportunities.	Dredging of approximately 173 acres would result in temporary reduction of benthic fauna; no substantial reduction of foraging opportunities.	Dredged channels restored over time to original elevations by natural sedimentation; recolonization by benthic fauna.	Same as Short Span
Fish (hydroacoustic effects, based on Peak SPL level of 206 dB re 1µPa)	0.002% to 0.004% of the estimated annual riverwide standing stock of approximately 346.3 million fish.	0.002% to 0.006% of the estimated annual riverwide standing stock of approximately 346.3 million fish.	No increase in noise levels above what is generated by the existing bridge.	Same as Short Span

**Table 24-1
Effects of Construction and Operation of the Replacement Bridge on
Natural and Visual Resources**

Resource Affected	Construction		Operation	
	Short Span	Long Span	Short Span	Long Span
T&E Atlantic and shortnose sturgeon (dredging)	Estimate of 3 Atlantic and 3 shortnose sturgeon per year taken in dredge during 3 years of operation. Of the 3 fish of each species, 1 of each species may be injured or killed as a result.	Same as Short Span	Deposition processes would allow benthic habitat to return to its pre-construction state. No permanent loss of foraging habitat.	Same as Short Span
T&E Shortnose and Atlantic sturgeon (hydroacoustic effects, based on Peak SPL level of 206 dB re 1µPa)	70 fish occurring within ensonified areas above Peak SPL of 206 dB re 1µPa (same # for both species), 1 of each species may be injured or killed as a result.	43 fish occurring within ensonified areas above Peak SPL of 206 dB re 1µPa (same # for both species), 1 of each species may be injured or killed as a result.	No increase in noise levels above what is generated by the existing bridge.	Same as Short Span
Visual	-	-	With noise walls: Visual impact for residences in Grand View-on-Hudson. Without noise walls: No visual impact for residences in Grand View-on-Hudson.	With or without noise walls: Visual impact for residences in Grand View-on-Hudson.
<p>Notes: * Higher ratios represent less shading and, therefore, reduced impacts. See Chapter 18, "Construction Impacts."</p> <p>No impacts to: Suspended sediment concentration; groundwater; aquifers; floodplains; vegetated intertidal wetlands; marine mammals; threatened or endangered birds; bog turtle; New England cottontail; or Indiana bat; topography, geology and soils.</p>				

C 2-19: If the Long Span Option is built, it must be reduced to shorter spans as it approaches the Rockland side to reduce the depth of the structure as it makes landfall.

R 2-19: Subsequent to publication of the DEIS, the Rockland County landing was modified to lower its profile and avoid the need to replace the South Broadway Bridge in South Nyack. As a result, the profile of the highway has been lowered from 30 feet to 8 feet above its existing elevation as it crosses River Road.

C 2-20: A number of commenters advocated for inclusion of a shared-use path on the replacement bridge, citing the following reasons:

- It would promote non-motorized transportation;
- It would enhance recreational opportunities;
- It would promote healthful activities; and
- It would provide a Hudson River pedestrian crossing between the George Washington and Bear Mountain Bridges.

R 2-20: The Replacement Bridge Alternative includes a shared-use, bicycle and pedestrian path.

C 2-21: Commenters offered a number of design considerations with respect to the shared-use path, including:

- It should have appropriate fencing;
- It should have adequate lighting;
- There should be adequate space to accommodate bikers, joggers, walkers, people resting, and sightseers;
- There should be 6-foot-wide sidewalks on either side for bikes, pedestrians, wheelchairs, and seniors;
- Provide a wider path or provide separate paths for bicyclists and pedestrians;
- There should be multiple outboard overlook/resting terraces;
- Railings should be low enough for unrestricted visibility but high enough for safety;
- Expansion joints should be as smooth and unobtrusive as possible, while being sturdy and easy to maintain;
- There should be waiting areas at each end of the bridge with appropriate amenities to accommodate large bicycle/pedestrian groups without blocking the shared-use path or local sidewalks and streets;
- The design should avoid sharp 90-degree turns for safety purposes;
- Parking areas should be provided at each end of the bridge for path users;
- There should be secure bicycle parking at the Tarrytown Station, possibly with provision of individual leased bicycle lockers; a members-only bicycle cage; and a supervised valet checkroom.

R 2-21: As required by the Design-Build Contract Documents (Part 3 § 21.3), the design of the shared-use path would conform with the Americans with Disabilities Act Design Guidelines (ADAAG) and American Association of State Highway and Transportation Officials (AASHTO) design guidelines (<http://www.thenewtzb.com/bidprocess/rfp-part3.pdf>). The shared-use path would be 12 feet wide to provide for bi-direction pedestrian and bicycle traffic. Four belvederes would be provided along the shared-use path to serve as overlooks and provide space for pedestrians and bicycles to rest along the route. Lighting would be provided along the pathway. Specific design issues such as traffic control at the access to the shared-use path

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from Smith Avenue and Route 9 (South Broadway) and signage and pavement markings on the shared-use path would be addressed as part of the design-build process. The shared-use path would be entirely within NYSTA right-of-way and no off-site amenities are proposed.

- C 2-22:** The southern bridge structure should include a shared-use path or have the capability to add a pathway. This would accommodate future demand and allow overflow when special events crowd the northern pathway. A shared-use path on the southern structure would also afford views of New York City, and would provide redundancy for non-motorized vehicles in the event that the northern structure is closed.
- R 2-22:** As there is not sufficient NYSTA right-of-way south of the highway at the Rockland County and Westchester County landings, a shared-use path on the southern structure would require additional property acquisition (i.e., 12 feet of right-of-way for its length). There would also be a difficult transition between the shared-use path and local streets at the Rockland County landing because of differences in the elevation of the highway and land to its south. Redundancy is critical for motorized vehicles given the importance of the Tappan Zee Bridge in emergency evacuation, freight movement, and daily commuter trips. If the northern structure were closed, bus service would continue to operate across the southern structure, which would allow for the transport of pedestrians and cyclists between Rockland and Westchester Counties.
- C 2-23:** Since 21 NYCRR, Chapter 3A, §102.1 prohibits the use of the Thruway system by pedestrians and bicycles, there should be clarification on whether a pedestrian access causeway will be allowed on the new bridge.
- R 2-23:** The shared-use path would be allowed pursuant to 21 NYCRR, Chapter 3A, §102.1(c).
- C 2-24:** Several comments related to the upland connections for the shared-use path. The following considerations were cited:
- There should be safe connections to parklands, trailways, bike routes, and roadways on either side of the bridge,
 - Clear signs, crosswalks, signals, bike lanes, and road markings for cyclists and pedestrians should be provided, taking into consideration handicap accessibility and safety,
 - There should be a convenient and safe connection to the Tarrytown train station,
 - Access roads and trails (i.e., Route 9, Route 119, and River Walk) should be improved to accommodate increased pedestrian and bicycle use.
- R 2-24:** The shared-use path would be entirely within NYSTA right-of-way, extending from Route 9 (South Broadway) in Tarrytown to Smith Avenue in South Nyack. As required by the Design-Build Contract Documents (Part 3 § 21.3),

the design of the shared-use path would conform with the Americans with Disabilities Act Design Guidelines and American Association of State Highway and Transportation Officials (AASHTO) design guidelines. Specific design issues such as traffic control at the access to the shared-use path from Smith Avenue and Route 9 (South Broadway) and signage and pavement markings on the shared-use path would be addressed as part of the design-build process. As NYSTA does not control adjacent roadways, pedestrian and bicycle enhancements outside the NYSTA right-of-way, including a connection to the Tarrytown Metro-North Station, are outside the scope of this project.

C 2-25: Design and install brackets or mounting points along outboard edge of the north span to enable an extra cantilevered shared-use path to be installed outboard of the original structure if capacity should outgrow the proposed 12-foot-wide path.

R 2-25: The shared-use path is adequately sized to meet anticipated demand.

C 2-26: Design of the new South Broadway overpass should improve pedestrian and bicycle connectivity of the shared-use path with parklands and trailways

R 2-26: Subsequent to publication of the DEIS, design refinements to the Rockland County landing eliminated the need to replace the South Broadway Bridge in South Nyack. However, the Replacement Bridge Alternative would not preclude pedestrian and bicycle improvements along South Broadway if they were to be undertaken by others at some point in the future.

C 2-27: It should be noted that with fencing along the shared-use path there would still be three other bridge edges accessible to motorists/would-be jumpers and consideration to fencing should be given.

R 2-27: The Replacement Bridge Alternative would include safety barriers (i.e., barriers and/or fencing) on the waterside faces of each structure. The design of these safety features would comply with federal and state design standards for roadway bridges.

C 2-28: Some commenters suggested the elimination of the shared-use path to:

- Reduce the size of the bridge and decrease its costs;
- Provide the space as an emergency vehicle lane; and
- Provide the space as a dedicated transit lane.

R 2-28: As stated in Chapter 1, "Purpose and Need," furtherance of the project goal to maximize the public investment in a new Tappan Zee Hudson River crossing includes an objective to provide for trans-Hudson access for cyclists and pedestrians. The Replacement Bridge Alternative includes adequate provisions for emergency access as well as options for the provision of transit services at a later date. At the same time, it is feasible to provide a shared-use path on the north structure. Elimination of the shared-use path would not substantially reduce the footprint or the cost of the

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Replacement Bridge Alternative, and it would be inconsistent with the project's goals and objectives.

24-2-2-4 SOUTH BROADWAY BRIDGE (SOUTH NYACK)

C 2-29: The Village of South Nyack expressed the following concerns in regard to the replacement of the South Broadway overpass:

- The DEIS only presents one replacement alternative for the South Broadway overpass;
- The project sponsors made cost-benefit assumptions about potential impacts without consulting local officials; and
- Alternatives for the South Broadway should integrate with the Village of South Nyack's initiative to create a "lid" park over Interstate 87/287.

Commenters also expressed design concerns and considerations with respect to the South Broadway Bridge:

- It should be reconstructed so as to straighten the alignment and not further impact South Nyack in a negative way;
- It should not preclude future transit in the corridor;
- The southbound lanes should be lowered to reduce the required height of the South Broadway overpass, which should reduce the road curvature of the overpass on both sides;
- Placement of small retaining walls and a traffic light at an improved South Broadway/Route 9W intersection would allow for the current South Broadway overpass to be demolished prior to the construction of the new overpass structure and give more latitude in the design of the overpass;
- When the driveway at 308 South Broadway is taken, it needs to be replaced by a driveway with an entrance on Elizabeth Place as well as landscaping; and
- It is extremely important that the residents adjacent to the South Broadway overpass be kept informed.

R 2-29: Subsequent to the DEIS, the profile of the Rockland County landing was modified, and as such, it is not necessary to replace the South Broadway Bridge.

24-2-2-5 FINANCIAL PLAN

C 2-30: Many commenters stated that a detailed financial plan for the project must be presented to and fully vetted by the public. Concerns and considerations stated by commenters included the following:

- The DEIS is premature and incomplete because the State has not secured any funding for the project;
- The public cannot judge the best alternative if the costs and funding sources are unknown.

- There should be a process of public vetting for the project financing so the public can understand the funding choices and why specific elements were chosen by the responsible state agencies and also an objective analysis about the effect of various toll policies on individuals and businesses. The public should be given a timely forum where they can be heard on the subject;
- All sources of funding should be disclosed, including potential effects on tolls, which could burden drivers and hurt the economy;
- Any effects on tolls for the bridge and throughout the entire New York State Thruway system should be disclosed;
- NYSTA should consider potential decreases in traffic from higher tolls and how that might require further toll increases;
- The public needs to know what is the minimum size and cost of a bridge that could provide four lanes of traffic flow in each direction, and with reasonable (not gold-plated) provision for breakdown and emergency access;
- Project costs estimates should include operational maintenance costs; and
- The \$6 billion estimate for the project is not sufficiently substantiated.

R 2-30: The completeness of the DEIS is not dependent on the project's financial plan.

The project would be funded through toll revenue bonds. No grant funds are anticipated at this time. A project cost estimate was prepared by NYSTA that was reviewed by FHWA pursuant to the federal risk analysis process. Based upon the outcome of this process, it was determined that for planning purposes, a \$5.4 billion (in 2016 dollars) cost would be used, representing a 70 percent confidence level that the actual cost would be equal to or below \$5.4 billion (in 2016 dollars). Every bridge is different, with many costs associated with foundations and geotechnical conditions under the water that are independent of the deck and superstructure. It is anticipated that the design-build process would yield cost savings that are not reflected in the official cost estimate.

Toll revenues would support the use of toll revenue bonds, pay-as-you-go funds, and potentially other forms of debt. The level of cash tolls on the replacement bridge is not expected to exceed those in effect by the Port Authority of New York and New Jersey (PANYNJ) at the George Washington Bridge. The level and timing of potential toll adjustments, debt structure, and balance between debt and pay-as-you-go funding remain under development and would be dependent upon actual project cost, credit market conditions, and the level of assistance received from federal credit programs. The replacement bridge would be self-supporting and the financial planning process assumes no financial contributions from the balance of the Thruway system.

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NYSTA has prepared a traffic diversion analysis, which is described and analyzed in the FEIS. The diversion analysis assumes toll rates are potentially aligned with the levels of other Hudson River crossings operated by the PANYNJ. The analysis revealed no substantial traffic and revenue erosion from the potential toll adjustments. Depending upon the actual cost of the project, capital market conditions and the amount of federal credit assistance received, lower toll levels may be possible. Continuation of discount policies for commuters and E-ZPass customers is anticipated.

NYSTA's toll rate setting process provides for public input and would be initiated once the actual costs of the project are known and the amount of any federal credit assistance is determined.

The annual operating costs of the bridge are expected to increase by about 17 percent to \$30 million (2012 dollars) when the replacement bridge is opened. The increase in operating costs would be paid by bridge toll revenues.

C 2-31: Many commenters urged that all funding options be considered and offered a number of suggestions for financing the project, including the following:

- Privatization;
- Public/Private partnership;
- Include it in the next federal transportation reauthorization;
- Bonds;
- Reasonable toll increases;
- Current tolls;
- Increased truck tolls.

R 2-31: Comments and suggestions are noted. The project sponsors have carefully considered all financing options for the project that are feasible and available to them. As noted above, the project would be funded through toll revenue bonds, and the potential toll adjustments are analyzed in the FEIS.

In terms of privatization, New York State does not have the legal authority to undertake such transactions and the design-build procurement process now underway would yield many similar benefits for risk transfer. The tolls required to support taxable debt and private equity would be higher over time than a publicly-financed project, such as the Tappan Zee Hudson River Crossing Project. NYSTA has access to the capital markets at relatively low rates.

It should be noted that the past repairs to the existing structure still do not address the operational, mobility, safety, seismic and other deficiencies of the existing structure. Current estimates suggest a cost in excess of \$1 billion over the next decade. In addition to construction costs, tolls are also necessary for maintenance and future capital work over the service life of the crossing.

C 2-32: Commenters expressed a number of concerns related to the project's potential financing plan. Commenters also offered a number of suggestions to lessen financial impacts on local residents. Concerns and suggestions included the following:

- Tolls could double or triple from their current amount or be as high as \$30;
- The project would be too expensive for its costs to be borne exclusively by bridge users and much of the costs will spill over to other state agencies, authorities and/or taxpayers;
- Tolls should be eliminated for County-owned transit buses at Tarrytown and Spring Valley; and
- Westchester and Rockland County residents should receive discounted toll rates.

R 2-32: Potential toll adjustments have been identified to finance the Replacement Bridge Alternative in full or in part, if other funding sources are identified. The potential impacts of these toll adjustments are analyzed in the FEIS, and the analysis assumed a worst-case scenario under which the new car and truck tolls at the Tappan Zee Bridge would be equal to the PANYNJ tolls for 2017 at its Hudson River crossings.

NYSTA already provides free travel over the Tappan Zee Bridge at certain times of the day for the following bus companies: Hudson Transit Lines, Monroe Bus Corp, Rockland County Transit, and Swartout Coaches. Frequent users may take advantage of NYSTA's existing discount programs, but residency discounts not under consideration.

24-2-2-6 TRANSIT ALTERNATIVES

C 2-33: Several commenters urged that the Replacement Bridge Alternative should move forward so long as it does not preclude transit and that there is a timetable and commitment to study and implement transit service. The planning for future transit should be an open public process, and FHWA should identify the process for planning and implementing transit in its Record of Decision.

R 2-33: Part of the studies, analysis, data collection, and engineering that were produced in the previous study that was terminated in October, 2011 (the Tappan Zee Bridge/I-287 Corridor Study) focused on transit services across the 30 mile corridor from Port Chester to Suffern. That work is available for Rockland and Westchester Counties, other interested municipalities, and state agencies and authorities to build upon and plan for transit services in the future. Since construction of the new bridge is expected to take four or five years, that planning and environmental work, along with the work to estimate and identify the funding for the construction, maintenance, and operation of transit services can begin immediately, completely independent of this EIS.

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C 2-34: Many commenters advocated that the new bridge must be designed and constructed to include transit from the outset. Commenters cited benefits for including transit service such as economic growth, decreases in traffic volumes, improved mobility, and improvements in air quality.

R 2-34: The Tappan Zee Bridge/I-287 Corridor Study, which specifically included transit, was rescinded in October, 2011 due to cost and other complexities. The current project simply focuses on the bridge which is deemed affordable and necessary. Design criteria for the new bridge would ensure transit opportunities for the future.

The proposals submitted by the design-builders will include a Maximizing the Public Investment Plan that must describe how the Proposer intends to meet the project goal of maximizing the public investment for potential future transit. The plan shall present concept-level details for strengthening, configuring, and dimensioning the replacement bridge's structural elements to accommodate potential future transit. The plan shall also present descriptions of the design-builder's approach to design elements including but not limited to:

- Over-wide shoulders to initially enable emergency access with potential service for future transit;
- The Main Span structure and Main Span foundations adaptability to potential future transit;
- The foundation design, including relevant measures incorporated into the design of piles and pile groups for potential future transit;
- All additional structural supports included within the foundations and substructures such that these shall accommodate potential future loadings (for transit);
- Any superstructure design elements (including geometry, spacing and layout) that are intended to facilitate potential future transit. Identify the structural components that are designed specifically to accommodate potential future transit and potential future structure associated with potential future loading;
- Anchorages and anchorage blocks adaptability to potential future transit.

The selected design-builder must include in the Maximizing the Public Investment Plan, concepts indicating the range of potential service options that could be accommodated in the future. This plan will be an important evaluation factor in the selection of the design-builder.

C 2-35: Several commenters offered a number of design suggestions and considerations for including transit (now or in the future), such as:

- Build a smaller bridge that includes transit rather than a larger bridge just for cars;
- Build a single structure bridge with provision for transit on a lower deck;

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- Include a lower deck on the bridge to allow for a cost-effective approach for adding passenger, and possibly freight, rail in the future;
 - Include railroad approaches now to avoid further ground disturbance disruption in the future; (Transit 1A)
- R 2-35:** See the response to Comment 2-34 above.
- C 2-36:** Several commenters stated that Bus Rapid Transit (BRT) should be implemented from the onset of the replacement bridge, and the necessary infrastructure and funding must be provided upfront.
- R 2-36:** See the response to Comment 2-34 above.
- C 2-37:** Several comments stated that Commuter Rail Transit (CRT) or at least the infrastructure to support it should be implemented from the onset of the replacement bridge.
- R 2-37:** See the response to Comment 2-34 above.
- C 2-38:** Several commenters expressed concerns regarding the adverse impacts of transit on the Replacement Bridge.
- R 2-38:** The Replacement Bridge Alternative would not preclude transit when the implementation of such is foreseeable and appropriate funding has been identified. The future implementation of transit would be the subject of its own environmental review.
- C 2-39:** Several commenters expressed that other transit technologies or provisions could be considered. Suggestions included the following:
- Provide dedicated bus lanes on the bridge at all times;
 - Provide designated bus lanes during peak hours;
 - Provide a bus-on-shoulder lane between the Palisades Mall and the bridge;
 - Use the proposed emergency access lanes as BRT lanes;
 - Improvements to existing bus services with minimal costs;
 - New bus routes between Rockland and Westchester Counties;
 - A transfer station between Tappan Zee Bridge buses and the Tarrytown Metro-North Station;
 - A ramp connection between the bridge and the Tarrytown Metro-North Station;
 - High occupancy vehicle lanes;
 - Managed lanes;
 - Shared BRT and managed lanes;
 - Light rail, cable car, or monorail service;
 - A ferry system;

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- BRT lanes with a connection to the proposed Central Avenue BRT;
- Provide for priority access for commuter buses between the existing Palisades Center Park & Ride facility and the Metro-North Tarrytown Station.
- Consider alternative roadway/bridge configurations such as:
 - Four Lanes of Mixed Use Traffic and One Dedicated Lane for Full Corridor BRT
 - Four Lanes of Mixed Use Traffic and One HOV/Bus Lane for Full Corridor BRT
 - Three Lanes of Mixed Use Traffic and One Dedicated Lane for Full Corridor BRT
 - Three Lanes of Mixed Use Traffic and One HOV/Bus Lane for Full Corridor BRT
 - Four Lanes of Mixed Use Traffic and One Dedicated Lane for Partial Corridor BRT or similar express bus service
 - Four Lanes of Mixed Use Traffic and One HOV/Bus Lane for Partial Corridor BRT or similar express bus service
 - Three Lanes of Mixed Use Traffic and One Dedicated Lane for Partial Corridor BRT or similar express bus service
 - Three Lanes of Mixed Use Traffic and One HOV/Bus Lane for Partial Corridor BRT or similar express bus service
- Use trains that can accommodate steeper slopes;
- Intelligent on-demand or personal transit service.

R 2-39: See the response to Comment 2-34 above. The Replacement Bridge Alternative's configuration could support the ability for express bus services to use the extra width on the bridge during peak hours. This use would have to be appropriately assessed and considered before being implemented. The plan for a safer, more modern bridge includes 8 general traffic lanes as well as additional wider lanes that would accommodate a pedestrian/bike lane, emergency breakdown lanes, and peak period bus lanes.

C 2-40: Project alternatives should include low-cost transit enhancements as they are reasonable and not expensive when compared to the benefits resulting from their implementation. Such Traffic Demand Management and Transportation System Management strategies could include park and ride facilities, three-lane high-speed toll plaza, expanded weekend E-ZPass program, ramp metering, and congestion pricing. These measures were strongly supported by the state's 2010 EIS Methodology Report.

R 2-40: See the response to Comment 2-39 above regarding peak period, express bus lanes on the replacement bridge, along with pedestrian/bike lane and emergency lanes. The Replacement Bridge Alternative also includes three highway speed E-ZPass lanes, and NYSTA has and would continue its marketing efforts to expand E-ZPass usage.

The other strategies identified above may improve mobility and congestion along the Interstate 87/287 corridor but none of them would address the structural, operational, safety, and security limitations and deficiencies of the existing Tappan Zee Bridge. The proposed replacement of the Tappan Zee Bridge would also not preclude other initiatives to enhance mobility along the Interstate 87/287 corridor should these projects be advanced independently with appropriate environmental review at some point in the future. Also, see the response to Comment 4-12 below regarding Transportation System Management and Transportation Demand Management strategies.

C 2-41: Several commenters requested better clarification and a more detailed cost analysis of transit to justify its exclusion from the project. Several commenters questioned estimates presented in the DEIS and questioned whether transit is actually cost-prohibitive. Commenters expressed the following concerns:

- Cost estimates appear to be inflated and inconsistent with industry standards, other projects around the country, as well as previous NYSDOT estimates.
- The estimated cost of \$4.5-5.3 billion for BRT presented in Appendix A-1 is 4-5 times higher than predicted by the state's 2009 Transit Mode Selection Report.
- Itemized breakdowns of BRT costs should be provided, reflecting phasing of construction, to help prioritize the more important elements first;
- The DEIS presented transit costs for the 30-mile corridor but costs would be much less for the scaled down project;
- Transit costs were based on the most expensive design options and maximum length of the system, which obscures an inherent advantage of BRT: that it is customarily composed of numerous, often cumulative, design elements;
- The EIS should include cost estimates for completing BRT, separating out the cross-Westchester and cross-Rockland routes, and including a transfer station on the Westchester side;
- The fiscal justification was based almost entirely on the immediate costs of replacing the bridge. On-going operating costs for transit do not appear to have considered;
- Cost estimates do not consider the return on investment with transit-oriented development, economic growth, increased property values, etc.;
- Cost estimates for strengthening the replacement bridge to accommodate future transit and comparative estimates for constructing an additional transit structure are not substantiated with any studies or analyses;
- Cost estimates fail to consider the practicalities or increased expenses of including mass transit at a later date instead of now;

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- One justification in the DEIS for excluding mass transit appears to be an anticipated shortfall in funding for state of good repair and normal replacement work over the next 25 years. Without supporting documentation, it is impossible for the public to understand the state's reasoning.

R 2-41: The previous Tappan Zee Bridge/I-287 Corridor Project, which was terminated in 2011 in favor of the current Tappan Zee Hudson River Crossing Project, studied numerous alternatives for improving mobility in the 30-mile corridor from Suffern to Port Chester, and settled on four feasible alternatives. That project's preliminary DEIS analyzed the four feasible alternatives, each of which included highway improvements, a Replacement Bridge Alternative, and CRT connecting to the Metro-North Hudson Line, but differed in the configuration of BRT. The alternatives analyzed were:

- A. No-Build
- B. Full Corridor BRT, Rockland CRT
- C. Busway in Rockland, Bus Lanes in Westchester, Rockland CRT
- D. BRT in HOV/HOT Lanes in Rockland, Busway in Westchester, Rockland CRT
- E. BRT in HOV/HOT Lanes in Rockland, Bus Lanes in Westchester, Rockland CRT

In addition, each of the four Build Alternatives (B through E) included two structural options for the Replacement Bridge Alternative, called Single Level and Dual Level Options and two tunnel options for connecting the CRT to the Hudson Line, called Short Tunnel and Long Tunnel Options.

The previous corridor project was so large that it was always planned to be implemented in two phases. The Initial Build Phase was to include the Replacement Bridge Alternative, the highway improvements, and highway-related work necessary to accommodate the transit alternatives in the future, including replacing overpass bridges, reconfiguring I-287 interchanges, and short segments of tunnel beneath I-287 on both sides of the Hudson River. The Final Build Phase was to implement all of the BRT and CRT components along the corridor and on the Replacement Bridge Alternative, including: new BRT lanes, stops and flyover bridges; CRT elevated structures, tracks, stations, systems and tunnels; and additions or modifications to the Replacement Bridge Alternative.

Detailed cost estimates were prepared for each Build Alternative as part of the Tappan Zee Bridge/I-287 Corridor DEIS analyses. These estimates were presented in a report titled Cost Estimates for DEIS Build Alternatives (TP5), dated May 2011, which may be found at:

<http://www.thenewtzb.com/originaltzb/brt/benchmark/cost-est-report.pdf>.

Due to the complex nature of the four Build Alternatives, a significant level of engineering design was done for each alternative to support an activity-based, bottom-up cost estimate, a method similar to the way contractors generate their bids for construction projects.

The estimating process began with the development of a Work Breakdown Structure (WBS) for each bridge option (Single Level and Dual Level), for each phase, and for each alternative. The WBS is a tool used to organize, schedule and estimate activities into a hierarchical system.

For example, the top level (Level 1) of the WBS for the bridge includes a bid item for the Approach Structure Piles. This Level 1 bid item is broken down into a number of Level 2 items based on the different pile arrangements for the various pier locations, grouped into zones. Then the work at each zone is broken down into the various Level 3 activities required to install the piles in that zone, including: furnish materials; set the crane barge; transport materials to the pile location; set the pile driving template and bracing; drive the lower pile segment; weld the upper pile segment to the top of the lower pile segment; QA/QC testing of the weld; drive the upper pile segment; etc.

For the landside elements the top level (Level 1) of the WBS would be Highway, BRT, or CRT. These are broken down into Level 2 items such as earthwork, rock excavation, retaining walls, viaduct, tunnels, station access ramps, stations, etc. Each of these Level 2 items is then broken down into Level 3 work activities specific to them (furnish materials, drill and blast rock, set CRT tracks, place concrete pavement, etc.).

In addition to these construction cost items, estimates were done for the contractor's indirect costs (overhead), contingencies and profit, and the Owner's soft costs (design engineering, program management, construction management and construction inspection). Finally, expected inflation was applied to all costs, assuming the year 2015 as the midpoint of construction.

Using this approach, the May 2011 cost estimates were much more refined than previous cost estimates that were developed during the early planning phases of the previous project.

There were still limitations on the precision of the DEIS estimate for the previous project. In particular, a significant number of work items were necessary to accommodate more than one project component (Highway, BRT or CRT). For example, some bridges carrying I-287 over local roads or streams would have to be widened, and some bridges carrying local roads over I-287 would have to be lengthened and/or raised to accommodate all three project components, not just one. Similarly, rock would have to be blasted out to widen the corridor, again to accommodate all three components, not just one. It is similarly difficult to assign Replacement Bridge Alternative structure costs to only one of these project components. Therefore, the assignment of these shared costs to any one project component in the WBS was estimated and does not reflect a detailed assignment of costs. This is true for both the Initial Build and Final Build phases.

Since the proper assignment of these costs to the various project components would require more precise engineering design and policy decisions at a high level, both of which would be premature at the EIS phase. The true cost of the highway, CRT and BRT components of the

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project was not established independently. Rather, the estimating process focused on establishing the cost of the two phases of implementation for each of the four Build Alternatives.

The results of the DEIS estimation for the previous project are summarized in **Table 24-2**, showing the range of costs associated with the four sub-options under each Build Alternative.

Table 24-2
**Tappan Zee Bridge/I-287 Corridor DEIS Alternatives
Cost Summary (Costs in billions and 2015 Dollars)**

Alternative	Replacement Bridge Alternative Only	Initial Phase Total	Final Phase Total	Project Total
B	\$4.9 to \$5.1	\$7.1 to \$7.3	\$9.1 to \$10.0	\$16.4 to \$17.1
C	\$4.9 to \$5.1	\$7.1 to \$7.3	\$8.3 to \$9.2	\$15.6 to \$16.4
D	\$4.9 to \$5.1	\$9.5 to \$9.7	\$6.9 to \$7.8	\$16.7 to \$17.4
E	\$4.9 to \$5.1	\$9.6 to \$9.7	\$6.2 to \$7.1	\$16.0 to \$16.7

These costs do not include right-of-way (ROW) acquisition which would add considerably to the corridor-wide improvements since much of the work would be outside the existing Thruway ROW. The ROW costs had not yet been estimated by the NYSDOT Real Estate group at the time the previous project was terminated.

- C 2-42:** For large transportation projects in urban areas with populations greater than 200,000, cost alone is not an acceptable justification to eliminate an alternative. Pursuant to FHWA Technical Advisory T 6640.8A (1987), "The following range of alternatives should be considered when determining reasonable alternatives...Mass Transit: This alternative includes those reasonable and feasible transit options, (bus systems, rail, etc.) even though they may not be within the existing FHWA funding authority."
- R 2-42:** Consistent with FHWA Technical Advisory T 6640.8A and CEQ guidance, transit alternatives were considered and eliminated early in project development. Because no funding is available for mass transit at this time, such alternatives are neither reasonable nor feasible from an economic standpoint.
- C 2-43:** "Alternatives that are outside the scope of what Congress has approved or funded must still be evaluated in the EIS if they are reasonable, because the EIS may serve as the basis for modifying the Congressional approval or funding in light of NEPA's goals and policies. Section 1500.1(a)."
- R 2-43:** See the response to Comment 2-42.
- C 2-44:** In a press release, the State indicated that the new bridge would have immediate dedicated bus service but this is not stated in the DEIS. Furthermore, the State indicated that Westchester and Rockland Counties

would be solely responsible for implementing transit, even though the State had been involved for the past ten years and large transportation projects need State support. These statements must be explained.

- R 2-44:** The Replacement Bridge Alternative's configuration could support the ability for express bus services to use the extra width on the bridge during peak hours. This use would have to be appropriately assessed and considered before being implemented. The plan for a safer, more modern bridge includes 8 general traffic lanes as well as additional wider lanes that would accommodate a pedestrian/bike lane, emergency breakdown lanes, and peak period bus lanes. Because the Replacement Bridge Alternative includes provisions for a potential future load that would accommodate mass transit when adequate funding for such service is identified, Rockland and Westchester counties (as well as interested municipalities and state agencies and authorities) could take the initiative for the implementation of mass transit in the future.
- C 2-45:** Commenters suggested a number of options to finance mass transit, including: tolls, congestion pricing, premium BRT fares, and bonds or loans.
- R 2-45:** Comment noted.
- C 2-46:** Several commenters questioned whether the replacement bridge would not preclude transit, expressing the following concerns:
- No studies have been provided demonstrating how and when transit would be implemented in the future;
 - It is unclear how the narrowing of the gap between bridge structures at the landings would allow rail and BRT services to make upland connections;
 - There is no discussion in the DEIS about making space for BRT lanes; instead, space that could be used for BRT or HOV lanes is simply labeled as emergency access lanes;
 - Rough design proposals for rail presented by the State are the same ones that were previously discarded because of complexity and cost;
 - Construction of a third structure to accommodate transit between or next to the proposed two-structure replacement bridge would have substantial costs and impacts, as it would not be constructed concurrent with removal of an existing structure;
 - It is unclear whether the additional strengthening (at a cost of \$200-\$300 million) would be done now or when transit is implemented;
 - The current design may not sufficiently accommodate loads, grades, clearances, and provisions of parking and access;
 - Implementing transit after the bridge is operational could cause substantial traffic delays and logistical difficulties drivers;

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- The DEIS provides no evidence that mass transit will be provided given the political, environmental, or financial difficulties of building mass transit until the future;
- The DEIS does not provide any analysis that the current design and alignment would allow for less costly and more feasible implementation of transit in the future; and
- The DEIS does not describe how a "below the highway deck" transit connection would not block access to River Road.

In addition to the general comments regarding the provisions not to preclude transit, there were specific questions about the transit options presented in the DEIS.

- The DEIS text states that the left shoulder/emergency access lanes might be used for exclusive bus lanes in the future. This raises several questions:
 - Are the shoulders, narrowing to 6 feet in one instance near the bridge's landing, wide enough to accommodate a BRT system?
 - Are the shoulders placed on the bridge in a way that would allow them to seamlessly continue into the corridor as BRT lanes?
 - BRT systems typically plan for buses to travel at a certain average speeds. Would the bridge's grading and design allow buses to travel at a typical average speed?
 - In addition, why is the only lane configuration studied one width emergency lanes on the left side of the span? Is it possible that other options would be better?
- The DEIS also proposes the construction of a third, transit-only bridge.
 - Would a third bridge align with current and future transportation alignments in the corridor?
 - What type of extra infrastructure, if any, would be needed to allow for transit access and egress?
 - Would less infrastructures be needed if transit were built into the bridge now?
 - What are the environmental ramifications of building a third bridge in the river and how do they impact the feasibility of building that bridge?
 - How might the local waterfront communities regard the construction of a third bridge, both now and in the future and how much land acquisition would be necessary?
 - Has the state done an adequate cost/benefit analysis?
 - Previous studies project that accommodating transit on the dual span bridge today would be less expensive than adding a \$2-3 billion third span in the future. Why forego an opportunity to accomplish the same goals for less money?

- The last option, a third span between and connected to the proposed Tappan Zee's twin spans is also problematic.
 - Is it feasible to build a third span in a space that varies so dramatically?
 - No transit accommodations are planned for the corridor when the two spans are built, will transit access and egress be possible?
 - What type of extra infrastructure would be necessary at the landings in Rockland and Westchester counties?
 - Could money be saved by building transit into the bridge now?

R 2-46: The project engineers have determined that future BRT and CRT service is feasible, but the funding for implementation of transit service in the Tappan Zee corridor has not been identified at this time. While there might be a cost savings to implement transit in tandem with construction of the Replacement Bridge Alternative, there is no money to pay for transit elements. However, to maximize the public investment, the Replacement Bridge Alternative includes provisions for a potential future load that would accommodate BRT and/or CRT services across the river when adequate funding for the implementation of such service is identified. To that end, the DEIS identifies three options for potential future transit service across the Hudson River. These options are not meant to be an exhaustive list of future possibilities.

Option 1 would allow for exclusive bus lanes within the left shoulders of the replacement bridge, but infrastructure to support the upland connections to these bus lanes would be needed in Rockland and Westchester Counties. The design of the bridge, including its grade, would accommodate typical bus operations. The design for a transition from the bridge to the landings has not been advanced, but it is acknowledged in the DEIS that the landings would need to be modified to incorporate exclusive bus lanes beyond the limits of the bridge. Depending on the preferred design for bus lanes, it is possible that bus service could use right shoulders of the bridge, but this would require restriping of the general traffic lanes as well as modifications to highway infrastructure, including interchanges and the toll plaza.

Option 2 could provide for a new exclusive bus and/or commuter rail bridge across the Hudson River. As stated in the DEIS, Option 2 would be costly (estimated at \$2 billion to \$3 billion for the bridge itself) and would result in work in the Hudson River (i.e., dredging and pile driving) for additional foundations to support piers for the new structure that could be avoided with implementation of either Option 1 or Option 3. However, Option 2 allows for flexibility in the location of a future transit crossing such that alternative upland corridors could be considered. At this time, design options for a transit-only bridge have not been advanced so it is premature to identify the cost and environmental implications of Option 2.

Option 3 would allow for either or both bus and commuter rail service across the Hudson River within the gap between the parallel highway structures. Option 3 requires additional strengthening of the new bridge to support a potential future load. Consistent with and in furtherance of the project's goal

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to “maximize the public investment in a new trans-Hudson crossing,” the Design-Build Contract Documents (Part 3 § 11.3.1.10.3) include specific provisions for a potential future load, using the American Railway Engineering and Maintenance-of-Way Association (AREMA) standards for commuter rail. In so doing, the cost of implementing transit at a later date would be reduced, and construction of transit infrastructure would have fewer effects on traffic operations and the environment, in general. The DEIS acknowledges that modifications would be required at the bridge landings to transition from the gap to upland connections. This may involve transition to a tunnel at the shoreline, a flyover, or a ramp to connect with an upland busway or rail line. As the design of the upland connection for transit service has not been advanced, it is premature to address specific questions on its engineering, operation, or environmental effects.

- C 2-47:** Since studies have demonstrated that mass transit is needed, the project should be halted until financing and resources are in place to include transit. There is no real rush and interim maintenance will keep the bridge in an adequate state of repair for the near term.
- R 2-47:** Prior studies identified the replacement of the Tappan Zee Bridge as a critical component of overall mobility improvements along the Interstate 87/287 corridor. NYSTA has identified capital improvements that would total \$1.3 billion to maintain the existing bridge over the next decade; however, these capital improvements do not correct the operational or safety deficiencies of the existing structure. Implementation of the Replacement Bridge Alternative, which would not preclude transit, allows NYSTA to address the operational and safety deficiencies of the existing bridge.
- C 2-48:** Commenters cautioned that several considerations would need to be addressed to implement transit, including:
- Potential traffic impacts along Broadway in Tarrytown;
 - It is not clear that there will be sufficient demand to warrant bus or carpool lanes;
 - A dedicated bus and carpool lane will require improvements elsewhere along the corridor on both sides of the bridge.
- R 2-48:** Comment noted.
- C 2-49:** Commenters were pleased in their understanding that the proposed emergency access lanes may someday be available as BRT lanes. They were also pleased that the Tappan Zee Express buses would be able to use these lanes and urged NYSTA to coordinate with stakeholders to ensure proper design and alignment of upland connections.
- R 2-49:** Comment noted.

24-2-2-7 REHABILITATION OR REUSE OF THE EXISTING BRIDGE ALTERNATIVES

C 2-50: A number of commenters suggested that the existing bridge should be rehabilitated to continue its existing use, citing the following reasons and suggestions:

- Rehabilitating the existing bridge would be less costly;
- Rehabilitating the existing bridge would have fewer environmental impacts;
- The design and size of the existing bridge suits the area;
- Demographic studies have indicated a declining population, which will result in decreasing traffic and lessen the need for a new larger bridge;
- Saying that maintenance costs would be \$1 billion every ten years is misleading since current work being done would possibly have a lifespan of decades.

R 2-50: As discussed in the DEIS, four bridge rehabilitation alternatives were considered as part of the previous Tappan Zee Bridge/I-287 Corridor Project. The results of the assessment were documented in the Alternatives Analysis for Rehabilitation and Replacement of the Tappan Zee Bridge Report (March 2009) and included in the Scoping Summary Report for the project. It was widely distributed for public and agency review and comment. While the current project has a different purpose and need than the previous corridor study, the environmental, engineering, and financial reasons for rejecting a rehabilitation alternative for the river crossing are still valid. Due to a number of comments on this issue, the discussion of the rejection of a rehabilitation alternative has been expanded in the FEIS.

C 2-51: The claim that the lifespan of the Rehabilitation Alternative would only be 50 years should be substantiated since the Tappan Zee Bridge/I-287 Environmental Review Newsletter stated it would be 150 years.

R 2-51: The Alternatives Analysis for Rehabilitation and Replacement of the Tappan Zee Bridge Report (March 2009) substantiated a 50 year lifespan for the Rehabilitation Alternative.

C 2-52: The DEIS does not substantiate its claim that the “construction duration for the Rehabilitation Alternative would be one year longer than for a replacement bridge,” and that it “would cost \$2.5 to \$2.7 billion more than the Replacement Bridge Alternative.

R 2-52: The Alternatives Analysis for Rehabilitation and Replacement of the Tappan Zee Bridge Report (March 2009) substantiated the costs and construction timeframe for the Rehabilitation Alternative. The DEIS incorporates this information by reference.

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- C 2-53:** The DEIS discusses the “uncertainty” associated with rehabilitation, even though the Replacement Bridge Alternative has the potential for uncertainties and cost overruns as well.
- R 2-53:** The Rehabilitation Alternative requires significant work to the existing substructure which would take place while the existing bridge would still be carrying traffic. The potential behavior of elements of the existing bridge during these conditions contributes substantially to the uncertainties of such an approach. Furthermore, certain elements of the existing bridge are not currently visible, and their integrity would not be fully determined until rehabilitation work was underway.
- C 2-54:** The DEIS merely states that impacts of the Rehabilitation Alternative and Replacement Bridge Alternative would be similar since both require in-water and upland work, but it would seem that demolishing the existing bridge and building a new bridge would have more extensive impacts.
- R 2-54:** Rehabilitation would require equivalent amounts of dredging to access the structure, but dredging activities would be stretched over a longer duration. Rehabilitation would still require the replacement of the entire Rockland causeway, which would require demolition equivalent to 60 percent of the demolition involved in the Replacement Bridge Alternative. The remainder of the structure would require replacement of the substructure while the bridge is in use, requiring a less aggressive construction schedule in order to safely maintain traffic operations.
- C 2-55:** Several commenters suggested that the Replacement Bridge Alternative should be advanced without demolition of the existing bridge.
- It could be available for some future reuse;
 - It would save demolition costs;
 - It could accommodate local traffic with a tunnel for express traffic;
 - It could accommodate cars and trucks with a new bridge for transit;
 - It could accommodate one-way traffic with a new dual-level bridge for opposing traffic on the upper level and transit on the lower level;
 - It could accommodate transit;
 - It could accommodate cars during peak travel periods or be used by emergency vehicles;
 - It could accommodate eastbound traffic while a new bridge could accommodate westbound traffic and possibly rail;
 - It could be used for retail space;
 - It could carry utility lines, pipes, transmission lines, etc.
 - It could be used as an artificial reef.
 - Alternate uses would result in reduced daily load, which would lessen wear and tear and extend the bridge’s lifespan;

- Stormwater could be captured and pumped over to the existing bridge to irrigate vegetation;
- It could be used to accommodate clean energy modes.

R 2-55: As previously noted, the landings of the existing Tappan Zee Bridge would be fully incorporated into the Replacement Bridge Alternative; thereby, cutting off access to the existing structure. Plans to fully incorporate the existing landings were developed to minimize a need for property acquisition on both sides of the Hudson River and to avoid a substantial realignment of the existing highway sections westward and eastward of the bridge.

As noted in the response to Comment 2-50 above, rehabilitation of the existing structure for an alternative purpose could not be undertaken without modifications to ensure its long-term vitality and seismic strength. Even if left in place with no future purpose, there would need to be ongoing monitoring and repairs to ensure that the structure would not substantially deteriorate or collapse. Furthermore, retaining the bridge in place would result in three structures over the Hudson River, which would impair navigation and potentially affect the viewsheds of waterfront communities.

C 2-56: A number of commenters advocated for maintaining the existing bridge as a linear park, providing the following reasons and suggestions:

- It would create an attraction to the area;
- It would provide economic benefits to the area;
- It would create a pedestrian link between Westchester and Rockland Counties;
- It could eliminate the provision of a shared-use path on the replacement bridge, reducing project costs;
- It would enhance community character and the well-being of residents;
- It would avoid demolition costs;
- It would avoid environmental impacts associated with demolition;
- It would preserve a historic structure;
- It could be a model for other areas;
- It could include art installations; and
- It would provide a place to enjoy Hudson River views.

R 2-56: The Draft Section 4(f) Evaluation (see pages 23-9 and 23-10) considered reuse of the existing bridge as a linear park and found that it was not prudent.

C 2-57: As an alternative to the linear park, keep portions of each end of the existing bridge as piers with various amenities (e.g., restaurants, shops, docks, fishing piers, etc.). The decommissioned portions of Interstate 87/287 at each landing could be used for parking and as bus stops to provide transportation to train stations, local businesses, etc. Buses could be experimental and paid for by government/ industry/ private grants and run

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during rush hours. This service might satisfy the need for a public transportation initiative without massive public expenditure/construction as well as making optimum use of bus lanes on the new bridge. Successful use of buses has the downside of potentially decreasing toll revenues. Resolution of this requires further discussion.

R 2-57: To avoid property acquisition to the maximum extent feasible, the Replacement Bridge Alternative incorporates the landings of the existing Tappan Zee Bridge. These landings would support highway infrastructure and would preclude a connection to the existing structure. Therefore, retaining the existing bridge in full or in part would require a redesign of the landings, including the acquisition of properties along the shoreline to provide for an upland connection.

C 2-58: If the linear park concept is pursued, it would not eliminate the need for a shared-use path on the replacement bridge. If the existing bridge was closed or inaccessible, there needs to be a pathway available 24/7 for reliable non-motorized transportation.

R 2-58: A linear park is not proposed, and a shared-use path is included as part of the Replacement Bridge Alternative.

C 2-59: Some commenters cautioned that the steep grade of the existing bridge would render its reuse for transit unfeasible, or at least require major modifications.

R 2-59: Comment noted.

C 2-60: A number of commenters cautioned that keeping the existing bridge as a park would require extensive environmental study and may require a new EIS to determine potential impacts. Some commenters were opposed keeping the existing bridge as a park

R 2-60: Comment noted.

C 2-61: The existing bridge should be widened, and a second tier should be considered, as with the George Washington Bridge. A new span on pontoons should also be considered. It avoids much damage to the river and would be much cheaper to build and maintain. This could be added next to the existing bridge.

R 2-61: As described in the response to Comment 2-50 above, a number of options for rehabilitation of the existing Tappan Zee Bridge were considered and were determined not to be reasonable because of the extensive modifications that would be required to meet current design standards, the cost, and the potential disruption to existing traffic operations.

24-2-2-8 TUNNEL ALTERNATIVES

C 2-62: A number of commenters advocated that the DEIS should have considered a tunnel alternative for the following reasons:

- A tunnel may be less costly to construct and maintain.
- A tunnel would reduce impacts on the Hudson River;
- A tunnel would increase property values;
- A tunnel would improve air quality;
- A tunnel would result in less noise;
- A tunnel would improve visual character for the surrounding area.
- A tunnel may take less time to construct
- A tunnel would generate substantial byproducts during construction (i.e., rock) that could be repurposed.

R 2-62: In the DEIS a tunnel alternative was discarded from further consideration for the current project due to a number of reasons (DEIS pages 2-15 and 2-16). The rejection of this alternative was based on the engineering studies and alternatives analysis conducted for the prior Tappan Zee Bridge/I-287 Corridor Project. The analysis of the river crossing for the previous corridor study was re-examined in consideration of the current bridge replacement project. While the current project has a different purpose and need than the previous corridor study, the environmental, engineering, and financial reasons for rejecting a tunnel for the river crossing are still valid. Due to a number of comments on this issue, the discussion of the rejection of a tunnel alternative has been expanded in Chapter 2, "Project Alternatives," of the FEIS.

C 2-63: The lead agencies clearly rely on tunnel construction costs as a reason to eliminate this alternative. However, they have not fully explored all feasible tunnel design options. They base their information regarding the Tunnel Alternative on a July 2007 study entitled *Alternatives Analysis for Hudson River Highway Crossing*, which was never made available for public review and comment. That 2007 study only assessed the option of having five separate tubes with two lanes each or an immersed tunnel with two chambers. The study did not consider the feasibility of constructing other technologically advanced and modern tunnel alternatives, such as a large diameter tunnel. The failure to study and assess a potentially reasonable and feasible alternative, renders the DEIS legally defective.

R 2-63: A newly bored or immersed tunnel between Rockland and Westchester Counties was studied in the Alternatives Analysis for Hudson River Highway Crossing report, which was made publicly available in 2007. This report was re-examined in the context of the current project. Both options were determined not to be reasonable based on multiple factors, including cost, connectivity, constructability, engineering, and environmental considerations. The considerations were documented in the DEIS, and the discussion is expanded in Chapter 2, "Project Alternatives," of the FEIS.

C 2-64: Some commenters are opposed to a tunnel due to its potential cost and adverse impacts on the Hudson River.

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R 2-64: Comment noted.

24-2-2-9 SINGLE STRUCTURE ALTERNATIVE

C 2-65: The DEIS does not substantiate the following claims regarding the Single Structure Alternative: it would require the existing bridge to remain in use longer, it would result in more property takings, and it would cause there to be piers in the river during construction.

R 2-65: The Replacement Bridge Alternative allows for the construction of the new Tappan Zee crossing in three phases. In Phase 1, the northern structure would be constructed, and upon its completion, traffic would be diverted from the existing bridge to the new northern structure. In Phase 2, the existing bridge would be demolished, and in Phase 3, the new southern structure would be constructed. (Note that it is possible that Phase 2 and Phase 3 for construction of the Replacement Bridge Alternative may overlap.) Once Phase 3 is completed, eastbound traffic would shift to the southern structure while westbound traffic would remain on the north structure. With the Single Structure Alternative, the new bridge would be constructed in two phases. Phase 1 would involve the completed construction of the new structure, and Phase 2 would involve demolition of the existing bridge. Since Phase 1 for the Single Structure Alternative would involve more piers, foundations, and highway infrastructure, it would take 1½ to 2 years longer to construct than Phase 1 of the Replacement Bridge Alternative, and therefore, traffic would use the existing bridge for a longer timeframe.

As noted above, the Replacement Bridge Alternative would be constructed in three phases. Piers for the new northern structure would be installed in Phase 1. Piers from the existing bridge would be removed in Phase 2, and piers for the new southern structure would be constructed in Phase 3. With a Single Structure Alternative, the new structure would be constructed in Phase 1 while the existing bridge remains operational. Therefore, until Phase 2 demolition could begin, there would be more piers within the river.

To maintain traffic across the Tappan Zee crossing while construction work is underway, the Single Structure Alternative would require temporary landings in Westchester and Rockland Counties. These landings would occupy land north of the existing NYSTA right-of-way, adjacent to Salisbury Point Cooperative, within the Bradford Mews Apartments, and within The Quay. Permanent acquisition of inhabited residences would be required to accomplish these temporary landings. Upon completion of the Single Structure Alternative, unused land could be returned, but the residents would have already been displaced.

C 2-66: Service redundancy alone is not a sufficient justification for eliminating the Single Structure Alternative. There are 17 other bridges in the New York metro area spanning navigable channels that are not being replaced, and many of which are undergoing seismic upgrades. NYSDOT and NYSTA appear to be employing a double standard when it comes to rehabbing the

current bridge versus building new bridges. Costs for bringing the existing bridge up to seismic engineering standards should be discussed.

R 2-66: Service redundancy is only one reason why twin structures were selected for the Replacement Bridge Alternative over a Single Structure Alternative. A Single Structure Alternative would be more difficult to construct and would involve the permanent taking of private residences (please see response to Comment 2-65 above). The discussion of the rejection of a Single Structure Alternative has been expanded in Chapter 2 of the FEIS. Please also see the response to Comment 2-50 above for regarding the rejection of a rehabilitation alternative.

24-2-2-10 OTHER ALTERNATIVES

C 2-67: Several commenters stated that the replacement bridge should also accommodate freight rail to reduce reliance on trucks.

R 2-67: There are currently no freight lines on either side of the Hudson River that could provide easy connections to the Tappan Zee Bridge. Furthermore, freight rail would require substantial increases in the load allowances of the new structure. Increased load allowances would require many more structural members and piers as well as larger piles. As such, provisions for freight rail would increase requirements for in-water work and the overall cost of the project.

24-2-3 CHAPTER 3: PROCESS, AGENCY COORDINATION, AND PUBLIC PARTICIPATION

C 3-1: Several commenters objected to the expedited schedule for environmental review, and stated that the project should be slowed down to more fully assess potential impacts on the environment and surrounding community. Reasons cited for public objection to the expedited schedule include:

- The project sponsors have not been forthcoming with all the facts, and all potential environmental effects and mitigation measures must be considered;
- The expedited schedule did not allow for a meaningful public scoping process and a meaningful assessment of alternatives such that decisions were made without involvement;
- A project of this magnitude requires more careful planning and consideration;
- More than a decade of public involvement is ignored by the current expedited review schedule;
- The lead agencies should not make any hasty decisions, consider long-term effects, and select the best alternative possible for this project;
- Despite its importance to the previous project and its public support, transit was removed suddenly without adequate explanation;

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- Merely providing information about the project with no intention to actually make any changes based on what people say is not meeting public participation requirements.
- The rescinded Notice of Intent for the previous project was sudden and without public consultation, and immediately after the NOI for the Tappan Zee Hudson River Crossing Project was issued, documents on the website for the Tappan Zee Replacement/I-287 Corridor Project were not available. Cutting off the links to all of the previous studies, especially when the DEIS purports to rely on some of them is hardly meeting public participation and NEPA requirements; and
- The DEIS conflicts with documents from the previous project and provides no means for the public to resolve these conflicts. The DEIS does not clearly identify what previous work remains relevant.

R 3-1: The environmental review for the Tappan Zee Hudson River Crossing Project has complied with all regulatory requirements, including the public involvement requirements of NEPA and SEQRA. Notifications of project documents and public meetings have been published in accordance with these requirements, and public involvement activities and public review periods have met or exceeded the required timeframes by federal and state law.

As identified in the Notice of Intent, relevant information from the Tappan Zee Bridge/I-287 Corridor Project was to be incorporated by reference in project development for the Tappan Zee Hudson River Crossing Project. Prior studies and prior public involvement efforts informed the design of the Replacement Bridge Alternative and the consideration of its environmental effects in the DEIS. However, where new or updated information was available, such data were used for the DEIS.

Public and agency input on alternatives was sought through the public review of the scoping document and the DEIS. Mitigation measures with respect to water quality and ecology were coordinated with the National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service (USFWS), and the New York State Department of Conservation (NYSDEC). Input was sought from the Advisory Council on Historic Preservation (ACHP), the New York State Historic Preservation Officer (SHPO), and Section 106 Consulting Parties in the development of a Memorandum of Agreement for the project's potential impacts on historic resources. Public input was sought in the development of noise mitigation measures, and NYSDOT and NYSTA continue to engage with local communities regarding their concerns.

Public involvement will continue as the project advances through final design and construction. As specified in the Contract Documents, the bidders must develop a public involvement plan that engages stakeholders, solicits community input on bridge aesthetics and provides opportunity for public information and involvement throughout the construction period.

Chapter 24: Response to Comments on the DEIS

C 3-2: Several commenters requested that the DEIS comment period be extended in order to allow more time for review of the document. Requests for extensions ranged from no expression of how much additional time to requests for as much as 90 more days.

R 3-2: In response to public comments, the public comment period for the DEIS was extended from 45 days to 60 days. It should be noted that NEPA requires a minimum 45 day comment period, and SEQRA requires a minimum 30 day public comment period following publication of the DEIS.

C 3-3: Several commenters expressed that outreach efforts must better engage the area residents and consider their concerns. Commenters expressed the following concerns with respect to outreach:

- Outreach efforts have been inadequate and public meetings have been poorly advertised.
- The project sponsors have not made adequate outreach to the residents of Salisbury Point Cooperative or The Quay. The residents of Salisbury Point Cooperative and The Quay will be impacted both by construction and operation of the bridge and have not had an opportunity to discuss their concerns.
- An advisory committee should be created that comprises local officials and residents who live closest to the bridge to ensure that concerns of the people who will be most directly affected will be addressed. This will also help develop effective mitigation measures.
- As with the previous project, the project sponsors should continue having outreach centers in Nyack and Westchester County. They should also continue posting on the web comments and information from the previous studies to allow better discussions of the issues at hand. In addition, when a person has submitted both oral and written comments, both should be posted and responded to, since the various comments he or she submitted may not always tackle the same issues.

R 3-3: Outreach efforts have complied with NEPA requirements, and public notices for the availability of documents and the dates and times of meetings and hearings were widely advertised. In response to public concerns, FHWA, NYSDOT, and NYSTA have met with residents of The Quay of Tarrytown and Salisbury Point Cooperative. FHWA, NYSDOT, and NYSTA also met with the mayors of Tarrytown, Upper Nyack, Nyack, South Nyack, and Grand View-on-Hudson as well as with property owners that would potentially be affected by acquisition.

The Design-Build Contract Documents, Part 3 § 8 includes specific outreach requirements to communicate with affected residents and businesses during construction. The design-builder must submit a public involvement plan as part of the bid package. As specified in the Contract Documents, the goal of the public involvement plan is to “engage a diverse group of public and agency participants, seeking and using their views, and providing timely information throughout the design and construction process.” The plan must

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identify how the design-builder would assist NYSTA in public communications, including but not limited to, project website, weekly press releases, project newsletters, project phone hotline, technical media, public involvement meetings, and work zone public information. FHWA, NYSDOT, and NYSTA will consider these outreach plans and recommend modifications, as necessary, to ensure that the public is properly informed through the course of final design and construction.

FHWA, NYSDOT, and NYSTA have responded to public comments (oral and written) received on the DEIS, and the website will continue to be updated to include NEPA documents, including this FEIS and its appendices.

C 3-4: Members of the public should have been allowed to speak before elected officials at the public hearings. Thus, the elected officials would better understand the concerns of their constituents.

R 3-4: There is no specific requirement for the order of speakers at a NEPA public hearing, but it is typical practice to allow elected officials the courtesy of speaking first.

C 3-5: Some commenters felt that their scoping comments were not addressed in the Scoping Summary Report or the DEIS. Some felt this constitutes grounds for considering the DEIS incomplete.

R 3-5: FHWA, NYSDOT, and NYSTA catalogued all comments received on the Scoping Information Package. Comments were grouped and summarized and responses were provided in the Final Scoping Report, which was issued in January 2012.

C 3-6: The project sponsors should be identified.

R 3-6: In accordance with SAFETEA-LU, the DEIS identifies FHWA as the federal lead agency and the New York State Thruway Authority and the New York State Department of Transportation as joint lead agencies.

C 3-7: The Village of South Nyack received an invitation to become a cooperating agency, which it accepted. The Village subsequently received an invitation to be a participating agency rather than a cooperating agency. The Village notified NYSDOT that it intended to continue its role as a cooperating agency since it would experience direct effects from the project.

The Village was not included in any cooperating agency meetings or communications and was excluded from and is not a signatory to the Cooperating Agencies' Agreement/Memorandum of Agreement. There have been no substantive discussions with South Nyack with regard to alternatives to the replacement of the South Broadway overpass, impact on Village historic resources, and the takings of South Nyack private and public properties. The environmental review must not be deemed complete until the Village of South Nyack is given its due full opportunity. NYSDOT and NYSTA's lack of effort to directly engage the communities has resulted in a

lack of analysis of the impacts to those communities or representation of those communities in the project effort. NYSTA and NYSDOT must engage with South Nyack in a coordinated plan for the new Tappan Zee Bridge, interfaced to South Nyack's transformative proposal to bring lasting jobs and economic sustainability to the river villages.

- R 3-7:** As stated in 40 CFR 1508.5, a "cooperating agency" means any Federal agency other than a lead agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative) for legislation or other major federal action significantly affecting the quality of the human environment. A state or local agency of similar qualifications or, when the effects are on a reservation, a federally-recognized Native American tribe, may by agreement with the lead agency become a cooperating agency.

For the Tappan Zee Hudson River Crossing Project, FHWA identified invited cooperating agencies in the Scoping Information Packet, which included federal and State agencies with jurisdiction or special expertise. The Village of South Nyack was not identified as an invited cooperating agency in the Scoping Information Packet.

Subsequent to the Scoping Information Packet, there was an administrative error that resulted in invitations to municipalities and other agencies to serve as cooperating agencies. When the error was realized, letters were sent to correct the invitations, and all parties were invited to serve as participating agencies.

The Village of South Nyack was mailed a copy of the DEIS, and meetings were held with Village officials to discuss comments and concerns. The Village was also afforded an opportunity to speak at the public hearings and submitted written comments on the DEIS. Following the close of the public comment period for the DEIS, there has been continued outreach with the Village of South Nyack to identify and resolve certain concerns.

- C 3-8:** The Village of South Nyack never received an invitation to be a consulting party, which is a critical omission as the project would directly affect the Village's historic resources. The Village must be afforded appropriate opportunities to review and comment on Section 106 documents and findings.
- R 3-8:** The Village of South Nyack historian was invited by letter to participate as a Section 106 Consulting Party and to attend the first Section 106 Consulting Party meeting. The letters were sent by overnight mail, and a confirmed receipt was received by the project team. There was no formal response by the historian, and the historian did not attend the Consulting Party meetings.
- C 3-9:** The DEIS is inconsistent in its criteria for evaluating significance of effects and sufficiency of mitigations. In places it relies on a "least overall harm" criteria, arguing that the replacement bridge will leave conditions no worse than existing conditions, and thus avoids mitigation. In other places it

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highlights purported benefits, such as the shared-use path, to support its goal to “maximize the public investment.” But it conveniently chooses which criteria to rely upon, depending on the issue being addressed. It is clear that elements of the project are designed to not only mitigate the impacts of the project itself, but to add additional benefits besides simply accommodating vehicular traffic. As such, it falls short in exploration of benefits and impacts of reasonably foreseeable related projects.

R 3-9: NEPA allows for a consideration of both the benefits and impacts of a federal action. The DEIS assesses impacts in accordance with FHWA, NYSDOT, and NYSTA guidelines and procedures as well as with all applicable federal and state laws, rules, and regulations.

C 3-10: You should update the list of cooperating agencies to remove NOAA's National Marine Fisheries Service (NMFS). While we received an invitation to be a cooperating agency, we are only serving as a participating agency.

R 3-10: In accordance with 40 CFR 1501.6, “upon request of the lead agency, any other Federal agency which has jurisdiction by law shall be a cooperating agency.” The National Marine Fisheries Service was invited by FHWA as a cooperating agency in October 2011 and has been afforded opportunities to participate in cooperating agency meetings and document reviews. Given its important role in identifying potential project impacts and related mitigation measures, FHWA believes that NMFS should be appropriately identified as a cooperating agency.

C 3-11: A number of commenters expressed the following concerns related to the design-build process of the project:

- There is no final bridge design for the public to review and on which to assess impacts;
- Design options presented in the DEIS may change with no criteria for final selection. Different designs may have different environmental and visual impacts;
- The process does not allow for sufficient oversight to ensure that environmental commitments are adhered to by the design-build team;
- An RFP is being rushed through prior to results of geotechnical investigations and pile tests which are needed to determine appropriate foundations and make an accurate assessment of costs. These technical issues should be evaluated and river sediments should be fully characterized in the FEIS prior to issuance of an RFP.

R 3-11: NEPA does not require completion of final design prior to issuance of a Record of Decision by the lead federal agency, and there is no requirement for public review of a final design. It is typical practice that design is advanced to conceptual engineering for the NEPA review.

Project development has complied with 23 CFR 636.109, which specifies the process that FHWA and its applicants must follow to pursue a design-build contract under NEPA. The EIS identifies an envelope for design of the

Replacement Bridge Alternative with options for its span lengths and the design of its main span. The EIS assesses the potential impacts of the Replacement Bridge Alternative design options and identifies mitigation measures as necessary. The Design-Build Contract Documents directs proposers to identify a design that does not deviate from the envelope identified in the EIS. If FHWA determines that the selected design deviates in any substantive way from the alternatives identified in the FEIS, it will engage in an appropriate level of assessment under NEPA. Furthermore, the Design-Build Contract Documents, Part 3 § 3 contains a detailed list of environmental commitments based on analysis presented in the DEIS.

The Pile Installation and Demonstration Program (PIDP) was implemented to inform both the design proposals of bidders and mitigation measures identified in the FEIS. It is not typical to undertake such a detailed demonstration program during the NEPA process, but recognizing the unique soil characteristics of the area and other issues related to ecology, water quality, and hydroacoustic and airborne noise and vibration, FHWA, NYSDOT, and NYSTA implemented the PIDP prior to selection of the design-build team and any environmental decision on the project. If anything, the PIDP confirmed that the DEIS conclusions were conservative with respect to hydroacoustic impacts.

- C 3-12:** The General Bridge Act of 1946 was incorrectly cited in the DEIS. The correct citation is 33 U.S.C. 525. In addition, under the section entitled, "Rivers and Harbors Act of 1899", delete the last line: "In addition, authorization required under the Rivers and Harbors Act of 1899 is for Section 9 for issuance of a Bridge Permit by the USCG, as described above." Finally, although the DEIS does refer to coordination with the Coast Guard to ensure that the needs of marine navigation are considered during construction, it is imperative that we continue to be included in construction planning and scheduling similar to our participation in the Request for Proposal meeting held in January 2012.
- R 3-12:** The citation is corrected in the FEIS. NYSDOT, NYSTA, and FHWA understand that ongoing construction coordination with the USCG would be a condition of any Bridge Permit.
- C 3-13:** The replacement bridge should be designed by the Army Corps of Engineers, and the taxpayers should choose which design best suits the needs going forward.
- R 3-13:** In accordance with the Federal Aid Highway Program, the project is being advanced by FHWA, NYSDOT, and NYSTA as they have expertise in the design and operation of interstate highways. USACE has served as a Cooperating Agency for the EIS, and the NEPA process has allowed for public comment on alternatives.
- C 3-14:** The project rejected the participation of the MTA and FTA.

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- R 3-14:** The Metropolitan Transportation Authority, Metro-North Commuter Rail Road, and the Federal Transit Administration were invited to serve as participating agencies for the Tappan Zee Hudson River Crossing Project.
- C 3-15:** Is there any reality to back up the following statement? "The project's Stakeholder Committee, formed during the Tappan Zee Bridge/I-287 Corridor Project and including over 500 members, and Stakeholders' Advisory Working Groups, also formed earlier, have and will meet as appropriate."
- R 3-15:** The very significant public participation associated with the Tappan Zee Bridge/I-287 Corridor project yielded much relevant information and helped refine the bridge design concepts. That relevant effort was incorporated into the current bridge replacement project. As the process continues, and in particular, when the design-builder is selected, we anticipate numerous opportunities for continued consultation as the design details are developed. Please see response to Comment 3-3 for additional details on future public involvement in the design-build process.
- C 3-16:** While the DEIS refers to information in the 2008 scoping documents for the former I-287 corridor projects, this information was never subjected to public scrutiny; thus, the lead agencies are effectively eliminating the public's participation in meaningful decision-making regarding the reasonable alternatives for this project, contrary to the intent of NEPA and SEQRA.
- R 3-16:** The DEIS cites studies from the previous project, which were reviewed and incorporated into the current project. These studies were either made publicly available during the prior project or relevant information is provided in the appendices of the EIS. Studies that informed the current project are also available on the project website (www.thenewtzb.com).
- C 3-17:** Several commenters suggested the environmental review process for the project is being segmented as defined by SEQRA and NEPA, citing the following reasons:
- The replacement bridge would accommodate future transit but the EIS does not evaluate transit's potential impacts on traffic, access roads, stations stops, etc.; transit is part of the bridge's long-range plan and must be evaluated in this EIS;
 - Future improvements to adjacent highway segments are not evaluated in the EIS;
 - The EIS claims that the bridge replacement project is not part of the previous 30-mile corridor project, thereby depriving the public of an opportunity to fully assess the total environmental impacts;
 - The DEIS did not await further environmental impact studies and mitigation measures from the design-build team, such as potential impacts (traffic, etc.) related to the off-shore construction platforms;

- The DEIS did not fully evaluate potential impacts from demolishing the existing bridge, including dredging associated with demolition.

R 3-17: The purpose of the Tappan Zee Hudson River Crossing Project is to maintain a vital link in the regional and national transportation network by providing an improved Hudson River crossing between Rockland and Westchester Counties. This project addresses the structural, operational, mobility, safety and security limitations and deficiencies of the existing Tappan Zee Bridge, as distinguished from the previously advanced corridor project, which included transportation improvements to the 30 mile corridor stretching from Suffern, New York to Port Chester, New York. As stated in the EIS, the previously advanced corridor project has been rescinded and there is no intention of advancing it in the foreseeable future.

Any potential future transit or corridor improvements are not connected actions to this project because (1) the project does not trigger the need for transit or corridor improvements; (2) the project will be able to proceed without transit or corridor improvements; and (3) the project does not depend on transit or corridor improvements for its justification. Addressing the structural, operational, mobility, safety and security limitations and deficiencies of the existing bridge has independent utility, regardless of whether any transit or corridor improvements are proposed in the future.

In addition to not being connected actions to the proposed project, future transit or corridor improvements would not constitute cumulative actions whose effects must be considered at this time, because no such improvements are currently proposed. Moreover, while transit and corridor improvements were previously advanced, plans for those improvements were rescinded pursuant to notice issued in October 2011.

Transit and corridor improvements need not be considered as related actions, because they are neither reasonably foreseeable nor proposed. To require consideration of improvements that are neither proposed nor reasonably foreseeable would be impracticable. In the event corridor and/or transit improvements are proposed, they will be subject to a full environmental review process.

The DEIS fully analyzed and identified the potential environmental impacts of the project. The results of the PIDP indicate that the hydroacoustic impacts analyzed and identified in the DEIS were overstated.

To the extent that comments anticipate material changes in the project as a result of the design-build process, such comments are premature and speculative. In the event the design-build process results in project changes that could produce impacts that were not previously identified in the FEIS, further environmental review would be undertaken.

Chapter 18 of the DEIS identified impacts associated with the demolition of the existing bridge, and an expanded analysis of the demolition (including dredging associated with demolition) is included in the FEIS.

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C 3-18: Various commenters asserted that there was a need for a Supplemental DEIS (SDEIS) for the project, for the reasons specified in the immediately succeeding comments.

R 3-18: The DEIS comprehensively analyzed and identified the potential impacts associated with each aspect of the proposed project. This provided the public and government agencies with an opportunity to comment on the impacts and the mitigation measures appropriate for those impacts. Part of the function of the DEIS is to provide a “springboard” for public comment and to elicit suggestions for changes in the project or the DEIS analyses that subsequently will be reflected in the FEIS. As evidenced by the nearly 3,000 comments received, the DEIS fulfilled this function; commenters were able to request additional analyses and details on the impacts that were identified in the DEIS. An SDEIS is not required in this instance, as the FEIS is a proper means for providing additional detail on potential impacts that were identified in the DEIS.

Partly in response to comments made with respect to the claimed need for an SDEIS, FHWA prepared a Re-evaluation to assess whether, after the completion of the DEIS, there were any changes to the proposed action or new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts that would result in significant environmental impacts not evaluated in the DEIS. The Re-evaluation, which appears in **Appendix A** to this FEIS, reflects the agency’s determination that an SDEIS was not required.

The FEIS will be available for an additional public comment period so that the agency can benefit from additional public review and informed public participation prior to issuing its Record of Decision.

In accordance with NEPA and SEQRA, any substantial changes in the project and/or new information and circumstances relevant to environmental concerns and bearing on the proposed action or its impacts that arise after the FEIS is completed will be evaluated to determine whether they would require a Supplemental FEIS.

C 3-19: The DEIS was issued prior to completion of the Pile Installation Demonstration Program (PIDP). Therefore, impacts to fish were not fully assessed nor subject to sufficient public review and comment.

R 3-19: Onsite testing, such as the PIDP, is not required. In an EIS, environmental impacts are typically predicated on predictive modeling and expert analysis, not onsite testing. Chapter 18 of the DEIS and the draft Biological Assessment (BA), attached as Appendix F-4 to the DEIS, contained extensive analyses of the potential impacts of pile installation on fish, based on predictive modeling. The analyses in the DEIS were conservative (i.e., they overestimated potential impacts) for multiple reasons, as set forth in the DEIS. For example, the analyses in the DEIS and draft BA assumed that fish would remain in the area of pile driving for the entire period of time that pile driving takes place. However, the Biological Opinion (BO) issued by NMFS

recognizes that fish behavior is such that they are not likely to remain near the pile driving activity. The modeling of hydroacoustic impacts on fish in the DEIS also assumed that piles would be installed entirely using impact hammers rather than vibratory hammers, which have less hydroacoustic impacts. The PIDP results, which are included in the FEIS, confirm that vibratory hammers will be able to be used extensively in the installation of piles for the bridge and confirm that the DEIS and BA conservatively estimated the potential impacts of pile installation on fish.

Other important elements of conservatism in the DEIS analyses of hydroacoustic impacts are detailed in the Re-evaluation.

- C 3-20:** The DEIS did not explain how mitigation measures would be modified if PIDP results indicate more severe impacts than initially anticipated.
- R 3-20:** The PIDP results and the BO indicate that the impacts from pile driving will be substantially less than estimated in the DEIS.
- C 3-21:** It is unclear how or whether results from the PIDP will be incorporated in the FEIS.
- R 3-21:** PIDP results are incorporated into the FEIS and the draft Comprehensive PIDP Report is contained in **Appendix F**.
- C 3-22:** The DEIS did not carefully and accurately consider construction and post-development impacts and mitigation proposals for both the replacement bridge as well as other omitted project components, including transit and related components.
- R 3-22:** The DEIS comprehensively analyzed and identified both operational and construction impacts and specified the need for mitigation appropriate for those impacts. As indicated above, in the response to Comment 3-17 on segmentation, transit is not part of the project and need not be analyzed.
- C 3-23:** The Final Request for Proposals (FRFP) will be the basis of many future project decisions but were not available prior to the DEIS and were not included in Section 106 documentation. It is also unclear whether the FRFP addresses conclusions from the DEIS or Section 106 process. Impacts from the final design criteria must be evaluated and made available to the public for sufficient review and comment.
- R 3-23:** This comment asserts that the DEIS should not have been prepared until the final design criteria for the bridge were known. However, neither the Section 106 process nor the DEIS are required to be postponed until the final design criteria are available. To the contrary, both NEPA and SEQRA require agencies to incorporate environmental review into their project planning at the earliest possible stage.
- C 3-24:** The DEIS did not incorporate sufficient noise monitoring in its analyses or identify appropriate mitigation measures for the impacts from construction

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noise; an SDEIS should be prepared containing the results of additional monitoring and details on mitigation measures to be implemented.

- R 3-24:** Chapter 18, “Construction Impacts,” of the DEIS included a comprehensive analysis and identification of construction noise impacts. This analysis provided the public and agencies with the opportunity to comment on this issue. In response to extensive public comments on the DEIS, additional noise monitoring was conducted in order to aid in the modeling of construction noise impacts. The results of this additional noise monitoring are included in the FEIS along with more specific details on mitigation measures related to construction noise impacts. Such additional information does not require the preparation of an SDEIS. It is not uncommon for changes to be made in an FEIS after receipt of comments on a DEIS and further concurrent study, because this is part of the purpose of the DEIS and the transition from a DEIS to an FEIS.
- C 3-25:** The DEIS did not contain an adequate analysis of all reasonable and feasible project alternatives, including a rehabilitation alternative, tunnel alternative (specifically, a large diameter tunnel), and single structure alternative. These alternatives should be considered in an SDEIS and provided for public review.
- R 3-25:** As indicated in Chapter 2 of the DEIS, these project alternatives were considered and rejected prior to the preparation of the DEIS. For more detail, please see responses to Comment 2-1.
- C 3-26:** An SDEIS should be prepared containing a complete analysis of the financial costs associated with a replacement bridge that includes mass transit.
- R 3-26:** Such analysis is not required because transit is not part of the project.
- C 3-27:** An SDEIS should be prepared containing an adequate assessment of all the environmental impacts of the project that have been reserved for study at a later time, such as the inclusion of mass transit, improvements to adjacent highway segments, and the demolition of the existing structure.
- R 3-27:** As stated previously in the response to Comment 3-17 on segmentation, neither mass transit nor improvements to adjacent highway segments have been “reserved for study at a later time,” because these improvements have been rescinded and there are no current plans for their approval and implementation. Impacts from the demolition of the existing structure were analyzed in Chapter 18 of the DEIS. The FEIS contains an expanded analysis of demolition-related impacts and is available for public review and comment.
- C 3-28:** The SDEIS should contain the final Biological Opinion (BO) pertaining to the Atlantic sturgeon and should contain information on the designation of critical habitat for the Atlantic and shortnose sturgeon.

R 3-28: A copy of the BO issued by NMFS is contained in the FEIS at **Appendix F-6**. Impacts on both the Atlantic and shortnose sturgeon were extensively analyzed in Chapters 16 and 18 of the DEIS and in the draft Biological Assessment included as Appendix F-4 to the DEIS. Because the BO does not present a significantly different picture of the environmental impacts of the project from that contained in the DEIS, it does not require the preparation of an SDEIS.

The shortnose sturgeon was listed as endangered in 1967. No critical habitat has been designated for this species, although the DEIS did take into account the known shortnose sturgeon spawning areas in the Hudson River. NMFS has indicated that the designation of critical habitat for the Atlantic sturgeon will not be completed for some time. The process of designating critical habitat is being undertaken by NMFS independent of this project, and does not require that the FEIS for this project be postponed.

24-2-4 CHAPTER 4: TRANSPORTATION

C 4-1: How would the community be protected against the increased traffic?

R 4-1: The Replacement Bridge Alternative would not be a traffic generator as traffic volumes with and without the project are projected to be the same.

C 4-2: The DEIS does not identify the potential long-term impacts on access to the Salisbury Point Cooperative including its lower parking lot.

R 4-2: Access to the Salisbury Point Cooperative and parking areas would not change as a result of the Replacement Bridge Alternative.

C 4-3: The DEIS falsely assumes that the replacement alternative will not generate additional traffic volumes or capacity. Induced growth is something that almost always accompanies increased capacity. Without actually analyzing the character of the corridor and its amenability to induced growth, the DEIS is not truly analyzing the impacts of this project. This increase in capacity could have direct, indirect and cumulative effects and must be analyzed.

R 4-3: Future traffic volumes on the bridge are projected to be the same with or without the Replacement Bridge Alternative. The Replacement Bridge Alternative would maintain the same number of travel lanes as the existing bridge in the peak direction as the existing bridge and provide an additional travel lane in the off-peak direction.

The determination that the Replacement Bridge Alternative would not induce growth is best demonstrated by the detailed travel demand analysis conducted for traffic flow in the off-peak direction and presented in the DEIS. The analysis determined that expanding the number of travel lanes on the bridge would not be a determinative factor of future traffic volumes crossing the bridge or in the corridor as a whole. Additional details regarding the analysis are presented in **Appendix B** of the FEIS.

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Analyzing the character of the overall corridor and the potential for future growth along the corridor is beyond the scope of this EIS.

C 4-4: The scoping document states that the build-year analysis would be based on the projected no build traffic volumes despite the fact that previous studies showed significant increases in traffic volume. The bridge design would increase the capacity of the bridge by adding a pedestrian way [shared-use path], bike lane, wide shoulder and more significantly, an emergency vehicle lane, which people would most likely use during peak traffic hours and could be used as a BRT lane. Transit service across the replacement Tappan Zee Bridge has long been recommended as a solution to the traffic congestion which is already an issue during peak travel times.

R 4-4: The consideration of transit alternatives is beyond the scope of this project. Please see the response to Comments 2-34 and 4-3.

C 4-5: The DEIS does not address access to and from or demand for the shared-use path, and the potential transportation and community impacts that may result within Westchester County.

- Does the design take into account the impact on traffic and on pedestrian/cyclist safety?
- Is there a holding area at the bottom of the ramp?
- Is there room for the design of the access ramp to circumnavigate the cell tower in a more gradual curve, rather than a $\frac{3}{4}$ box turn?
- What would the logical connector routes be for cyclists?

We believe it is important to consider these small but vital design changes now so that new designs can be subjected to environmental impact review. We cannot afford to be locked into the current access ramp design on the Westchester side of the bridge. It creates numerous safety hazards to both cyclists and pedestrians.

R 4-5: Additional details regarding the anticipated demand and use of the shared-use path have been added to the FEIS. Specific design issues such as traffic control at the access point to the shared-use path at Route 9/South Broadway, configuration of storage area at the path's approach to Route 9/South Broadway, signage and pavement markings on the shared-use path, and final location and alignment would be addressed as part of the design-build process.

C 4-6: The DEIS does not address access to and from or demand for the shared-use path, and the potential transportation and community impacts that may result within Rockland County.

- How far does the shared-use path extend on South Broadway?
- What would the traffic control be at the junction of the shared-use path with South Broadway?

- Is there space at or near the terminus of the shared-use path for cyclists to gather?
- R 4-6:** The current conceptual layout of the shared-use path indicates an access point at the end of Smith Avenue, west of Piermont Avenue, on the north side of the Interstate 87/287 right of way. The shared-use path would not connect directly with the Raymond G. Esposito Trail. In regard to specific design issues, please see response to Comment 4-5.
- C 4-7:** The DEIS does not assess whether additional truck and commercial cross-Hudson traffic would be diverted from the George Washington Bridge/I-95 corridor to the new Replacement Bridge/I-287 corridor, given the reduced roadway grade, improved mobility, and access that a new bridge promises to bring between New England and locations west of the Hudson. If truck and commercial traffic is added to a new Replacement Bridge crossing, additional non-accounted volume would be added.
- R 4-7:** While the project includes improvements to the non-standard features of the existing bridge, the main considerations for commercial motorists are cost and travel times. Currently, the toll for commercial users on the Tappan Zee Bridge is significantly less than the toll on the George Washington Bridge. Commercial travelers that have an option to use either crossing are most likely already utilizing the Tappan Zee Bridge.
- C 4-8:** The movable barrier system is a viable way to add capacity as needed. The ability to add a lane in the dominant direction clearly helps expand the useful life of the bridge in terms of meeting traffic demand. It seems the two fixed structures abandon this idea and may be a bit short sighted.
- R 4-8:** The moveable barrier system is not preferable when other long-term improvement measures are available. The moveable barrier creates a nonconforming median design that is much less effective than a permanent barrier in deflecting vehicles back into the highway in the event of an accident. The goal of providing four travel lanes in each direction under the Replacement Bridge Alternative is to eliminate the maintenance and operating costs and safety-related issues of the existing moveable barrier system and to provide a balanced crossing better able to safely and efficiently respond to long-term travel conditions.
- C 4-9:** Regional traffic impacts must be considered. New York State is hiding the ball when it pretends that this project is only about the bridge. For over a decade, this project included I-287 through Rockland and Westchester and mass transit, because the goal was to prevent congestion and accommodate growth regionally. It is lack of landside improvements and transit accommodation that are the current major causes of delays. New York State has recast the project as a simple “bridge replacement” to avoid doing the hard work of creating a sustainable transportation plan for the region that looks to the future, not the past. Give us a SMART plan for the 21st century that includes mass transit.

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R 4-9: The previous I-287 project, which included corridor-wide highway and transit improvements, was rescinded in October 2011 since it was not fundable in the foreseeable future. Analyzing the character of the overall corridor and the potential for future growth along the corridor is beyond the scope of this EIS.

C 4-10: The DEIS discusses high accident rates on the bridge. There should be better traffic enforcement to reduce speeding.

R 4-10: Comment noted.

C 4-11: What is the increased level of vehicular traffic for which the new crossing would be planned? How is that number arrived at?

R 4-11: For the weekday AM peak hour, total traffic volumes (in both directions) are projected to increase from 11,050 vehicles in 2005, to 11,657 vehicles in 2017, and to 12,909 vehicles in 2047. Total traffic volumes for the weekday PM peak hour are projected to increase from 9,810 vehicles in 2005, to 11,753 vehicles in 2017, and 12,672 vehicles in 2047. Please see response to Comment 4-13 for a discussion of the transportation planning procedures used to estimate future traffic volumes in the corridor.

C 4-12: There are other complementary measures that transportation officials could employ to control congestion. These include variable toll pricing by time of day on the bridge, toll exemptions for transit vehicles, toll incentives for green technology vehicles, transit and carpool incentives by employers, measures such as guaranteed rides home for transit users and carpoolers, and totally cashless, toll booth-less toll collections to permit high speed toll collections for all drivers. These measures should be given the careful exploration they deserve. Most of these improvements don't need to be ready, that is the physical improvements, by 2017. The financing would be difficult given current budget constraints, but planning for the creation needs to begin right away.

If a primary objective of this project is to transport more people from one side of the river to the next, the Project Sponsors should use congestion pricing. This would extend the hours that the bridge is used, getting more people across it more efficiently.

R 4-12: There are two types of transportation management measures: (1) transportation demand management (TDM) measures (e.g., carpool or transit incentive programs, guaranteed-ride-home programs, etc.), which are corridor-wide or even region-wide programs implemented to control or shape the demand for various transportation systems (e.g., highways, transit services, etc.); and (2) transportation systems management (TSM) measures, which are implemented to more efficiently use the capabilities of components of the existing transportation systems. These TSM measures can include variable toll programs, a wide variety of "active traffic management" measures such as variable traffic signs, changeable pavement markings and other lane use controls to efficiently and safely

direct traffic to specific lanes, and similar measures. TSM measures are more local, facility-specific strategies that a bridge operator such as the NYSTA can implement to better manage the Tappan Zee Bridge. Some TSM measures, including time-of-day and other tolling strategies for both cars and trucks and variable message signage have already been implemented. The selected design-build contractor would be required to develop a broad set of such control systems for the Replacement Bridge, including the potential for totally cashless tolling. Corridor-wide or region-wide TDM measures are beyond the scope of this EIS.

- C 4-13:** There is some confusion about how the replacement bridge would affect traffic. The DEIS claims it would not generate new trips as the Bridge itself is not a “traffic generator.” However, as explained in the DEIS, the new Bridge is asserted to have the capacity to accommodate more traffic were it not for reported blockages along I-287 near Exit 11 in Rockland County where steep grades and the reduction in travel lanes west of this interchange impede traffic flow.

Appendix B-5 AECOM Future Capacity Memorandum, Figure 1 reports a 29% increase in volume in the AM Westbound direction from 2010 to 2047. Appendix B, Figure 2 reports a 44% increase in the PM Eastbound direction. Both figures report reasonably good travel speeds along the Bridge with this increase in traffic. This analysis was apparently done to demonstrate whether or not three lanes would be adequate to accommodate traffic growth in the non-peak direction. What are not discussed are conditions for the peak hour peak direction of traffic flow: the eastbound direction AM peak period and westbound in the PM peak period.

Baseline traffic volumes shown in Appendix B range between 5,400 to 5,700 westbound for the PM peak period (3 to 6 PM) and in the range of 5,400 to 5,900 in the AM peak period (6 to 9 AM). A similar increase in the PM peak hour (44%) would result in approximately 8,000 vehicles per hour westbound in 2047 and in the AM peak hour (a 29% increase) in approximately 7,300 vehicles per hour eastbound in 2047. If this growth in traffic were applicable, these volumes would effectively exceed the capacity of 4 travel lanes and would definitely exceed the capacity of the toll plaza in the eastbound direction.

It is useful to compare these results with those provided to the Governor’s I-287 Task Force in April 2000, “Long Term Needs Assessment and Alternative Analysis, I-287/Tappan Zee Bridge Corridor.”

- “Congestion is Growing. Eastbound available capacity in the current AM peak is limited, causing congestion and long travel times. Westbound PM peak conditions are generally less severe but reverse commuting is growing rapidly. Growth in traffic has been greater during the shoulder hours (before and after the peak hour) than during the peak hours, resulting in a “spreading” of the peak period and shrinking of available capacity in the shoulder hours of travel.” (Ignored in the DEIS)

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- “Future Traffic Forecasts Show Worsening Conditions. Under either a low growth (20 percent more growth overall) or a high growth (30 percent more growth overall) forecast, future traffic levels would result in I-287 carrying volume in excess of capacity in the peak periods (i.e., with 4 lanes of travel as proposed in the DEIS), resulting in lower speeds than at present and substantially greater travel times. New bottlenecks causing downstream congestion would exacerbate travel conditions. Even in the reverse commuting direction (westbound in the AM; eastbound in the PM), volumes are projected to equal or exceed capacity along the entire corridor. These forecast traffic conditions suggest that dedicated existing lanes for priority treatment of high occupancy vehicles would not solve future congestion. Lanes from the non-peak direction cannot be used for peak direction travel because reverse commuting is already too high and growing too rapidly. Similarly, there would be no available capacity in the peak direction that could be dedicated to buses or carpools without exacerbate congestion. Peak period congestion would spread over more hours in 2020 and the corridor would experience four rush hours rather than the current two (i.e., in both directions in both the AM and PM peak periods). This renders long-term solutions that rely on shifting commuters to the shoulder periods (the hours directly before and after the rush hours) ineffectual.” (My emphasis and clarifications)

While this was written before the financial crashes in 2002, and again in 2008, it should not be dismissed as irrelevant. While travel across the Tappan Zee Bridge leveled off over the decade of the 2000’s, the conditions described above were for the period just prior to this leveling off when traffic volumes were apparently no different from today, and simply reinforce the expected severity of conditions in the future. Indeed, the Governor’s I-287 Task Force report reports assumptions that are more severe than described in the DEIS. For example, lane capacities were assumed to be 1,800, not 2,000, vehicles per hour as reported in the DEIS; with Moderately High Growth assumptions of 30% to 40% in traffic levels from 1999 to 2020 for both peak and off peak conditions, or 1.5% to 2% per year compared to the DEIS which assumes annual growth rates of just 0.3% per year from 2017 to 2047. This assumption is flawed because it does not match the projected growth patterns in population and jobs for counties in immediate proximity to the TZB that would be the source of most Hudson River crossings. The DEIS has to justify these enormous changes from earlier studies that, if wrong, would eventually reveal the fatal flaws in this current analysis. If the earlier work is ultimately proven to be correct, it also powerfully reinforces the need to include public transit in the current TZB design.

- R 4-13:** The basis of the statement in Comment 4-13 that traffic volumes on the bridge would effectively exceed the capacity of four lanes is incorrect. The following response provides additional clarification regarding the methodology followed in the DEIS.

The traffic analyses prepared for the DEIS required a complex assessment of existing and future traffic conditions within the corridor. The regional travel demand model adopted by the NYMTC is the Best Practice Model (BPM). As a regional transportation model, the BPM is neither designed nor suitable for the analysis of roadway traffic operations. It provides overall regional travel projections. A traffic simulation is then needed to take those projected demand volumes and apply them in a more detailed manner to the street and highway network to determine likely actual volumes and traffic congestion levels. Paramics (a microsimulation traffic analysis model) was selected to fulfill this need.

As discussed on p. 4-2 of the DEIS, these two interrelated models—the BPM for future travel demand projection and the Paramics model for detailed traffic modeling and assessment for highway and local roadway operations—formed the two elements of the transportation planning and engineering procedures used to generate the results presented in the project DEIS. Technical Reports further detailing these transportation planning and modeling procedures are included in **Appendix B** of the FEIS. Details regarding the BPM process are primarily included in *Tappan Zee Bridge/I-287 Corridor Project: Technical Report 2 - Transit* (April 2011), while the Paramics modeling efforts and related traffic results, including those incorporated into the project DEIS, are covered in *Tappan Zee Bridge/I-287 Corridor Project: Technical Report 1 - Traffic* (April 2011). These reports, which are provided in **Appendix B** of the FEIS, confirm that the projected volumes over the replacement bridge in 2017 and 2047 would exceed the capacity of the bridge.

As discussed in those Technical Reports, NYMTC goes through its own extensive calibration process to confirm and enhance the accuracy of this critical transportation planning tool. At the same time, when the BPM is used to assess the transportation implications of a major project such as the Tappan Zee Hudson River Crossing Project, a number of steps must be taken to confirm its proper application:

- Confirm that the most recent version of the BPM model, which has undergone numerous revisions and updates in recent years, is being used.
- Obtain and use NYMTC's most current set of approved demographic and economic projections for the region, which are the critical input to the BPM's projection of future travel demand conditions throughout the region. Updates for these projections, which occur every few years, often include projections of population, employment and other factors for the region that are quite different from those included in previous projections. These differences can then result in equally substantial changes in projected future travel demand throughout the region and in individual corridors.
- Perform further calibration studies to ensure that the application of the BPM can accurately reflect transportation conditions in a given project

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corridor (in this instance, the Interstate 87/287 corridor). The Technical Reports noted above document how the study team went through extensive calibration efforts and discussed these results with NYMTC staff to jointly identify possible model adjustments to ensure a more accurate representation of likely future transportation conditions. This type of project-specific calibration feedback and discussion ensures the best possible results from the model's application for a given project, while the identified issues and potential model adjustments gradually improve the overall validity of the BPM in its applications throughout the region.

Like NYMTC's overall calibration of the BPM, the study team calibrated the BPM's projections of traffic volumes in the corridor against a comprehensive set of traffic counts completed in 2005.

The Paramics model goes through a similar comprehensive calibration effort by testing the model's ability to accurately simulate existing traffic volumes along the corridor, both on the highway and along critical arterials and streets. The Paramics model was calibrated to 2005 conditions. This was done by adjusting the simulation network, the trip tables (from the BPM) and vehicle/driver characteristics to replicate realistic conditions to the extent possible. Paramics, as a detailed operational model rather than a planning model, requires a considerable greater level of highway and roadway network detail than is used in the BPM network structure. Without this added detail it would not be possible to replicate the existing traffic conditions.

In the Paramics calibration process, three types of adjustments are made:

- Network Adjustments to ensure, among other things, that the model includes correct lane configuration, geometry, posted speed limits, signal timing, etc.
- Trip Table Adjustments, involving adjustments to the trip table that come from the BPM regional model to more accurately reflect local corridor network conditions.
- Visual Adjustments, using field observations of, for example, bottlenecks and queuing issues, to make localized model adjustments to better replicate those conditions.

As noted, both the BPM and the Paramics models were calibrated to 2005 conditions, based on a comprehensive data collection program at 185 locations along the corridor. When the issue of whether to update this traffic base was considered in 2009, the decision was made to continue to use the 2005 corridor data as the basis for traffic analyses, as (1) the recent recession had lowered river crossing volumes across the region, with the Tappan Zee Bridge toll plaza counts indicating that updated corridor counts in 2010 would likely result in volumes lower than those counted in 2005; (2) the overall regional BPM model was still calibrated to a 2005 base; and (3) due to the recent drop in corridor traffic volumes, continued use of 2005 data would provide a reasonable and conservative base for future analyses.

The Paramics model was used to generate all future traffic volumes presented in the project DEIS. While the BPM provides estimates of projected travel demand in the corridor, the volumes generated by Paramics represent the projected number of vehicles that would be processed by the corridor's roadways and highways in a given time period. Therefore, as shown in Table 4-4 in the DEIS, while westbound PM peak hour volumes would increase from 2010 to 2017, over the subsequent 30 years those volumes would remain relatively flat. This does not mean that the demand to cross the bridge during that hour would not increase, but rather that in future years the highway corridor in Rockland County could not effectively process more vehicles due to the existing highway's capacity constraints. If peak period volumes in this portion of the corridor were to increase in the future, it would be due to future improvements to eliminate these highway capacity constraints and not due to the proposed Replacement Bridge.

In terms of the issues raised in Comment 4-13:

- The DEIS did address the conditions in the "peak hour peak direction" in the AM and PM peaks - the Replacement Bridge would not increase the number of available lanes in the AM Peak eastbound or PM Peak westbound, and would therefore not result in an increase in traffic.
- The April 2000 report of the Governor's I-287 Task Force presented the results of a planning study performed 13 years ago that used reasonable planning tools for that type of preliminary concept planning study. As such, it did not include the type of comprehensive transportation planning process used for the DEIS, which included the NYMTC BPM, detailed traffic simulation modeling and the most recent comprehensive demographic and economic forecasts. The fact that many of the earlier study's traffic estimates would vary considerably from those presented in the DEIS is to be expected, and does not diminish the validity of the analyses presented in the DEIS in 2012.

C 4-14: The proposal to significantly elevate the causeway is implied to satisfy traffic. The hypothesis implied in the DEIS is that the steep grade on the approach to mid-span is a significant contributor to the accident rate. In reviewing the accident data provided in the DEIS, we find many points of data that point to other factors in the accident rate on the current Tappan Zee Bridge and minimize the need to elevate the causeway portion.

The sharp northerly curve starting at Mile 16.2 at the Rockland side of the landing, just past Interchange 10 (Route 9W), causes eastbound motorist to brake, a condition that would be increased with the curve in the proposed design and placement of the new span.

Accident rates on this section of the NYS Thruway should also be attributed to morning and afternoon sun glare, due to the roadway's unfortunate east-west configuration. As eastbound motorists reach the top of the rise past Interchange 9 (Route 9) and approach the causeway curve, they encounter the morning sun and begin to brake. It is also notable that the accident rate

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is greater at the top of the mid-span, when motorists are again encountering significant sun glare. The rate is also greater on the approach to, and after the midpoint of the Superstructure, we know from experience, due to sun glare and traffic slowing to meet the Tarrytown Toll Plaza. The light / shadow variability is surely a demonstratively adverse condition contributing to a higher accident rate.

While "Following Too Closely" is the primary cause of accidents in the 3-year study period (and could be attributed to vehicles slowing on the approach to the increased grade) the overall Accident Rate for the bridge finds that 13% WB and 12% EB accidents were caused by "Obstruction / Debris". The study period includes the timeframe when the TZB deck was being constantly repaired and temporary steel plates were shifting and causing tire damage. It is a reasonable assumption this is a likely contribution to the higher accident rate than the statewide average."

R 4-14: The proposed design of the Replacement Bridge Alternative would have a positive influence on accident conditions and mobility in two ways. First, correcting a number of the nonstandard features of the existing bridge would reduce accident rates. Second, the availability of full shoulders would substantially improve response times by emergency response vehicles as well as provide a breakdown lane for disabled vehicles; therefore, increasing mobility and safety on the bridge.

The relatively steep grade and curvature on the existing bridge would be reduced with the Replacement Bridge Alternative, which would improve sight distances, reduce the effect of sun glare and create consistency of speed between passenger cars and commercial vehicles. These measures, along with pavement, signage, and lighting improvements would reduce the accident rates identified above as well as the time to respond to and address accidents and incidents. The accident data does reflect the timeframe when Tappan Zee Bridge re-decking was being conducted as well as secondary accidents occurring during the required frequent maintenance activity of the existing bridge.

C 4-15: The accident rate analysis in the DEIS does not clearly show that accident rates would decrease with the planned 12-foot lanes on the new spans. In fact, unsafe driving seems to be the main cause for accidents on the bridge. Moreover, many locations in the corridor also experience higher than normal accident rates. Accordingly, the answers to comments and EIS should more fully explain and analyze whether driver behavior and the capacity restraints of the highway in the corridor would inhibit any mobility gains. As of now, these issues call into question whether the DEIS clearly shows mobility would increase as a result of increased lane width and changed grading and, as such, can meet the Purpose and Need of the project.

R 4-15: Please see response to Comment 4-14.

C 4-16: This section (13-2-2) notes that "Overall, the improvement in lane widths and the addition of shoulders would substantially improve incident management

and reduce the propensity for substantial vehicle delays." However, as noted above, the DEIS does not provide clear evidence that this is the case. Rather, as discussed above, most of the accidents on the bridge result from poor driving, not narrow lanes, so a decrease in accident rates resulting from slightly wider lanes must be explained more thoroughly in the answers to comments and the DEIS.

R 4-16: Please see response to Comment 4-14.

C 4-17: Page 22-4 states "In addition, with narrow land [sic] widths and without shoulders, emergency response on the bridge would continue to be hindered." Are the current lane widths on the bridge so narrow as to, by themselves, hinder emergency response? That is, if the current bridge had a shoulder, how would the current lane widths hinder emergency response? Also, if each new planned span is built with only one shoulder (two shoulders total for the whole project), how would that affect emergency response? Are two shoulders absolutely necessary? If so, how and why?

R 4-17: The current bridge does not have shoulders. Two shoulders are necessary to satisfy standard highway design requirements. The Tappan Zee Bridge currently does not meet the Federal Highway design standards or the NYSTA bridge and highway design standards with respect to such essential characteristics as lane and shoulder widths. Meeting these standards is necessary to improve overall mobility on the bridge by reducing response times for emergency vehicles.

C 4-18: Increased traffic accidents would be significant in number. The DEIS follows the boilerplate methodology required by NYSDOT. However, it fails to account for the increase in the number of traffic accidents due to the significant growth in population and jobs in the region serviced by the TZB, generating nearly 44,000 new daily car and truck trips by 2047 and clogging I-287 and the surrounding local access roads. This error is revealed by how the DEIS reports traffic accidents—in accidents per million vehicle miles of travel. Clearly, as the phrase "accidents per million vehicle miles of travel" suggests, any increase in travel would result in additional traffic accidents. This impact is entirely ignored in the DEIS. It is done intentionally to mask the real impact of population and job growth and to sweep under the rug the real cost to a community for this increase in traffic accidents. By ignoring those effects, the DEIS also ignores yet another justification for including public transit in the proposed Bridge design.

By itself the growth in traffic along the I-287 corridor, generating 16 million more vehicle trips annually would increase annual vehicular travel by 155 million miles of travel and, because of this, produce an additional 470 traffic accidents each year. This impact is entirely ignored in the TZB DEIS. Table 1 (Tables 1 and 2 are in Appendix B) summarizes the traffic accidents estimated specifically for the growth of traffic along the I-287 corridor along with the related externality costs (more than \$23 million in damages annually for traffic accidents alone). On this basis, the growth in traffic along the I-287

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corridor crossing the TZB can be expected to generate 470 additional traffic accidents each year in 2047 including approximately 2 additional road deaths and nearly 160 personal injuries each year due to population and job growth and the resulting increase in vehicular travel. Table 1 provides the details on how these figures were derived.

Table 1 also includes the societal costs of these added traffic accidents not covered by insurance in 2047: more than \$23 million annually in costs to motorists and accident victims. This growth in the number of traffic accidents is acknowledged in the DEIS (Page 4-13): "...traffic volumes would grow and are likely to result in an increase in the number of accidents... on the bridge." This increase in accidents is simply not quantified, nor are vehicle breakdowns (e.g., mechanical failures, empty gas tanks) that total 3 to 4 times as many delays as caused by traffic accidents themselves. At 4 times the number of additional traffic accidents reported new to the TZB corridor by 2047, the Bridge would suffer 6 to 7 additional disruptions each day with obvious consequences for delay.

R 4-18: Future traffic volumes with and without the project would be the same. As compared to the No Build Alternative, the Replacement Bridge Alternative would reduce due to the elimination of a number of non-standard features on the existing bridge (which will make the Replacement Bridge Alternative a safer bridge).

C 4-19: According to the DEIS, in 2010 traffic volumes on the Tappan Zee Bridge (TZB) approach 135,000 on a typical day. Peak hour growth is projected to be 0.3% for each year from 2017 to 2047. The lack of alternative modes would do nothing to reduce this figure and may cause volume to overtake capacity well before intended the service life of the bridge has elapsed. The fact that the future bridge would have an extra lane in the reverse peak direction could potentially generate increased demand for travel. This contrasts with the traffic projections provided in the document, which show a decrease in westbound peak PM travel in future years. It is not clear how such a projection was derived. The DEIS states the project would have no potential adverse effects or cumulative impacts as the project would improve mobility and reduce congestion. The analysis should substantiate whether this would still hold true if the lack of transit options actually increases congestion and the associated emission of greenhouse gases."

R 4-19: The provision of four lanes in both directions on the Replacement Bridge would not result in increased volumes across the bridge (see response to Comment 4-3). The DEIS indicates that westbound PM peak volumes across the bridge would grow slightly up to 2017 but then remain relatively unchanged thereafter due to the limitations posed by highway conditions west of the bridge in Rockland County. The methods by which future traffic volumes across the bridge were developed for the DEIS are discussed in the response to Comment 4-13.

In the off-peak direction, an additional analysis determined that expanding the number of travel lanes from 3 lanes to 4 lanes in the off-peak direction

would not result in a meaningful increase in traffic volumes. Additional details regarding the analysis were presented in the Appendix B of the DEIS.

Transit options are outside the scope of this EIS. The DEIS correctly compared the future condition with the Replacement Bridge Alternative with the No Action Alternative.

C 4-20: We question the use of 2005 as the base year for traffic analysis; 2005 data may not capture pre-recession growth in downtown White Plains. We recommend that these items be addressed in the FEIS.

R 4-20: Please see the response to Comment 4-13 for the rationale for continuing to use 2005 traffic data. All analyses of future conditions in the corridor were then based on projected demographic and economic conditions in the corridor and region for those future years (please see response to Comment 4-13 for further details on the traffic analysis methodology used in the EIS).

C 4-21: Page 1-3 states that “the bridge now carries approximately 134,000 vehicles per day with peak traffic having reached 170,000 vehicles per day.” These numbers are inconsistent with the traffic data collected by the state during 2011 and presented in Appendix B: Transportation, Section B-1 Traffic Volumes. Page 3 of Section B-1 shows that average daily traffic at mileposts 16.6 and 16.8 is much lower than 134,000. In fact, only on Fridays in summer does it appear that traffic reaches 130,000+ vehicles. Most days were near 100,000 vehicles per day. The state must explain this difference. If traffic is in fact much lower than the state suggests, perhaps other project alternatives are available to meet the real needs of the bridge that have not been studied or the Purpose and Need statement misstates the need for this project, in violation of NEPA.

R 4-21: The statement on page 1-3 correctly states the approximate average annual daily traffic volume on the Tappan Zee Bridge. Daily traffic volumes on the bridge fluctuate by day and season of the year. NYSDOT and NYSTA use continuous 24/7 traffic count stations at locations throughout Interstate 87/287 to capture daily and seasonal fluctuations.

The continuous count locations from which the data reported in **Appendix B-1** are not located on the Tappan Zee Bridge itself. The closest continuous traffic count locations are Milepost 16.6 in the eastbound direction and Milepost 16.8 in the westbound location. **Appendix B-1** presents data from these locations collected in 2010.

The location of Interchange 10 (Route 9W), “Nyack-South Nyack-US Route 9W” accounts for the difference in volumes between the field data counts conducted on the bridge and the data from continuous count locations as presented in **Appendix B-1**. Interchange 10 (Route 9W) is located between the Tappan Zee Bridge and the continuous traffic count locations, and traffic movements to and from Route 9W and the Tappan Zee Bridge are not captured by the continuous count data. Despite the variation in traffic

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volumes, the continuous count locations provide a valuable data source to identify temporal, daily and seasonal traffic variations.

C 4-22: The Paramics model is described as being "enhanced based on field conditions for the 2010 (Existing Conditions), 2017 (Estimated Time of Completion, or ETC) and 2047 (ETC+30) analysis years." Yet the state does not have traffic projections or field conditions for 2047. As explained on page 4-4 "NYMTC forecasts continued growth to 2035 for both population and employment, which were assumed to hold constant until 2047..." The question is, of course, is it reasonable to assume that population and employment would remain constant between 2035 and 2047? Table 11-3 pg. 11-10 shows the effect of this assumption on future traffic projections. One can clearly see that no traffic increase is projected between 2037 and 2047, despite a 350 vph increase between 2017 and 2027 and a 730 vph increase between 2027 and 2037 (although 2035 not 2037 was the cutoff). Does the state truly believe that traffic volume would not increase at all between 2035 and 2047? If, unlike the state's assumption, there are increases in population and employment, that means more traffic, which would render the traffic analysis in the DEIS meaningless. Also, more traffic could mean other alternatives warrant consideration. Assuming no population, employment and traffic increases for 12 years on the bridge and in the corridor appears arbitrary. Please explain the justification for this assumption in the answers to comments. The EIS traffic projections should represent actual increases that would result from increases in population and employment between 2035 and 2047.

R 4-22: The statements on page 4-4 regarding demographic and employment growth between 2035 and 2047 have been revised. The revised narrative more accurately reflects the modeling methodology. The methodology on which the growth between 2035 and 2047 was based was developed in consultation with NYMTC staff to establish demographic and employment growth over the 12-year period. The growth projections for 2047 were then used in the BPM to establish regional travel demand for that year.

In addition, Table 11-3 in the DEIS has been corrected to show the projected bridge volume projections for 2037. The bridge traffic for the interim analysis years of 2027 and 2037 used the reasonable planning assumption of a constant growth rate between 2017 and 2047 and was used to establish the volumes for 2027 and 2037.

As discussed in the response to Comment 4-13, the Paramics model runs were adjusted as needed to reflect likely reasonable conditions in the field (e.g., traffic signal adjustments similar to those routinely implemented by traffic agencies were assumed to occur rather than project erroneous future condition that would be unnecessarily congested in the absence of such adjustments). Future roadway conditions were assumed to be the same as those under existing conditions unless improvements identified under the No Build Alternative were projected to change those conditions. The analyses

then used the BPM-based projection in corridor travel demand for the analysis of future traffic conditions

C 4-23: In addition, the DEIS does not adequately explain why traffic projections are so different from the Tappan Zee Bridge/I-287 Corridor Project projections in the 2006 Alternatives Analysis. That document stated on page 4-28 "the Tappan Zee Bridge, would experience a demand that is over capacity in each and every hour of the peak periods (both AM and PM)." More specifically, on page 4-17 the east bound AM peak hour vehicle volume entering the bridge in 2025 is projected to be 8,800 vph - above the bridge's capacity of 8000 vph.

Table 4-4 pg. 4-13 of the DEIS states, however, that even in 2047, the bridge would not be operating at capacity. Again giving a specific example, the eastbound AM peak hour vehicle volume on the bridge in 2047 is projected to be 7,668 vph. Essentially, the DEIS's analysis seems to say that, despite using the same traffic models as the previous study, over 1,000 less cars would be on the bridge in the eastbound morning peak period than predicted only a few years earlier. This is especially surprising since the analysis year was 2025 for the Tappan Zee Bridge/I-287 Corridor Project not 2047 in the DEIS. One would expect that more not less traffic would be on the bridge in 2047 than 2025, not the other way around. The answers to comments and EIS must explain this change. Without it, the public and decision makers cannot understand what traffic data is correct.

R 4-23: The analysis procedures, methodologies and data used to produce the traffic projections in the DEIS were very different from those used over six years earlier to prepare the Tappan Zee Bridge/I-287 Alternatives Analysis ("AA Study"). Both depended on the BPM model for its overall travel demand growth projections. However, two factors must be understood:

- The BPM itself has evolved considerably over this period, and the calibrated model used for the DEIS is not the same model used in 2005.
- The demographic and economic projections included in the BPM substantially drive its demand projections; however, those included in the 2005 model runs completed for the AA Study were substantially different from those used for the DEIS analyses.
- In addition, the traffic analyses prepared for the DEIS were done differently than those in the AA Study. The AA study's projected bridge volumes came directly from the BPM output, which is reasonable for this early corridor-level planning study that was looking at a wide range of alternatives. However, BPM assignments to roads, highways, and river crossing are not fully capacity-constrained, and can assign volumes to a route that would exceed its effective capacity.
- As discussed in greater detail in the response to Comment 4-13, the 2047 bridge volumes presented in the DEIS reflect a more detailed two-step planning process appropriate for the greater level of scrutiny required for a DEIS. The Paramics model directly reflects all capacity

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constrained along that corridor, providing an estimate of how many vehicles would actually get to and cross the bridge.

It is therefore understandable that individual numbers from a very different type of study performed six years earlier would not match those included in the DEIS, which were based on the most recent demographic and economic projections agreed to by the region's transportation agencies and most up-to-date and appropriate modeling procedures suitable for a major projects such as the Tappan Zee Hudson River Crossing Project.

C 4-24: Because the DEIS states "The traffic growth projections for the Replacement Bridge Alternative are the same as for the No Build Alternative," all of the preceding problems with respect to the No Build Alternative highlighted above apply to the Replacement Bridge Alternative as well [this comment refers to the following statements: 1) the Tappan Zee Bridge/I-287 Corridor project study found that the bridge could reach and exceed capacity while this DEIS says that this is impossible; and 2) there are internal inconsistencies between the traffic data contained in Table 4-4 and Table 11-3 of the DEIS].

R 4-24: Please see the responses to Comments 4-22 and 4-23.

C 4-25: The DEIS reports (Page 4-4) that Rockland County would grow by 50,000 residents between 2010 and 2047 (a 16% increase) and by 47,000 jobs (a 32% increase) during that same period; And that Westchester County would grow by 134,000 residents (a 14% increase) and by 160,000 jobs (a 30% increase) between 2010 and 2047. This information is important because auto travel increases approximately in proportion to jobs during peak travel periods and approximately in proportion to population during off-peak periods. Moreover, there is a huge disparity in the location of jobs (for example, 160,000 new jobs in Westchester County) and the location of potential employees (of the 134,000 new residents in Westchester County less than half would be available to fill the 160,000 new jobs). In other words, there would be a lot of additional travel into and out of Westchester County to fill these new jobs, many along I-287 and across the TZB. It is not clear how this was accounted for in the DEIS, nor whether or not the DEIS accounts for all this growth. Presumably this was done in the two models used but no details or data are provided for public review and analysis.

Compare these figures with those presented in Table 4-4 (Page 4-13) of the DEIS Chapter 4, "Transportation." While the baseline used in Table 4-4 is 2005 not 2010 presented in Appendix B: Transportation, B-1, Traffic Volumes, which presents traffic volumes that are lower than reported in 2005 (the DEIS explains that this is, in part, a result of the 2008 economic collapse and the consequent loss of jobs), Table 4-4 does provide some insights. In particular, the growth in traffic during peak hour peak direction of travel. Despite the growth of population and jobs reported above, the DEIS reports that traffic across the TZB would increase by just 4% from 2005 to 2047 in the eastbound direction in the AM peak hour (compared to a 30%

increase in jobs in Westchester) and by 15% in the westbound direction in the PM peak hour. In the off-peak direction, the DEIS reports considerably greater increases: 43% in the westbound direction (AM peak hour) and 51% in the eastbound direction (PM peak hour). Considering how many new jobs are projected for Westchester County (and further to the east in Connecticut), the peak direction peak hour projected traffic growth appears to be significantly underreported. And what about the peak hour peak direction shoulder hours? Does all this additional growth spill over into these hours and, if so, what effect does this spillover have on traffic on the TZB and the toll plaza? The DEIS is silent (See discussion of the Governor's I-287 Task Force report below).

Note also that 65% of eastbound TZB person trips originate in Rockland and Orange counties and 63% of total person crossings are destined for Westchester County and Connecticut. (Reference "Origin-Destination Survey Results Summary," March 2004, DEIS appendix.) No discussion is included in the DEIS. The DEIS should account for traffic conditions for each hour of the day. The models used for this project have the capability of evaluating such impacts and, apparently, the data are available. Perhaps this has been done and is simply not reported. If so, why?

R 4-25: The transportation planning procedures used to support the analyses in the DEIS fully account for all projected changes in employment, population and workforce patterns in the corridor and throughout the region and uses those changing patterns to estimate future travel demand (please see the response to Comment 4-13).

The travel demand studies provide estimated travel demand for conditions throughout the day. However, consistent with state and federal guidelines for the analysis of this type of highway facility, the DEIS focused on conditions in the peak periods and in the peak directions in those periods to determine the ability of the Replacement Bridge Alternative to handle projected future demand. It is assumed that facilities with sufficient capacity to handle peak demands could then be assumed to can also handle traffic in periods with lower volumes.

C 4-26: The Best Practice Model (BPM) travel forecast data entered into the Paramics Microsimulation Model are an important foundation to understanding and visualizing the future impacts on the bridge and corridor. Rockland County requests that the project show the Microsimulation Model for the entire Rockland & Westchester Corridor, and show this simulation for the five (5) years of construction. Most importantly, Rockland requests to see the model run of what the traffic volumes in the corridor (from Suffern to Nyack) would look like after the bridge is completed and with no dedicated transit in the corridor (the year 2047).

R 4-26: Details on the application of the microsimulation model, including the source of the bridge volumes included in the DEIS as well as volumes elsewhere along the corridor, are contained in the *Tappan Zee Bridge/I-287 Corridor*

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Project: Technical Report 1 – Traffic (April 2011) presented in **Appendix B** of the FEIS.

Traffic simulations require detailed information about roadway design. While the selected design-build contractor will be required to maintain certain minimum lane conditions throughout construction, the exact manner in which these conditions are provided and phased will be at the discretion of the design-build contractor. While preparation of a micro-simulation model to analyze traffic operations during construction is not possible at this time without those details, the selected contractor will be required to demonstrate that reasonable traffic operations will be maintained throughout construction. The DEIS, however, did include an evaluation of the impact of construction-related traffic on weaving conditions on Interstate 87/287 near the Rockland County maintenance ramp. The findings of those studies are presented in a technical memo contained in **Appendix B** of the FEIS.

C 4-27: The traffic analysis reports use of two models to examine and simulate traffic operations along the TZB: NYMTC’s Best Practices Model (BPM) and the Paramics microsimulation model. However, except for a brief one-page summary of results (Table 4-4, and the March 2004 report, “Origin-Destination Survey Results Summary”), little detail is provided for review in a format that non-modelers (and even modelers) can understand. Indeed, except for the report “Origin-Destination Survey Results Summary,” no other modeling results appear to be presented in the DEIS and what is presented is for the wrong direction (See DEIS, Table 4-4). This is a problem first because we are forced to take on faith the assertions based on unknown assumptions and input data.

The DEIS at Page 4-5 reports on the estimated capacity for the proposed 10-lane toll plaza serving eastbound travel. Based on figures provided, toll plaza capacity is limited to about 5,400 passenger cars an hour based on the configuration described (this is for passenger cars alone; it would be less once trucks are factored into the equation).

The DEIS describes severe backups eastbound during weekends because reportedly less than 60% of weekend motorists use E-ZPass (DEIS, Page 4-5). However, if the toll plaza is limited to processing just 5,400 vehicles per hour it is likely that backup would occur for much of the day in 2047 even with the low-balled estimates reported in the DEIS for travel in 2047. But the DEIS is again silent on the matter. Where are the toll plaza modeling results for this project? There are plenty of approved models that could be used if the project’s consultants have not already completed such modeling. The DEIS must be augmented with modeling results including various scenarios to establish whether or not sufficient capacity is available in 2047 to accommodate all future traffic or if the toll plaza must be expanded.

R 4-27: Further details regarding the transportation analyses procedures used for the DEIS are described in the response to Comment 4-13. The traffic studies for the future design of the toll plaza are included in **Appendix B** of the FEIS. The information presented in these reports is derived from the

extensive simulation studies that were performed to (1) help determine the future design of both the toll plaza and of the highway lanes approaching and departing from the plaza, and (2) analyze conditions in the plaza and on adjacent highway and bridge segments under those designs. These analyses were based on a detailed capacity and throughput analysis of the toll plaza, which assumed the construction of a 10-lane toll plaza comprised of three, highway speed E-ZPass lanes and seven cash/E-ZPass lanes. Based on initial assessments of this toll plaza configuration, the simulation studies recommended that the Replacement Bridge to the plaza be widened to five-lanes in the segment leading up to the toll plaza to provide three lanes feeding directly into the highway speed E-ZPass lanes to maximize their capacity.

Those studies confirmed the following for peak weekday operations: (1) under all build alternatives in 2017, the toll plaza could handle peak traffic volumes without any substantial delays; and (2) in 2047, there would be some delays at the toll plaza, between the toll plaza and Interchange 9 (Route 9), as vehicles maneuver to get off at Interchange 9 (Route 9) or continue east on the highway.

For weekend operations, overall peak volumes would be considerably lower than on weekdays. However, the E-ZPass utilization of approximately 60 to 65 percent on weekends in recent years versus 90 percent on weekday peak periods would create routine queues and cash-lane back-ups that would create delays at the toll plaza. An increase to the 70 to 75 percent range for E-ZPass usage would substantially reduce weekend toll plaza congestion. Recent traffic data from the New York State Thruway for 2011 indicate a growing trend toward a higher weekend E-ZPass market share, averaging at 72 percent, indicating a trend that would result in adequate toll plaza operations during weekend peak periods.

- C 4-28:** NYMTC is now working with the 2011-2015 TIP, which lists operational funds for the Orange-Westchester Link and the Tappan Zee Express Bus, but no funds for expansion studies. The FEIS should include any appropriate updates.
- R 4-28:** The TIP has been revised and the FEIS incorporates appropriate updates.
- C 4-29:** The redesign of the South Broadway overpass should take into consideration the guidelines of the Federal Safe Routes to School (SRTS) Program.
- R 4-29:** As a result of the proposed design refinements at the Rockland County landing, the South Broadway Bridge is no longer being reconstructed.
- C 4-30:** This section states "a traditional Level of Service analysis was not conducted as part of the traffic analysis." The explanation given for not doing that analysis is that the Highway Capacity Manual identifies limitations for a freeway facility like the Tappan Zee Bridge. However, the 2006 Alternatives Analysis ("the AA Study") includes Level of Service analysis on pages 4-17

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and 4-19. Please explain why the Level of Service analysis was planned in the old DEIS but is not being done here in the answers to comments and the DEIS.

R 4-30: Level of Service (LOS) values presented for segments of the corridor in the AA Study, including those shown for the bridge segment, were approximate LOS values based on corridor volume, capacity and travel speed estimates taken directly from the BPM.. These types of very approximate LOS projections are appropriate for an early corridor planning assessment such as the AA Study. However, those procedures, as well as those based on Highway Capacity Manual guidelines cannot provide the type of detailed traffic analyses needed to assess a dynamic and complex system such as the Tappan Zee Bridge and its associated toll plaza operations. For these reasons, detailed traffic simulation studies were used for the EIS.

C 4-31: Any new design for the South Broadway Bridge should improve upon existing conditions. The Village's objectives for the overpass include addressing the following aspects:

- Traffic safety;
- Accessibility, safety, and ease of transit for pedestrians and bicyclists;
- Connectivity of parklands and trail ways, both across the Thruway and interconnecting to the new bridge's shared-use path; and
- Visual impacts and aesthetics of the overpass.

The current overpass is curved and arched and, according to our police department, presents a traffic safety hazard. Any new design should attempt to straighten the overpass roadway and minimize its arch.

It has become apparent that certain self-imposed, pre-conceived constraints limit the design choices that would further the Village's objectives and reduce the impacts on the Village. The most limiting constraint is to hold the Thruway roadway surface below South Broadway to its existing elevation. This starting point plus the Federal 16.5 foot clearance standard leads to the taller, more serpentine design proposed. The Village is not attempting to dictate the flow of Thruway traffic and recognizes the shifts that would occur during construction and the need to meet Federal standards. The Village asserts that both the Authority's and Village's objectives can be met if the Thruway roadway surface is lowered. The Village proposes that the new overpass be designed to:

- 1) be a "straight shot", connecting the north and south portions of South Broadway.
- 2) include a pedestrian and bicycle "friendly" crossing to connect the north side of Broadway and the new shared-use path to Elizabeth Place Park.
- 3) be self-supporting without excessive overhead superstructure.

We understand that to accomplish this, the Thruway roadway surface would have to be lowered. We do not see any reason why this could not be done and still meet the Authority's needs for the project. We request that the Authority seriously consider this proposal and draft a design that meets these objectives. The Village remains willing and eager to continue discussions on trade-offs among designs."

- R 4-31:** Please see response to Comment 4-29.
- C 4-32:** There must be a more robust discussion of the effects on community character with the addition of an eighth lane. As noted above, this lane could potentially induce traffic volumes on the bridge and in the corridor because the adjacent roadways obviously do not restrict non-peak direction capacity to current traffic volumes. A mere conclusion statement that non-peak direction traffic volumes would not increase is insufficient. This is exactly why NEPA mandates project proponents "rigorously explore and objectively evaluate all reasonable alternatives, and...devote substantial treatment to each alternative considered in detail including the proposed action so that reviewers may evaluate their comparative merits." Without more analysis, the project cannot meet the environmental review requirements, including 40 CFR 1502.14, 40 CFR 1502.16 or 6 NYCRR § 617.9.
- R 4-32:** The provision of an eighth lane under the Replacement Bridge alternative would not increase traffic in the corridor (see response to Comment 4-3) and the Replacement Bridge Alternative would not result in any traffic-related impacts on community character.
- C 4-33:** Another problem with the traffic data in the DEIS is that it is inconsistent. Table 4-4 on page 4-13 projects different total bridge traffic volumes than Table 11-3 on page 11-10. (Omitted table comparing total bridge traffic volumes from Table 4-4 of the DEIS with Table 11-3 of the DEIS).
- R 4-33:** Table 11-3 in the DEIS has been revised to show the correct bridge volume projections for 2037, which were misstated in the DEIS. Please see the response to Comment 4-22.
- C 4-34:** Future truck traffic is forecasted to increase, how does your analysis take into account future truck growth?
- R 4-34:** The BPM model on which assessments of future travel demand and traffic conditions are based provides estimates of overall changes in truck freight demand within and through the NYMTC region and the projected assignment of those movements to major corridors. The analyses in the DEIS for 2017 and 2047 reflect the results of these projections.
- C 4-35:** The statement that the Rockland County shared-use path would connect to the Esposito Trail via the South Broadway Bridge in South Nyack is incorrect. The shared-use path terminates at South Broadway near the intersection of Cornelison Avenue. The Esposito Trail traverses Interstate 87/287 via the Route 9W overpass, approximately 500 feet northwest of the

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path terminus. There is no proximate access to the trail from the path terminus. The nearest connections to the Esposito Trail are where it crosses South Broadway approximately 1/4 mile to the south or at the intersection of Clinton and Franklin, about 1/2 mile away.

- R 4-35:** The current conceptual layout of the shared-use path indicates an access point at the end of Smith Avenue, west of Piermont Avenue, on the north side of the Interstate 87/287 right of way. The shared-use path would not connect directly with the Raymond G. Esposito Trail.

Specific design issues such as traffic control at the access to the shared-use path from Smith Avenue, signage and pavement markings on the shared-use path, and final location and alignment would be addressed as part of the design-build process.

- C 4-36:** Section 4-5-2-4 states: “The shared-use path would increase the public’s access to trail systems and bicycle routes on both sides of the Hudson River and would substantially enhance mobility of cyclists and pedestrians.” (Note: The statement is repeated in Table S-1.) No evidence is presented to support this assertion. No studies have been conducted of existing bicycle and pedestrian traffic patterns and volumes, nor any projections of changes with the addition of new path.

- R 4-36:** While it is not anticipated that the proposed shared-use path would tie in directly to the trailway systems on each side of the Hudson, the Replacement Bridge Alternative would provide a multi-modal facility not provided on the current bridge. Since the shared-use path would provide direct connectivity between the east and west sides of the Hudson River for cyclists and pedestrians, it can be expected to increase mobility on the adjacent trails system.

Despite the presence of well-connected trailway systems on either side of the Tappan Zee Bridge, currently cyclists and pedestrians are prohibited from crossing the bridge. The nearest Hudson River crossings for cyclists and pedestrians are the George Washington Bridge, 15 miles to the south, and the Bear Mountain Bridge, 18 miles to the north.

- C 4-37:** In section 4-4-2, the EIS should state, “at the Tappan Zee Bridge, the existing shipping channel is 600 feet wide with a ‘minimum’ vertical clearance of 139 feet at mean high water.” This reference to “minimum” clearance should appear throughout the document.

- R 4-37:** Section 4-4-2 of the FEIS has been revised to address this comment.

- C 4-38:** The EIS ignores the potential of bicycling as a transportation mode; the EIS only addresses bicycles in terms of recreational use. The EIS should also evaluate and recommend the infrastructure improvements needed for safe bicycling and secure bicycle parking, to take full advantage of this opportunity.

- R 4-38:** The Replacement Bridge Alternative would provide for trans-Hudson access for bicyclists and pedestrians. The shared-use path could be used for either recreational or transportation purposes. The project would not preclude any off-site accommodations for cyclists and pedestrians outside the NYSTA right-of-way.
- C 4-39:** The EIS should review TIP projects that might impact non-motorized bicycle or pedestrian travel, as was done for motor vehicles projects. There are currently many small but potentially catastrophic impediments to non-motorized travel within the TZB impact area. Note in the error discussion below, that the TIP description of a road "improvement" project along a section of Route 9A that is unsafe for bicycle travel, has no mention of encouraging, much less allowing for, safe local and through bicycle use.
- In Section 4-5-1-1, the DEIS cites TIP ID # is 810332. The project is not located on Route 9 as stated, but is actually along Route 9A/Saw Mill River Road, north of Route 119 in Elmsford to Executive Boulevard. Although this Route 9A TIP project is not directly part of the TZB project, it on one of the bridge's bicycle feeder routes. Therefore, note that this Route 9A reconstruction project should be reviewed by NYSDOT and the County to see if the new work corrects the currently unsafe conditions for bicycling along this segment of Route 9A. The roadway is 4 narrow lanes, with inadequate lane space for motorists to safely overtake and pass a bicyclist. Would adding the proposed center median correct the significant safety deficiency?
- R 4-39:** Improvements beyond the right-of-way of the New York State Thruway are beyond the scope of this project. The FEIS has been revised to reflect the correct reference to Route 9A/Saw Mill River Road. Please see response to Comment 4-28 regarding the TIP.
- C 4-40:** Please correct the information for the TZx & OWL bus systems. The TZx bus service operates Monday to Saturday (not seven days a week). The OWL bus service is operated by Coach USA Shortline (not Short Lines) and operates Monday-Friday.
- R 4-40:** The FEIS has been revised to reflect these details.
- C 4-41:** The DEIS omits Putnam N/S County Rail Trail, and Routes US 9 and 9A as the major regional paved north-south bicycle routes accessing the bridge in Westchester County. It also omits Bike Route 9 along Route 9W corridor /and other roads/trails in Rockland.
- R 4-41:** These trails are noted in Chapter 7, "Parklands and Recreational Resources, of the FEIS.
- C 4-42:** The DEIS discusses projects on the TIP that may increase bus service across the bridge. The document states, "The Rockland County Department of (sic) Transportation is studying an expansion of the Tappan Zee Express system, which may result in higher frequencies on existing routes as well as

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new routes between Rockland County and points east via the Tappan Zee Bridge. NYSDOT is study (sic) new Orange-Westchester Link (OWL) bus service between Route 17 (I-86) and Westchester County with connections to other services (Tappan Zee Express, I-bus & local service)." These statements are factually incorrect.

The Rockland County Department of Public Transportation's TIP project to purchase vehicles for TZx service expansion has been pushed back until at least 2018, due to lack of operating funds. That project is NOT included in NYMTC's 2008-2012 TIP. In addition, the OWL bus service is an existing service - not new - and already provides connections to the listed services. Therefore, the DEIS should be corrected to no longer state that, "these new or expanded services would increase transit ridership across the Tappan Zee Bridge."

- R 4-42:** The FEIS has been revised to remove this language.
- C 4-43:** Please add that bicycles are allowed to be placed under all TAPPAN ZEEExpress (TZx) buses in the luggage compartments at no extra cost. The newer TZx buses feature Sportswork bike racks in the luggage compartment.
- R 4-43:** Comment noted.
- C 4-44:** Page 2-4 of the DEIS states, without any supporting evidence, that "[o]n the Westchester [side], the required horizontal curvature would be less than the minimum required for the required design speed and would be unacceptable." I did not see any analysis of this conclusion in the form of maps or other renderings that would depict this supposedly unacceptable curvature. Nor was there any analysis of potential designs that would mitigate or address this alleged problem.
- R 4-44:** A replacement alignment south of the existing bridge would require the eastbound highway to turn at a radius of 1,850 feet to 1,960 feet and would not allow sufficient length to transition from the curve to the tangent section prior to the toll plaza. This would be a highly unsafe situation with sub-standard stopping sight distance. This alignment would also preclude future transit unless the transit was to run at 36 mph or less.
- This scenario is tighter than the 2,040 feet maximum radius at 6 percent superelevation, which are the maximum allowable radii and superelevation for this particular situation for the design speed.
- C 4-45:** Weekday E-ZPass usage is about 90 percent, whereas weekend E-ZPass usage is less than 60 percent, which creates backed-up queues of cash-paying drivers that block access to the E-ZPass lanes and occasionally queue back onto the bridge, creating further traffic delays. While the Replacement Bridge Alternative provides a needed improvement by including a third highway speed E-ZPass lane (one more than the currently-existing two highway speed E-ZPass lanes), more can be done. If it is ultimately found that a replacement bridge is the proper alternative, then an

expansion of the number of total E-ZPass toll booths, an increased marketing campaign encouraging E-ZPass use and purchase, and a greater increase of high-speed E-ZPass lanes beyond the three planned lanes would benefit traffic congestion and help alleviate many of the traffic concerns mentioned in the DEIS.

R 4-45: Please see the response to Comment 4-27.

24-2-5 CHAPTER 5: COMMUNITY CHARACTER

C 5-1: Several commenters suggested that the Tappan Zee Hudson River Crossing Project provides an opportunity to recreate and revitalize the economic center of South Nyack, which was devastated when the original highway and bridge was constructed in the 1950s. Interchange 10 (Route 9W) is now a prominent feature of the Village creating an eyesore and an unattractive gateway to the community. Several commenters urged for improvements to the area around Interchange 10 (Route 9W)—through reconfiguration, creation of a park, transfer of land to the Village, or business and residential development, etc.—to improve the character, economy, tax base, and connectivity of South Nyack. The proposed project will acquire properties and take them off the tax roll. The project should be integrated with local developments plans and help strengthen the community, which would also be consistent with the New York State Smart Growth Public Infrastructure Act and the project goal of maximizing public investment. Some commenters called for the State to work with the Village to set up at least a footprint for potential future development and to ensure that the project does not preclude future initiatives. All parties must be at the table to explore realistic possibilities regarding financial opportunities.

R 5-1: The Replacement Bridge Alternative, as presented in this FEIS, would not involve substantial takings within the Village of South Nyack. The construction area would be reduced from what was presented in the DEIS, and would no longer include the reconstruction of the South Broadway bridge, or any improvements in the vicinity of Interchange 10 (Route 9W). In addition, the Replacement Bridge Alternative would not preclude the future development of parks or other community and economic resources. It is noted that NYMTC's 2010-2035 Regional Transportation Plan was recently revised to include a feasibility study for the contemplated "lid" park and this change is analyzed in Chapter 5, "Community Character," of the FEIS. A draft copy of the Village of South Nyack Comprehensive Plan was also provided as a comment on the DEIS, and is also analyzed in Chapter 5. Finally, the statement that "the project should be integrated with local developments plans," is not a comment on the DEIS.

C 5-2: South Nyack will bear the brunt of this project, as it did with the original construction of the Tappan Zee Bridge and highway. South Nyack is the only place where houses are being taken. The State claims that these impacts will be insignificant. The Village will lose population and tax base, meaning everyone else's taxes will rise. This is a sacrifice for which South Nyack gets

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not much in return. It's unconscionable to expect South Nyack to bear the burdens of this project, especially when the replacement bridge will do absolutely nothing to alleviate traffic congestion, noise, or air pollution.

- R 5-2:** The Replacement Bridge Alternative, as presented in this FEIS, would not involve the taking of any homes within the Village of South Nyack. Takings within the Village of South Nyack would be limited to the Bradford Mews Apartments parking area, which includes a Fee Acquisition of 3,183 sf, and a Permanent Easement of 5,504 sf, which is a change from the DEIS
- C 5-3:** Having borne the burden of the construction for the first Tappan Zee Bridge, South Nyack is rightfully up in arms over the unsightly vehicle pound that exists on the Thruway and the proposed police barracks. At present, the vehicle pound is an eyesore providing an inauspicious welcome to Rockland County, to say the least. I stand with the Village in opposition to the new construction of Thruway buildings. The land should be used for the Village to regain economic stability. South Nyack has sacrificed enough during the Tappan Zee 1.
- R 5-3:** As part of the Replacement Bridge Alternative, the bridge landing area will be redeveloped. In addition, the number of buildings within the Interstate 87/287 right of way will be reduced, and screening will be added to the north side of Interchange 10 (Route 9W). Efforts will be made to reconstruct the Thruway buildings and adjacent parking areas in a way that minimizes their visual impact on nearby residences.
- C 5-4:** Section 5-5-2-1 states: "...the project would be expected to preserve and enhance the quality of life and character of the communities and neighborhoods in the study area". There is no credible evidence presented that the character of the Village of South Nyack will be "enhanced". Chapter 5 overstates the benefits of the replacement and claims no adverse impacts. The benefits to South Nyack are speculative and minimal at best. The service improvements on the bridge will have an insignificant effect on overall mobility and any improvements bring no measurable benefit to South Nyack. (Community Character 1C)
- R 5-4:** The Replacement Bridge Alternative is expected to preserve and enhance the quality of life and character of the communities and neighborhoods in the study area as a result of the improvements to access, mobility, and safety as well as fewer instances of travel delays because of the addition of shoulder and emergency access as further evaluated in Chapter 4, "Transportation." See also response to Comment 5-5 below.
- C 5-5:** Section 5-5-2-1 states that "the project would be expected to preserve and enhance the quality of life and character of the communities and neighborhoods in the study area as a result of the improvements to access, mobility, and safety." How can this be stated if there are to be no real improvements to the structure of the bridge, i.e., number of lanes, transit components, etc.? The only enhanced quality of life that could occur with

this bridge proposal, since no transit components are being implemented, would be when there are emergency situations on the bridge - and access time to arrive at the scene by emergency vehicles would be lessened. Congestion, noise, and visual impacts will continue with the construction of the new bridge, impacting the surrounding residential neighborhoods. Removal of any existing residences will have a negative impact to the remaining surrounding dwellings, as they will now experience greater noise, visual, and pollution impacts. In addition, land takings in the Village of South Nyack, though minimal, should not be minimized, as the Village has already experienced great economic impacts from the original bridge construction. Removal of even a small green space should be mitigated by provision of a comparable green space somewhere else in the Village. (Community Character 1D)

R 5-5: The existing Tappan Zee Bridge does not meet current NYSDOT bridge and highway standards with respect to lane and shoulder widths. Some of the lanes are narrower than the standard 12-foot lane and the bridge has no shoulders. Since damaged or disabled vehicles cannot be moved to a shoulder, they block the general traffic lanes until they can be removed from the bridge, resulting in lengthy traffic delays. The Replacement Bridge Alternative would improve transportation operations and safety on the crossing by:

- Ensuring compliance of horizontal and vertical geometry with current engineering design standards, as practicable;
- Providing for horizontal geometry that maximizes sight distances;
- Providing for vertical geometry that minimizes grade changes;
- Providing for standard, 12-foot traffic lanes;
- Providing for adequate separation of eastbound and westbound traffic;
- Providing for shoulders that meet current engineering design standards;
- Eliminating reversible traffic lanes;
- Providing for security infrastructure to monitor bridge operations; and
- Providing for improved emergency response.

The Replacement Bridge Alternative would also include the addition of a multi-modal pedestrian and bicycle shared-use path not provided on the current bridge. The proposed shared-use path would provide direct connectivity between the east and west sides of the Hudson River for cyclists and pedestrians.

Furthermore, the Replacement Bridge Alternative considers the use of noise walls to shield residential neighborhoods from the noise generated by the wider right-of-way, pursuant to federal regulations and state policy. Noise walls would also serve to mitigate any visual impacts of the Replacement Bridge Alternative by shielding views of Interstate 87/287 corridor.

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In addition, the refinements to the Rockland County landing for the Replacement Bridge Alternative avoid the removal of the un-named green space in South Nyack.

- C 5-6:** The Replacement Bridge Alternative will cast a shadow over the pool at The Quay and make its amenities unusable.

The Replacement Bridge Alternative would be located 100 feet north of the existing alignment, and would be 8 feet taller at the Westchester landing than the existing bridge. At its closest point, the Replacement Bridge Alternative would be 125 feet from The Quay condominium pool, which is 90 feet closer than the existing Tappan Zee Bridge. Shadows are longest in the winter months, and in the early morning and late afternoons, which are generally not peak times for outdoor pool use. Since the bridge is located southwest of the pool, shadows from the bridge would be cast in the general direction of the pool in the afternoon. However, there is an existing building and trees between the bridge and the pool which would cast shadows over the pool before the any shadows from the bridge would potentially reach the pool. As such, it is not anticipated that any shadows from the bridge would affect the use of the outdoor pool during the summer months. The proposed replacement bridge will be built right next to Salisbury Point Cooperative, and as such, will have a significant impact on both quality of life and property values for all of the residents of Salisbury Point Cooperative.

- R 5-6:** The Replacement Bridge Alternative would be separated from the Salisbury Point Cooperative by the Bradford Mews Apartments and River Road. Although the Replacement Bridge Alternative would be constructed 100 feet to the north of the existing Tappan Zee Bridge at the Rockland County landing, the portions of the bridge nearest the Salisbury Point Cooperative would be constructed generally along the same alignment as the existing Tappan Zee Bridge.

- C 5-7:** Salisbury Point Cooperative cannot afford a delay in emergency response times from construction or operation of the Replacement Bridge Alternative as it has many older and elderly residents.

- R 5-7:** Local traffic delays during the construction period will be minimized by the use of new ramps and barges and emergency response will not be impeded. Once in operation, the Replacement Bridge Alternative will improve emergency response times over existing conditions because it will meet NYSDOT bridge and highway standards with respect to emergency lane and shoulder widths.

- C 5-8:** The Replacement Bridge Alternative will result in a host of issues such as traffic, air pollution, noise, and economic effects that will diminish the quality of life for residents on both sides of the Hudson River.

- R 5-8:** As discussed in the DEIS, the Replacement Bridge Alternative would not increase traffic, noise, or air pollution within the study area. The bridge is a vital link in the regional and national transportation network, and its

continued, safe operation is essential to the local and regional economy. However, the continued degradation or potential loss of this important link between Westchester and Rockland Counties would have devastating consequences on access and mobility throughout the region.

- C 5-9:** The realignment of Elizabeth Place and South Broadway will leave residents on Elizabeth Place more exposed to traffic, noise, dust, and air pollution from South Broadway and the NYS Thruway. The realignment of Elizabeth Place will bring local traffic closer to some homes.
- R 5-9:** The Replacement Bridge Alternative, as presented in this FEIS, would not alter the existing conditions of Elizabeth Place or South Broadway. The limits of construction would terminate before the existing South Broadway bridge over Interstate 87/287.
- C 5-10:** The proposed replacement bridge will be built right next to The Quay. It will have a significant impact on both quality of life and property values for all of the residents of The Quay.
- R 5-10:** The Replacement Bridge Alternative is not anticipated to significantly impact the quality of life or property values of The Quay. Residents in the southwest buildings of The Quay condominiums and residents using its tennis courts and pool have existing views of Interstate 87/287 and the Tappan Zee Bridge. Although the Replacement Bridge Alternative would be located 100 feet north of the existing alignment, and thus closer to The Quay, the Replacement Bridge Alternative would not substantially alter the visual character of the highway, and residents would continue to have views of a highway with a toll plaza. The DEIS has examined air quality, noise, safety, and community character impacts, and mitigation measures are proposed where applicable. Proposed mitigation measures include a new noise wall between the bridge landing and The Quay to further mitigate any impacts to quality of life or property values.
- C 5-11:** Describe the effects that each design option will have on local residents and commuters.
- R 5-11:** This FEIS presents a detailed analysis of each design option, which takes into account local residents and commuters. The commenter is referred to the FEIS in its entirety.
- C 5-12:** The DEIS fails to explore increased demands on local emergency services, particularly due to the new shared-use path.
- R 5-12:** The operation of the project would not result in any increase in demand of any community facilities. The structural, operational, mobility, safety, and security improvements associated with the project would have a beneficial impact on safety and emergency response times. As required by the Design-Build Contract Documents (Part 3 § 21.3), the design of the shared-use path would conform with the Americans with Disabilities Act Design Guidelines and American Association of State Highway and Transportation Officials

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(AASHTO) design guidelines. The proposed shared-use path is anticipated to serve primarily as a transportation route rather than as a destination park, as it would not include recreational amenities such as restrooms, concessions, or parking. While some emergency services will likely be required to respond to users of the shared-use path, these responses would be offset by the anticipated decrease in responses to vehicular accidents on the bridge resulting from the improvements.

- C 5-13:** On February 23, 2012, NYMTC amended the 2010-2035 Regional Transportation Plan to include studying South Nyack's proposal for an economic and recreational development in the area of Interchange 10 (Route 9W). This project is intended to interface with the new bridge, particularly the shared-use path. The FEIS should note that planning for South Nyack's development is now part of the RTP.
- R 5-13:** The DEIS was published on January 18, 2012. Chapter 5, "Community Character," of the FEIS has been revised to include a discussion of NYMTC's recent revisions to the 2010-2035 Regional Transportation Plan.
- C 5-14:** The DEIS concludes that the Replacement Bridge Alternative would not result in any adverse impacts on community character and that no mitigation measures are required. It fails to consider the possible negative impacts on the Village of South Nyack from the addition of shared-use path, such as increased demand for parking and emergency response.
- R 5-14:** Please see the response to Comment 5-12.
- C 5-15:** The plans for the Rockland and Westchester County approaches do not include cross-overs for emergency vehicles.
- R 5-15:** The plans provided in Appendix A of the DEIS showed that the replacement bridge would have two emergency turnarounds. The modified plans provided in **Appendix A** of this FEIS include two additional emergency turnarounds.
- C 5-16:** The plan with mass transit will divide neighborhoods.
- R 5-16:** The Replacement Bridge Alternative does not include mass transit.
- C 5-17:** The Replacement Bridge Alternative will severely impair the character of the neighborhood for Bradford Mews Apartments. The inconvenience, noise, and vehicle emissions will be a hardship to residents. Noise impacts associated with heavy construction have been shown to degrade lifestyle.
- R 5-17:** Bradford Mews Apartments is currently located next to Interstate 87/287 and the landing of the Tappan Zee Bridge. As such, highway noise and vehicle emissions would not be a new impact to these residents. The existing noise wall that separates Interstate 87/287 from Bradford Mews Apartments would be maintained. In addition, as discussed in Chapter 18, "Construction Impacts," to ensure that the construction of the project results in the lowest practicable diesel particulate matter (DPM) emissions, the construction contracts will require several Environmental Performance Commitments

(EPCs). EPCs are also proposed to mitigate any potential noise impacts during the construction period.

- C 5-18:** Computer animation for both the short span and long span options should be provided to demonstrate how the project will not impact community character in residential areas in Rockland County along Interstate 87/287.
- R 5-18:** Photo-simulations of the Replacement Bridge Alternative are provided in Chapter 9, “Visual and Aesthetic Resources.”
- C 5-19:** Public safety and security is a chief concern expressed in the Purpose and Need section: safety for emergency vehicles; sufficient roadway width for traffic; security infrastructure to monitor bridge operations, etc. A chapter of the EIS or appropriate sections related to public safety and security should discuss the impacts to public safety and security. Compliance with applicable federal, state and other local laws, such as Executive Order 13045: Environmental Health and Safety Risks to Children must be demonstrated in the EIS. Consultation with expertise agencies should be documented and mitigation for impacts to public safety and security, if any, should be recorded in the EIS.
- R 5-19:** The concerns identified in this comment have been addressed in the DEIS. Specifically, public safety is addressed in Chapter 5, “Community Character.” Analysis of the Replacement Bridge Alternative under Executive Order 13045: Environmental Health and Safety Risks to Children is not within the scope of this EIS. Executive Order 13045 was issued by President Clinton in 1997, and applies to economically significant rules under Executive Order 12866: Regulatory Planning and Review that concern an environmental health or safety risk that EPA has reason to believe may disproportionately affect children. Pursuant to this order, when promulgating a rule of this description, the EPA must evaluate the effects of the planned regulation on children and explain why the regulation is preferable to potentially effective and reasonably feasible alternatives. A “regulation” or “rule” refers an agency statement of general applicability and future effect, which the agency intends to have the force and effect of law, that is designed to implement, interpret, or prescribe law or policy or to describe the procedure or practice requirements of an agency.”
- C 5-20:** How does the new bridge bring together Transportation and Land Use in this corridor?
- R 5-20:** The new bridge would not substantially alter land uses within the corridor.
- C 5-21:** As the DEIS is a single alternative document, it has not sufficiently addressed comparative impacts on community character. By stating that the single alternative has no impact, it ignores the positive impacts that a tunnel option would ostensibly have on Community Character, specifically by improving viewsheds and reducing noise. It has, therefore, also not demonstrated that the project maximizes public investment.

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- R 5-21:** As indicated in Chapter 2, “Project Alternatives,” a tunnel was previously considered, and it was determined not to be a reasonable alternative.
- C 5-22:** I'm also concerned that nothing is going to happen to our neighborhood. It's not going to be somehow divided up as some of the plans had originally offered as an option.
- R 5-22:** The Replacement Bridge Alternative would not further divide neighborhoods. The project involves minimal right-of-way widening along the existing Interstate 87/287 corridor.
- C 5-23:** Please describe specific impacts on how the community character will be enhanced or impacted.
- R 5-23:** Overall, the project would be expected to preserve and enhance the quality of life and character of the communities and neighborhoods in the study area as a result of the improvements to access, mobility, and safety as well as fewer instances of travel delays because of the addition of shoulder and emergency access (see Chapter 4, “Transportation”).
- C 5-24:** Under Section 5-4-3-3 it should be noted that on February 23, 2012, NYMTC's Program Finance and Administration Committee (PFAC) adopted a resolution to amend the Regional Transportation Plan (2010-2035) to add the South Nyack Lid Park project. This request was for \$500,000 to fund a feasibility study for a project to construct a “lid” or deck over Interstate 287 as it bisects the Village of South Nyack. The “lid,” combined with land recovered from the reduction of Interchange 10 (Route 9W), would be used to create a unique environmental, recreational, and light commercial asset. This will promote economic revitalization for the river villages region through the conversion of unused space above a major urban freeway in an ecologically sensitive manner to promote local sustainable community development, setting a new standard for sustainable urban parks.
- R 5-24:** Please see the response to Comment 5-13.
- C 5-25:** The project is not exempt from the South Nyack zoning code, as indicated in the DEIS. This project involves land, waterways, and structures located solely within New York State. The Tappan Zee Bridge and Interstate 87/287 are owned and operated by the New York State Thruway Authority, which is the project sponsor. Section 3-2-3 states that the project is subject to New York State regulation: “Implementation and construction of the Tappan Zee Hudson River Crossing Project is subject to a number of state and federal permits and approvals in addition to NEPA and SEQRA.” If this were in fact a Federal project, Federal supremacy would exempt it from SEQRA and these other state regulations. But it is not a “Federal project”; it is a “federally aided highway project.” The New York State Thruway charter does not exempt its actions from local zoning. Unless New York State or Federal law specifically exempts this project, elements may be subject to local zoning or other local regulations.

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- R 5-25:** As a state sponsored project, the Tappan Zee Hudson River Crossing Project is exempt from local permitting authority, including zoning.
- C 5-26:** As required by NY Court of Appeals finding in the 1988 case of Matter of County of Monroe v. City of Rochester, 72 N.Y.2d 338, 533 N.Y.S. 2d 702, the project sponsors are obligated to meet local zoning requirements. That decision established a new method for resolving inter-governmental land disputes using the "balancing of public interests" analytic approach. Unless a statute specifically exempts it, the encroaching governmental unit is presumed to be subject to the zoning regulations of the host community where the land is located. In the absence of a statute to the contrary, where municipality or other governmental unit proposes a project in another community, the two governments should assume that the action is subject to the host community's zoning requirements. A careful review of the NYS Thruway Act does not exempt by statute the Authority from the requirements to comply with the Village of South Nyack's zoning review process for any given project within the municipal boundaries.
- R 5-26:** Refer to response to Comment 2-25 above.
- C 5-27:** The word "Grandview" should be changed to "Grand View" in both Table 5-1 and in the legend on Figure 5-6 where they list and locate the "South Nyack-Grandview Police Department."
- R 5-27:** The FEIS has been revised accordingly.
- C 5-28:** It should be noted that the Town of Orangetown is currently updating parts of their comprehensive plan.
- R 5-28:** Comment noted.
- C 5-29:** On Page 5-9, under the Hudson River Valley Greenway Trail System, designated Greenway Trail sections in Rockland County are listed. Several corrections to this list should be made. The Joseph B. Clarke Rail-Trail is located in the Town of Orangetown, not the Village of Grand View-on-Hudson, and is not within the study area. This trail traverses north from Oak Tree Road in Palisades north to the Sparkill area, ending at the Village of Piermont boundary. The Esposito-Hader Link Trail is located within the Town of Orangetown, and not within either the villages of South Nyack or Grand View-on-Hudson. These corrections should be made.
- R 5-29:** The FEIS has been revised accordingly.
- C 5-30:** Page 5-9 discusses Rockland County's proposal to adopt the County's comprehensive plan as its Greenway Compact Plan. The second sentence of the first paragraph on page 5-9 should be rewritten to indicate that only the County's Comprehensive Plan would serve as the Greenway Compact Plan. The funds received from the New York State Quality Communities grant were used for other projects within Rockland County. Footnote 2 should also be changed, as the Greenway's website has been updated for

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Rockland County as follows: Rockland County: Rockland County's recently completed comprehensive plan, Rockland Tomorrow, <http://www.rccompplan.com/> will serve as the Greenway Compact Plan for the county. The plan represents Rockland's vision for the future by balancing growth with good planning principles and the protection of natural resources. The development process recognizes a variety of resources, plans and concepts that are already in place. Rockland County's Compact will provide planning assistance and guidance to its municipalities, businesses and civic leaders in an effort to strengthen local and regional economies, protect the unique natural and cultural resources, and work to ensure sustainability. The Greenway Council authorized Rockland's Compact in January 2012, so, as indicated above, the end of the same paragraph should be changed to indicate that on January 18, 2012, the Hudson River Valley Greenway communities Council adopted "Rockland Tomorrow: Rockland County Comprehensive Plan" as Rockland County's Greenway Compact Plan.

R 5-30: The DEIS was published for public review on January 18, 2012. The FEIS has been updated to reference the Hudson Valley Greenway Communities Council's acceptance of the Rockland County's Greenway Compact Plan.

C 5-31: The DEIS acknowledges and describes the various comprehensive plans of the affected villages for use in planning land use, building codes, transportation plans, eminent domain, zoning ordinances, overlay districts, and redevelopment and revitalization. Nonetheless, the DEIS completely fails to consider these comprehensive plans that are essential to meeting future local and regional goals. Most notably, the majority of these plans call for the need for mass transit on the bridge. For instance, the Rockland County Comprehensive Plan (adopted March 1, 2011) explicitly expresses a preference for the construction of a bridge that is "BRT ready" and includes High Occupancy Vehicle (HOV) lanes. In addition, it foresees a bridge capable of commuter rail in future, and requests an examination of the feasibility of allowing buses to bypass congestion by using shoulders. The Orangetown Plan also considers construction of an additional rail line and encourages increased mass transit use. The Westchester County 2025 Plan (adopted May 6, 2008 and amended Jan. 5, 2010) supports "transportation alternatives that improve mobility choices of workers, consumers, and residents and that improve air quality." Finally, the 2010-2035 Regional Transportation Plan (RTP) conceives of any bridge replacement as including BRT and commuter rail components. Just because the RTP notes that these projects "are somewhat fluid and may change over time as planning work proceeds, specific alternatives are chosen, and conditions change" does not mean that lead agencies are authorized to fully abandon or not even consider the RTP's intentions and goals. Besides mass transit, these comprehensive plans also require the consideration of other important components, which the DEIS fails to assess or consider. For instance, the Tarrytown Comprehensive Plan (adopted in March 2007, based on the previous Tappan Zee/I-287 Corridor Project) explained that development projects must ensure that new development respects environmentally

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sensitive areas – particularly water resources – and preserves the scenic quality of the community.” The Westchester County 2025 Plan calls for the preservation and protection of the “quality of scenic routes.”

- R 5-31:** As identified in the DEIS, the above-referenced plans do express a preference for the inclusion of transit. While the project does not include a BRT or HOV component, it would not preclude these elements from being integrated into the bridge in the future if the Tappan Zee corridor should be selected for such a project. The project would avoid impacts to environmentally sensitive areas and would maintain the scenic quality of the community to the greatest extent practicable.
- C 5-32:** Though the zoning for the southern portion of the study area is the same as what is shown, the entire study area should be depicted in Figure 5-4, instead of being cut off as drawn.
- R 5-32:** The legend has been revised accordingly.
- C 5-33:** Potential impacts on the Tappan Landing neighborhood have not been adequately addressed.
- R 5-33:** The Tappan Landing Historic District was identified in Chapter 5, “Community Character,” of the DEIS and was extensively described and analyzed in Chapter 10, “Historic and Cultural Resources.”
- C 5-34:** The Village of South Nyack has developed a draft comprehensive plan that must be considered by the project. Although not yet adopted, this document includes a number of recommendations relevant to the project, such as proposals for the creation of new developable land and park space over and adjacent to Interstate 87/287, amendments to zoning to promote mixed-use development, and improvements for pedestrians and bicyclists in the vicinity of Interstate 87/287.
- R 5-34:** During the preparation of the DEIS, the Village of South Nyack was requested to provide the DEIS preparers with a copy of the draft comprehensive plan. On October 3, 2011, Village representative stated that the plan was not available, and directed the DEIS preparers to the limited content contained on the Village’s website. As such, that is what was included in the DEIS. On October 14, 2011, the DEIS preparers were provided a copy of the 1969 Comprehensive Plan, as the adopted plan of the Village. Nevertheless, the FEIS has been revised to include a discussion of the Village’s draft comprehensive plan.
- C 5-35:** Page 5-3 states that there are no industrial uses within South Nyack. However, Figure 5-2 shows two light-industrial/warehouse uses within the Village, one of which is located within the study area. This should be clarified.
- R 5-35:** The text and figure have been clarified.

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- C 5-36:** Page 5-4 discusses the land uses within the Village of Grand View-on-Hudson. Hader Park, a linear park that serves as the western boundary for the Village should be identified as one of the Village's defining elements, especially since park and trail connect to both the Village of South Nyack's Esposito rail-to-trail park to the north, and the Village of Piermont's rail-to-trail to the south.
- R 5-36:** Hader Park has been added to the discussion of land uses within the Village of Grand View-on-Hudson.
- C 5-37:** Pages 5-3 and 5-4 list prominent land uses within the study area. Nyack College, one of the handful of colleges located within Rockland County, is located in the Village of South Nyack and the study area. This should be noted as one of the prominent land uses within the Village as it encompasses a significant proportion of the land area of the Village of South Nyack.
- R 5-37:** Nyack College was identified in Table 5-1.
- C 5-38:** The land uses highlighted in the Study Area, Figure 5-1, do not agree with the land uses highlighted in the Rockland County Land Use map, Figure 5-2. The parcels highlighted in orange as commercial-retail in Figure 5-1 are shown as yellow-residential in Figure 5-2; the parcels shown as gray, manufacturing, industrial & warehouse in Figure 5-1 are shown as yellow, residential in Figure 5-2; and the parcels shown in black-not yet classified in Figure 5-1 are shown as residential in Figure 5-2. In addition, why are there no multi-family categories in Figure 5-2, a more detailed map for Rockland County, as they are shown on the Westchester County Land Use map, Figure 5-3? The legend on Figure 5-2 shows commercial as a dark gray, yet presumably the commercial land uses depicted on the map are highlighted with red. Lastly, Figure 5-2 does not include the entire study area in the map, missing the southernmost portion of the land uses. The land uses must be consistent on all of the land use maps, the legend colors correlate to the map, and the entire land use area must be included in Figure 5-2.
- R 5-38:** The figures have been clarified in the FEIS.
- C 5-39:** The Living Christ/Simpson Memorial Church in the Village of South Nyack should be added to the list of Community Facilities in Table 5-1 and on Figure 5-6.)
- R 5-39:** The Living Christ/Simpson Memorial Church in the Village of South Nyack has been added to the list of Community Facilities in Table 5-1 and on Figure 5-6 in the FEIS.
- C 5-40:** The most important issue that is not addressed in the DEIS is how traffic growth in the corridor will affect community character. As noted in DEIS Chapter 4 on page 4-13, as roadways adjacent to the bridge will reach capacity by 2047, there will be "increased congestion on the alternative roadways and higher traffic volumes on the Tappan Zee Bridge during more

hours of the day." This is consistent with the 2006 Alternatives Analysis' finding that "With th[e] deterioration of traffic conditions on the Thruway [due to growing congestion], commuters would divert to alternate routes or delay entry to the Thruway, remaining on local arterials longer than they do today. This level of prolonged congestion could impede the future economic and job growth that is projected to occur in the corridor." 2006 Alternatives Analysis at pg. 4-28. [New PARA] Increased travel times, increased air pollution, as well as impeded future economic and job growth should have been explored in this chapter. If there are large negative impacts on community character, it would be reasonable to study transit alternatives that can actually increase capacity and mobility on the bridge and in the corridor while reducing environmental impacts. This is precisely why NEPA requires more alternatives be studied than just a No Build and Replacement Bridge Alternative. Without a rigorous exploration and objective evaluation of other alternatives, especially where the decision not to explore them is not substantiated, this analysis cannot satisfy NEPA.

R 5-40: The project would not preclude the future addition of mass transit. Traffic growth will occur in the corridor with or without the proposed project, and the proposed project would not increase projected traffic growth. The DEIS predicts future conditions by 2047, which allows 35 years for mass transit to be considered and implemented. .

C 5-41: There is no mention in the DEIS that the Village of South Nyack lies within designated Critical Environmental Areas pursuant to the provisions of 6 NYCRR 617.14(g). These provisions require: "Following designation, the potential impact of any Type I or Unlisted Action on the environmental characteristics of the CEA is a relevant area of environmental concern and must be evaluated in the determination of significance prepared pursuant to Section 617.7 of this Part." The DEIS must evaluate the project impacts with respect to the CEA characteristics defined in the Village of South Nyack Zoning Local Law.

R 5-41: Chapter 5, "Community Character," has been revised to include an evaluation of the potential impacts of the project with respect to the Upper Grandview and Environs CEA (Orangetown) and Hudson River CEA (Westchester), as well as the Village of South Nyack CEAs: CEA 1 - Hudson River Area, CEA 2 - Run-Off Area, and CEA 3 - Mountainous Area.

24-2-6 CHAPTER 6: LAND ACQUISITION, DISPLACEMENT, AND RELOCATION

C 6-1: In the taking of homes, there must be complete sensitivity to the local homeowners and the community.

R 6-1: As presented in the FEIS, the Replacement Bridge Alternative no longer requires residential or business displacements.

C 6-2: The DEIS is inconsistent in identifying the number of parcels to be acquired by the Project Sponsors.

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- R 6-2:** As presented in the FEIS, the Replacement Bridge Alternative would result in a partial property acquisition and permanent easement over parts of one parcel in Rockland County (a small portion of the parking area for the Bradford Mews Apartments in West Nyack) and one parcel in Westchester County (a small vacant area of The Quay of Tarrytown Condominiums in the Village of Tarrytown).
- C 6-3:** The Project Sponsors should consider acquiring the South Nyack Village Hall and police station properties rather than private homes. The Village could relocate the Village Hall and police station to vacant property, and this proposal would avoid a reduction in the Village's tax base.
- R 6-3:** Since the Replacement Bridge Alternative no longer requires the reconstruction of the South Broadway Bridge, no residential properties (or any other properties such as the South Nyack Village Hall and police station) would be acquired.
- C 6-4:** The DEIS should not conclude that there is no adverse impact from a loss of tax revenues in the Village of South Nyack and that mitigation is not required. The analysis does not account for the loss of revenue in perpetuity and this loss will cause a net increase in taxes to the remaining South Nyack taxpayers. Permanent present value losses for other taxing authorities are: Village of South Nyack: \$1,195,471.10; NUFSD: \$3,186,853.89; Town of Orangetown \$162,429.59; and County and Others: \$805,065.47. These would be a reasonable basis for lump sum compensation to be paid to those taxing authorities upon the initiation of the project.
- R 6-4:** As presented in the FEIS, the Replacement Bridge Alternative would result in no residential or business acquisitions, and the partial property acquisitions and permanent easements are expected to have no appreciable effect on local property tax revenues.
- C 6-5:** Tax revenue loss due to diminished value of properties not taken, but significantly affected by the project, such as for loss of views is not identified in the EIS. If there is no legal entitlement, just compensation should be considered nevertheless. It should be expected that affected property owners will seek reductions in assessment, which should be projected in estimates of tax revenues and compensated.
- R 6-5:** There is no legal basis for compensation resulting from a diminution of property value and it is not considered in the EIS.
- C 6-6:** The project sponsors must take into account the long-term health issues and provide special funding and tax credits to provide for both the known and unknown consequences the building of the new bridge will have on our health, financial investments, and overall quality of our lives.
- R 6-6:** The DEIS did not identify any long-term traffic, air quality, hazardous waste, or other impacts that could be associated with public health. As discussed in Chapter 5, "Community Character," overall, the project would be expected to

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preserve and enhance the quality of life and character of the communities and neighborhoods in the study area as a result of the improvements to access, mobility, and safety as well as fewer instances of travel delays because of the addition of shoulder and emergency access. Please see the response to Comment 6-5 regarding diminution of individual property values.

- C 6-7:** Any land takings should be minimal, must provide justification, and owners should be fairly compensated. This not only includes actual takings, but also, degradation of land values, quality of life, and other impacts due to the construction and proximity.
- R 6-7:** As set forth in the FEIS, the Replacement Bridge Alternative results in no residential or business displacements and results in only small areas of partial property or permanent easement acquisition. All necessary acquisition would follow the well-established procedures set forth in federal and state law. Please see the response to Comment 6-5 regarding diminution of individual property values.
- C 6-8:** My property at 79 Smith Avenue, South Nyack, New York abuts Parcel 66:70-1-16 and is located directly across from Parcels 66:78-1-1, 66:78-1-2, and 66:78-1-3-1. These properties have been slated to be taken in condemnation for the purpose of reconstructing the South Broadway Bridge. It is evident by the close proximity of our home that both our property and our quality of life will be directly and negatively impacted by the destruction and demolition of the surrounding homes as well as the proposed reconstruction of the South Broadway Bridge. At this point in time, our property has neither been identified as one which will be taken by condemnation nor by temporary or partial easement. It appears that we will not be compensated by the State of New York at all. This is not acceptable to us, which I am certain you would agree.
- R 6-8:** Since the Replacement Bridge Alternative no longer includes reconstruction of the South Broadway Bridge, no residential properties would be acquired. Please see the response to Comment 6-5 regarding diminution of individual property values.
- C 6-9:** Page 6-12 identified the NY Central Railroad in Westchester. Is this actually the MetroNorth Railroad?
- R 6-9:** These are generally interchangeable terms but it is noted that many of the railroad real estate holdings along the Hudson River are still referenced by the predecessor owner, the New York Central Railroad, so specific parcel identifications may vary.
- C 6-10:** The people who are in the Salisbury Point Cooperative should be compensated the amount of the money that is equal to what their apartment was when they bought it or now, whichever is more.
- R 6-10:** Please see response to Comment 6-5.

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C 6-11: All affected South Nyack property owners must be properly compensated and the Village of South Nyack should be compensated for its loss of tax base.

R 6-11: Please see response to Comment 6-4.

C 6-12: As the owners of 308 South Broadway, we strongly urge that you acquire our property in full. The Replacement Bridge Alternative poses serious safety, traffic, noise, air quality, and quality of life concerns. Acquiring our property will increase the overall safety of the new South Broadway Bridge and Elizabeth Place, and it will give the remaining residents of South Broadway a much needed buffer from the construction.

R 6-12: Please see response to Comment 6-5.

C 6-13: The value of their real estate and the quality of lives of residents of The Quay cannot be reasonably mitigated in a comprehensive manor. The entire development should be absorbed into the project plan and purchased at reasonable market value. While this is hardly a “win” for residents of The Quay, this approach would facilitate the overall project throughout its duration, allow for additional enhancement of mass transit elements of the project such as bus and traffic lanes, and would eliminate the issue of impact on these citizens. On completion of the project, the property should be converted into commercial zoning, restricted to a modern office building, similar to that already located at 303 Broadway. The transition should include a small, buffer to the private homes to the north of this parcel.

R 6-13: There is no identified need to acquire the entire 11.3 acre property of The Quay of Tarrytown for any identified adverse impact in the FEIS. As discussed in Chapter 6, “Land Acquisition, Displacement, and Relocation,” although subject to final appraisal determinations, the Replacement Bridge Alternative would require the partial property acquisition (0.05 acres) and permanent easement (0.084 acres) of a vacant portion of the property.

C 6-14: The DEIS states: “Efforts to avoid property acquisitions were included in the design of the Replacement Bridge Alternative to the maximum extent practicable.” This statement is unsubstantiated. Alternatives to the proposed South Broadway Bridge are given minimal mention in the DEIS. Prior to the publication of the DEIS there were no substantive discussions with South Nyack with regard to alternatives to the replacement of the South Broadway overpass, impact on Village historic resources, and the takings of South Nyack private and public properties.

R 6-14: Please see response to Comment 6-3.

24-2-7 CHAPTER 7: PARKLANDS AND RECREATIONAL RESOURCES

C 7-1: The FEIS must better address the concerns of recreational boaters. The DEIS fails to recognize that non-motorized boats pass under the bridge in areas other than the navigational channel. In fact, they only rarely use the

navigational channel to pass beneath the bridge. Most traverse the area closer to the shore to have better visual access to the shore and to avoid conflicts with traffic in the navigational channel.

- R 7-1:** No long-term impacts to recreational boaters are anticipated. As discussed in Chapter 18, "Construction Impacts," temporary disruptions to recreational boating through the study area can be expected during the construction period. Please see Section 18-4-4 in Chapter 18 and the response to Comment 18-30.
- C 7-2:** A key omission in the DEIS, the Putnam/South County Rail Trail was left out. This is a 55-mile bicycle and walking parkway that runs from Brewster to the Bronx. The closest connection on the Putnam Rail Trail is in Elmsford, just half a mile from the Tappan Zee Bridge. It is well within a very short riding distance and even a relatively short walking distance from the bridge head.
- R 7-2:** The portion of the Putnam/South County Rail Trail nearest the project site generally follows the Saw Mill River Parkway, which is outside of the ½ mile Study Area boundary.
- C 7-3:** The shared-use path should safely connect to north-south bicycle and pedestrian routes, such as the Old Croton Aqueduct Trail and the Putnam/South County Rail Trail.
- R 7-3:** While direct connections to these resources are not proposed as part of the project, the project would not preclude future connections to the shared-use path.
- C 7-4:** Table 7-1 classifies parklands and recreational resources as either active or passive. The classification of various rail trails and the Croton Aqueduct trail as "passive" recreation is not accurate.
- R 7-4:** Passive recreational resources are typically resources that involve minimal development, such as open space or trails, as opposed to athletic fields or playground equipment. While trails may be used "actively" for running or other athletic activities, the "passive" refers to their impact on the environment. As such, the Old Croton Aqueduct Trail is correctly identified as "passive" recreation.
- C 7-5:** The DEIS identifies the Old Croton Aqueduct as being 209.78 miles long. The length in Westchester County is 26 miles, but even adding on the NYC portion, its length is somewhat less than 209 miles.
- R 7-5:** The Old Croton Aqueduct State Historic Park runs from Van Cortlandt Park at the Bronx County/City of Yonkers border to the Croton Dam in Cortlandt, and comprises 26.2 miles.¹ This error has been corrected in the FEIS.

¹ <http://nysparks.com/parks/96/details.aspx>

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- C 7-6:** In Figure 7-1, Route US 9 is marked on top of an incorrect road. The Route US 9 logo is placed on top of three roads: Route 9A, the Thruway, and the Saw Mill Parkway while the real Route US 9 is marked only as S Broadway.
- R 7-6:** The figure has been revised accordingly.
- C 7-7:** The EIS should include a listing for the Putnam/South County Rail Trail as a trail of regional importance. The trail's location is Bronx, Westchester and Putnam Counties. It is an Active Resource. Its size is 55 miles. In Figure 7-1, the Putnam/South County Rail Trail is marked by a dashed line along the Saw Mill Parkway. The part of the Putnam/South County Rail Trail missing from Figure 7-1 is the actual intersection of the trail with Route 119 in Elmsford.
- R 7-7:** As noted by the commenter, the portion of the Putnam/South County Rail Trail nearest the project site generally follows the Saw Mill River Parkway. However, this is outside of the ½ mile Study Area boundary.
- C 7-8:** Consider connecting the Riverwalk under the new Tappan Zee Bridge and/or continuing the Old Croton Aqueduct Trail and the Putnam/South County Rail Trail over the Interstate 87/287 right-of-way.
- R 7-8:** Although not part of the project, the project would not preclude future connections to these trail resources. In addition, Part 3 of the Design-Build Contract Documents requires that a 20 foot right of way, in an alignment that would permit the future connection of Riverwalk, be maintained beneath the Westchester Landing of the Replacement Bridge Alternative.
- C 7-9:** We ask for your support of strong versions of the Transportation Enhancement and Recreational Trails programs in the transportation bills being debated. Wonderful projects boosting the economies and quality of life in communities across the country have been completed thanks to these programs. We need more such projects, not fewer of them.
- R 7-9:** This comment is beyond the scope of the project, but the Replacement Bridge Alternative would not preclude any initiatives related to these programs.
- C 7-10:** The DEIS does not address the adverse impacts of the addition of the shared-use path. The addition of the path would likely add demands on parking, as people drive to South Nyack and then walk or bike across the bridge. The shared-use path would also add demands on public safety services (i.e., police and ambulance). Since this path is being described as a means to "fully compensate for the loss of the green space within the Village of South Nyack," more details must be provided as to how access to the Village from this path will be provided, whether any parking areas are being proposed for users of the path, what specific benefits there will be to the Village, and any other information relevant to its construction.
- R 7-10:** Please see the response to Comment 5-12.

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- C 7-11:** There is active sailboat racing on the Tappan Zee north of the existing bridge. In particular, there are two fixed marks of race courses set at N41 04.580' W73 53.630' and N41 04.600' W73 54.550', which are used several times per week seasonally from May to October. It is unclear whether the locations are within the study area.
- R 7-11:** As shown on Figure 7-1, the above fixed race course marks are located within the study area. However, they are outside of the construction zone, and would not be directly disturbed by the project.
- C 7-12:** The EIS should include, as identified in the Rockland County Comprehensive Plan, the feasibility of incorporating open space components of the Tappan Zee corridor. This project should not preclude the South Nyack Lid Park project at Interchange 10 (Route 9W). The "lid," combined with land recovered from the reduction of Interchange 10 (Route 9W), would be used to create a unique environmental, recreational, and light commercial asset. This will promote economic revitalization for the river villages region through the conversion of unused space above a major urban freeway in an ecologically sensitive manner to promote local sustainable community development, setting a new standard for sustainable urban parks.
- R 7-12:** As discussed in DEIS Chapter 5, "Community Character," while a "lid" park is not included as part of the project, the project would not preclude the future development of such a park. Furthermore, the Replacement Bridge Alternative includes a four-acre shared-use path for pedestrians and bicyclists to cross the Hudson River. This shared-use path would serve as new open space, and would increase the public's access to trail systems and bicycle routes on both sides of the Hudson River, offering new direct and on-street connections to existing systems.
- C 7-13:** The project should provide for clear designation of connections to the trails and parks through the provision of trail head signs, kiosks, emergency call boxes and other amenities for directional purposes and improved safety for users.
- R 7-13:** The proposed shared-use path would include appropriate signage to ensure user safety. Emergency telephones will be provided at regular intervals.
- C 7-14:** The statement "The Replacement Bridge Alternative would not result in adverse impacts to parklands and recreational resources" needs explanation.
- R 7-14:** This statement is based on the analysis presented in Section 7-5-2 of the DEIS.
- C 7-15:** The EIS should list Route 9 as a major, but currently designated, bicycle route directly adjacent to the bridge path and intensely affected by the shared-use path. Similarly, Route 9A is also a significant bicycle route that is affected by the shared-use path.

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- R 7-15:** As shown in Figure 7-1, State Bicycle Route 9 is a signed on-road bicycle route that that parallels Route 9W through the Rockland County portion of the Study Area. While Routes 9 and 9A in the Westchester County portion of the study area may be used by bicyclists, they are not NYS designated bike routes. The proposed shared-use path would allow for surface connections to State Bicycle Route 9, which would be a positive effect of the project.
- C 7-16:** The EIS should include the Tarrytown Metro North Station as a Recreation Resource, because it will serve as a key access point for shared-use path users.
- R 7-16:** While the Tarrytown Metro North Station may be used by persons accessing recreational resources, the station itself is not a recreational resource, but rather a transportation resource.
- C 7-17:** A direct connection from the shared-use path to the Raymond Esposito Trail should be examined.
- R 7-17:** The Raymond Esposito Trail crosses over Interstate 87/287 beyond the area of direct disturbance for the construction of the Replacement Bridge Alternative. There would be no direct connection to the Raymond Esposito Trail, but NYSTA would coordinate with the Village of South Nyack to identify an appropriate route between the Trail and the shared-use path and provide signage or other measures to ensure safe passage between these facilities.
- C 7-18:** The Palisades National Natural Landmark is a significant natural resource and has impacted location of the bridge and development patterns in general. It should be examined in the EIS.
- R 7-18:** The Palisades National Natural Landmark is identified in Table 7-1 of the FEIS and is discussed in Section 7-4-1-2. Since the project would generally connect with the existing alignment of Interstate 87/287, no impacts to the Palisades are anticipated to result from the project.
- C 7-19:** There are several mislabels in Table 7-1 and on Figure 7-1.
- The Joseph B. Clarke Rail Trail (#7) is located within the Town of Orangetown, traversing between Oak Tree Road and the Sparkill/Piermont railroad triangle split and outside of the study area. However, the map shows this trail to be located within the Village of Grand View-on-Hudson; this portion of the rail trail is Hader Park.
 - The spelling for Grand View should be corrected from "Grandview" for the Hader Trail In Table 7-1.
 - Hader Park (#6) is also mislabeled, as the label for this park is labeled in the area outside of the Village of Grand View-on-Hudson.
 - The Raymond G. Esposito Memorial Trail (#5) is shown and labeled within the Town of Orangetown boundary, instead of within the Village of

South Nyack. The description/notes for the Raymond Esposito Memorial Trail are misleading, as this trail is significantly inland and follows the old railroad right-of-way. The description should indicate that it has been designated as part of the Hudson River Greenway Trail.

- The Esposito-Gesner Avenue Park Link Trail should be added. It is located within the Village of South Nyack and connects Gesner Avenue Park to the Raymond G. Esposito Memorial Trail. It has been designated as a Hudson River Greenway Trail.
- The Esposito-Hader Link should be added. It is located within the Town of Orangetown and connects the Raymond G. Esposito Memorial Trail to the Hader Trail. It has been designated as a Hudson River Greenway Trail.

R 7-19: Figure 7-1 and Table 7-1 have been revised accordingly.

C 7-20: What accommodations will be made for a safe transition from the shared-use path to local streets in Tarrytown?

R 7-20: Depending on the final design of the bridge, the shared-use path would use signage, crosswalks, and over/under passes as appropriate to allow for safe connections between the shared-use path and local streets on both sides of the bridge. The shared-use path users would be separated from Interstate 87/287 traffic at all times.

C 7-21: The emergency access lane and future BRT lane should be next to the shared-use path on the north structure to provide a future transit stop for the shared-use path.

R 7-21: The project would not preclude the future integration of mass transit or connections to the shared-use path.

C 7-22: The following parklands and historic sites appear to be omitted from Chapter 7: Lyndhurst, Taxter Ridge, and possibly Kingsland Point Park.

R 7-22: Taxter Ridge and Kingsland Point Park are both located outside of the study area. Potential impacts to Lyndhurst were assessed in Chapter 10, "Historic and Cultural Resources," of the DEIS.

C 7-23: Section 7.4 should include the Raymond G. Esposito Memorial Trail. It is not only in close proximity to the right-of-way, but in fact crosses the corridor. Bike Route 9 should also be described as it traverses below the Interstate 87/287 right-of-way.

R 7-23: The Raymond Esposito Trail crosses over Interstate 87/287 beyond the area of direct disturbance for the construction of the Replacement Bridge Alternative. As such, no impacts to this trail are anticipated. NYS Bike Route 9 would continue to follow Route 9W through the study area. No changes are proposed to 9W as part of the Replacement Bridge Alternative.

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- C 7-24:** The EIS fails to consider safety impacts where the shared-use path ends on either side of the bridge. Overlooked is the negative impact on user safety caused by the added numbers of walkers, runners, and bicyclists induced and attracted to the surrounding roads. The roadway network at the bridge path ends, particularly the Westchester end, is currently neither bicycle nor pedestrian friendly.
- R 7-24:** Please see the response to Comment 5-12 above. As further discussed in Chapter 4, "Transportation," the shared-use path on the Replacement Bridge Alternative is not anticipated to substantially increase the number of walkers, runners, or bicyclists in the study area. Any increase in recreational resources is considered a positive effect of the project.
- C 7-25:** In Section 7.4, Parelli Park is incorrectly listed as being in the Town of Orangetown. It is actually within the Village of Piermont. The DEIS also states that "canoeists and kayakers using the Hudson River Greenway Water Trail traverse beneath the existing Tappan Zee Bridge to access these landing sites." This sentence is incorrect as stated, as none of the sites are located under the bridge, and could be accessed without traversing beneath the existing bridge.
- R 7-25:** The DEIS correctly indicates the potential for users of the Hudson River Greenway Water Trail to traverse beneath the Tappan Zee Bridge. The Hudson River Greenway Water Trail is a linear north-south water-borne trail that follows Hudson River from Adirondacks to Manhattan. While the designated Hudson River Greenway Water Trail landing sites may be accessed by land (for purposes of launching canoes and kayaks), the purpose of these landing sites is to allow canoeists and kayakers places to rest, picnic, and camp, while following the trail. As such, canoeists and kayakers using the Hudson River Greenway Water Trail can be expected to traverse beneath the existing Tappan Zee Bridge when traveling between landing sites located to the north and south of the bridge. The location of Parelli Park has been corrected.
- C 7-26:** Each year, thousands of sailors and boaters use the navigable waters around and under the current Tappan Zee Bridge for recreational purposes. The Tappan Zee immediately north of the existing Tappan Zee Bridge is the site of regularly scheduled sailing races on many weekday evenings and every weekend of the sailing season. These races are conducted on race courses that approach within ¼ mile of the existing Tappan Zee Bridge. Prevailing afternoon winds on the Hudson during the summertime are southerly seabreezes. The existing Tappan Zee Bridge causes a wind shadow in these southerly breezes which can adversely affect sailing competitions in the Tappan Zee. Replacement of the existing bridge with two wider structures will have a further adverse impact on sailing conditions for this important Hudson Valley recreational resource. Riverkeeper requested in its Comments on the Scoping Documents of the Tappan Zee Bridge Environmental Impact Statement (Nov. 15, 2011) that a discussion of this topic be included in the DEIS. However, the DEIS has failed to study and

discuss the impacts that construction activities and the presence of the Replacement Bridge Alternative will have on wind patterns, which will directly and significantly affect racing sailors' use and enjoyment of the public waters. The adverse impacts on wind conditions on the Tappan Zee must be modeled and included in the environmental impact statement for an intelligent assessment of the adverse impacts on this recreational resource.

R 7-26: The replacement bridge would be located in a similar alignment as the existing bridge and would not be expected to substantially alter existing wind patterns in this area. While there will be microclimate effects near the bridge, similar effects exist near the current bridge. As such, any changes in the wind patterns would not be considered significant adverse impacts.

C 7-27: Millions of dollars have been and are being spent on the RiverWalk and Pierson Park rehabilitation, for instance; but people will be unable to peacefully enjoy these environments for years to come.

R 7-27: The project would not result in any long term impacts to RiverWalk or Pierson Park. Any impacts to these parks would be limited to temporary noise disruptions during the construction period, and are not considered adverse impacts. The proposed project includes Environmental Performance Controls to mitigate any noise, air quality, and other potential impacts during the construction period.

24-2-8 CHAPTER 8: SOCIOECONOMIC CONDITIONS

C 8-1: The Replacement Bridge Alternative, including its construction, will negatively impact property values for the residents of South Nyack, including Salisbury Point Cooperative, and Tarrytown, including The Quay. Such losses are not acknowledged in the DEIS, and the Project Sponsors have not identified how residents will be compensated for any impacts on their property values.

R 8-1: Chapter 8, "Socioeconomic Conditions," evaluates potential effects that the Tappan Zee Hudson River Crossing Project may have on the local and regional population and workforce. The DEIS concludes that the Replacement Bridge Alternative would not adversely affect the population characteristics of the study areas and would not have adverse impacts on any specific populations, or study area businesses.

There is no legal basis for compensation resulting from a diminution of property value and it is not considered in the EIS.

C 8-2: Tax abatement should be provided during the construction since our home will not have any value, and there will be no resale possibility.

R 8-2: There is no legal basis for compensation resulting from a diminution of property value and it is not considered in the EIS.

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- C 8-3:** The value of properties in the vicinity of the South Broadway Bridge will be substantially diminished by the proposed acquisition of homes and subsequent construction activities.
- R 8-3:** Please see the response to Comment 8-2.
- C 8-4:** I feel the bridge is definitely needed, but construction should begin after the recession is over.
- R 8-4:** Comment noted.
- C 8-5:** To mitigate for declines in property value, a program needs to be established which will, through an independent appraisal process, establish a pre-project announcement (2011) property value baseline for properties directly adjacent to, or within several hundred feet of the new Bridge. The program would also, through an independent appraisal, establish a base line for sample comparable non-affected properties in the South Nyack area and would periodically update this baseline during the 5 year construction stage and for about two years, after Bridge completion. Property owners seeking to sell their homes during the construction period, or within say, two years after Bridge completion, should be compensated for the difference between their market value and those in the comparable base line sample. The compensation would be an amount equal to the difference between the actual sales price and what would have been received if the sales price had reflected a 15% increase in value from that of the 2011 appraisal.
- R 8-5:** Please see the response to Comment 8-2.
- C 8-6:** Data in Chapters 8 and 19 should be updated with 2006-2010 American Community Survey data, where appropriate.
- R 8-6:** Tables in the DEIS include 2005-2009 American Community Survey data, which were the most recent available data at the time the DEIS was written. Tables in the FEIS have been updated with 2006-2010 American Community Survey data.
- C 8-7:** Chapter 8 states that approximately 22 people will be displaced in Rockland County, while Chapter 19 states that approximately 21 people will be. This number should be clarified and consistent throughout the document.
- R 8-7:** Based on the modified proposed project as analyzed in the FEIS, the Replacement Bridge Alternative would no longer result in any residential displacements.
- C 8-8:** Rockland County has some concern with regard to the estimated 2004-2009 Median Household Income of \$144,427 for the Rockland County Study Area. This figure is based on weighted averages of the median household income for Census Tracts 130.03 and 132, which cannot be replicated at this time. However, the Median Household Income for these tracts, according to the 2005-2009 American Community Survey, is \$121,250 for Census Tract 130.03 and \$97,292 for Census Tract 132. After inflating these

figures to 2011 dollars, using 2004 as the base, the Median Household Income for these tracts would be \$144,383 for Census Tract 130.03 and \$115,854 for Census Tract 132. Considering these figures, it would appear that the 2004-2009 Median Household Income of \$144,427 for the Rockland County Study Area seems a little high.

- R 8-8:** Table 8-6 in the DEIS includes the median household income from the 2005-2009 American Community Survey, which reflects incomes over 2004-2009. The footnote states that the median household income is based on a weighted average of median household incomes for census tracts in the study area. However, the median household income for the study area was based on a weighted average of median household incomes for the census block groups in the study area. The note has been revised in the FEIS.

The commenter states that the median household income for the Rockland County study area seems a little high and references the median household income for each Census Tract: \$121,250 for Census Tract 130.03 and \$97,292 for Census Tract 132. Census Tract 130.03 includes two block groups. Block Group 1 has a median household income of \$62,679 and Block Group 2 has a median household income of \$188,375. The Rockland County study area does not include Census Tract 130.03 Block Group 1, which lowers the median income of the Census Tract.

According to the 2005-2009 ACS data, the median household income is \$188,375 for Census Tract 130.03 Block Group 2, \$133,810 for Census Tract 132 Block Group 1, \$89,750 for Census Tract 132 Block Group 2, and \$81,375 for Census Tract 132 Block Group 3. These are in 2009 dollars and were inflated to 2011 dollars. The weighted average of these median household incomes is \$144,427.

As discussed above, however, these data have been updated in the FEIS with 2006-2010 ACS data.

- C 8-9:** Demographic and socioeconomic information for communities included in the Study Area and the Construction Study Area, such as the Village of Nyack and the hamlets of Blauvelt, Orangeburg, Valley Cottage and West Nyack should be provided in the EIS.

- R 8-9:** The socioeconomic study area mirrors the land use study area and approximates the ½-mile perimeter surrounding the project limits. The Village of Nyack and the hamlets of Blauvelt, Orangeburg, Valley Cottage, and West Nyack are beyond ½-mile of the project limit and are therefore not included in the socioeconomic study area. However, it is noted that West Nyack is analyzed in the environmental justice analysis in Chapter 18, "Construction Impacts."

- C 8-10:** The DEIS also does not include any information in regards to the impacts of increased tolls on discretionary travel in the region. Significantly increased tolls may influence decision-making in regards to crossing the bridge in

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order to shop, dine or recreate, thereby impacting on the economic activity in Westchester County and Rockland County.

R 8-10: The FEIS has been revised to discuss the impact of increased tolls. See Chapter 4, "Transportation," which discusses a diversion analysis that was prepared by NYSTA. Also, Chapter 8, "Socioeconomic Conditions," discusses the social and economic effects of potential toll adjustments. In terms of more discretionary travel on the Bridge (i.e., personal travel, shopping, and recreation), it is noted that a wide variety of activities and destinations are located throughout the region on both sides of the bridge and the bridge provides important access for such trip-making. Given that such discretionary trips are more destination oriented (versus the more predominate and frequent convenience shopping which is inherently more localized and the river would be a clear primary trade area boundary), these trips are already taking into consideration a variety of factors of cost (existing tolls, gasoline) and time. Since the region already has a diversity of tolling expenses ranging from the Port Authority crossings, the Tappan Zee and the Bear Mountain and Newburgh bridges, the potential toll adjustments on the Tappan Zee Hudson River crossing would not be expected to dramatically change discretionary trip-making. This is borne out in the weekday off-peak trip diversion estimates as set forth in **Appendix B** which shows a level of trip diversion of about 8 percent on a daily basis and a marginal change in daily Vehicle Miles Traveled (VMT). This would be expected to be similar for weekend travel on the bridge.

C 8-11: Absent a robust public transit system between Rockland and Westchester counties, and the possibility of round trip tolls in the range of \$25-\$30, it is difficult to accept that tolls will have no long-term measurable effect on local economies. The conclusion overlooks a long-held recognition of Rockland's business leaders that the difficulty of attracting labor for the County's new companies or expansions is an economic development handicap. If future workers from east of the Hudson River are required to use cars and pay heavy tolls, that workforce will not materialize in Rockland County.)

R 8-11: Tolls for Hudson River crossings have always been present and are a component of the cost of regional mobility and the location decision-making for businesses and workers. The Tappan Zee tolls have typically been lower than the George Washington Bridge to the south, and less than the Bear Mountain and Interstate 84 crossings to the north which have more limited access and proximity to key centers of employments and housing.

NYSTA prepared a diversion analysis which assumes toll rates are potentially aligned with the levels of other Hudson River crossings operated by PANYNJ (see **Appendix B**). This analysis found minimal diversion or elimination of trips. Therefore, it is unlikely to result in regional shifts of employment and housing. As noted in the FEIS, this is consistent with other studies of the socioeconomic impact of both newly implemented tolling or increases to existing tolls that show a relatively small impact on business location decision-making, housing and workplace choices.

Chapter 24: Response to Comments on the DEIS

- C 8-12:** A huge hike in tolls would be disproportionately borne by the 42,200 Rockland commuters (2003 survey) who cross the bridge daily to reach their work on the east side of the Hudson River and who have no realistic alternate route to their jobs. Therefore, any significant changes in the tolls will significantly and adversely affect their household budgets.
- R 8-12:** Please see the response to Comment 8-11. The historic development of Rockland County as a bedroom community for employment centers in Westchester County and New York City evolved with the George Washington Bridge and the Tappan Zee Bridge and a change of tolls relative to all other economic considerations is unlikely to result in fundamental shifts in current live-work patterns in the region. It is also anticipated that there will be a continuation of commuter and car-pooling discounts.
- C 8-13:** Substantial and abrupt increases in tolls could also have a deleterious effect on a number of Rockland County's businesses.
- R 8-13:** See the responses to Comments 8-10 and 8-11, above.
- C 8-14:** There should be a study to reduce the negative economic impact on the western communities and businesses.
- R 8-14:** As established by Chapter 8: "Socioeconomic Conditions," there are no anticipated socioeconomic impacts on businesses or workers, and no additional analysis is warranted.

24-2-9 CHAPTER 9: VISUAL AND AESTHETIC RESOURCES

- C 9-1:** Many commenters urged that the replacement bridge be aesthetically pleasing to complement and preserve the beauty of the Hudson Valley.
- R 9-1:** The Design-Build Contract Documents issued for the Replacement Bridge Alternative specify that the project will be designed with particular regard to its surroundings and the design process will maximize opportunities for input. In addition, the project's design-build contractor is required to ensure that all visual quality management is consistent with the principles of context-sensitive solutions using inclusive design approaches that integrate and balance community, aesthetic, historic, and environmental values with transportation safety, maintenance, and performance goals. The comprehensive list of requirements with respect to the design of the bridge as it affects visual quality is contained in the Design-Build Contract Documents, Part 3 § 13, posted on NYSTA's website (<http://www.thenewtzb.com/bidprocess/rfp-part3.pdf>). These requirements also include specifications with respect to involving stakeholders and the public, including producing day, evening and nighttime visual simulations necessary for stakeholder and public involvement review, attendance by the design-builder at meetings with community groups and stakeholders to discuss visual quality issues, and adherence to the requirements of the Public Involvement Plan. NYSTA and NYSDOT have prepared the framework for the Public Involvement Plan, which is presented as Design-

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Build Contract Documents, Part 3 § 8, Exhibit A, with the goal that NYSTA and the selected design-builder follow an open and flexible strategy that incorporates and provides appropriate opportunities for public input. The Public Involvement Plan will continue many of the activities implemented through the Project's NEPA (EIS) phase. It will ensure that all possible opportunities are explored to engage a diverse group of public and agency participants, seek and use their comments, and provide timely information throughout the design and construction process. Such engagement will include: timely opportunities for stakeholders to provide meaningful input for consideration in the design-build process; procedures that allow for input to be considered and included where appropriate in the design-build process; and a program of regularly scheduled meetings, particularly at key milestones, to inform the public about the Project's progress, and any changes or refinements in the Project's design, schedule and other factors of importance to the public.

- C 9-2:** This chapter includes an excellent discussion of visual and aesthetic effects of the proposed project on residences in the vicinity of the bridge. It notes that at several locations, particularly south of the bridge, residences are situated along the narrow eastern slopes below the parklands, positioned and landscaped to optimize their views of the river. The bridge is visible from the east-facing yards and windows of nearly all residences built on the east slope of the Palisades Ridge and the Hudson riverfront, extending from the bridge to the Piermont Peninsula. Many of these residences are either individually eligible for listing in the National Register of Historic Places or contributing properties to the River Road Historic District. The visual simulations are very helpful to understanding potential visual effects to historic properties and other resources. Clearly, residences located close to the bridge in Rockland County would be most affected by the undertaking's changes in access and the higher elevation of the new bridge.
- R 9-2:** Comment noted.
- C 9-3:** The design-build process must include a citizens' advisory committee to provide input on the aesthetics of the proposed designs. The design must include a comprehensive review with public input. It should not be left up to the contractor to select the final design of the replacement bridge.
- R 9-3:** There is no plan to have a citizen's advisory committee. As described in the response to Comment 9-1, the Design-Build Contract Documents establish that the project will be designed with particular regard to its surroundings and the design process will maximize opportunities for input through the Public Involvement Plan (as specified in Design-Build Contract Documents, Part 3 § 8. The Public Involvement Plan affords opportunities for broader public input than a citizen's advisory committee.
- C 9-4:** The DEIS ignores the scenic and aesthetic value of the region. The new bridge will essentially be a super highway over the Hudson River.

- R 9-4:** The DEIS did not ignore the scenic and aesthetic value of the region. To the contrary, the DEIS included an extensive analysis of the project's potential visual impacts. The Hudson River was described on page 9-5 of the DEIS as follows: "the Hudson River is the most prominent and valued visual resource in the study area. Its wide expanse in both east-west and north-south directions permits distant views in all these directions. In addition, the ridges that bound the river, including the tall Palisades Ridge and in particular the cliffs that rise dramatically from the river, particularly in Upper Nyack on the Rockland County side, create memorable views that have attracted numerous residents to locate where they look out on such views of the river, both at the shore and on the ridge sides." Page 9-8 of the DEIS described the river valley in general as having "a high visual quality, enhanced particularly by the wide expanse of the river in this reach (the Tappan Zee), which permits 'big sky' panoramas, and dramatic views of the Palisades cliffs to the west...the present Tappan Zee Bridge is already a major visual intervention in this context". The effects of the Replacement Bridge Alternative upon viewer groups with views of this visual resource are discussed in detail in Chapter 9, "Visual and Aesthetic Resources," and in areas where views to these visual resources would be negatively affected, impacts have been disclosed. In addition, the design-builder will be responsible for ensuring that the design quality of the bridge fits within the existing landscape, as specified in the Design-Build Contract Documents, Part 3 § 13, as described in the response to Comment 9-1.
- C 9-5:** The two replacement bridge designs are massive structures that would mar the beauty of the Hudson Valley for generations. Although the current Tappan Zee Bridge is an established feature of the Hudson River visual landscape, the new bridge options are on an entirely new scale that cannot reasonably be compared with the presence of the current bridge. The bridge replacement options are not only more elaborate and much wider than the current Tappan Zee Bridge, but also much taller and more intrusive. The Cable-stayed option could lead to four towers that each stand over 572 feet tall, roughly half the height of the Eiffel Tower, and almost twice the height of the current Tappan Zee Bridge (293 feet). This is equivalent to placing a 50-story building in the middle of the Hudson. Actually, it will mean placing four 50-story buildings in the middle of the Hudson River! The arch structure option is slightly better (at 372 feet), but it still suffers from the similar defect of massive ugliness as the cable option.
- R 9-5:** The assertion that Replacement Bridge Alternative would mar the beauty of the Hudson Valley for generations is not founded based on the extensive visual analysis completed for the project and as shown in the visual simulations presented in the EIS. It should be noted that the proposed dimensions of the Replacement Bridge Alternative have been modified based on ongoing design and concerns raised during the public review process from those disclosed in the DEIS. The Rockland County approach structure has been lowered at the Rockland County landing, and the overall heights of the Cable-stayed and Arch design options also reduced. The

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reduction in height of the Interstate 87/287 roadway in Rockland County and reduction in depth of the superstructure at the Rockland County landing have eliminated the anticipated visual impact to residences on Ferris Lane and Bight Lane at River Road as disclosed in the DEIS (under the Short Span Option the depth of the superstructure crossing River Road and maintained across the Hudson River was 15 feet. At River Road the depth of the superstructure in the proposed new design has been reduced to approximately 6 to 8 feet and the depth of the superstructure in the Hudson River reduced to 10 feet. Under the Long Span Option, the depth of the superstructure in the DEIS design was 40 feet. At River Road the revised superstructure depth is approximately 6 to 8 feet with a gradual increase in depth in the Hudson River to 40 feet). While the Rockland County approach structure is still taller than the existing low causeway in the Hudson River, the clearance of the proposed bridge structures over the navigation channel would be approximately 140 feet, the same as the clearance of the existing Hudson River crossing, instead of the proposed approximate 155 foot clearance disclosed in the DEIS. The height of the Cable-stayed option towers has been reduced from approximately 572 feet to approximately 500 feet, and the height of Arch option reduced from approximately 372 feet to approximately 350 feet. The proposed changes to the landscape as a result of Replacement Bridge Alternative redesign have been evaluated for their degree of impact. As described in the EIS, the degree of impact depends on both the magnitude of change to the visual resource (i.e., visual character and quality) and viewers' responses to and degree of concern for those changes (page 9-2). Where views to visual resources—most significantly the Hudson River and its east and west banks—would be negatively affected, impacts have been disclosed and impacts of the proposed redesign are included in the FEIS. As described in the EIS, in most cases, the visual changes resulting from the Replacement Bridge Alternative would not result in adverse visual impacts. Visual impacts have been identified for residential viewers at higher elevations on River Road in Rockland County due to the greater depth and height of the proposed superstructure under the Short Span Options. In addition, the noise barrier proposed for both design options along the south side of Interstate 87/287 also in Rockland County would result in adverse visual impacts to residential viewers on Bight Lane and at lower elevations on Ferris Lane where available views to the Hudson River would be obstructed.

- C 9-6:** The DEIS does not describe the appearance of the Replacement Bridge Alternative from Salisbury Point Cooperative. The new bridge will be taller. The first 3 floors of our Salisbury Point Cooperative will be looking on the floor of the bridge deck instead of the sky. The Replacement Bridge Alternative will diminish views of the Hudson River for Salisbury Point Cooperative residents.
- R 9-6:** As described in the response to Comment 9-5, the project has been redesigned to lower the height of the Replacement Bridge Alternative at the Rockland County landing. A visual simulation depicting a view of the

proposed Short Span and Long Span Options as redesigned from Salisbury Point Cooperative has been prepared and is included as Figure 9-7 of Chapter 9, “Visual and Aesthetic Resources.” The greater proximity and height of the western approach structure would present a visual change to the viewers at this residential complex, who would have high view duration and viewer sensitivity. A few viewers facing south at the ground floor level of the southernmost building in the complex would have views of Tallman Mountain and the Westchester ridgeline—already partially obstructed by the existing causeway—further obscured by the taller approach structure. However, the limited number of viewers would continue to have views of a bridge approach structure in context with views of the river in the foreground and of the Palisades Ridge. Overall, viewers at Salisbury Point Cooperative would continue to have expansive views of the Hudson River and Westchester landmass in views east and northeast. Therefore, the project would not result in adverse visual impacts to this viewer group.

- C 9-7:** The visual quality of the Replacement Bridge Alternative should be an important criterion in the selection of the winning contractor. The new bridge should be an iconic structure for the Hudson Valley.
- R 9-7:** The aesthetics of the proposed designs will be a factor in the evaluation of the design-build proposals. As described in the response to Comment 9-1, The Design-Build Contract Documents, Part 3 § 13 specify that the design-builder will be responsible for ensuring that the Tappan Zee Hudson River Crossing Project fits within the unique environmental, social, aesthetic and physical character of the region and the river corridor within which it is located, and establishes requirements for the project’s design-build contractor with respect to visual quality. The Design-Build Contract Documents, Part 3 § 13 specifically stipulates that the new Hudson River crossing be a world-class architectural and engineering design that shall have a strong visual identity.
- C 9-8:** The two new proposed spans will block the view of the Hudson River and the opposite shoreline for residents of Tappan Landing, which in turn, will reduce property values by at least 25 percent.
- R 9-8:** Viewers looking southwest from Tappan Landing will continue to have views of the Hudson River and a Hudson River Crossing, including the Westchester approach and a superstructure at the main spans that extends above the Rockland County ridgeline as does the existing bridge cantilever truss. The new bridge structure would be closer, which would present a visual change to viewers looking southwest from this neighborhood. However, viewers in the Tappan Landing neighborhood would continue to have unobstructed views to the west and northwest of the river and Hudson River Valley uninterrupted by a bridge.
- C 9-9:** The George Washington Bridge offers views over the sidewalls for motorists, which is not the case for the existing Tappan Zee Bridge. The Replacement

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Bridge Alternative should include sidewalks that maximize views for motorists.

R 9-9: The Replacement Bridge Alternative would be built with standard 42 inch sidewalks except in locations where would be noise barriers. As stipulated in the Design-Build Contract Documents, Part 3 § 13, the design of the Replacement Bridge Alternative will take into consideration the need for vehicular and pedestrian safety needs as well as views of those utilizing the shared-use path.

C 9-10: The DEIS states that “the new South Broadway Bridge would be visible from the edge of Elizabeth Place Park and the residential properties on the ridge south of Interstate 87/287, e.g., on Hillside Avenue and Shadyside Avenue, but would not be expected to have a higher visibility as the new bridge would be constructed at the same elevation.” and: “The new South Broadway Bridge would not be any more visible than the existing bridge in views east from this trail. The new South Broadway Bridge would not obstruct views of the limited distant Hudson River vista...” These statements neglect to consider that the replacement overpass is proposed to not have a center support column and instead have a large overhead truss structure, which will make it much more visually prominent. The roadway will also be substantially higher in order to accommodate its greater span and conform with Federal guidelines. The truss structure is not mentioned in the DEIS, but project team members have communicated this design feature to South Nyack officials.

The current South Broadway Bridge is visible from the Esposito Trail and Elizabeth Place Park, but is reasonably visually unobtrusive. The proposed, new South Broadway Bridge would have an overhead supporting superstructure, which will make it much more visually prominent. Any new design for the South Broadway Bridge should avoid superstructures.

A comprehensive set of 3-D animated visualizations of the affected area, would help in clearly conveying to adjacent homeowners the impact of the new bridge footprint and the extent of construction impacts.

R 9-10: As described in Chapters 2, “Project Alternatives,” and 9, “Visual and Aesthetic Resources,” of the FEIS, the Replacement Bridge Alternative no longer includes the removal and reconstruction of the South Broadway Bridge. The South Broadway Bridge would remain in its existing location and configuration.

C 9-11: Several properties on Ferris Lane and Bight Lane that currently enjoy views of the Hudson River above and across the Thruway will have their views blocked by the new roadway and possibly a new sound barrier. Visual simulations should be provided for viewpoints from each of the affected properties on Ferris and Bight Lanes.

R 9-11: The revised design of the Replacement Bridge Alternative has lowered the height of the Interstate 87/287 roadway analyzed in the DEIS in these

locations. The height of the proposed roadway at Ferris Lane would remain similar to the existing condition, with a slight increase of approximately 5 feet at Bight Lane. The proposed roadway height would not obstruct views or result in the adverse visual impacts disclosed with the DEIS design. The proposed approximately 18- to 24-foot-tall sound wall (proposed for noise abatement with its design, placement, and limits to be determined based on coordination with the affected property owners) would, if installed, obstruct views from the properties at Bight Lane and may also obstruct views from properties on Ferris Lane at lower elevations. A visual simulation showing the proposed views from Bight Lane with and without the noise barrier for the Short Span and Long Span options is included as Figure 9-6 in the FEIS.

- C 9-12:** Since the Replacement Bridge Alternative is going to be a signature structure in the Hudson River Valley, the design of the main span should be left open to a design competition. The selected contractor would then work with the winning designer to create that main span, similar to what was done with the World Trade Center.
- R 9-12:** Four design-build teams have been selected to bid for the contract to design and build the Replacement Bridge Alternative. The aesthetics of the proposed designs will be a factor in the evaluation of the design-build proposals.
- C 9-13:** The lack of a well-defined superstructure and substructure in even the single alternative prevents the DEIS from providing a substantive analysis of visual and aesthetic impacts, nor does it allow comparison with the discarded alternatives.
- R 9-13:** The superstructures of the Replacement Bridge Alternative have been defined to allow for sufficient NEPA analysis. The EIS provides a substantive analysis based on adequate information, including the potential dimensions of the bridge structures under the Replacement Bridge Alternative options, to evaluate potential changes to visual character and viewers' responses to those changes. It is not typical to have a final bridge design in an EIS and the analysis of bridge design options provides for flexibility in the final design of the Replacement Bridge Alternative. Comparison of discarded alternatives is not a NEPA requirement.
- C 9-14:** The renderings of the proposed bridge are too intrusive for this area. If anything, a single span should be built.
- R 9-14:** A Single Structure Alternative was considered and discarded as part of the NEPA analyses for the project (see Chapter 2, "Project Alternatives," and the response to Comment 2-65).
- C 9-15:** Because replacement alternatives are several times higher than the existing causeway on the Rockland side, they would block views of the Westchester ridge line for many of the inhabitants north and south of the bridge. The study offers no recommendations to mitigate the impact. The Replacement Bridge Alternative should maintain the current elevation and thickness of the

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causeway now on the Rockland side of the bridge. The truss structure proposed in the long span option, in particular, would significantly obstruct the beautiful views now enjoyed by communities north and south of the bridge. It would blight the horizon for miles around. Views underneath a bridge are not an aesthetic alternative to views over and past it. An admission of a failure by the lead agencies to create and identify mitigation remedies does not excuse lead agencies from their legal responsibility to mitigate impacts.

R 9-15: As described in Chapter 9, “Visual and Aesthetic Resources,” of the FEIS, subsequent to the DEIS the Replacement Bridge Alternative was redesigned to lower the height of the Interstate 87/287 roadway in Rockland County and reduce the depth of the superstructure at the Rockland County landing. As described in the FEIS, the redesign eliminates potential adverse visual impacts at Ferris Lane and Bight Lane (at River Road) as disclosed in the DEIS resulting from the greater height of the superstructure. However, the proposed noise barrier along the south side of Interstate 87/287 would obstruct views to the Hudson River and Westchester County land mass from a limited number of properties on Bight Lane and on Ferris Lane at lower elevations. The noise barrier is included in the Design-Build Contract Documents for the construction of the Replacement Bridge Alternative. However, input from affected residents will be sought on the aesthetics of the proposed noise barrier. As described in Chapter 12, “Noise and Vibration,” NYSDOT and NYSTA have met with, and will continue to consult with, the affected property owners on Ferris and Bight Lanes to determine the extent and limits of the barrier, and to develop measures to minimize and mitigate adverse visual impacts, including the design of the noise barrier (design, color, etc) and planting of visual buffers along the right-of-way to screen views of the noise barrier. The Design-Build Contract Documents for the Replacement Bridge Alternative specify that landscape plans be prepared including providing suitable plantings on the private property sides of the proposed noise barriers. The need to adjust the grade of the Rockland County approach in the Hudson River precludes lowering the western approach structure further. Therefore, the western approach structure would visually impact residents on River Road (depending on location and elevation) south of the existing Tappan Zee Bridge, as disclosed in the DEIS and the FEIS. Visual impacts have been minimized to the extent feasible by the redesign of the Rockland County landing and the resulting obstruction of certain residential views on River Road would be an unmitigated adverse impact, as disclosed in Chapter 9, “Visual and Aesthetic Resources,” of the FEIS.

C 9-16: Visual simulations should be prepared for the Bradford Mews Apartments complex and other areas adjacent to the Interstate 87/287 Corridor. This should show before and after views of new bridge and the new noise barrier as well as the type of aesthetics that can be used to improve views from these areas.

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- R 9-16:** Bradford Mews Apartments is screened from Interstate 87/287 by a noise barrier. This would continue to be the case with the Replacement Bridge Alternative. The FEIS includes simulations of conditions with and without noise barriers at various vantage points within the study area. The design of noise barriers is ongoing, and public input will be sought from benefited receptors during final design.
- C 9-17:** Visual impacts of the roadway, bridge, and sound walls need to be identified and shown on computer animation to those most affected by this project.
- R 9-17:** Visual simulations of the Replacement Bridge Alternative taken from near, medium and more distant locations were prepared and included in the DEIS. These included views from local roadways, residential areas, historic properties and historic sites open to the public, local and state parks, and public facilities (Figures 9-6 to 9-19 of the DEIS). Visual simulations are also included in the FEIS in Figures 9-6 to 9-20, and include views that depict the proposed noise barriers. In addition, as described in the Design-Build Contract Documents, Part 3 § 13, the design-build contractor shall be responsible for preparing visual simulations from a minimum of 30 significant point-of-view locations and computer-generated animated simulations to depict overall form and details, during the course of design development and visual impact/aesthetics analysis. These will include day, evening and nighttime visual simulations, which shall include project design features necessary for stakeholder and public involvement review. The visual simulations may include but are not limited to bird's eye perspectives from various locations, drivers' perspectives, and water body perspectives from key upstream and downstream viewer locations (<http://www.thenewtzb.com/bidprocess/rfp-part3.pdf>). Public input will be sought throughout the design and construction process through the implementation of the Public Involvement Plan, as described in the response to Comment 9-1.
- C 9-18:** Due to the unique environment and topography of the project study area, and the potential to introduce new elements into the viewshed, the existing visual character and quality of the affected environment provides the framework for assessing the change in visual character that may occur as a result of the project. It is the opinion of our office that the potential effects on visual and aesthetic resources was reasonably developed and appropriate consideration afforded to these resources. The study area was carefully assessed and potential effects are addressed in this document.
- R 9-18:** Comment noted.
- C 9-19:** The design process should give consideration to visual impact concerns from River Road caused by the replacement bridge's new vertical span in the segment now occupied by the low causeway. These concerns affect South Nyack, Grand View, and Piermont. The Design/Build team should reconsider the necessity of a high profile span in the vicinity of the Rockland

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shore. If a higher profile span is chosen, NYSTA should work closely with the community to mitigate the visual impacts of such a higher span.

- R 9-19:** As described in Comments 9-5 and 9-22, visual impact concerns have resulted in the redesign of the Rockland County landing subsequent to the DEIS. The greater height of the proposed Rockland County approach is still necessitated by the need to adjust the grade of the Rockland County approach structure and the proposed larger spacing between the bridge piers. As described in the FEIS, the redesign of the Replacement Bridge Alternative eliminates potential visual impacts for residents on Ferris Lane and Bight Lane (at River Road) resulting from the increased height of the Interstate 87/287 roadway and greater depth of the proposed superstructure (though the proposed noise barrier on the south side of Interstate 87/287 would obstruct views to the Hudson River and Westchester County landmass from these locations). The western approach structure would obscure residential views on River Road south of the existing Tappan Zee Bridge, depending on viewer location and elevation as was also described in the DEIS. As described above in the response to Comment 1, the Design-Build Contract Documents contain provisions for public input during the design-build phase of the project.
- C 9-20:** The DEIS includes a visual simulation from The Quay, but it does not show the impact on the residents in the southwest buildings. The visualization appears to be a tennis court view. The Project Sponsors must design the bridge as to not badly impact residents of The Quay.
- R 9-20:** The visual simulation reflects views to the Hudson River crossing at the level of the parking lot, overlooking the pool and tennis courts. The units set back at the southwest corner of the site that have views of the existing bridge structure would continue to have views of a bridge structure, which would be closer. Due to the orientation of the units at the southwest corner of the condominium complex, few have windows that face west. Of these, some west facing views are already partially obstructed by the existing community building south of the pool. As described in the Design-Build Contract Documents, the Replacement Bridge structures would be designed and constructed using the principles of context-sensitive design solutions so that the design minimizes adverse impacts on existing conditions. Due to the proximity of The Quay to the proposed Hudson River crossing, consideration will continue to be given regarding the proposed effects of the new structures on The Quay complex during bridge design and construction. The Project Applicants will continue to meet with and solicit input from the residents at The Quay as specified in the Design-Build Contract Documents, Part 3 §§ 8 and 13, which are described in the response to Comment 9-1.
- C 9-21:** Scenic viewing areas should be provided along the shared-use path. Inevitably many pedestrians and cyclists will wish to stop at points along the bridge to look up the river. The final design should include two or three platforms cantilevered off the path for people to move onto for scenic viewing and photo ops.

R 9-21: As specified in the Design-Build Contract Documents, Part 3 § 13, the contractor's design of the proposed shared-use path would be configured to include pedestrian and bikes as well as resting and viewing locations along the route (<http://www.thenewtzb.com/bidprocess/rfp-part3.pdf>).

C 9-22: The Village of Piermont is challenging the findings in the DEIS that note, with either the Short Span or Long Span option, "... In general the overall existing visual character and high visual quality of the Hudson River valley would not be substantially altered." The Village of Piermont disagrees with these findings and believes that the current proposals present a significant adverse visual impact on the Tappan Zee Scenic District, and the views from the Piermont shoreline, including the Pier [Peninsula], for our residents and our tourist visitors. We specifically object to the proposal to increase the height of the bridge at the current causeway location.

The current span leaves the Rockland side at 16 feet above the shore and continues relatively flat, 12 feet above the river for approximately 1 1/4 mile. At NYS Thruway Milepost 15, the roadway increases in grade to rise over an additional mile to 150 feet above the river at the superstructure mid-point. After the midpoint, the roadway remains elevated for another mile where it meets the Westchester side at the Tarrytown interchange. South of the current bridge, including the Village of Piermont, this configuration keeps the visual impact of the current causeway portion at a "visual horizon" along the base of Hook Mountain and the Westchester shoreline, integrating the structure into the landscape and minimizing the intrusion on the viewshed. The current structure also keeps the overall impact of the entire bridge infrastructure on the Hudson River limited to the mid-channel superstructure. The result is an impression of the 3-mile span whose bulk is visually minimized by the causeway portion, thus reducing the overall impact on the existing visual environment by 1/3 to establish "... the existing Tappan Zee Bridge (as) a manmade element constructed within the natural context" (§ 9-5-2/3).

The proposed new structures outlined in the DEIS "... would be considerably higher than much of the existing causeway, with as much as a 70-foot difference between the height of the existing approach structure and the new approach structure" (§ 9-5-2). This is significantly higher than the existing condition of less than 20 feet above the river. Further, the proposed options also indicate the "... highway would exit Rockland County at an elevation of between 16 and 23 feet above River Road" (§ 2-2-2-2)- potentially twice the height of the current structure. Even with this increase in height, the DEIS finds "the project would not have an effect on the overall visual character or scenic resources in the study area..." and specifies "...unavoidable localized adverse impacts on views from several residences along Bight Lane, River Road, and Ferris Lane in Rockland County. " (Chapter 22, Section 22-4-2, Other NEPA and SEQRA Considerations). It's the Village of Piermont's position that the added height of the proposed crossing as it approaches Rockland County would blight the environs of the Tappan Zee along the western shore, slashing through views of Hook Mountain and creating an

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increased, 3-mile visual impact of human infrastructure across the unique natural beauty of this section of the Hudson River valley. This impact will adversely and irrevocably affect the view of this significant scenic resource of the people of the State of New York and the Village of Piermont.

This change in condition from the existing (No-Build Alternative) will substantially alter the visual environment. Moreover, the failure of the scoping document to disclose this proposed change in causeway height as part of the provided project description is an oversight at best and disingenuous at worst. Without having disclosed this change as part of the project description, the project sponsors have significantly contravened the ability of the public and decision makers to reach a reasonable understanding of alternatives and their potential impacts. We believe other options are feasible, and insist that options be explored to mitigate the adverse impact of the proposed, elevated Tappan Zee Hudson River crossing to our treasured nationally recognized visual resource.

- R 9-22:** The northern boundary of the Village of Piermont and the Piermont Pier are located approximately 1.3 to 2 miles south of the Tappan Zee Bridge. Under the proposed project, the bridge would move to the north, away from Piermont. The existing bridge is visible in the distance from properties along the river in Piermont, from Flywheel Park, and from the recreational path and residences located on the Piermont Pier (Peninsula). The new bridge would be expected to have a similar visibility. The views from the Piermont Pier are panoramic, encompassing the wide expanse of the Tappan Zee and the existing Hudson River crossing and the Rockland County and Westchester County shorelines and landmasses, including the Palisades and Hook Mountain. In views from Flywheel Park and the Piermont Pier, the Rockland County approach has a low profile and the cantilever truss of the main span projects above the Westchester landmass. It is expected that the Rockland County approach of the new bridge would be higher. As described in the EIS, the existing Rockland County causeway is approximately 25 feet above mean high water level. The approach of the new bridge would gradually increase in height from the Rockland County landing, with an incremental increase in height of up to 70 feet occurring towards the middle of the Hudson River. It should be noted that subsequent to the DEIS, the Replacement Bridge Alternative has been redesigned. While there would still be an increase in height of the Rockland County approach structure of up to 70 feet in the middle of the Hudson River, there has been a substantial reduction in height of the western approach structure at the Rockland County landing. The depth of the superstructure over River Road under both the Short Span and Long Span Options has been reduced to 6 to 8 feet (compared to 15 feet for the Short Span Option and 40 feet for the Long Span Option as disclosed in the DEIS). In addition, the clearance of the bridge structures over the navigation channel has been maintained at approximately 140 feet, similar to the existing Tappan Zee Bridge (the DEIS disclosed a proposed clearance for the Replacement Bridge Alternative of approximately 155 feet) and corresponding reduction in height of the Cable-stayed and arch design superstructure options. These refinements to the

Replacement Bridge Alternative are described in Chapter 9 “Visual and Aesthetic Resources,” of the FEIS. Perceived from a distance of approximately 2 miles at Flywheel Park and the Piermont Pier, the bridge approach structure would not adversely impact views of Hook Mountain, which would remain clearly visible against the sky, or otherwise interfere with views of the Hudson River or the Palisades. As described above, the bridge would also move approximately 200 feet to the north, at a greater distance from the Village of Piermont. As described on page 9-2 of the FEIS, as observer distance increases, the ability to see the details of a particular object also decreases.

It is expected that the roadbed of the bridge on the Westchester County approach would be of a comparable height as existing, and that the superstructure of the main spans would also project above the Westchester County landmass as does the existing bridge superstructure. The new bridge would become part of the view from the Village of Piermont, including from the Pier walkway and restaurants located along Flywheel Park, that includes a bridge crossing at the Tappan Zee. As such, the proposed project would continue to maintain the visual character of the Tappan Zee as containing a manmade element constructed within the natural context, and would not be expected to result in adverse visual impacts that would be expected to adversely affect tourism or the designation of the Tappan Zee Scenic District.

The purpose of the scoping document was to describe the Tappan Zee Bridge Hudson River Crossing Project, identify the topics to be addressed in the EIS, and the proposed methods for study. The EIS contains the results of those studies and as such, is the appropriate vehicle for disclosing the results of the analysis and assessing the Project’s potential impacts.

- C 9-23:** The DEIS failure to consider the discarded alternatives is also a failure to provide consideration of the visual and aesthetic improvements from, for example, a tunnel alternative.
- R 9-23:** Chapter 2, “Project Alternatives,” of the DEIS evaluated all reasonable alternatives and discussed the reasons alternatives were eliminated from detailed study. Having been eliminated from further study, the Tunnel Alternative was not evaluated for visual and aesthetic considerations. NEPA does not require an analysis of discarded alternatives in the EIS.
- C 9-24:** The proposed designs do replace the beauty of the existing bridge lit up at night. The cable-stayed option with the tall spires looks like smoke stacks and the cables from angles ashore from both bridges will block out too much sky. The two arch bridges looks boring but may block out less of the sky and river. The public needs a separate chance to review the visuals.
- R 9-24:** The Design-Build Contract Documents establishes that the project will be designed with particular regard to its surroundings and the process of design will maximize opportunities for input. Specific requirements with respect to lighting, including the requirement that the design-build contractor take into

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account the surrounding context and viewpoints to determine the lighting of the bridge are included in the Design-Build Contract Documents, Part 3 § 13 (<http://www.thenewtzb.com/bidprocess/rfp-part3.pdf>).

C 9-25: The impacted communities must understand the effects of visual impacts in order to contribute to a final design which fits appropriately within their environments. The two designs both for a short and long span "cable-stayed" or "arch" design present completely different visual impacts to the viewshed. The cable-stayed option would be approximately 539 feet above mean high tide versus 339 feet for the arch design. Two hundred feet in height is a significant difference and change to the viewshed. Each design must include a comprehensive review with public input. It should not be left up to the contractor to select the final design of the replacement bridge.

R 9-25: Subsequent to the DEIS, and as described in the response to Comments 9-5 and 9-22, the design of the Replacement Bridge Alternative has been revised, resulting in a reduction in depth of the approach structure at the Rockland County landing, corresponding reduction in the proposed clearance over the navigation channel, and reduction in height of the Cable-stayed and Arch designs. As described in Chapter 9, "Visual and Aesthetic Resources," of the FEIS, the greater height of the Cable-stayed option would not result in adverse visual impacts. While the Cable-stayed Option would represent a higher intrusion into the sky than the lower Arch Option, the towers and cables would have narrow profiles that allow views to pass in between these members. As described in the response to Comment 1, the public will have input during the design-build phase of the project, as specified in the Design-Build Contract Documents. The selection of final bridge design shall be a process that will involve agency, stakeholder and public input.

C 9-26: Residents are very interested in all aspects of the appearance of the bridge and span including the shadows it will create, the visual impact of its new height, and how it will be lit. However, there are several impediments to residents' understanding the project, both practical and procedural.

The first practical impediment to public understanding is that there are two engineering options at this stage, the short span and long span. The public must understand the different visual impacts, especially of the causeway leading to the Rockland County shore. The differences in the causeway design and of the short and long span in terms of height and thickness are of special concern to Rockland residents. Considerable effort will be required to explain the visual impact of that aspect of bridge design.

The second practical impediment to public understanding is that the designs presented in the DEIS are considered preliminary. It is of questionable value for the public to comment on these alternatives when they will undergo substantial change and refinement. In fact, the DEIS indicates that the Design/Build firm may select an entirely different design than that included in the DEIS.

The third and most important practical impediment to public understanding is that the public has limited tools to understand a project of this complexity. The drawings in the DEIS are problematic for lay people to interpret.

- R 9-26:** The EIS analyzes the visual and aesthetic impacts of all Replacement Bridge options. The differences between the Short Span and Long Span Options, including the differences in the western approach under both options, were described in text (Chapter 2, “Project Alternatives,” and Chapter 9, “Visual and Aesthetic Resources”) and depicted graphically in detail in the DEIS. Visual simulations were also provided as Figures 9-6 to 9-19 in the DEIS. The redesign of the project subsequent to the DEIS, which is described in responses to Comments 9-5 and 9-22 is also described and depicted graphically in the FEIS. Figures 9-6 to 9-20 of the FEIS include visual simulations of the Replacement Bridge Alternative, a number which specifically depict to the Rockland County approach structure (see Figures 9-6 to 9-12). The graphics in the DEIS and presentations at public meetings provided the necessary information to understand the environmental impacts of the Replacement Bridge Alternative. The design options serve as an envelope for the designs being undertaken by the design-build teams. The aesthetics of the bridge design will be a factor in the selection of the winning design-build team as specified in the Design-Build Contract Documents as further described in the response to Comment 9-1.
- C 9-27:** The DEIS characterizes the visual changes to the replacement bridge’s appearance as “discernible to viewers who have varying degrees of sensitivity to the change.” Not only is this characterization insulting to residents who have made the villages of Nyack, Orange, Grand View-on-Hudson, and Tarrytown their homes precisely because of the scenic views and tranquility that the majesty of the Hudson River provides, but it also fails to reveal the lead agencies’ assessment of how the magnified scale of the Replacement Bridge Alternative will reach a greater number of residents along the coastlines. Even though the “closest and most sensitive viewers,” i.e., the residents at The Quay and on Van Wart Avenue and Hudson Place, would “continue to have views of a highway with a toll plaza,” the grand scheme of the massive new bridge structures would be even more magnified and uglier than what they already have. Again, the DEIS’s use of the “apples to apples” comparison is legally misguided and factually incorrect.”
- R 9-27:** The statement that viewers have differing degrees of sensitivity to change relates to the fact that not all viewers have the same views (e.g., due to topography, intervening structures, distance), duration of views (e.g., travelling at high speeds in a vehicle or stationary), or sensitivity to views (e.g., residents). This has been described in the EIS in terms of describing different viewer groups and anticipated sensitivity to changes in visual character. The purpose of the Aesthetic Resources and Visual Aesthetic Considerations analysis is to objectively identify a landscape’s visual features and visual resources and to assess how proposed changes may alter those qualities and affect views. Where conditions indicate a similar

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proposed configuration, such as the replacement of a toll plaza in a location where one currently exists, this has been described and analyzed in the EIS in terms of identifying the magnitude of the change. It is not the purpose of the EIS to make subjective determinations as to whether the proposed changes are “ugly” but rather if they create conditions where visual resources would be impacted that could affect sensitive viewers.

C 9-28: The Replacement Bridge will cast a shadow over the pool of The Quay, thereby limiting its enjoyment by residents.

R 9-28: The Replacement Bridge Alternative would shift the alignment of the new bridge approximately 100 feet north of its current location as it approaches the Westchester County landing. This may increase shadows over the pool during certain times of the day.

C 9-29: Please plant evergreen trees along Van Wart Ave.

R 9-29: The need to plant vegetation and trees, including for shielding purposes, will be considered in the design-build process. Requirements with respect to landscaping are contained in the Design-Build Contract Documents, Part 3 § 12 including requirements for the preparation of a Landscape Development Plan and the inclusion of a qualified arborist on the design-build contractor’s landscape team. With respect to Van Wart Avenue, the Design-Build Contract Documents specify that the Landscape Development Plan will include plans for all right of ways abutting private property, including the area within the right of way adjacent to Van Wart Avenue. Such plans must include the replacement of the right of way fencing, plantings and vegetation. As described in the response to Comment 9-1, public input will also be solicited through the Public Involvement Plan.

24-2-10 CHAPTER 10: HISTORIC AND CULTURAL RESOURCES

C 10-1: ACHP does not concur that the Replacement Bridge Alternative has no potential to have adverse effects on the 23 architectural historic properties identified in the area of potential effect. As noted in the DEIS, both options for the Replacement Bridge would raise the bridge's elevation with a change of 4 to 7 feet for the Short Span Option and approximately 30 feet with the Long Span Option. This difference in elevation would be noticeable, especially from 10 Ferris Lane and properties in the northern portion of the River Road Historic District. Without knowing the design of the new bridge, and more specifically how views would be altered, it is possible that the new bridge will diminish the setting, including the views of the river from these properties. Alterations to the visual setting would be an "effect" on these historic properties. ACHP proposes that the Memorandum of Agreement include stipulations to address these aesthetic issues and engage public involvement in the design of the bridge.

R 10-1: Subsequent to publication of the DEIS, the design of the Replacement Bridge Alternative was refined to lower the profile of the roadway in Rockland County. On June 6, 2012, the FHWA issued an Adverse Effect

determination for the Project that concurred with findings in the Supplemental Finding Documentation, based on the design refinements to the Replacement Bridge Alternative. The Supplemental Finding concluded that identified architectural properties in the Area of Potential Effect (APE) will not be adversely affected by indirect effects due to visual impacts.

Visual changes to the physical surroundings associated with the Replacement Bridge Alternative will not diminish the ability of architectural properties to convey their significance within the context of their location and setting overlooking the Hudson River. Specific views of the Hudson River or attributes of the viewshed have not been identified as characteristics that qualify these properties for the National Register. Considering the full range of comments from the ACHP, the public, and Section 106 Consulting Parties, visual quality impacts are considered to be an issue to be addressed within the context of an interdisciplinary approach in accordance with NEPA requirements, rather than Section 106. Measures to avoid and/or minimize effects on architectural properties have been incorporated in the Project through Design-Build Contract Documents that ensure the project "... is a valued visual and aesthetic component compatible with the environmental, social, and physical characteristics of the region and the river corridor in which it is located." As documented in the Section 106 MOA, the design process will maximize opportunities for community input, including the SHPO, Section 106 consulting parties, and the broader public.

C 10-2: The Tappan Zee Bridge is a historic treasure in our region. It is eligible for listing on the National Register of Historic Places and is deemed worthy for preservation. It should be preserved.

R 10-2: As described in the DEIS, the Tappan Zee Bridge has been determined eligible for listing on the National Register of Historic Places. Alternatives were considered that retain the existing bridge, including and reuse of the existing bridge in tandem with the Replacement Bridge Alternative. These alternatives were found not to be prudent or feasible as described in Chapters 10 and 23 of the DEIS. Demolition of the existing bridge is an unavoidable adverse impact of the proposed project. As set forth in Section 10-6-1 of the FEIS, measures to mitigate adverse effects associated with the demolition and removal of the existing Tappan Zee Bridge include documentation of the Tappan Zee Bridge following Historic American Engineering Record (HAER) standards; production of educational materials interpreting the history and significance of the Tappan Zee Bridge for use by local libraries, historical societies, and educational institutions; and interpretive signage along the proposed shared-use path

C 10-3: When the project was fast tracked, so were the conclusions regarding historic and archaeological resources. Several individuals have expressed their concerns about the many historic and archaeological sites that were not considered in the DEIS. Concern is not only for the actual impacts of the bridge construction, but also for the impacts of the larger project's APE. There has not been a study for any proposed staging areas, parking

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locations, and any other ancillary sites that will be used for construction. These locations are a significant part of the APE and should be addressed and presented to the public prior to the start of construction.

- R 10-3:** As described in Chapter 18, “Construction Impacts,” the EIS does not include an analysis of those elements of construction that would be at the contractor’s discretion and are unknown at this time. Those elements would include construction staging; disposal and borrow sites; sites used for the pre-fabrication of bridge components outside the immediate vicinity of the project and the production of concrete at existing permitted batch plants. In accordance with FHWA policy, independent decisions by the contractor are beyond the scope of the federal action and environmental review unless effectively dictated by the project sponsor. Furthermore, NYSDOT and NYSTA Standard Specifications for all construction contracts require the contractor to comply with all applicable environmental regulations and obtain all necessary approvals and permits for the course of construction. Where staging and other sites that are the responsibility of the contractor would be located within the direct effects portion of the APE established for this Project, these areas have been evaluated and assessed in this EIS (see Figure 10-1). These include the temporary construction waterfront platforms at the Rockland and Westchester landings and potential staging area in Westchester in the area of the existing NYSTA facility. NYSTA and NYSDOT have prepared a Public Involvement Plan, with the goal of engaging a diverse group of public and agency participants, seeking and using their views, and providing timely information throughout the design and construction process. The Public Involvement Plan describes the activities that would occur with respect to communication, public meetings, and public involvement during the design-build phase. The Public Involvement Plan is included in the project’s the Design-Build Contract Documents, Part 3 § 8, Appendix A (<http://www.thenewtzb.com/bidprocess/rfp-part3.pdf>).
- C 10-4:** The DEIS assessment of Phillipsburg Manor, Lyndhurst, and Sunnyside is woefully inadequate.
- R 10-4:** Pursuant to Section 106 of the NHPA, the scope of efforts for the identification of historic properties and the assessment of effects is defined by the Project’s Area of Potential Effects (APE), established in consultation with the SHPO. The Project’s potential effects on Lyndhurst and Sunnyside located in the APE were evaluated, and it was determined that the Replacement Bridge Alternative would have no adverse effects on these properties. More specifically, FHWA, in coordination with NYSDOT and NYSTA, and in consultation with SHPO and ACHP, applied the Criteria of Adverse Effect (36 CFR 800.5(a)(1) to identified historic properties within the APE, and found the Project would have an adverse effect only due to the proposed removal and demolition of the existing Tappan Zee Bridge, a National Register eligible structure. The SHPO concurred with this finding in a letter dated June 5, 2012. Phillipsburg Manor is located further inland, outside the APE for the Replacement Bridge Alternative.

C 10-5: The Replacement Bridge Alternative will result in several significant and irreversible impacts to the historical and cultural resources of the Westchester and Rockland Counties. The DEIS assessment of these effects is inadequate and mischaracterizes the importance and significance of the lower Hudson Valley. The DEIS quickly dismisses the potential adverse impacts the project will have to many historic and National Registry-eligible properties, such as Lyndhurst, Sunnyside, the Irving Historic District, the South End Historic District, and others. Without providing enough detail, the DEIS dismisses these adverse impacts by stating that “the proposed project would not diminish the integrity of the resource’s setting or otherwise adversely affect the historic character of the property” and that the “replacement bridge would not change aspects of [the property’s] setting that contribute to the historic significance nor would it diminish the integrity of the property’s significant historic features.” The DEIS implies that the visual presence of a significantly larger bridge, not to mention the added noise and traffic that will be brought to the region due to potentially increased bridge volumes, is not a significant enough factor to determine the historic or cultural adverse impacts.

R 10-5: As discussed in Chapter 4, "Transportation," of the DEIS, the project would not increase traffic as compared to the No Build Alternative, and the Replacement Bridge Alternative includes measures to abate increases in noise at impacted receptors along the Interstate 87/287 right-of-way.

Visual changes in the physical surroundings may constitute indirect effects on historic properties when they alter characteristics that qualify the properties for the National Register and diminish the integrity of setting. The assessment of effects in accordance with 36 CFR Part 800.5(a)(1) was based on a comparison of existing and proposed conditions, with the understanding that the character of the Hudson River setting and views that existed during the 19th and early 20th centuries have been altered by later development, including construction of the Interstate transportation corridor. Since 1955, the existing Tappan Zee Bridge has been a prominent feature of the landscape, carrying the Interstate highway over the Hudson River. The bridge was determined eligible for the National Register and an exceptional element of the Federal Interstate Highway System based on its engineering characteristics, not its design or aesthetic elements. Post-dating the period during which surrounding historic properties attained their significance, the Tappan Zee Bridge has not been identified as a contributing resource to any historic district, or as a historically significant component of the contributing setting of any historic district or individual historic property. The Replacement Bridge Alternative would not impact architectural properties other than the existing Tappan Zee Bridge. As noted above for Comment 4, SHPO concurred with this finding in a letter dated June 5, 2012.

The characteristics for which the properties identified in the APE qualify for the National Register were described in the Chapter 10 of the DEIS as well as depicted in Table 1 of the Draft Effect Finding Documentation contained as Appendix C-1 of the DEIS.

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- C 10-6:** The Rail Trails and the Old Croton Aqueduct Trail should be listed and evaluated as historic elements that are affected by the new bridge construction, even if they are only affected by induced increase in use due to the new bridge path.
- R 10-6:** As described in the DEIS, the Replacement Bridge Alternative would not adversely effect the contributing above ground and below grade elements of the Old Croton Aqueduct that qualify this resource for listing on the National Register or for designation as a National Historic Landmark. These contributing elements include the below grade aqueduct itself, and above ground associated engineering elements including viaducts, ventilator shafts, gatehouses, and culverts. The development of the trail postdates the listing of the Old Croton Aqueduct on the National Register. In addition, the National Historic Landmark statement of significance for the property indicates its significance under the themes of commerce, engineering, health/medicine with a period of significance of 1836-1870. Therefore, the Old Croton Aqueduct Trail is not a contributing element to the National Register and National Historic Landmark property and continued pedestrian use of the trail, under the Replacement Bridge Alternative would not alter the characteristics that qualify this property for the National Register or for National Historic Landmark designation. With respect to the Rail Trails, small portions of the Raymond G. Esposito Memorial Trail—which crosses I-287 between South Franklin Street and US Route 9W—and the Old Erie Path which continues south to Piermont along U.S. Route 9W, are located in the APE. While these trails occupy the former right-of-way of the Erie Railroad's Nyack and Piermont Branch with either natural surfaces or paved in gravel, they are not historic properties eligible for listing in the National Register of Historic Places, and therefore are not subject to review under Section 106 of the NHPA.
- C 10-7:** Two homes in the South Nyack Historic District would be demolished. These homes could be moved to suitable locations within the District, if possible, or outside the District. This has been done many times all over United States.
- R 10-7:** Subsequent to publication of the DEIS, there have been design refinements at the Rockland County landing. These refinements would avoid the need to acquire and demolish two structures within the South Nyack Historic District.
- C 10-8:** The DEIS states that additional sediment borings are planned for early 2012 to determine if presence and significance of potential archaeological resources are on the western shoreline of the Hudson River. The DEIS also states that the University of Massachusetts is currently reviewing available remote sensing data of potential submerged historic resources. These data should be included in the FEIS to ensure a complete discussion of the project's possible impacts to and mitigation for historic or cultural resources.
- R 10-8:** A geoarchaeological survey involving the examination of several soil borings was recently completed and analyses are ongoing to identify and evaluate a deeply buried Paleo landform located in the Rockland County portion of the

project area. The tasks to be completed include radiocarbon dating of suitable samples and microscopic examination of soil samples. In addition, a research team recently completed diving and imaging of two potential shipwrecks located on the river bottom within the APE and analyses are ongoing. The ongoing analyses consist of dendrochronology to determine the age of the vessels and historic research. The results of the additional sediment borings conducted to determine the presence and significance of potential archaeological resources on the western shoreline of the Hudson River and the ongoing examination of submerged historic resources within the river will not be available for inclusion in the FEIS. These examinations are being conducted in consultation with the SHPO and tribal nations, and will consider measures to avoid, minimize or mitigate adverse effects on identified resources.

If S/NR eligible historic resources, such as shipwrecks, are identified on the river bottom, consultation will be conducted to consider measures to avoid, minimize, or mitigate adverse effects in consultation with SHPO.

The MOA (see **Appendix C**) includes stipulations to satisfy remaining Section 106 obligations for archaeological resources,

C 10-9: Rockland County is pleased that an appropriate archaeological treatment plan will be developed and implemented to mitigate unavoidable adverse effects associated with the project.

R 10-9: Comment noted.

C 10-10: Throughout the NEPA and Section 106 consultation process, the Project Sponsors have engaged the State Historic Preservation Office to provide timely input regarding our recommendations for identification and evaluation of potential significant historic properties that may be affected as a result of the proposed undertaking. This process has been iterative in nature and the Project Sponsors have cooperated by providing any additional information requested by the State Historic Preservation Office. The State Historic Preservation Office has proved the following findings with respect to the DEIS:

- The area of potential effects (APE) was developed in consultation between the lead agencies, consulting parties, and the New York State Historic Preservation Office. The development of the APE took into account proposed work activities and the potential to cause both direct and indirect effects. The New York State Historic Preservation Office provided input as to appropriate areas of concern for both the built environment as well as for archaeological resources both upland and submerged in the Hudson River.
- The architectural survey for historic structures and historic districts meets all State Historic Preservation Office requirements. Currently, consultation continues with the State Historic Preservation Office to

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conclude the final aspects of the addressing the potential effects to the historic structures within the project area.

- A Phase I archaeological survey to identify archaeological sites was conducted for the entire upland portion of the APE, and no archaeological resources were identified within the upland portion of the APE.
- Based upon project research and preliminary geotechnical testing, it was determined that the project APE was sensitive for submerged archaeological resources including the potential for a Paleo landform along the western side of the Hudson River; sunken vessels and maritime relicts; and abandoned maritime infrastructure along the river including piers, docks, wharves, aids to navigation, and other potential resources associated with the maritime uses.

R 10-10: The foregoing, contained in SHPO's March 30, 2012 letter on the DEIS, reflects the status of ongoing consultation with SHPO pursuant to Section 106 of the NHPA. SHPO's letter is included in **Appendix C** of the FEIS.

C 10-11: Subsequent to the release of the DEIS, the following methods were developed in consultation with the State Historic Preservation Office to help determine the presence or absence of a Paleo landform within the Hudson River and to evaluate its eligibility for the National Register.

- To determine the presence, extent, and significance of the Paleo landform, borings shall be undertaken in the potentially sensitive area and monitored by a professional archaeologist. The professional archaeologist will also collect and analyze organic and/or soil samples recovered from the borings.
- A report documenting the findings of the soil boring program and analyses will be prepared by the professional archaeologist and submitted to the SHPO, ACHP, Native American Tribes, and the Section 106 consulting parties, as appropriate.
- If the deeply buried Paleo landform is determined to be present and significant, the report will serve to document the deeply buried Paleo landform and will serve as mitigation in the event that the Project's impacts to this resource cannot be avoided.

R 10-11: The foregoing, contained in SHPO's March 30, 2012 letter on the DEIS, reflects the archaeological protocol to be implemented to evaluate the presence/absence and significance of a buried Paleo landform in the Hudson River, pursuant to Section 106 of the NHPA. The proposed and agreed upon methodologies for the evaluation of the Paleo landform are described in the FEIS. SHPO's letter is included in **Appendix C** of the FEIS.

C 10-12: Subsequent to the release of the DEIS, the following methods were developed in consultation with the State Historic Preservation Office to help determine the presence or absence of shipwrecks and a small number of

other potential maritime archaeological properties within the Hudson River and to evaluate their eligibility for the National Register.

- Remote sensing data will be reviewed by a qualified maritime archaeologist to identify anomalies considered potential shipwrecks or submerged historic resources.
- Underwater investigations, such as diving, will be undertaken to visually examine any anomalies that could constitute submerged historic resources and potential shipwrecks and to determine their significance.
- A report, documenting the findings of the investigations and the Project's potential effects on any identified significant resources, will be prepared and submitted to the SHPO, ACHP, Native American Tribes, and the Section 106 consulting parties, as appropriate.
- Measures to avoid, minimize, and mitigate adverse effects on any identified National Register eligible shipwrecks or other submerged historic resources, if identified, will be developed in consultation with SHPO, ACHP, Native American Tribes, and the Section 106 consulting parties, as appropriate. These measures shall be developed prior to FHWA's issuance of the Record of Decision for the Project.

R 10-12: The foregoing, contained in SHPO's March 30, 2012 letter on the DEIS, reflects the protocol to be implemented to evaluate the presence/absence and significance of shipwrecks in the Hudson River, pursuant to Section 106 of the NHPA. SHPO's letter is included in **Appendix C** of the FEIS.

C 10-13: The proposed and agreed upon methodologies for the evaluation of shipwrecks shall be described in the FEIS. As the evaluation phase for eligibility and potential effects to submerged archaeological resources is still in process, there will be ongoing consultation with SHPO until a Finding of Effects can be concluded for all historic properties.

R 10-13: The proposed protocol for the evaluation of archaeological resources is described in the FEIS. The proposed methodologies for evaluation are included in the Section 106 Memorandum of Agreement, which is contained in **Appendix C** of this FEIS.

24-2-11 CHAPTER 11: AIR QUALITY

C 11-1: The relocation of the highway closer to The Quay condominiums will increase the effects of air pollution on its residents.

R 11-1: Chapter 11, "Air Quality," in the EIS includes a detailed analysis of the effect of the highway relocation on air quality in nearby areas, including The Quay condominiums. No substantial change in air quality is expected at The Quay as a result of the highway realignment, and no exceedance of the NAAQS would occur.

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C 11-2: The relocation of the bridge closer to Salisbury Point Cooperative and increased traffic on the bridge will result in more grit in the condominium units and air pollution for its residents.

R 11-2: The effect of the project on air quality was analyzed in detail in Chapter 11, "Air Quality." Air quality is not expected to change substantially as a result of the project and will not result in any exceedance of NAAQS. Given the successful implementation of clean diesel fuel and truck engine regulations which began with engines of model year 2007, 'grit', which is larger soot particles resulting from diesel combustion, is already diminished substantially and will continue to do so as older trucks are replaced with newer ones.

C 11-3: "Capping" of the highway and capturing and scrubbing vehicle emissions should be considered as an air pollution abatement mechanism. Many transportation agencies have been able to address long covered roadways or tunnels, and effectively manage air quality. It would appear little to no effort has been made in this area by the team advising the Authority on this component.

The project sponsors should provide, at the very least, air conditioners with special filters, landscaping, or other measures to alleviate the short-term and long-term impacts from air pollution.

R 11-3: The effect of the project on air quality was analyzed in detail, and air quality is not expected to change substantially as a result of the operation of the project. Although some increases in concentrations may occur during construction, the project is committed to a robust construction emissions control program, and no exceedances of ambient air quality standards are projected during construction. Therefore, mitigation is not required or necessary.

C 11-4: Drivers and residents are subjected to air pollution because of stalled traffic due to heavy traffic volumes on both sides of the Tappan Zee Bridge.

R 11-4: Since the project would relieve many instances of such congestion on the bridge by allowing for faster clearing of the roadway in traffic accident events, air quality during this type of event would be improved.

C 11-5: Increased traffic on the bridge will result in increased air pollution.

The preferred alternative expands the capacity of the corridor to carry personal vehicles across the Hudson River while failing to address any mass transit options.

It is amazing that the DEIS states that the Replacement Bridge Alternative would reduce pollution by allowing traffic to go quicker across the bridge. Building a new, bigger bridge is not going to reduce pollution; rather, it will add pollution in Rockland and Westchester Counties.

Because the construction of the Replacement Bridge Alternative will increase overall capacity, it is reasonable to assume that the project may

cause or contribute to new localized violations. As a result, the projections are based on a faulty assumption that needs to be revisited. A new study of air quality impacts, factoring for an accurate increase in vehicle capacity on the new bridge, needs to be conducted before the FEIS can reasonably and legally conclude that no exceedances of the NAAQS or applicable incremental thresholds will be projected.

- R 11-5:** The project is not expected to result in an increase in traffic volumes on the bridge (see Chapter 4, "Transportation," and Chapter 11, "Air Quality"). In the long term, bridge traffic is expected to increase due to background growth in economic activity and population, regardless of the project, but this increase will be offset by decreases in vehicle emissions because of federal engine and fuel regulations.

Since future growth may exceed capacity up- and downstream of the bridge, congestion on the bridge may still be possible in the future, but this also means that the project would not induce additional trips because capacity would not be increased.

As described in the DEIS, the project would alleviate congestion on the bridge by enabling better and faster clearing of accidents on the bridge, which are currently frequent. Based on the detailed air quality modeling analysis (Chapter 11, "Air Quality"), the predicted pollutant concentrations for the Bridge Replacement Alternative would not exceed National Ambient Air Quality Standard (NAAQS), and the project would not result in any substantial change in air quality.

- C 11-6:** How will the community be protected against the constant air pollution and its effects on human health?

- R 11-6:** The effect of the project on air quality was analyzed in detail, and air quality is not expected to change substantially as a result of the project. The project's approach to protecting the community against air pollution has been the preferred approach: prevention. To that end, project operation would not exacerbate emissions and would reduce emissions associated with congestion and breakdowns on the bridge, and project construction plans include a very robust emissions control program for equipment and marine engines involved in project construction.

- C 11-7:** While prior studies indicated that public transportation in the Tappan Zee corridor was necessary to reduce congestion and pollution, the DEIS claims that an expanded automobile-only span will not add to air pollution in the region. Even if the project does not increase emissions as the DEIS claims, the project should actively be seeking to decrease such emissions. Without any mass transit options available, commuters and visitors alike will have no choice but to use personal vehicles to travel across the River. As population increases, congestion will very quickly meet and exceed its present levels without a comprehensive mass transit solution.

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- R 11-7:** The project would be designed so as not to preclude transit—see the response to Comment 2-34 for more details. The potential future congestions described in the comment would be associated with the background growth condition, not the project. As described in Comment 11-6, above, the project would not increase congestion.
- C 11-8:** Westchester and Rockland counties are currently designated by the United States Environmental Protection Agency (“EPA”) as “non-attainment” areas under the Clean Air Act for not meeting the National Ambient Air Quality Standards (“NAAQS”) for particulate matter and ozone pollution. As such, transportation plans and investments are required to demonstrate that they conform to the State Implementation Plan (“SIP”). To conform to the applicable SIP, the Tappan Zee project must not cause or contribute to any new localized particulate matter or ozone violations, increase the frequency or severity of any existing violations related to these pollutants, or delay the timely attainment of any NAAQS. The DEIS claims that, since the preferred alternative will increase the lanes available to automobile traffic on the bridge, it will decrease congestion and therefore not increase emissions and conform to the SIP. This analysis is cursory and short-sighted. The preferred alternative only effectively adds one lane in the busiest direction and additional width on the shoulders. Without any mass transit options available, additional congestion will result in an increase in emissions that will be inconsistent with the SIP and would be alleviated with the addition of mass transit to the project. The design of the preferred alternative therefore would appear to be inconsistent with the goals of New York State to reduce air pollution.
- R 11-8:** As described in the response to Comment 11-6, above, the project will not increase congestion. The project would also be designed so as not to preclude transit—see the response to Comment 2-34 for more details. See the response to Comment 2-3 regarding conformity with SIPs as per the transportation conformity regulations. The project level analyses in the DEIS demonstrate that the construction and operation of the project will not cause or contribute to any new localized carbon monoxide or particulate matter violations, increase the frequency or severity of any existing violations of NAAQS, or delay the timely attainment of any NAAQS.
- C 11-9:** Can bicycle connections impact air quality by replacing single occupant vehicles trips? Can the new bicycle link from Rockland to the Tarrytown Metro-North Station have an impact on air quality? Can bicycle racks on buses have an impact?
- R 11-9:** To the degree that bicycle trips replace vehicular trips, they do improve air quality. The project would provide a shared-use path on the bridge to help promote cycling. As a conservative approach, the air quality analysis did not include this project benefit so as to disclose the reasonable worst-case air quality scenario.
- C 11-10:** Which option (long span or short span) will lead to the greatest pollution?

R 11-10: No violation of the National Ambient Air Quality Standards would occur in either case.

C 11-11: The DEIS indicates that when developing the analysis of air quality impacts five years of hourly surface meteorological data collected at LaGuardia Airport and concurrent upper air data collected at Brookhaven, Suffolk County were employed. The EIS should demonstrate that this meteorological data is representative and discuss any alternatives that were considered but rejected (i.e., Westchester County). The EIS should also contain a description of the major options used while processing the meteorological data within the AERMOD model.

R 11-11: The representativeness of meteorological stations in the area for modeling dispersion in the project area was considered according to the parameters outlined in USEPA's Guideline on Air Quality Models at 40 CFR Part 51, Appendix W, Section 8.3. Upper air data from the Brookhaven, New York station were used to represent the region; as described in the USEPA guidance, upper air data are generally representative of a wide region and are not site-specific. A five-year data set of ground-based meteorological measurements from LaGuardia Airport was selected for dispersion modeling in accordance with USEPA guidelines. The surface and land use characteristics in the vicinity of LaGuardia Airport are similar to the characteristics that generally describe the analysis domain. The variability in wind patterns at LaGuardia Airport and in the project area would be similar because both are located near the water. Although meteorological data are also available from the Westchester Airport station, which is somewhat nearer to the site, the characteristics described above at LaGuardia Airport are closer matched to the project site than those at the Westchester station. Therefore, the LaGuardia Airport meteorological station data were determined to be representative of conditions in the project area and was used in the analyses.

As recommended in Section 3.1 of the AERMOD Implementation Guide, AERSURFACE (EPA, 2008) was used to estimate surface characteristics from land cover data for the LaGuardia Airport meteorological station. In addition, 1-minute Automated Surface Observing System wind data were used in the processing of the meteorological files.

C 11-12: The General Conformity discussion in Chapter 11 and Chapter 18 of the DEIS did not appear to provide information on air emissions for dredging and transport of the dredged material to the Historic Area Remediation Site (HARS) that would include information such as, types of engines, number of trips, and hours of operation.

R 11-12: The dredging operations were analyzed in detail in the DEIS in Chapter 18, "Construction Impacts," and described in detail and in Appendix H. The FEIS identifies explicitly which tasks and elements were included in the construction-related air emissions analysis for dredging and the transport of

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dredged materials to HARS. Detailed information on the agency consultation and conformity analysis can be found in **Appendix H-6**.

- C 11-13:** Since this project has been determined not to be a "project of local air quality concern" (per 40 CFR 123(b)(1)), USEPA agrees that no PM hot spot analysis was required (per 40 CFR 93.116(a)) and acknowledges that the project sponsors did not complete such an analysis to meet Federal requirements.
- R 11-13:** Comment noted.
- C 11-14:** Rockland County concurs with the ICG determination that this project is non-exempt under the air quality conformity regulations, and thus, must be included in the regional transportation emissions analyses.
- R 11-14:** Comment noted.
- C 11-15:** Rockland County does not agree with the conclusion that, "no exceedances of the NAAQS or applicable incremental thresholds were projected to result from the Replacement Bridge Alternative, mitigation is not required."
- R 11-15:** The detailed analysis in the EIS has demonstrated that NAAQS and applicable thresholds would not be exceeded (see Chapter 11, "Air Quality"). The analyses have been reviewed by both EPA and NYSDEC and both agencies have concurred with this conclusion.
- C 11-16:** The project sponsors did perform a PM microscale analysis to meet state requirements. Regarding this analysis, USEPA could not determine whether the project would cause new violations of the PM National Ambient Air Quality Standards (NAAQS) or worsen existing violations at the following locations: Rockland County Residential and Sidewalk locations, and Westchester County Residential and Sidewalk locations. The analysis was based on NYSDOT's "incremental threshold" values at these locations, rather than total predicted concentrations of PM. EPA believes that an analysis showing total predicted concentrations and a comparison to the PM NAAQS would give the public a better understanding of the potential impacts of the project.
- R 11-16:** The NYSDOT analysis in the DEIS is actually a more conservative analysis. As requested, the FEIS also presents a detailed review of background concentrations and total predicted concentrations, and compares those to the NAAQS, demonstrating that exceedances would not occur.
- C 11-17:** For the analysis of Mobile Source Air Toxics (MSATs), FHWA developed a tiered approach in its Interim Guidance. The project sponsor determined that the Tappan Zee Bridge project falls under the first tier of the three tiers identified in the guidance document- "No analysis for projects with no potential for meaningful MSAT effect." Although no quantitative analysis of MSATs is required for tier one projects, the FHWA Interim Guidance does suggest model language to adequately address MSAT impacts to

transportation projects. This language should be adopted into the EIS and modified according to the specifics of this project.

R 11-17: As requested, the model language was reviewed, and additional information has been provided in the FEIS, as appropriate.

24-2-12 CHAPTER 12: NOISE AND VIBRATION

C 12-1: With all the billions that will be spent on replacing the bridge span, additional sound barriers should be placed along Interstate 87/287 in the vicinity of West Nyack. There are many neighborhoods and numerous families that are adversely affected by the lack of a sound suppression system on the Thruway in West Nyack.

R 12-1: In accordance with FHWA regulations and NYSDOT policy, noise abatement measures, including sound barriers, are examined at locations where the proposed action is predicted to result in a noise impact. As discussed in Chapter 12, “Noise and Vibration,” a traffic noise impact would occur when: (1) the predicted traffic noise levels would substantially exceed the existing noise levels; or (2) the predicted traffic noise levels associated with a project alternative would approach or exceed the FHWA established noise abatement criteria (NAC). While each of the project alternatives—the No Build Alternative, and the two options for the Replacement Bridge Alternative—would not result in exceedances of the FHWA/NYSDOT substantial increase criterion, they would result in exceedances of the NACs at a number of locations resulting in noise impacts. (At most of the locations where the NACs would be exceeded with the Replacement Bridge Alternative, existing noise levels currently exceed the NACs.) Consequently, noise abatement measures were examined at those locations where noise impacts were predicted to occur to determine if there are feasible and reasonable techniques for substantially reducing or eliminating the noise impacts for the Replacement Bridge Alternative. The locations cited in the comment are not locations where impacts due to the Replacement Bridge Alternative are predicted to occur.

C 12-2: Over the recent past, there has been a significant increase in the ongoing noise generated by the bridge. Bridge noise affects the surrounding communities in both Rockland and Westchester Counties, from Piermont, in the south, to Hook Mountain, in the north, and westward out through Blauvelt Park.

- The DEIS did not evaluate the extent to which the approach- and main span alternatives would generate sound over water and into the surrounding communities.
- No noise receptors were placed in Piermont, Nyack, or elsewhere further afield of the narrow landing zones in which each of the noise samples was gathered.

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- Noise projections were based on “drop-off rates” for hard and soft ground. The placement of noise receptors, the assumptions about noise “drop-off” rates, and other factors do not assess the noise impact of the over-water portion of replacement alternatives including the approach and main spans throughout the community at large.

R 12-2: For the evaluation of potential impacts from the proposed action a grid of receptor sites was developed on both sides of Interstate 87/287 in the study area. This grid included more than 250 receptor locations at distances up to approximately 900 feet from the edge of Interstate 87/287. The selected receptor sites were the locations most likely to be impacted by the proposed action. The modeling receptor domain extends to the area where no exceedances of NAC were predicted. Therefore there is no need to extend the receptor grid further. For the FEIS, additional receptor sites have been included in the impact analysis to better define the extent of impacts at individual buildings within the Salisbury Point Cooperative and The Quay residential complexes and in the Irving Historic District.

The comment that the placement of noise receptors, the assumptions about noise “drop-off” rates, and other factors do not assess the noise impact of the over-water portion of replacement alternatives including the approach and main spans throughout the community at large, is not correct. The TNM 2.5 model has been used for a wide variety of highway and bridge projects throughout the country and is FHWA’s standard model for traffic noise impact assessment. The TNM 2.5 model provides a water zone modeling option by simply applying a water reflection adjustment to the sound propagating directly from the source to the receptor assuming that water lies along the direct path between a source and receptor. Because the bridge elevation above the water at the Rockland side is relatively low, the noise reflection from water surface underneath the bridge is somewhat close to a reflection from a water surface at the bridge elevation. Therefore, the TNM 2.5 model used at the Rockland side conservatively uses the water zone option. However, the elevations of both bridge and shoreline receptors on Westchester side are both well above the water surface (about 100 ft or greater). The modeling configuration under this circumstance is similar to a valley, and using water zone option in the TNM 2.5 model assuming that water surface lies in between the bridge and receptor at same elevation is considered overly conservative, and was not adopted in the DEIS. Moreover, a model validation study was performed as part of the noise studies for this project. That study compared measured and model predicted existing noise levels and showed that the TNM 2.5 model provided accurate results for predicting existing and future noise levels in the project study area. Consequently, there is no reason to question the validity and accuracy of model predicted results.

C 12-3: In addition, there is significant vibration. The DEIS states that because there is no discontinuity between the highway surface and the bridge, there is no need for the DEIS to include vibration impacts. People who live in that area

can very clearly hear the vibration impacts. They occur at all times of the day and all times of the night.

- R 12-3:** The existing bridge contains a number of discontinuities on the roadway surface and those produce the vibration effects cited in this comment. With the Replacement Bridge Alternative, there will be no roadway discontinuities. Consequently, vibration levels would be expected to be below the levels that would be perceptible or that would result in architectural or structural damage.
- C 12-4:** In Westchester County, a noise wall should be provided westward from the toll plaza to the Hudson River. This wall would provide better sound coverage for residents south of the bridge and would shield the neighborhood from the clutter of the toll booth and storage area.
- R 12-4:** In conformance with FHWA/NYS DOT policy, it is only necessary to examine noise abatement options at locations where a project would result in exceedances of the FHWA/NYS DOT impact criteria—the substantial increase and the NAC criterion. There are no locations where exceedances of the FHWA/NYS DOT substantial increase criterion would be expected with the two options for the Replacement Bridge Alternative; however there are locations where exceedances of the FHWA/NYS DOT NAC criterion would be expected to occur with the two options for the Replacement Bridge Alternative. Since no exceedances of the FHWA/NYS DOT impact criteria were predicted within the referenced areas, an evaluation is not warranted for a noise wall south of the bridge extending from the toll plaza to the Hudson River.
- C 12-5:** The DEIS did not interview any of the thousands of residents within earshot of the bridge regarding the effects of highway noise.
- R 12-5:** Representatives of the NYSTA and NYSDOT have met numerous times with residents who live near the Tappan Zee Bridge to discuss issues relating to operation of the bridge and plans for the bridge’s replacement, including noise effects. Consistent with FHWA/NYS DOT policy, meetings have been held to solicit specific viewpoints of property owners and residents who would be benefited if proposed noise barriers are constructed. NYSTA and NYSDOT expect to continue to hold meetings with resident and representatives of the nearby communities throughout the final design process and throughout the construction period.
- C 12-6:** Noise monitoring locations appear to be inadequate. The chosen Rockland “Prediction Receptor Locations” are limited to sites perpendicular to the Thruway and east of the Project Limit. Since noise radiates in all directions, it will not stop at the Project Limits. Additional receptor sites should include the hillside neighborhood uphill of the Thruway, along Hillside Avenue (Route 9W), Shadyside Avenue, etc. The Salisbury Point Cooperative site should also be chosen receptor, as the new bridge and approach will be

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significantly closer to this residential use and the population affected is quite large.

- R 12-6:** Noise monitoring was performed at two sites in Rockland County (Smith Avenue near Broadway in South Nyack, and Elizabeth Place and Broadway in Upper Grandview) and at one site in Westchester County (Van Wart Avenue and Washington Place in Tarrytown). The data from these measurements were used to verify that the TNM 2.5 model was an accurate and appropriate model to use for predicting existing and future noise conditions, and for evaluating potential noise impacts. For the evaluation of potential impacts from the proposed actions a grid of receptor sites was developed on both sides of Interstate 87/287 in the study area. This grid included more than approximately 100 receptor sites in Rockland County and more than approximately 100 receptor sites in Westchester County, ranging in distances up to approximately 900 feet from the edge of Interstate 87/287. The selected receptor sites were the locations most likely to be impacted by the proposed action. For the FEIS additional receptor sites have been included in the impact analysis to better define the extent of impacts at individual buildings within the Salisbury Point Cooperative and The Quay residential complexes, and the Irving Historic District.
- C 12-7:** The DEIS offered no forecast for the noise impact of mass transit solutions, and it does not identify the specific designs and materials necessary to mitigate the cumulative noise impact resulting from the addition of mass transit.
- R 12-7:** Consideration of mass transit is beyond the scope of this EIS.
- C 12-8:** I urge the NYSDOT to use greater care, this time around, in anticipating noise abatement in the design and materials used in a new bridge. NYSDOT engineers could facilitate this objective by creating guidelines for third-party engineers and contractors to use, and by sharing these guidelines with the public. This would go a long way toward eliminating guesswork and error. Such guidelines should specify:
- The choice of roadway surface materials that absorb the greatest levels of traffic noise
 - The choice of expansion joint systems that are quiet
 - The choice of guardrails and materials to dampen noise
 - The design and choice of substructures, materials, and coatings to absorb noise and minimize noise projection over the surface of the river.
- R 12-8:** The choice of roadway surface materials, expansion joint systems, guardrails, coatings, and other materials (cited in this comment) are part of the final design process. In making a determination relative to this, design consideration will be given not only to environmental concerns but also to safety, roadway/bridge maintenance, constructability, cost, and other design concerns. The noise analysis contained in this FEIS assumed typical

roadway and pavement design properties. Noise abatement measures have been examined as part of the EIS process, and noise barriers have been recommended as part of that process. The noise studies contained in the FEIS show that noise impacts (i.e., exceedances of the NACs) that are predicted to occur with the Build Alternative, would be mitigated by the recommended noise barriers.

- C 12-9:** The DEIS did not provide engineering and design guidance on cumulative increases in noise levels over the lifetime of a new bridge. It suggested that the NYSDOT has no accountability for what happens later on.
- R 12-9:** Consistent with FHWA/NYSDOT policy the EIS examines noise effects of the proposed project in the year 2047. The FHWA/NYSDOT substantial increase criterion compares noise levels in the year 2047 with existing noise levels, and the noise abatement criterion (NAC) compares noise levels in the year 2047 with noise levels based upon land use.
- C 12-10:** Traffic noise on the completed bridge will make normal living conditions in our home impossible. What measures will be implemented to reduce noise for residents of Rockland and Westchester Counties?
- R 12-10:** Both the Short Span Option and the Long Span Option of the Replacement Bridge Alternative would result in noise levels at receptor sites near the bridge which are not substantially different from existing noise levels. The increases in $L_{eq(1)}$ noise levels would be less than the FHWA/NYSDOT 6 dBA substantial increase criterion. With the recommended noise barriers, noise levels at many locations in the project study area would be lower than existing noise levels.
- C 12-11:** With reference to the new Tappan Zee Bridge, it is my understanding that a noise barrier would be constructed adjacent to Ferris Lane in South Nyack which certainly will help. (Noise 10)
- R 12-11:** Comment noted.
- C 12-12:** Sound barriers in our area are unattractive. NYSTA and NYSDOT should consider more aesthetically-pleasing sound barriers as part of the Replacement Bridge Alternative.
- R 12-12:** During the design phase of the project, NYSTA and NYSDOT will conduct workshops to work with the affected community residents to develop designs for aesthetically-pleasing noise barriers.
- C 12-13:** The Replacement Bridge Alternative will move traffic closer to the Salisbury Point Cooperative, resulting in more noise and vibration. Measurements were not taken on the Salisbury Point Cooperative property, and therefore, the analysis cannot conclude that Salisbury Point Cooperative will not be impacted by noise and vibration.
- R 12-13:** While the Replacement Bridge Alternative would move traffic closer to the Salisbury Point Cooperative, noise levels at the Salisbury Point Cooperative

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would not be substantially different from existing noise levels. However, based upon the modified design analyzed in the FEIS, noise levels with both the Short Span and Long Span Options would exceed the NACs at receptor locations on the Salisbury Point Cooperative property. Consequently, a noise barrier (Wall 3) has been recommended for noise abatement. With this noise abatement measured noise levels at receptor locations at the Salisbury Point Cooperative would be lower than existing noise levels. It should be noted that a number of noise receptor sites on the Salisbury Point Cooperative property have been added to the receptor grid and the results included in the FEIS reflect noise levels obtained at these additional receptor sites. Noise levels at the Salisbury Point Cooperative property were predicted using the TNM 2.5 model. This model has been used for highway and bridge projects throughout the country and validation studies performed as part of this project show that the model is an accurate and reliable prediction model for determining project impacts. Based upon the noise analyses performed for the FEIS, with the recommended noise barrier, no adverse noise impacts would be expected to occur at the Salisbury Point Cooperative with the Replacement Bridge Alternative. With regard to vibration, see the response to comment 3. No adverse vibration impacts would be expected to occur at the Salisbury Point Cooperative with the Replacement Bridge Alternative.

C 12-14: The Replacement Bridge Alternative will move traffic closer to The Quay condominiums, resulting in more noise impacts on its residents.

R 12-14: While the Replacement Bridge Alternative would move traffic closer to The Quay condominiums, noise levels at The Quay will not be substantially different from existing noise levels. A number of noise receptor sites on The Quay property have been added to the receptor grid and results of the analysis have been included in the FEIS. Noise levels at The Quay property were predicted using the TNM 2.5 model. Based upon the noise analyses performed for the FEIS, with the recommended noise barrier, no adverse noise impacts would be expected to occur at The Quay with the Replacement Bridge Alternative. With regard to vibrations, see the response to Comment 12-3. No adverse vibration impacts would be expected to occur at The Quay with the Replacement Bridge Alternative.

C 12-15: Will there be compensation for increases in noise?

R 12-15: No.

C 12-16: The project should include some sort of substantial parapet type addition to the bridge extending from the shore going northward as it transverses directly in front of The Quay. The barrier should be highest at the shore line and gradually slope down to the bridge level. This will help to buffer some of the unrelenting noise that will emanate from the structure. This same method should be included on any bus/train lanes that encroach on the eyes and ears of The Quay residents.

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- R 12-16:** As described in the EIS, a noise barrier is recommended along the northern right-of-way of Interstate 87/287 to abate noise impacts at The Quay condominiums.
- C 12-17:** The two new proposed spans will swing directly in front of The Quay. To reduce noise, we suggest the following:
- The quality and design of noise barriers must take into consideration the homes to the north of The Quay on lower Tappan Landing and North Tappan Landing Roads to insure that these barriers are of sufficient quality to minimize the traffic noise level in our neighborhood.
 - Any cosmetic improvements made to the units in The Quay that are designed to minimize noise pollution must be offered to our properties. (i.e., enhanced sound proof windows/doors, large tree screening.)
 - Designate this new bridge as a "Jake Brake Free Bridge," which will eliminate large truck engines from "rapping off" like gunfire when they slow down.
- R 12-17:** The EIS recommends a noise barrier for noise abatement on the north side of Interstate 87/287 near The Quay. With this noise barrier, future noise levels with the Replacement Bridge Alternative at The Quay and at nearby locations (i.e., north of The Quay on lower Tappan Landing and North Tappan Land Roads) would be lower than existing noise levels. The recommended noise barriers would mitigate impacts and no additional noise abatement measures such as receptor controls (i.e., enhanced sound proof windows/doors, large tree screening, etc.) are proposed. NYSTA and NYSDOT will conduct workshops to work with affected community residents to develop designs for aesthetically-pleasing noise barriers during final barrier design stage. Based upon safety and other concerns NYSTA has no plans to designate the new bridge a "Jake Brake Free Bridge".
- C 12-18:** NYSTA and NYSDOT should provide sound-proofing for residents affected by noise from the bridge's operations.
- R 12-18:** As described in the FEIS, NYSTA and NYSDOT have recommended noise barriers for noise abatement at locations where the Replacement Alternative would result in noise levels which exceed FHWA/NYSDOT impact criteria. Receptor controls such as sound-proofing are not needed for mitigation of project impacts and NYSTA or NYSDOT have no plans to provide these types of measures.
- C 12-19:** The DEIS states that "FHWA regulations allow funds to be spent to improve the noise insulation of public use and nonprofit institutional buildings. However, there are no impacted institutional facilities in the corridor." The Village of South Nyack Village Hall is an impacted institutional facility.
- R 12-19:** The EIS has not identified any exceedances of the FHWA/NYSDOT impact criteria at the Village Hall.

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- C 12-20:** FHWA noise analysis procedures require “coordination with local officials.” There have been no substantive discussions with the Village of South Nyack with respect to noise analysis, abatement, or mitigation.
- R 12-20:** There have been multiple meetings with representatives of the Village of South Nyack on many issues, including noise-related matters. These meetings are expected to continue through the final design phase and through the construction period.
- C 12-21:** Sound walls should have minimal impacts on the land owner and use the best materials and coverings to minimize the impacts on the homeowners and maximizing the reduction of sound.
- R 12-21:** NYSTA and NYSDOT are committed to provide noise barriers which are acoustically effective, cost effective, esthetically pleasing, and have minimal visual impact. Consequently, the views of property owners and residents of the benefited receptors have been, and will continue to be solicited throughout the barrier approval and design process.
- C 12-22:** Lower the elevation of the approach to South Nyack. A twenty foot increase in elevation would be a major impact to the sound transmitted to the surrounding area. In addition, a negative impact to the one from the residences would result if the approach were raised to the proposed elevation.
- R 12-22:** The DEIS identified abatement measures for Rockland County receptor locations where the FHWA/NYS DOT NAC impact criterion is predicted to be exceeded. Subsequent to the DEIS design refinements have resulted in a lower Rockland County profile, and the results of this refined design are reflected in the FEIS. Noise abatement measures are identified for locations where the FHWA/NYS DOT NAC impact criteria are predicted to be exceeded.
- C 12-23:** Chapter 12 only reviews noise and vibration impacts on the human environment. As previously suggested, the introduction to this chapter should note that noise and vibration impacts to aquatic habitat are discussed in a subsequent chapter.
- R 12-23:** Comment noted and implemented.
- C 12-24:** “Capping” of the highway in South Nyack should be considered as a noise abatement mechanism.
- R 12-24:** The EIS recommends noise abatement measures in accordance with FHWA/NYS DOT policy. Capping the highway is not needed to abate the proposed project’s noise impacts. Noise barriers are recommended for noise abatement at locations where noise impacts are predicted to occur.
- C 12-25:** Capping the thruway at the Rockland Landing could be provided with less investment if performed in conjunction with the project.

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- R 12-25:** In accordance with FHWA/NYS DOT policy, the EIS recommends noise barriers as noise abatement measures at locations where exceedances of the FHWA/NYS DOT impact criteria are predicted to occur. Capping is not a noise abatement measure that is consistent with FHWA/NYS DOT policy.
- C 12-26:** The new sound walls must be designed to meet currently accepted design criteria for noise reduction, including the "echo" effect from the northerly walls onto the hillside area to the south of the highway.
- R 12-26:** The recommended noise barriers will be designed to minimize any effects due to reflected noise at receptor locations on the opposite side of the roadway. If design studies indicate that reflected noise is a concern, in accordance with NYSTA and NYSDOT practice, barriers with absorptive properties will be recommended.
- C 12-27:** As the DEIS is a single-alternative document, it fails to sufficiently analyze comparative noise impacts with the discarded alternatives. The tunnel structure, for example, would likely substantially reduce noise in the surrounding community. The DEIS has, therefore, not demonstrated maximization of the public investment.
- R 12-27:** Discarded alternatives, such as a tunnel structure, are beyond the scope of this EIS.
- C 12-28:** I am writing regarding the proposed South Broadway bridge replacement and sound walls proposed for the South Nyack landing under both span options in the DEIS. My family, neighbors and I are very concerned about the decision to forgo what has been identified as "Wall 2" (on the North side of the Thruway and to the West of South Broadway). Not replacing the ineffective wall currently in this position will have a direct, negative impact upon the quality of life for all of us living in the vicinity of South Broadway and Cornelison Ave. I certainly understand (and disagree) with the logic by which this decision was made, as evidenced in Tables 12-15 and 12-16, as well as the statement "Even when Wall 2 was increased to 24 feet in height, it would not be acoustically effective, and consequently, this barrier would not be considered a feasible and reasonable abatement measure" (Page 12-18, Paragraph 3). This assertion is, of course, based upon estimated decibel reduction at the various monitoring sites indicated in Figures 12-15, 12-16, 12-17 and 12-18. Given that these monitoring sites are all positioned to the east of the "Project Limit" line, and given that Wall 2, as indicated in these diagrams, appears to terminate at said Project Limit after about a couple of car lengths (although Tables 12-15 and 12-16 indicate a length of 290 feet), it's not surprising that such a wall would have a negligible impact upon decibel levels at those monitoring sites. For those of us living just over the Project Limit, though, a proper, 290-foot wall at a height of 24 feet would greatly reduce what are already high decibel levels - a point that becomes obvious to anyone standing at the corner of South Broadway and Cornelison Ave.

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The fact is that the Route 9W Bridge is the obvious "Project Limit," as this marks the beginning of the infamous Interchange 10 (Route 9W). The decision to place it where it currently lies appears to be nothing short of an attempt to disenfranchise those of us in the Vicinity of the South Nyack Village Hall for the sole purpose of saving (an inflated estimate of) \$278,000. As cost savings are an obvious issue, why not consider an option that our village trustees have already brought to your attention: Do not replace the South Broadway Bridge! This bridge serves only two real purposes: A) To provide access to 9W southbound for those of us living to the north of the Thruway, which can be accomplished just as easily via Clinton Ave., and B) to provide access to downtown Nyack for those living to the south of the Thruway along the remainder of South Broadway. Purpose B could also be easily replicated by placing a traffic signal at the intersection of South Broadway and 9W, and at a cost far below that required for replacing the Broadway Bridge! With the Broadway Bridge removed, the wall along the north side of the Thruway (which must be replaced anyway) can simply be extended to the 9W Bridge. As a result, decibel levels will be reduced significantly along the entire length of the north side of the Thruway, with a windfall of both savings and public good will."

I can inform you based upon both anecdotal experience and actual noise measurements that your presentation of the existing noise impacts of the proposed bridge as set forth in Chapter 12, entitled "Noise and Vibration," is insufficient. For example, figure 12-4 references and depicts a 66 dBA Noise Contour in the area immediately to the south of the existing foot bridge near Riverview Avenue (this Noise Contour line is depicted in red on figure 12-4). I have performed several measurements using two separate noise meters at my house, which is significantly north of that area, during the AM Peak Hour noise time frame the DEIS references. My measurements and my personal experiences show that the noise at my residence on Macarthur Lane consistently and steadily exceeds the noise levels reported in Chapter 12 of the DEIS and in Figure 12-4 specifically. This illustrates the inadequacy of the Chapter 12 existing noise calculations because my residence is actually further away from the Noise Contour line referenced above, yet it suffers existing noise that is greater than reported in areas significantly closer to the proposed new bridge. Nor is there any indication as to the cumulative impact of bridge noise and train noise which is essential because the nearby railroad has a significant, frequent, and separate noise impact on the community that should be quantified and addressed in conjunction with any new impacts from a higher volume and relocated bridge. I was also unable to ascertain whether the Chapter 12 analysis of existing noise conditions was done during leaf-on or leaf-off conditions. Obviously noise travels further during the latter conditions and an analysis of existing conditions must measure and quantify both. I also did not see any specific reference to mitigation of the heightened noise levels that will impact my neighborhood. Nor did I see an analysis of how the noise impacts on my neighborhood, which is at a higher elevation than lower lying neighborhoods, would differ from the impacts on lower lying neighborhoods. This is important because

neighborhoods at higher elevations, such as my neighborhood, will potentially be at greater risk from noise impacts that emanate from the new bridge since my neighborhood is located at a comparable elevation to the new bridge.

- R 12-28:** Consistent with FHWA/NYS DOT policy, the noise analysis examined noise effects on sensitive receiver sites located within the project limits. While noise levels at sensitive receiver sites within the project limits would not exceed the FHWA/NYS DOT substantial increase criteria, at some locations they would exceed the FHWA/NYS DOT NACs. Consequently at those locations abatement measures, including noise barriers, were considered. As described in the EIS, FHWA/NYS DOT policy requires that a noise barrier satisfy criteria related to acoustic effectiveness, cost effectiveness, and noise reduction in order to be recommended for noise abatement. Noise analyses indicated that Wall 2 would not satisfy the FHWA/NYS DOT criteria. These analyses are based upon modeling performed using TNM 2.5 model. The TNM 2.5 model has been used for traffic noise analyses for projects throughout the country and based upon model validation studies performed for this project shown to be a reliable model for assessing impacts in the project study area. Noise levels and project impacts for the Replacement Bridge Alternative were assessed based upon the results of calculations performed using the TNM 2.5 model, and are not based upon measured noise levels. Consideration of a noise barrier at locations outside of the project limits is outside the scope of study for this project.
- C 12-29:** Did not follow established NYSDOT and FHWA noise modeling protocols including:
- a. The TNM model validation required by 23 CFR 772.11 (d)(2) was not properly performed. Instead of using traffic classification counts conducted during the noise monitoring as per FHWA, traffic data from 2005 was used.
 - b. The noise monitoring used in the TNM validation was improperly conducted as described above.
 - c. The TNM model has not been properly validated for use on this project and no model outputs can be relied on until a proper validation is conducted.
- R 12-29:** The noise analyses which are presented in the EIS were consistent with FHWA and NYSDOT requirements. The TNM model validation and the noise monitoring program used in the TNM validation are consistent with FHWA and NYSDOT practice and requirements. The FHWA guidance document cited in the comment provides guidance and is not a regulatory document which dictates regulatory requirements which must be followed. The TNM model has been used throughout the country and found to be an accurate model for predicting traffic noise effects. However, standard practice is to perform a validation study to verify that site specific conditions do not negate the validity of the model. Because of the repeatability of traffic conditions at the model validation locations, the small annual growth in traffic, and the logarithmic effect of changes in traffic relative to changes in

noise level (i.e., a small percentage increase in traffic volume would result in a negligible increase in noise levels), simultaneous noise/traffic counts, while desirable, were not essential for the model validation study. The model validation studies, discussed in Chapter 12, "Noise and Vibration," verify that the TNM 2.5 model is an accurate predictor of traffic noise for the project study area.

C 12-30: The DEIS did not model roadway noise levels at the units in the Salisbury Point Cooperative. Receptors should have been placed at multiple floors in the buildings at the Cooperative to assess whether a noise barrier is justified. There are a total of 120 dwelling units that should be evaluated for the potential of a noise barrier. While some of those units with direct exposure to the TZB over the river may not meet the 5 dBA reduction requirement, there are many units with no or limited exposure to the River that would likely meet that criterion.

R 12-30: In accordance with FHWA and NYSDOT noise assessment procedures noise impacts are generally determined only for ground floor receptor locations (except when there is outdoor space at elevated receptor locations). At the Salisbury Point Cooperative complex the terraces are windowed areas and not typical receptor locations. Additional noise receptor locations at the Salisbury Point Cooperative complex were added to the noise analysis presented in Chapter 12, "Noise and Vibration," of the FEIS. However, more importantly, with design refinements assessed in the FEIS, exceedances of the NACs are predicted to occur at the Salisbury Point Cooperative complex, and a noise barrier is proposed for noise abatement at this location. With this noise barrier, noise levels at most, if not all, locations in the Salisbury Point Cooperative complex with the Replacement Bridge Alternative would be lower than existing noise levels.

24-2-13 CHAPTER 13: ENERGY AND CLIMATE CHANGE

C 13-1: The portion of the Hudson River where the proposed bridge would be located is a tidal estuary and therefore the Hudson River in this area would be expected to rise about the same amount as the Atlantic Ocean. Under a worst case scenario it would seem possible that a combination of sea level rise, high tide, and storm surge could actually result in the river covering the roadway on the Rockland side by the end of this century. The planning and design of any project that could be affected by sea level rise, such as this one, should take these dire predictions by into consideration. Failure to consider climate change jeopardizes the large capital investment in this project as well as long-term economic viability of riverfront communities.

R 13-1: See the discussion on sea level rise in Chapter 13, "Energy and Climate Change," of the FEIS.

C 13-2: The DEIS states that, "the introduction of three highway-speed E-ZPass lanes allowing vehicles to proceed at 65 mph through the lanes (replacing the two existing 35 mph lanes) would reduce fuel consumption associated

with congestion and idling vehicles at the toll plaza." The peak fuel efficiency of motor vehicles is generally between about 40 to 55 mph. Highway speed E-ZPass lanes (at 65 mph) would seem to increase rather than reduce greenhouse gas emissions. The choice of 65 mph needs to be explained.

- R 13-2:** Please note that "highway-speed" has been corrected in the FEIS from 65 mph to 55 mph to reflect the speed limit at the bridge. According to the latest EPA data and models, the peak fuel efficiency on average for cars is at 60 mph. At speeds ranging from 45 to 70 mph emissions would be within 4 percent of emissions at peak efficiency (60 mph), and at 35 mph emissions would be 11-12 percent higher. The actual fuel consumption, however, would be driven not by the speed limit but rather by the speed distribution of vehicles traversing the plaza. The highway-speed lanes would be open lanes which allow traffic to flow freely as it would on the highway, while the 35-mph lanes result in slower traffic and queues made up of idling vehicles when traffic backs up and of slower moving vehicles as the start-and-stop queue moves forward, decreasing fuel efficiency. It should be noted that the highway-speed toll lanes would result a small benefit in the context of any given trip since they would affect only a very short segment of the trip.
- C 13-3:** The DEIS does not discuss the chronic congestion and fuel consumption associated with the approaches to the bridge, and the continued delays that would be associated with toll booths. Rockland County is calling for open tolling to reduce congestion.
- R 13-3:** NYSTA supports highway-speed tolling and intends to increase the use of highway speed tolling in the future to the extent practicable. To that end, NYSTA is undertaking a feasibility study for incorporating highway-speed tolling throughout its system. The project does include three highway speed E-ZPass lanes; however, cash lanes will still be necessary for the foreseeable future, especially for weekend traffic. Some congestion will exist in the future because of traffic growth and bottlenecks up- and downstream of the bridge, and the project cannot influence that through changes at the toll plaza or bridge design. Congestion associated with accidents and breakdowns would improve significantly, as discussed in the DEIS.
- C 13-4:** The feasibility of placing "Green Energy" initiatives on the span should be explored.
- R 13-4:** As indicated in the EIS, the feasibility of incorporating renewable energy generation with the replacement bridge will be investigated. NYSTA and NYSDOT, through the Design-Build Contract Documents, have requested that proposers include options for incorporating renewable energy production in the replacement bridge.
- C 13-5:** Project planning must consider the impact on climate of a massive new project that will shape traffic patterns for generations.
- R 13-5:** Project planning has done precisely that, by analyzing the greenhouse gas emissions (see Chapter 13, "Energy and Climate Change," of the FEIS).

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C 13-6: Section 13-3 starts "The operation of the Replacement Bridge Alternative would result in some local reduction in traffic congestion on the bridge." Whether this reduction will occur and the size of this reduction are not clearly substantiated in the DEIS. The DEIS also states that, "since the operation of the Replacement Bridge Alternative would have no adverse impact on energy use and greenhouse gas emissions, mitigation would not be required." To make such conclusions requires a quantitative analysis, and such an analysis should be carried out.

R 13-6: The DEIS substantiated in detail that the project would result in reductions in congestion, and in no increased traffic volumes. It is not necessary to quantify the resulting reduction in emissions in order to conclude that emissions would, in fact, be lower.

C 13-7: Can bicycle connections impact energy savings?

R 13-7: To the degree that bicycle trips replace vehicular trips (recreational and commuter) they do reduce energy use. The project would provide a shared-use path on the bridge to help promote cycling. As a conservative approach, the energy and greenhouse gas analysis did not include this project benefit, so as to disclose the reasonable worst-case scenario.

C 13-8: The DEIS states that greenhouse gas emissions will not change because of improved vehicle emission standards and fuel efficiency, yet in the same sentence states that an increase in vehicles miles traveled may outpace the emission reductions. The omission of transit alternatives can only serve to ensure this prediction comes true. The DEIS claims that the project is consistent with the New York State Smart Growth Public Infrastructure Policy Act. However, the project is inconsistent with at least 2 of the 10 criteria:

- Item F - ""To provide mobility through transportation choices including improved public transportation and reduced automobile dependency"".
- Item J - ""To promote sustainability by strengthening existing and creating new communities which reduce greenhouse gas emissions and do not compromise the needs of future generations"".

The New York State Climate Action Council Climate Action Plan Interim Report (November 2010), identifies the means by which the State can achieve a 40% reduction in Green House Gas emissions by 2030. The Report presents a range of transportation and land use mitigation strategies, including: mass transit, priority growth centers; transit-oriented development and ""location-efficient"" land use. Location-efficient land use is described as ""implementing mixed-use, smart growth land-use, and planning policies that result in communities that require less driving"". As there is not any specific additional capacity for transit, or measures to mitigate driving, the project proposal effectively induces driving and precludes "location-efficient land use."

R 13-8: The commenter has misunderstood what the DEIS states: the DEIS states that greenhouse gas emissions will not increase as a result of the project. Changes related to emission standards and background traffic growth are not a consequence of the project and serve simply to describe the background condition. As described in the DEIS, the project would alleviate congestion locally by enabling better and faster clearing of accidents on the bridge, which are currently frequent. Furthermore, the Replacement Bridge Alternative would not induce additional vehicle trips.

The commenter is correct that the project does not resolve the state wide concern over greenhouse gas emissions, but it does help reduce the growth of such emissions throughout the lifetime of the replacement bridge. The State and its agencies fully support the greenhouse gas reduction goals and expanding and improving transit in the region is recognized as an essential part of achieving that goal. The project has been designed so as not to preclude transit options across the bridge. If implemented in the future, it would reduce corridor-related greenhouse gas emissions. The project is not expected to induce any growth in land use, transit-oriented or otherwise, and would enable the addition of transit in the future. Since the project would replace the existing bridge, which had no option for adding transit, with a bridge which would not preclude adding transit, this supports the development of transit, and a transit project (which would require additional planning, funding, and possibly changes along roadways or other access up- and downstream of the bridge) would not be possible.

C 13-9: According to the New York State Energy Research and Development Authority, "the transportation sector consistently made the largest contribution to greenhouse gases over time." Also, according to the New York State Climate Action Council, one of the four key strategies for meeting this emissions reduction goal is "reducing combustion from fossil fuels [because]... combustion accounts for about 87% of all GHG emissions in New York State, with the largest fraction coming from the transportation sector (38%)..." That report goes on to explain how a reduction in vehicle miles traveled and increased smart growth planning are necessary elements of meeting the state's greenhouse gas goals. However, public transit, vehicle mile reduction and smart growth plans were thrown out of the Tappan Zee process. The BRT system was projected to prevent the emission of 12,000 tons of CO₂ per year - and that is before accounting for the additional savings that can be obtained with smart growth development around transit. Heat exchange pumps and efficient lighting are not sufficient substitutes for these measures.

R 13-9: Heat exchange pumps and efficient lighting are not presented as substitutes for transit—those and other measures under consideration are simply additional means to reduce greenhouse gas emissions. As described above, the project would not preclude transit within the Interstate 287 corridor when funding and a viable plan are secured.

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- C 13-10:** An executive order executed by former Gov. David Paterson and continued by Gov. Cuomo states that New York should implement plans and policies that will achieve a reduction in greenhouse gas emissions, with the specific goal of reducing emissions by 80% from 1990 levels by 2050. To attain this 2050 goal, transportation projects must consider ways of reducing the use of personal vehicles and expanding mass transit options. Instead, the preferred alternative expands the capacity of the corridor to carry personal vehicles across the Hudson River while failing to address any mass transit options. The design of the preferred alternative therefore would appear to be inconsistent with this Executive Order and the goals of New York State to reduce air pollution and greenhouse gas emissions.
- R 13-10:** The project would be designed so as not to preclude transit—see the response to Comment 2-34 for more details. The commenter is correct that the project does not resolve the state wide concern over greenhouse gas emissions—no project does—but it does help reduce the growth of such emissions throughout the lifetime of the replacement bridge. The mandate under Executive Order 24 is for the State agencies to develop a climate action plan—an effort that is currently under way. The project would not prevent any future actions to add transit across the bridge and is making all practicable efforts to reduce greenhouse gas emissions both during construction and operations. As such, the project is consistent with State policies regarding climate change.

24-2-14 CHAPTER 14: TOPOGRAPHY, GEOLOGY, AND SOILS

- C 14-1:** Seismic issues are raised quite appropriately in sections of the DEIS that denigrate the current bridge and any practical rehabilitation option, but these issues are not sufficiently developed in the DEIS in the context of their likely influence on the scale of construction efforts, on the environmental impacts of the necessary type of construction of foundations, and on the costs of a replacement bridge.
- R 14-1:** The preliminary designs of the two structural options presented in the DEIS have accounted for extreme event load cases, including wind events, ice loads, ship impacts and earthquakes, as required by the American Association of State Highway and Transportation Officials (AASHTO) and the New York State Department of Transportation (NYSDOT), which are the governing bridge design standards. Therefore, the influence of seismic demands on construction efforts, environmental impacts of construction methods and cost are all reflected in the corresponding DEIS analyses. The specific contributions of seismic demands are not broken out (and, in fact, cannot be broken out), just as the specific demands associated with vehicle loads, wind, or the weight of the bridge itself are not broken out. All seismic and other load considerations will be fine-tuned in accordance with all applicable design standards and as appropriate for the bridge's location as the design process progresses.

- C 14-2:** The section on what is known about active faulting and earthquake activity in the last three hundred years needs revision to incorporate our best current, albeit incomplete understanding, of activities in the Lower Hudson Valley.
- R 14-2:** A Probabilistic Seismic Hazard Analysis (PSHA) has been completed by experts at Mueser Rutledge Consulting Engineers, which accounts for the most current understanding of seismicity in the Lower Hudson Valley. This analysis has been peer reviewed by Dr. Norman Abrahamson of the University of California at Davis, a seismic expert. The PSHA was provided as a reference document with the Design-Build Contract Documents.
- C 14-3:** The notion that seismic retrofit of the existing bridge is impracticable, and therefore warrants a new bridge if designed properly to be earthquake resilient is appropriate, but use of that argument against the current bridge and/or a seismic retrofit should lead to the way a replacement bridge will achieve earthquake resistance. The DEIS does not give the minimum requirements for seismic considerations (other than referring to only standard AASHTO and NYSDOT guidance), nor does it describe what seismic analysis methods will be needed for design/build companies for inclusion in their initial proposals. The DEIS does not explain how these proposals will be evaluated by the NYSDOT and its engineering consultants, to ensure that dynamic seismic issues will be addressed at the level of professional competence that is commensurate with the importance of, and geotechnical challenges to, any new bridge, whatever its proposed design principles, structural safety, and longevity.
- R 14-3:** The proper design of the new bridge for seismic resistance is an engineering consideration, not an environmental issue, and is therefore not addressed in the DEIS. The engineering criteria for all aspects of the design of the new bridge, including seismic design, are addressed in the Project Requirements contained within the Request for Proposals that governs the design-build procurement process. The PSHA has been included in the Design-Build Contract Documents and influenced the governing Acceleration Response Spectra for design.

24-2-15 CHAPTER 15: WATER RESOURCES

- C 15-1:** The Village [of Piermont] depends on clear access to its marinas. The Village Board has received comments about the build-up of silt along our shoreline since the construction of the existing bridge 60 years ago. Individual marina owners also express similar concerns about the build up of silt following the construction of the existing Tappan Zee Bridge and the effect this has had on small business owners. This build-up of silt has made the approach channels shallower, limited the ease of access to our marinas, and requires periodic dredging. This limited ease of access will stop people from coming into the marinas, whether to keep their boat there or come for dinner or any purposes to visit Piermont. Larger vessels that used to be able to access our marinas have left for other locations due to the insufficient depth. We need to be reassured that the construction of the new spans does

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not increase silting down river from the bridge, further adding to an existing problem in the Village. We would hope hydrologic studies have been performed or accessed from experts (such as Columbia University LDEO or the USGS) to adapt the final design to perhaps reverse the existing silting condition. This issue has tremendous economic impact to the Village of Piermont and its business community.

- R 15-1:** As presented in Section 15-3-2 of the DEIS, potential pier scour and depositional zones resulting from the Replacement Bridge Alternative were predicted using relationships established in the Federal Highway Administration (FHWA) Hydraulic Engineering Circular No. 18 (HEC-18) with some parameters calibrated based on observations of existing conditions observed during hydrographic surveys conducted for the project. Section 15-5-2-3 of the DEIS presented the results of the scour and depositional analysis and concluded that due to the reduction in the number of piers that would result from the Replacement Bridge Alternative (188 piers for the existing bridge as compared with 58 and 32 piers for the Short and Long Span Options, respectively) and the increased distance between piers, there would be less scour, and therefore, less sediment resuspension and movement.
- C 15-2:** Increased development from the construction of this new bridge could, in turn, increase impermeable surface coverage, which would cause more runoff to enter surface waters in the Hudson River watershed, as opposed to being absorbed into soil and groundwater, possibly triggering water quality issues. This would include increased point sources, due to the construction of new storm water and sewage outfalls to accommodate the increased capacity of a larger population, as well as general storm water runoff from non-point sources, which will flow into surface waters because of the increased impervious ground coverage. In addition, the effects of suburban sprawl should not be limited to Rockland and Westchester Counties. Orange County municipalities discharge into tributaries of the Hudson River as well, and so the lead agencies should study the suburban sprawl impacts on water quality as far away as Orange County. The failure to assess the potential consequences of water runoff renders the DEIS' conclusions regarding volume capacity completely inadequate.
- R 15-2:** Chapter 5, "Community Character," evaluates the project's compatibility with local land use regulations and land use planning policy documents. This analysis concludes that the project would not cause a substantial change in the type or intensity of land uses in the study area. Therefore, the project would not result in an increase in impervious surface coverage or an increase in runoff discharging to the Hudson River.
- C 15-3:** Because of recent storms and climatic changes, properties along the riverfront have experienced higher water turbulence and flooding. FEMA indicated that work being done under the Tappan Zee Bridge could also be contributing. All appropriate measures should be implemented to minimize

stormwater impacts to nearby properties from the project, whether that includes dredging or other measures.

R 15-3: As presented in Section 15-5-2-2 of the DEIS, the use of a portion of the 100-year and 500-year floodplain within Rockland County would not result in adverse impacts to floodplain resources or result in increased flooding of adjacent areas. The piers for the replacement bridge would be located within the Hudson River 100-year floodplain but would not result in increased flooding of adjacent areas.

C 15-4: The existing bridge has a long level span, distributing the runoff, while the new bridge will have a long constant grade span, potentially concentrating the runoff on the Rockland side. Therefore, water quality controls on the bridge should be mandatory, and should be relatively easy to implement in the open areas under the spans.

The DEIS indicates that the Hudson River is not listed in the State's 303(d) list of impaired water bodies. It further indicates that on the new landings and bridge, stormwater runoff would be discharged directly to the Hudson River without treatment, as occurs on the existing bridge (page 15-19). On page 15-20 the DEIS states that under both the Short and Long Span options, the ability to provide stormwater quality treatment for the proposed modification to the landings would be constrained by a number of factors that would preclude the development of large water quality management facilities. We recommend that the EIS identify and detail all alternative means for collecting and treating storm water runoff from the new bridge and approaches prior to discharge into the Hudson River.

R 15-4: Section 15-4-2-3 identifies the portion of the Hudson River within the study area as being included in the 2010 New York State 303(d) list due to the presence of contaminated sediment containing Polychlorinated Biphenyls (PCBs). NYSDEC does not regulate the discharge of runoff from bridges. As described in Section 15-3-1 of the DEIS, potential effects to Hudson River water quality due to the discharge of stormwater runoff from the project were assessed by considering the change in impervious surfaces and changes in pollutant loadings discharged to the Hudson River. Section 15-5-2-2 presents the results of the analysis of potential environmental effects to surface waters from the Replacement Bridge Alternative. Water quality treatment measures are proposed to capture and treat the stormwater runoff from the landing areas, as presented in Table 15-8, Pollutant Loading Comparison for Landings Only. The treatment measures implemented would include those demonstrated to be equal to the performance criteria required by the State of New York. With the implementation of these measures, there would be no adverse impacts to water quality of the Hudson River from the Replacement Bridge Alternative.

C 15-5: The Replacement Bridge Alternative analysis presumes no increase in traffic volumes despite a 25% increase in capacity. The state must reevaluate its traffic projections as noted above and, if traffic is projected to increase, the

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water quality analysis that includes all impacts must be redone as well, including potential salinity impacts caused by de-icing.

- R 15-5:** As presented in Section 4-5-1-1, future traffic volumes for the No Build and Replacement Bridge Alternatives are a function of the regional travel demand and the highway network that support the Tappan Zee crossing in Rockland and Westchester Counties. The traffic using the Replacement Bridge Alternative would be constrained by the maximum capacities of the adjacent roadways, which are less than that of the Replacement Bridge Alternative. Therefore, project would not result in increased traffic volume.
- C 15-6:** Provide more specific guidance to the design-build team. Do not eliminate all green practices.
- R 15-6:** Project site constraints would limit the feasibility for integrating green infrastructure practices into the Stormwater Pollution Prevention Plan (SWPPP) for the Replacement Bridge Alternative.
- C 15-7:** Table 15-8, page 15-21 states that stormwater runoff from the bridge span will be discharged directly to the Hudson River. EPA recommends that FHWA use stormwater collection and treatment from the bridge to minimize oil, grease and other contaminants reaching the Hudson River. The North Carolina Department of Transportation has a "Stormwater Management Best Management Practices Toolbox". EPA also recommends the Alaska University Transportation Center Report (2010) entitled "Bridge Deck Runoff: Water Quality Analysis and Best Management Practices Effectiveness".
- R 15-7:** As presented in Chapter 15, "Water Resources," the NYSDEC SPDES regulatory program does not require treatment of runoff from bridges. Runoff from the existing bridge and bridge landings is currently not treated. The landings for the Replacement Bridge Alternative would require post-construction stormwater management in accordance with the NYSDEC General Permit GP-0-10-001. The cited North Carolina Department of Transportation "Stormwater Management Best Management Practices Toolbox" indicates that there are instances when it may not be practicable to eliminate direct discharge to water bodies, including when the volume of stormwater runoff from deck drains is small relative to the volume of the water bodies and sites for effective treatment are scarce. The Alaska University Transportation Center Report relies on information from National Cooperative Highway Research Program (NCHRP) Report 474: Assessing the Impacts of Bridge Deck Runoff contaminants in Receiving Waters Volume 1: Final Report and Volume 2: Practitioners Handbook (http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_474v1.pdf, and http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_474v2.pdf).

NCHRP Report 474 Volume 1 indicates that there are instances when avoiding direct discharge from bridges to a waterway is impractical, excessively costly, or provides little actual environmental benefit. Receiving water type is one of the factors that should be considered in evaluating the effects of bridge runoff. Volume 1 of NCHRP Report 474 concludes that the

effect of bridge runoff on aquatic organisms will likely be limited to poorly flushed systems in which dilution is low, and the exposure time is high. This condition would not occur for the Replacement Bridge Alternative. At the project site, the Hudson River is a well flushed system with sufficient volume to dilute the runoff discharged from the Replacement Bridge Alternative.

As discussed in Chapter 15, under both the Short Span and Long Span Options, the ability to provide stormwater quality treatment for the proposed modification to the landings, which would be required by NYSDEC regulations, would be constrained by a number of factors (e.g., limited right-of-way, proximity to the shoreline, and depth to water and bedrock) that would preclude the development of large water quality management facilities. Given these site constraints on treating the runoff from the landings, conveying runoff from the bridge to the landings for treatment, which is not required under NYSDEC regulations, was considered impractical. However, as recommended by the USEPA as a management practice for bridges within the coastal zone (NCHRP Report 474), the treatment of runoff from the bridge landings would offset the increase in pollutant loading that would result from the Replacement Bridge Alternative. With the treatment of the runoff from the bridge landing areas, the Replacement Bridge Alternative would result in a net decrease in pollutant loading to the Hudson River for TSS and about a 10 percent increase for TP. The increase in TP loadings would not result in adverse impacts to water quality of the Hudson River. Additionally, The NYSTA's maintenance practices entail sweeping the bridge based on the accumulation of road debris along the barrier and railing to prevent operational problems.. NCHRP Report 474 identified street cleaning as a practical alternative to off-site management of bridge runoff (NCHRP Report 474) that has been demonstrated to reduce pollutant loading from bridges.

- C 15-8:** Chapter 15 describes existing groundwater, floodplain and surface water resources in the study area. We consider these issues to be important with respect to the use and management of coastal zone resources. As a consequence, we think it is appropriate to acknowledge the Coastal Zone Management Act implications of this project in the regulatory context discussion. We further suggest that you edit the section on salinity to provide an explanation for the different ways that salt concentrations are characterized for the salt front and salinity regime generally. (
- R 15-8:** Chapter 20, "Coastal Area Management," of the DEIS provided a detailed discussion of the compliance of the Replacement Bridge Alternative with the policies set forth to implement New York State's Coastal Management Program (CMP), including those related to groundwater, floodplain and surface water resources. Comment on salinity section noted.

24-2-16 CHAPTER 16: ECOLOGY

- C 16-1:** The Hudson River must be protected. The DEIS completely fails to account for the severe impacts to the river that would result if the State's plan is

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carried out. By illegally eliminating alternative proposals and ignoring the river impacts, the State is trying to fool the public into believing that its proposal is the only one worth supporting, and the impacts won't be that bad. This is a whitewash, plain and simple. The health of the Hudson River is critical to the health of our local communities, our economy and many species of fish that populate the western North Atlantic, and must not be sacrificed for the latest "Robert Moses"- inspired monstrosity proposed in the name of progress. Bridge construction would require a massive dredging and pile driving project that would destroy critical fish habitat, disrupt fish spawning migration, kill endangered Shortnose and Atlantic Sturgeon and other important and already stressed species and spread possibly contaminated river sediment throughout the sensitive and vital Tappan Zee "Bay" area. We must find a way to solve our transportation problems without sacrificing the River.

R 16-1: Chapter 2, "Project Alternatives," establishes the alternatives evaluated in the EIS. The EIS provides a thorough analysis of potential effects to the Hudson River and aquatic biota. The potential effects during operation of the bridge are discussed in Chapter 16, "Ecology." The potential effects during construction, including the effects of pile driving and resuspension of sediments, are discussed in Chapter 18, "Construction Impacts." Where adverse impacts are identified, mitigation is proposed, and is being coordinated with the regulatory agencies having jurisdiction over the resources.

FHWA, NYSDOT, and NYSTA are committed to implementing compensatory mitigation measures to achieve a net conservation benefit under 6 NYCRR Part 182 proposed for the project by the NYSDEC (see **Appendix F-12**).

The proposed compensatory measures include:

- Measures that would achieve a net conservation benefit—mapping of Hudson River shallows to document benthic habitat used by sturgeon; study sturgeon foraging habits; sturgeon capture and tagging; tracking of acoustically marked sturgeon (stationary and mobile tracking); and preparation of written material to be used as part of ongoing outreach to reduce impacts of commercial by-catch of Atlantic sturgeon in the near shore Atlantic Ocean.
- Restoration of 13 acres of hard bottom/shell oyster habitat in the immediate vicinity of the existing bridge and reintroduction of oysters to the habitat;
- Development of a secondary channel restoration project at Gay's Point, Columbia County; and
- Wetlands enhancement at Piermont Marsh that includes *Phragmites* control on approximately 200 acres within the marsh, restoration of flow to an historic oxbow, development of a green infrastructure project to

improve the quality of runoff entering Sparkill Creek and restoration of historic wetlands at the northern end of the marsh.

Measures that would achieve a net conservation benefit under 6 NYCRR Part 182 include:

- Mapping of Hudson River shallows to document benthic habitat used by sturgeon;
- A study of sturgeon foraging habits;
- A sturgeon capture and tagging study;
- Tracking of acoustically marked sturgeon (stationary and mobile tracking); and
- Preparation of written material to be used as part of ongoing outreach to reduce impacts of commercial by-catch of Atlantic sturgeon in the near shore Atlantic Ocean.

C 16-2: The Hudson River, and in particular the areas around the Tappan Zee, are critical to migratory fish and wildlife, critical as a nursery for spawning fish, critical to fish that populate the entire Western North Atlantic. Many Hudson River fish populations are in decline. Some are listed as endangered. You must find a way to solve our transportation problems without sacrificing the river. Those days are gone. This DEIS is fatally flawed because the technique used to do fish population studies was inadequate, especially in regard to endangered shortnose sturgeon and recently listed Atlantic Sturgeon. It's a matter of public record that the methodology used was, quote, inadequate, end quote. So it's no surprise then that you determined that there would be minimal harm to these species. This also means that the information you've provided to permitting agencies was incorrect and permits granted will not be based on actual conditions in the river.

R 16-2: Through consultation with NMFS and NYSDEC, the estimate presented in the DEIS reflecting the number of Atlantic and shortnose sturgeon potentially impacted by construction activities (specifically pile-driving activities) was revised to reflect an increased encounter rate of 0.03 fish per net per hour. The revised analysis is presented in Chapter 18, "Construction Impacts," and in the revised Biological Assessment (BA) (see **Appendix F-10**), and is consistent with the NMFS Biological Opinion (BO) issued on June 22, 2012 (see **Appendix F-6**). Both NMFS and NYSDEC were in agreement with these revisions.

C 16-3: This project's dredging and pile driving work may also negatively affect the endangered species and should be examined more thoroughly. For example, the biological assessment states "while dredging and armoring of the bottom will result in a temporary reduction in foraging opportunities [for the Shortnose and Atlantic Sturgeon], the project will not jeopardize the continued existence of the shortnose or Atlantic sturgeon populations of the

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Hudson River." This insufficiently conclusory and more information is needed.

- R 16-3:** Assessment of the potential effects of dredging and pile driving on the Hudson River fish community was based on the best available information in the form of empirical data, peer-reviewed scientific literature and technical studies conducted during similar construction activities at other locations. Furthermore, NMFS in its BO provides a thorough analysis of the potential effects to shortnose and Atlantic sturgeon from project activities and concludes that "due to the relatively low level of risk that an individual shortnose sturgeon would be captured in the slow moving dredge bucket, no more than one shortnose sturgeon and no more than one Atlantic sturgeon is likely to be captured during each year that dredging occurs." Dredging impacts will be minimized through the use of best available technology in the form of a mechanical dredge with an environmental bucket to reduce the likelihood of sturgeon entrainment and sediment resuspension. Provisions are being made to have a trained observer present for the dredging operation so that any live sturgeon captured in the dredge will be collected and returned to the river at a location away from the project site. See also response to Comments 16-1 and 16-2 above. Results of the PIDP indicate that the spatial extent of underwater noise generated during pile driving will be considerably smaller than the extent predicted by the JASCO (2011) hydroacoustic model. In its BO, NMFS determined that "all behavioral effects will be insignificant and discountable" and that there is "no reason to anticipate any take of shortnose sturgeon due to any of the other effects including vessel traffic and dredge disposal." NMFS concluded that it is their "biological opinion that the proposed replacement of the Tappan Zee Bridge as described in section 3.0 of this Opinion, may adversely affect but is not likely to jeopardize the continued existence of shortnose sturgeon or any DPS of Atlantic sturgeon."
- C 16-4:** What are the costs of protecting the Hudson River, and who will bear these costs?
- R 16-4:** A number of measures, including Environmental Performance Commitments (EPCs), construction means and methods, and mitigation measures, have been incorporated into the project design to protect the Hudson River and aquatic habitats and to ensure that the project would be constructed in an environmentally sensitive fashion. As discussed in more detail in the response to Comment 16-5, the EPCs include measures such as the use of silt curtains and cofferdams to minimize the discharge of sediments into the river, the use of bubble curtains and other technologies to minimize acoustic effects to aquatic biota, and limiting the time of year during which dredging can occur in order to avoid times of peak biological activity in the river. The costs of these measures have already been incorporated into the overall cost estimate for the project and cannot be quantified or broken out.
- C 16-5:** Incorporate protection for shad, bass, sturgeon etc.

R 16-5: Protection for Hudson River fish species, including American shad, striped bass, shortnose and Atlantic sturgeon, among others, has been incorporated into the project's construction plan through a number of different strategies intended to minimize the potential impacts to the fish community. Measures specified in the BO and in the EPCs (see Chapter 18, "Construction Impacts") include:

- Driving the largest [3 and 2.4 m (10 and 8 ft)] diameter piles within the first few months of the project thereby limiting the period of greatest potential impact.
- Using cofferdams and silt curtains, where feasible, to minimize discharge of sediment into the river.
- Using a vibratory pile driver to the extent feasible (i.e., all piles will be vibrated at least to 36.6m (120ft) depth or to vibration refusal) particularly for the initial pile segment.
- Using bubble curtain, cofferdams, isolation casings, Gunterboom, or other technologies to achieve a reduction of at least 10 dB of noise attenuation.
- Using the results of the Hudson River site-specific PIDP to inform the project on the effectiveness of BMP technologies for reducing sound levels, and implementing BMPs to achieve maximum sound reduction.
- Limiting the periods of pile driving to no more than 12-hours/day.
- Limiting driving of 8 and 10 ft piles with an impact hammer within Zone C [water depths 5.5-13.7 m (18-45 feet)] to 5 hours per day during the period of spawning migration for shortnose and Atlantic sturgeon (April 1 to August 1).
- Maintaining an acoustic corridor where the sound level will be below an SEL_{cum} of 187 dB re $1 \mu Pa^2 \cdot s$ totaling at least 5,000 ft at all times during impact hammer pile driving. This corridor shall be continuous to the maximum extent possible but at no point shall any contributing section be smaller than 1,500 ft.
- Pile tapping (i.e., a series of minimal energy strikes) for an initial period to cause fish to move from the immediate area.
- Development of a comprehensive monitoring plan. Elements would include:
 - Monitoring water quality parameters such as temperature, salinity, and suspended sediment concentrations in the vicinity of the pile driving.
 - Monitoring fish mortality and inspection of fish for types of injury, as well as a program for determining contaminant levels in dead sturgeon through tissue analysis methods.

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- Monitoring the recovery of the benthic community within the dredged area at the end of the construction period.
 - Supporting the Atlantic and shortnose sturgeon sonic tagging program through coordination with NMFS and NYSDEC. This may include placement of telemetry receivers in the project area.
 - Monitoring predation levels by gulls and other piscivorous birds, which would indicate that they are finding an increased number of dead or dying fish at the surface.
 - Preparing a Standard Operating Procedures Manual outlining the monitoring and reporting methods to be implemented during the program.
- In addition, dredging (using a clamshell dredge with an environmental bucket and no barge overflow) would only be conducted during a three-month period from August 1 to November 1 for the three years of the construction period in which dredging would occur, which would minimize the potential for interaction with the dredge and migration effects to sturgeon and other fish species.
 - Armoring of the channel to prevent re-suspension of sediment during the movement of construction vessels, installation and removal of cofferdams, and pile driving.

C 16-6: The DEIS states that individual Indiana bats (*Myotis sodalis*; a Federally-listed endangered species) that are associated with a known hibernaculum located within 40 miles of the project site may move into the area to breed and that coordination with the Service will occur prior to the removal of trees with a diameter at breast height (dbh) greater than four inches. However, in order to comply with the Endangered Species Act (ESA), the FHWA or its designated representative must make a determination as to whether the proposed project may affect the Indiana bat once the full potential for impacts is known. To do this, the FHWA or its designated representative must determine whether the proposed project would result in (1) no effect (no further action required); (2) may affect, but not likely to adversely affect (requires concurrence from the Service); or (3) likely to adversely affect (requires formal consultation pursuant to Section 7(a)(2) of the ESA). If formal consultation is required, we recommend that consultation be initiated as soon as feasible so that any conservation measures developed during this consultation can be incorporated into the project design. Note that the lead Federal agency “shall make no irreversible or irretrievable commitment of resources that would prevent formulating or implementing any reasonable and prudent alternatives for the action” (50 CFR 402.14) until the requirements of Section 7(a)(2) are satisfied (e.g., the formal determination of “no effect” by FHWA; the Service’s concurrence on a “not likely to adversely affect” determination; or FHWA’s receipt of a biological opinion from the Service, in the event of a formal consultation). Please contact the Service’s New York Field Office for assistance in making this determination.

- R 16-6:** FHWA has consulted with NYSDEC and USFWS regarding the potential presence of, and impacts to, Indiana bats in the project area. NYSDEC has determined that the project will result in “no incidental take of Indiana bats or their habitat and thus no Incidental Take permit is required for this species.” In a letter dated June 20, 2012, USFWS stated that given the project location, linear nature, and the timing of the tree removal, they do not anticipate any measurable impacts to the Indiana bat and thus concur with the determination made by FHWA and NYSDOT that the proposed project may affect, but is not likely to adversely affect, the federally-listed endangered Indiana bat (USFWS 2012, see **Appendix F-8**).
- C 16-7:** With respect to migratory birds, the Hudson River Valley provides an important migration corridor. As mentioned in the DEIS, the western side of the river provides ideal conditions for raptor migration. However, the document falls short of recognizing the river as migration stopover habitat for numerous shorebirds, water birds and waterfowl. Several Important Bird Areas, as designated by Audubon, are found in the Hudson River Valley north of the project site. The DEIS indicates that there will be low levels of disturbance to birds from bridge construction. It indicates that birds habituate to bridge traffic and would not be impacted by human activity and noise levels associated with replacement bridge construction. We note that vehicle traffic and construction activity affect birds in different ways and are generally not comparable. Impacts to nesting peregrine falcons seems likely given the close proximity of the proposed bridges to the existing one. Displacement of the breeding pair is plausible although may not be permanent. This should be mentioned in the text. There is a significant height difference between the two designs. The arch design more closely resembles the height of the existing bridge and would require less supporting cables. Therefore, we recommend this option as the one with less impact. What the DEIS fails to mention is the amount of bridge cross section within the airspace. The profiles of both proposed alternatives are substantially more than the existing causeway design. The additional structure within the airspace poses a somewhat greater collision risk to birds, especially during inclement weather, even if the bridge heights are similar. The DEIS indicates that that the bridge lighting will be the most important factor in determining avian collision risk. Bridge location, height, design, adjacent habitat and weather all play important roles in collision risk and the text should be reworded to reflect this. We recommend a citation for the first sentence on Page 16-29. We note that there have been very few scientific studies conducted to document avian collision risk at bridges. There will be bridge deck lighting required, in addition to the FAA warning lighting mentioned. Deck lighting should be minimized to the extent possible, be shielded down onto the road surface and not consist of high-pressure sodium lights, if possible. The important design aspect is to not let bright white light stray from the structure, especially skyward. We recommend that the FEIS reflect the lead agencies’ commitment to minimizing potential lighting impacts on wildlife, including seasonal adjustments to lighting during migration, especially during periods of inclement weather and poor visibility.

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R 16-7: There is little empirical evidence that migrants are any more concentrated over the river than any land area to the east or west. This is particularly so for night-migrants which are almost entirely Nearctic-Neotropical passerines that do not follow corridors or distinct flyways, but rather migrate in broad fronts. There is no reason to expect higher volumes of these birds to pass through the project area than any other part of Westchester and Rockland Counties. As mentioned in the DEIS, the project site is not in an area where migrating landbirds or waterbirds become funneled or concentrated.

The DEIS acknowledges that the Palisades ridgeline north of the study area provides updrafts that are attractive to migrating diurnal raptors, but birds riding these updrafts are a minimum of hundreds of feet higher than the tallest point of the existing bridge or either replacement bridge design.

The DEIS recognizes the usage of the river by waterbirds (including waterfowl) during the breeding season and winter, and concludes that many such birds may avoid the project area during bridge construction activity. As stated in the DEIS, this temporary displacement is not considered to have the potential to significantly affect these species given the small size of the project area relative to the extensive areas of river that would remain unaffected and accessible. Section 16-4-1-2, "Wildlife," of the FEIS acknowledges the potential presence of waterbirds in the river during migration as well.

Migrating shorebirds are not expected to stop over in the study area because mudflats or beaches that would provide appropriate stopover habitat are lacking. As stated in the DEIS, the shorelines on both sides are heavily engineered and do not offer shallow or exposed areas that would be used by shorebirds. Shorebirds would not be expected to use the cove south of the Rockland landing, which only has small areas of exposed mudflat during low tide, as a stopover site because of its small size and levels of disturbance in the surrounding area. For the same reason, long-legged wading birds (e.g., herons and egrets) are unlikely to occur along the sides of the river within project area, with the exception of the highly abundant and disturbance-tolerant black-crowned night heron.

The closest Audubon Society Important Bird Areas (IBA) are Rockefeller State Park and Hook Mountain, both of which are more than 3 miles north of the site. At this distance, project construction and operation activities are not considered to be capable of affecting birds inhabiting either area.

There are no known studies that suggest birds or other wildlife are disturbed differently by traffic and construction noise. The type of noise is inconsequential, and it is the volume of a new noise (whether it come from traffic, construction, or other form of human activity) above background noise levels to which animals are accustomed that usually determines the degree of disturbance. As mentioned in the DEIS, the combination of degraded and limited habitat, and extremely high levels of noise and other human activity on and in the vicinity of the bridge has resulted in bird communities that are composed of disturbance-tolerant, urban-adapted,

generalist species. Given the existing levels of noise and other human activity to which birds are accustomed and the low disturbance sensitivity of these species, replacement bridge construction is not expected to elevate noise levels to the point that there would be significant disturbance to birds.

At the request of the New York State Department of Environmental Conservation, peregrine falcons were monitored during the PIDP to document their response to preliminary pile driving (see **Appendix F-13**). Results of 45 total hours (over 15 days) of direct observations of the peregrine falcons and their nest site indicate that the birds are highly indifferent to disturbances, including large maintenance vehicles and work crews operating directly under the nest, in addition to the consistent visual disturbance, noise, and vibration associated with the high volume of cars and trucks moving at high speeds across the bridge during normal operation. Observations made before and during the pile driving work, including impact hammering of test piles, provided no indication that the birds are disturbed by or took any notice of the additional activity in the distance. Nest site abandonment is considered extremely unlikely for these reasons and those already given in the DEIS. The DEIS considers the possibility of nest site abandonment, which now seems even less probable considering the results of the monitoring report (see **Appendix F-13**).

Chapter 16, "Ecology," of the EIS describes differences in height and cable requirements between the "cable-stayed" and "arch" design options, and accordingly, states that the risk for bird collisions may be slightly greater with the former than the latter simply based upon its taller height and use of more support cables. However, it is maintained that such a difference in collision risk would be negligible or even immeasurable because bird collisions with either design (or with the existing bridge) would likely be an extremely rare occurrence (on the basis of the reasoning laid out on pages 16-28 to 16-30 of the DEIS and in Section 16-5-2 of the FEIS). The best assessment that is possible with the information available is the qualitative assessment currently given in the EIS; namely, the cable-stayed option may pose a slightly greater risk for collisions than the arch option simply based on the additional height and use of cables, and that both replacement bridge design options may pose a slightly greater collision risk than the existing bridge because they intersect a greater volume of airspace.

On page 16-28 of the DEIS, it is already noted that these factors, particularly height and the use of support cables in structure designs, have an important influence on bird collisions with artificial structures. A citation has been added to the first sentence of page 16-29 (Manville 2005).

The Design-Build Contract Documents issued for the project specify that deck lighting is to follow recommendations of the Illuminating Engineering Society's "American National Standard Practice for Roadway Lighting" and "Technical Memorandum on Addressing Obtrusive Light (Urban Sky Glow and Light Trespass) in Conjunction with Roadway Lighting" to minimize light pollution. Accordingly, semi-cutoff or full cutoff lights that restrain light at or below the horizontal plane would be used to the fullest extent possible while

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still meeting design standards. Adjustments to lighting during periods of fog and precipitation during spring and fall migration periods would also be considered to the extent permissible under bridge and interstate lighting regulations.

- C 16-8:** EPA recommends that revegetation efforts should use native plants, including South Nyack Historic District noise walls.
- R 16-8:** As discussed in Chapter 18, "Construction Impacts," disturbed areas not occupied by permanent structures would be revegetated with native species indigenous to this region of New York to the greatest extent practicable in accordance with a landscape plan that would be in compliance with E.O.13112, "Invasive Species."
- C 16-9:** Salisbury Point Cooperative has been designated a National Wildlife habitat by the National Wildlife Foundation. I am concerned about the environmental impact of the construction on the wildlife.
- R 16-9:** The National Wildlife Foundation does not designate "National Wildlife Habitat," but it does have a program that certifies or registers communities as "Certified Community Wildlife Habitat" or "Registered Community Wildlife Habitat," respectively. The National Wildlife Foundation website lists few such areas in New York State, none of which is in Salisbury Point Cooperative or elsewhere near the Tappan Zee Bridge (<http://www.nwf.org/Get-Outside/Outdoor-Activities/Garden-for-Wildlife/Community-Habitats/List-of-Community-Habitats.aspx>). Regardless, for the reasons explained throughout Chapters 16, "Ecology," and 18, "Construction Impacts," of the EIS, construction of the Replacement Bridge would not result in adverse effects to wildlife in Nyack, including Salisbury Point Cooperative, or elsewhere in the project area.
- C 16-10:** Appendix F-6 of the DEIS (which was not included in the preliminary draft) makes extensive use of data generated during long term fisheries studies (such as the Longitudinal River Survey and the Fall Shoals Survey) throughout the Hudson River and focuses on data from 1998 and 2007 to evaluate hydroacoustic impacts upon fish during pile driving during bridge construction. (See Pages F-6-2 through F-6-6). However, Chapter 16 used a year-long fish survey using hydroacoustics, gill nets, and trap nets conducted between April 2007 and May 2008 in the immediate vicinity of the bridge to characterize the fish community and examine seasonal differences in abundance. (See Page 16-20). Comparison of the results of the 2007/2008 data with the long-term studies suggests that the recent short-term investigation underestimates the fish communities in the vicinity of the bridge. Accordingly, the EIS should evaluate and account for differences between the short and long-term data. Moreover, the assessment of fish abundance, the evaluation of total fish populations presented in Table F-1-11 and the assessment of resource values discussed in Section 16-4-3-3 should be revised to consider all available and relevant data.

- R 16-10:** The 2007/2008 dataset has been augmented by the longer term Utilities dataset to provide a more robust characterization of fish populations present in the vicinity of the project and within the greater Tappan Zee region. The differences in fish-species composition and relative abundance between these two datasets are interpreted in terms of differences in the sampling programs that collected the datasets. This use of multiple sampling programs provide a comprehensive assessment of the fish community of the study area. These findings are further discussed in Section 16-4-2-2 of the FEIS. Section 16-4-3-3 of the DEIS considered datasets from both the year-long fish survey and the ten-year Utilities fish surveys.
- C 16-11:** The discussion of the status of Atlantic sturgeon needs to be updated throughout the document. On February 6, 2012, we issued two final rules (77 FR 5880-5912; 77 FR 5914-5982) listing five Distinct Population Segments (DPS) of Atlantic sturgeon as threatened or endangered. Four DPSs (New York Bight, Chesapeake Bay, Carolina and South Atlantic) are listed as endangered and one DPS (Gulf of Maine) is listed as threatened. The effective date of the listing is April 6, 2012.
- R 16-11:** The status of Atlantic sturgeon has been updated in Chapter 16, "Ecology," of the FEIS.
- C 16-12:** Shortnose sturgeon: As noted previously, the citation regarding the Hudson River population estimate appears to be incorrect. An estimate of 61,057 (95% CI 52,898-72,191) appears in Bain et al. (1998). We recommend that wherever possible, you should cite primary sources rather than subsequent publications that rely on previously published information. The citations regarding the increase in the shortnose sturgeon population also need to be clarified. Bain et al. (1998) discusses a 450% increase based on the utilities survey. Bain et al. (2000) compares the 1998 population estimate to estimates produced by Dovel in the 1970s. Please clarify the reference. Also, please clarify whether gillnet sampling occurred in January and March and whether any shortnose sturgeon were captured during those months.
- R 16-12:** The original 1998 Bain et al. (1998) citation was a report to NMFS while the Bain et al. (2007) paper was a peer reviewed publication that provided similar information. The 1998 report is cited in the FEIS. Gill-net sampling was conducted bi-monthly in December, February and April, but not in January or March.
- C 16-13:** Atlantic sturgeon: Please provide a reference for the statement, "[t]here are seven to ten genetically diverse populations of Atlantic sturgeon along the East Coast of the US and Canada." This is not the determination made by us in our final listing rules. Also, as noted above, the listing status of the 5 DPSs of Atlantic sturgeon needs to be updated throughout. Please note that Kahnle et al., (2007) provides an annual mean estimate of 863 adults (596 males and 267 females). As recently clarified by the authors of this paper, the authors consider this to be an estimate of the total number of Hudson River origin adults per year, not the number of spawning adults per year.

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- R 16-13:** Two studies provide genetic evidence for seven to ten distinct haplotypes for Atlantic Sturgeon (Wirgin et al. 2000, Grunwald et al. 2008). These references were added to support this statement in the FEIS. The Atlantic sturgeon populations identified in the above studies, specifically those of Grunwald et al. (2008) are aligned with the five DPS delineated for management purposes and are not contradictory to the DPS groupings, but rather provide support for the DPS groupings. The listing status of this species has been updated in the FEIS. Reference to, and use of, the total population estimate of 863 adult Atlantic sturgeon (rather than 863 spawning adults per year) has also been revised throughout the FEIS document, including the relevant analyses.
- C 16-14:** Candidate species (p. 16-25): It would be helpful to include the NMFS definition of "candidate species" to provide a reader the meaning of this term. A NMFS candidate species is a species for which the agency has published a positive finding on a petition to list it under the ESA or for which the agency has announced that we are conducting a status review. Please note that a status review for river herring is currently ongoing; we will use the information in the status review to determine if listing under the ESA is warranted for either or both of these species. We do not anticipate that the status review will be completed prior to the publication of the FEIS.
- R 16-14:** The definition of "candidate species" was added to Chapter 16, "Ecology," of the FEIS, along with a statement that the status review will not likely be completed prior to issuing the FEIS.
- C 16-15:** Chapter 16 describes existing terrestrial and aquatic resources that would be affected by operation of the project. These resources include a variety of wildlife, wetlands, and aquatic biota. We are particularly interested in the Tappan Zee reach of the Hudson River as an important fish habitat for a wide variety of fisheries resources and their prey. As indicated in the DEIS, these include diadromous, estuarine, and even marine species, depending upon the (seasonal) salinity regime and life history needs of particular species. We also reiterate our previously-expressed interest in maintaining and potentially expanding the remnant population of Eastern oysters and decreasing populations of American shad, blueback herring, and alewife. We particularly note that loss or adverse impacts to 13 acres of oyster habitat would not be acceptable and must be mitigated appropriately. It would be preferable to use naturally occurring oysters from the area in any mitigation plans since they appear to be best adapted to local conditions. The involved state and federal agencies should negotiate how to accomplish this task. We anticipate that any such plan will require mid-to-long term monitoring.
- R 16-15:** As discussed in the response to Comment 16-1, FHWA and NYSDOT are committed to implementing the compensatory mitigation and other measures to achieve a net conservation benefit under 6 NYCRR Part 182 proposed for the project by NYSDEC (see **Appendix F-12**).

C 16-16: In addition to presenting summaries of these subjects, this chapter discusses selected potential impacts to aquatic resources. For the impacts to vegetated wetlands, we recommend restoring the disturbed forested wetland to equal or greater value, not to equal or lesser value as stated in the DEIS. It is appropriate to require native wetland species in the final mitigation plan as proposed in the DEIS. In addition, we support adoption of the Long Span Option as this avoids and minimizes the footprint of impact in aquatic habitats consistent with the Clean Water Act 404(b)(1) Guidelines for activities proposed in waters of the United States. Furthermore, these guidelines may be a useful tool for approaching project impacts and mitigation for designated EFH and for impacts that would accrue to FWCA species. While not explicitly addressed in this chapter, you should consider habitat loss associated with construction and permanent maintenance of a portion of the staging platform in the EFH assessment and any mitigation plans developed for this project.

R 16-16: Chapter 16, "Ecology," of the FEIS includes text indicating that after construction is complete, the area would be restored as compensatory mitigation for the temporary disturbance during construction in accordance with the joint mitigation rule (Federal Register dated April 10, 2008, 73 FR 19594 through 19705). The mitigation measures that would be explored in coordination with the USACE as part of the compensatory mitigation plan would likely include the removal of the temporary access road decking and support structures, rehabilitation activities such as removal of construction and demolition debris, channel and bank stabilization, removal of invasive plant species, and restoration of a native plant community. Disturbed areas, including wetlands, will be revegetated with native species indigenous to this region of New York to the greatest extent practicable in accordance with a landscape plan that would be in compliance with E.O.13112, "Invasive Species." As presented in the response to Comment 1, FHWA and NYSDOT are committed to implementing the compensatory mitigation measures and measures to achieve a net conservation benefit under 6 NYCRR Part 182 proposed for the project by NYSDEC which will mitigate for impacts to EFH and Fish and Wildlife Coordination Act (FWCA) species.

The permanent platform has been modified to be built on pilings rather than on fill which will eliminate much of the habitat loss associated with the structure. While it is true that the net change in structure will add marginally more water column and benthic surface under the Short Span Option (net loss of 0.9 acres of bottom habitat vs. a net gain of 0.6 acres of bottom habitat under the Long Span Option) this potential difference is likely to be offset by other environmental advantages offered by the Short Span Option (see the response to Comment 2-18). First, it is anticipated that the Long Span Option would require about 8 acres more dredging than the Short Span Option and of that additional dredged area, 7 acres would be armored. Second, the range of hydroacoustic effects to fish was predicted to be low for both options but the upper end of the effects range was projected to be higher under the Long Span Option scenario (except for sturgeon). Third, for most other Replacement Bridge activities that could result in deleterious

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effects to fish habitat, the potential impacts of each option are equivalent (e.g., construction of the permanent platform, stormwater effects on water quality). Furthermore, while the BO indicated a greater number of sturgeon could potentially be physiologically affected during pile driving under the Short Span Option, the take numbers established by NMFS in assessing projected losses to injury or mortality associated with pile driving and dredging effects were extremely low and equivalent for both options. Finally, since permanent or temporary impacts to EFH and other species associated with either option will be mitigated for, as discussed above, and neither option offers a clear environmental advantage over the other, it is prudent to provide the potential contractor with some latitude in their selection of the option to be constructed.

- C 16-17:** The DEIS should provide more information about the effects of the project on endangered species. The lead agencies must ensure that the Section 7 consultation has concluded, the critical habitat of these endangered species has been determined and the results of the dredging and pile installation work are more fully explored. Section 7 of the ESA requires federal agencies to coordinate with the U.S. Fish & Wildlife Service, in consultation with National Marine Fisheries Service (NMFS), for actions that may affect listed species or their designated habitat. 50 C.F.R § 402.12 provides that formal consultation is required if it is determined that a project may affect listed species or a critical habitat. FHWA has begun the consultation process, but the lead agency may not finalize the EIS without first concluding the ESA Section 7 consultation process. In order to conclude the Section 7 consultation process, the lead agencies ensure NMFS make a determination that the construction of this bridge is "not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species." [16 U.S.C. § 1536(a)(2).] This finding must be made before the project may proceed.
- R 16-17:** Section 7 consultation has been completed and NMFS has issued their Biological Opinion (see **Appendix F-6**) indicating that the project is not likely to jeopardize the continued existence of shortnose or Atlantic sturgeon in the river or result in the destruction or adverse modification of habitat of these species. An on-site pile installation demonstration study completed since the publication of the DEIS tested both the extent of noise distribution and the efficacy of sound reduction techniques. Results of these studies indicate that the extent of noise above thresholds for injury to fish extends for considerably shorter distances than the modeled data used in the DEIS impact assessment analysis, and that the sound reduction techniques lowered noise levels by 10 dB or greater. Additionally, Chapter 16, "Ecology," of the FEIS indicates that pursuant to Section 7(a)(2) of the ESA of 1973 (87 Stat. 884, as amended; 16U.S.C 1531 et seq.), the USFWS concurred with FHWA and NYSDOT's determination that the proposed project may affect, but is not likely to adversely affect, the federally-listed endangered Indiana bat (see **Appendix F-8**). Analysis provided to initiate consultation for the bog turtle (federally listed) and New England cottontail

(species of special concern in New York State, and candidate for federal listing) found that for the purposes of consultation under Section 7(a)(2) of the ESA, the project will have no effect on either species or their habitats. This determination was reached based on the fact that no suitable habitat occurs in the area for these species. USFWS concurs with this finding (see **Appendix F-8**) and has determined that no further coordination or consultation under the ESA is required at this time.

- C 16-18:** Section 4 of the ESA provides that a species' critical habitat must be determined at the time of its listing. Critical habitat for shortnose sturgeon has not been designated, despite the species being listed over forty years ago. Critical habitat also has not been designated for the New York Bight Distinct Population Segment ("DPS") of Atlantic sturgeon. In its February 6, 2012 public notice of the Atlantic sturgeon listing, NMFS announced that it was soliciting information from the public that could help inform its designation of habitat for listed DPS populations in the Northeast region. NMFS also indicated it would issue further public notices regarding critical habitat designation in the future. An endangered species' "critical habitat" will include "the specific areas. . . (I) essential to the conservation of the species and (II) which may require special management considerations or protection." Accordingly, the designation of either or both of these species' critical habitats may require there to be special management considerations within the area in which the new Tappan Zee Bridge is to be constructed. If this occurs, then the current plan for construction could quite possibly need to be altered, or additional mitigation measures implemented, in order to meet such special management considerations. Designation of critical habitat within the area affected by the Tappan Zee Bridge replacement project would require additional alteration and supplementing of the DEIS. In order to avoid the risk of damaging, destroying or permanently altering habitat before this determination is made, the lead agencies should not issue a FEIS until NMFS has determined the critical habitat for both species.
- R 16-18:** To date, NMFS has not issued further public notices regarding critical habitat of shortnose or Atlantic sturgeon. FHWA will continue proactive partnering with NMFS throughout final design and project construction, incorporating adaptive management into the process. Any new information provided on the habitat requirements of Atlantic or shortnose sturgeon, including that related to the determination of critical habitat, will be part of ongoing coordination with NMFS.
- C 16-19:** This section states "Candidate status does not carry any procedural or substantive protections under the ESA. Although true, the state should consider doing more as recommended under FHWA guidance: "NEPA documents should identify candidate species as such, and describe any planned conservation measures. The Services encourage Federal agencies to consider implementing conservation measures for candidate species, as these measures may avoid the future necessity of listing. Proactive partnering with the Services to conserve candidate species might reduce

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future delays on Section 7 processes and/or result in future cost savings if listing can be avoided."

- R 16-19:** Protection for Hudson River fish species, including candidate species (i.e., alewife and blueback herring) and others in decline (e.g., American shad), has been incorporated into the project's construction plan through a number of different strategies intended to minimize the potential impacts to the fish community. The project's Environmental Performance Commitments (EPCs) are described in Chapter 18, "Construction Impacts," and the Biological Assessment and EFH evaluation are discussed in the response to Comment 16-6. These commitments, along with many of the conservation measures specified in the Biological Opinion and compensatory mitigation and other measures to achieve a net conservation benefit under 6 NYCRR Part 182 proposed for the project by NYSDEC, described in the response to Comment 1, will also benefit candidate species. Chapter 16 of the FEIS includes a discussion of the compensatory mitigation proposed by NYSDEC. The secondary channel restoration compensatory mitigation proposed by NYSDEC (see **Appendix F-12**) would have the potential to benefit migratory fish including shad and river herring.
- C 16-20:** Page 22-5 states "Oyster habitat in the project vicinity would likely be lost as an unavoidable impact during construction activities. Where the existing Tappan Zee Bridge would be removed, there would be an opportunity for habitats to redevelop." This seems to mean the oyster habitat will be destroyed and the state does not know if it will ever come back. Is that correct? Is the state implementing any mitigation measures to try to encourage new habitat development? If so, what type? If not, why?
- R 16-20:** As discussed in the response to Comment 16-1, FHWA, NYSDOT, and NYSTA are committed to implementing the compensatory mitigation measures proposed by NYSDEC, including the restoration of 13 acres of hard bottom/shell oyster habitat and reintroduction of oysters to the habitat.
- C 16-21:** Page 16-33 and Page 16-35: There is not much detail on what would be mitigation for the loss of 13 acres of oyster beds, although it says the solution would be done in consultation with NYSDEC, USFWS, USACE, and NMFS. It is probable that such mitigation will be substantial in both scope and expense, and it would be useful if more detail were presented here.
- R 16-21:** Please see the response to Comment 16-1.
- C 16-22:** Page 16-2: Section 10 is again cited as a relevant permitting authority. That does not appear to be applicable to this project.
- R 16-22:** A Section 10 permit is required for the dredging of the construction access channel.
- C 16-23:** Pages 16-15 to 16-16: Wetland Delineations: Potential Federal wetlands are discussed. Wetland delineations should be provided by the project sponsor at this time that are prepared in accordance with the USACE 1987 Wetland

Delineation Manual and 2009 Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region, so they can be field verified and confirmed by USAGE and included the FEIS. Staging areas should be designed to avoid impacts to regulated wetlands. Proposed Wetland Delineations are discussed in DEIS for the Westchester Inland Study Area, West Nyack Staging Area, and the Tilcon Quarry Staging Area.

- R 16-23:** A wetland delineation was conducted for the Westchester Inland Staging Area in accordance with the USACE 1987 Wetland Delineation Manual and the 2009 Interim Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region on April 12, 2012 (see **Appendix F-3**). Wetland delineations were not performed for the West Nyack Staging Area or Tilcon Staging Area as these sites are presented for illustrative purposes to show potential staging areas for the design-build contractor. Should the design-build contractor choose one of these areas or another location, the contractor would be responsible for conducting any wetland delineations and obtaining all applicable permits and approvals for that site, should that be necessary.
- C 16-24:** The Hudson River is one of the three major spawning centers for the striped bass on the moon tides in late April and May. Virtually every striped bass that lives in Long Island Sound and the New York Bight area spawns in the Hudson River. Haverstraw Bay, just six miles north of the Tappan Zee is a major spawning location on the Hudson since salinity levels reach appropriate levels for spawning there due to the influx of fresh water from the Croton River. The proposed alternative new bridge entails the pounding of over a hundred new pilings into the riverbed. Such vibrations carry under water significantly further than they do in the air. Spawning and migrating fish are known to be susceptible to the negative effects of such vibrations. The DEIS contained no analysis of the impact of sustained vibrations on one of North America's largest sport fishing runs (the striped bass run). There is no analysis of what the economic impacts to the Hudson River and the entire region would be if this fishery collapsed. Charter boat captains would lose business, fishing outfitters would lose sales opportunities, hotels at fishing communities would lose customers, and the Lower Hudson Valley would become an incrementally less desirable location for sportsmen to live and pursue recreation. What would be the impacts of such a loss?
- R 16-24:** Elevated noise levels that could be injurious to striped bass are limited spatially and (based on modeling and in-field testing) would not extend to upriver areas where striped bass spawning occurs. Spawning adults begin moving upstream to spawning sites as water temperatures increase in the spring. In the Hudson River, spawning occurs primarily between mid-May and mid-June in the middle portion of the Hudson River Estuary from Indian Point (RM 42) upstream to Saugerties (RM 106) (CHGE et al. 1999; ASA 2010). Based on Utilities fish surveys from 1998 to 2007, striped bass eggs are collected in May and June and primarily upstream of Indian Point, with peak densities near Cornwall (river mile 56-61) and very low densities in the

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Tappan Zee region. Pile driving activities will be implemented so that there will always be minimally a 5,000 ft corridor that would be free from elevated sound that could physiologically affect fish. Furthermore, pile-driving activities for large piles will be limited to 5 hours/day between April and August and depending on the timing of the construction schedule may be completed outside of the spawning season. As such, pile-driving activities are being planned to ensure adequate passage through the project area for striped bass and other anadromous fishes.

The project would not result in adverse impacts to striped bass. Adult striped bass enter the Hudson River to spawn during spring and spend much of their time in coastal waters. Spawning occurs in freshwaters far upstream of the study area and would not be adversely affected by the construction or operation of the Replacement Bridge Alternative. Because striped bass spawning occurs far upriver, the majority of the larval striped bass are also located upstream of the study area. Some larvae would also drift with the prevailing current downstream and into the study area where they are very abundant during the summer. Juvenile striped bass are found in the Tappan Zee region within the study area as well. Because striped bass larvae and juveniles are widely distributed throughout the Hudson River, losses of individuals resulting from the construction of the project would not result in adverse impacts to striped bass populations of the Hudson River.

- C 16-25:** Artificial Reefs can be constructed to increase fisheries habitat. They provide marine life and other organism's additional opportunities for shelter and foraging. Artificial reefs are typically built out of hard structures such as rock, concrete and steel. The significant dredging that is required for the bridge construction provides an opportunity to create an artificial reef using construction material from the removal of the existing bridge. The EIS should provide an analysis of the benefits of creating an artificial reef along the dredge channel or in the footprint of the existing bridge.
- R 16-25:** NYSDEC has proposed, and the applicant has accepted, a series of measures to achieve a net conservation benefit. None of these proposals include artificial reefs, which can result in the replacement of one habitat (e.g., soft bottom habitat) with another.
- C 16-26:** The DEIS limits the study area for aquatic and terrestrial resources to a ½-mile perimeter of the new bridge. Hydroacoustic effects extend 1.5 miles both up and downstream. The DEIS seems to "brush" over the potential severe environmental impacts that this project will have on the aquatic community.
- R 16-26:** The analysis of hydroacoustic effects on Hudson River fishes encompasses the area ensounded by noise levels that could have potential behavioral, injurious or lethal effects, based on the hydroacoustic modeling and the available literature on aquatic noise impacts. Similarly, the extent of the study area used to assess sediment resuspension due to dredging is bounded by the sediment plume defined from sediment modeling efforts.

- C 16-27:** The EIS should consider potential impacts to all birds in the area, including endangered or threatened birds. The Bald Eagle, Peregrine Falcon, Common Loon and Piedbilled Grebe are known to appear in the area. Bridge height and lighting must take into account bird impacts.
- R 16-27:** Potential impacts to birds and other wildlife from construction and operation of the proposed project are evaluated in Chapters 16, “Ecology,” and 18, “Construction Impacts,” of the EIS. As presented in these chapters of both documents, in general, the vast majority of birds that are known to or expected to occur in the project area are extremely disturbance-tolerant, urban-adapted, generalists such as herring gull, ring-billed gull, and Canada goose, that would not experience significant adverse impacts at either the individual or population level during construction and operation of the Replacement Bridge. Chapters 16, “Ecology,” and 18, “Construction Impacts,” of the EIS consider threatened, endangered, and special concern species. Chapter 16 of the EIS discusses at length the relationship between bird collisions and structure height and lighting. See also the response to Comment 16-7.
- C 16-28:** The DEIS fails to adequately analyze project impacts to designated EFH. The designation of EFH is required by the Magnuson-Stevens Fishery Conservation Management Act and is defined as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” The Mid-Atlantic Fisheries Management Council (MAFMC) is tasked with designating EFH within the Hudson River and has designated EFH for thirteen species within the Tappan Zee Bridge Project area. In analyzing the impacts to EFH caused by the dredging of the access channel the DEIS states that “dredging activities for the project have the potential to remove benthic macroinvertebrates including oyster beds, and the food and resources they provide to other aquatic resources. Approximately 165-175 acres of bottom habitat—including about 5.3 acres of NYSDEC regulated littoral zone tidal wetland and 160-170 acres of open water benthic habitat would be dredged...” The DEIS concludes that dredging would result in a sizable loss (emphasis added) of bottom habitat and temporary alteration of this habitat could affect foraging opportunities.” The DEIS dismisses these “sizable losses” by stating that “benthic communities found in environments with a great deal of variability such as estuaries generally have high rates of recovery from disturbance, because they are adapted to disturbance.” The DEIS concludes that dredging would result in the loss of “individual” macroinvertebrates, but “is not expected to result in adverse impacts of these species at the population level within the Hudson River Estuary.” The conclusion posited by the DEIS that estuaries have high rates of recovery from disturbance because they are adapted to disturbance is circular and without and scientific justification. Similarly the conclusion that there will be no adverse impacts to macroinvertebrate species on an estuary-wide basis ignores the relevant scope of impacts for the DEIS within the designated project area. In a similar fashion the DEIS states that impacts to fish could occur from the temporary loss of habitat resulting from dredging the access

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channel. “These impacts would occur, in part, as a result of a localized reduction in benthic fauna.” Although the DEIS later describes the loss as “sizable” this section refers to the “dredging footprint” as a “very small percentage of the Hudson River Estuary.” Again, the relevant scope of impact for the DEIS and for the assessment of impacts to Essential Fish Habitat is the designated project area (and the area of designated Essential Fish Habitat), not the entire Hudson River Estuary. For the reasons stated above, the DEIS’s assessment of project impacts to EFH is inadequate and fails to properly characterize the impacts to EFH and the thirteen fish species within the project area regulated by the MAFMC. (Ecology 26)

R 16-28: **Appendix F-3** (EFH Assessment) of the FEIS addresses in detail the potential impacts to EFH species within the project area in the vicinity of the existing Tappan Zee Bridge. Of the sixteen EFH species designated for the Hudson River, six species have been reported in the Tappan Zee region based on the Utilities fish-sampling surveys. The remaining ten species were excluded from the analysis due to lack of occurrence in samples collected during the Utilities fish survey upstream of river mile 23 at Yonkers and due to lack of EFH, specifically suitable salinity and water depths, in the project area. Of those six EFH species that could potentially be impacted by dredging, the benthic species (i.e., summer flounder, windowpane and winter flounder) are more likely to be affected than the pelagic species (i.e., Atlantic butterfish, Atlantic herring and bluefish). Those EFH species that are considered benthic are not likely to be affected by the temporary loss of habitat resulting from the dredging of the construction channel as it would affect only 1.1–1.2% of the benthic area and 1.2–1.3% of the soft sediments in the Tappan Zee region, as discussed on page 62 of the BA. The remaining 98% of the benthic habitat in the Tappan Zee region would be unaffected by dredging activities related to the construction channel. Therefore, only six of the sixteen species with designated EFH in the Hudson River would potentially be affected by dredging activities and the extent of the dredging, while large relative to other dredge projects, is only a small percentage of the benthic area in the Tappan Zee region and is not likely to adversely affect the three EFH species that are directly associated with benthic habitat. In a letter dated June 22, 2012 (see **Appendix F-7**), NMFS referring to EFH stated that “impacts associated with bridge construction and removal may adversely affect living aquatic resources and their habitats”; however, specific determination was not made for dredging activities. In their BO (**Appendix F-6**), however, NMFS supports the FEIS findings by indicating that “the dredging footprint represents a very small percentage of the soft bottom habitat of the Tappan Zee region (1.2%) and the Hudson River Estuary (0.2%). Thus, the temporary reduction of benthic fauna within the dredged area would not substantially reduce foraging opportunities for the river’s sturgeon populations. As the area returns to soft sediment and is recolonized by benthic invertebrates, sturgeon will regain any lost foraging habitat.” For these same reasons, the temporary loss of habitat due to dredging of the access channel would not substantially reduce foraging opportunities for any EFH species that rely on the bottom habitat. .

NMFS also provided, in the same letter, conservation recommendations to avoid and minimize impacts to these resources. Specifically including a project schedule and activity plan, inclusion of a seasonal dredging window, limiting the amount of re-suspension and dispersal of fine sediment, monitoring of the dredged areas, and a mitigation and restoration plan.

C 16-29: There are number of instances in the Aquatic Sampling Program (ASP) where more information regarding the Atlantic and Shortnose Sturgeon populations must be provided. The Aquatic Sampling Program states the following: “No discernible trend regarding the presence or absence of shortnose sturgeons can be inferred from the data.” The Biological Assessment (BA) continues to base calculations and assumptions on the data described in the above statement. From the data, the BA calculated an encounter rate which was then used to calculate the number of fish to be affected by the project. Considering the above statement, the number of affected fish calculated in the BA is not based on a conclusively defined data set. A more detailed analysis and discussion detailing occurrences of the Shortnose Sturgeon populations within and adjacent to the site is required to fully assess project impacts.

R 16-29: The gill-net data referenced above in the quoted statement from the ASP were used to estimate an encounter rate for shortnose sturgeon in the area adjacent to the Tappan Zee Bridge. This encounter rate of 0.03 sturgeon/net/hour was approved and agreed upon by both NYSDEC and NMFS. It was not necessary to identify a discernible trend from these data to allow the estimation of the encounter rate.

C 16-30: There are a number of instances in the Aquatic Sampling Program where survey sampling methodologies for Atlantic Sturgeon populations were insufficient:

1) **Soak time** - “Due to concerns of injuring the shortnose sturgeon, the gill net soak times were limited by water temperatures. For temperatures below 59°F (15°C), the maximum soak time was 4 hours; for temperatures between 59 and 68°F (15 and 20°C), the soak times were limited to 2 hours. For temperatures between 68 and 80.6°F (20 and 27°C), the soak times were limited to 1 hour. No netting was permitted when the water temperatures exceeded 80.6°F (27°C).” The ASP soak times ranged from one to four hours depending on the temperature of the water. The 2007 Sweka study of juvenile Atlantic sturgeon completed by the U.S. Fish and Wildlife Service (USFWS) and New York State Department of Environmental Conservation (NYSDEC) stated that nets were soaked for a minimum of 2 hours per net. Furthermore, the Sweka study did not require any necessary protections for shortnose sturgeon due to temperature conditions and therefore does not limit the soak time. In fact, the greatest catches in the Sweka (2007) study were observed when recorded water temperatures were greater than 20°C. The statement above from the ASP indicates that when temperatures were between 20°C and 27°C the net was deployed for a maximum of 1 hour. A study documented in the National Marine Fisheries

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Service (NMFS) 2007 Status Review of Atlantic Sturgeon documents reduced soak times for nets when water temperatures exceed 30°C. The ASP study shows a deficiency in understanding the capture of Atlantic sturgeon. The methodology that used reduced soak times for the performed sampling is likely a contributing factor as to why no Atlantic sturgeons were collected during the 1 year ASP study and 562 wild juvenile Atlantic sturgeons were collected during the 2½ year Sweka study performed in conjunction with the USFWS and NYSDEC.

2) **Duration of the sampling program** - The ASP gill net survey took place between April 2007 and May 2008 on a bimonthly schedule. The sampling performed during the Sweka study occurred during five time periods: fall 2003, spring 2004, fall 2004, spring 2005 and fall 2005. This covers a 30 month (2½ year) period. By using a longer, seasonally overlapping time frame for sampling, the USFWS and NYSDEC were able to correct circumstantial deficiencies (such as debris in nets) within their sampling. Furthermore, the extended sampling period allowed for a statistical analysis/comparison between sampling periods and locations to occur. These advantages of using a longer, seasonally overlapping time frame were not available to the ASP which was only conducted over the course of one year. Additional studies modeled after the Sweka study needs to be conducted to ensure adequate sampling procedures for capturing and assessing Atlantic Sturgeon populations.

3) **Spatial extent of sampling program** - Atlantic Sturgeon adults and sub adults, that are not spawning, live in coastal and estuarine conditions, generally in shallow water (10-50 m or 33 to 164 ft.) near shores dominated by gravel and sand. The water depth on the eastern side of the existing bridge reaches a low of 50ft. Figure 5 of the BA shows the area corresponding with the 50ft deep water to be comprised of sandy silt clay. Of the area studied by the ASP, the eastern portion of the bridge within the 50ft deep channel would be the most likely location to find Atlantic sturgeon. The ASP does not give the exact depths of the gill nets for each sample location/event, but does state that sampling location F10 was used for deep water sampling at water depths of 25-34 feet. ASP nets were not deployed in water depths greater than 35 feet; therefore they were not deployed within the most likely location for finding Atlantic sturgeon.

4) **Choice of sampling gear** - The gill nets deployed during the ASP were 8 feet high by 125 feet long. The net consisted of 5 gill net panels (each 25 feet long) with mesh sizes ranging between 1 and 5 inches. The gill nets deployed during the Sweka study, in attempt to catch juvenile Atlantic sturgeon, were 8 feet high by 200 feet long. The net consisted of 3 gill net panels, one of each mesh size. The mesh sizes ranged from 3 to 5 inches, which have been shown to effectively capture juvenile-sized Atlantic sturgeon. When compared to one another, the Sweka study used an area of 1600 sq. ft. of net effective at collecting juvenile Atlantic sturgeon. The ASP provided an area of 600 sq. ft. of net effective at capturing juvenile Atlantic

sturgeon. When considering the available effective net size, it would be expected that the Sweka study would capture more Atlantic sturgeon.

R 16-30: Absence of Atlantic sturgeon in the ASP gill-net samples is not a result of low sample effort or a lack of understanding about the requirements for sampling this species, but rather a result of the species' spatial distribution within the Hudson River and its low abundance in the Tappan Zee region. NMFS used similar reasoning in its BO when it stated that Atlantic sturgeon were not collected in ASP gill nets "due to the relatively small mesh size fished which would likely preclude capture of large subadults and adults as well as the relatively low abundance of Atlantic sturgeon in the area." The gear choice and sampling methods used in the ASP were designed through coordination with NMFS.

In response to the first part of the comment regarding soak time, limitations placed on soak time during gill-net sampling for sturgeon were derived from NMFS recommendations for minimizing the risk of mortality at soak times exceeding 2 hours (Moser et al. 2000, Kahn and Mohead 2010). Soak times were based on sturgeon activity and water temperature and the fact that catch rates were expected to increase with increasing water temperatures. This was the case, as most shortnose sturgeon were collected during the ASP when water temperatures were between 20 and 27°C. This relationship between water temperature, sturgeon activity, and thus catch rate, illustrates one of the inherent limitations of passive sampling gears. In order to account for this limitation, longer soak times may be necessary at low water temperatures while shorter soak times at higher water temperatures will collect sufficient numbers of sturgeon to estimate relative abundance. Estimates of fish abundance derived from gill-net samples are standardized for varying levels of effort (i.e., soak time and net area) to allow comparison of "catch-per-unit-effort" among samples and other studies regardless of soak time for each net deployment. Because of this, the soak time for a single gill-net deployment is not particularly critical.

In response to the second part of the comment regarding the duration of the sampling program, despite the larger net area and longer duration of the Sweka et al. (2007) study compared to the ASP gill-net study, annual sampling effort was comparable between these studies. Sampling effort by Sweka et al. in the Haverstraw Bay area was between 400,000 and 800,000 sqft-hrs per year (net size was 1,600 sqft, soak time ranged from 2-4 hours) compared to 388,200 sqft-hrs per year by the ASP study (net size was 600 sqft, soak time ranged from 1-4 hours). Assuming soak time in the Sweka et al. study was always 4 hours, their effort was twice that of the ASP study, during which approximately 200 juvenile Atlantic sturgeon were collected per year from Haverstraw Bay. Given that level of effort compared to the ASP study, it would be expected that at least 100 juvenile Atlantic sturgeon would have been collected during the ASP study (despite the smaller area of the ASP gill net), if this species was similarly abundant between the Tappan Zee region and Haverstraw Bay. Fish surveys conducted by the Hudson River Utilities program between 2000 and 2009 demonstrate that juvenile Atlantic

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sturgeon were far more common in collections upstream of Tappan Zee than in that region: 197 juvenile Atlantic sturgeon were collected in Fall Shoals trawl samples between Haverstraw and Cornwall (RM 34-61), while only 7 juvenile Atlantic sturgeon were collected in the Tappan Zee region (RM 24-33) during the same time period. This concentration of juveniles upstream of Tappan Zee region corresponds to that reported by Dovel and Berggren (1983). Therefore, the probability of collecting Atlantic sturgeon during a one-year gill-net study in the Tappan Zee region is low.

In response to the third part of the comment regarding the geographic extent and water depths sampled, adult and large juvenile Atlantic sturgeon reside in offshore habitats during most of the year and would not commonly be found in the Hudson River. During spring and fall, spawning adults return to the River and move through the Tappan Zee region during spawning migrations to areas upstream of Hyde Park (RM 77), but are otherwise not commonly found in the River nor would they be collected by the gill nets used to sample riverine juveniles. While most of the juvenile Atlantic sturgeon collected by Sweka et al. were collected in deep water (>20 ft), 20% of the 522 fish collected in Haverstraw Bay were from shallow water. Furthermore, only a very small percentage (<15%) of the habitat in the Tappan Zee region is >35 feet in depth. Therefore, gill-net sampling conducted by the ASP sampled habitats is representative of the majority of the Tappan Zee region, including deep water areas, and would have collected juvenile Atlantic sturgeon if they were present in abundances similar to that observed in Haverstraw Bay.

In response to the fourth part of the comment regarding gear choice for sampling sturgeon, the various mesh sizes used in the ASP were intended to provide a sample of the overall fish community, including sturgeon. The smaller mesh sizes were used for targeting smaller-bodied fishes and were not included in the analysis of sturgeon data in the FEIS. As discussed above in the response to the second part of the comment, the area of the gillnet used in the ASP was indeed smaller than that used by Sweka et al. however, the greater number of samples collected by the ASP means that the “effective net area sampled” by both studies was similar. It is important to remember that net area and number of samples alone are not sufficient for comparing the level effort between sampling programs. The level of effort needs to be compared in terms of net-area sampled per unit time.

- C 16-31:** There are a number of instances in the BA where mitigation for disturbances to Atlantic and shortnose Sturgeon populations was not addressed or was insufficient: “The dredging depth required assumes that two feet of sand and gravel armor is placed on the bottom. In total, the channel would be dredged to a depth corresponding to 4.9 m (16 feet) below MLLW.” “However, dredging of the access channel will result in a temporary modification of benthic habitat. Over time deposition processes would allow much of the benthic habitat to return to its pre-construction state. The rate of this transformation would begin at approximately 1 foot per year, likely decreasing as the bed nears its natural pre-dredged elevation.”

The BA states that the river channel substrate will recover on its own and therefore no mitigation plans for the dredged channels have been developed. The channel may recover naturally in time; however, it will take several years after the completion of the project (4½ to 5½ years) for full recovery to pre-disturbance levels. The sturgeon will be losing part of their foraging habitat for a minimum of four to five years. The BA report does not discuss the implications of large scale disturbance to the benthic environment within the Atlantic Sturgeons overwintering habitat (located under and adjacent to the existing bridge). Many factors combine to provide adequate benthic habitat for foraging sturgeon species. The study does not sufficiently identify comparable areas that would support overwintering sturgeon populations that would be displaced due to the long-term disturbances expected in the proposed project area.

“In summary, with the exception of oyster beds that may be permanently lost, where access channels are dredged, there would be a temporary loss of habitat that could affect sturgeon that use the dredged area for foraging. These effects would occur as a result of a localized reduction in benthic fauna. However, the dredging footprint represents a very small percentage of the Hudson River Estuary and its soft bottom habitat. Thus, the temporary reduction of benthic fauna within the dredged area would not substantially reduce foraging opportunities for the river’s sturgeon populations, because sturgeon are highly mobile and anadromous, moving up and down the estuary.”

The Hudson River Estuary extends from the Battery in southern Manhattan to the Troy Dam, north of Albany, for a distance of 153 miles. Along the length of the 153 miles of the estuary are different sturgeon habitats that provide for spawning, foraging, migrating and overwintering habitats. The Haverstraw-Tappan Zee region of the river is an area identified by NMFS, USFWS and NYSDEC as overwintering habitat. Comparing the habitat provided within the area of the river proposed for dredging to the entirety of the Hudson River Estuary is not an acceptable means for providing conclusive assessments as not all the river has a soft bottom habitat that is used by sturgeons for foraging.

- R 16-31:** The available biological information for shortnose and Atlantic sturgeon indicates that it is unlikely that dredging activities associated with the construction channel will affect foraging by these species. Shortnose sturgeon that may otherwise use soft substrates as foraging habitat would only be excluded from <2% of the available habitat in the Tappan Zee region and obviously a much smaller percentage of soft bottom habitat over a wider portion of the river. Furthermore, this exclusion would only be temporary (4-5 years), during which time the remaining 98% of soft-sediment benthic habitat would be available for foraging. NMFS in their Biological Opinion concurs with this assertion and indicates that, “the temporary reduction of benthic fauna within the dredged area would not substantially reduce foraging opportunities for the river’s sturgeon populations.” Notwithstanding NMFS’ determination in the BO that there is low potential for dredging of the

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construction channel to adversely affect sturgeon foraging, the compensatory mitigation and other measures to achieve a net conservation benefit proposed by NYSDEC (see **Appendix F-12**) would minimize effects of the project on sturgeon.

C 16-32: Disturbances to Atlantic and shortnose sturgeon populations within the project area due to the proposed installation of permanent platforms were not adequately assessed. Figures in the BA depict both temporary and permanent platforms. However, within the text only temporary platforms are clearly discussed. The permanent platform is being shown to be located at the Rockland Landing. The BA briefly touches on the additional shading impact of the approx. 99,153 sq-ft permanent platform. The BA also states that the additional shading would not result in direct effects to the sturgeon. There is a lack of defined population and habitat usage data in the vicinity of the proposed project area and more specifically the proposed location of the permanent platforms. The proposed permanent platforms would effectively eliminate over 2 acres of potential overwintering and foraging habitat for Atlantic and Shortnose Sturgeon populations. This portion of the project area requires additional studies and a thorough examination of potential mitigation for loss of essential sturgeon habitat.

R 16-32: The proposed installation of the permanent platform is discussed in detail in Chapter 18, "Construction Impacts," of the EIS. Chapter 18 of the FEIS describes modifications to the design of the permanent platform. These modifications include a reduction in permanent habitat loss due to filling (reduced from 2.1 acres to 0.11 acres). The use of pilings rather than fill to support the permanent platform will result in a smaller area of benthic habitat loss and will still allow access by sturgeon to benthic habitat beneath the platform.

Although it is difficult to estimate specifically how many sturgeon might use the relatively localized area of habitat in the vicinity of the proposed project area, the relatively low abundance of sturgeon collected in the Tappan Zee region and their use of waters deeper than that in which the permanent platform would be located suggest that the potential impacts of the platform would be negligible. Within the greater Tappan Zee region (RM 24-33), only 3 Atlantic sturgeon and 8 shortnose sturgeon were collected during the most recent 10 years of the Hudson River Utilities fish survey. Furthermore, >93% of all sturgeon collected in the Hudson River during the Utilities survey were collected in water >20ft deep.

More specifically, the location of the permanent platform is not within the area used as overwintering habitat for shortnose and Atlantic sturgeon. The recent Biological Opinion determined that the effects of loss of forage due to the permanent platform are insignificant.

C 16-33: Disturbances to Atlantic and Shortnose Sturgeon populations within the project area due to the proposed dredging were not adequately assessed. Dredging the access channel for the project would be the largest dredging

operation (1.68-1.74 million CY) in the Hudson Valley. The extent and magnitude of the dredging impacts on sturgeon population must be better assessed and understood. The NMFS identifies dredging operations as a source of sturgeon mortality in a number of similar estuaries. Significant studies are warranted here.

R 16-33: Although the volume of dredged sediment associated with the project is larger than previous dredge operations in the Hudson Valley, the surface area of benthic habitat disturbed by dredging is not expected to permanently affect habitat use by sturgeon as discussed in the responses to Comments 16-35 and 16-36. Use of a mechanical dredge rather than a hydraulic dredge will reduce the potential for sturgeon interaction and mortality. The NMFS Biological Opinion has indicated that dredging operations would have a temporary and discountable effect on sturgeon feeding opportunities. The Biological Opinion goes on to say that the expected interaction with the mechanical dredge will result in very small take numbers, namely three shortnose and three Atlantic sturgeon during the course of the dredging operation. Of these only one individual of each species is predicted to be subject to mortality.

C 16-34: Disturbances to Atlantic and Shortnose Sturgeon populations within the project area due to the effects of the sound from pile driving were not adequately assessed.

The two cited studies (Caltrans 2001, Ruggerone et al. 2008) do not accurately represent the proposed project. The short span option uses 1,326 piles with diameters ranging between 4 and 10 feet. The long span option uses 836 piles with diameters ranging between 4 and 10 feet. The BA cites no studies concerning fish mortality related to the driving of piles larger than 8 ft in diameter. The BA does not state the distance the fish were from the pile driving activities or what species were mortally affected in the Caltrans 2001 study. Assuming that different species of fish react the same to pile driving, or any other environmental disruption, is an unacceptable practice. Again, in referencing the Ruggerone study, the coho salmon are not sturgeon and are therefore going to be impacted differently. The conclusion that a small fraction of a fish will be within a close enough vicinity to experience immediate mortality is not supported by the referenced material. Sampling locations of the gill net survey (ASP) were chosen in order to determine the habitat conditions around the existing bridge. This included six sampling sites directly adjacent to and/or underneath the bridge and three reference sites within 500 and 600 feet north of the bridge.

The BA states: "The limits of the study area considered in this BA have been determined by the potential project effects for dredging and re-deposition of suspended sediment, acoustic impacts from pile driving, and loss of habitat. The potential geographic boundaries extend across the entire width of the Tappan Zee Reach, and based on modeled sound isopleths extend a maximum of 2,210 m (7,250 feet) or less in both up and downriver directions." The sampling locations in the ASP do not adequately represent

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the limits of the study area reported in the BA. The limits of the study area reported in the BA are 20 times larger than the area studied by the ASP. The gill net fish survey does not cover the entire area affected by this project and therefore cannot be considered as a reputable source for information on the study area.

R 16-34: The DEIS provided a detailed review of relevant literature on the effects of pile driving and noise on fish including the available limited information on sturgeon. Additional information on pile-driving noise and its potential effects on Hudson River fishes was considered during preparation of the FEIS, including the results of the PIDP, which were unavailable when the DEIS was drafted. As part of the PIDP, large (8- and 10-foot diameter) piles were driven and the extent of the ensonified area was quantified. The PIDP data indicate that elevated noise levels to the threshold distances of peak SPL, rms SPL, and cSEL did not extend as far in the field testing as was predicted by the JASCO models used in the EIS BA, EFH assessment and the NMFS Biological Opinion (BO) for the 8- and 10-ft diameter piles. The PIDP results suggest that the effects to sturgeon and other fish should therefore, be considerably less than was predicted by the models used in the NEPA documents. The PIDP reported that peak sound pressure levels exceeding the interim criteria for potential physiological effects to fishes (206 dB re 1 μ Pa) did not range further than 38 ft from the pile being driven, a much smaller distance than originally predicted. Furthermore, no sturgeon mortality was observed during installation of seven cylindrical steel piles at four test sites in the vicinity of the existing bridge. Based on the results presented in the DEIS, FEIS, PIDP and BA, the likelihood of sturgeon mortality resulting from lethal noise levels is considered to be low. The NMFS BO concurred with this assessment and provided a mortality “incidental take” of one individual shortnose and Atlantic sturgeon associated with pile driving operations for the duration of the project. Only three fish (white perch and Atlantic tomcod) were collected during the PIDP monitoring program that displayed lethal injuries consistent with barotrauma. No sturgeon injury or mortality was observed during the PIDP, including the testing for the large piles.

While it is agreed that generalizing the effects of pile-driving noise across fish species may result in bias, the West Coast interim noise criteria developed for coho salmon are used by NMFS to regulate acoustic impacts to fish, including shortnose and Atlantic sturgeon. In the BO for the Bridge Replacement Alternative, NMFS relied on the West Coast criterion for the peak SPL to assess the potential impacts to sturgeon. The BO indicated that because fish would likely avoid elevated noise levels, only a small number of fish would occur within the ensonified area and be subject to physiological stress.

Finally, the implication drawn from the comment that the ASP gill-net survey did not cover the full extent of the project area, but did sample the location of the Tappan Zee Replacement Bridge is misleading. The sampling of the immediate area of the Replacement Bridge location is considered relevant

for providing biological information from the area most likely to be affected by construction (i.e., the sampled area is likely to contain the highest sound pressure levels created by pile-driving activities, highest suspended sediment concentrations from dredging, etc.). Additional information on species composition and density of fishes within the greater Tappan Zee region (RM 24-33) was provided by an analysis of ten years of Hudson River Utilities data that are presented in Chapters 16, "Ecology," and 18, "Construction Impacts," of the FEIS. Collectively, these data provide a comprehensive characterization of the fish assemblage occurring in the project area.

- C 16-35:** An Environmental Mitigation Fund should be created to protect, restore and improve aquatic habitats and fisheries resources in the Hudson River impacted by the construction of the new bridge and removal of the existing bridge.
- R 16-35:** See the response to Comment 16-1 for a discussion of compensatory mitigation and other measures to achieve a net conservation benefit proposed by NYSDEC.
- C 16-36:** Aquatic and Benthic Habitat Impacts. The DEIS should analyze in further detail the potential impacts to the aquatic benthic community in the Hudson River from placement of piers, construction, and increased shading. The permanent benthic habitat modification, the impact of shading on sub-aquatic vegetation, and the impacts of scouring, resuspension and deposition of sediments and increased light and sound from construction on sensitive species in the Hudson River estuary should also be covered in more detail. The new bridge piers have the potential to result in scouring of the river bottom, and deposition of resuspended bottom material. There could be disruption to the Hudson River ecosystem from changes in current scouring patterns as well as from contaminants becoming resuspended, including polychlorinated biphenyls (PCBs) from the nearby GM site in Tarrytown. Changes in the underwater ridges and trenches that provide important habitat for many Hudson River species due to scour from the installation of the new bridge piers could disrupt the benthic ecosystem and should be further analyzed in the DEIS. The coordination of the demolition of the existing bridge and the construction of the replacement span to minimize these environmental impacts must be addressed. Since the impacts on hydrodynamic conditions were assessed under the assumption that the old bridge would be torn down, if for any reason the existing span may remain standing when the replacement span is completed, the impacts of this configuration should be separately analyzed. The recent listing by the National Oceanic and Atmospheric Association ("NOAA") of the Atlantic sturgeon—known to occur in the area of the project—as an endangered species under the ESA warrants additional evaluation not currently contained in the DEIS. Now, two endangered species (both the shortnose and Atlantic sturgeon) have important lifestage events that occur in the area of the Tappan Zee Hudson River crossing and even a small disruption to

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their habitat should be avoided to ensure these species suffer no further decline. As benthic feeders, the impacts of the dredging activity required to construct the new spans—potentially over 1.5 million cubic yards over the three phases of the project, according to the DEIS—could be quite significant to these endangered species.

R 16-36: Section 15-5-2-3 of the EIS compares the change in pier scour predicted to occur as a result of the Replacement Bridge Alternative. It concludes that the Replacement Bridge Alternative would result in a reduction in the area of river bottom affected by scour from 62 acres to 26 and 22 acres for the Long and Short Span Options respectively, and that the increase in interpier area that would result from the Replacement Bridge Alternative would attenuate the interpier water velocities and result in less scour. Reduced sediment scour rates would benefit the stability of the bridge structure and reduce sediment resuspension and movement, including those sediments with elevated levels of certain constituents, and habitat disturbance.

Section 18-3-8 of the EIS describes how the existing bridge would be demolished and the measures that would be implemented to minimize the potential for sediment resuspension during this process. Turbidity curtains would be used to ensure that demolition debris and resuspended sediment is not dispersed. Piles would be cut to just below the mudline. Columns, footings, and caisson-supported piers would be either be cut with diamond wire or broken by pneumatic hammers. The buoyant caissons of the main span would be cut and flooded. Following main span demolition, a barge-mounted crane operated clam shell bucket would clear the river bottom of debris. Section 18-4-12-4

Section 16-2-2 of the EIS evaluates the potential for the Replacement Bridge Alternative to affect aquatic biota and habitat. As presented in this section, the new bridge would occupy similar acreage as the existing structure. After demolition of the existing bridge, there would be a net loss of only about 0.92 for the Short Span Option and a gain of about 0.58 acres for the Long Span Option. Section 16-2-2 of the EIS also evaluates the change in shading that would result from the Replacement Bridge Alternative compared to the existing bridge and concluded that within the western causeway section of the bridge there would be an increase in the height to width ratio, indicating less shading under the bridge, for the portion of the causeway that is not near the shoreline. There are no submerged aquatic vegetation in the vicinity of the Replacement Bridge Alternative with the potential to be affected by shading due to the new bridge (see Section 16-4-2-2 of the EIS).

Chapter 2, “Project Alternatives,” of the FEIS describes all of the alternatives considered. Maintaining the existing bridge and constructing the Replacement Bridge Alternative is not an alternative under consideration in this EIS.

Chapters 16, “Ecology,” and 18, “Construction Impacts,” of the FEIS identify Atlantic sturgeon as recently listed as either threatened or endangered

under the ESA for the five distinct population segments (DPS). Both of these chapters evaluate the potential for adverse effects to shortnose and Atlantic sturgeon from the operation and construction of the Replacement Bridge Alternative. The Biological Assessment (BA) prepared for the project (see **Appendix F-10**) evaluates the potential effects to sturgeon due the Replacement Bridge Alternative. As presented in Chapter 18 of the FEIS, and the response to Comment 16-17, Section 7 consultation has been completed and NMFS has issued their BO (see **Appendix F-6**) indicating that the project, including dredging of the construction access channel, is not likely to jeopardize the continued existence of shortnose or Atlantic sturgeon in the river or result in the destruction or adverse modification of habitat of these species. As stated in the BO, "Thus the temporary reduction of benthic fauna within the dredged area would not substantially reduce foraging opportunities for the river's sturgeon populations."

- C 16-37:** We discussed the draft EFH assessment with the project team in March 2012 and understand that FHWA is in the process of revising that document for purposes of providing the appropriate EFH coordination materials to allow our consultation to take place this summer. We appreciate the difficulty that necessarily accompanies preparation of an EFH assessment for a design-build project. Many of the project features that ordinarily would be part of a highly focused assessment have yet to be determined or may entail activities for which local information is not available. For instance, sediment sampling and testing for potential HARS placement and the pile-driving demonstration project are only just getting underway. Until these data become available, the draft document must rely upon data from preliminary studies or from projects sited elsewhere. The aggressive project schedule forces us collectively to move forward with a draft document that relies on certain assumptions that may require late-breaking changes in response to decision points and new data that arise in the next few months. It will be important for this information to be incorporated as fully as possible in the final document that is submitted for our EFH consultation because this will best characterize the proposed action and enable us to move forward. We have reviewed the draft EFH assessment for completeness and offer the following comments to guide you and your contractors' efforts in finalizing an assessment that meets our mutual coordination needs.
- R 16-37:** **Appendix F-9** to the FEIS contains the EFH revised on the basis of consultation with NMFS. **Appendix F-7** contains NMFS determination on the basis of the revised EFH, EFH Conservation Recommendations, and the FHWA response to the NMFS determination. As presented in Chapter 18, "Construction Impacts," of the FEIS, the USACE and USEPA have determined the dredged material to be suitable for placement at the HARS (see **Appendix H-7**).
- C 16-38:** The draft EFH assessment discusses the primary issues that have been raised thus far during the NEPA process. The generic level of detail appears appropriate for the given situation and appears to coordinate with the

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information in the full DEIS. However, the final document must incorporate the results of the ongoing studies, elements from proposals by potential contractors, and other pertinent information as it becomes available in the coming months prior to submittal of the assessment. In addition, it will be important for you to supplement or even amend your current assessment to reflect these results. For example, the current version assumes that the preponderance of dredged material will be placed at the HARS. Should this assumption not be supported by the actual sediment sampling and testing results, it would be necessary to consider whether additional design or operational changes must be made to address that eventuality. We also request that the information regarding the HARS is better integrated in the overall presentation. Reference to the HARS specifically should be added to the overall project setting and ensuing discussions.

R 16-38: As discussed in the response to Comment 39, Attachment F-9 to the FEIS contains the EFH revised on the basis of consultation with NMFS. The revised EFH integrates the discussion of HARS in the overall presentation of information within the document. **Appendix F-7** contains NMFS determination on the basis of the revised EFH, EFH Conservation Recommendations, and the FHWA response to the NMFS determination. As presented in Chapter 18, "Construction Impacts," of the FEIS, the USACE and USEPA have determined the dredged material to be suitable for placement at the HARS (see **Appendix H-7**). Therefore an evaluation of alternatives, should the material be found not suitable, is not required.

C 16-39: We are extremely concerned about the short and long term impact of the dredging operations on the Hudson River and our County. Approximately 1.7 million cubic yards of sediment will be dredged for the construction of the new bridge, mostly from the Rockland side. The DEIS states that peak days approximately 15,000 cubic yards would be generated. The DEIS should differentiate between the Rockland and Westchester sediment amounts, as the Rockland component is clearly at least 75% of the total. The DEIS only addresses the removal of this material via barge to a site in the New York Bight, HARS. In our opinion, based on the high levels of certain contaminants seen in the sediment sampling, the dredged material may not pass the stringent qualifications required at the HARS site. Therefore, the DEIS is deficient in addressing the costs and impacts of dredge disposal on Rockland County, to the extent of 800 truck trips a day of contaminated material and associated trucking impacts and possible time delays. More must be done on addressing transport and beneficial re-use of this material, as well as host community benefits.

The sediment data collected supports our statement of the probable non-viability of the HARS site.

R 16-39: As presented in Chapter 18, "Construction Impacts," of the FEIS, and as indicated in **Appendix H-7** to the FEIS, the USACE and USEPA have determined the dredge material to be suitable for placement at the HARS.

Section 18-3-5, "Transport and Disposal of Dredged Material," describes the transport and disposal of the dredged material, referring to **Appendix H** for the detailed analysis of the alternatives considered to placement at the HARS. As presented in **Appendix H-5**, and discussed in Section 18-3-6 of the FEIS, the option to remove the dredge spoils by truck is not practicable, given the large number of truck trips required (nearly 800 round trips daily) and the environmental implications (traffic, air quality and noise). The contract documents would prohibit the transport of dredged material by truck from the waterfront staging areas.

C 16-40: We suggest that you add a table to the EFH assessment that discloses why particular species or life stages, for which EFH has been described, have been excluded from the discussion. Generally, we suggest that the exclusions be made on physical site characteristics including salinity regime, water depth, and/or sediment type. As we have noted previously in coordination with FHWA and the project team, we must be sure to include the full scope of project activities for the assessment to be considered complete. That does not preclude the potential for future reinitiation of consultation in response to new information or project changes later in the design process or even during construction, but is a basic requirement for moving forward with our consultation using the best available information.

R 16-40: A table has been added to the EFH summarizing those species that have been excluded from the discussion and the reasons for doing so.

C 16-41: Additional information should be provided on a number of outstanding issues of potential concern that should be considered in the FEIS. Many issues have been addressed in the current DEIS and we commend the FHWA and the joint lead agencies, NYSDOT and NYSTA for their efforts in addressing them. The following comments are intended to assist the lead agencies in identifying and rectifying potential impacts that may result from the replacement of the Tappan Zee Bridge. (Ecology 39A)

The DEIS provides only a generalized description of potential measures to mitigate project impacts to fish and wildlife resources (e.g., storm-water impacts on river water quality, bird strikes, loss of oyster habitat, wetland loss, etc.) but defers to future "investigations" to determine what, if any, such measures will be implemented as a part of the project. Similar generalities are made throughout the DEIS. The planning process (e.g., bid-design-build approach) leaves many details to be resolved in future planning efforts, exacerbating this problem. These circumstances create difficulties for the Service and other regulatory agencies, as well as the affected public, to fully assess potential impacts or recommend possible methods to alleviate those impacts. The FEIS should include procedures, developed in concert with the participating agencies, for dealing with the uncertainties that may arise, post-FEIS/ROD, from the design/construction process; e.g., contractor selection of staging areas not previously identified that may be less developed/more sensitive than the example sites. These procedures could include methods borrowed from "Adaptive Management" concepts, or involve the use of

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thresholds or triggers, identified in the FEIS or other agreement, that would reinitiate coordination with appropriate agencies or even the preparation of post-FEIS supplements if needed. This will be particularly important as it pertains to mitigation, which is inadequately treated in the DEIS. Mitigation, and its costs, must be described in the FEIS. Where predictive uncertainties arise due to the realities of post-FEIS design and implementation, the mitigation described in the FEIS should err on the side of the potentially impacted resources. One solution might be to identify a “worst case scenario” in which the maximum potential effects would be analyzed, but accompanied by an explanation that the final project may cause less impact.

R 16-41: As presented in Section 2-2-2-2, “Description of the Replacement Bridge Alternative,” as specified in 23 CFR § 636.109, a design-build process must be coordinated with review under NEPA. The design options presented in the DEIS (short span versus long span and cable-stayed versus arch) provided an envelope for the possible final design of the Replacement Bridge Alternative. While preliminary designs were identified in the DEIS, the design-builder has the option to propose alternative design concepts that are consistent with this FEIS, Record of Decision, and criteria of the Design-Build Contract Documents. The design-build process enables the design-builder to use innovation to further avoid, minimize and mitigate environmental effects and promote efficiency in cost and construction duration. The Replacement Bridge Alternative as evaluated in the EIS represents the practicable design which is more appropriate for evaluation than a worst case design. Should the bridge design developed by the design-builder have the potential for substantially greater impacts than those disclosed in the FEIS, FHWA would reinstate consultation with the appropriate agencies.

As discussed in response to Comment 16-1, and in Section 1-6 and 18-5 of the FEIS, FHWA, NYSDOT, and NYSTA are committed to implementing the compensatory mitigation and other measures to achieve a net conservation benefit under 6 NYCRR Part 182 proposed for the project by the NYSDEC (see **Appendix F-12**). These measures include:

- Compensatory mitigation measures to offset dredging-related impacts to the benthic community; tidal wetlands and open water community—restoration of 13 acres of hard bottom/shell oyster habitat in the immediate vicinity of the existing bridge and reintroduction of oysters to the habitat; develop a secondary channel restoration project at Gay’s Point, Columbia County; wetlands enhancement at Piermont Marsh that includes Phragmites control on approximately 200 acres within the marsh, restoration of flow to an historic oxbow, development of a green infrastructure project to improve the quality of runoff entering Sparkill Creek and restoration of historic wetlands at the northern end of the marsh.
- Measures that would achieve a net conservation benefit—mapping of Hudson River shallows to document benthic habitat used by sturgeon; study sturgeon foraging habits; sturgeon capture and tagging; tracking of

acoustically marked sturgeon (stationary and mobile tracking); and preparation of written material to be used as part of ongoing outreach to reduce impacts of commercial by-catch of Atlantic sturgeon in the near shore Atlantic Ocean.

- C 16-42:** There were a number of instances in which the PDEIS presented conclusions without providing the analyses on which they were based. Additionally, there were numerous statements made that were not substantiated with appropriate citations. Generally, this problem has not been resolved in the DEIS. For example, in Section 16-4-1-2, the DEIS concludes that "...many species represented in the atlas are unlikely to occur in the project area," but does not provide any analysis to support this statement. The FEIS should reference the analyses upon which all conclusions are drawn and include all references in a "Literature Cited" section.
- R 16-42:** The analyses presented in Chapters 16, "Ecology," and 18, "Construction Impacts," of the EIS present conclusions based on extensive peer-reviewed literature searches, project-specific studies, and input from the regulatory agencies. In some cases (e.g., the Breeding Bird Atlas), literature sources present data for a much larger region than the study area and the highly urbanized study area does not contain the natural habitat requirements for many species presented in the source document. Additional text and references have been provided in the FEIS where applicable. In addition, the FEIS includes a "Literature Cited" section.
- C 16-43:** Table 18-25 identifies the potential temporary impacts to wetlands from the project as 3.5 acres of freshwater wetland, 5.3 acres of tidal wetland, and 0.4 acre of open water. As construction of the new bridge will take four to five years, the U.S. Army Corps of Engineers may require some mitigation for temporal losses of aquatic resource functions (40 CFR 230.93(t)(2)).
- R 16-43:** Table 18-28 of the DEIS and Table 18-30 of the FEIS identify potential loss of river bottom, wetlands, and adjacent area habitats due to project activities. Modifications in the project design since the publication of the DEIS have reduced the acres of temporarily affected freshwater wetlands to 2.08 acres and 0.11 acres of tidal wetland. As discussed in Section 16-5-2-2 of the FEIS and in greater detail in Section 18-4-13-1 of the FEIS, approximately 0.076 acres of a forested wetland under the jurisdiction of the USACE would be temporarily disturbed due to the construction of the temporary access road within the Westchester Bridge Staging Area. After construction is complete, the area would be restored as compensatory mitigation in accordance with the joint mitigation rule (Federal Register dated April 10, 2008, 73 FR 19594 through 19705). The mitigation measures that would be explored in coordination with the USACE as part of the compensatory mitigation plan would likely include the removal of the temporary access road decking and support structures, rehabilitation activities such as removal of existing construction and demolition debris,

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channel and bank stabilization, removal of invasive plant species and restoration of a native plant community.

C 16-44: Table 18-25 also shows that if the Short Span option is chosen, there will be a permanent loss of 1.2 acres of benthic habitat. Mitigation for this habitat loss should be included in the FEIS, including location and amount.

R 16-44: Please see the response to Comment 16-1.

24-2-17 CHAPTER 17: HAZARDOUS WASTE AND CONTAMINATED MATERIALS

C 17-1: In assessing the environmental impacts of the construction of the Replacement Bridge Alternative and demolition of the existing Tappan Zee Bridge, the DEIS focuses its study area on the existing Tappan Zee Bridge and adjacent upland parcels on both sides of the Hudson River. Notably, this study area does not include a review or study of hazardous materials, such as polychlorinated biphenyls (PCBs) and metals in the water itself or subsurface sediments. The level of disruption of this ecosystem has not been fully analyzed, and the DEIS does not discuss how construction, dredging, or demolition activities might cause resuspension of PCBs, metals and other hazardous materials located in the river sediments. The DEIS merely states that “Construction of the Replacement Bridge Alternative would not result in any adverse impacts to workers or the surrounding communities because a variety of procedures would be implemented to manage hazardous materials.” These statements are purely conclusory and self-satisfying proclamations that provide no reasonable assurances to the public that studies have been conducted and that appropriate measures to protect against contamination and resuspension will be installed prior to the commencement of construction and dredging activities. More to the point, the DEIS does not explain how these “variety of procedures” will work to “limit or control” exposure, or how they will protect against contamination and resuspension of PCBs. Rather, all the DEIS promises is that “subsurface investigations [will be] done to understand the nature of potential contaminants.” The DEIS does not explain when or where these subsurface investigations will be conducted. Without such information, it is impossible for the public to review the methods proposed to be employed and provide meaningful comments to lead agencies. As the EPA and NYSDEC have learned through their site remediation and cleanup efforts of PCB-contaminated sites in the Hudson River at the General Electric Site in the Upper Hudson River and the BP-ARCO Site in Hastings-on-Hudson, New York, the importance of fully characterizing the sedimentation before conducting in dredging and other construction activities cannot be underestimated. Containment and prevention of PCB and metals resuspension can be difficult during dredging activities in deep water, but the DEIS has largely failed to consider and plan for such exigencies in order to protect the Hudson River ecosystem from resuspension of PCBs, metals, and other hazardous contaminants.

- R 17-1:** The quoted DEIS text referenced in the comment is related to upland soil and groundwater contamination as described in Chapter 17, “Hazardous Materials.” A detailed discussion of sediment quality and the potential impacts associated with its disturbance during construction is addressed in Chapter 15, “Water Resources,” and dredging and post-dredging measures are addressed in Chapter 18, “Construction Impacts.” As discussed in these chapters, a sediment sampling and testing program was conducted in accordance with the Sampling Plan from the USACE, dated January 6, 2012. The analytical results and Technical Report on the Sampling and Testing Material for HARS Placement were submitted to USEPA and USACE for review on May 25, 2012. Testing results show that the sediments which will be encountered during demolition meet the criteria for disposal at HARS. Hydrodynamic modeling was used to analyze the resuspension of river sediments during construction and removal of the existing bridge foundations, and the transport and eventual deposition of this resuspended sediment elsewhere in the Hudson River. In summary, the results of the hydrodynamic modeling of changes in suspended sediment resulting from construction activities—dredging, pile driving, cofferdam construction, and vessel movement—indicate that with the exception of the portion of the mixing zone within the immediate vicinity of the dredge, increases in suspended sediment would be minimal for the Long and Short Span Options and within the natural range of variation of suspended sediment concentration within this portion of the river. Water quality changes resulting from resuspension of bottom sediment during dredging and other sediment disturbing construction activities would be minimal and temporary, limited to the immediate area of the activity, and within the range of suspended sediment concentration reported for this portion of the Hudson River.
- C 17-2:** Chapter 17 considers the potential for the presence of hazardous materials or contaminants. The demolition plan for the existing bridge should consider the potential for encountering such materials and how they should be removed from the waterway and disposed of appropriately. Contamination by hydrocarbons, PCBs, and heavy metals would render materials, otherwise eligible, as unsuitable for placement at the Historic Area Remediation Site (HARS) or an artificial reef. As a consequence, these materials may require secure upland placement, decontamination, or other measures to protect aquatic habitats and resources.
- R 17-2:** Handling and disposing of contaminated materials during demolition are addressed in Chapter 18, “Construction Impacts,” and, as noted in the comment, would be subject to the applicable regulatory requirements for asbestos, PCBs, petroleum-contaminated soils, etc. Testing of the sediment to be encountered during demolition was conducted by USACE and determined suitable for disposal at the HARS. Soil handling and disposal to occur on upland portions of the bridge would be subject to the Remedial Action Plan and Construction Health and Safety Plan to be developed prior to construction, as outlined in Chapter 18, “Construction Impacts.”

24-2-18 CHAPTER 18: CONSTRUCTION IMPACTS

C 18-1: Constant pile driving, dredging, construction barges, dust, and trucks, 24 hours, 7 days a week will diminish quality of life for local residents.

R 18-1: While construction activities may occur at any time, there will be restrictions on the most intrusive activities. Pile driving would only be allowed from 7 AM to 7 PM. In rare circumstances it is possible that driving of piles may extend further than 12 hours depending upon the practicality of completing work begun that day. In addition, construction noise will be further restricted during late nights on all days, on Saturday mornings until midday, and on Sundays all day in that no equipment shall be used that emits noise above 70dBA measured at an offset distance of 50 feet if the work is on land and at the nearest point of the shoreline if the work is in the water. Monitoring, internal reporting, and management of noise levels by the design-builder would be configured to ensure that: (i) any exceedance of the maximum permitted noise levels shall be identified by the design-builder within 30 minutes of the occurrence; and (ii) the activity causing the exceedance is mitigated within one (1) hour of the first occurrence such that the exceedance is not repeated.

Furthermore, in recognition of the potential adverse effects of construction on the surrounding communities, Chapter 18, "Construction Impacts," outlines numerous measures (Environmental Performance Commitments (EPCs)) to minimize the impact of project construction on the quality of life of nearby residents. The EPCs include both measures to protect the natural and man-made environment and include community noise, vibration and air quality monitoring programs on each side of the river. To the maximum extent possible, temporary noise walls would be provided by the design-builder to shield residences from construction staging areas, platforms and construction works. A minimum 11-foot high, temporary noise wall would be installed between the construction staging areas and platforms and the shorelines, and between the construction staging areas and platforms and the south side of the exit ramp (adjacent to Ferris Lane).

C 18-2: The Tappan Zee Bridge project will have a major negative impact on our community and we are most concerned about the health issues caused by its construction.

R 18-2: As described in the response to Comment 18-1, the potential adverse effects of project construction on the surrounding community and measures to minimize those effects have been analyzed in detail in Chapter 18, "Construction Impacts." In terms of public health the project has assessed and recommended measures to minimize adverse effects from noise, vibration, air quality, contaminated materials, traffic, etc. In recognition of the potential health issues related to diesel emissions, the project sponsors have adopted a construction emissions control program which is arguably the most stringent program for a major construction project in the tri-state region. With the implementation of the air quality EPCs during project

construction, concentrations of air pollutants would be below National Ambient Air Quality Standards (NAAQS) which are promulgated to protect the public health and welfare. Therefore, construction of the project would not result in any adverse impacts on public health.

- C 18-3:** Construction activities will result in tremendous impacts on both sides of the Hudson River. The concerns of the local communities who will be impacted by this huge construction project must continue to be considered. Construction noise, dust, property value impacts, and traffic detours will impact these local communities. The project sponsors must do all that they can to minimize these effects.

Construction noise, emissions, and traffic will impact the quality of life, health, and housing values of The Quay residents.

- R 18-3:** As addressed in the responses to Comments 18-1 and 18-2, the project has proposed numerous EPCs to minimize the adverse effects of project construction on nearby residents. With respect to local traffic it should be noted that unlike other major infrastructure projects, there are two conditions with the current project that would minimize adverse effects as compared to projects of similar size. One is the project's location on the river and the ability to transport much of the material by barge directly to the construction site. The second factor is the use of the Thruway itself to access the work platform. On the Westchester side, local roads would be avoided by accessing the river work platforms through NYSTA's property while the Rockland side only requires a short distance of local roads to be used. Traffic and transportation issues would be managed by a comprehensive and detailed Work Zone Traffic Control management plan (Design-Build Contract Documents, Part 3 § 17). The contract specifications would require road closures and detours to be strictly coordinated so that traffic can take safe, practical and short detour routes. This coordination would serve to avoid or minimize, to the extent feasible, traffic diversions through residential neighborhoods. Further, the construction would be staged to maintain through traffic, perhaps with only one direction being detoured at a time. An analysis of property value impacts related to construction is beyond the scope of this EIS.

- C 18-4:** The plan for construction activities, including reconstruction of the South Broadway Bridge, must respect the homeowners on South Broadway. There must be a very specific timeline for demolition, staging, and construction of that bridge, which should be in part of the planning and construction documents.

After reconstruction of the South Broadway Bridge is completed, its staging area should be landscaped in accordance with neighborhood standards and would not become a parking lot or a storage area or a host to other construction-related activities for what could be four or five years.

As residents within 150 feet of the South Broadway Bridge, we are asking that the plan of construction on South Broadway. There must be a very

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specific time line for demolition, staging, and construction (i.e., four months), and such plans construction documents. After construction, the staging area would be landscaped in accordance with neighborhood standards and would not become a parking lot, storage area, or host to other construction related activity. It is unfair that the residents of South Nyack have to be subject to the effects of construction in perpetuity. We expect better maintenance of the staging sites.

R 18-4: Subsequent to publication of the DEIS, design refinements to the Rockland County landing no longer require replacement of the South Broadway Bridge in South Nyack.

C 18-5: The area near Interchange 10 (Route 9W) has not been well maintained. The aesthetics of this area should be carefully considered if it is indeed used as staging for the bridge reconstruction project.

We strongly oppose the use of Interchange 10 (Route 9W) for construction staging. Increased use of this location will only exacerbate its existing unacceptable conditions. The area is surrounded by residential neighborhoods. Trucks loading and unloading materials and the use of backup alarms will be an unacceptable disturbance to residents. In fact the current use of the area within the Village of South Nyack must surely constitute a legal nuisance.

Section 18-4-8-1 states: "This period of construction would include the relocation of the NYSTA Tappan Zee Bridge Maintenance Facility and New York State Police (NYSP) facilities directly north of the Interstate 87/287 near the Toll Plaza." Impacts of any relocation of these facilities to the Interchange 10 (Route 9W) area, whether temporary or permanent, have not been studied. The increased activity associated with these facilities that would be expected would be likely to be incompatible with the residential neighborhood. We note that Section S-4-2-5 states: "Upon completion of the Replacement Bridge Alternative, a new maintenance facility and New York State Police barracks would be constructed at approximately the same location within the existing NYSTA right-of-way." Informal proposals have explored the possibility of post-project permanent use of the Interchange 10 (Route 9W) area for relocating these facilities. The Village adamantly opposes any temporary or permanent relocation of State or Thruway facilities to South Nyack.

R 18-5: The Design-Build Contract Documents, Part 2 § 107 specify that the contractor install a fence around the construction staging area before construction. After construction, the area would be landscaped. Neither the bridge maintenance facility nor the State Police facility would be relocated.

C 18-6: Staging areas should not be in these residential neighborhoods.

R 18-6: As discussed in Chapter 18, "Construction Impacts," a project of this size would require additional construction staging beyond the waterfront staging areas to accommodate a number of functions. A contractor may use one

large site or possibly use multiple sites to satisfy their specific construction needs. While the contractor may or may not choose to use the sites discussed in Chapter 18, based on their proximity to the project site, available size, surrounding land uses and access to the Thruway, these sites are likely candidates. The contractor would be required to comply with local laws and regulations with respect to their own staging areas including land use and zoning regulations.

- C 18-7:** Tilcon Quarry Site: "Although the site is currently in operation, it may be possible to lease a portion of the space." Need clarification as to what portion and how much capacity.
- R 18-7:** It would be up to the proposed contractor to determine whether the site meets their needs, is available and if, in fact, the owner is willing to lease or sell the site.
- C 18-8:** Open public communication and meetings must continue during the construction phase so that the environmental issues and quality of life concerns of the affected communities are addressed. There needs to be a direct point of contact as well as accountability in the construction process that will mitigate citizens' concerns.
- R 18-8:** The Design-Build Contract Documents (Part 3 § 8) specify a continuing outreach program throughout the duration of project construction. The goal of the public involvement activities is to engage a diverse group of public and agency participants, seeking and using their views, and providing timely information throughout the design and construction process. Such engagement will include:
- A. Seek input – provide timely opportunities for stakeholder engagement to allow for meaningful input for consideration in the design-build process.
 - B. Use input – develop a methodology that allows for consideration and inclusion, where appropriate, of stakeholder input into the design-build process.
 - C. Provide status updates – inform the public at regular intervals about key changes in the Bridge Alternative Project.
- This will be facilitated by a project website, weekly press releases, project newsletters, project phone hotline, and public meetings.
- C 18-9:** A plan should be developed in order to minimize potential impact on our utilities. This should include coordinating with utility companies and developing an emergency plan in case of temporary disruption.
- R 18-9:** Since potential effects on specific utilities are dependent upon the final design of the project, the selected design-builder would coordinate with these companies to minimize any potential impacts to utilities.
- C 18-10:** A rodent control program needs to be implanted for nearby developments.

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- R 18-10:** A rodent control program would be implemented as part of project construction.
- C 18-11:** EPA recommends that FHWA work with other federal and state agencies to prepare an Environmental Performance Commitment (EPC) Plan and arrange for ongoing interagency meetings during the project's construction. Interagency coordination would ensure that the EPCs are being met, and that any changes to the project made during the design and build process could be reviewed jointly among the agencies. EPA has rated the document EC-2 (Environmental Concerns- Insufficient Information), as more information is required to fully assess environmental impacts, including emissions information, sediment volumes, and wetlands and benthic habitat mitigation as discussed in our comments enclosed with this letter.
- R 18-11:** Interagency coordination would continue during the design-build process. FHWA, NYSDOT, and NYSTA are working closely with the resource agencies to finalize the EPCs for the Replacement Bridge Alternative. The design and construction of the project would incorporate EPCs to minimize the environmental impacts from construction. Subsequent to publication of the DEIS, the environmental analyses for the project were refined as a result of additional available data and consultation with the cooperating agencies, and additional EPCs have been included in the FEIS.
- C 18-12:** Rockland County requests that the project support a full time Rockland County project manager and a full time Rockland County construction inspector, appointed by the County and paid for by the project. Furthermore, a full time Inspector/overseer/monitor should be in place to ensure emission reduction strategies are being implemented at the worksite. The project should reimburse any Rockland County staff time expended during construction.
- R 18-12:** NYSTA and NYSDOT, working through a Construction Management team would be responsible for compliance with many aspects of the project including adherence to the EPCs and permit conditions.
- C 18-13:** The approximately 5-year construction period identified in the DEIS is not realistic.
- R 18-13:** The construction schedule for the project was developed by the project's engineering design consultants who are internationally-recognized experts in complex bridge projects throughout the world with extensive experience in similar construction projects. The construction schedule was reviewed by FHWA, NYSTA and NYSDOT.
- C 18-14:** This chapter discusses construction impacts. We suggest that the project schedule depicted in Figure 18-1 be amended to the larger scale, fold-out page format used elsewhere to make the information easier to read. In addition, we suggest that the time scales for the Short Span Bridge and Long Span Bridge options be expressed on equal scale horizontal axes. As currently presented, it is easy to misconstrue that the Short Span option will

take longer to construct, and it also does not allow easy comparison of activities that would be ongoing by comparing the two options at a particular season or month. We appreciate the effort that you put into identifying potential laydown and staging areas. If the selected contractors choose alternate sites for these and other important activities additional National Environmental Policy Act (NEPA) review will be necessary. The Corps of Engineers' or Coast Guard permitting stages may be an appropriate opportunity to supplement this NEPA evaluation, or you may need to build other opportunities for adaptive management into the final permit instruments to ensure that NEPA compliance for this design-build project.

- R 18-14:** Figure 18-1 has been revised in the FEIS. The selected design-build contractor would be responsible for complying with all environmental laws and regulations for their construction staging and laydown areas that are outside the Thruway right-of-way.
- C 18-15:** A better justification for the transfer of dredged material from smaller to larger scows should be included. That the depths for the larger scows in the immediate project area are not feasible should be quantitatively discussed. The DEIS states there would be a transfer of dredged material from small scows to a larger scow in an area of deeper water adjacent to the navigation channel that would then go to the HARS. Details of the transfer plan are needed as to how the transfer of dredged material from the smaller to large scows would be accomplished, and where is area of deeper water that the transfer would occur at? This would appear to be double handling of the dredged material if a clamshell bucket would be used to "dredge" the material from the smaller scows into the larger ones. In addition, was this taken into consideration in the dredging timeframes?
- R 18-15:** Additional detail regarding the transfer of dredged material from the dump scows to the ocean scows is discussed in Chapter 18, "Construction Impacts," Section 18-3-5, "Transport and Disposal of Dredged Material."
- C 18-16:** The necessity, in the currently anticipated sequence, for removing the Westchester side of the old bridge early in construction of the new bridge indicates that a decision with regard to whether and in what manner the old bridge would be removed would have to be made well prior to initial construction.
- R 18-16:** As discussed in the EIS, it is proposed that the existing bridge be demolished. The construction schedule reflects that decision. With respect to how the bridge would be removed, the phasing of the demolition was discussed in the DEIS, Chapter 18, "Construction Impacts," and can be found in Section 18-3-8 of the FEIS.
- C 18-17:** "The dredging required as part of the replacement bridge's construction would occur outside of the navigational shipping channel, with no projected impacts on navigation." Comment: It is necessary to clarify if the armoring would extend into the side slopes of the Federally maintained navigation

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channel. If it would, the armoring should not be placed in the sideslopes of the Federally maintained navigation channel to allow access of dredging equipment for future maintenance dredging of the channel to its authorized depth.

- R 18-17:** Armoring would not be placed in the sideslopes of the federally maintained navigation channel.
- C 18-18:** Compensation for additional building power washing of Salisbury Point Cooperative will be required.
- R 18-18:** The design-builder would be required to prepare a dust control plan to control and minimize through a combination of wet suppression, vegetative cover, mulching, spray adhesive, wheelwashing, windbreaks, or equivalent methods, fugitive dust emissions from roadways (paved and unpaved), excavations, all unloading and loading material-handling operations, and demolition. Therefore, no compensation is proposed for individual building owners for additional power washing of their structures.
- C 18-19:** The DEIS contains an extremely brief description of the process and impacts of demolishing the existing bridge. The option of preserving the existing bridge for some beneficial purpose is not discussed in the DEIS. Demolition of the existing Tappan Zee Bridge constitutes an action that will be undertaken as a direct result of constructing the new bridge, and so, pursuant to SEQRA, the Environmental Impact Statement must fully consider the impacts of this action. The DEIS's cursory discussion of the impacts of demolition on the Hudson River and nearby communities is woefully insufficient, and does not provide a full evaluation of the impacts to the Hudson River as a result of this demolition. The extent of the in-river impacts from demolition are not addressed, leaving the public without enough information to assess the cumulative impacts of building a new bridge and tearing down the old one. New York Courts have held that the lead agencies of a project subject to SEQRA requirements must consider all phases of a project concurrently in the Environmental Impact Statement. Therefore, the lead agencies need to provide an adequate analysis of the environmental impacts of demolishing the existing bridge in order to comply with SEQRA's requirements. An agency decision to not study such environmental impacts in a fundamentally dependent aspect of a project prior to the issuance of a DEIS that is open to public comment, but rather hold off on studying the environmental impacts until after the issuance of the DEIS or FEIS, constitutes impermissible segmentation.
- R 18-19:** The option of preserving the existing bridge for a beneficial re-use was discarded from consideration in the Draft Section 4(f) Evaluation included with the DEIS.

As discussed in Chapter 18, "Construction Impacts," Section 18-3-8, much of the demolition of the existing bridge would be accomplished by dismantling the bridge onto barges and transport on the river, avoiding the need for a large number of truck trips within the surrounding community. The

demolition of the bridge is not a separate project but just one phase among many in the construction of the new bridge. This phase was analyzed, similar to other phases of the project as part of the construction impact assessment. As such, the demolition phase of the project is subject to the same EPCs (air quality, noise and vibration, ecology, water resources, etc.) as any other phase of the construction process.

C 18-20: The "design-build" aspect of the project creates many unknowns as elements of the construction are at the contractor's discretion, including disposal and borrow sites, privately owned sites for prefabrication, production of materials, and the like. Although these independent decisions by the contractor are beyond the scope of federal action we feel that every aspect of the bridge construction should be included for review in the DEIS. Specific to Rockland County, we recommend that the locations of the concrete batch plant and laydown storage areas be addressed in the DEIS. These include the Rockland Bridge Staging Area, West Nyack Staging Area and Tilcon Quarry Staging Area.

R 18-20: The fact that the contractor's staging, prefabrication sites, etc. are unknown is not a unique characteristic of the design-build process. In fact, under a typical design-bid-build process, the contractor would be selected several years after the NEPA Record of Decision is published to allow for the completion of final design, permits, and bid documents. Where the contractor may choose to locate these facilities, purchase material, etc. is always unknown when preparing an EIS for a transportation project since the project has not gone through final design, bidding and selection of a contractor.

In addition, contrary to what the commenter asserts, staging sites based on their proximity to the project site, available size, surrounding land uses and access to Interstate 87/287, were analyzed in the DEIS. These sites are likely candidates and provide a reasonable scenario to assess the potential impacts that may occur from the operation of a construction staging area in Westchester or Rockland Counties. While the contractor may or may not choose to use the sites discussed in the DEIS, and it is likely that the contractor may use a number of sites throughout the area to stage construction, the analysis in the DEIS for the two in-land sites conservatively assumes that all activities would occur at one of the two sites. At any staging areas ultimately used for construction of the project, the contractor would be required to obtain all of the necessary permits and approvals for each and any site.

C 18-21: As part of the proposal submissions, design-builders are required to submit an "Initial Demolition and Removal Plan" that shall include a description of the design-builder's plans for: "(a) Any necessary phasing in the demolition of the existing bridge in relation to construction, including any proposals for salvage; (b) Any elements to be demolished and removed in staging areas; (c) A staging plan and specific means that the Proposer intends to use in order to maintain and if necessary replace the existing toll plaza; (d) A

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staging plan and specific means that the Proposer intends to use in order to maintain and if necessary replace the existing NYSTA maintenance and operation facilities. The public must be able to properly comment on the demolition processes and provide meaningful feedback to lead agencies on the environmental impacts of demolition activities in the event that the proposer's Initial Demolition and Removal Plan fails to adequately mitigate for environmental impacts.

- R 18-21:** The final details of the chosen design-build contractor's plan (including demolition and removal) cannot be reviewed before the design-builder is selected. With this in mind, a general plan for demolition of the existing bridge was included in the DEIS and measures to protect the environment have been proposed. These measures are intended to not only protect the ecological resources of the river and adjacent upland habitats but also the health and welfare of the surrounding residential communities. Furthermore, as part of the review of the DEIS and in their role as cooperating agencies, USACE, NYSDEC, NMFS, and USEPA have provided recommendations for measures to be implemented during demolition of the existing bridge to ensure that adverse effects upon the environment are minimized to the extent feasible and practicable.
- C 18-22:** Demolition costs may be conservative as no details have been provided, such as remediation costs.
- R 18-22:** Demolition costs associated with removal of the bridge have undergone the same level of detailed cost estimation as the other phases of construction. As such these costs have been reviewed independently by FHWA. With respect to remediation costs, items such as deleading the bridge are included in the salvage value of the steel. The project has also included standard costs associated with asbestos abatement for buildings to be demolished and for locations wherer asbestos-containing materials are known to be present on the existing structure. In addition, the results of the project's Phase II site assessment did not indicate any upland soil or groundwater contamination that would substantially alter the project's construction cost estimate.
- C 18-23:** The FEIS should look more thoroughly at the environmental impact of demolishing the bridge, carting away 33 acres of pavement, and ripping the pilings from the riverbed.
- R 18-23:** The DEIS included a discussion of the environmental effects of project construction including demolition of the existing structure. As discussed in Chapter 18, the project would incorporate a recycling program to as part of the construction specifications. In addition, as discussed in response to Comments 18-19 and 18-21, the potential adverse effects of "carting away 33 acres of pavement" would be minimized through the use of barges and marine transport to salvage or disposal facilities. The project has proposed cutting the existing piles two feet below the mudline in an effort to minimize disturbance to the existing sediment.

24-2-18-1 TRANSPORTATION

C 18-24: Rockland County wants the project to require no construction at night or on weekends, and no lane closures in the AM peak eastbound and the PM peak westbound.

R 18-24: Since the project requires work on an operating transportation facility it is not possible to avoid nighttime work. However, much of the construction would be completed off-line, requiring no closures to the existing Thruway. In any event, the selected contractor will be required to prepare a comprehensive and detailed Work Zone Traffic Control (WZTC) management plan which will include identification of traffic control, lane closures and terms and conditions for night time and weekend construction, if necessary. As stated in the FEIS, the design-build contractor would maintain the current number of travel lanes available in the AM peak eastbound and PM peak westbound directions during the construction period.

C 18-25: During construction, the Salisbury Point Cooperative access roads will either be blocked or backed up with construction vehicles from the project and the crew. The DEIS does not provide for the specific sites, and number of parking spaces at each site, that would be used by construction workers. Presumably a decision on this would emerge from the work of the design-build Team. The EIS cannot be completed until this is determined. The following mitigation is requested:

- Remote off-site adequate construction worker parking areas need to be established and committed, and a commitment made to install a shuttle van system for workers to travel between the parking lots and the Hudson River work sites.
- Night time traffic on the temporary construction road along the Salisbury Point Cooperative frontage should be restricted to the maximum extent feasible.

R 18-25: Access to the Salisbury Point Cooperative would not be blocked as a result of the construction for the Replacement Bridge Alternative.

The construction means and methods presented in the FEIS are based on the current level of engineering design, discussions with contractors, and past experience on similar projects. While the techniques ultimately used for the project may vary to some degree, the process described presents the most likely scenario for construction of the project. While some flexibility is available within the overall means and methods, the environmental impacts and types of mitigation measures would likely be the same. Neither the DEIS nor FEIS include an analysis of those elements of construction that would be at the contractor's discretion and are unknown at this time. Since it is up to the contractor's discretion on where their ancillary facilities may be located it is not unusual for an EIS to lack the specificity requested in the comment. However, contractors will not be allowed to have employee parking at the riverfront staging areas.

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As stated in the FEIS, in accordance with FHWA policy, independent decisions by the contractor, unless effectively dictated by the project sponsor, are beyond the scope of the current action. NYSDOT and NYSTA Standard Specifications for all construction contracts require the contractor to comply with all applicable environmental regulations and obtain all necessary approvals and permits for the course of construction. The approval efforts will require the preparation of a comprehensive and detailed Work Zone Traffic Control management plan which will include identification of designated off-site staging area, worker transportation and terms and conditions for night time construction. The Work Zone Traffic Control Management Plan will be subject to the review and approval by NYSDOT and NYSTA who will also monitor and oversee the implementation of the plan.

Please see the response to Comment 18-24 regarding night time construction efforts.

- C 18-26:** What are the potential impacts on the Salisbury Point Cooperative's lower parking lot during construction?
- R 18-26:** Access to the Salisbury Point Cooperative would not be blocked as a result of the construction for the Replacement Bridge Alternative. Contractors will not be allowed to use the lower parking lot in any manner during construction of the project. Access to the riverfront work platforms will be through the Thruway property.
- C 18-27:** Before construction commences, the contractor must make a plan that describes access routes and ramps, staging locations, and the locations for equipment storage. The plan should be made available to area residents, and residents should approve the plan prior to commencing construction.
- R 18-27:** Please see response to Comment 18-25.
- C 18-28:** The DEIS did not adequately describe the effects of construction-period traffic on access to The Quay. The DEIS assumes that the southbound on ramp to the Bridge from Broadway will be closed for most of the construction period. Accordingly, this leads to the possibility of queuing on Broadway which could block The Quay driveway and other driveways on Broadway. The DEIS contains no queuing analysis nor any evaluation of the construction stage traffic impacts on The Quay and other properties fronting on Broadway in Tarrytown.
- R 18-28:** Access to The Quay will not be blocked as a result of the construction of the Replacement Bridge Alternative. The Broadway Bridge will not be closed; therefore, a queuing analysis is not warranted.
- C 18-29:** If there is a taking (temporarily or permanently) of any parking areas or other portions of the Bradford Mews Apartments property, we will need alternative arrangements (such as on the street parking) for our residents. There is mention in the DEIS of a reduction of 12-16 parking spaces from the

Bradford Mews Apartments property. How did the decision of 12-16 spaces come about? We'd like to be able to discuss the different alternatives that were considered. Did condemnation of one or more buildings of Bradford Mews Apartments ever come up? How would condemnation affect the development (make it easier, no effect, etc)? Have there ever been any proposals put forth (rejected or otherwise) that require the condemnation of Bradford Mews Apartments?

R 18-29: As discussed in Chapter 6, "Land Acquisition, Displacement and Relocation," the Replacement Bridge Alternative would require a small partial acquisition and permanent easement on the Bradford Mews Apartments property that would result in reconfiguration of parking spaces (subject to final mapping). It is anticipated that the reconfiguration would allow the existing number of parking spaces to remain on site.

C 18-30: Construction of the Replacement Bridge Alternative, including demolition of the existing bridge, will impede maritime navigation and recreational boating.

R 18-30: As stated in the DEIS, the ability for boats to travel along the Hudson River would be maintained throughout the construction period. As discussed in Section 18-4-4 in Chapter 18 "Construction Impacts," the work zone would be clearly marked with USCG-approved signage and other indicators to alert boaters of potential navigation hazards. Navigational aids, also approved by the USCG, would be implemented to guide marine traffic safely through the work zone. The Design-Build Contract Documents (Part 3 § 18) establish the procedures and protocol that the design-builder would be required to follow to maintain the navigational channel.

Because the Hudson River is an important shipping route, freight vessels would have the right-of-way through the construction zone and recreational boaters will have to use caution when navigating through the shipping channel. The replacement bridge would be constructed in segments; therefore, there would be sections of the Hudson River that would remain navigable for recreational boats during much of the construction period. While use of personal watercraft near the construction zone would be discouraged (similar to instances where upland work requires closure of sidewalks or roadways), recreational vessels will be permitted to pass through areas identified for safe passage. Although recreational boating may be temporarily disrupted near the replacement bridge during construction, no long-term impacts to recreational boating on the Hudson River are anticipated once the Replacement Bridge Alternative is operational.

C 18-31: Construction of the project would severely impact activities of the Piermont Rowing Club who uses this stretch of the river every day from May to November. The four- to five-year construction period would not be a temporary impact in the context of the rowing club and would greatly affect the rowing club's program. This project will include a multislip dock stretching into the river for over a third of a mile and the dredging, tug, barge, crane; construction crew traffic on the river will materially interfere

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with our ability to use these waters safely as we have for years. To be dismissed by the DOT is insulting and it raises the questions, what other concerns are being ignored or withheld from the public? In addition, NYSDOT has ignored the rowing club's letter submitted on November 9, 2011 with a petition showing the support of over 150 people citing safety concerns for rowers and project work crews during the construction period.

- R 18-31:** As stated in the DEIS, the ability for boats to travel along the Hudson River would be maintained throughout the construction period. Recreational activity outside of the footprint of the construction area will not be impacted.
- C 18-32:** The impact on navigation from fairway closings and construction related vessel traffic is listed as a temporary disruption to recreational and is not considered an adverse impact. Similarly, the closing of the main shipping channel of the Hudson River to all commercial traffic for "possibly several days" is considered when main span is being constructed. These are rather dramatic navigational impacts, and both the justification for, and possible mitigative alternatives to, these measures should be given much more discussion.
- R 18-32:** As stated in the response to Comment 18-30, the project would coordinate with the USCG on a construction staging plan for the river which would allow both recreational and commercial vessels to traverse the construction area safely.
- C 18-33:** The DEIS states that sail boaters may be precluded from using sails while traversing through the construction zone. This preclusion flies in the face of the fact that sailors generally have better control of their boats when sailing. If it is necessary to regulate boaters speed or other aspects of their performance they should be addressed directly.
- R 18-33:** As discussed in response to Comment 18-32 above, FHWA, NYSDOT, and NYSTA are coordinating with the USCG as part of the project's Bridge Permit application. Maritime operations would be dictated by the conditions in the USCG permit, if approved.
- C 18-34:** As homeowners in the Irving neighborhood, we are extremely concerned over the quality of life and safety of our school age children in the neighborhood during construction. We understand that a lot of these restrictions on construction sites are going to be worked into a contract, but we need to know who is going to be monitoring and policing this to make sure that they are following the restrictions and guidelines that they agreed upon. Further, residents will be cut off from the Village of Tarrytown, especially if constant construction traffic prevents left turns onto Route 9. We want to know what the hours of the operation are going to be, what's the scope of the staging areas, and how traffic will be managed. We encourage you to avoid construction routes through our streets. We suggest that the construction be re-routed on Broadway through the police barracks for that

construction site and not use the maintenance road underneath or use Van Wart as an entrance for the construction vehicles, it's too residential.

- R 18-34:** Please see response to Comment 18-25 regarding monitoring and oversight of the construction effort. Specific details regarding the monitoring and compliance, traffic restrictions, staging areas and construction routing will be subject to approval by NYSDOT and NYSTA.

Residents will not be cut off from the Village of Tarrytown. With respect to construction traffic, due to the project's location (i.e., proximity to water and Interstate 87/287) construction traffic through the local street network would be minimized. As specific information becomes available, NYSDOT and NYSTA, in conjunction with the selected contractor, will contact all interested stakeholders to discuss the traffic management plan.

- C 18-35:** Emergency access routes should be unimpeded during construction. In particular, the South Broadway overpass provides an important emergency access route, as well as an important route for local traffic. Any closure during construction could be a major disruption and put residents at risk. Are there any plans to close the existing bridge while the new one is being built and would emergency services be disrupted?

- R 18-35:** Emergency access routes would remain unimpeded at all times during the duration of construction. Subsequent to publication of the DEIS, design refinements to the Rockland County landing no longer require replacement of the South Broadway Bridge in South Nyack.

- C 18-36:** Every community between the Bear Mountain Bridge and the George Washington Bridge is going to be affected with additional traffic on its local roads and on its highways as a result of various dislocations as a result of bridge construction. The local governments are going to need assistance to handle the traffic and to fund whatever additional planning and resources are going to be needed. And that planning should begin now, should be done in detail, with the local villages, towns, and cities, and the Borough of the Bronx and Manhattan involved right now.

- R 18-36:** Significant diversions to the Bear Mountain Bridge and the George Washington Bridge are not anticipated during the construction period for the following reasons: (1) the number of travel lanes during the peak periods in both directions will be maintained throughout construction; (2) although speed limits may be reduced within the construction zone, it would be the objective of the design-build contractor to maintain traffic flow and travel times so that Tappan Zee Bridge traffic would not be diverted to the Bear Mountain Bridge or George Washington Bridge; (3) public outreach efforts will be conducted in advance of significant construction efforts so travelers can plan their trips accordingly; and (4) contractual requirements would also be in place to reinforce adherence by the design-build contractor.

Additionally, the EPCs dictate that warning signs would be used as appropriate to provide notice of road hazards and other pertinent information

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to the traveling public. Signage and barricades would be used as part of the typical roadway construction traffic controls. Temporary traffic signal adjustments and/or temporary manual traffic control could be required when construction occurs at signalized intersections on adjacent arterials or roadways. The effectiveness of the traffic control measures would be monitored during construction and adjustments would be made, as necessary.

The local news media would also be notified in advance of road closures, detours, and other construction activities. Information would also be posted on the project website providing advance notice of construction activity to the public and surrounding municipalities.

- C 18-37:** Construction activities and any road closures must consider impacts on cycling routes. Piermont Avenue/River Road in Rockland County and Route 9 in Westchester County are important routes for cyclists and any detours must consider cyclist safety. Route 9W between Piermont and Nyack is not considered safe for cyclists, and the Old Erie Path from Piermont to Nyack is unimproved and not suitable for road bicycles. Consideration must also be given to financial impacts on restaurants in Nyack if cycling routes between Piermont and Nyack are disrupted.
- R 18-37:** Within the project limits, the design-build contractor would be required to prepare a comprehensive and detailed Work Zone Traffic Control Management Plan (WZTCP). Where appropriate the WZTCP will take into consideration the needs of cyclists passing through the construction zones.
- C 18-38:** There is likely an alternate construction access route that would lessen impacts on The Quay.
- R 18-38:** Access to The Quay would not be blocked as a result of the construction for the Replacement Bridge Alternative.
- C 18-39:** Concern is expressed about the potential impacts associated with the Tilcon Quarry Staging Area Site. Access to the Thruway from this area would require the use of local roads which are used extensively during peak AM and PM traffic periods. The potential for increased congestion and road surface degradation needs to be addressed.
- R 18-39:** The contractor may or may not choose to use the TQSA site discussed in the DEIS; however, based on its proximity to the project site, available size, surrounding land uses and access to the Thruway, the TQSA site is a likely candidate and provides a reasonable scenario to assess the potential impacts that may occur from the operation of a construction staging area in Rockland County.

Should components or specific details of the proposed traffic plan require conducting a capacity analysis or simulation model, then it will be conducted as part of the preparation of the WZTC plan.

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Should components of the proposed traffic plan have the potential to impact local roads, then it would be the responsibility of the design-build contractor to satisfy the requirements of the local municipalities.

C 18-40: Where will construction workers park? This will be a huge safety issue – all kinds of people wandering our neighborhood at all hours.

R 18-40: As stated in the EIS, some elements of construction planning would be at the contractor's discretion and are unknown at this time. Those elements at the discretion of the contractor would include construction staging in lieu of or in addition to the two privately owned sites discussed in the DEIS.

The two sites for construction worker parking identified in the DEIS are located near Interchange 12 at the West Nyack Staging Area (WNSA) and the Tilcon Quarry Staging Area (TQSA). The WNSA site occupies approximately 33 acres of land south of the Palisades Mall at the intersection of Routes 59 and Route 303. The TQSA is an approximately 120-acre site located directly north of the Thruway and opposite the Palisades Mall.

C 18-41: The construction impact section of the DEIS predicts that 800 trucks a day will be visiting and leaving the construction sites during the months of August, September and October if no HARS permit is issued for barges to take the sediment to a dredging disposal site. This is of great concern because there is no assurance that such a permit will be issued for the dredged material which may not be “clean” sediment. We implore the Thruway Authority and the Design/Build team to mitigate the effect of this community-disrupting activity in the event no permit is issued.

R 18-41: As explained in the DEIS, due to the amount of dredge material that must be transported, trucking of this material will be explicitly prohibited. It should be noted that while the HARS permit is still under review, in a letter dated June 22, 2012, the USACE and USEPA determined, based on the results of dredged-material sample testing, that dredged material was found to be suitable for placement at the Historic Area Remediation Site (HARS).

C 18-42: A Construction Mitigation Transit Plan is requested. The plan should include the following:

- FHWA and NYSDOT funding to increase the Tappan Zee Express bus service during the entire construction period, in the amount of \$3.0 million a year. This will reduce the number of Single Occupant Vehicles (SOV) traveling in the construction zone.
- Expansion of the Haverstraw/Ossining Ferry. Rockland County requests that NYSDOT work with Metro-North to expand the operating hours of the service to further reduce the number of SOVs crossing the Hudson during construction and providing more transit options during construction.

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R 18-42: Currently, the project's EPCs related to traffic do not include the measures suggested in the comment to reduce the number of single occupancy vehicles crossing the Tappan Zee Bridge during the construction period. For reasons previously provided in Chapter 18, "Construction Impacts," of the DEIS and response to Comment 18-36, the proposed project does not require the mitigation measures as recommended by the comment.

C 18-43: A Rockland County Highway Department (RCHD) Work Permit will be required prior to any construction affecting the County road. A separate Road Opening Permit shall be secured from the RCHD for any Sewer and utility connection within River Road. The Contractor should be aware of and responsible for obtaining any vehicle hauling permits that may be necessary to transport over State, County and local roadways. It is also necessary for the Contractors to restore the damaged roadways curb to curb in kind on River Road.

R 18-43: Comment noted.

C 18-44: There are conflicting statements at various chapters of the report regarding the expected impact on River Road for the proposed project ranging from no road closing to closure could occur at any time during the construction. Please clarify.

A more elaborate study should be conducted for the upcoming FEIS to identify a reasonable scenario for assessment of the potential impact that may occur from the sequence of construction. The temporary access ramp from Interstate 87/287 for the subject construction should be provided in greater detail. Sections shown on the report should be located next to the corresponding plan and closer to actual scale rather than schematic.

In lieu of limited vertical clearance available at the bridge and River Road junction, it appears constructing a new access tunnel on River Road between the crossing near the access ramp and Rockland Bridge Stage Area would be a logical solution. The separation of operations for use of River Road could maintain the safe traffic flow with minimum impediment.

In view of complications from landing, approach spans, tie-in extents where existing, temporary and final structures will overlap at different stages of construction and new bridge abutment are also shown to be built in close proximity, basic considerations to minimize impact on River Road crossing area should be outlined in greater detail through process of elimination to narrow down the design options for this design-build project.

R 18-44: River Road closures referred to in the DEIS are temporary stops in traffic flow to allow large construction equipment to safely cross between the temporary ramps and Rockland Staging area. Public use of River Road will not be prohibited.

A construction access tunnel under River Road between the Thruway access ramps and the staging area is not possible without property displacements which cannot be justified for short term access (as well as the

need to close River Road to all traffic to build the tunnel). Therefore, a tunnel access road would be far more impactful to River Road than the proposed temporary construction crossing.

- C 18-45:** As part of the design-build process, a maintenance and protection of traffic plan will be developed for River Road. Coordination with Rockland County Highway Department will be part of the process to ensure that impacts to the travelling public would be minimized to the extent feasible. A temporary construction access road/shoulder in both directions from Exit 12 to the Rockland Bridge Staging Area (RBSA) should be provided, and later become a dedicated Bus Lane.
- R 18-45:** Based on the anticipated volumes of construction vehicles and shuttle buses, a temporary access road/shoulder in both directions from Exit 12 was not determined to be warranted. Please refer to Section 18-4-1 of the FEIS for a discussion of construction generated traffic.
- C 18-46:** Create a bus-only slip ramp/connector from Interchange 10 (Route 9W) westbound directly to S. Franklin Street for buses only to access Nyack and bypass the Interchange 10 (Route 9W) circle in the PM peak.
- R 18-46:** Based on the anticipated volumes of construction vehicles and shuttle buses, a bus-only slip ramp/connector from Interchange 10 (Route 9W) was not determined to be warranted. Please refer to Section 18-4-1 of the FEIS for a discussion of construction generated traffic.
- C 18-47:** From what location outside the construction area will construction workers be bused? Please identify what area will be used for parking of worker vehicles.
- R 18-47:** As stated in the DEIS and discussed in the response to Comment 18-25, some elements of construction planning would be at the contractor's discretion and are unknown at this time. Those elements at the discretion of the contractor would include construction staging, in lieu of, or in addition to the two privately owned sites discussed in the DEIS. Construction workers will be prohibited from on-street parking in residential neighborhoods.
- C 18-48:** Section 18-4-1 of the FEIS discusses a comprehensive and detailed Work Zone Traffic Control Plan. Please provide a simulation model run of the construction area, especially when all east and westbound traffic is on the new North Structure.
- R 18-48:** A simulation model run for the detailed Work Zone Traffic Control Plan is not warranted as part of the FEIS. The FEIS provides a sufficient level of detail to evaluate the potential impacts of the anticipated construction effort including a merging and weaving analysis of construction vehicles on Interstate 87/287. Please see Section 18-4-1-1 of the FEIS.

As previously stated, there are a number of details regarding the traffic plan that are at the discretion of the contractor that will be determined as part of the design-build process. Should components or specific details of the

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proposed traffic plan require conducting a capacity analysis or simulation model, then it will be conducted as part of the preparation of the WZTC plan. Until the selected contractor staging and material supply sites are known it is not possible to prepare a detailed simulation model.

24-2-18-2 COMMUNITY CHARACTER

- C 18-49:** The Project Sponsors should commence a citizens' advisory committee to discuss and address community concerns regarding construction activities.
- R 18-49:** The project will include a robust public outreach plan as part of the design-build process. Please see the response to Comment 18-8 for further details. To allow full involvement of the entire community, there are no plans to institute a Citizen's Advisory Committee.
- C 18-50:** If the State Trooper barracks are used as a staging area, a tree line or buffer should be planted to shield residences from construction activities at this location.
- R 18-50:** All staging areas will be required to have attractive fencing or temporary noise barriers as appropriate.
- C 18-51:** Construction traffic, noise, and air quality impacts will be an inconvenience and a hardship to the occupants of Bradford Mews Apartments. Overall, we view the work as detrimental to the character of the neighborhood for as long as the work is in progress. Should the work take longer than anticipated, the damage resulting from disruption will persist. Tenant satisfaction is of tantamount concern as this work could lead to an exodus from the building. In addition, site-specific mitigation measures may be needed, which would be costly to Bradford Mews Apartments. So, as this is a long term project to begin with, it is essential that the needs of the property and its residents be thoroughly addressed at the start.
- R 18-51:** In recognizing the potential for construction-related quality of life impacts for residents that live in close proximity to Interstate 87/287, the project sponsors have developed and committed to a number of EPCs directly related to traffic, air quality, and noise that are intended to minimize the adverse nature of these effects to the extent feasible and reasonable. These EPCs are discussed in detail in Chapter 18, "Construction Impacts," and would include measures such as noise barriers, clean fuel and emission requirements for construction vehicles and equipment, and a Work Zone Traffic Control (WZTC) management plan developed in accordance with the Design-Build Contract Documents. Temporary impacts to Bradford Mews Apartments may occur during the construction period, but would be minimized to the extent practicable through implementation of these EPCs.
- C 18-52:** Coordination and communication with all regional local officials will be important during construction and after project completion. The use of technology and communication during and after construction is important. The use of the HVTMC in the corridor, including radio, VMS signs and other

early warning systems to improve mobility and incident management outreach to surrounding communities. Facilitate integration with all emergency services, Rockland County Public Transportation and Rockland County Highway Dept. The region's 5-1-1 system should be enhanced and used during construction.

R 18-52: The construction of the project will involve the coordination of all applicable agencies, and regional and local officials. The construction of the project has been designed to minimize impacts to local municipalities and residents. As discussed in Chapter 18, "Construction Impacts," EPCs to minimize travel disruptions would be implemented, such as a WZTC which would include Intelligent Transportation System (ITS) measures and Variable Message Signs (VMS) as needed and where feasible. Traffic management measures would be established in accordance with the Design-Build Contract Documents, Part 3 § 17, which includes requirements for coordinating with the 5-1-1 traveler information system, maintaining emergency vehicle access, etc. Much of the construction staging and other activities will take place on barges, thus minimizing impacts on local roadways.

24-2-18-3 LAND ACQUISITION, DISPLACEMENT, AND RELOCATION

C 18-53: What are other potential impacts on Bradford Mews Apartments that may not have been mentioned in the DEIS for the two potential plans (rebuilding the existing bridge or building a new one)? Will there be cooperation with the owner and the Tappan Zee Project/Thruway Authority during the construction period to address potential issues? Who would be the appropriate agency with whom the owner should stay in touch?

R 18-53: The EIS include a full assessment of the range of potential impacts that could result from the project. Rehabilitation of the existing bridge is not being pursued as it would not be a feasible alternative (see Chapter 2, "Project Alternatives") and fails to meet the project goals and objectives. The Design-Build Contract Documents, Part 3 § 8 outlines the Public Involvement Plan that must be followed by the design-builder to ensure adequate public outreach and involvement throughout the design and construction processes (see the response to Comment 18-8). Communication with the public would be facilitated through the project website (www.thenewtzb.com), weekly press releases, project newsletters, a project phone hotline, and public meetings. Further, a means for contacting the engineer-in-charge would be established for people to direct concerns and complaints.

C 18-54: When will it be known what private properties in Tarrytown and Irvington will be affected by bridge construction? When will homeowners be notified?

R 18-54: As noted in Chapter 6, "Land Acquisition, Displacement, and Relocation," of the FEIS, only one private property in Westchester County would be affected by a small partial property acquisition and permanent easement. The affected property (The Quay of Tarrytown) is located adjacent to the north side of Interstate 87/287 and is located in the Village of Tarrytown, Town of Greenburgh, Westchester County (parcel identification number 1.100-65-3,

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et al.). No other private properties in Westchester County would be affected by land acquisition.

C 18-55: Removal of homes will result in greater exposure of surrounding homes to construction activities and related impacts for an extended period, such as noise, air pollution, soot, debris, etc. There needs to be a description of how these impacts will be minimized or mitigated.

R 18-55: The project's revised design would not require any property acquisition of residential dwellings or businesses, as discussed in Chapter 6, "Land Acquisition, Displacement, and Relocation," of the FEIS.

C 18-56: How much closer will South Broadway be to the residence at 312 South Broadway?

R 18-56: Based on the modified design for the Rockland Landing, the project would not require rebuilding the South Broadway overpass or realignment of South Broadway.

C 18-57: Residences in the Irving Neighborhood just south of Interstate 87/287 and the toll plaza in Westchester County will be affected by construction, particularly due to the planned construction access route adjacent to this neighborhood. This will generate noise, air pollution, and potential damage to homes. This will also impede people who work from home. At the public session, it was indicated that if a property is not being acquired, then the only option for residents is to wait and see if their homes suffer any damage, then provide proof that the damage was a result of construction, and hope for reimbursement. It seems that access to building the bridge north of the present site should be conducted from the north.

R 18-57: Neither the Westchester Inland Staging Area (WISA) nor temporary access road would change the community character of the adjacent residential neighborhoods and business districts in the Village of Tarrytown. A temporary construction noise barrier (at least 8-11 feet high) would be provided along the access road for those residences just south of the Toll Plaza in Westchester County. Furthermore, the project would require strict controls on air quality emissions ensuring that no exceedances of air quality standards would occur. With respect to building damage the Design-Build Contract Documents, Part 3 § 10.6 require a pre- and post-construction condition survey to determine whether, and to what extent, construction of the project resulted in structural or architectural damage to adjacent properties.

24-2-18-4 SOCIOECONOMIC CONDITIONS

C 18-58: Business owners and community leaders in the Villages of South Nyack, Nyack, and Tarrytown must be provided further information and be assured that the construction phase will not impact access to local businesses.

R 18-58: Please see response to Comment 18-8.

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- C 18-59:** South Nyack will experience the combined direct impacts of new road construction, noise, land taking, and staging areas will be the most dramatically felt and experienced personally every day for five or more years by the residents who live there. The project sponsors must implement very specific measures to mitigate these direct impacts to avoid long-term impacts on the vitality of the Village of South Nyack.
- R 18-59:** Chapter 18, "Construction Impacts," identifies the EPCs and measures that would be implemented to minimize impacts for residents near construction work areas. The chapter also identifies that community awareness measures would be implemented, including notifying the public of construction activities prior to starting construction; and establishing means for the public to contact the engineer-in-charge and methods to handle complaints. The Design-Build Contract Documents include a continuing and ongoing public involvement plan to inform the affected communities during the construction phase of the project. It should be further noted that due to project modifications, only one property in South Nyack would be affected by a small partial acquisition and permanent easement, which would not displace any property owners or residents.
- C 18-60:** Many residents of Salisbury Point Cooperative are concerned about impacts of construction on Bradford Mews Apartments, which is directly across the street. These impacts could, in turn, have a blighting effect on surrounding properties. It would make sense to acquire this space and create a natural, open space buffer area.
- R 18-60:** The analysis in the FEIS does not indicate any "blighting effect" on Bradford Mews Apartments.

24-2-18-5 VISUAL AND AESTHETIC RESOURCES

- C 18-61:** Lighting for nighttime construction will negatively impact residents of Salisbury Point Cooperative, The Quay, and the Irving Neighborhood. Construction hours should be limited, and night construction area lighting needs to be shielded so that there is no direct glare beyond the construction work station.
- R 18-61:** In the event that construction activities occur at night, as stated in the Design-Build Contract Documents, Part 3 § 15, fixtures to minimize light pollution would be used.

24-2-18-6 AIR QUALITY

- C 18-62:** Dust and air pollution caused by construction activities will negatively impact the residents of the Salisbury Point Cooperative, including the pool and outdoor grounds. Dust control measures should be implemented.
- R 18-62:** As described in Chapter 18, "Construction Impacts," the impact of the construction on air quality, including dust, has been studied in detail and is not expected to result in any exceedances of the National Ambient Air Quality Standards (NAAQS). Emissions of pollutants, including dust, will be

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controlled under a comprehensive plan including state-of-the-art exhaust controls and strict dust suppression.

Engine exhaust emissions will be controlled via a combination of clean fuels, newer engines, and diesel particle filters, as described in detail in Chapter 18, "Construction Impacts," as well as the Design-Build Contract Documents, Part 3, Exhibit B. The design-builder would also be required to prepare a dust control plan to control and minimize through a combination of wet suppression, vegetative cover, mulching, spray adhesive, wheelwashing, windbreaks, or equivalent methods, fugitive dust emissions from roadways (paved and unpaved), excavations, all unloading and loading material-handling operations, and demolition.

- C 18-63:** Construction-related dust will degrade building systems and lifestyle at Bradford Mews Apartments. Dust will require frequent building cleaning. Dust will require frequent HVAC filter changes. Dust will degrade the roofs, air conditioning systems, entry doors, and building envelopes and façade systems. Dust will increase the cost of keeping clean the common areas. Dust may impair use of tranquil waterfront areas and render the pool unusable, depriving the residents of an important property amenity. Dust will affect residents who are asthmatic as well as those who are not (just an issue of relative sensitivity). We do not believe that this has been adequately studied or characterized particularly with respect to Bradford Mews Apartments. In fact, we believe that the impacts to Bradford Mews Apartments have not adequately been studied. To reduce air quality impacts at Bradford Mews Apartments, some of the odors associated with vehicular emissions can be managed with the better windows and HVAC filters (or activated carbon filters).
- R 18-63:** As described above in response to comment 18-62 and in detail in Chapter 18, "Construction Impacts," the project's robust emissions control plan is designed to ensure that the NAAQS would not be exceeded during construction of the project. Therefore, the in-home mitigation suggested in the comment is not necessary.
- C 18-64:** The project should ensure adherence to Rockland County's Local Law #4 of 2007, which states, "No person shall cause or permit the engine of a motor vehicle, except as otherwise permitted by section 12.12.1.2, 12.12.2.1, 12.12.2.2., 12.12.2, 3, and 12.12.2.4 of the sanitary code of Rockland county, to idle for longer than three consecutive minutes when the motor vehicle is not in motion." The project should also require that no off-road construction vehicles be allowed to idle for more than three minutes when not in motion. The County would like to see battery back-up that allow equipment to load and unload without idling.
- R 18-64:** The project EPCs include restrictions on unnecessary idling which will be explicit in construction contracts and enforced by the NYSTA and NYSDOT. In the vast majority of cases, other than concrete mixers, idling should not

be required for loading and unloading. Concrete mixers cannot operate on battery power.

- C 18-65:** The DEIS states that non-road diesel federal regulations will require the phase out of sulfur in diesel for all uses. In fact, all non-road fuel will contain 15 parts per million of sulfur, and is labeled ultra-low sulfur fuel. All non-road engines used in this project must use ultra-low sulfur fuel.
- R 18-65:** Ultra-low sulfur diesel meeting the regulatory required sulfur content will be used exclusively for all on-road and non-road engines.
- C 18-66:** Please clarify that "rates" on page 18-39 of the DEIS, second paragraph refers to *de minimis* thresholds.
- R 18-66:** The rates in that section refer to the criteria pollutant emission rates proscribed in the cited general conformity regulations.
- C 18-67:** Air quality is a serious concern during construction. What measures will be put in place to keep air pollution at a minimum during construction?
- R 18-67:** As mentioned above in response to Comment 18-62, and discussed in detail in Chapter 18, "Construction Impacts," a very robust emissions control plan would be in place to ensure that the public health is protected.
- C 18-68:** Chapter 18, page 18-43 indicates, "total combined concentration increments were estimated by combining the results from on-site construction analysis with the construction-related mobile source increments from the mobile source receptor closest to the location of the on-site increment." It further states that the maximum total combined 24-hour PM concentration on the Rockland side is 34.9 $\mu\text{g}/\text{m}^3$ and on the Westchester side is 35.6 $\mu\text{g}/\text{m}^3$. These values do not appear to coincide with numbers in the tables presented. Please clarify the numbers used in calculating the maximum combined values.
- R 18-68:** As described in the cited section, the values presented are the highest resulting values at each location from both sources. The values do not coincide with other results in other tables because they are different results from different locations, whereas the previous tables indicate the highest results overall for each source, which may not occur in the same location.
- C 18-69:** Table 18-17 (Emissions from Dredging Activities) on page 18-44 lacks sufficient information regarding the methodology and assumptions used. Please provide details on what actions were covered in this general conformity analysis along with your assumptions. Please include tables with emission factors, load factors, operating time, engine type, and engine size for all engines used in the general conformity analysis and references. The calculated emissions from dredging activities should also include SO_2 .
- R 18-69:** The FEIS includes a discussion of all methods and assumptions in Chapter 18, "Construction Impacts," and **Appendix H**. A separate conformity analysis report has also been prepared for the conformity determination

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itself in **Appendix H-6**. Note that all of the factors requested above were presented in the DEIS in Appendix H.

- C 18-70:** It is unclear if emissions from "armoring" (layering the newly dredged channel with stone) were included in the total emissions numbers.
- R 18-70:** Emissions from armoring were included in the analysis.
- C 18-71:** In our comments regarding Section 18-4-8-2 of the preliminary DEIS we noted that the available air quality modeling predicted that construction would generate levels of 24-hr PM_{2.5} in excess of the applicable NAAQS on the Westchester side of the bridge. (See Page 18-43 of pDEIS.) Nevertheless, the preliminary analysis which accompanied the DEIS stated that this condition did not constitute an adverse impact because the assumptions used to generate projected PM_{2.5} levels were overly conservative and, therefore, the projected violation of the NAAQS was unlikely to occur. The preliminary DEIS did not include the complete air quality modeling results. Without access to various input and output files used during the air quality modeling, Department staff were unable to independently confirm that the assumptions concerning projected PM_{2.5} levels discussed in the preliminary draft were overly conservative and unlikely to occur. Since our comments concerning the preliminary DEIS were submitted, and following receipt of the DEIS, staff from DEC's Division of Air Resources have received supplemental information concerning both background levels of PM_{2.5} and the modeling of air quality impacts summarized in the DEIS. A preliminary review of this supplemental information indicates that the assumptions made during the initial modeling of PM_{2.5} levels were overly conservative. Accordingly, the DEIS should be revised to incorporate updated background monitoring values which, in turn, support modeling that indicates projected 24-hr PM_{2.5} levels will be below the applicable NAAQS. DEC is now satisfied that bridge construction should not result in 24-hr PM_{2.5} levels in excess of applicable NAAQS.
- R 18-71:** All backup was made available to NYSDEC as requested. The FEIS includes the now available background levels from NYSDEC's 2009-2011 monitoring data. The maximum PM_{2.5} concentrations are below the applicable NAAQS.
- C 18-72:** Rockland County requests that a temporary, NYSDEC air quality monitor be placed near the construction area to monitor the air quality during construction.
- R 18-72:** The construction will be accompanied by a monitoring plan, including multiple continuous PM_{2.5} and PM₁₀ monitors which will be strictly for project construction and compliance with the EPCs. Therefore, a long-term NYSDEC monitoring site (typically employed at a neighborhood level, not directly related to specific sources such as an individual construction project) would not be necessary.

24-2-18-7 NOISE AND VIBRATION

- C 18-73:** We request that the state and Thruway Authority offer some protection for our asset and investment through sound barriers, and using the north access site for the bridge construction.
- R 18-73:** NYSTA and NYSDOT are committed to requiring the use of a wide variety of feasible and practicable noise abatement measures. These measures include the use of noise barriers, and the use of quiet equipment and path control measures to minimize potential noise impacts. The noise abatement measures and the reductions in noise through use of these noise abatement measures are detailed in Chapter 18, "Construction Impacts," of the FEIS.
- C 18-74:** No investigation has been undertaken on the effects of construction on the structural integrity of the Salisbury Point Cooperative. The DEIS concludes that no architectural damage would occur because of the distance between pile driving operations and other construction action is and those of potential receptor sites, it does advise that vibration levels that would be perceptible and annoying would be produced at distances of approximately 900 feet from a pile driving site. Construction may impact the integrity of the residential buildings, retaining wall, and swimming pool. An inspection of pre- and post-construction activities needs to be undertaken, and a compensation program for repair of damages instituted.
- R 18-74:** Based upon measurements made at the Salisbury Point Cooperative complex no measureable or perceptible vibration levels were recorded during pile driving tests conducted in April and May of 2012. This is consistent with predictions made in the DEIS regarding the extent of potential vibration-related effects. However, as part of the construction of the project, the contractor will be required to conduct a pre- and post-construction survey at all buildings, structures, and facilities in close proximity to the project site to document if any architectural or structural damage occurred as a result of project construction. In addition, vibration monitoring will be routinely performed at a number of sites in both Rockland and Westchester Counties to ensure that vibration levels remain within an acceptable range.
- C 18-75:** There is also the question of how much vibration we will experience and what effect that may have structurally on our home and its contents.
- R 18-75:** Please see response to Comment 18-74. There are no locations where construction activities would be expected to result in architectural damage to any residences.
- C 18-76:** Noise measurements were not undertaken at the Salisbury Point Cooperative, and therefore, the DEIS cannot accurately claim that there would be no noise impacts on its residents. The noise associated with the 5½ years of construction will hinder quality of life for Salisbury Point Cooperative residents. If construction takes place 24 hours a day our home will become uninhabitable. There needs to be noise controls in place.

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R 18-76: It is not necessary to monitor noise at all prediction sites to determine the potential for adverse noise impacts with respect to construction of the project. The noise monitoring program used in the EIS was sufficient to establish baseline conditions throughout the study area. Mathematical models were then used to determine the approximate noise exposure during construction and the efficacy of the proposed noise abatement measures.

With regard to construction hours, see the response to Comment 18-1. Noise intrusive construction activities will not take place 24 hours per day, 7 days per week. The most noise intensive construction activity, pile driving, will be limited to 7 AM to 7 PM. In addition, when work is necessary during Saturday mornings, on Sundays, and during nighttime hours, no equipment shall be used that emits noise above 70 dBA L_{max} at a distance of 50 feet.

As shown in Figure 18-13, due largely to the noise abatement measures that the NYSTA and NYSDOT will implement, for a “worst-case” condition, which assumes 3 pile drivers operating simultaneously at locations near the shoreline, construction activities alone (without background noise levels) would produce $L_{eq(1)}$ noise levels, within the Salisbury Point Cooperative complex, that would be within the 65 to 70 dBA contour. During many time periods, including many time periods when construction activities are occurring, noise levels at the Salisbury Point Cooperative complex will be substantially lower than these worst case values. Neither the DEIS or the FEIS claim that construction activities would not result in noise impacts. The documents state that even with the noise abatement measures, at some receptor locations and locations near some of the receptor sites (i.e., which includes locations at the Salisbury Point Cooperative complex), during some time periods, construction activities would result in noise levels which would be intrusive, and noisy, and result in unmitigated noise impacts.

The project’s noise abatement program will require the implementation of a noise monitoring program to ensure that contractors adhere to the noise abatement requirements detailed in the FEIS.

C 18-77: Section 18-3-9-3, which discusses construction noise and vibration impacts, is wholly inadequate. It fails to:

- identify receptors most susceptible to construction noise and vibration impacts;
- identify specific sources of construction noise;
- quantify projected impacts to receptors, and;
- quantify the effects of mitigations

The Salisbury Point Cooperative will be one of the sites most impacted by construction noise. Piles will be driven just off the shoreline of Salisbury Point Cooperative. There is no indication in the DEIS as to the expected noise levels or their duration. Pile driving is also not a continuous noise source; rather it is rhythmic pounding. Human perception of this type of noise should be discussed.

R 18-77: The DEIS provided the “worst-case” noise levels at receptors along the shoreline on both sides of the river. Measures to reduce the predicted noise levels were also disclosed. The discussion provided in the FEIS expands upon the analyses provided in the DEIS and provides: contour maps which show the extent of construction-related noise effects for worst-case conditions; describes in more specificity the noise abatement measures which will be implemented by NYSTA and NYSDOT; and identifies specific sources of construction noise.

As stated in the response to Comment 18-1, intrusive noise generating activities would not take place 24 hours per day, 7 days per week. When work is necessary during Saturday mornings, on Sundays, and during nighttime hours, no equipment shall be used that emits noise above 70 dBA L_{max} at a distance of 50 feet.

With regard to pile driving, pile driving produces impulsive noise, which in many cases can be particularly intrusive and annoying. Consequently to reduce noise effects from this source, as specified in the FEIS, NYSTA and NYSDOT will require contractors to use noise abatement measures (i.e., shrouds, pads, quiet equipment, sound barriers, etc.) to reduce noise levels due to uncontrolled pile drivers from L_{max} noise levels at 50 feet of 106 dBA to 90 dBA. Except in rare circumstances pile driving will be limited to 7 AM to 7 PM.

Pile driving at locations near the shoreline of Salisbury Point Cooperative is expected to occur for up to approximately six (6) months. During that time period worst-case conditions with 3 pile drivers operating simultaneously would not be expected to occur every day. When fewer pile drivers are operating simultaneously and/or equipment is operating further out in the river, noise levels would be less than those shown for worst-case conditions in Chapter 18, “Construction Impacts.”

C 18-78: Noise from construction traffic and heavy equipment will degrade lifestyle at Bradford Mews Apartments. The noise will continue for a period of years. In the event of overtime work, the noise may disturb occupants at what otherwise should be quiet time. Accordingly, the nuisance that will result could be much greater than anticipated in the DEIS (more hours per day) and for longer than anticipated (perhaps years longer). The noise may reduce the value of the amenities such as the pool. The impacts to the living spaces within the buildings at Bradford Mews Apartments from construction noise can be attenuated with the installation of better quality windows to reduce the impact to residents.

R 18-78: As shown in Figure 18-13, for the “worst-case” condition, construction activities alone (without background noise levels) would produce $L_{eq(1)}$ noise levels, within the Bradford Mews Apartments complex that would be within the 60 to 65 dBA contour. The noise impacts at this location would be expected to be less than at locations closer to the shoreline. During many time periods when construction activities are occurring, construction activities would result in noise levels at the Bradford Mews Apartments

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complex which would be lower than these worst case values. Since the FEIS analysis represents a “worst-case” condition, noise levels throughout much of the five year construction period as well as those on weekends and nights would be lower than stated, not more as the comment asserts.

FHWA and NYSDOT regulations and New York State Highway Law do not allow the funding of receptor abatement measures, such as the installation of better quality windows to reduce or eliminate noise impacts at residences.

- C 18-79:** We need to have a better understanding of whether any sound barriers will be installed and, if so, where. We understand a portion, or all of, the wall separating the property from the entranceway to the bridge may be removed, if so, for how long and what will be constructed during the period of removal. If the aforementioned wall is removed, we understand that a new permanent wall may be constructed approximately 10 feet toward the interior of the Bradford Mews Apartments property. We need exact location proposed, height, size and quality of the new wall.
- R 18-79:** Noise barriers will be used to reduce truck noise along the north and south side of the exit and entrance ramps leading to/from River Road in Rockland County and on the south side of the access road leading to the staging area in Westchester County, and around all inland and pier staging areas to reduce construction noise impacts. The noise barriers will be a minimum of 8 to 11 feet in height. As described in Chapter 12, “Noise and Vibration,” existing noise walls will be rebuilt and replaced, and at several locations new permanent noise barriers will be constructed to reduce noise effects of the Replacement Alternative. The replacement and permanent barriers will be built as soon as practicable given the overall construction schedule.
- C 18-80:** The Rockland County shoreline staging area will be at least 1/2 acre in size and will be adjacent to Salisbury Point Cooperative. The associated traffic and noise will be a nuisance to Salisbury Point Cooperative residents for the duration of construction.
- R 18-80:** See the responses to Comments 18-77 and 18-79.
- C 18-81:** Construction equipment should be properly muffled in accordance with specifications set by manufacturers and state requirements. Construction hours should be limited.
- R 18-81:** As detailed in Chapter 18, “Construction Impacts,” contractors will be required to perform regular periodic maintenance on construction equipment and use properly designed and well-maintained mufflers on all internal combustion engines, engine enclosures, intake silencers, etc. See responses to Comments 18-1 and 18-77 regarding construction hours.
- C 18-82:** Will NYSTA and NYSDOT soundproof the homes of The Quay residents or provide money to replace the windows?
- R 18-82:** FHWA and NYSDOT regulations and New York State Highway Law do not allow the funding of receptor abatement measures, such as the installation

of better quality windows, to reduce or eliminate noise impacts at residences.

- C 18-83:** It is certain that there will be noise impacts that will affect the use of outdoor recreation facilities (swimming pool, tennis courts, passive sitting/sun-bathing areas) that are one of the main reasons that households elected to purchase homes at The Quay; and it is also certain that, at least riverfront and southerly facing homes will experience significant noise impacts. Yet, the DEIS contains absolutely no studies on these impacts to a property over a portion of which the Bridge will pass.
- R 18-83:** As shown in Figure 18-14, construction activities alone (without background noise levels) with the proposed abatement measures, for the “worst-case” condition, would produce $L_{eq(1)}$ noise levels, within The Quay condominium complex, that would at some locations be within the 75 and more dBA contour, and at some locations that would be within the 70 to 75 dBA contour. These “worst-case” conditions, where construction activities (with pile driving operations) are occurring at near shore locations would be expected to occur for up to approximately six (6) months. During many time periods within this approximately six month period, noise levels at The Quay condominium complex would be substantially less than these “worst-case” values (principally because fewer than 3 pile drivers would be operating simultaneously). The EIS acknowledges that construction activities would result in noise impacts at The Quay condominium complex. The document states that even with the noise abatement measures, at some receptor locations and locations near some of the receptor sites, during some time periods, construction activities will result in noise levels which would be intrusive, and noisy, and result in unmitigated noise impacts. The noise levels at the outdoor recreation facilities at The Quay condominium complex would be above the desirable level for both the active and passive recreational uses cited in the comment. However, as described in Chapter 12, “Noise and Vibration,” when construction is completed, with the proposed noise barrier, $L_{eq(1)}$ noise levels at The Quay Condominiums would be expected to be less than existing noise levels.
- C 18-84:** Vibration impacts to The Quay need to be carefully studied. An inspection of pre- and post-construction activities needs to be undertaken, and a compensation program for repair of damages instituted.
- R 18-84:** Based on measurements made at The Quay Condominiums, no measureable or perceptible vibration levels were recorded during pile driving tests conducted in April and May of 2012, which is consistent with the DEIS findings. However, as part of the construction of the project, the contractor will be required to conduct a pre- and post-construction survey at all buildings, structures, and facilities in close proximity to the project site to document if any architectural or structural damage occurred as a result of construction. In addition vibration monitoring will be routinely performed at a number of sites in both Rockland and Westchester Counties to ensure that vibration levels remain in the acceptable range. In the unlikely event that any

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architectural or structural damages occur due to construction activities associated with the project, NYSTA and the construction contractor will provide for the repair of the damages.

C 18-85: What process will be in place to ensure that construction does not compromise the foundations of homes?

R 18-85: As discussed in the response to Comment 18-84, in addition to pre- and post-construction surveys, NYSTA and NYSDOT will require the contractor to monitor vibration levels to ensure that construction activities do not result in structural and/or architectural damage.

C 18-86: What measures will be put in place to keep noise at a minimum during construction? Communities on both sides of the Hudson will be severely impacted by construction noise. NYSDOT and NYSTA should consider lessons learned during the redecking of the Tappan Zee Bridge.

R 18-86: NYSTA and NYSDOT are committed to requiring the use of a wide variety of feasible and practicable noise abatement measures to minimize potential noise impacts. These are detailed in Chapter 18, "Construction Impacts," of the FEIS. Two significant noise abatement measures that NYSTA and NYSDOT will implement will be: (1) the use of noise barriers to reduce truck noise along both sides of the Interstate 87/287 ramp leading to and from River Road in Rockland County, on the south side of the access road leading to the staging area in Westchester County, and around all inland and pier staging areas; and (2) the use of quiet equipment and path control measures. In addition to the noise barriers and equipment with reduced noise levels specified above, NYSTA and NYSDOT are committed to implementing the EPCs detailed in the FEIS which include a program of source control and site control measures, and a community awareness program to minimize and reduce potential noise concerns relating to construction activities. The community awareness program will include: notifying the public of construction activities that may be perceived of as noisy and intrusive prior to starting construction, and establishing means for the public to contact the engineer-in-charge (i.e., provide telephone number, email, etc.) and methods to handle complaints.

C 18-87: Residents should be notified in advance of major noise events.

R 18-87: This will be part of the community outreach program.

C 18-88: For residents who will be affected by construction noise, mitigation measures should be provided, such as limited hours, noise canceling earbuds, noise machines, and sound proof windows.

R 18-88: See responses to Comments 18-77 through 18-79, above. Noise abatement measures will include source and path controls as well time restrictions on the most noise intensive operations. FHWA and NYSDOT policies do not support noise abatement measures such as the use of noise canceling earbuds, noise machines or sound proof windows (for residences) and

NYSTA has not proposed providing these types of measures for noise abatement.

C 18-89: Tappan Landing will be affected by noise and air pollution during construction of the bridge and with the addition of mass transit. How will these impacts be reduced and how will residents be compensated for decreased property values? Tappan Landing residents should also be compensated for the costs to soundproof their homes.

R 18-89: As described in the DEIS, the project includes a number of EPCs that are intended to minimize the adverse effects of construction noise, dust, and emissions to the extent feasible and reasonable. There is no reason to believe that noise resulting from construction activities would result in a decrease in property values at Tappan Landing and no compensation will be provided. $L_{eq(1)}$ noise levels during construction at most times would not be expected to be substantially higher than existing noise levels. The future implementation of mass transit systems that use the replacement bridge (and any related environmental effects) are beyond the scope of this EIS.

C 18-90: The DEIS includes a discussion of the Westchester Bridge Staging Area, the Westchester Inland Staging Area and a roadway between the two areas. The document asserts that the staging areas and the connector road pose no significant adverse environmental impacts. It is highly unlikely that the creation of staging areas that presently do not exist will have no significant adverse impacts on the residential neighborhoods in which they are in close proximity, especially in relation to the noise, vibration and air pollution that will be generated by trucks and equipment utilizing the areas and the road. More specificity must be provided as to the analysis that was used in order to generate the no-impact conclusion, and further, that if that analysis proves to be inaccurate, that specific and effective mitigation measures be provided.

The Village also believes that the analysis of construction impacts did not take into account the following two important factors that should be included:

1) the fact that the existing noise barrier located adjacent to Van Wart Avenue is currently inadequate to address the noise issues in the adjacent neighborhood; and

2) the cumulative negative impacts that is likely to occur from the simultaneous development and construction of the 96-acre General Motors site in Sleepy Hollow.

The DEIS should be amended to consider the impacts of these two factors, and set forth appropriate mitigation measures for their adverse environmental impacts.

R 18-90: In recognition of the potential adverse impacts of construction noise a number of measures have been proposed to minimize these potential impacts. As discussed in Chapter 18, "Construction Impacts," NYSTA and NYSDOT will require the construction of a noise barrier to reduce truck noise along the south side of the access road leading to the staging area in

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Westchester County, and around all inland and pier staging areas. This noise abatement measure would be expected to substantially reduce potential noise impacts at locations adjacent to the access road and around the staging areas cited in the comment. In general, the noise abatement measures detailed in the FEIS would be expected to substantially reduce potential construction noise impacts at many locations. With regard to the existing noise barrier located adjacent to Van Wart Avenue, as detailed in Chapter 12, "Noise and Vibration," the Replacement Alternative would not result in noise impacts which would require modification of this barrier.

With regard to development and construction of the General Motors site in Sleepy Hollow, while there has been on-going review of a conceptual plan for the project by the town, as of this time, no formal site plan approval has been obtained and there is no approved schedule for construction at that site. Consequently, it is not possible to accurately determine cumulative noise effects of construction of both projects. That said, no significant cumulative noise impacts would be expected because of the distance separating the two project sites. In addition, for the Tappan Zee Bridge Replacement project, the dominant source of noise would be the limited time period (up to approximately six months) when pile driving operations are occurring at locations near the shoreline. It is unlikely that these construction activities would overlap with noisy construction activities at the General Motors Sleepy Hollow site.

See the responses to Comments 18-62 and 18-64 for a discussion of the emission control measures to be implemented during construction of the project.

C 18-91: The DEIS noise analysis is not consistent with FHWA and NYSDOT requirements and the DEIS did not follow FHWA/NYSDOT procedures for establishing baseline conditions. The analysis did not follow established NYSDOT and FHWA noise monitoring protocols. Based on the information presented in the DEIS the following items required by FHWA Guidance (FHWA-PD-96- 046/DOT-VNTSC-FHWA-96-5 Measurement of Highway Related Noise Final Report May 1996) appear to be true:

- a. Reference Microphone was not used.
- b. The following instrumentation was not apparently used:
 - i. Meteorological instrumentation (wind speed and relative humidity). Every relevant FHWA, NYSDOT, and NYSDEC guidance document stresses the importance of concurrent meteorological data and in this situation because of the long expanse of river between the noise sources the lack of meteorological data is a fatal flaw for the usability of the data of noise data collected at sites near the River.
 - ii. Vehicle speed detection unit; and
 - iii. Traffic counting device.

c. Report Documentation was not provided. It should include clearly stated measurement objectives, field measurement equipment and detailed field measurement procedures, a description of the noise source, the descriptors used and detailed data analyses and results, including detailed meteorological conditions.

d. Noise monitoring was not paused during extraneous events, as per FHWA and NYSDEC guidance documents. Noise from train passbys should be treated as such.

e. Noise monitoring may not have been performed at the proper locations. Noise measurement sites should be located as close as possible to the location at which noise impact evaluations are planned such as at the rear of the houses facing the River and the construction noise sources, not in the front of the house along the road.

f. The correct noise monitoring protocols need to be followed and full disclosure provided in an SDEIS with a Noise Technical Appendix that contains all the information required in in the guidance.

R 18-91: These comments are incorrect. The noise monitoring program and noise analyses which are presented in the EIS were consistent with FHWA and NYSDOT practice and requirements. The FHWA guidance document cited in the comment provides guidance and is not a regulatory document which dictates regulatory requirements which must be followed. With respect to the specific comments regarding the measurement microphone, meteorological instrumentation, vehicle speed detection unit, and traffic counting device, appropriate and acceptable measurement instrumentation and procedures were followed to ensure the validity of the data gathered. In addition the measurement instrumentation and procedures used were consistent with NYSDOT practice. Measurements of ambient noise levels were conducted during time periods with acceptable meteorological conditions, and under typical traffic conditions. Due to the repeatability of traffic conditions near the monitoring locations there was no need for simultaneous noise/traffic measurements. Where appropriate, noise monitoring was paused during extraneous events which would have affected traffic-related noise measurement results. Train noise was included in the measurements used in the construction noise impact evaluation because it occurs daily and is part of the ambient noise environment at some of the construction noise receptor sites (i.e., it is not an extraneous event). Measurement locations were selected for model validation purposes (for the operational noise impact analysis) and to obtain an indication of existing noise levels at locations along the shoreline where maximum construction impacts would be expected. Sufficient noise monitoring was performed so that construction noise impacts could be assessed and measures to lessen those potential impacts determined. There is no need for additional monitoring to assess project impacts and no need for a Supplemental DEIS.

C 18-92: The DEIS did not describe the potential construction noise impacts in sufficient detail. FHWA has issued very detailed guidance with respect to

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construction noise in 2006 -. "FHWA Highway Construction Noise Handbook" (the Handbook). This guidance was not followed as follows:

a. Specifically Section 6.4 Construction Noise Prediction Methodology did not address many key elements:

- i. Identify areas (including limits) with the potential to be impacted by construction noise;
- ii. Identify construction operations and their potential to create noise impacts;
- iii. Determine time periods during which specific operations will occur, and;
- iv. Estimate duration and frequency of each significant noise producing event.

b. Given the varying topography as well as the number of receptors and sources a noise model such as CadnaA should be used, not RCNM. The model must somehow be adjusted to account for the enhanced noise transmission over water.

c. The assumptions used in the construction noise modeling were not adequately explained including data on all the sources modeled, the exclusion of tugboat, delivery truck, and worker bus noise was not explained and what changes were made to the model for mitigation measures.

R 18-92: Chapter 18 of the DEIS included a 20-page discussion on the construction means and methods, equipment, and schedule which was then followed by an impact assessment based on these details. Additional details regarding the construction analysis were included in **Appendices D and H**. The construction noise analysis provided in the DEIS was modified and expanded in the FEIS to provide: (1) a discussion of "worst case" analysis conditions; (2) noise contours which show $L_{eq(1)}$ noise levels for worst case construction conditions; (3) a more detailed discussion of noise abatement measures, the data used in the modeling, and the noise reductions that would occur with these noise abatement measures; and (4) a discussion that the worst case conditions analyzed (i.e., construction assuming three pile drivers operating simultaneously at locations near the shoreline) would occur for up to 6 months.

The RCNM 1.1 model used for the construction noise analysis is the model recommended and approved by FHWA and NYSDOT for this type of analysis. The Cadna A model is not a model that has been approved by FHWA and NYSDOT for this use.

C 18-93: There was no discussion of the construction and operation impact of the construction road adjacent to the Irving neighborhood and The Quay.

R 18-93: Truck activity along the construction access road was included in the EIS noise analyses. As discussed in response to Comment 18-57, the FEIS specifies that a temporary sound barrier would be installed between the

Irving neighborhood and the access road on the Thruway property. This sound barrier would be expected to substantially reduce noise impacts at receptor locations in close proximity to the temporary construction road. Figure 18-14 in the FEIS contains noise contours showing construction only $L_{eq(1)}$ noise levels in Westchester County including construction noise levels in the Irving Historic District and at The Quay complex.

- C 18-94:** There were an inadequate number of receptors analyzed. Several receptors needed to be added each to Losee Park and marina, Tappan Landing, The Quay, and the Irving neighborhood in Tarrytown, and the Salisbury Point Cooperative in South Nyack. There are other receptors in Rockland County and Tarrytown that also warrant addition.
- R 18-94:** The construction noise analysis included a sufficient number of receptors to determine construction noise impacts and the measures needed to avoid and/or minimize those impacts to the extent feasible and practicable. It is not necessary to analyze every location to develop where adverse effects may occur and what measures need to be employed to mitigate any adverse effects. The abatement measures proposed are based on the “worst-case” conditions at shoreline receptors such that noise levels at other times and other locations would be less than those shown in the FEIS. However, Figures 18-13 and 18-14 in the FEIS contains noise contours showing construction only $L_{eq(1)}$ noise levels in Rockland County and Westchester County including construction noise levels at the locations cited above.
- C 18-95:** There was no discussion or modeling of the noise generated during the demolition of the existing bridge.
- R 18-95:** Noise levels during bridge demolition would be expected to be less than noise levels during the “worst case” condition analyzed in the EIS (pile driving). During bridge demolition there would not be the simultaneous operation of as many pieces of construction equipment with high noise levels in close proximity to receptor locations as during the worst case condition analyzed. Consequently, bridge demolition was not part of the “worst-case” condition analyzed. It should be noted that during bridge demolition, similar to any phase of the construction process, the program of noise abatement measures described in the FEIS for “worst-case” conditions will be implemented ensuring that noise levels would be less than those shown for the “worst-case” condition.
- C 18-96:** The DEIS construction noise analysis did not address L_{10} and L_{max} at all. L_{10} is an important parameter that was used in the Central Artery project and subsequent FHWA and TRB guidance and L_{max} should be used to evaluate project impacts.
- R 18-96:** There are a number of descriptors that can be used to document potential noise impacts during construction. $L_{eq(1)}$ is an appropriate noise descriptor and is the noise descriptor that is typically used by NYSDOT and NYSTA as well as FHWA for impact evaluation. As stated in the DEIS, the NYSDOT

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environmental manual (TEM) states that “construction noise impact will not normally occur for projects outside of NYC when noise levels are under 80 dBA $L_{eq(1)}$.” Therefore, in recognition of that guidance, L_{eq} has been used to determine noise impacts during construction of the project. Other projects, particularly projects that were analyzed some time ago, may have used other descriptors. The use of the $L_{eq(1)}$ is both appropriate and consistent with current practice.

- C 18-97:** The results of the Pile Installation Demonstration Program (PIDP) should be incorporated into a more realistic construction schedule so that potential impacts can be calculated with greater accuracy.
- R 18-97:** The results of the PIDP have been incorporated into analyses in the FEIS. The analyses presented in the FEIS are based upon a consideration of measured pile driver noise and vibration levels. The noise abatement program has been designed to provide reduced pile driver noise levels which reflect mitigation requirements based upon analysis that assumes uncontrolled pile driver noise levels.
- C 18-98:** Not discussing potential mitigation measures for construction noise in any meaningful detail. The DEIS should have been responsive to the FHWA guidance and should have tried to be thoughtful and creative in the look at mitigation, but was not. The EIS should address the following points:
- No proposed limits on hours of construction.
 - No discussion of compliance with Village of Tarrytown or Village of South Nyack noise codes.
 - No commitments with regard to equipment selection other than use electric powered equipment when possible, with no explanation of what that means.
- R 18-98:** The FEIS contains an expanded discussion of noise abatement measures that NYSTA and NYSDOT have committed to implementing and the noise reductions that would be achieved with these measures. With regard to the hours of construction, see response to Comments 18-1 and 18-77.

The NYSTA is a state authority and is not required to comply with local codes and regulations. However, it is NYSTA's practice to comply with local codes and regulations where and when compliance would not result in substantial delays, require incurring additional costs, or interfere with achieving project goals

The DEIS included limits on certain noise intrusive activities such as pile driving. The DEIS also included a number of EPCs that are intended to minimize the effects of construction noise on nearby residences. The FEIS expands on that discussion by including a specific list of allowable noise levels for various pieces of construction equipment and specifying location where temporary construction noise barriers will be installed. Contractors will be required to provide source and path controls to meet the specified noise level and noise barrier requirements.

C 18-99: The DEIS did not describe compliance with the South Nyack Noise Code.

R 18-99: See the response to Comment 18-98.

C 18-100: The DEIS did not discuss construction noise mitigation measures in sufficient detail. The mitigation measures described in the DEIS on pages 18-51 and 18-52 are vague with respect to application. How they were applied to the modeling was not discussed. This needs to be clarified. They need to be described and depicted on a figure. The details of how they are incorporated into the Design/Build Contract needs to be articulated.

In addition, the mitigation measures were not complete since not all noise generating activities were described and modeled, for example:

- Construction, use and demolition of the construction access road adjacent to the Salisbury Point Cooperative;
- Demolition of the existing South Broadway bridge and construction of a new one;
- Noise sources on the platform adjacent to Salisbury Point Cooperative;
- Demolition of the old Tappan Zee Bridge.

Additional mitigation measures along the path need to be evaluated, including but not limited to:

- Noise barriers on barges in the River; and
- Temporary sound walls along construction roads.

R 18-100: The FEIS contains an expanded discussion of noise abatement measures and the effectiveness of the measures that the NYSTA and NYSDOT have committed to implementing. These include both source and path controls to achieve the reductions specified in the FEIS. Temporary noise barriers are proposed along the construction access roads and around the river staging areas. Source controls would apply to pile driving, other equipment on barges in the river, and construction platforms. Subsequent to publication of the DEIS, design refinements to the Rockland County landing no longer require replacement of the South Broadway Bridge. The requirements specified in the FEIS apply to all phases of construction including demolition of the existing bridge.

C 18-101: The DEIS described and modeled only a portion of the construction activities. Even so, the proposed mitigation measures did not achieve the noise levels required by the Tarrytown Noise Code and reasonable performance criteria. Mitigation at the receiver also needs to be implemented at all of the residential areas discussed in order to fully mitigate the projected noise levels Section 7.6 of the FHWA Construction Noise Handbook (2006) has some valuable suggestions.

- Building Envelope Improvements: This option should be implemented at Salisbury Point Cooperative as it would be effective for both construction and roadway noise.

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- Noise Masking: This should be used at the Cooperative in conjunction with a bubble over the pool.

R 18-101: With regard to the Tarrytown Noise Code, see the response to Comment 18-100.

The FEIS examines noise impacts for a “worst case” condition. Any other condition would result in lower noise levels from construction activities and less construction noise impacts. The FEIS examines the reduction in noise impacts that would result from the implementation of NYSDOT and NYSTA’s comprehensive noise abatement program for the project. The measures in the noise abatement program are described in detail in Chapter 18, “Construction Impacts,” of the FEIS. It is not FHWA and NYSDOT policy to fund receptor abatement measures (i.e., building envelope improvements, such as soundproofing or the installation of better quality windows to reduce noise impacts for residents), and NYSTA has no plans to install a bubble over the pool for noise abatement. At locations where impacts are predicted to occur, the use of noise barriers has been examined to determine if such barriers would satisfy FHWA and NYSDOT requirements.

NYSTA is committed to continue working with the Village of Tarrytown and residents to implement additional noise abatement measures that feasible and practicable and are demonstrated to reduce and/or eliminate noise impacts.

C 18-102: The DEIS inadequately and inaccurately characterized the existing noise environment in the residential communities and recreation areas in Tarrytown. Specifically, monitoring was not conducted in any of the recreation areas along the River, Losee Park or the marinas. Noise monitoring at the Tappan Landing included train traffic thereby making this data unusable for construction noise comparison and compliance. We monitored noise levels that were 8 dBA lower than reported in the DEIS, which would make the potential for adverse construction impacts far more likely when the monitor was paused during train events and local traffic.

No noise monitoring was conducted at The Quay. Our monitoring indicated that the tennis courts were 2 to 3 dBA quieter than the residences, but would be closer to much of the construction noise sources. Based on line of site to the TZB we would have expected a greater reduction in the noise levels at the tennis courts. This must be investigated further, as it is definitely possible that the TNM modeling understates the projected noise in the shadow of the bridge. This point is crucial for the recreational uses and closest residences at The Quay.

The closest noise monitoring to the Irving neighborhood (Van Wart and Paulding Avenues) was the Thruway. The houses as one goes down the hill are shielded from the bridge approach and we monitored noise levels of 50 to 51 dBA. So the range of noise level increases would be 19 to 21, not the 10 to 15 reported in the DEIS.

Noise monitoring did not adequately characterize the existing noise environment from which to properly assess construction impacts, and determine the combination of mitigation measures available and appropriate to properly mitigate the impacts. In addition, the noise monitoring is not sufficient to use as a baseline comparison for compliance noise monitoring during construction.

No noise monitoring was conducted at the Salisbury Point Cooperative (or the adjacent apartment complex for that matter), for either construction or operation noise assessment. There was no discussion regarding the relevance, or irrelevance, of the monitoring conducted on the adjacent Thruway property (Site #6).

- R 18-102:** The noise analysis presented in the EIS accurately assesses noise impacts of the proposed project and was performed consistent with FHWA and NYSDOT policies and procedures. Additional noise monitoring was not needed in order to assess the potential for impacts.

Figure 18-14 of the FEIS provides $L_{eq(1)}$ noise contours of construction noise at receptor locations in Westchester and Rockland Counties including the locations cited above. Based upon the results of these noise contours, which were prepared based upon “worst-case” construction conditions, noise effects were evaluated. The noise contours provided in the FEIS include the effects of the project’s noise abatement program. With the measures included in this program, noise increases would be expected to be reduced to a maximum of 10 dBA. Increases of this magnitude would occur only at limited number of locations and for a limited time period. However, as stated in the FEIS, even with the project’s noise abatement program, construction activities would be expected to produce noise level increases at some locations and for some periods of time which would be intrusive and noisy, and which would result in unmitigated noise impacts.

- C 18-103:** The DEIS did not accurately describe the potential construction noise impacts for the Westchester landing including the temporary construction access road, the Westchester Inland and Bridge Staging Areas, demolition of the old TZB and barge activity. In addition, the area impacted by these activities (and those few activities modeled in RCNM) was not delineated, and the number of receptors within those areas not described and the duration of impact was not addressed with respect to time of day or number of days.

- R 18-103:** Please see response to Comment 18-79 regarding construction noise impacts at locations adjacent to the access road and bridge staging areas; response to Comment 18-95 regarding noise impacts due to demolition of the existing bridge; Response to Comment 18-84 and 18-105 regarding noise contours to delineate construction noise levels (for worst case conditions); and Response to Comments 18-1 regarding construction hours.

- C 18-104:** There are significant concerns regarding the intent to provide mitigation. The mitigation measures described in the DEIS on pages 18-51 and 18-52 are

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vague with respect to application. How they were applied to the modeling was not discussed. This needs to be clarified in the EIS. They need to be described and depicted on a figure. The details of how they are incorporated into the design-build Contract needs to be articulated.

R 18-104: The FEIS contains a detailed discussion of specific noise abatement measures that NYSTA and NYSDOT have committed to implementing. These measures will be included in Design-Build Contract Documents and contractors will be required to implement these specified measures. NYSTA and NYSDOT will monitor compliance with these measures.

C 18-105: The DEIS described and modeled only a portion of the construction activities. Even so, the proposed mitigation measures did not achieve the noise levels required by the Noise Code and reasonable performance criteria. Thus, an SDEIS should be prepared that needs to articulate and commit to: (1) additional base mitigation measures; and (2) an open mitigation process that allows the Village of Tarrytown and the affected residents to have meaningful input to the final mitigation packages. The EIS needs to be very explicitly clear on how the commitments will be incorporated into the design-build contract.

Addition mitigation measures that need to be committed to include, but are not limited to:

- Noise barriers on barges in the River; and
- Temporary sound walls along construction roads.

Mitigation at the receiver also needs to be implemented at all of the residential areas discussed in order to fully mitigate the projected noise levels Section 7.6 of the FHWA Construction Noise Handbook (2006) has some valuable suggestions.

- Building envelope improvements should be implemented in each of the three neighborhoods (Irving, The Quay, and Tappan Landing).
- Noise masking should be used at The Quay in conjunction with a bubble over the tennis court and pool.
- The relocation of residents could be an option for some residents in the Irving neighborhood, if pile driving is necessary adjacent to some of the homes.

R 18-105: The DEIS noise analysis was based on a “worst-case” condition which was used to develop a series of abatement measures to minimize potential construction noise impacts to the extent feasible and practicable. These measures would be implemented throughout the construction process thereby ensuring that noise levels and adverse impacts would be less than those shown for the “worst-case” condition. Further analysis in a Supplemental EIS is not required. NYSTA is not subject to local noise codes, and thus, a Supplemental EIS is not required to discuss the project’s compliance with various local noise codes or regulations

The FEIS contains a detailed discussion of noise abatement measures that contractors will be required to implement. NYSTA and NYSDOT will monitor compliance with these measures. NYSTA and NYSDOT do not have any plans to provide building envelope improvements, noise masking, and/or relocation of residents (as described in the comment) in their noise abatement program. These measures are not consistent with NYSTA and NYSDOT policy. NYSTA is committed to continue working with the Village of Tarrytown and residents to implement additional noise abatement measures that are feasible and practicable and have been demonstrated to reduce and/or eliminate noise impacts.

24-2-18-8 WATER RESOURCES

C 18-106: How much sediment, including pollutants, will be disturbed from the riverbed for each proposal? How will this affect water supplies and the Hudson River ecosystem? If the project could result in the extinction of any species, an alternate solution must be found.

R 18-106: As presented in Section 18-4-12-1 of the DEIS and FEIS, the principal water quality resources issues for the construction of the Replacement Bridge Alternative are the resuspension of river sediments during construction and removal of the existing bridge foundations and the transport and eventual deposition of this resuspended sediment elsewhere in the estuary. Dredging is the primary sediment disturbing activity. Others include driving of piles, installation of cofferdams, movement of construction vessels, and bridge demolition.

Table 18-2 of the FEIS indicates the difference in dredging volumes between the Short and Long Span Options for the bridge approaches. The Short Span Option would dredge a total of approximately 1.78 million cubic yards (MCY), the Long Span Option approximately 1.87 MCY).

Section 18-4-12-1 of the DEIS and FEIS presents the results of the hydrodynamic modeling conducted to predict the plume of sediment that would be resuspended as a result of these sediment disturbing construction activities. This modeling and the results is described in detail in Appendix E to the FEIS. The results of the modeling of the scenarios expected to result in the greatest sediment resuspension (Figures 18-15 to 18-18 of the FEIS) are similar for the Long and Short Span Options and indicate that total suspended sediment concentrations in the range of 50 to 100 milligrams per liter (mg/L) above ambient conditions would only occur in the immediate vicinity of the dredges, at distances less than a few hundred feet. This level of increase would be expected to occur within the allowable mixing zone that would be set by the New York State Department of Environmental Conservation (NYSDEC) for the dredging. Other sediment disturbing construction activities would result in a much smaller contribution of suspended sediment. Beyond the immediate vicinity of the dredge, increases in suspended sediment would be much lower. Increases of 10 mg/l would occur in a thin band 1,000 to 2,000 feet from the dredge. Increases of 5 mg/L extend farther. These projected increases in suspended

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sediment outside the mixing zone due to in-water construction activities are well within the natural variation in suspended sediment concentration that occurs within the Hudson River Estuary and would not result in adverse water quality impacts.

Section 18-4-12-3 of the FEIS presents the results of modeling conducted to assess the potential for contaminants in the sediment resuspended during dredging to adversely affect water quality of the Hudson River. This modeling is also discussed in detail in **Appendix E** of the FEIS. As indicated in this section of the EIS, construction of the Replacement Bridge Alternative would not result in adverse impacts to water quality of the Hudson River or to aquatic biota.

Section 18-4-13-4, "Threatened, Endangered, and Special Concern Species" of the FEIS evaluates the potential for construction of the Replacement Bridge Alternative to adversely impact threatened or endangered species. This section concludes that construction of the Replacement Bridge Alternative would not result in adverse impacts to threatened or endangered species.

C 18-107: The DEIS at 3-3 lists all applicable federal and state regulatory requirements, permits, and approvals required for the project, including Section 404 of the Clean Water Act. On January 27, 2012, the United States Army Corps of Engineers (Army Corps) issued a public notice (NAN-2012-0090-WSC) announcing public hearings on the DEIS. This notice also contained a notification that the Army Corps had made the preliminary determination that potential discharges of dredged and fill material into Waters of the United States associated with construction of the replacement bridge (i.e., channel armoring, fill needed to extend an access bulkhead, and return flow from dredged material dewatering operations) would be eligible for authorization under a Corps of Engineers Nationwide General Permit, contingent upon authorization of the replacement bridge by the United States Coast Guard pursuant to Section 9 of the Rivers and Harbors Act of 1899. Corps of Engineers Nationwide General Permit (NWP) 15 covers U.S. Coast Guard Approved Bridges and authorizes "[d]ischarges of dredged or fill material incidental to the construction of a bridge across navigable waters of the United States, including cofferdams, abutments, foundation seals, piers, and temporary construction and access fills." The NWPs are authorized under section 404(e) of the Clean Water Act and "authorize minor activities that result in minimal adverse effects on the aquatic environment that would likely generate little, if any, public comment if they were evaluated through the standard permit process with a full public notice." The Army Corps preliminary determination to authorize the Tappan Zee Bridge Project under NWP 15 is flawed. As discussed previously, the effects to the aquatic environment of the project generally, and the dredging of the access channel specifically, cannot be in any way described as "minimal." Additionally, this project is not one that would generate little, if any, public comment. For this reason the proposed authorization of this project under a NWP is inappropriate. If it is determined that authorization of the project under NWP

15 is appropriate, such authorization cannot occur until after an ESA Section 7 consultation is completed. Nationwide General Permit Condition 18 (which applies to all NWPs) states that “No activity is authorized under any NWP which ‘may affect’ a listed species or critical habitat, unless Section 7 consultation addressing the effects of the proposed activity has been completed. “Non-federal permittees must submit a pre-construction notification to the district engineer if any listed species or designated critical habitat might be affected or is in the vicinity of the project, or if the project is located in designated critical habitat, and shall not begin work on the activity until notified by the district engineer that the requirements of the ESA have been satisfied and that the activity is authorized.” Until such time as the Section 7 consultation has been completed, authorization under NWP 15 for the discharge of dredged and fill materials into Waters of the United States cannot be granted. (Water 6)

R 18-107: The project sponsors have applied to USACE for all required permits. USACE will ultimately determine what types of permits are appropriate for the project. As indicated in Chapters 16 and 18 of the FEIS, Section 7 consultation was completed subsequent to the publication of the DEIS.

C 18-108: The DEIS states that the total volume of sediment to be dredged for the Tappan Zee project is 1.74 million cubic yards. The U.S. Army Corps of Engineers' January 27, 2012 Public Notice states that 1.5 million cubic yards will be dredged. These two different volumes need to be reconciled in order to identify the impacts of dredging and placement of dredged material. This section of the FEIS should also discuss the possibility of placement of the dredged material upland.

R 18-108: The numbers differ because the USACE dredging permit expires three years after issuance. As such, the permit that was the subject of the public notice distributed in January 2012 is for Stage 1 and Stage 2 dredging activities, which totals 1.5 million cubic yards. Additional subsequent dredging of approximately 0.24 million cubic yards would be subject to separate permit and public notice.

24-2-18-9 ECOLOGY

C 18-109: The DEIS fails to properly study the impacts of construction and demolition activities on the Hudson River ecology and the ecosystem, specifically the effect on the endangered species of the Atlantic sturgeon and the shortnose sturgeon, and how harmful the effects of pile driving and dredging activities will be on ecosystems and water quality. This problem will cause the Shortnose sturgeon and the recently listed Atlantic sturgeon to be taken in much larger numbers than the DEIS suggests. Furthermore, we are still waiting for NOAA to designate the critical habitat for the Shortnose and Atlantic sturgeon which may have an impact on the extent and activity that may occur on the Hudson River. There is much concern that construction activities will negatively impact the Hudson River's ecosystems.

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- R 18-109:** Please see responses to Comments 16-3 and 16-34 (potential impacts to sturgeon related to pile driving and dredging), as well as the response to Comment 16-36 (potential impacts to sturgeon related to demolition of the existing bridge).
- C 18-110:** The Wide Bays area of the Hudson River has 6 of the 33 designated 'Irreplaceable' significant coastal habitats for fish & wildlife, giving it both Atlantic and global significance. All measures to protect these habitats must be implemented, even if it means using smaller barges and taking longer. There should also be an on-site team of experts in river ecology and biology to make sure the Hudson River ecosystem is protected.
- R 18-110:** As stated in Chapter 16, "Ecology," Section 16-4-3 "Special Habitat Areas", and Section 18-4-13-5, "Significant Habitats," the New York State Department of State (NYS DOS) has not designated any Significant Coastal Fish and Wildlife Habitats (SCFWH) within the study area for the proposed project. The closest SCFWA is Piermont Marsh, which is located two miles south of the existing bridge, outside the projected plumes of increased suspended sediment and the area ensouffied due to pile driving.
- C 18-111:** The DEIS does not identify the plans that will be in place to protect the Hudson River's ecosystem during construction or who will be responsible monitoring the River during construction.
- R 18-111:** As discussed in Chapter 18, "Construction Impacts," a number of, measures, including EPCs, construction means and methods, the "Reasonable and Prudent Measures" (RPMs) identified by NMFS in its BO, and mitigation measures identified in Chapters 16 and 18 of the FEIS, have been incorporated into the project design to protect the Hudson River and aquatic habitats and to ensure that the project would be constructed in an environmentally sensitive fashion. EPCs include measures such as the use of silt curtains and cofferdams to minimize the discharge of sediments into the river, the use of bubble curtains and other technologies to minimize acoustic effects on aquatic biota, and limiting the time of year that dredging can occur in order to avoid times of peak biological activity in the river. The RPMs are listed in Section 18-4-13-4, "Threatened, Endangered, and Special Concern Species" of the FEIS and the BO (see **Appendix F-6**).
- C 18-112:** Temporary and permanent erosion control measures should be implemented in order to prevent any interference with the structural integrity of our retaining walls and the foundations of the 4 Salisbury Point Cooperative buildings.
- R 18-112:** As presented in Section 18-4-12-6, "Stormwater Management," during upland construction activities and development of construction access to the waterfront staging areas, erosion and sediment control measures would be implemented in accordance with the New York State Standards and Specifications for Erosion and Sediment Controls. With the implementation

of these measures, the project would not result in interference with the structural integrity of the referenced retaining walls and foundations.

- C 18-113:** This project and the Army Corps of Engineers' permit propose to segment the dredging impacts into two sections. The current permit talks about the dredging impacts caused by dredging a channel across the Hudson River, removing millions of cubic yards of sediment that's potentially contaminated just to get the construction equipment in to build a new bridge. That's one part. And theoretically, that will be looked at under the Army Corps permit and in this DEIS. We don't think it's been looked at. But they've put off the demolition of the bridge and the dredging that will have to happen after that into a separate permit process and a separate environmental review process. That does not comply with federal law and that does not comply with the spirit of the law or the letter of the law and that should not pass.
- R 18-113:** The DEIS examines the potential impacts from all three phases of dredging and the demolition of the existing bridge. The current Joint Application for the project requests authorization for only Stages 1 and 2 because the Stage 3 dredging and bridge demolition would be conducted three years after the start of the project when the permit for the initial dredging stages would have expired.
- C 18-114:** Wetland delineations should be prepared by the project sponsor followed by verification by the USACE for the following locations that are discussed in DEIS: Westchester Inland Staging Area; West Nyack Staging Area; and Tilcon Quarry Staging Area.
- R 18-114:** Following a site visit with USACE, wetlands were delineated within the Westchester Inland Study Area in accordance with the USACE Wetlands Delineation Manual and a formal delineation report submitted to the USACE (see **Appendix F-3** to the FEIS). For the potential West Nyack and Tilcon Quarry Staging Areas, wetlands would be delineated by the contractor if it uses these sites and any wetlands located on them as staging areas.
- C 18-115:** The project sponsor should be aware that these figures for the extent of aquatic resources are only estimates until they are verified by the Corps and these areas have to be delineated as soon as possible. However, there is nothing presented here that indicates that the extent of impacts to Corps jurisdictional areas, and the extent of mitigation for such impacts, are going to be a matters of major scope.
- R 18-115:** USACE permit review is ongoing. As discussed in response to Comment 18-114, USACE requested that formal wetlands delineation be conducted and submitted for the Westchester Inland Study Area. A wetlands delineation report was submitted to USACE and is included in **Appendix F** of the FEIS.
- C 18-116:** The DEIS states that a wetland migration plan of 0.15 acres would be developed for impacts to 0.15 acres of the Westchester Inland Study Area in coordination with USACE. The location and information on the wetland

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mitigation plan is requested at this time to allow for USACE review and comments and inclusion in the FEIS.

- R 18-116:** Section 18-4-13-1, "Wetlands," presents a revised area of potential temporary wetland impact due to the temporary access road of 0.0076 acres out of the 0.23-acre delineated wetland area. As described in response to Comment 18-115, wetlands within the Westchester Inland Study Area have been delineated and the report of the findings submitted to USACE. A compensatory mitigation plan would be developed in coordination with USACE and in accordance with the joint mitigation rule (Federal Register dated April 10, 2008, 73 FR 19594 through 19705) for the temporary impact to the forested wetlands.
- C 18-117:** The ESA discussion of the HARS does not appear to note the possible consideration of the status of the Atlantic Sturgeon in the determination.
- R 18-117:** The FEIS has been revised to indicate that the New York Bight DPS of Atlantic sturgeon has been listed as endangered under the ESA. NMFS BO and the FEIS also include an assessment of potential impacts to this species from the placement of dredged material from the project at the HARS.
- C 18-118:** Please clarify what, if any, activities that may affect NMFS listed species may be outside the scope of the "federal action" and, therefore, may not be considered in the EIS or the Biological Assessment.
- R 18-118:** The EIS, Biological Assessment, and EFH Assessment evaluated the potential for in-water construction activities and the operation of the bridge to affect species under the regulatory responsibility of the NMFS and USEPA (at the HARS). No project activities were excluded from these assessments that might affect species protected under the ESA or EFH. NMFS has issued its BO pursuant to Section 7 of the ESA.
- C 18-119:** The DEIS characterizes any reduction in benthic fauna as "temporary." Please provide information on benthic community recovery rates.
- R 18-119:** Chapter 18 "Construction Impacts," has been revised to include additional analysis of the rate of recovery of the benthic community following dredging and placement of armoring.
- C 18-120:** The discussion associated with Figure 18-25 is unclear. Please clarify whether the statements regarding the percent cross sectional width occupied by the 187 dB isopleth re 1uPa are instantaneous, daily or over the duration of the project.
- R 18-120:** The Figure 18-25 legend has been modified to clarify that the metric is a daily cumulative value. The FEIS contains a revised discussion to clarify the information depicted in Figure 18-25.
- C 18-121:** Statements made regarding determinations about adverse impacts to populations of shortnose and Atlantic sturgeon as well as statements about whether the project will jeopardize the continued existence of any listed

species is premature. To date, we have not completed any ESA Section 7 consultation on the Tappan Zee crossing project and it is not appropriate for the DEIS to speculate as to what the conclusions of any Biological Opinion produced by NMFS might be. We expect that the FEIS will appropriately document the conclusions reached by FHWA in their final BA as well as any conclusions reached by us in our Biological Opinion. The DEIS discusses the estimated number of shortnose sturgeon likely to be exposed to effects of pile driving. This is calculated based on the observed number of sturgeon collected over 647 gillnet hours and a calculated encounter rate for shortnose sturgeon of 0.02 sturgeon per hour of sampling. The gillnets used for this study consisted of 5 panels, one each of 1,2,3,4, and 5-inch stretched mesh. The size of the mesh has a direct relationship to the size of fish caught in the net, with small fish rarely caught in large mesh and large fish rarely caught in small mesh. Shortnose sturgeon of the size that occurs in the action area would be unlikely to be caught in 1 and 2 inch stretch mesh. Thus, we cannot assume that the entire length of the net fished efficiently for shortnose sturgeon. Since 3/5 of the net likely fished efficiently for sturgeon, it is appropriate to adjust the encounter rate by 0.6 to account for the actual efficiency of the net. This results in an adjusted encounter rate of 0.03 shortnose sturgeon per hour of sampling. This change should be made in the DEIS. It should also be noted that gillnets with this size mesh are unlikely to result in the capture of larger Atlantic sturgeon.

R 18-121: Following discussions with NMFS and NYSDEC regarding mesh size and gear efficiency of gill nets, the encounter rate was adjusted from 0.02 to 0.03 shortnose sturgeon per hour per net and the analyses were re-run. Chapter 18, "Construction Impacts," and the revised Biological Assessment present the updated analyses. Subsequent to publication of the DEIS, Section 7 consultation has been completed and NMFS has issued its BO using the same encounter rate as was used by the project to reach their determination that the project "may adversely affect but is not likely to jeopardize the continued existence of shortnose sturgeon or any DPS of Atlantic sturgeon".

C 18-122: The discussion of potential impacts to marine mammals is unclear. It is difficult to determine if you are concluding that marine mammals are unlikely to occur in the area or if you are concluding that they may be present, but are unlikely to be affected by the proposed project. The FEIS should clarify your conclusions regarding impacts to marine mammals. If you have determined that effects to marine mammals are likely, we recommend that you contact NMFS Office of Protected Resources' Permits and Conservation Division (301-427-8400) to discuss any authorizations that may be necessary under the Marine Mammal Protection Act (MMPA). More information regarding MMPA permitting can be found at: <http://www.nmfs.noaa.gov>.

R 18-122: The FEIS presents a revised analysis of potential impacts to marine mammals, indicating that marine mammals are unlikely to occur in the project area and are therefore unlikely to be affected by the proposed project.

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C 18-123: We agree with FHWA's assessment that the proposed removal and placement of dredged material to facilitate access by construction vessels and equipment will be a major impact. While there is no ideal time of year to complete this work, we agree that the negotiated window and overall plan for accomplishing this task would reduce adverse effects to EFH and FWCA resources in the bridge construction corridor. While it may be difficult to do so before a contractor is selected, we suggest that additional description of feasible options for ensuring that dump scows would be filled to an economic load would be helpful not only for understanding the water quality implications at the bridge corridor, but also at the HARS if that option is selected. We are particularly concerned that a contractor might wish to double-handle the material subaqueously. This would result in unacceptable impacts to EFH and fishery resources and would invalidate the modeling offered to estimate the nature and intensity of plumes generated by dredging as appear in the latter half of this chapter. In addition, it would be helpful to know the contingency plans for dealing with material determined unsuitable for placement at the HARS. For instance, it may be possible to treat this material and render it suitable for beneficial uses in the upland or even for placement within the bridge pilings over the concrete plug as this could serve as a confined disposal option for certain classes of sediment. Where, and under what conditions, might this be accomplished? While we appreciate that the actual sampling and testing for the project are currently underway, we believe it would be appropriate to include a brief discussion of these issues so the involved agencies and other stakeholders have a clear understanding of how you would address materials unsuitable for HARS disposal.

R 18-123: The dredged materials would not be double handled subaqueously. Section 18-3-4 of the FEIS describes measures that would be implemented to minimize the potential for dredged material to enter the river during the process of transferring it from the shallow dredge scows and economic load considerations.

The results of the sediment analysis for placement of the dredged material at the HARS were submitted to the USACE on May 25, 2012 and to the NYSDEC on June 1, 2012. Test results of all the bioassays as well as water quality parameters are included in **Appendix H-7** to the FEIS. Sediment testing results indicate that the sediment to be dredged within the project site meets the criteria for disposal at the HARS. In a letter dated June 22 2012, the USACE and USEPA indicated that the dredged material is suitable for placement at the HARS (see **Appendix H-7**).

C 18-124: In addition to dredging, the proposed pile-driving activity may also affect living aquatic resources. We participated in developing the general approach toward installing the pilings for the replacement bridge spans, and note that the development of a comprehensive installation and monitoring plan is contingent upon the results of the ongoing pilot pile installation demonstration project. Demolition of the existing bridge will be accomplished manually - pilings will be cut or snapped off near the mudline; columns and

footings would be cut with diamond wire or broken by pneumatic hammers. Should pneumatic hammers be used, you should evaluate the acoustic impacts that such equipment would generate, and whether attenuation measures are necessary in particular depth strata or during particular times of year. We suggest that you present the post construction/post-demolition sidescan sonar surveys in color-enhanced format and request that you provide us copies of these scans expeditiously after completion.

R 18-124: In Federal Register Notice, Volume 77, Number 83, Monday April 30, 2012, pages 25408 through 25435, in its Notice for a proposed incidental harassment authorization for a U.S. Navy pile replacement project, NMFS states that empirical data on the acoustic output resulting from the use of pneumatic chipping hammers is limited. In this Notice, NMFS uses a sound pressure level (SPL) of 161 dB re 1 μ PA (rms) at 3.3 feet reported from the use of a jack hammer to remove concrete piles in the United Kingdom as representative of an SPL for a pneumatic chipping hammer. The SPL for pneumatic hammer was considered to be lower than for vibratory hammer. The SPL used as representative of using a vibratory hammer to remove steel piles was 165 dB re 1 μ PA (rms) at 33 feet. On the basis of this empirical information, the noise generated by the pneumatic chipping hammer would be below the peak SPL 206 dB re 1 μ Pa noise criterion used by NMFS to assess the potential for physiological impacts. Other empirical data of peak SPLs measured during use of pneumatic chipping hammers also indicate levels would be less than the 206 dB re 1 μ Pa physiological criterion at distances of 50 to 100 feet away from the pneumatic chipping hammer¹, but above the 150 dB re 1 μ Pa (rms) criterion used in the BO for this project for behavioral effects. In summary, the use of pneumatic hammer would not be expected to result in sound pressure levels above the criterion for the onset of physiological effects but would have the potential to result in sound pressure levels that result in fish avoidance behavior, but even that affected area would be small.

C 18-125: Plans contemplate a series of permanent support piers for construction of the replacement bridge spans. These structures would eliminate approximately 8 acres of open water and associated benthos for the Short Span and 6.5 acres for the Long Span Options. After the existing bridge is demolished, the Short Span option would net an approximately 0.9 acre loss of aquatic habitat and the Long Span option would yield a net gain of 0.6 acres of open water. In addition, 2.3 acres of open water and benthic habitat would be filled and/or covered by a permanent platform constructed on the Rockland County riverbank. Studies led by Rutgers University professor Ken Able have demonstrated that large pile-supported structures in the lower

¹ Caltrans 2001 – San Francisco-Oakland Bay Bridge East Span Seismic Safety Project. Pile Installation Demonstration Project: Fisheries Impact Assessment. August 2001.

http://biomitigation.org/reports/files/PIDP_Fisheries_Impact_Assessment_0_1240.pdf

USFWS 2009 – BO for bridges in Maine, June 19, 2009

http://www.fws.gov/northeast/endangered/TEBO/PDFs/2009_Bridge_BO_FINAL_with_signed_cover_page.pdf

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Hudson River have adverse effects on fishery resources and their habitats (see references). These studies collectively show that while fishes may be attracted to the pier fringe and nearby interpier areas, they were generally less numerous beneath the platforms. Animals held under the piers also fared less well than those stationed at the perimeter of the piers and in interpier areas. For this reason, it is our opinion that the project must mitigate the loss of habitat quality associated with the permanent platform. Selection of the Long Span option would partially address this concern. However, the final plan should include additional mitigation consistent with the Clean Water Act 404(b)(1) Guidelines.

R 18-125: As presented in Section 18-4-13, "Ecology," approximately 2.44 acres of aquatic habitat would be affected due to shading from the permanent platform. Furthermore, about 0.11 acres of benthic habitat would be permanently lost due to placement of the piles for the permanent platform, but this would be largely offset by a removal of fill within a 0.10-acre area located along the Rockland County shoreline south of the existing bridge. The large pile-supported structures evaluated by Able and others¹ were much wider and longer than the approximately 75-foot wide permanent platform that would be constructed for the Replacement Bridge Alternative and resulted in larger areas of interior underpier area with very little light penetration. While shading of aquatic habitat would affect the use of the underpier area by some fish individuals, light penetration along the edge would be sufficient to allow use by others. Able and Grothues (2011) observed that larger pelagic fish were present within 16 feet of the outer pier edges after which use of underpier habitat dropped significantly. Small schooling pelagic fish avoided areas under the pier once light diminished. The loss of some portion of the aquatic habitat under the permanent platform due to shading effects would be small in comparison to the amount of open water habitat available within the study area and the Tappan Zee Reach and would not result in adverse impacts to fisheries resources. In the Biological Opinion for the project NMFS concluded that "any effects to sturgeon from additional shading caused by the permanent platform and by the bridge are extremely unlikely." Potential effects to other bottom feeding fish due to shading from the permanent platform would similarly be extremely unlikely.

¹ Able, K.W., A.L. Studholme, and J.P. Manderson. 1995. Habitat quality in the New York/New Jersey Harbor Estuary: An evaluation of pier effects on fishes. Final Report. Hudson River Foundation, New York, NY.

Able, K.W., J.P. Manderson, A.L. Studholme. 1998. The distribution of shallow water juvenile fishes in an urban estuary: the effects of manmade structures in the Lower Hudson River. *Estuaries* 21(4B):731-744.

Able, K.W., J.P. Manderson, and A.L. Studholme. 1999. Habitat quality for shallow water fishes in an urban estuary: the effects of man-made structures on growth. *Marine Ecology Progress Series* 187:227-235

Able, K.W., and T M. Grothues. 2011. Behavior of Fishes Associated with Piers: Responses in the Lower Hudson River. Final Report Submitted to the City of New York Department of Parks and Recreation, June 13, 2011. Institute of marine and coastal Sciences, Rutgers University Marine Field Station, Tuckerton, NJ 08087.

Potential project impacts to aquatic biota due to the permanent platform are being mitigated through an agreement with NYSDEC on implementing a conceptual compensatory mitigation and conservation benefit plan (see **Appendix F-12**).

The proposed compensatory mitigation measures include:

- Restoration of 13 acres of hard bottom/shell oyster habitat in the immediate vicinity of the existing bridge and reintroduction of oysters to the habitat;
- Development of a secondary channel restoration project at Gay's Point, Columbia County; and
- Wetlands enhancement at Piermont Marsh that includes Phragmites control on approximately 200 acres within the marsh, restoration of flow to an historic oxbow, development of a green infrastructure project to improve the quality of runoff entering Sparkill Creek and restoration of historic wetlands at the northern end of the marsh.

Measures that would achieve a net conservation benefit under 6 NYCRR Part 182 include:

- Mapping of Hudson River shallows to document benthic habitat used by sturgeon;
- A study of sturgeon foraging habits;
- A sturgeon capture and tagging;
- Tracking of acoustically marked sturgeon (stationary and mobile tracking); and
- Preparation of written material to be used as part of ongoing outreach to reduce impacts of commercial by-catch of Atlantic sturgeon in the near shore Atlantic Ocean.

Implementing a conceptual compensatory mitigation and conservation benefit plan would offset any potential impacts associated with the permanent platform.

C 18-126: We await the results of the pile-driving demonstration project to guide development of the most appropriate management options for the actual bridge replacement. Given the declining American shad and river herring populations, we believe it is appropriate to avoid the potential lethal and sublethal hydroacoustic effects on these species.

R 18-126: The results of the PIDP indicated that distance from the pile to the various noise isopleths, including the peak SPL criterion used for the onset of physiological effects was shorter than predicted in the modeling; and the testing of the various noise attenuation systems demonstrated that they all exceeded the attenuation of 10 dB assumed in the EIS analysis. Sections 18-4-13-3 and 18-4-13-4 present a detailed analysis of the potential hydroacoustic impacts to aquatic biota due to pile driving. The results of the

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analyses do not indicate a potential for American shad or river herring to be exposed to lethal or sublethal hydroacoustic effects that would adversely affect their populations. Results from the PIDP clearly indicate that the analysis in the DEIS was conservative in its approach to both sound transmission in the river and the efficacy of the attenuation systems.

C 18-127: The preliminary DEIS did not provide the analysis supporting expected sedimentation rates. After reviewing the supporting material presented in the DEIS, it appears that the EIS should consider an expanded range of options for estimating sedimentation rates and projecting the duration of adverse impacts caused by dredging. The present projections, summarized at Page 18-108 of the DEIS, conclude that deposition of sediment into the channel dredged to construct the bridge will occur at a rate of one foot per year. The quantitative estimates of sedimentation rates in dredged channels presented in Section E-6-2 of the DEIS are cited in support of this conclusion. These projections should be compared to observed sedimentation rates. For example, rates reported by the following researchers warrant consideration:

- Nitsche, F.O., T.C. Kenna, M. Haberman. 2010. Quantifying 20th century deposition in complex estuarine environment: An example from the Hudson River. *Estuarine, Coastal and Shelf Science* 89 (2010) 163-174 (measured average sedimentation rates of 2.8 cm/yr (1.1 in/yr) in a previously dredged area of the Haverstraw Bay channel, just north of the Tappan Zee reach with local extremes ranging to between 5 to 10 cm/yr (2-4 in/yr));
- Bokuniewicz, H.J. 1988. A brief summary of the geology of Raritan Bay in Hudson/ Raritan estuary: Issues, resources, status, and management, pp 45-57. NOAA Estuary-of-the-Month seminar series, No. 9. (dredged "borrow pits" in New York Harbor had sedimentation rates of 4-9 cm/yr (1.5 to 3.5 in/yr)) and
- Wilber, P. and L. E. Iocco. 2003. Using a GIS to examine changes in the bathymetry of borrow pits and in Lower Bay, New York Harbor, USA. *Marine Geodesy*, 26:49-61 (dredged sites in New York Harbor exhibit sedimentation rates between 6.25 to 12.5 cm/yr (2.4 to 4.8 in/yr)).

Consideration should also be given to the potential that the rate of deposition in the deeper areas of the river, including the navigation channel, will differ from that in the shallower depths nearer the river's banks. A comparison of modeled rates and observed rates would produce a more reliable and longer duration of estimated resedimentation of dredged areas, which should be incorporated into the EIS.

R 18-127: Chapter 18 of the FEIS includes additional analysis on the rate of deposition and recovery of the benthic community following dredging and placement of armoring. The estimated deposition rate of 1 foot per year was predicted on the basis of the modeling described in Chapter 18 and Appendix E. While others have reported lower (or comparable) sediment deposition rates in the Hudson River and New York Harbor, recolonization by benthic invertebrates

adapted to softer sediment would be expected to begin within a few months after completion of dredging. Upon completion of in-water activities in a given area of the dredged channel, estuarine depositional processes would allow the benthic habitat to begin to recover. Recovery of benthic macroinvertebrates in the dredged area is dependent upon substrate type (e.g., silt versus sand), but will begin within weeks to months of deposition of the coarse armoring substrate. The species composition and density of the benthic community will be dynamic as the community shifts from one initially dominated by opportunistic species to one of greater species diversity and lesser dominance by opportunistic species. Recovery to a soft bottom community would be dependent on the depth of redeposited sediment and the life-history strategies of common benthic invertebrates (i.e., opportunistic versus equilibrium species). Much of the benthic community found within the Hudson River exists in the upper 4 to 5 inches of sediment. Therefore, redeposition on the order of 4 to 5 inches would provide sufficient substrate for restoration of a soft-bottom benthic community. The BO prepared by NMFS supports these findings and states, "benthic recovery should begin quickly, particularly in the soft bottom sediments." NMFS goes on to state that the temporary loss of the access channel would represent a minor fraction of similar available habitat throughout the Tappan Zee region and would not be expected to substantially reduce foraging opportunities for the river's sturgeon populations.

In dredged areas where areas have been deepened, deposition rates would be expected to be higher than in stable bottom conditions. However, even at lower deposition rates, sufficient soft sediment would be expected to be deposited within months of cessation of construction activities within a given area of the construction channel to allow for recovery of the benthic community to begin. The temporary loss of the access channel area would represent a minor fraction of similar habitat in the Tappan Zee portion of the Hudson River. As discussed in response to Comment 18-25, this temporary loss of benthic habitat within the construction access channel would be mitigated.

- C 18-128:** Section 18-4-13-3 of the DEIS equates colonization by benthic organisms adapted to softer sediments (likely to be the most disturbance-adapted species) with recovery of the entire benthic macroinvertebrate community. This analysis should be revised to consider the time and processes necessary for the initial deposits of sediment to compact and become reworked by pioneer invertebrate communities to eventually create conditions conducive to reestablish that part of the benthic community which requires equilibrium conditions. Recent, albeit unpublished, investigations of invertebrate communities near the Tappan Zee by marine benthic ecologist, Robert Cerrato of SUNY Stony Brook, confirm that initial communities recover rapidly (within a year) but that full community recovery takes longer—perhaps as long as a decade. Taking into consideration the refined sediment deposition rate determined according to the previous comment, the EIS should project the time necessary to establish a benthic invertebrate

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community which is comparable to pre-construction conditions. This revised estimate should also consider whether disturbances, such as hypoxia (low oxygen) events which can kill off the benthic community if organic-rich, fine-grained sediments accumulate, are likely to occur during the period of initial recolonization.

- R 18-128:** Chapter 18, "Construction Impacts," of the FEIS has been revised to provide additional discussion of sedimentation and benthic recovery within the dredged construction channel. As discussed the response to Comment 18-127, much of the benthic community found within the Hudson River exists in the upper 4 to 5 inches of sediment. Therefore, redeposition on the order of 4 to 5 inches would provide sufficient substrate for restoration of a soft-bottom benthic community. At an estimated initial deposition rate of up to 1 foot per year the recovery would be expected to occur within a few months.
- C 18-129:** Appendix F-4 estimates the average number of sturgeon collected per net hour during gill netting conducted in 2007/2008. This encounter rate was used to project the total number of sturgeon likely to be lethally impacted during construction. Based on the description of sampling methodology, Department staff has concluded that the initial net encounter rate was biased low. When the encounter rate is corrected, revised estimates of the total number of sturgeon likely to be impacted by construction should be presented in the EIS.
- R 18-129:** Following discussions with NMFS and NYSDEC regarding mesh size and gear efficiency of gill nets, the encounter rate was adjusted from 0.02 to 0.03 shortnose sturgeon per hour and the analysis was re-run. The BA and NMFS's BO reflect this encounter rate. Chapter 18, "Construction Impacts," and **Appendix F** of the FEIS present the revised analysis.
- C 18-130:** The DEIS documents the following impacts:
- A total of approximately 8 acres and 6.5 acres of open water benthic habitat would be permanently lost within the footprint of new construction, and even after demolition of the existing bridge, the DEIS presents one scenario with an expected net loss of open water benthic habitat of 0.9 acres (Page 18-83);
 - Reduction of benthic fauna within the dredged area totaling approximately 175 acres and reduced foraging opportunities for the river's fish populations (Page 18-87) in an areas which NMFS has identified as Essential Fish Habitat for 13 federally managed species (Page 16-14) many of which were encountered, albeit some relatively infrequently, in the Tappan Zee region (River Mile 24-33)(Page 16-26);
 - The permanent loss of approximately 0.3 acres of benthic habitat due to bulkhead construction and pile driving (Page 18-87)
 - Between 1.5 million and 7 million individual fish within the ensonified zone expected to cause measurable adverse effects during pile driving (Table 1; Page F-6-6), and

- Loss of individual sturgeon by the pile driving at various locations (which should be corrected to account for the revised encounter rate discussed above) (Appendix F-6, Tables 2 and 3).

The DEIS identifies these adverse environmental impacts but concludes that the loss of habitat is temporary and the loss of individual organisms is not reasonably expected to have an adverse impact upon overall populations. DEC does not dispute that the analysis in the DEIS supports these general conclusions. The primary adverse impacts of this bridge replacement project are related to its construction and, while impermanent, the temporary impacts are, in the Department's opinion, of a scale and duration sufficient to be considered significant adverse impacts to the estuarine environment. Section 18-5-1 of the EIS should be revised to include each of these identified adverse impacts and acknowledge the need for mitigation of each of these anticipated impacts.

R 18-130: This view is acknowledged but it is not agreed that the proposed dredging and other construction activities are of a scale and duration sufficient to result in significant adverse impacts to benthic fauna or to fish populations of the Hudson River including EFH species and shortnose and Atlantic sturgeon. Except for the permanent loss of up to 13 acres of oyster habitat, and potential impacts of shading associated with the net change between new bridge construction and removal of the existing structure, the FEIS concludes that remaining impacts are largely either temporary or minimal, and not reasonably expected to have a long term impact on aquatic resources, including EFH and protected species. As described in the response to Comment 18-125, potential project impacts to aquatic biota are being mitigated.

Section 18-5-1 of the FEIS incorporates refinements to the assessment based on the PIDP that have resulted in less potential for affecting aquatic biota. Also incorporated are changes made by NMFS in the criterion that should be used to evaluate the potential for physiological effects of noise on fish which significantly reduced the projected losses due underwater noise from pile driving. Potential impacts associated with project activities that could affect living resources such as pile driving and dredging will be minimized by the EPCs, construction means and methods, and the RPMs identified by NMFS in the BO.

As discussed in FEIS Chapter 16 "Ecology," NMFS, in their BO, agrees with the conclusions articulated in the FEIS regarding the temporary or minimal extent of impacts due to project activities on shortnose and Atlantic sturgeon survival, movement, and their ability to forage in the Hudson River. The BO identifies additional RPMs to be implemented to further ensure the protection of shortnose and Atlantic sturgeon, as well as the greater fish community. The RPMs, which NMFS considers necessary and appropriate, have been agreed to by the project sponsors. In their response to the EFH assessment, NMFS Habitat Conservation Division expressed the view that, "bridge construction and removal may adversely affect living aquatic

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resources and their habitats”, but offered EFH conservation recommendations to “avoid and minimize impacts to our resources”.

- C 18-131:** Impacts and permanent losses to oyster beds of 13 acres have been stated as unavoidable due to dredging and possible armoring of the river bottom. Since the DEIS is a single alternative document, it has not demonstrated that these impacts are unavoidable, nor provided sufficient alternatives analysis comparing cost differentials of various alternatives to that may be avoidable in one alternative versus another.
- R 18-131:** As discussed in Section 18-3-3 “Alternatives to Dredging,” two alternative construction methods were evaluated in an effort to avoid the need to dredge an access channel. One method involved the use of overhead gantries for the construction of foundations and the other consisted of the implementation of a full-length temporary trestle for access. Neither of these alternatives was found to be practicable. The former because it is not practicable for the heavy-duty pile-driving requirements of the replacement bridge and the latter because of the additional 16 acre deck area that would shade aquatic habitat. In addition, the deep soft soils in the shallow waters of the construction zone would require the driving of over 7,000 piles to support a full-length temporary trestle. Thus the trestle would be expensive and time-consuming to construct. It was therefore concluded that the access channel dredging and its potential adverse impacts to the 13 acres of oyster habitat were unavoidable. As described in the response to Comment 18-125, the project sponsors are committed to mitigating for adverse project impacts and have come to an agreement with NYSDEC on implementing a conceptual compensatory mitigation and conservation benefit plan that would include the restoration of 13 acres of hard bottom/shell habitat, the reintroduction of oysters to this habitat, a secondary channel restoration project, and wetlands enhancement, all of which would offset potential adverse impacts associated with dredging
- C 18-132:** This Project proposes to include dredging a channel across the Hudson River on a magnitude that has never before been seen. The extent of the dredging that would occur as a result of this Project is going to destroy or cause long-term damage to significant areas of habitat that is critically important to many of the River’s native species and it will likely be fatal to individual Shortnose and Atlantic Sturgeon. Dredging will also certainly cause the loss of benthic macroinvertebrates and their habitat. Furthermore, this extensive dredging across the Hudson River would result in the resuspension of contaminants in the River. The DEIS does not discuss how the dredging activities might cause resuspension of PCBs, metals, or other contaminants trapped in the river sediment.

The Biological Assessment prepared by FHWA concludes that “while dredging and armoring of the bottom will result in a temporary reduction in foraging opportunities [for the Shortnose and Atlantic Sturgeon], the project will not jeopardize the continued existence of the shortnose or Atlantic

sturgeon populations of the Hudson River.” However, this is a conclusive statement and is not adequately explained with specific or reliable data.

In the Fact Sheet prepared by NMFS to accompany the listing of Atlantic Sturgeon as Endangered, NMFS lists dredging as one of the primary threats to the New York Bight population. According to NMFS, dredging can displace individual sturgeon while it is occurring, and affect the quality of the habitat afterwards by altering depth, sediment characteristics and prey availability.

The DEIS only briefly mentions two alternate construction methods that could be used in an effort to avoid the need to dredge an access channel across the River: (1) the use of overhead gantries for the construction of foundations and (2) the implementation of a full-length temporary trestle for access. The reason the lead agencies give for rejecting this second option is that construction of these foundations would be “expensive and time-consuming.” Yet, the DEIS includes no analysis of the costs of these alternate construction methods in comparison to dredging. The lead agencies must provide additional information to the public on the costs of these alternate construction methods, and they must fully explain why alternate dredging practices were rejected in the DEIS. (Construction 111)

R 18-132: Losses of benthic habitat and associated macroinvertebrates will be temporary; sediment deposition and recolonization by benthic organisms will occur following project completion. Impacts related to dredge-induced resuspension of sediment constituents are assessed in Section 18-4-12-3, “Sediment Quality.” In its BO, NMFS provides a thorough analysis of the potential effects to shortnose and Atlantic sturgeon from project activities and concludes that dredging would not jeopardize sturgeon populations (see **Appendix F-6**), stating further that “the temporary reduction of benthic fauna within the dredged area would not substantially reduce foraging opportunities for the river’s sturgeon populations.”

The BO also concluded that dredging “is expected to result in the capture of three shortnose sturgeon and three Atlantic sturgeon, with the injury or mortality of one of these shortnose sturgeon and one of these Atlantic sturgeon” during the three-year dredging period.

See response to Comment 18-131 above regarding alternatives to dredging.

24-2-18-10HAZARDOUS WASTE AND CONTAMINATED MATERIALS

C 18-133: There should be an in-depth study on the construction waste management, and a series of programs designed to manage, control, and safely dispose of construction waste. Severe fines should be levied should there be any violations of waste management.

R 18-133: As discussed in Section 18-4-14, site-specific Remedial Action Plans (RAPs) and Construction Health and Safety Plans (CHASP) would be prepared and implemented during construction. These plans would set out the required federal and state regulatory procedures for waste management including

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proper stockpiling, characterization, transportation and disposal of all surplus materials. Fines for violations of these procedures would be addressed by the various regulatory programs.

- C 18-134:** Spills or leakage of hazardous/toxic materials into the river may occur. Preventative measures should be in place prior to the start of the project which would hinder these materials from spilling into the river adjacent to our property.
- R 18-134:** Fuel or other chemicals stored during construction would be subject to applicable regulatory requirements including the federal Spill Prevention, Control, and Countermeasure (SPCC) Rule which includes requirements for secondary containment, alarms, etc. The contractor would also be required to have a NYSDEC-approved: Stormwater Pollution Prevention Plan (SWPPP); erosion and sediment control plan (ESC); and SPDES General Permit for Stormwater Discharges from Construction Activity (GP-0-10-001).
- C 18-135:** The disposal of excess materials should be in accordance with state regulations.
- R 18-135:** As discussed in the response to Comment 18-133, the Remedial Action Plan (RAP) would set out the federal and state requirements for disposal of excess material.
- C 18-136:** Demolition of TZB landings during Stage 3 construction will require partial demolition of the old bridge. What remediation will be required for the old bridge structure to ensure protection of the Hudson River from hazardous materials?
- R 18-136:** Prior to demolition of the old bridge assessment of hazardous materials (i.e., asbestos, lead paint and electrical equipment) would be performed. Regulations require all asbestos be removed prior to demolition and procedures be developed so no unacceptable lead releases would occur. Any electrical equipment containing PCBs, mercury or other would be removed and handled separately. All materials would be transported to appropriate permitted off-site disposal facilities,

24-2-18-11 HISTORIC AREA REMEDIATION SITE (APPENDIX H)

- C 18-137:** Stage 3 is not currently proposed for placement to the HARS.
- R 18-137:** The FEIS and appendices identify that only the dredged materials from Stage 1 and Stage 2 are presently proposed for placement at the HARS.
- C 18-138:** Transfer to an existing dredge material processing facility and dredged material processing facility are not alternatives, but the processing and transfer are only part of the alternative. Processing and transfer need a beneficial upland remediation site to go with them. Transfer to Dredged Material Processing and Dredged Material Processing Facility should not be listed separately, and the discussion and table need to be revised.

- R 18-138:** Appendix H-5 has been revised accordingly.
- C 18-139:** It is necessary to clarify if the increased costs were considered in the cost analysis to transfer dredged material from smaller to larger scows in deeper water. This would appear to be double handling of the dredged material if a clamshell bucket would be used to "dredge" the material from the smaller scows into the larger ones. In addition, it is not clear if this was taken into consideration in the dredging timeframes. It needs to be included if it was not. (Appendices 10)
- R 18-139:** Appendix H-5 has been clarified accordingly, and Chapter 18, "Construction Impacts," of the FEIS describes the method for the double-handling of dredge material.
- C 18-140:** Page 5 states, "These private companies could transport, dewater and amend..." These companies are not going to transport the material from the dredging site to the processing site, unless they have the actual dredging contract. The word "transport" should be placed after the word "amend".
- R 18-140:** Appendix H-5 has been revised accordingly.
- C 18-141:** Page 5 states, "The large volume of material that will result from the Tappan Zee Hudson River Crossing Project would tie up dredge processing capacity throughout New York Harbor." This appears to be unsupported, since it is only discussing dredging a large volume three months out of the first year. Based on the previous text in the paragraph, the 4 processing plants operate at a rate of at least 20,000 cubic yards a day, and the average dredged material for the Tappan Zee project in the first year is only 15,000 cubic yards a day, so it would not be correct to say that processing capacity will not be "tied up" throughout New York Harbor. The sentence should be deleted or revised.
- R 18-141:** Appendix H-5 has been revised to state that the large volume of material that will result from the Tappan Zee Hudson River Crossing Project would comprise a significant portion of dredge processing capacity throughout New York Harbor since during the peak of its dredging program the project would generate over 17,000 cubic yards/day.
- C 18-142:** Page 5 states, "Based on the information provided by the three facilities that responded, the cost for this disposal alternative..." Processing material is not a disposal alternative and the text needs to be revised.
- R 18-142:** Appendix H-5 has been revised accordingly.
- C 18-143:** To our knowledge, the only binding agent currently allowed for use by both New York and New Jersey for the processing of dredged material is Portland cement, although conversations with the NYSDEC have indicated that they would look into allowing coal ash if the Tilcon sites were used for disposal (there is a stored supply of coal ash at one of the Tilcon sites).
- R 18-143:** Appendix H-5 has been revised accordingly.

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- C 18-144:** Beneficial Re-Use for Land Remediation, Page 5, last paragraph: "Because the dredged material recovered from the Tappan Zee Hudson River Crossing Project site would require dewatering and processing for stabilization, any beneficial use options would require that the contractor establish a temporary staging and processing area, to manage the dredge spoils before transport to the beneficial use site." For the most part, this is not required any beneficial use option. For example, if the dredged material goes to an existing upland site in New Jersey, the dredged material is transported to the processing facility, where it is processed and then brought to the upland site. There is no need to establish a temporary staging and processing area at the dredging site. Perhaps other sites could arrange a temporary staging area, but it appears that Weeks is the only one set up for "mobile" processing. Also, if the dredged material was brought to Tilcon, provided Tilcon was available, this type of set-up would likely be needed.
- R 18-144:** **Appendix H-5** has been revised accordingly to eliminate this language.
- C 18-145:** There are several barge sites in New Jersey that could receive dredge material and should also be evaluated. (Appendices 16)
- R 18-145:** **Appendix H-5** has been revised to include an evaluation of potential placement sites in New Jersey.
- C 18-146:** Beneficial Re-Use for Land Remediation, Page 6, First full paragraph: "To dewater and amend the dredged materials, the dredging contractor would have to establish a temporary dredge spoils management facility on the waterfront. ..." This is not necessarily true, as discussed above. (Appendices 17)
- R 18-146:** **Appendix H-5** has been revised accordingly to eliminate this language.
- C 18-147:** Beneficial Re-Use for Land Remediation, Page 6, First full paragraph: "Such a facility would require a loading dock or pier to accept the hopper scows delivering dredged material and barges removing processed material; structures and equipment to pump or otherwise move the dredged material from the scows into a pug mill for dewatering; a drying area for the dewatered material; a water treatment plant to filter and treat the water removed from the dredged materials to address turbidity and potential contamination; a staging area to mix the dewatered material with appropriate amendments; and a stockpile for processed material waiting to be removed." This describes a full scale processing operation, which could be used, but may not be necessary since this chapter previously stated that four such operations are already established in the Harbor area. (Appendices 18)
- R 18-147:** **Appendix H-5** has been revised accordingly.
- C 18-148:** Beneficial Transport Directly to a Permitted Landfill Facility, Page 8, First paragraph: "In this alternative, dredged materials would be transported by boat from the construction site to a waterfront site in the New York metropolitan area that would accept the materials as waste." New Jersey

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has upland placement sites and does not consider dredged material to be a waste. The NYSDEC issues a Beneficial Use Determination (BUD) for the upland placement of dredged material, which NYSDEC does not consider to be waste. (Appendices 20)

- R 18-148:** **Appendix H-5** has been revised to remove this language. Information on upland placement sites in New Jersey has been added to the revised Appendix.
- C 18-149:** Beneficial Transport Directly to a Permitted Landfill Facility, Page 8, First and Second paragraphs: The first paragraph starts by discussing not processing the dredged material, and then later discusses processing of dredged material, and continues the discussion of processing into the second paragraph. The two should be separated, as the costs at the end of the second paragraph seem to include processing. (Appendices 21)
- R 18-149:** **Appendix H-5** has been clarified accordingly.
- C 18-150:** Transport Directly To A To-Be Permitted Landfill Facility, Page 8, first paragraph: The first paragraph discusses processing the dredged material. Please see comment above for processing. (Appendices 22)
- R 18-150:** **Appendix H-5** has been revised accordingly.
- C 18-151:** Transport Directly To A To-Be Permitted Landfill Facility, Page 9, First paragraph, "... the West Nyack Quarry near the project site..." Please provide the distance.
- R 18-151:** The West Nyack Quarry is located approximately three miles from the project site. **Appendix H-5** has been revised accordingly.
- C 18-152:** On Page 9, the use of upland placement sites in New Jersey needs to be discussed, as stated for the comment on page 6.
- R 18-152:** Information on upland placement sites in New Jersey has been added to the revised **Appendix H-5**.
- C 18-153:** Conclusion, Page 9, First paragraph, 6th sentence: "... the capacity of any one dredge materials management facility is not expected to be sufficient for a project of this size." This sentence is not clear, as many large volume dredging projects use more than one dredged material placement site.
- R 18-153:** **Appendix H-5** has been revised to remove this language.
- C 18-154:** Conclusion, Page 9, Second paragraph, 2nd to 3rd sentences: "would require the contractor to establish a temporary dredge spoils processing facility dedicated to the Project..." A temporary dredged materials placement site is not necessarily required, as discussed in prior comments.
- R 18-154:** **Appendix H-5** has been clarified accordingly.

24-2-19 CHAPTER 19: ENVIRONMENTAL JUSTICE

C 19-1: There are a large number of low income cyclists who remain literally below the radar; they are not seen when riding nor are they counted in census or other official survey counts. Unsafe street and roadway conditions to access the bridge path can have serious negative impacts when the bicycle is a mode of necessity rather than a mode of choice. There is an issue of whether bike racks on local and express buses are needed to facilitate low income workers' access to jobs. Bicycles provide rapid reliable low cost feeder connections at the home and/or work ends, while the buses act as longer distance fast line haul carriers. This combination of bike and bus has significant potential to reduce or eliminate the need for an expensive private car for work access. Road safety and bike-bus coordination in the Tappan Zee area should be looked at from an Environmental Justice point of view.

R 19-1: The Replacement Bridge Alternative includes a shared-use path, which would substantially improve trans-Hudson mobility, for non-motorized users (pedestrians and cyclists). The shared-use path is being designed in accordance with Americans with Disabilities Act and ADAAG standards and would connect to Smith Avenue in South Nyack and Route 9 (Broadway) in Tarrytown. The shared-use path would be located entirely within the NYSTA right-of-way. As NYSTA does not control adjacent roadways, pedestrian and bicycle enhancements are not proposed as part of the Replacement Bridge Alternative. However, the Replacement Bridge Alternative would not preclude such improvements if they were to be undertaken by others at some point in the future.

The Replacement Bridge Alternative would continue to provide for access to cross-river bus traffic. Coordinated bus/bicycle travel is outside the scope of the Tappan Zee Hudson River Crossing Project; bike accommodations are provided at the discretion of the bus operators.

C 19-2: The continuation of auto dependency raises environmental justice concerns due to the lack of transportation access will have on lower income people, as well as youth, the disabled and others unable to drive.

R 19-2: The Replacement Bridge Alternative would continue to provide for access to cross-river bus traffic.

C 19-3: The DEIS does not include any information in regards to the financing of the preferred alternative. It is the position of the Village of Tarrytown that the issue of work-related travel and the impact of increased tolls on lower-income populations qualifies under the heading of "Environmental Justice" and that the DEIS fails to address this issue, and therefore, should be amended in order to rectify this shortcoming.

R 19-3: Chapter 19, "Environmental Justice," of the FEIS incorporates an analysis of the effects of tolling on environmental justice communities. As discussed in the chapter, the potential toll adjustments would not result in any disproportionately high and adverse impacts on environmental justice

populations. Furthermore, Replacement Bridge Alternative would continue to provide for access to cross-river bus traffic, would include a shared-use bicycle and pedestrian path, and would not preclude transit in the corridor in the future.

C 19-4: The County takes exception to the extremely limited area of impact used in the document for the Environmental Justice (EJ) analysis. While we understand that EJ study areas generally include the census block groups that overlap with the 1/2-mile perimeter around the project site, this project should cast a wider net. An expanded study area that included communities such as the Village of Nyack and the hamlets of Blauvelt and Orangeburg, would reveal that there are other minority and low-income areas that could be impacted. The County is asking that the study expand the EJ study area. Therefore, it may be premature to conclude that, "the Replacement Bridge Alternative would not result in any disproportionately high and adverse effects on minority and low-income populations during operation or construction and therefore no mitigation would be required." (page 19-11)

R 19-4: The environmental justice study areas described in the DEIS comply with USDOT guidance, and no disproportionately high and adverse impacts were identified for the operational or construction study areas. The FEIS includes additional analysis of the potential toll adjustments for environmental justice communities in the Tappan Zee Bridge commuter shed, which is a larger study area that encompasses Westchester, Rockland, and Orange Counties. The analysis of effects of the potential toll adjustments on environmental justice communities also does not identify disproportionately high and adverse impacts on environmental justice communities.

24-2-20 CHAPTER 20: COASTAL AREA MANAGEMENT

C 20-1: The Coastal Zone Policy Analysis identifies the Local Waterfront Revitalization Plans (LWRP) of abutting agencies outside of the 4-mile zone (namely Nyack and Sleepy Hollow), but neglected to review the LWRP of the Village of Piermont to ensure compliance with its coastal policies. The Village of Piermont views this omission as a significant deficit in the Tappan Zee Hudson River crossing DEIS, and requests inclusion of our LWRP and the review of any impact on our policies in this review.

R 20-1: Impacts to coastal resources within the Village of Piermont would not be directly affected by the proposed project. Indirect impacts to Piermont's coastal resources are also not expected to occur.

C 20-2: The DEIS fails to properly perform CMP policy review as it is a single alternative document. Without performing serious consideration of the discarded alternatives, the Project has not demonstrated compliance with Policy 1, "restore, revitalize, and redevelop deteriorated and underused waterfront areas for commercial, industrial, cultural, recreational, and other compatible uses." The tunnel alternative would allow restoration of

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significant coastal resources by allowing repurposing of the reclaimed waterfront areas for redevelopment and public use.

R 20-2: NEPA does not require an assessment of discarded alternatives in the EIS.

24-2-21 CHAPTER 21: INDIRECT AND CUMULATIVE EFFECTS

C 21-1: The DEIS does not consider the indirect and cumulative effects on local property values, and local transportation and parking issues possibly imposed by the introduction of the shared-use path. While these effects are possibly orders of magnitude less than the total Project cost, they are nevertheless substantial to the many small communities adjacent to the Project.

R 21-1: As set forth in Chapter 7, "Parklands and Recreational Resources," the Replacement Bridge Alternative is not expected to directly affect any parks or open space resources and no additional parking is provided since it is anticipated that shared-use path users would access the path using surface connections from existing linear parks, trails, bike lanes, and sidewalks. Furthermore, while the proposed shared-use path would add new pedestrian and bicycle users to the bridge, these users are not anticipated to substantially increase the number of pedestrians and bicyclists in the study area. Therefore, with no direct impacts anticipated, there are no indirect or cumulative impacts anticipated with the Replacement Bridge Alternative. Effects on local property value, if any, are not considered in the EIS since there is no legal basis for compensation resulting from a diminution of property value.

C 21-2: Indirect effects may result from the induced demand for bicycling and walking that will follow the opening of the bridge path. The impacts will not be so much on the bridge path itself, but will occur on the roads, trails and paths that feed and connect with the bridge. The effects will be cumulative, following the growth of non-motorized users that will concentrate and build both by user mode and in critical corridors and locations. All of this will need attention to avoid and mitigate severe negative safety impacts, which will follow the bridge opening.

R 21-2: Please see the response to Comment 21-1.

C 21-3: The DEIS excludes analysis of certain indirect effects as not being "reasonably foreseeable." Appendix A of the Scoping Summary Report states, "FHWA defines reasonably foreseeable as being part of the fiscally constrained portion of the Metropolitan Planning Organization's long range plan." There is no evidence presented to support this definition as a matter of FHWA policy, nor is it supported by case law or various FHWA guidance documents that define the term more broadly. This definition is overly restrictive and does not take into account projects that may be outside the scope of the MPO, such as local development plans. Excluding projects from consideration merely because they are currently unfunded is unacceptable.

- R 21-3:** Foreseeable projects include known projects identified on the TIP as well as any other applicable public or private development that could yield a cumulative effect (i.e., the Champlain-Hudson Power Express project analyzed in the potential cumulative impact assessment of aquatic ecology).
Reasonably foreseeable actions do not include speculative projects or projects with long conceptual development cycles. For example, USEPA's NEPA guidance regarding cumulative impacts notes that projects included in a 5-year budget cycle might be considered likely to occur while those only occurring in 10-25 year strategic planning would be less likely and perhaps even speculative.
- C 21-4:** Section 21-2 claims there will be no indirect effects. This fails to consider that the replacement bridge is specifically designed to accommodate future mass transit. This is an obvious indirect effect, as it is "likely to stimulate complementary development." Earlier drafts of the plans showed accommodation for BRT and CRT. The BRT was proposed to travel in a busway through South Nyack. The CRT was proposed to enter a tunnel just west of River Road. The current plans no longer show these features. The DEIS should demonstrate that the current plans for the Rockland landing would accommodate these features without additional negative impacts to South Nyack. The exclusion of this analysis constitutes a prohibited segmentation.
- R 21-4:** Please see response to Comment 3-17.
- C 21-5:** The South Nyack "cap" project initiative is another "reasonably foreseeable" project. The initiative was specifically proposed to be a complementary development to the bridge replacement project, especially in interfacing with the shared-use path. The NYMTC Regional Transportation Plan includes a feasibility study for the initiative. The exclusion of this analysis constitutes a prohibited segmentation. These projects' relationships to the bridge replacement project should be explored in depth.
- R 21-5:** South Nyack's proposal for a "lid" park, which has only recently advanced to a planning phase (as described in Chapter 5, "Community Character," and Chapter 7, "Parklands and Recreational Resources," of the FEIS), is not identified as a capital improvement in the TIP. Its implementation would involve review and approval by multiple agencies, including NYSTA, and these approvals have not been sought. As noted in the response to Comment 21-3, given this longer range and uncertain outcome of the proposed "lid" park, it is considered speculative for NEPA purposes and is not considered in detail in the EIS.
- C 21-6:** All "reasonably foreseeable" indirect and cumulative effects of the project were not adequately considered, including growth- and sprawl-inducing aspects of a project without transit.
- R 21-6:** As described in Chapter 4, "Transportation," the New York Metropolitan Transportation Committee's Best Practices Model was used to project future

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2017 and 2047 traffic volumes at the Tappan Zee Hudson River crossing, and the BPM model includes development and transportation projects that would be implemented independent of the Replacement Bridge Alternative. Also, as stated in Chapter 4, “Transportation,” the Replacement Bridge Alternative would not increase traffic volumes compared to the No Build Alternative. Since the Replacement Bridge Alternative would not increase traffic volumes, it would not result in adverse indirect or cumulative impacts on traffic operations or travel demand.

24-2-22 CHAPTER 22: OTHER NEPA AND SEQRA CONSIDERATIONS

C 22-1: Without transit, several commenters suggested that the project would not be consistent with New York State Smart Growth Public Infrastructure Policy Act, particularly Criteria D, E, F, and J (or 4, 5, 6, and 10, respectively), for the following reasons:

- The project would encourage auto-dependency and would not provide or improve transportation choices;
- It would not foster transit-oriented development, which encourages mixed-use, compact, and sustainable development and combats sprawl;
- Allowing continued sprawl and reliance on personal automobiles would do nothing to reduce greenhouse gas emissions;
- The DEIS is inaccurate in stating that a transportation infrastructure project is not applicable to the smart growth criteria which have the goals of advancing projects located in municipal centers and of fostering mixed land uses and compact development since indirect and reasonably foreseeable impacts must be addressed under the Council for Environmental Quality (“CEQ”) regulations implementing the National Environmental Policy Act (“NEPA”). The project would indirectly discourage projects located in municipal centers and compact development;
- The DEIS states that Criterion E (or 5) is not applicable even though transit-oriented development was an integral part of the previous corridor project to foster compact mixed-use development, downtown revitalization, diversity and affordability of housing in proximity to places of employment, recreation and commercial development and the integration of all income and age groups, which cannot be accomplished without transit.
- Minor air quality improvements, if any, from reduced congestion would not protect, preserve, and enhance the state’s resources, whereas transit would reduce traffic and prevent 12,000 tons of CO₂ from entering the atmosphere each year;
- The project does not make a plan for meeting the needs of future generations;
- The project would not provide a sustainable solution to the real problem—traffic throughout the corridor—as was provided by the

previous corridor project, which provided long-term solutions and included broad-based public involvement.

- R 22-1:** The project would be consistent with the NYS Smart Growth Public Infrastructure Policy Act to the extent practicable and applicable. The project is an important infrastructure replacement project to maintain a critical link in the state and regional transportation network. The consideration of transit alternatives is not reasonable for this EIS since adequate funding for new transit services has not been identified. However, the project would allow for new transit services in the future and would enhance existing transit services (i.e., Tappan Zee Express and Orange-Westchester Link (OWL) buses) through improved safety and mobility over the crossing.

The project would replace an existing use in an area with well-established development patterns. There would be no indirect development patterns associated with replacing an existing use as it would not alter existing conditions.

In addition to improved air quality through reduced congestion and enhanced mobility, the project would protect, preserve and enhance environmental resources to the extent practicable through extensive efforts to minimize Hudson River and upland impacts, maintaining the existing upland highway alignment (thereby minimizing ground disturbance and land takings), providing a shared-use path to enhance non-motorized transportation options and improve connectivity of open space resources, and including stormwater management practices that are not currently installed.

The previous project was a corridor project with a specific purpose and need. That project was rescinded for reasons presented during the scoping and DEIS processes for the current project. The current project has a purpose and need based on imminent transportation needs and the current state and national financial climate. Municipal development is not within the scope or purpose and need of this project. However, communities in the lower Hudson Valley would benefit from the improved safety and mobility of the Tappan Zee Hudson River crossing.

- C 22-2:** The DEIS asserts that the project is “Consistent” with Criterion G (or 7) because the authors anticipate coordination with local and regional agencies. However, the state’s actual actions do not comport with this criterion. Indeed, there are many constituents and local elected officials publicly calling for public transit to be included on the bridge and in the corridor as part of this project, yet the state continues to refuse to do so. Tri-State believes

- the state should be coordinating more with local governments and intermunicipal and regional planning,
- this criterion is not being met because all calls for transit transparency are being rejected with little, if any, explanation and

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- the state, by only going forward with its plan without opening the process to local governments or incorporating intermunicipal and regional planning into the process in a meaningful way, cannot meet this criterion.
- R 22-2:** The consideration of transit alternatives is not reasonable for this EIS since adequate funding for new transit services has not been identified. As part of its outreach initiative, the project sponsors have met with affected municipalities and communities (e.g., Villages of South Nyack and Tarrytown, and the Salisbury Point Cooperative and The Quay of Tarrytown residential communities) to discuss potential impacts of the project and any mitigation. The public has also had ample opportunity to review and provide comments on the project, which are addressed in this FEIS.
- C 22-3:** The DEIS asserts that Criterion H (or 8) is “Not Applicable” presumably because “this is a large-scale regional transportation initiative.” Apparently the state does not consider residents in Rockland or Westchester County to be part of the community. Many constituents and local elected officials have publicly called for public transit to be included on the bridge and in the corridor as part of this project, yet the state continues to refuse to do so. Tri-State believes
- the state should be participating in community based planning and collaboration,
 - this criterion is, in fact, applicable and
 - the state, by telling the local communities what it plans to do without opening the process to them in a meaningful way, cannot meet this criterion.
- R 22-3:** It is not the intent of the project sponsors to ignore public and agency support for transit. As discussed above, the consideration of transit alternatives is not reasonable for this EIS since adequate funding for new transit services has not been identified. Table 22-1 in Chapter 22, “Other NEPA and SEQRA Considerations,” has been revised to indicate that Criterion H (or 8) is applicable to the project, per the comment. The table indicates that the project is consistent with this criterion to reflect the on-going coordination and outreach with local communities and residents and the opportunities provided for public input.
- C 22-4:** The DEIS states that the NYSDOT and NYSTA have developed policies to ensure the project complies with the NYS Smart Growth Public Infrastructure Policy Act. Please provide the policies that have been developed.
- R 22-4:** NYSDOT and NYSTA policies for compliance with the NYS Smart Growth Public Infrastructure Policy Act are provided in **Appendix I**.
- C 22-5:** Please provide details regarding how the project will establish the required Smart Growth Advisory Committee, which is charged with preparing the Smart Growth Impact Statement and advising how the agency or authority can promote smart growth goals.

R 22-5: As required for State infrastructure entities pursuant to the NYS Smart Growth Public Infrastructure Policy Act, NYSDOT and NYSTA have each established a Smart Growth Advisory Committee (SGAC). Official Order 1695 (provided in **Appendix I**) established NYSDOT's SGAC to set policy and direction for the department's compliance with the act and it delegates responsibility for smart growth project consistency review, preparation of the required Smart Growth Impact Statement (SGIS), and preparation of an attestation form to Region and Main Office program directors, as appropriate. Engineering Directive 2011-1 (also provided in **Appendix I**) established NYSTA's policy for complying with the act. As described in the directive, an SGAC was established by the Executive Director and is responsible for reviewing SGISs for projects in NYSTA's contracts program.

A joint NYSDOT/NYSTA attestation form has been prepared for the Tappan Zee Hudson River Crossing Project and is provided in **Appendix I**, along with an SGIS prepared for the project. The attestation was prepared in consideration of comments on the DEIS (specifically the smart growth consistency analysis in Chapter 22, "Other NEPA and SEQRA Considerations"), the SGIS, and in "consideration to local and environmental interests affected by the activities of the agency or projects planned, approved or financed through such agency," in accordance with Section 6-0109 of the act.

C 22-6: Criteria of the NYS Smart Growth Public Infrastructure Policy Act will not be met unless certain provisions pertaining to the shared-use path and local trails are met, such as completing RiverWalk, ensuring safe trail and road connections from the shared-use path, and providing bike accessibility on transit. These measures would help achieve criteria 3, 4, and 5.

R 22-6: Improvements to RiverWalk and other trails would not be precluded by the project. The project sponsors would reserve space to connect RiverWalk beneath the replacement bridge and the project would provide a shared-use path across the Hudson River, which does not currently exist. Lighting, wayfinding, and pavement markings would be provided for safe passage along the shared-use path across the bridge. Design considerations for the shared-use path are identified in the Design-Build Contract Documents, and the safety of shared-use path users will be thoroughly addressed through project design, signage, and access.

C 22-7: To help meet goals of Criterion F (or 6), buses in the corridor should provide bicycle racks to allow bicycles to serve as the access mode to long haul transit routes, rather than using auto park and ride. Under the Environmental Justice Chapter, there should be an analysis of the potential direct bicycle commuter use of the bridge by low income residents, and of their potential use of bike-on-bus and bike-to-train. Safe pedestrian and bicycle access routes to and from the bridge path on both sides of the bridge are essential to meeting the goal of Criterion 6, reduced automobile dependency.

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- R 22-7:** The shared-use path would expand opportunities for non-motorized transport across the river. As discussed above, safety for users of the shared-use path would be addressed through the Design-Build Contract Documents. New transit services are not part of this project, but existing bus services would be expected to continue operating. Bike accommodations are provided at the discretion of the bus operators.
- C 22-8:** As the DEIS is a single-alternative document, NEPA and SEQRA process has not been completed. The statement that all impacts are unavoidable with no reasonable alternatives is incorrect as no alternatives have been given equal and complete review effort (or even substantial effort) to make a complete assessment.
- In making the statement that the single alternative provided by the DEIS does not preclude future transit integration (which statement is not accepted as correct by the Village as presented in other comments) we believe the future preclusion of transit options, as well as the failure to maximize the public investment to this extent, subsequently fails to meet the requirements of the New York State Smart Growth Public Infrastructure Policy Act. NEPA and SEQRA process have therefore not been satisfied in this regard.
- R 22-8:** Please see response to Comment 2-46.
- C 22-9:** By limiting the project definition to just a bridge, the DEIS is trying to make a straight-faced albeit disingenuous case that many of the Smart Growth Act criterion are not applicable to the project or are otherwise met by the project. This project, by eliminating the transit and smart growth planning that were included in the earlier project, clearly does not maximize the social, economic and environmental benefits that transit and smart growth provide. As noted above, there is no evidence transit is not being precluded or rendered cumbersome and overly expensive by the current project, ultimately falling short of the Smart Growth Act's requirements.
- R 22-9:** The project would replace an existing bridge to maintain a critical existing Hudson River crossing that serves as a vital link in the regional transportation network. The project would improve mobility and safety of the crossing. The consideration of transit alternatives is not reasonable for this EIS since adequate funding for new transit services has not been identified. While modifications to the landings may be required to allow upland transit connections for new services in the future, the replacement bridge would be designed with the capability to accommodate new transit services should they become foreseeable.
- C 22-10:** The DEIS states, "the proposed facility would foster future economic development, which in turn would serve to create jobs and generate increases in property tax revenues." If the bridge will remain as congested as it is now, save for the possibility of a few less accidents, how specifically will it foster economic growth? In the old study, it was explicitly found that

increasing mobility by including transit in the project was the only way to meet population demand and foster economic growth.

- R 22-10:** The referenced citation is from Chapter 22, "Other NEPA and SEQRA Considerations," which provides for an overview assessment of the relationship of short term use of the environment and long term productivity. As set forth in Chapter 1, "Purpose and Need," the project provides for the replacement of a vital, but aging and obsolete transportation link serving the residential and workforce populations of the Hudson Valley. The chronic delays and congestion created by the bridge's deficiencies (i.e., repairs and higher accident rates for which there is no shoulder or breakdown lane to minimize lane closures) are regional economic costs beyond the overall regional capacity of the highway system. These improvements, and the additional long term benefits of other aspects of the replacement bridge (reduced operating costs, bicycle/pedestrian lanes, and that the project has invested in the ability to add transit to the span at a later date), provide the long term economic development opportunities identified in Chapter 22.

As discussed in Chapter 8, "Socioeconomic Conditions," the Replacement Bridge Alternative would not be likely to alter basic patterns of where Hudson Valley residents live and work, but would provide benefits to local and regional workforce in terms of improved operational mobility and safety.

24-2-23 CHAPTER 23: DRAFT SECTION 4(f) EVALUATION

- C 23-1:** The U.S. Department of Interior concurs that there is no prudent and feasible alternative to the proposed use of 4(f) lands, which consist of the Tappan Zee Bridge, and the South Nyack Historic District. Measures to minimize harm and mitigate potential impacts to historic resources within the Area of Potential Affect have been executed in a Memorandum of Agreement (MOA) developed among FHWA, the Advisory Council on Historic Preservation (ACHP), NYSTA, NYSDOT and the NYSHPO. We recommend that a signed copy of the MOA that reflects the procedures for protecting cultural resources be included in the final Section 4(f) Evaluation.

- R 23-1:** Subsequent to publication of the DEIS, it was determined that a modified Rockland County landing could avoid the use of the South Nyack Historic District. However, the use of the existing Tappan Zee Bridge cannot be avoided. The MOA that identifies measures to minimize harm on historic resources was executed and is included in **Appendix C** of the FEIS.

- C 23-2:** The "least overall harm" is determined by balancing in part: "the views of the official(s) with jurisdiction over each Section 4(f) property." As the local agency wherein the affected properties are located, it is the Village of South Nyack that has the most relevant perspectives on the significance of impacts and the reasonableness of alternatives and mitigations. The conclusions reached in the Draft Section 4(f) evaluation cannot be considered reasonable without formal input from the Village of South Nyack.

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- R 23-2:** Subsequent to publication of the DEIS, it was determined that a modified Rockland County landing could avoid the use of Section 4(f) properties in the Village of South Nyack. The Final Section 4(f) Evaluation reflects these changes in the project.
- C 23-3:** The DEIS is incorrect to state that "...since this green space [Parcel 66.77-1-38 in the Village of south Nyack] is not mapped as parkland and is not considered a resource of national, state, or local significance, Section 4(f) does not apply to this property." The pocket park (66.77-1-38) is indeed mapped as parkland and is thus subject to 4(f) analysis. The deed for Parcel 66.77-1-38 explicitly states, "... convey said parcel to the Village of South Nyack for a river view pocket park." Therefore, this pocket park should be reviewed under Section 4(f).
- R 23-3:** Subsequent to publication of the DEIS, it was determined that a modified Rockland County landing could avoid a permanent and temporary easement of the unnamed green space. Although the deed does cite this parcel as a "pocket park," there would be no use of this land, and Section 4(f) is not applicable to this property. The Final Section 4(f) Evaluation reflects these changes in the project.
- C 23-4:** The Hudson River is not listed as a 4(f) property despite its heavy recreational watercraft use and designation as a heritage area.
- R 23-4:** In general, rivers are not subject to the requirements of Section 4(f). Rivers in the National Wild and Scenic Rivers System are subject to the requirements of Section 4(f). Portions of publicly owned rivers, which are designated as recreational trails are subject to the requirements of Section 4(f), and Section 4(f) would also apply to rivers or portions thereof, which are contained within the boundaries of parks, recreational areas, refuges, and historic sites to which Section 4(f) otherwise applies.
- The Hudson River is not designated a National Wild and Scenic River. The portion of the river within the proposed alignment of the Replacement Bridge Alternative is also not designated as parkland or a wildlife refuge nor do the boundaries of nearby historic districts extend over water; therefore, Section 4(f) does not apply to the Hudson River.
- C 23-5:** The Section 4(f) evaluation does not identify the majority of parklands listed in Chapter 7 (Parklands and Recreational Resources) as 4(f) properties. The construction and operations of the Replacement Bridge Alternative will result in construction use of several nearby parks and recreational areas.
- R 23-5:** Chapter 7, "Parklands and Recreational Resources," identifies all parklands within the study area. As described in Chapter 7 of the DEIS, the only impact on parkland would be a temporary easement for Elizabeth Place Park, and this use was described in the Draft Section 4(f) Evaluation. Since the other parklands listed in Chapter 7 would not be adversely impacted by the Replacement Bridge Alternative, Section 4(f) is not applicable to these resources. As previously noted, the modified Rockland County landing

would avoid a temporary use of Elizabeth Place Park; therefore, the Final Section 4(f) Evaluation identifies no direct or constructive use of parkland for the Replacement Bridge Alternative.

- C 23-6:** The DEIS states: “the viewshed is not considered a character defining feature” for the River Road Historic District. The viewshed is be a defining characteristic of the Village. The project area is located within a designated Critical Environmental Area, which states in part: “This area includes unusual proximity to the Hudson River and the protection, preservation and enhancement of the important aesthetic and scenic qualities associated with such proximity is a primary goal.”
- R 23-6:** Historic sites such as the River Road Historic District and other identified architectural properties qualify for Section 4(f) protection on the basis of National Register eligibility. Through the Section 106 process, it has been established that ‘viewshed’ is not a characteristic that qualifies this historic district for the National Register of Historic Places, and therefore, visual changes to the physical surroundings that may result from the Project will not adversely affect the historic district. As a result of this Section 106 finding, potential changes to the aesthetic and scenic qualities cited in the comment are beyond the scope of protection afforded to historic properties under Section 4(f), and are addressed in the FEIS within the context of NEPA requirements.
- C 23-7:** The Section 4(f) Evaluation should consider whether alternatives to the Replacement Bridge Alternative that incorporate different deck alignments and spacing could minimize harm. For example, making the decks less narrow might minimize harm.
- R 23-7:** Subsequent to the Draft Section 4(f) Evaluation, it was determined that a modified Rockland County landing could avoid a use of Elizabeth Place Park and the South Nyack Historic District. However, the use of the existing Tappan Zee Bridge cannot be avoided.
- C 23-8:** The construction and operations of the proposed pair of bridges will have clear "proximity impacts/constructive use" on nearby parks and recreational areas including: Gesner Avenue Park in South Nyack, Memorial Park in Nyack, Losee Park in Tarrytown, Pierson Park in Tarrytown, RiverWalk in Tarrytown, Blauvelt State Park in Orangetown, Nike Overlook Park in Orangetown, Mountainview Nature Park, Village Hall Green in South Nyack, Rail-Trails in Nyack, South Nyack, Grand View-on-Hudson, Lyndhurst, and Taxter Ridge, Former Unification Church Property (now an unnamed County park, and Kingsland Point Park.
- R 23-8:** There are no impacts to Section 4(f) properties that would result in substantial impairment of the attributes that qualify these properties for Section 4(f) protection, and no constructive use of 4(f) properties was identified.

24-3 LIST OF COMMENTERS

Aaron, Peter: Written comments dated March 04, 2012, Comment Nos. 2-55

Abinanti, Tom, Westchester County Assembly: Oral testimony dated March 01, 2012, Comment Nos. 2-55, 3-1, 8-1, 9-20, 11-1. 11-2, 18-3, 18-86

Acker, Ruth E: Written comments dated March 30, 2012, Comment Nos. 2-34

Ackerman, Chris, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Addater, Frank, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Aglione, Peter Dominic: Written comments dated March 31, 2012, Comment Nos. 2-34

Aitchison, Josh, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Albasi, Gloria: Written comments dated March 30, 2012, Comment Nos. 1-2, 2-34, 3-1

Albertson, Ben: Written comments dated March 04, 2012, Comment Nos. 2-55

Allen, Warren: Oral testimony dated March 01, 2012, Comment Nos. 1-11

Allison, Arnie: Written comments dated March 21, 2012, Comment Nos. 2-55

Alluras, Hunter J, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Alperstein, Sherry: Oral testimony dated March 01, 2012, Comment Nos. 8-1, 9-28, 11-1, 12-14, 18-3

Alpert, Lauren: Written comments dated February 21, 2012, Comment Nos. 2-36

Alpert, Louis: Written comments dated March 30, 2012, Comment Nos. 3-1

Alpert, Steven: Oral testimony dated February 28, 2012, Comment Nos. 1-1, 2-32, 2-55, 4-9; and written comments dated March 30, 2012, Comment Nos. 2-30

Alteb, Howard, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Altorfer, Jeff: Oral testimony dated March 01, 2012, Comment Nos. 1-1, 2-13, 2-34, 2-55, 2-56, 2-62, 18-3

Alvarado, Mike, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Amabile, Michael: Written comments dated February 13, 2012, Comment Nos. 2-36

Amanya, Christopher C, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Anderson, Blair, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Anderson, Christopher, New York State Department of Transportation: Written comments dated March 09, 2012, Comment Nos. 2-55

Anderson, Richard, President, New York Building Congress: Oral testimony and written comments dated March 01, 2012, Comment Nos. 1-9, 1-12

Andreassi, Nancy: Written comments dated March 28, 2012, Comment Nos. 16-1

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- Andrews, Jeanne: Written comments dated March 15, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1
- Angelini, Barbara: Written comments dated February 22, 2012, Comment Nos. 2-34, 2-36; and written comments dated March 15, 2012, Comment Nos. 2-34, 2-57, 3-1
- Appelbaum, Barbara: Written comments dated March 29, 2012, Comment Nos. 3-1
- Ardanowski, Roger: Oral testimony dated March 01, 2012, Comment Nos. 18-50, 18-86
- Armstrong, Patrick J: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Astorino, Robert, Westchester County Executive: Oral testimony dated March 01, 2012, Comment Nos. 1-9, 2-30, 2-32, 2-34, 2-37
- Atwell, Barbara: Written comments dated January 18, 2012, Comment Nos. 2-36; and oral testimony dated February 28, 2012, Comment Nos. 3-1, 2-34
- Austreih, Sylvia: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Azerrad, Joel: Written comments dated January 25, 2012, Comment Nos. 2-34; oral testimony dated March 01, 2012, Comment Nos. 2-37; and written comments dated March 02, 2012, Comment Nos. 2-56
- Bagatta, Joanna: Written comments dated March 08, 2012, Comment Nos. 2-1, 2-34, 3-1
- Balinskiy, Andrey: Written comments dated February 15, 2012, Comment Nos. 2-36
- Ballantyne-Maffucci, Claire: Oral testimony dated March 01, 2012, Comment Nos. 4-9, 5-16, 5-22, 9-1, 18-10
- Banfield, William, Regional Manager, Northeast Region Council of Carpenters: Oral testimony dated March 01, 2012, Comment Nos. 1-9, 1-11
- Bannerman, Isabella: Written comments dated March 13, 2012, Comment Nos. 3-1
- Barbara, Diane: Written comments dated February 29, 2012, Comment Nos. 3-3
- Barlow, F.: Written comments dated January 19, 2012, Comment Nos. 2-36
- Barnes, Juliet: Written comments dated March 02, 2012, Comment Nos. 2-34, 2-37, 2-56
- Baron, Robert, Co-chair, Transportation Committee of the Southern Westchester Energy Action Consortium: Written comments dated February 07, 2012, Comment Nos. 2-36; and oral testimony dated March 01, 2012, Comment Nos. 2-32, 2-34, 2-36, 2-39, 3-1, 7-3, 7-8
- Barry, Elizabeth: Public Hearing Written comments dated March 30, 2012, Comment Nos. 2-34, 4-1, 11-2, 12-13
- Barry, Glen: Written comments dated March 14, 2012, Comment Nos. 2-37; and written comments dated March 16, 2012, Comment Nos. 2-9, 2-37
- Barry, Kathryn: Written comments dated March 29, 2012, Comment Nos. 2-34, 16-1, 16-4
- Barschall, Anne: Written comments dated February 27, 2012, Comment Nos. 2-20; and written comments dated March 01, 2012, Comment Nos. 2-20, 2-34; 2-39
- Bartholomew, Alice: Written comments dated March 30, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1

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Basescu, Neil: Written comments dated March 29, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1

Bassi, Laura: Written comments dated February 22, 2012, Comment Nos. 2-1, 3-3, 5-8

Bauer/Monzel, Sanora: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Baum, Marvin: Oral testimony dated February 28, 2012, Comment Nos. 2-10, 2-60

Bauman, Allen: Written comments dated April 13, 2012, Comment Nos. 2-36

Becker, Elliott: Written comments dated February 28, 2012, Comment Nos. 2-37

Becker, Robert J, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Bedell, David: Written comments dated March 30, 2012, Comment Nos. 1-1, 2-9, 2-11, 2-34, 7-3, 7-8, 9-21, 18-1

Bednar, Bryan, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Belardi, John: Oral testimony dated March 01, 2012, Comment Nos. 1-11

Bell, K: Written comments dated March 01, 2012, Comment Nos. 18-54

Benedict, Troy, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Benjamin, John: Written comments dated March 29, 2012, Comment Nos. 2-62

Bennett Callazuol, Ann: Comment form and Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-35, 18-40, 18-60, 18-61, 18-62, 18-74, 18-76

Bennett, Steven: Written comments dated January 29, 2012, Comment Nos. 2-36

Berezowsky, Adrian: Written comments dated March 30, 2012, Comment Nos. 2-36, 3-1, 3-11, 3-23

Berkowitz, Saul: Written comments dated February 09, 2012, Comment Nos. 2-13

Bernstein, Karen: Written comments dated February 20, 2012, Comment Nos. 2-36

Bernstein, Martin: Written comments dated March 14, 2012, Comment Nos. 2-57

Berrian, Brian D, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Berry, Ed: Written comments dated January 28, 2012, Comment Nos. 2-36

Biccum, Ryan, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Bickel, Lisa: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Biddle, Robert, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Bielshi, Scott B, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Bigelow, Thomas J, III, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Billing, Gregory: Written comments dated February 21, 2012, Comment Nos. 2-36

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- Bissett, Jr., Blair: Oral testimony dated March 01, 2012, Comment Nos. 1-11
- Bizzaro, Nicholas, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Blaho, Roger Steven: Written comments dated March 30, 2012, Comment Nos. 9-12
- Blake, Garrett M, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Blau, Michael, Administrator, Village of Tarrytown: Written comments dated February 17, 2012, Comment Nos. 3-2; and written comments dated March 23, 2012, Comment Nos. 2-34
- Blier, Robin: Written comments dated March 22, 2012, Comment Nos. 2-50, 3-1
- Block, Joseph: Written comments dated March 30, 2012, Comment Nos. 2-34
- Blomquist, Steve, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Blossom, Jackson: Written comments dated March 14, 2012, Comment Nos.
- Board of Trustees of the Village of Dobbs Ferry: Resolution dated February 29, 2012, Comment Nos. 2-34
- Board of Trustees of the Village of South Nyack: Written comments dated March 27, 2012, Comment Nos. 2-17, 2-29, 2-34, 2-56, 3-1, 3-5, 3-6, 3-7, 3-8, 3-9, 4-29, 4-35, 4-36, 5-4, 5-12, 5-13, 5-14, 5-20, 5-25, 5-41, 6-4, 6-14, 7-10, 8-1, 9-10, 11-3, 12-6, 12-19, 12-20, 12-24, 12-26, 18-5, 18-77, 21-3, 23-2, 23-3, 23-6
- Bonafide, John, New York State Office of Parks, Recreation, and Historic Preservation: Written comments dated April 05, 2012, Comment Nos. 9-19, 10-10, 10-11, 10-12, 10-13
- Bonan, David: Written comments dated January 23, 2012, Comment Nos. 2-21, 2-36
- Bongiorno, Salvatore: Written comments dated March 02, 2012, Comment Nos. 2-13, 2-21, 2-36, 2-55
- Booth, Brian, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Borgia, Audra: Written comments dated February 25, 2012, Comment Nos. 2-36
- Borhani, David: Written comments dated February 22, 2012, Comment Nos. 2-34, 2-62, 4-9, 9-1
- Borrell, Geraldine: Written comments dated March 22, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1
- Bouvier, Myra: Written comments dated January 25, 2012, Comment Nos. 2-36
- Bowen, Mark: Written comments dated March 30, 2012, Comment Nos. 2-24, 2-29, 18-35
- Boyar, Marion: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Brand, Richard: Written comments dated March 08, 2012, Comment Nos. 2-34, 16-1
- Brandt, Vicky: Written comments dated March 29, 2012, Comment Nos. 2-1, 2-30, 2-34, 3-1, 19-3

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- Bratka, Alexandra and Nicholas: Comment form and Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Braun, Clemens, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Braun, Norma: Written comments dated March 29, 2012, Comment Nos. 3-1
- Brennan, Matt: Oral testimony and written comments dated March 01, 2012, Comment Nos. 2-38
- Brennan, Matthew and Susan: Written comments dated March 30, 2012, Comment Nos. 2-1, 2-30, 2-34, 3-1, 3-11, 16-1
- Briggs Ashton, Joan: Written comments dated March 30, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1
- Brocius, Pamela: Written comments dated March 08, 2012, Comment Nos. 2-30, 2-34, 3-1, 4-9, 16-1
- Brown, John: Written comments dated March 30, 2012, Comment Nos. 3-3, 8-1, 9-6, 11-2, 12-13, 16-1, 18-2, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Brown, Tracy: Oral testimony dated March 01, 2012, Comment Nos. 3-1, 3-2
- Brown, Wendy: Written comments dated March 30, 2012, Comment Nos. 3-3, 8-1, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76, 18-109
- Brown, William J, Jr, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Buckley, Bruce and Joan: Written comments dated January 25, 2012, Comment Nos. 2-34, 2-37, 2-50, 2-62, 16-1, 18-3
- Buckley, Lisa: Written comments dated March 12, 2012, Comment Nos. 2-34
- Burd, Donald and Shane: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Burke, Robert: Written comments dated March 09, 2012, Comment Nos. 4-9, 16-1
- Burkman, Thomas, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Burns, Bushrod: Written comments dated March 12, 2012, Comment Nos. 8-1, 18-10, 18-28, 18-83, 18-85
- Burns, Dolores and Bushrod: Written comments dated March 12, 2012, Comment Nos. 2-11, 8-1, 11-5, 18-3, 18-10, 18-83, 18-85
- Burroughs, Edward, Commissioner, Westchester County Department of Planning: Written comments dated March 30, 2012, Comment Nos. 1-11, 2-24, 2-30, 2-33, 2-36, 2-39, 2-41, 2-46, 2-47, 4-3, 7-8, 22-1
- Burriss, Jessica: Oral testimony dated March 01, 2012, Comment Nos. 18-3
- Buzea, Dan, Leggette, Brashears & Graham, Inc., representing Bradford Mews Apartments: Written comments dated March 29, 2012, Comment Nos. 5-17, 8-1, 18-51, 18-63, 18-78
- Byrne, Joyce: Written comments dated March 08, 2012, Comment Nos. 2-30, 2-34, 3-11, 4-9, 16-1
- Cabouli, Diana: Written comments dated February 28, 2012, Comment Nos. 2-36

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Cacace, Gregory: Oral testimony dated March 01, 2012, Comment Nos. 1-11, 2-39

Caesar, Edith: Written comments dated March 05, 2012, Comment Nos. 1-11, 2-34

Caggiano, Philip: Written comments dated January 25, 2012, Comment Nos. 2-36

Cahill, Michael A, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Cahn, Julie: Written comments dated February 27, 2012, Comment Nos. 2-56

Cain, Mavis, President, Friends of the Old Croton Aqueduct: Written comments dated March 01, 2012, Comment Nos. 2-20, 2-24

Calhoun, Camilla: Written comments dated March 30, 2012, Comment Nos. 2-9, 2-31, 2-34, 5-8

Calise, Nancy: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Callan, Charles: Oral testimony dated February 28, 2012, Comment Nos. 9-3, 12-2, 12-3, 18-86; and written comments dated March 09, 2012, Comment Nos. 9-1, 9-15, 12-2, 12-3, 12-5, 12-7, 12-8, 12-9

Callan, Rita: Written comments dated March 10, 2012, Comment Nos. 9-15, 12-11

Calvani/ Weinstein, Dorothy/ Dava: Written comments dated January 30, 2012, Comment Nos. 2-30, 3-1, 3-2, 4-9, 13-5; and written comments dated February 24, 2012, Comment Nos. 1-1, 2-34, 2-50, 2-62

Camorati, Nancy: Written comments dated March 10, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1

Campisi, John Robert, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Capowski, William: Written comments dated February 28, 2012, Comment Nos. 2-34

Cappadona, Dorothea: Written comments dated January 25, 2012, Comment Nos. 2-34

Card, Cheryl: Written comments dated February 16, 2012, Comment Nos. 3-1, 2-34

Carillo, John, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Carlock, Hayley, Scenic Hudson: Written comments dated March 06, 2012, Comment Nos. 2-1, 2-41, 2-46, 2-62, 2-63, 3-16, 11-5, 16-36, 21-6, 22-1

Carlucci, David, New York State Senate, 38th District: Oral testimony dated February 28, 2012, Comment Nos. 1-9, 2-33, 2-40

Carpet, Chris, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Carrie, Iris: Written comments dated January 25, 2012, Comment Nos. 3-1

Cartaya, Barbara, Village Clerk, Village of Wesley Hills: Written comments dated March 16, 2012, Comment Nos. 2-34

Cawley, Kevin: Written comments dated February 22, 2012, Comment Nos. 2-34, 2-50, 2-62, 4-9

Ceccarelli, Gene: Written comments dated March 04, 2012, Comment Nos. 2-34, 2-60, 11-5

Chazin, Allen: Written comments dated April 14, 2012, Comment Nos. 2-36

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- Chefalo, Michael C, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Chein, Diana Munez : Oral testimony dated March 01, 2012, Comment Nos. 11-1, 12-13
- Chevalier, Paul: Written comments dated February 28, 2012, Comment Nos. 2-14
- Chiara, Chris, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Chorost, Sherwood: Oral testimony dated March 01, 2012, Comment Nos. 3-1, 8-1, 9-28, 11-1, 12-14, 12-18, 18-3
- Church, Kevin, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Church, Mark, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Ciclone, Rachel E: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Cobbs, Ronald: Written comments dated February 29, 2012, Comment Nos. 2-33, 2-39
- Coholan III, William: Written comments dated February 13, 2012, Comment Nos. 2-36
- Colasante, Eli: E-mail and Written comments dated March 01, 2012, Comment Nos. 2-34, 2-36
- Coleman, Constance: Written comments dated March 04, 2012, Comment Nos. 2-56
- Collazuol, Steven: Written comments dated March 22, 2012, Comment Nos. 2-18, 2-29, 12-22
- Collura, Jana: Written comments dated March 30, 2012, Comment Nos. 3-3, 3-11, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Composto, Andrea: Written comments dated January 30, 2012, Comment Nos. 6-8; oral testimony dated February 28, 2012, Comment Nos. 6-8, 18-55; and written comments dated March 28, 2012, Comment Nos. 6-8, 8-1, 8-3, 18-4
- Condon, Anne: Written comments dated March 02, 2012, Comment Nos. 1-2, 2-34, 18-82
- Cook, Cody, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Corcoran, Ian, Hudson River Pilots Association: Written comments dated February 28, 2012, Comment Nos. 2-14, 18-30
- Cordaro, Sal: Written comments dated March 30, 2012, Comment Nos. 3-3, 8-1, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Cornell, Harriet, Chair, Rockland County Legislature: Written comments dated March 30, 2012, Comment Nos. 1-1, 1-11, 2-17, 2-30, 2-32, 2-33, 2-39, 2-41, 2-46, 2-49, 3-3, 8-11, 8-12, 8-13, 9-1, 9-3, 9-7, 9-10, 9-16, 9-20, 9-26, 18-41; and oral testimony dated February 28, 2012, Comment Nos. 1-9, 2-30, 2-33, 3-2, 9-1, 9-3, 9-14
- Cornell, Heather: Written comments dated March 06, 2012, Comment Nos. 2-36
- Cornwell, Russell, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

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- Corveda, Jean: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Coskey, Joe: Written comments dated February 28, 2012, Comment Nos. 1-9
- Coughlin, Peter: Written comments dated March 29, 2012, Comment Nos. 2-34, 16-1
- Covello, Susan: Written comments dated February 28, 2012, Comment Nos. 2-9
- Coyle, J. Gorman: Written comments dated March 30, 2012, Comment Nos. 2-6
- Cramer, Doris: Written comments dated March 08, 2012, Comment Nos. 2-34
- Crimmins, Rebecca: Written comments dated January 25, 2012, Comment Nos. 2-36
- Cromley, David, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Crossan, Brook, Mack Associates, LLC., representing Salisbury Point Cooperative: Written comments dated March 30, 2012, Comment Nos. 3-11, 12-30, 18-99, 18-100, 18-101
- Crossan, Brook, Mack Associates, LLC., representing the Village of Tarrytown: Written comments dated March 30, 2012, Comment Nos. 3-11, 12-29, 18-91, 18-92, 18-96, 18-97, 18-98, 18-99, 18-101, 18-102, 18-103, 18-104, 18-105
- Crowe, Kevin, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Cullen, Brian: Written comments dated February 28, 2012, Comment Nos. 2-36
- Cunningham, Carolyn, Federated Conservationists of Westchester County: Oral testimony dated March 01, 2012, Comment Nos. 2-33
- Curran, Jack: Written comments dated March 06, 2012, Comment Nos. 2-55
- Curran, Thomas M, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Curtis, Elizabeth: Written comments dated March 26, 2012, Comment Nos. 2-37, 2-62, 3-1, 8-1
- Cusick, Stacy: Oral testimony dated March 01, 2012, Comment Nos. 18-34
- Dachs, Leslie: Written comments dated March 04, 2012, Comment Nos. 2-37
- Dahm, Bert, Chair, West Nyack Revitalization Committee: Oral testimony dated February 28, 2012, Comment Nos. 2-2, 2-34
- D'Angelo, Joseph, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Dannhauser, Jamie: Written comments dated March 15, 2012, Comment Nos. 1-1, 2-15, 2-17, 2-32, 2-34, 2-37, 2-55, 2-56, 9-15, 12-13
- Dartley, David: Written comments dated January 19, 2012, Comment Nos. 2-36
- Date, Shonan: Written comments dated March 23, 2012, Comment Nos. 2-30, 2-31, 2-62, 3-1, 3-3; written comments dated March 28, 2012 and April 5, 2012, Comment Nos. 2-62 and 2-63.
- Dauenheimer, Carl, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

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Davidson, Justin, Pace Environmental Litigation Clinic, Inc. on behalf of Riverkeeper, Inc.: Oral testimony dated February 28, 2012, Comment Nos. 2-1, 3-2, 3-17, 2-26, 3-27, 4-3, 9-4, 18-109

Davis, Derek: Written comments dated January 18, 2012, Comment Nos. 2-36

Davis, Samuel E: Written comments dated March 30, 2012, Comment Nos. 2-1, 2-34, 3-1, 4-1, 11-5, 16-1

Day, John, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Dazi, Eric, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

De Mange, Bob: Public Hearing Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

De Toma, Mary Ann: Written comments dated March 04, 2012, Comment Nos. 2-37

deVengoechea Rudd, Helena V.: Written comments dated March 29, 2012, Comment Nos. 1-2

Dearborn, Deborah: Written comments dated March 11, 2012, Comment Nos. 2-36, 3-1

deCamp, Amy: Written comments dated March 29, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1

DeCrescenzo, Jocelyn: Oral testimony dated February 28, 2012, Comment Nos. 2-34, 3-1

Degenshein, Jan, Chair, Rockland Business Association: Oral testimony dated February 28, 2012, Comment Nos. 1-9, 9-1, 18-3

DeGraw, Catherine: Written comments dated March 29, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1

Del Valle, Vivian: Written comments dated February 23, 2012, Comment Nos. 2-34

Delaney, Michael, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Delfeld, Christine: Written comments dated March 08, 2012, Comment Nos. 1-1, 2-1, 2-30, 2-34, 3-11, 4-9, 16-1

Dellaleo, Conchetta: Public Hearing Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Delozier, Morton, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

DeLuca, Annette: Written comments dated March 30, 2012, Comment Nos. 2-2, 2-34

Demarest, Melissa: Oral testimony dated March 01, 2012, Comment Nos. 18-6, 18-34

Demonterey, Severin: Written comments dated January 25, 2012, Comment Nos. 2-36

Dempsey, Edward: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Dengler, Allegra, Energy Conservation Coordinator, Town of Greenburgh: Written comments dated March 01, 2012, Comment Nos. 2-34, 2-36, 2-55

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- DeSanet, Philip J, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Desienz, Stephen, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9, 1-10
- DeVoe, Joe, River Rowing Association: Oral testimony dated March 01, 2012, Comment Nos. 18-31
- Diana, Edward A, Orange County Executive: Written comments dated February 27, 2012, Comment Nos. 1-9, 2-36, 2-37
- DiCarlo, Susan: Written comments dated January 25, 2012, Comment Nos. 3-1
- Dieguez, Oscar, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- DiFrancesca, : Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Dinowitz, Joan: Written comments dated January 19, 2012, Comment Nos. 2-36
- Dittrich, Raymond R: Written comments dated March 30, 2012, Comment Nos. 3-3, 8-1, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Doherty, Duane, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Donaldson, Joseph: Comment form and Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Donnelly, Michael C, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Dost, Carolla: Written comments dated March 15, 2012, Comment Nos. 1-11, 2-39, 3-1, 5-8, 9-15
- Doybas, Dave, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Dreaper, Elizabeth, Deputy Village Administrator and Village Clerk, Village of Dobbs Ferry: Written comments dated March 01, 2012, Comment Nos. 2-34
- Drechsler, Jacquelyn: Oral testimony dated February 28, 2012, Comment Nos. 2-34, 9-1
- Drissell, Sean: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Dubec, Elizabeth: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Dubilier, Bill: Written comments dated March 22, 2012, Comment Nos. 2-20
- DuBow, Tish, On behalf of the Mayor of the Village of South Nyack: Oral testimony dated February 28, 2012, Comment Nos. 2-34, 3-3, 5-1, 5-2
- Dudley, Tito: Written comments dated March 19, 2012, Comment Nos. 2-56
- Dugan, Valerie: Written comments dated March 29, 2012, Comment Nos. 2-34, 2-62
- Duggan, Anne: Comment form and Written comments dated March 30, 2012, Comment Nos. 3-3, 5-8, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

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Dunham, Danny, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Dunlap, Wanda: Oral testimony dated March 01, 2012, Comment Nos. 9-6, 12-2

Dutton, Ian: Written comments dated January 19, 2012, Comment Nos. 2-36

Eaton, Oriel: Written comments dated February 14, 2012, Comment Nos. 2-36

Eckerson, Clarence: Written comments dated February 17, 2012, Comment Nos. 2-36

Edwards, William, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Eisenberg, Julietta: Written comments dated March 08, 2012, Comment Nos. 2-30, 2-34, 3-1, 4-9, 16-1

Eisenstark, Sarita: Written comments dated March 14, 2012, Comment Nos. 2-1, 2-34, 16-1

Eldridge, Sean: Written comments dated March 02, 2012, Comment Nos. 2-36

Ellgel, George: Written comments dated March 02, 2012, Comment Nos. 2-9, 2-13

Emerson, Jan: Written comments dated March 30, 2012, Comment Nos. 2-34, 3-1

Enck, Judith A, US Environmental Protection Agency: Written comments dated March 22, 2012, Comment Nos. 2-23, 2-33, 2-34, 2-46, 4-28, 6-2, 6-9, 10-8, 11-13, 11-16, 11-17, 15-7, 16-8, 16-43, 16-44, 18-11, 18-41, 18-65, 18-66, 18-68, 18-69, 18-70, 18-108

Ensel, Peter, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Erickson, Kenneth: Written comments dated March 11, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1

Ervino, Michael J, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Esgate, Patricia: Written comments dated February 29, 2012, Comment Nos. 2-34

Estrin, Daniel Eric, Pace Environmental Litigation Clinic, Inc. on behalf of Riverkeeper, Inc.: Written comments dated March 30, 2012, Comment Nos. 1-1, 2-1, 2-18, 2-30, 2-41, 2-46, 2-47, 2-51, 2-52, 2-54, 2-62, 2-63, 2-65, 2-66, 3-1, 3-2, 3-11, 3-16, 3-17, 3-19, 3-20, 3-21, 3-22, 3-25, 3-26, 3-27 3-28, 4-3, 4-7, 4-9, 4-12, 4-14, 4-19, 4-20, 4-21, 4-22, 4-23, 4-24, 4-25, 4-26, 4-27, 5-31, 7-26, 9-5, 9-15, 9-2710-5, 11-5, 15-2, 16-1, 16-15, 16-17, 16-18, 16-28, 16-29, 16-30, 16-31, 16-32, 16-33, 16-34, 17-1, 18-19, 18-21, 18-107, 18-132

Estwick, Daphne: Written comments dated March 23, 2012, Comment Nos. 5-6, 6-6, 8-2, 11-3, 12-18; and written comments dated March 30, 2012, Comment Nos. 3-3, 5-6, 9-6, 11-2, 11-5, 12-10, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76, 18-80

Etherton, S.: Written comments dated February 24, 2012, Comment Nos. 2-36

Evans, Dinda: Written comments dated March 29, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1

Fahn, Charlotte and Stanley: Written comments dated March 03, 2012, Comment Nos. 7-8, 7-9

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- Fallon, R: Written comments dated March 30, 2012, Comment Nos. 2-50, 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Farber, Joan: Written comments dated March 09, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1
- Farnum, Susan E: Written comments dated March 30, 2012, Comment Nos. 3-3, 18-2
- Fasihuddin, Azra: Written comments dated February 28, 2012, Comment Nos. 2-37, 2-56
- Fasihuddin, K: Written comments dated February 28, 2012, Comment Nos. 2-56
- Faulk, Alexander: Comment form and Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Faust, Steven, Five Borough Bicycle Club: Oral testimony dated March 01, 2012, Comment Nos. 2-34, 4-6, 4-41; and written comments dated March 13, 2012, Comment Nos. 1-1, 2-2, 2-20, 2-21, 2-22, 2-24, 2-25, 2-27, 2-34, 2-36, 2-40, 2-60, 3-14, 4-3, 4-4, 4-6, 4-9, 4-19, 4-20, 4-21, 4-22, 4-23, 4-24, 4-25, 4-38, 4-39, 4-41, 7-2, 7-4, 7-5, 7-6, 7-7, 7-8, 7-15, 7-16, 7-24, 10-6, 11-9, 13-7, 19-1, 21-2, 22-1, 22-6, 22-7
- Feiner, Paul, Supervisor, Town of Greenburgh: Written comments dated February 29, 2012, Comment Nos. 2-34, 18-49; oral testimony dated March 01, 2012, Comment Nos. 2-34, 2-56, 18-8; written comments dated March 01, 2012, Comment Nos. 2-34, 2-56, 3-3; written comments dated March 12, 2012, Comment Nos. 2-39; and written comments dated March 30, 2012, Comment Nos. 2-32
- Feldman, Alice: Written comments dated March 08, 2012, Comment Nos. 2-34, 9-1, 18-3, 18-109
- Feliciano, Gina: Written comments dated January 19, 2012, Comment Nos. 2-36
- Ferlauto, Henry: Written comments dated March 15, 2012, Comment Nos. 2-34
- Fernandez, Luis A, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Ficco-Panzer, Victoria: E-mail and Written comments dated February 17, 2012, Comment Nos. 2-34, 3-1, 8-1, 9-6, 11-2, 18-62, 18-74; oral testimony dated February 28, 2012, Comment Nos. 2-34, 3-1, 8-1, 9-6, 11-2, 18-25, 18-27, 18-62, 18-74, 18-76; and written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Fichman, Elsie: Written comments dated March 08, 2012, Comment Nos. 3-1
- Figuera, James, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Fincke, Gerald: Oral testimony dated February 28, 2012, Comment Nos. 2-40
- Finkle, Bryan: Oral testimony dated March 01, 2012, Comment Nos. 1-11
- Finnigan, Denise: Written comments dated February 28, 2012, Comment Nos. 8-1, 11-2, 12-13, 18-2, 18-25, 18-26, 18-62, 18-74, 18-76; and written comments dated March 28, 2012, Comment Nos. 3-3, 11-1, 18-2, 18-76
- Finucane, Sheila: Written comments dated March 31, 2012, Comment Nos. 2-37
- Fischer, Robert: Written comments dated March 04, 2012, Comment Nos. 2-60

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- Fitzgerald, Carole: Written comments dated March 30, 2012, Comment Nos. 3-3, 5-7, 5-8, 9-6, 11-2, 12-13, 16-1, 18-3, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76, 18-85
- Fitzpatrick, Gayle: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Fitzpatrick, Joan: Comment form and Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Fixell, Drew, Mayor, Village of Tarrytown: Oral testimony dated March 01, 2012, Comment Nos. 2-30, 2-32, 2-34, 2-39, 3-1, 8-1; and written comments dated March 30, 2012, Comment Nos. 2-34, 2-39, 2-50, 3-17, 3-26, 3-27, 5-10, 7-10, 8-10, 18-90, 19-3
- Fleet, Katie: Written comments dated February 29, 2012, Comment Nos. 2-34, 2-56
- Fondiller, Steve: Written comments dated March 29, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1
- Foos, Jean: Written comments dated March 09, 2012, Comment Nos. 2-34
- Forrest, Bruce, B D Forrest & Company, Inc.: Written comments dated March 29, 2012, Comment Nos. 2-29, 3-5, 3-9, 4-29, 4-35, 4-36, 5-4, 5-13, 5-14, 5-26, 5-41, 6-4, 6-5, 6-14, 7-10, 9-10, 9-11, 11-3, 12-6, 12-19, 12-20, 12-24, 12-26, 18-5, 18-77, 21-3, 23-2, 23-3, 23-6
- Foster, David: Written comments dated March 28, 2012, Comment Nos. 3-1
- Fountain, Clifton C, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Frae, Alan: Written comments dated March 01, 2012, Comment Nos. 6-3
- Frae, Ruby and Alan: Written comments dated March 13, 2012, Comment Nos. 5-9, 8-1
- Fragiacomo, Peter, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Frale, Ken, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Frank, Judith: Written comments dated February 28, 2012, Comment Nos. 2-55
- Frankstone, Jackie: Written comments dated January 25, 2012, Comment Nos. 2-1
- Frediani, Jeff, AAA New York State: Oral testimony dated February 28, 2012, Comment Nos. 1-9
- Frenzel, Perry: Written comments dated January 23, 2012, Comment Nos. 2-36
- Frerichs, Warren: Written comments dated February 13, 2012, Comment Nos. 4-8
- Freuman, Ari: Written comments dated February 21, 2012, Comment Nos. 2-36
- Friedman, Robert: Oral testimony dated March 01, 2012, Comment Nos. 2-32, 2-34, 3-2, 4-3
- Friou, Elizabeth Bell: Written comments dated March 29, 2012, Comment Nos. 1-1, 1-11, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1
- Fromer, Suzie: Written comments dated March 02, 2012, Comment Nos. 2-37, 2-56

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- Fry, Mark: E-mail and Written comments dated March 30, 2012, Comment Nos. 2-1, 3-1, 3-2, 3-17, 10-4
- Fudge, Carrie: Written comments dated March 29, 2012, Comment Nos. 1-2, 2-32, 18-111
- Funge, Robert, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Fussa, John: Written comments dated February 16, 2012, Comment Nos. 2-36
- Gagnon, Lenny: Written comments dated March 15, 2012, Comment Nos. 1-2, 2-1, 2-8
- Gallagher, Sarah: Written comments dated March 29, 2012, Comment Nos. 2-34
- Galletto, Gabriel, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Galligan, Joe: Oral testimony dated February 28, 2012, Comment Nos. 1-11, 2-34, 2-60
- Garber, Michael: Oral testimony dated February 28, 2012, Comment Nos. 9-7
- Garcia, Paul F, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Garrison, Walt, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Garvey, Geraldine: Written comments dated February 14, 2012, Comment Nos. 2-36
- Gasperin, Armando: Oral testimony dated February 28, 2012, Comment Nos. 2-13, 2-37, 18-27
- Gassman, Alan: Written comments dated March 29, 2012, Comment Nos. 2-34
- Gaulin, Robert, Hudson Harbor: Written comments dated March 23, 2012, Comment Nos. 2-34, 2-50, 2-62, 3-1, 5-8, 8-1, 18-67, 18-86; and written comments dated March 29, 2012, Comment Nos. 2-34, 2-50, 2-62
- Gerace, Frank, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Getz, Orrin: Oral testimony dated February 28, 2012, Comment Nos. 2-9, 2-31, 2-36
- Giglio, Alyse: Written comments dated March 19, 2012, Comment Nos. 2-50, 18-38
- Gilbert, Valerie: Written comments dated March 29, 2012, Comment Nos. 16-1
- Gilmour, Patrick: Written comments dated January 19, 2012, Comment Nos. 2-36
- Gilmour, Todd: Written comments dated February 21, 2012, Comment Nos. 2-36
- Glucksman, Randy: Written comments dated February 26, 2012, Comment Nos. 2-36; and oral testimony dated February 28, 2012, Comment Nos. 2-34, 2-46
- Gnuden, Thomas, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Goaler, Anthony, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Godelsky, Howard, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Godfrey, Tom: Written comments dated March 05, 2012, Comment Nos. 2-34

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- Goldberg, Alice, President, The Quay Board of Managers: Oral testimony dated March 01, 2012, Comment Nos. 8-1, 11-1, 12-14, 18-3; and written comments dated March 05, 2012, Comment Nos. 3-1, 5-6, 8-1, 18-3
- Goldsmith, Amy: Written comments dated February 22, 2012, Comment Nos. 2-34, 2-62, 4-9, 16-1
- Goldspiel, Harrison: Written comments dated January 18, 2012, Comment Nos. 2-36
- Goldstein, Arthur: Written comments dated February 22, 2012, Comment Nos. 2-34; and written comments dated March 29, 2012, Comment Nos. 2-34
- Golub, Cathy: Written comments dated March 29, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1
- Gonzalez, Adrian: Written comments dated February 14, 2012, Comment Nos. 2-36
- Gonzalez, Michele R: Written comments dated March 30, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1
- Gonzalez, William: Written comments dated March 29, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1
- Gordon, Marsha, President and CEO, Business Council of Westchester: Oral testimony dated March 01, 2012, Comment Nos. 1-9, 1-11, 1-12
- Gorycki, Katie: Written comments dated March 29, 2012, Comment Nos. 2-34, 3-1, 9-1, 16-1
- Granston, Kareem: Written comments dated January 25, 2012, Comment Nos. 2-36
- Graves, Theresa A: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Greene, Manna Jo, Environmental Director, Hudson River Sloop Clearwater, Inc.: Written comments dated March 30, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1
- Greene, Wanda: Written comments dated March 01, 2012, Comment Nos. 1-9, 2-34, 18-58
- Gregg, Daria: Written comments dated January 25, 2012, Comment Nos. 2-34, 3-1; and written comments dated March 29, 2012, Comment Nos. 2-1, 2-30, 2-34, 3-11, 4-9, 16-1
- Greth, William, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Gribbin, Aileen: Written comments dated March 22, 2012, Comment Nos. 2-34
- Griebsch, Alexei: Written comments dated March 08, 2012, Comment Nos. 2-34, 3-1
- Griffiths, Carol, Chair, Village of Tarrytown Environmental Advisory Council: Written comments dated March 06, 2012, Comment Nos. 2-1, 2-32, 3-11, 2-36, 2-46, 3-1, 4-3, 16-1
- Grippo, L.: Written comments dated March 29, 2012, Comment Nos. 2-50
- Grippo, Patricia G: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Gromack, Alexander, Clarkstown Town Board: Written comments dated February 10, 2012, Comment Nos. 2-33
- Gromada, John: Written comments dated January 24, 2012, Comment Nos. 2-36

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- Gross, Fred and Kathy: Written comments dated March 23, 2012, Comment Nos. 2-28, 8-1, 9-8, 12-16
- Grosselfinger, Nancy: Written comments dated January 20, 2012, Comment Nos. 2-36
- Grygiel, Paul, Planning Consultant on behalf of the Village of South Nyack: Written comments dated March 30, 2012, Comment Nos. 5-34
- Gualtieri, Richard: Oral testimony dated March 01, 2012, Comment Nos. 2-30, 2-32, 2-33, 3-1
- Guglielmo, Jean Marie: Public Hearing Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Haggerty (or, van der Spuy), Jean: Written comments dated February 03, 2012, Comment Nos. 2-37, 2-56
- Haikalis, George, Institute for Rational Urban Mobility: Written comments dated March 12, 2012, Comment Nos. 2-1, 2-31, 2-39, 4-12
- Hallock, Andrew, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Halperin, Renee: Written comments dated March 29, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76; and written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Handler, Sam: Written comments dated January 18, 2012, Comment Nos. 2-36
- Handler, Sidney: Written comments dated February 28, 2012, Comment Nos. 2-56
- Harnett, Andrew: Written comments dated February 28, 2012, Comment Nos. 12-2
- Harrer, William, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Hart, Janice: Written comments dated March 13, 2012, Comment Nos. 3-3, 8-1, 8-2, 12-4, 18-3, 18-57, 18-73
- Hart, Rudy: Oral testimony dated March 01, 2012, Comment Nos. 11-5, 12-4
- Hart, Yaureen, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Hartel, Elaine: Written comments dated January 27, 2012, Comment Nos. 2-1, 3-1
- Hassio, Frank: Written comments dated March 01, 2012, Comment Nos. 1-8, 4-9
- Hawkins, Gil, Environmental Director, Hudson River Fishermen's Association: Oral testimony dated February 28, 2012, Comment Nos. 2-57, 9-1, 9-3
- Hawkins, J: Written comments dated March 01, 2012, Comment Nos. 2-33, 2-46
- Heller, Dennis: Written comments dated March 29, 2012, Comment Nos. 2-34
- Heller, Wayne: Oral testimony dated March 01, 2012, Comment Nos. 1-11
- Henry, Devin: Written comments dated April 13, 2012, Comment Nos. 2-36
- Herd-Rodriguez, Carol: Written comments dated March 29, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1
- Hermein, Thomas, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

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Hertz, Michele: Written comments dated March 29, 2012, Comment Nos. 2-1, 2-30, 2-34, 3-3, 4-9, 16-1

Herz, Roger: Written comments dated February 20, 2012, Comment Nos. 2-36

Higashide, Steven: Written comments dated February 21, 2012, Comment Nos. 2-36

Hiller, Jonathan: Written comments dated January 23, 2012, Comment Nos. 2-36

Hiris, Melanie: Written comments dated March 29, 2012, Comment Nos. 2-1, 2-30, 2-34, 3-1, 3-11, 4-9, 16-1

Hirsch, Lec: Written comments dated March 01, 2012, Comment Nos. 2-20, 2-34, 2-46

Hirschhorn, Judith: Comment form and Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76; and oral testimony dated February 28, 2012, Comment Nos. 3-3

Hogan, Michael: Oral testimony dated February 28, 2012, Comment Nos. 2-34, 2-39, 18-4, 18-5; and written comments dated March 15, 2012, Comment Nos. 1-11, 2-33, 2-40, 18-4

Hollis / McVeigh-Hollis, Dan and Jean Marie: Written comments dated March 07, 2012, Comment Nos. 18-60

Hollis, Dan: Written comments dated March 07, 2012, Comment Nos. 3-31, 9-6, 11-2, 12-13, 16-9, 18-8, 18-13, 18-60, 18-62, 18-74, 18-76, 18-80, 18-109; and written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Horowitz, Florence: Written comments dated March 12, 2012, Comment Nos. 1-9

Horowitz, Jeffrey and Pamela: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Horowitz, Jeffrey: Written comments dated February 24, 2012, Comment Nos. 4-2, 5-6, 11-2, 18-25, 18-26, 18-62, 18-74, 18-76

Houghtaling, Bert, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Hudson Gateway Association of Realtors: Written comments dated February 28, 2012, Comment Nos. 1-12

Hughes, Tom: Written comments dated March 11, 2012, Comment Nos. 2-37

Hurwitz, Maryellen: Written comments dated January 26, 2012, Comment Nos. 2-36; and written comments dated February 24, 2012, Comment Nos. 2-36

Huston, Bill: Written comments dated March 12, 2012, Comment Nos. 2-36, 2-55

Ibrahim, Rita M: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Ilowite, Jerry, Chairman, Village of South Nyack Planning Board: Written comments dated March 22, 2012, Comment Nos. 2-24, 2-29, 4-31, 9-10

Imbasciani, Joe, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Infranco, Michael: Written comments dated January 18, 2012, Comment Nos. 2-36

Israel, Tyler: Written comments dated March 15, 2012, Comment Nos. 2-34

Izzarelli, Kim: Written comments dated February 27, 2012, Comment Nos. 2-36

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Jacob, Klaus: Written comments dated March 30, 2012, Comment Nos. 2-34, 3-1, 13-1, 13-8

Jacob / Richards, Klaus / Paul, Lamont-Doherty Earth Observatory of Columbia University: Written comments dated March 11, 2012, Comment Nos. 3-11, 14-1, 14-2, 14-3

Jaeger, Diana: Written comments dated February 26, 2012, Comment Nos. 2-36

Jaffe / Waaser, Ellen / Carol, New York Cycle Club: Written comments dated March 08, 2012, Comment Nos. 2-20, 2-21, 2-22, 2-24, 4-6, 9-21, 18-37

Jaffe, Alice: Written comments dated March 13, 2012, Comment Nos. 2-34

Jaffe, Ellen: Written comments dated March 22, 2012, Comment Nos. 2-20

Jaffe, Ellen, New York State Assembly, 95th District: Oral testimony dated February 28, 2012, Comment Nos. 1-10, 2-33, 3-1, 5-1, 5-3, 6-1, 18-8, 18-58

Jagy, William, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Jaidi, Janet: Written comments dated March 29, 2012, Comment Nos. 2-36

Jannell, William, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Jasper, Alan: Written comments dated April 14, 2012, Comment Nos. 2-36

Jean-Baptiste, Daniel, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Jensen, Michael: Written comments dated January 18, 2012, Comment Nos. 2-36

Jensen, Roy and Janis: Written comments dated January 18, 2012, Comment Nos. 2-36

Jeselnik, Brenda, Village of Irvington: Written comments dated March 05, 2012, Comment Nos. 2-34

Joachim, Rita: Written comments dated March 30, 2012, Comment Nos. 2-34

Johnson, Jennifer: Written comments dated March 07, 2012, Comment Nos. 2-37, 2-56

Jones, Julianne: Comment form and Written comments dated March 30, 2012, Comment Nos. 3-1, 16-1

Jordan, Trevor, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Julius, Michael, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Jun, Shelma: Written comments dated January 19, 2012, Comment Nos. 2-36

Kader, Daniel : Public Hearing Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Kain, Kevin: Written comments dated March 01, 2012, Comment Nos. 2-36

Kalloch, Andrew: Written comments dated January 18, 2012, Comment Nos. 2-36

Kane, Kevin, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Kartis, George, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

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Kashuba, Renee, President, Tappan Landing Association Board: Written comments dated March 12, 2012, Comment Nos. 2-34, 3-3, 4-8, 5-8, 8-1, 11-5, 12-10, 18-67, 18-86

Kassof, Gary, U.S. Coast Guard: Written comments dated March 05, 2012, Comment Nos. 3-12, 4-3, 4-37, 5-19

Kast, Rick, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Kateslar, Khristina: Comment form and Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Katz, Judy: Comment form and Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Katz, Stan: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Kehoe, Brian, Executive Director, New York Bicycling Coalition: Oral testimony dated February 28, 2012, Comment Nos. 2-20, 2-34; and written comments dated March 23, 2012, Comment Nos. 2-20

Kehoe / Vamos, Brian / Ivan, New York Bicycling Coalition: Written comments dated February 28, 2012, Comment Nos. 2-20, 2-40

Keiser, John L: Written comments dated March 29, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1

Keller, Jane: Written comments dated March 01, 2012, Comment Nos. 2-13, 2-37

Kent, Brian, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Kent, Mercedes: Written comments dated March 29, 2012, Comment Nos. 2-32, 2-33, 2-56

Kessarlis, George: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Kiely, Jessica: Comment form and Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Kilerciyan, Suren: Oral testimony dated February 28, 2012, Comment Nos. 15-1

Kime, Matthew: Written comments dated March 30, 2012, Comment Nos. 2-34

Kimmerle, John: Written comments dated March 28, 2012, Comment Nos. 3-1

King, Rosemary: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Kingston, Jake, Jr, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Kitman, Jamie: Written comments dated March 09, 2012, Comment Nos. 2-34

Klatsky, Michael: Written comments dated February 13, 2012, Comment Nos. 2-34, 2-55; and written comments dated February 22, 2012, Comment Nos. 2-37

Klein, George, Chairman, Sierra Club, Lower Hudson Group: Written comments dated March 02, 2012, Comment Nos. 2-36, 2-56, 13-1, 13-2, 13-6, 13-8

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- Klint, Rolfe K: Written comments dated March 30, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 5-5, 8-14, 16-1, 18-133
- Klurmack, Barbara: Comment form and Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Koch, William M, Jr, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Komanoff, Charles: Written comments dated March 29, 2012, Comment Nos. 2-2, 2-30
- Konduru, Somnath: Written comments dated February 23, 2012, Comment Nos. 2-37, 11-4
- Kono, Ben: Written comments dated February 21, 2012, Comment Nos. 2-36
- Kope, John, Co-chair, Legislative Council for the Hudson Gateway Association of Realtors: Oral testimony dated March 01, 2012, Comment Nos. 1-9, 1-11, 1-12
- Korchowsky, GW: Written comments dated February 29, 2012, Comment Nos. 2-39
- Koretsky, Harriett: Written comments dated March 26, 2012, Comment Nos. 18-1, 18-3, 18-10
- Korn, A.: Comment form and Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Koss, Alan: Written comments dated March 01, 2012, Comment Nos. 1-1, 2-34, 3-1, 4-9
- Kosta, Joan: Written comments dated March 01, 2012, Comment Nos. 2-11
- Kosta, Joan: Oral testimony dated March 01, 2012, Comment Nos. 8-1, 18-3, 18-28; and written comments dated March 29, 2012, Comment Nos. 12-14, 12-16, 12-17
- Kozak, Ellen: Written comments dated March 29, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1
- Kramer, Erich: Written comments dated March 15, 2012, Comment Nos. 2-40
- Krasne, Lucille: Written comments dated March 08, 2012, Comment Nos. 2-1, 2-30, 2-34, 3-1, 3-11, 4-9, 16-1
- Kreilshaimer, Ilene: Oral testimony dated March 01, 2012, Comment Nos. 2-36, 2-48, 3-1, 8-1, 12-10, 16-1
- Krengel, Randy: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Kronstadt, Denise : Written comments dated January 25, 2012, Comment Nos. 2-36
- Kross, Susan: Written comments dated April 06, 2012, Comment Nos. 2-34
- Krusko, Anita: Written comments dated March 29, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1
- Kumae, Laura: Comment form and Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Kurtz, Peggy, Rockland Sierra Club: Written comments dated March 30, 2012, Comment Nos. 2-36, 2-38, 16-1, 22-1
- Kuter, Ken: Written comments dated March 28, 2012, Comment Nos. 3-2

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Kwitken, Sandra: Oral testimony dated March 01, 2012, Comment Nos. 2-62

Ladd, Barbara: Written comments dated January 27, 2012, Comment Nos. 1-1, 3-1

LaDici, Anthony, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Laifer, Steven: Written comments dated March 08, 2012, Comment Nos. 2-1, 2-34, 3-1

Laird-White, Jen, Mayor, Village of South Nyack: Oral testimony dated February 28, 2012, Comment Nos. 1-9, 2-32, 2-33, 3-2, 3-11, 18-8, 18-86, 18-109; and written comments dated March 30, 2012, Comment Nos. 2-1, 2-5, 2-34, 2-41, 2-46, 2-47, 3-2, 3-3, 3-18, 3-25, 5-21, 8-11, 9-13, 9-23, 12-25, 12-27, 16-1, 17-1, 18-20, 18-109, 18-131, 19-3, 20-2, 21-1, 22-8

Lake, Bruce D, Jr, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Lamick, Philip A, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Lancaster, Patricia: Written comments dated March 13, 2012, Comment Nos. 2-16, 2-34, 2-60, 4-1, 11-6, 12-2, 12-10, 18-85; and written comments dated March 15, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1

Landis, James P, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Landry, Phillip: Oral testimony dated March 01, 2012, Comment Nos. 1-9, 1-11

Landsman, Stacey: Written comments dated February 28, 2012, Comment Nos. 1-11

Lane, David P, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Lane, Greg, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Lange, Marlena: Written comments dated March 08, 2012, Comment Nos. 2-30, 2-34, 16-1; and written comments dated March 29, 2012, Comment Nos. 16-1

Lannert, Joyce: Written comments dated March 05, 2012, Comment Nos. 2-34, 2-38, 2-39, 4-3, 4-8, 9-1

Lapp, Floyd: Written comments dated March 14, 2012, Comment Nos. 2-34

Lauricella, Frank: Written comments dated March 22, 2012, Comment Nos. 4-9

Laurino, Elaine: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-2, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Laurino, Jay: Written comments dated February 07, 2012, Comment Nos. 2-36

Lawlor, Larry: Oral testimony dated March 01, 2012, Comment Nos. 1-11

Lawrence, Gregory G, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Leavey, Tom: Oral testimony dated February 28, 2012, Comment Nos. 2-34

Lecuona, Milagros, Councilwoman, City of White Plains and Co-chair, Tappan Bridge Park Alliance: Oral testimony dated February 28, 2012, Comment Nos. 1-9, 2-28, 2-34, 2-55, 2-56, 3-3

Leder, Robert: Written comments dated March 29, 2012, Comment Nos. 3-3, 3-11

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- Lee, Barton: Oral testimony dated February 28, 2012, Comment Nos. 1-2, 2-9, 2-30, 2-32, 2-39, 8-4
- Legard, Carol, Advisory Council on Historic Preservation: Written comments dated March 30, 2012, Comment Nos. 9-2
- Leibowitz, Arthur: Written comments dated March 08, 2012, Comment Nos. 2-30, 2-34, 2-60, 3-1, 4-8, 5-8, 11-5
- Lemmon, Nadine: Written comments dated January 19, 2012, Comment Nos. 2-36
- Lepore, Doris and Jack: Written comments dated February 17, 2012, Comment Nos. 4-2, 5-6, 11-2, 18-26, 18-74, 18-76; and written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Lerner, Armand: Written comments dated March 20, 2012, Comment Nos. 2-37
- Lesnick, Chuck, President, Yonkers City Council: Written comments dated March 01, 2012, Comment Nos. 2-34
- Levin, David A, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Levine, Bob: Written comments dated March 01, 2012, Comment Nos. 2-34, 2-37, 2-39; and oral testimony dated March 01, 2012, Comment Nos.
- Levine, Bruce: Oral testimony dated February 28, 2012, Comment Nos. 1-9, 1-12, 2-34, 13-1
- Levine, Michael, Vice President for Intergovernmental Affairs, American Planning Association-New York Metro Chapter: Written comments dated March 21, 2012, Comment Nos. 2-34, 2-39, 2-41, 2-46, 4-19, 4-20, 4-21, 4-22, 4-23, 4-24, 4-25, 13-8
- Levine, Steven: Written comments dated January 22, 2012, Comment Nos. 2-36
- Lewin, Thomas: Written comments dated January 23, 2012, Comment Nos. 2-36
- Lickel, Charles: Written comments dated March 14, 2012, Comment Nos. 1-11, 2-60, 12-4
- Limburg, Peter: Written comments dated February 01, 2012, Comment Nos. 2-34
- Liotta, Peter: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Lipiner, Edward: Written comments dated January 24, 2012, Comment Nos. 2-36
- Lipscomb, John, Riverkeeper, Inc.: Oral testimony dated March 01, 2012, Comment Nos. 1-9, 3-4, 3-17, 3-18, 3-22, 3-25, 3-27, 16-1, 16-2
- Little, Eugene: Written comments dated March 21, 2012, Comment Nos. 2-30
- Lobel, Bernard: Written comments dated March 30, 2012, Comment Nos. 2-34
- Loewengart, Stephen: Oral testimony dated March 01, 2012, Comment Nos. 2-20
- Lorenzini, Marie, Rockland Riverfront Communities Council: Written comments dated February 28, 2012, Comment Nos. 2-34; and written comments dated March 10, 2012, Comment Nos. 1-1, 3-1, 4-9
- Loughlin, Jeff: Oral testimony dated March 01, 2012, Comment Nos. 1-9, 1-11

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- Loughran, Elizabeth: Written comments dated March 30, 2012, Comment Nos. 2-1, 16-1
- Love, Ephraim: Written comments dated February 22, 2012, Comment Nos. 2-36
- Lovecky, Deb: Written comments dated February 27, 2012, Comment Nos. 2-50, 2-60
- Lowenthal, Steven: Written comments dated March 29, 2012, Comment Nos. 2-34
- Lowery, Martin: Written comments dated January 25, 2012, Comment Nos. 3-1
- Lowey, Nita, 18th District, US Congress: Written comments dated March 01, 2012, Comment Nos. 1-9, 2-33, 2-56
- Low-Hogan, Nancy, Rockland County Legislature, District 17: Oral testimony dated February 28, 2012, Comment Nos. 2-17, 18-59
- Lugo, Maria: Written comments dated February 14, 2012, Comment Nos. 2-36
- Luisi, Donald: Written comments dated February 27, 2012, Comment Nos. 2-36; and written comments dated March 16, 2012, Comment Nos. 2-36
- Lunceford, Alan Timothy: Written comments dated March 29, 2012, Comment Nos. 2-34, 3-1, 16-1
- Lurch, Andrea: Written comments dated January 23, 2012, Comment Nos. 2-36
- Lynch, Mary: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Lynch, Ryan: Written comments dated January 19, 2012, Comment Nos. 2-36
- Lynn, Larry, Mayor, Village of Grand View-on-Hudson: Written comments dated February 23, 2012, Comment Nos. 3-2
- Maggiotto, Susan, Deputy Mayor and Village Clerk, Village of Hastings-on-Hudson: Written comments dated January 18, 2012, Comment Nos. 2-34
- Mainelli, Roy: Oral testimony dated March 01, 2012, Comment Nos. 2-13, 2-14, 2-37, 5-15
- Malcel, James, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Malina, Matthew: Written comments dated January 28, 2012, Comment Nos. 3-2; and written comments dated March 12, 2012, Comment Nos. 2-1, 2-30, 2-34, 16-1
- Mancuso, Peter: Written comments dated January 23, 2012, Comment Nos. 2-36
- Mandarano, N.: Written comments dated January 23, 2012, Comment Nos. 2-36
- Maniscalco, Philip: Written comments dated March 01, 2012, Comment Nos. 2-62, 11-1, 12-14
- Manna, Greg, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Manoni, Brian, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Maraia, John Jr, Rockland County Building & Construction Trades Council, Inc: Written comments dated February 28, 2012, Comment Nos. 1-9, 1-11
- Markovich, Larry: Oral testimony dated March 01, 2012, Comment Nos. 8-1, 11-1, 12-10

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- Marks, Jeffrey, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Martignetti, Steve: Written comments dated March 04, 2012, Comment Nos. 2-60
- Martin, Amy: Written comments dated January 23, 2012, Comment Nos. 2-36
- Martin, William H, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Martini, Mary: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Mascia, Sara, The Historical Society, Inc.: Written comments dated March 30, 2012, Comment Nos. 10-3
- Mausner, Claudia: Written comments dated March 29, 2012, Comment Nos. 2-1, 2-34, 3-1, 4-9
- May, Emily: Written comments dated March 30, 2012, Comment Nos. 2-1, 16-1
- McAllister, Joan: Written comments dated March 29, 2012, Comment Nos. 3-1
- McAnanama, Glenn: Written comments dated February 23, 2012, Comment Nos. 2-34
- McCarthy / Lindsay, Kristina / Sharon, League of Women Voters: Written comments dated March 13, 2012, Comment Nos. 1-9, 1-10, 2-36
- McClure, Eric: Written comments dated January 18, 2012, Comment Nos. 2-36
- McCue, Catherine, President, Salisbury Point Cooperative: Oral testimony dated February 28, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76; written comments dated March 24, 2012, Comment Nos. 2-30, 2-32, 3-3, 3-18, 3-23, 9-1, 9-6, 11-2, 18-1, 18-8, 18-60, 18-61, 18-62, 18-74, 18-76, 18-100, 18-109; and written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- McCue, Denise: Written comments dated March 30, 2012, Comment Nos. 3-3, 12-13, 18-2, 18-61, 18-62, 18-74, 18-76
- McDonagh and Farrell-McDonagh, Peter and Melissa: Written comments dated March 30, 2012, Comment Nos. 6-12
- McEntee, Robert: Written comments dated March 08, 2012, Comment Nos. 1-1, 1-9, 1-11, 2-1, 2-34, 2-37, 3-1, 3-3, 4-9, 16-1, 16-5
- McGuire, Chet: Public Hearing Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- McGuire, Seamus: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- McNeil, Cheryl: Written comments dated March 29, 2012, Comment Nos. 2-34
- McPartlan, Barbara: Written comments dated March 01, 2012, Comment Nos. 2-22
- McPartland, Gigi: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- McPhicaux, James, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

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- McTiernan, Edward, Deputy Counsel, New York State Department of Environmental Conservation: Written comments dated March 20, 2012, Comment Nos. 11-11, 16-10 18-71, 18-127, 18-128, 18-129, 18-130
- McVeigh, Virginia: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- McVeigh-Hollis, Jeanne Marie: Public Hearing Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Meyappan, TC: Written comments dated March 01, 2012, Comment Nos. 12-4
- Meyers, Paul: Written comments dated March 23, 2012, Comment Nos. 2-30, 3-2, 4-9, 13-5, 16-1
- Miller, Jeffrey: Oral testimony dated March 01, 2012, Comment Nos. 1-11
- Millot, Rod, President, Century Road Club Association: Written comments dated March 08, 2012, Comment Nos. 2-20, 2-24, 3-1
- Mills, Michael, Administrator, Village of Elmsford: Oral testimony and Written comments dated March 01, 2012, Comment Nos. 1-9, 1-12
- Minozzi, Mary Ann: Written comments dated March 05, 2012, Comment Nos. 1-11, 2-34, 3-3
- Minton, James: Written comments dated March 11, 2012, Comment Nos. 2-55
- Mitchell, Stuart and Robert: Written comments dated March 29, 2012, Comment Nos. 2-1, 2-30, 2-34, 3-1, 16-1
- Moderacki, Deidre: Written comments dated March 29, 2012, Comment Nos. 16-1
- Moffett, Joan: Comment form and Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Molnar, Margaret: Written comments dated January 18, 2012, Comment Nos. 2-36
- Mongelli, Joanne: Oral testimony dated February 28, 2012, Comment Nos. 2-34, 3-1, 5-1, 9-1; and written comments dated March 05, 2012, Comment Nos. 2-1, 2-32, 2-34, 2-46, 3-1, 3-3, 5-1, 9-1
- Montapert, Anthony: Written comments dated March 08, 2012, Comment Nos. 16-11, 18-109; and written comments dated March 29, 2012, Comment Nos. 16-11, 18-109
- Montemorano, Susan: Written comments dated March 09, 2012, Comment Nos. 2-1, 2-34, 2-56, 3-1
- Montero, Gus: Oral testimony dated March 01, 2012, Comment Nos. 2-50
- Montero, Susan: Written comments dated March 29, 2012, Comment Nos. 2-11, 2-30, 2-50, 3-11, 18-89
- Mooney, Bill, President, The Westchester County Association: Oral testimony and Written comments dated March 01, 2012, Comment Nos. 1-9, 1-12, 2-31, 9-7
- Moore, Robert: Written comments dated March 08, 2012, Comment Nos. 3-1
- Moreno, Pasquale, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Morgan, Clive: Written comments dated March 14, 2012, Comment Nos. 8-1, 11-6, 12-10, 18-67, 18-86

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Moricco, Frank: Written comments dated March 13, 2012, Comment Nos. 2-39, 2-56

Morris, Daniel S, Acting Regional Administrator, National Marine Fisheries Service: Written comments dated March 30, 2012, Comment Nos. 2-40, 3-10, 12-23, 15-8, 16-11, 16-12, 16-13, 16-14, 16-15, 16-16, 16-37, 16-38, 16-40, 17-2, 18-14, 18-120, 18-121, 18-122, 18-123, 18-124, 18-125, 18-126

Morrissey, John: Written comments dated February 28, 2012, Comment Nos.

Morrison, Lewis: Written comments dated April 15, 2012, Comment Nos. 2-36

Mosick, Arthur: Comment form and Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Most, Elyssa Feldman: Written comments dated March 29, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1

Mulhern, Thomas: Written comments dated February 29, 2012, Comment Nos. 2-34, 8-1, 18-3

Mullahy, John, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Mullane, Daniel, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Muller, K Paul: Written comments dated March 29, 2012, Comment Nos. 2-37, 2-50

Murphy, David, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Musegaas, Phillip, Riverkeeper, Inc.: Written comments dated February 13, 2012, Comment Nos. 3-2; and oral testimony dated February 28, 2012, Comment Nos. 2-1, 2-30, 2-34, 3-2, 3-11, 16-1, 18-113

Mustacchi, Johanna: Written comments dated March 11, 2012, Comment Nos. 5-10, 8-1, 9-28, 18-1, 18-3, 18-8, 18-28, 18-82, 18-64, 18-84, 18-85, 18-87

Myers, Wanda: Written comments dated March 01, 2012, Comment Nos. 5-33

Nagy, Michael and Molly: Comment form and Written comments dated March 12, 2012, Comment Nos. 8-1

Najarro, Deborah: Written comments dated April 16, 2012, Comment Nos. 2-36

Naples, Jean: Written comments dated February 23, 2012, Comment Nos. 2-1, 2-34, 3-2, 4-9; and written comments dated March 09, 2012, Comment Nos. 2-1, 2-30, 2-34, 3-11, 4-9, 16-1

Narayan, P: Written comments dated March 30, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1

Narcisi, Rosemary and Vincent: Written comments dated February 08, 2012, Comment Nos. 3-3, 18-9, 18-62, 18-81, 18-112, 18-134, 18-135

Narcisi, Rosemary: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Neff, Maryann: Written comments dated March 05, 2012, Comment Nos. 3-1

Neff, Thomas and Eileen: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Newburg, Fran: Written comments dated March 13, 2012, Comment Nos. 2-39

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Nielsen, Marilyn: Written comments dated March 04, 2012, Comment Nos. 2-33, 2-46, 2-60

Nimmo, Thomas: Written comments dated March 30, 2012, Comment Nos. 2-36

Nolte, Jr., M.: Written comments dated January 22, 2012, Comment Nos. 2-36

Nutter, Steven: Written comments dated February 18, 2012, Comment Nos. 2-36

O'Brien, Joe, District Representative for Eliot Engel, U.S. House of Representatives: Oral testimony dated February 28, 2012, Comment Nos. 1-11, 2-34, 8-1, 18-3, 18-8; and oral testimony dated March 01, 2012, Comment Nos. 1-9, 1-11, 2-20, 2-34, 18-3, 18-8

O'Brien, Michael: Written comments dated March 09, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1

Oce, Brian, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

O'Connell, Lawrence, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

O'Connor, Bill, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

O'Dowd, Therese: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Ofer, Cynthia: Written comments dated February 03, 2012, Comment Nos. 2-34

O'Keefe, Jennifer: Written comments dated January 26, 2012, Comment Nos. 2-36

Okin, Claude, Sportime: Written comments dated March 01, 2012, Comment Nos. 2-56

Olsen, Tyler: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Olsson, Robert, Croton Bicycle Pedestrian Planning Committee: Written comments dated March 22, 2012, Comment Nos. 2-20, 3-1

O'Neill, John F, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Ong, Marcus: Written comments dated March 13, 2012, Comment Nos. 2-37

Orville, Nina: Written comments dated February 07, 2012, Comment Nos. 2-36

Ostertag, Gene: E-mail and Written comments dated March 30, 2012, Comment Nos. 2-34, 2-37

O'Sullivan, Kathleen: Written comments dated March 29, 2012, Comment Nos. 2-34

Ottinger, Richard: Written comments dated April 01, 2012, Comment Nos. 2-34

Outes, Galicia: Written comments dated March 30, 2012, Comment Nos. 2-1, 2-34, 16-1

Owens, Robert, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Pacella, Kathleen, Town Clerk, Town of Somers: Written comments dated February 16, 2012, Comment Nos. 2-34

Padawer, Jacques: Written comments dated March 29, 2012, Comment Nos. 2-34, 2-55, 3-11, 16-1

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- Pakaln, Laura: Written comments dated March 29, 2012, Comment Nos. 2-34, 3-1, 9-4, 16-1
- Paladino, Joseph: Written comments dated February 28, 2012, Comment Nos. 2-36
- Palmieri, Giuseppe, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Panko, Drew: Written comments dated March 08, 2012, Comment Nos. 2-1, 2-30, 3-11, 2-34, 4-9, 16-1
- Paris, Jason: Written comments dated March 02, 2012, Comment Nos. 2-36
- Paris, Patricia: Written comments dated March 02, 2012, Comment Nos. 2-36
- Parish, Nathaniel: Oral testimony dated March 01, 2012, Comment Nos. 3-17, 3-18, 3-19, 3-20, 3-21, 5-10
- Parish, Nathaniel, Representing The Quay condominiums and Salisbury Point Cooperative: Written comments dated March 29, 2012, Comment Nos. 3-2, 3-3, 3-17, 3-18, 3-19, 3-20, 3-21, 3-22, 3-23, 3-24, 3-25, 3-26, 3-27; 18-103
- Parish, Nathaniel, Representing Salisbury Point Cooperative: Written comments dated March 30, 2012, Comment Nos. 2-4, 2-30, 2-60, 3-1, 3-3, 3-11, 3-17, 3-23, 5-6, 8-1, 8-5, 9-6, 18-10, 18-18, 18-25, 18-61, 18-62, 18-74, 18-94, 18-98, 18-99, 18-100, 18-103
- Parish, Nathaniel, Representing The Quay condominiums: Written comments dated March 30, 2012, Comment Nos. 3-3, 5-10, 8-1, 8-5, 18-10, 18-28, 18-61, 18-83, 18-84, 18-96, 18-102, 18-103, 18-105
- Parrott, Mr and Mrs Lynn: Written comments dated March 30, 2012, Comment Nos. 3-1, 3-3, 6-4, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Partridge, Sandi: Written comments dated February 28, 2012, Comment Nos. 6-1
- Pasasin, Wilber, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Pasquale, Elizabeth: Written comments dated January 26, 2012, Comment Nos. 2-37, 2-62, 3-2; and written comments dated March 22, 2012, Comment Nos. 2-20, 2-37
- Pastarnack, Irene: Written comments dated March 29, 2012, Comment Nos. 2-50
- Pastore, Nicholas: Written comments dated March 17, 2012, Comment Nos. 2-38, 2-50
- Paul, Sidney and Cyrille: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-2, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Paulin, Amy, New York State Assembly, 88th District: Oral testimony and Written comments dated March 01, 2012, Comment Nos. 2-34, 2-56
- Pellecchia, Vincent, Tri-State Transportation Campaign, Transportation Alternatives, Good Jobs New York, NRDC, NYPIRG/ Straphangers Campaign: Written comments dated January 18, 2012, Comment Nos. 2-36; oral testimony dated February 28, 2012, Comment Nos. 2-1, 2-47, 11-5, 22-1; and written comments dated March 30, 2012, Comment Nos. 1-1, 1-4, 2-1, 2-3, 2-7, 2-16, 2-30, 2-34, 2-36, 2-39, 2-41, 2-42, 2-43, 2-46, 2-54, 2-62, 3-1, 4-3, 4-9, 4-14, 4-15, 4-17, 4-19, 4-

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- Pelo, Debra: Written comments dated March 12, 2012, Comment Nos. 2-39
- Pennoyer, Christy: Written comments dated January 25, 2012, Comment Nos. 2-34, 3-1; and written comments dated March 30, 2012, Comment Nos. 2-34
- Penta, Richard: Oral testimony dated March 01, 2012, Comment Nos. 2-57, 2-62
- Pepe, Matthew: Oral testimony dated February 28, 2012, Comment Nos. 1-9, 1-11
- Pepe, Ross, President, Construction Industry Council of Westchester and the Hudson Valley: Oral testimony dated February 28, 2012, Comment Nos. 1-9, 1-11; and oral testimony dated March 01, 2012, Comment Nos. 1-9, 1-11, 2-33
- Perillo, Louise: Oral testimony dated March 01, 2012, Comment Nos. 1-2, 2-38, 8-1, 18-62, 18-74, 18-76
- Perillo, Michael: Written comments dated March 04, 2012, Comment Nos. 6-13, 8-1, 12-16
- Perry, Eric, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Perry, Milton L, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Peterson-Dana, Cindy: Written comments dated March 30, 2012, Comment Nos. 2-37
- Pfleger, Todd: Written comments dated February 26, 2012, Comment Nos. 2-60
- Piedimonte, M: Written comments dated March 07, 2012, Comment Nos. 2-34, 3-1
- Pietropaolo, Paul: Written comments dated February 28, 2012, Comment Nos. 1-9, 1-12, 2-60
- Pilla, Susan: Written comments dated February 28, 2012, Comment Nos. 18-25, 18-76
- Pillsbury, Donald: Written comments dated January 19, 2012, Comment Nos. 2-36
- Pine, Cheryl: Written comments dated March 01, 2012, Comment Nos. 3-2, 4-3, 2-30, 2-48, 2-60
- Pinto, Victor F, Carpenters Local 279: Written comments dated March 22, 2012, Comment Nos. 1-9
- Pipes, Jim, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Pochapsky, Peter: Written comments dated February 28, 2012, Comment Nos. 12-8, 18-35
- Poet, Michael, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Poleway, John: Written comments dated February 28, 2012, Comment Nos. 12-1; and written comments dated March 14, 2012, Comment Nos. 12-1
- Pollack, Robert: Written comments dated March 05, 2012, Comment Nos. 2-13
- Pomeray, Brett, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Pon, Edward: Written comments dated March 10, 2012, Comment Nos. 2-56, 2-62
- Porat, Sonia: Oral testimony dated March 01, 2012, Comment Nos. 5-10

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Portanova, Nick, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Porterfield, Mark: Oral testimony dated March 01, 2012, Comment Nos. 2-34, 9-12

Porthun, Baryal: Written comments dated March 07, 2012, Comment Nos. 2-37

Powell, Dawn: Written comments dated March 30, 2012, Comment Nos. 2-1, 2-34, 3-1, 4-1

Prager, Karen and Eric: Written comments dated March 26, 2012, Comment Nos. 2-37

Prasad, Bonnee: Written comments dated February 10, 2012, Comment Nos. 2-55

Pratt, Albert, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Preiss, Katherine and Saunders: Comment form and Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Prophet, Gary, Vice President, Empire State Passengers Association: Oral testimony dated March 01, 2012, Comment Nos. 2-36, 11-5

Proyect, Nancy, President, Orange County Citizens Foundation: Written comments dated March 05, 2012, Comment Nos. 2-34

Pryor, Ellen: Written comments dated March 20, 2012, Comment Nos. 2-11; and written comments dated March 30, 2012, Comment Nos. 2-11, 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Puca, Robert: Written comments dated March 30, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1

Pugliese, Salvatore: Written comments dated March 08, 2012, Comment Nos. 2-34; and written comments dated January 25, 2012, Comment Nos. 2-36

Putter, Bernard: Oral testimony dated March 01, 2012, Comment Nos. 2-9, 2-39, 13-1, 15-3

Pynchon, Patricia: Written comments dated March 12, 2012, Comment Nos. 16-1

Quayle, Sharon: Written comments dated March 29, 2012, Comment Nos. 2-34, 16-1, 18-3

Quinde, Gerardo, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Quinlan, Eileen and Jeremiah: Written comments dated January 25, 2012, Comment Nos. 2-34

Quinn, Jim: Oral testimony dated March 01, 2012, Comment Nos. 2-34, 2-37, 2-48, 2-56

Quinn, Kieran, Nyack Boat Club: Written comments dated March 30, 2012, Comment Nos. 7-1, 7-11, 18-33

Quinones, Christian, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Raddant, Andrew, Regional Environmental Officer, US Department of the Interior: Written comments dated March 09, 2012, Comment Nos. 16-6, 16-7, 16-41, 16-42, 23-1

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Rajagopal, Kamela: Comment form and Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Rastoder, Ilda, Bradford Mews Apartments: Written comments dated March 29, 2012, Comment Nos. 18-29, 18-51, 18-53, 18-63, 18-78, 18-79

Ratzkin, Andrew, Village of Hastings-on-Hudson Conservation Commission: Written comments dated January 20, 2012, Comment Nos. 2-36; oral testimony dated March 01, 2012, Comment Nos. 2-34, 2-46; written comments dated March 01, 2012, Comment Nos. 2-5, 2-34, 2-46, 3-1, 19-2; and written comments dated March 30, 2012, Comment Nos. 2-34

Reich, Steven, Business Manager, Laborers in Rockland County: Oral testimony dated February 28, 2012, Comment Nos. 1-9, 1-12

Reichert, S.: Written comments dated February 26, 2012, Comment Nos. 2-36

Reichler, Gabriel: Written comments dated March 29, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1

Reichlin-Melnick, Elijah: Written comments dated February 28, 2012, Comment Nos. 2-17, 2-34, 5-1

Reid, Martha: Written comments dated March 30, 2012, Comment Nos. 1-3

Rein, Barry: Written comments dated March 08, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1

Ricottilli, Anthony, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Rielly, James: Written comments dated March 05, 2012, Comment Nos. 2-36

Rigoglioso, Raymond: Written comments dated March 21, 2012, Comment Nos. 2-39

Rio, Barron, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Roach, Robert W, Jr, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Roberts, Cynthia: Written comments dated January 30, 2012, Comment Nos. 2-34, 4-12

Robins, Candice: Written comments dated March 28, 2012, Comment Nos. 2-50, 3-1

Robins, Jonna: Written comments dated April 17, 2012, Comment Nos. 2-36

Robinson, Nicholas A: Written comments dated March 30, 2012, Comment Nos. 11-5

Robryere, Howard: Written comments dated February 28, 2012, Comment Nos. 8-1, 12-10, 18-55, 18-56

Rocco, David: Oral testimony dated February 28, 2012, Comment Nos. 2-22, 2-60

Romano, John: Written comments dated March 09, 2012, Comment Nos. 2-62

Rooney, John C, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

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- Rosa, Mario, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Rose, Mark: Written comments dated March 31, 2012, Comment Nos. 2-48
- Rose, Stephen: Written comments dated March 29, 2012, Comment Nos. 2-34, 16-11, 18-109
- Rosenthal, Jessie: Written comments dated March 08, 2012, Comment Nos. 3-1; written comments dated March 12, 2012, Comment Nos. 2-1, 2-34, 3-1; and written comments dated March 27, 2012, Comment Nos. 2-1, 3-1
- Ross, Elizabeth: Oral testimony dated March 01, 2012, Comment Nos. 2-34, 5-6, 8-1, 18-3
- Ross, Marty: Written comments dated March 14, 2012, Comment Nos. 2-38
- Rossano, Anthony and BettyAnne: Comment form and Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Rossano-Brown, Jennifer: Comment form and Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Rothbard, Sandra: Written comments dated January 23, 2012, Comment Nos. 2-36; and oral testimony dated February 28, 2012, Comment Nos. 2-36, 2-41
- Rubertone, Michael A, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Ruiz, Betty: Oral testimony dated February 28, 2012, Comment Nos. 8-1; and written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Rumsey, Kathleen: Written comments dated February 28, 2012, Comment Nos. 1-11, 2-33
- Russel, Ian: Written comments dated March 31, 2012, Comment Nos. 12-28
- Russell, Carol: Written comments dated January 25, 2012, Comment Nos. 2-34
- Ryan, Kyle: E-mail and Written comments dated March 05, 2012, Comment Nos. 2-34, 2-36
- Saeteros, Simon B, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Salant, Susan: Written comments dated February 28, 2012, Comment Nos. 2-20, 2-39, 2-56
- Sales, George P, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Salvatori, Christine: Written comments dated March 29, 2012, Comment Nos. 2-30, 2-32, 2-50
- Salvatori, Ed: Written comments dated March 16, 2012, Comment Nos. 2-12, 2-39, 3-1
- Samuels, Al, CEO and President, Rockland Business Association: Oral testimony dated February 28, 2012, Comment Nos. 1-9

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Sandford, Paul, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Santos, Gilson, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Sardy, John: Written comments dated March 01, 2012, Comment Nos. 12-15

Saunders, Alexander: Oral testimony dated March 01, 2012, Comment Nos. 2-62; and written comments dated March 30, 2012, Comment Nos. 2-62

Savino, Glenn, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Saward, Wayne: Written comments dated February 21, 2012, Comment Nos. 2-36

Scaffeddi, Dominic, Northeast Council of Carpenters: Oral testimony dated March 01, 2012, Comment Nos. 1-9, 1-11, 2-34

Scally, Lori: Written comments dated February 16, 2012, Comment Nos. 2-36

Scarpati, Rebecca: Written comments dated March 29, 2012, Comment Nos. 3-1

Scenic Hudson Inc.: Oral testimony and Written comments dated March 01, 2012, Comment Nos. 2-34

Schlanger, Cara: Written comments dated March 30, 2012, Comment Nos. 2-34, 3-1

Schreiber, Roger: Oral testimony dated March 01, 2012, Comment Nos. 1-9, 1-11, 2-40, 9-1

Schreier, Phyllis: Written comments dated February 28, 2012, Comment Nos. 1-11, 2-9, 2-13, 2-38, 3-3

Schumacker, Andy F, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Schwartz, Thomas, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Scopino, Robert, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Scott, William, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Scutero, Joanne: Written comments dated January 26, 2012, Comment Nos. 2-55; and written comments dated January 28, 2012, Comment Nos. 2-55

Secreto, Richard, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Seely, Margaret: Written comments dated February 24, 2012, Comment Nos. 2-34, 2-50, 2-62, 4-9

Seeman, Laurie: Written comments dated March 30, 2012, Comment Nos. 1-1, 2-1, 2-34, 2-50, 3-1, 3-3, 4-9, 9-1, 9-3, 16-1, 16-11, 18-110

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- Seminelli, Steven: Written comments dated January 24, 2012, Comment Nos. 2-36
- Shapera, Todd: Written comments dated January 25, 2012, Comment Nos. 2-34, 2-62
- Sharrett, Donna: Written comments dated January 26, 2012, Comment Nos. 3-1
- Shatkin-Cusick, Stacy: Written comments dated March 28, 2012, Comment Nos. 3-1, 8-1, 9-24, 18-1, 18-8, 18-88
- Sheehan, Thomas, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Sherman, Mark, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Sherwood, Geraldine: Written comments dated March 05, 2012, Comment Nos. 5-6, 11-2, 12-13, 18-25, 18-62, 18-74, 18-76; and written comments dated March 07, 2012, Comment Nos. 3-3, 11-2, 12-10, 18-25, 18-61, 18-62, 18-74; and written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Shields, James, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Shimborske, Michael: Written comments dated February 21, 2012, Comment Nos. 2-36
- Shimkin, Michael: Written comments dated March 29, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1
- Shimsky, Mary Jane, Westchester County Legislator: Oral testimony dated March 01, 2012, Comment Nos. 1-11, 1-12, 18-36
- Shiple, Brian R, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Shore, Joseph, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Signorelli, Nicholas: Oral testimony dated March 01, 2012, Comment Nos. 1-11
- Silverman, Dee: Written comments dated March 31, 2012, Comment Nos. 2-34
- Simard, Michelle, Pace Environmental Litigation Clinic, representing Riverkeeper, Inc.: Oral testimony dated March 01, 2012, Comment Nos. 2-1, 3-2, 4-3, 18-109
- Simoes, Jose, Principal Planner, Town of Clarkstown: Written comments dated March 28, 2012, Comment Nos. 2-1, 2-33, 2-46, 3-3, 3-17, 3-26, 3-27, 4-4, 18-39
- Simon, Samuel: Comment form and Written comments dated March 09, 2012, Comment Nos. 2-34, 2-60, 3-3, 9-6, 11-1, 12-13, 18-2, 18-8, 18-25, 18-60, 18-61, 18-62, 18-13, 18-74, 18-76, 18-80, 18-109
- Simons, Dani: Written comments dated January 18, 2012, Comment Nos. 2-36
- Simons, Edward: Written comments dated March 29, 2012, Comment Nos. 2-64
- Sissman, Norman: Written comments dated March 29, 2012, Comment Nos. 2-34
- Slevin, Kate, Executive Director, Tri-State Transportation Campaign: Oral testimony dated February 28, 2012, Comment Nos. 2-2, 2-32, 2-34, 2-36, 2-41, 2-46, 3-1

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Smith, Peter, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Smith, Scott J, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Smolenski, Sharon: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76

Soffler, Judy: Written comments dated February 22, 2012, Comment Nos. 1-1, 2-34, 2-50, 2-62

Somai, Frank B, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Spaeth, Edmond: Written comments dated March 29, 2012, Comment Nos. 2-34

Spallanzani, JM: Written comments dated January 25, 2012, Comment Nos. 2-34

Spear, Justin, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Spiegel, Allan: Written comments dated March 29, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1

Spivack, Simon: Written comments dated March 02, 2012, Comment Nos. 1-2, 2-20, 2-39, 18-30, 18-86

Sport, Kevin: Written comments dated January 19, 2012, Comment Nos. 2-36

Squire, John: Written comments dated March 29, 2012, Comment Nos. 2-34

St Denis, Pauline: Written comments dated March 30, 2012, Comment Nos. 2-34

Staats, Denise : Written comments dated February 27, 2012, Comment Nos. 2-37

Standt, Eric, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

Starke, Alexis: Written comments dated March 30, 2012, Comment Nos. 1-1, 2-1, 2-34, 3-1, 3-3, 4-9, 16-1

Starr, Myra, Municipal Historian, Village of South Nyack: Written comments dated March 30, 2012, Comment Nos. 5-1

Stein, Bob: Written comments dated March 08, 2012, Comment Nos. 2-30, 2-37, 2-55, 3-1, 4-11, 16-1, 18-133

Stein, Paul: Written comments dated March 29, 2012, Comment Nos. 1-2

Stein, Sol: Oral testimony dated March 01, 2012, Comment Nos. 2-62, 18-3; and written comments dated March 28, 2012, Comment Nos. 18-3

Steininger, Lorenz: Written comments dated March 09, 2012, Comment Nos. 16-1

Stern, Henry: Written comments dated March 10, 2012, Comment Nos. 3-1, 5-10, 11-5, 12-10, 18-75

Stewart, Andy, Supervisor, Town of Orangetown: Oral testimony dated February 28, 2012, Comment Nos. 1-9, 2-32, 5-1, 9-9

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- Stillman, Jeanne Betsock: Written comments dated March 29, 2012, Comment Nos. 2-1, 2-34, 2-56, 16-1
- Stoddard, Matthew: Oral testimony dated February 28, 2012, Comment Nos. 1-11, 1-12
- Stoltze, Helene: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Stops, Michael, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Storch, Bernhard and Ruth: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 18-8, 18-13, 18-60, 18-61, 18-74, 18-76, 18-80, 18-109
- Strauss, Sidney: Written comments dated March 30, 2012, Comment Nos. 2-36
- Sullivan, Clement and Joan: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76, 18-80
- Sullivan, Eleanor: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-2, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Sullivan, Eugenie: Written comments dated March 08, 2012, Comment Nos. 2-1, 2-30, 2-32, 2-34, 3-11, 4-9, 16-1
- Summerfield, Paul, Chief Engineering, Representing the Mayor of the City of Yonkers: Oral testimony dated March 01, 2012, Comment Nos. 1-9, 2-56
- Surmach, Magda: Written comments dated March 30, 2012, Comment Nos. 2-11, 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Svensson, Viola: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Swenson, Chris and Carolyn: Written comments dated March 12, 2012, Comment Nos. 2-30, 2-55, 3-3, 15-2, 18-89
- Swenson, Mark R, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Swenson, Sandra: Written comments dated March 10, 2012, Comment Nos. 2-34
- Syloy, Ed, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Tangredi, Mary: Written comments dated March 05, 2012, Comment Nos. 2-34
- Taplin, R Clinton: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Tarasenko, Michael and Valentina: Written comments dated March 22, 2012, Comment Nos. 2-55, 3-3, 18-2, 18-62, 18-76
- Tarulli, Ralph: Written comments dated March 04, 2012, Comment Nos. 1-9, 1-11, 2-9, 2-60
- Taylor, Nancy: Written comments dated January 26, 2012, Comment Nos. 2-20, 3-1, 9-10
- Teplin, Lynne: Written comments dated March 22, 2012, Comment Nos. 2-34, 3-1
- Teyber, Edward: Written comments dated January 31, 2012, Comment Nos. 2-20, 2-34
- Thiessen, Oliver: Written comments dated January 22, 2012, Comment Nos. 2-36

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- Thomas, Raymond, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Thoms, Parleto, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Tinsley, Joanne: Written comments dated March 15, 2012, Comment Nos. 2-34, 2-60, 4-9, 18-3
- Toikka, Petere, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Tomer, Richard, Chief, Regulatory Branch, US Army Corps of Engineers: Written comments dated March 31, 2012, Comment Nos. 3-12, 11-12, 16-21, 16-22, 16-23, 18-7, 18-15, 18-16, 18-17, 18-32, 18-114, 18-115, 18-116, 18-117, 18-129, 18-130, 18-139, 18-140, 18-141, 18-142, 18-143, 18-144, 18-145, 18-146, 18-147, 18-148, 18-149, 18-150, 18-151, 18-152, 18-153, 18-154
- Tompkins, Michael, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Towers, Kevin, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Traub, Nata: Written comments dated January 25, 2012, Comment Nos. 2-36
- Travis, Victor, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Truss, Bill: Written comments dated March 27, 2012, Comment Nos. 2-9, 2-17, 2-18, 2-26, 2-29, 6-11
- Truss, Susan: Written comments dated March 04, 2012, Comment Nos. 2-29, 2-33, 2-39, 2-60, 5-1, 9-1, 18-8
- Tully, Brian : Public Hearing Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Tumas, Irma: Written comments dated February 22, 2012, Comment Nos. 2-36
- Turk, Barbara, YMCA: Written comments dated March 30, 2012, Comment Nos. 2-1, 2-30, 2-34, 3-11, 4-9, 16-11, 18-109
- Turrin, Maggie: E-mail/Written comments dated March 30, 2012, Comment Nos. 1-1, 2-1, 2-34, 16-1
- Tyne, Vic: Written comments dated March 08, 2012, Comment Nos. 2-37, 16-1
- Ulaneck, Ticia: Written comments dated March 01, 2012, Comment Nos. 2-9
- Valentino, Martha: Written comments dated March 30, 2012, Comment Nos. 12-10, 18-3, 18-85
- Vamos, Ivan, New York Bicycling Coalition: Written comments dated February 28, 2012, Comment Nos. 2-20; and oral testimony dated February 28, 2012, Comment Nos. 2-34
- Van der Meer, Marion: Written comments dated March 30, 2012, Comment Nos. 2-30, 2-34, 3-1, 16-1
- Vanderbeek, Thomas, Commissioner, Rockland County Department of Planning: Written comments dated March 29, 2012, Comment Nos. 3-2

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- Vanderhoef, C. Scott, Rockland County Executive: Written comments dated February 28, 2012, Comment Nos. 1-9, 1-10, 1-12, 2-32, 2-34, 2-39, 2-40, 2-46; oral testimony dated February 28, 2012, Comment Nos. 1-10, 2-34, 2-39, 3-1; and written comments dated March 30, 2012, Comment Nos. 1-5, 1-6, 1-7, 1-8, 1-9, 2-1, 2-15, 2-29, 2-30, 2-32, 2-33, 2-34, 2-36, 2-39, 2-40, 2-41, 2-45, 2-46, 2-55, 2-56, 2-59, 3-1, 3-3, 3-11, 3-15, 4-3, 4-9, 4-12, 4-19, 4-20, 4-21, 4-22, 4-23, 4-24, 4-25, 4-26, 4-27, 4-34, 4-40, 4-42, 4-46, 5-1, 5-3, 5-15, 5-18, 5-20, 5-23, 5-24, 5-27, 5-28, 5-28, 5-29, 5-30, 5-32, 5-35, 5-36, 5-37, 5-38, 5-39, 6-7, 6-8, 6-25, 7-10, 7-12, 7-13, 7-14, 7-17, 7-18, 7-19, 7-20, 7-21, 7-22, 7-23, 7-24, 7-25, 8-6, 8-7, 8-8, 8-9, 9-3, 9-16- 9-17, 9-25, 10-9, 11-5, 11-14, 11-15, 12-21, 13-3, 13-4, 15-2, 15-4, 15-6, 16-1, 16-25, 16-26, 16-27, 16-29, 16-32, 16-35, 16-39, 16-41, 18-5, 18-12, 18-20, 18-24, 18-30, 18-31, 18-41, 18-42, 18-43, 18-44, 18-45, 18-46, 18-47, 18-48, 18-52, 18-64, 18-72, 18-109, 18-133, 18-136, 19-4, 22-4, 22-5, 23-4, 23-5, 23-8
- Vanterpool, Veronica, Associate Director, Tri-State Transportation Campaign: Oral testimony dated March 01, 2012, Comment Nos. 2-41
- Vaughn, Charlene Owin, Advisory Council on Historic Preservation: Written comments dated March 30, 2012, Comment Nos. 10-1
- Vazquez, Leandra: Written comments dated February 28, 2012, Comment Nos. 2-56
- Venezia, Anthony: Oral testimony dated March 01, 2012, Comment Nos. 1-9, 1-11
- Vertiel, Linda, New York League of Conservation Voters, Westchester Chapter: Oral testimony dated March 01, 2012, Comment Nos. 2-34, 2-46
- Villman, Alan E, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Vogel, Kenneth: Oral testimony dated March 01, 2012, Comment Nos. 2-9, 2-14, 2-32
- Vogelsberg, Sue Anne: Written comments dated March 15, 2012, Comment Nos. 2-34
- Volpe, John, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Vorbach, Joan-Bouton : Written comments dated March 30, 2012, Comment Nos. 2-34
- Wagner, Gerry: Written comments dated March 15, 2012, Comment Nos. 2-8
- Wagner, Nicole: Written comments dated March 30, 2012, Comment Nos. 2-34, 16-1
- Walford, Jennifer: Written comments dated March 03, 2012, Comment Nos. 2-34
- Wallin, Michael: Written comments dated January 25, 2012, Comment Nos. 2-36
- Walter, Lesley: Written comments dated March 01, 2012, Comment Nos. 7-8
- Wang, Brian and Crissy: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Warden, Doug: Letter and Written comments dated April 01, 2012, Comment Nos. 2-1, 2-11, 2-12, 3-1, 4-48, 5-10, 6-24, 12-28
- Warren, Joe, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Wasserman, Rachel Korn: Letter and Written comments dated March 23, 2012, Comment Nos. 2-1, 2-37, 3-3, 5-8, 8-1, 9-15, 12-13, 18-62
- Waugh, Michael: Written comments dated January 20, 2012, Comment Nos. 2-36

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- Weber, Barbara: Oral testimony dated February 28, 2012, Comment Nos. 2-37, 2-55, 2-60, 6-10
- Weber, Kathleen: Written comments dated March 22, 2012, Comment Nos. 2-1, 3-3, 5-11, 11-10, 18-3, 18-106
- Weisel, Victoria, Irving Neighborhood Preservation Association: Oral testimony dated March 01, 2012, Comment Nos. 7-8, 12-4, 18-10, 18-34, 18-85
- Welday, Jeanette: Written comments dated March 15, 2012, Comment Nos. 2-32, 2-60, 6-5, 7-8, 9-1, 9-29, 12-4, 18-64, 18-61, 18-85
- Weltzien, Mark, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Wessan, Amy: Written comments dated March 23, 2012, Comment Nos. 2-37, 12-10
- West, Athos, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Westwater, Charles: Written comments dated February 27, 2012, Comment Nos. 3-3, 18-62, 18-74; and written comments dated March 28, 2012, Comment Nos. 3-3, 18-62, 18-74
- Westwater, Charles and Patricia: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Wheeler, Tom, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Whelehaw, Patrick, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- White, Daniel: Written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- White, Robert, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Wilkenson, Jeffrey, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Williams, Alfreda, Westchester County Legislator: Oral testimony dated March 01, 2012, Comment Nos. 1-9, 2-34
- Williams, Earl and Margaret: Written comments dated March 09, 2012, Comment Nos. 8-1, 18-8; and written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Willinger, Douglas: Oral testimony dated February 28, 2012, Comment Nos. 2-37; and written comments dated February 28, 2012, Comment Nos. 2-37
- Wilson, David McKay, Bike Walk Alliance of Westchester and Putnam Counties: Oral testimony dated March 01, 2012, Comment Nos. 2-56, 7-3, 10-2, 18-22, 18-23
- Wilson, Donald: Written comments dated March 01, 2012, Comment Nos. 3-1
- Wilson, Michael, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Winoker, Arthur: Written comments dated March 11, 2012, Comment Nos. 2-13
- Winzig, Mike, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9

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- Wish, Ron: Written comments dated March 05, 2012, Comment Nos. 2-34
- Wolf, Randall: Written comments dated February 29, 2012, Comment Nos. 2-34, 2-55
- Wolf, Roger A, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Wolff, Bob: Oral testimony dated February 28, 2012, Comment Nos. 3-1, 18-2, 18-3; written comments dated March 19, 2012, Comment Nos. 3-1, 18-25, 18-62, 18-74, 18-76; and written comments dated March 30, 2012, Comment Nos. 3-3, 9-6, 11-2, 12-13, 16-1, 18-2, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76
- Wolzien, Thomas: Written comments dated March 15, 2012, Comment Nos. 1-11, 2-60
- Wolzien, Valerie: Written comments dated March 15, 2012, Comment Nos. 1-11, 9-1, 18-3
- Wong / Sun, Helen / Steven: Written comments dated March 16, 2012, Comment Nos. 2-39
- Wood, Michael, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Woolley, Jonathan: Written comments dated March 30, 2012, Comment Nos. 2-13, 2-33, 2-34, 2-37, 2-41, 2-45, 2-46, 3-3, 4-9
- Wooters, Patsy, Chair, Torne Valley Preservation Association: Written comments dated February 28, 2012, Comment Nos. 2-36
- Worth, Bob and Blaikie: Written comments dated March 30, 2012, Comment Nos. 2-34, 16-1
- Wrede, Steve: Written comments dated March 11, 2012, Comment Nos. 2-11
- Wright, John D, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Wynter, Garfield, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Yaskovic, Ronald: Written comments dated February 21, 2012, Comment Nos. 2-39, 2-55; and written comments dated February 23, 2012, Comment Nos. 2-34, 2-55
- Yeager, Richard, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Young, Lisa: Written comments dated March 29, 2012, Comment Nos. 1-1, 2-1, 2-30, 2-34, 3-11, 4-9, 16-1
- Yourke, George: Written comments dated March 29, 2012, Comment Nos. 2-34
- Zajonc, Peter: Written comments dated January 29, 2012, Comment Nos. 2-34
- Zarfind, Daniel, Carpenters Local 279: Written comments dated March 13, 2012, Comment Nos. 1-9
- Zee, Geoffrey: Written comments dated January 25, 2012, Comment Nos. 2-36
- Zeitlin, Diane: Written comments dated March 04, 2012, Comment Nos. 2-55, 2-56
- Zupan, Jeff, Senior Fellow, Regional Plan Association: Oral testimony dated February 28, 2012, Comment Nos. 1-9, 1-11, 1-12, 2-30, 2-33, 2-39, 2-46, 2-48, 4-12

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Anonymous / Illegible (Multiple): Various dates, Comment Nos. 1-9, 2-1, 2-31, 2-34, 2-36, 2-37, 2-39, 2-50, 2-55, 3-1, 3-3, 3-13, 4-9, 5-5, 5-8, 8-1, 9-6, 9-14, 11-2, 11-5, 12-2, 12-13, 16-1, 18-8, 18-13, 18-60, 18-61, 18-62, 18-74, 18-76, 22-1