

Commonwealth of Virginia

Department of Mines, Minerals and Energy
Division of Mineral Resources
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Stanley S. Johnson, State Geologist

December 8, 2000

MEMORANDUM

TO: J. Mark Wittkofski

FROM: Eugene K. Rader

SUBJECT: Review of Draft Environmental Impact Statement for 1-73 Location Study

William Henika and I have reviewed the DEIS and prepared brief comments on each proposed segment. These comments reflect only those geologic conditions that would require mitigation measures.

Brittle fracturing and/or fault as used in their discussion implies open fracture and potentially unstable cut slopes. Shear zones do not necessarily imply open fractures but unstable cut slopes are probable.

371 Unstable cut slopes associated with the crossing of seven (7) faults, some with brittle fracturing; high groundwater flow in fractures; karst with probable caves.

374 Unstable cut slopes associated with the crossing of two (2) faults; karst with possible caves; and thick unconsolidated deposits.

372 Unstable cut slopes associated with the crossing of nine (9) faults; steep slope with high probability of landslides.

376. 287A Steep, unstable slopes and brittle faulting.

375 Karst with caves.

105 Karst; brittle faulting; large springs.

118. 118C Karst; active landslides.

294. 377 377B. 296 Brittle faulting associated with Fries fault.

399 Expansive clays.

163. 202A, 382. 319, 400 Shear zones; expansive clays; potential asbestos in mafic rocks.

144. 381 Shear zones; potential high groundwater flows.

- 383, 384 Shear zones; expansive clays; potential asbestos in mafic rocks.
- 386 Intense shearing associated with Bowen Creek fault.
- 369, 329 Brittle faults; mafic bodies with asbestos; expansive clays; kaolinite (clay) deposit.
- 388, 2378, 373, 390, 391 Brittle faults; potential asbestos in mafic bodies; expansive clays.
- 389 Active quarry.
- 333 Several small faults; potential slope stability problems.
- 392, 349 Slope instability associated with faulting; expansive clays; abandoned mica mines filled with water.

Geology of the proposed routes is depicted on the enclosed 100k Roanoke, Radford, and Danville 30 x 60-minute quadrangles. The Radford and Danville maps are drafts and should not be reproduced without prior DMR approval.

EKR/kh

Enc.

Response: *Those references cited in the preceding comments along with additional published geologic investigations listed in Chapter 5 (References) of the DEIS were used to derive information provided in section 3.7.8.1 of the DEIS. The presence of potential geologic hazards (steep, unstable slopes associated with fault zones and shear zones; caves and other karst-related geologic features; potentially high groundwater discharge in fracture zones; active landslides; expansive clays; and potential asbestos in mafic rock bodies) within portions of the study area is acknowledged. With respect to caves and other karst-related geologic hazards, section 4.7.7.1.3 of the DEIS states that geotechnical investigations will be conducted during the project design phase and that appropriate mitigation measures and design features will be evaluated at that time. This discussion will be expanded in the FEIS to refer to those additional potential geologic hazards mentioned in the preceding comments and practicable mitigation measures (use of under-drains, slope stabilization, selective removal/replacement of unsuitable earth materials, etc.) that would be evaluated during later design phases.*

**United States Department of Commerce
Office of the Under Secretary for
Oceans and Atmosphere
Washington, D.C. 20230**

December 4, 2000

Mr. J. Mark Wittkofski
Commonwealth of Virginia, DOT
1401 East Broad Street
Richmond, VA 23219-2000

Dear Mr. Wittkofski:

Enclosed are comments on the Draft Environmental Impact Statement for I-73 Location Study Between Roanoke and North Carolina State Line in the Commonwealth of Virginia. We hope our comments will assist you. Thank you for giving us an opportunity to review this document.

Sincerely,

Susan B. Fruchter
NEPA Coordinator

Enclosure

MEMORANDUM FOR: Susan B. Fruchter
NEPA Coordinator

FROM: Charles W. Challstrom
Director, National Geodetic Survey

SUBJECT: DEIS-0011-03 Location Study Between Roanoke and North
Carolina State Line in the Commonwealth of Virginia

The subject statement has been reviewed within the areas of the National Geodetic Survey's (NGS) responsibility and expertise and in terms of the impact of the proposed actions on NGS activities and projects.

All available geodetic control information about horizontal and vertical geodetic control monuments in the subject area is contained on the NGS home page at the following Internet World Wide Web address: <http://www.ngs.noaa.gov>. After entering the NGS home page, please access the topic "Products and Services" and then access the menu item "Data Sheet." This menu item will allow you to directly access geodetic control monument information from the NGS data base for the subject area project. This information should be reviewed for identifying the location and designation of any geodetic control monuments that may be affected by the proposed project.

If there are any planned activities which will disturb or destroy these monuments, NGS requires not less than 90 days' notification in advance of such activities in order to plan for their relocation. NGS recommends that funding for this project includes the cost of any relocation(s) required.

For further information about these monuments, please contact Rick Yorczyk; SSMC3 8636, NOAA, N/NGS; 1315 East West Highway; Silver Spring, Maryland 20910; telephone: 301-713-3230 x142; fax: 301-713-4175, Email: Rick.Yorczyk@noaa.gov

Response: *The National Geodetic Survey's (NGS) database was used, as requested, to identify the location of any horizontal and vertical geodetic control monuments that may be disturb or destroy during any planned activities. The coordinates of the monuments from the NGS database were downloaded to a geographic information system for analysis. Within the study area, 409 NGS benchmarks were identified. For each option, the following number of NGS benchmarks (in parentheses) was identified using a 600 foot corridor: Option 1 (3), Option 1a (3), Option 2 (5), Option 2a (5), Option 2b (10), Option 2c (4), Option 3 (42), Option 3a (37), Option 3b (39), Option 3c (31), Option 4 (6). NGS will be notified no less than 90 days if any planned activities were to arise that disturb or destroy any of these monuments.*

United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, D.C. 20240

L3027

April 12, 2001
Mr. Roberto Fonseca-Martinez
Division Administrator
Federal Highway Administration
Post Office Box 10249
400 North 8th Street, Room 750
Richmond, Virginia 23240

Dear Mr. Fonseca-Martinez:

We have reviewed the I-73 Location Study Between Roanoke and the North Carolina State Line Commonwealth of Virginia Draft Environmental Impact Statement (DEIS) and Draft Section 4(f) Evaluation-FHWA-VA-EIS-NH-962-2, State Project: 0073-962-f01, PE101; Visual Quality Technical Memorandum, October 2000; and I-73 Location Study. In addition to reviewing the referenced documents, Gary Johnson, Chief Resource Planning and Professional Services Division met with Virginia Department of Transportation (VDOT) and project consultant staffs in Roanoke, Virginia on April 5, 2001 to discuss the five build option segments that may potentially cross the Blue Ridge Parkway. The meeting was most informative and we appreciate the opportunity to directly discuss Segments 105, 118C, 371, 372, and 376 with VDOT and consulting staffs.

Based upon review of pertinent documents and our discussions, Parkway staff and management offer the following preferences and conclusions on potential I-73 crossings of the Parkway.

Most Preferred Crossing -The National Park Service's most preferred crossing of the Blue Ridge Parkway is segment 118C, Milepost 121.4 included in Build Alternative Options 2b, 3, 3b, and 3c. This is the existing four-lane corridor of U.S. Route 220, a major transportation corridor that has been a part of the Parkway visitor driving experience since the Parkway was constructed through the Roanoke Valley during the late 1950's and early 1960's. Widening of the U.S. 220 corridor to accommodate I-73 will further impact this area of the Parkway, but the landscape changes would be more consistent with existing land use than they would be in the other four proposed Parkway crossing locations. Mitigating measures should insure that vegetation that currently screens the Rocky Dale Quarry from the Parkway is left intact.

Despite the fact that this alternative would require the most land from the Parkway, this is the preferred build option from a natural resources perspective because it uses an already heavily disturbed area-the existing U.S. Route 220 corridor.

However this crossing would eliminate the existing Parkway interchange with U.S. 220 and the options for providing a connection between I-73 and the Parkway are less-than satisfactory. As you know Parkway planning staff, VDOT and consulting staff all have studied possible connections. To date all of the studied routes would require visitors exiting I-73 to follow frontage roads, two other city streets and then finally connect with the Parkway motor road via Mill Mountain Spur Road. Finding a more direct connection while maintaining ample driving time to transition from an interstate highway to the Parkway

is a major concern to us. Also the difficulty of way finding for travelers is a concern. The scenic quality of the route is a very important factor for the route as well.

Second Most Preferred Crossing - Segment 376, Milepost 116.9 is in a section of Parkway dominated by rural farm and residential use. This portion of Parkway lies midway between U.S. Route 24 and U.S. Route 220. Views of major road corridors in this area and within Parkway view areas are inconsequential. The narrow secondary routes that cross the Parkway do so under or over the Parkway on picturesque stone arch bridges. These structures are so well placed and their scale is such that they enhance the overall driving experience and do not dominate it.

An interstate highway constructed to underpass the Parkway through this area with its scale, mass and engineered character could overpower the current landscape setting. But after further study by our Resource Planning staff, we believe that an alignment carried across the Parkway on an overpass has great merit and it is our second most preferred crossing. The Parkway, as it comes out of the forest from the north and enters this rural landscape setting, passes through a cut section where the topography rises above the motor road on both sides. This area with some additional earthwork-fill offers an opportunity to create a crossing that could follow the existing landform pattern thus lying more gently on the landscape. By crossing the Parkway overhead much of the interstate alignment would not be visible to the Parkway traveler because they would be below the grade-separated structure and cut slopes. Placement of trees and shrubs along the interstate corridor would further soften and screen the four-lane corridor from view. Please see the three-page enclosure that graphically illustrates our thoughts on this overpass crossing.

This segment would cross through four agricultural leases one of which has a small wetland area. In addition just north of milepost 117, there is a rich cove forest where there are numerous large diameter oaks and maples. This option is not the most preferred from a natural resource perspective but would be acceptable because resources are already somewhat fragmented. If this build option is selected a more in depth and comprehensive biological survey would be required to address mitigating measures.

Noise, land use changes, and view area scenic quality impacts are of great concern in this location and degree of impacts would be directly proportional to the alignment location scale of cuts and fills, and mitigating measures such as the placement of vegetation to buffer the road corridor.

Third Most Preferred Crossing - After reviewing all available materials and including staff input, we now rank Segment 105, Milepost 124.1 included in Build Alternative Option 3a as our third most preferred crossing location. This ranking is based upon our understanding of potential visual and natural resources impacts and consistency of the visitor experience through this section of Parkway perspective. Between Parkway Milepost 121.4 at U.S. Route 220 and Milepost 126.1 there are four Virginia Secondary Route underpass crossings of the Parkway. Proposed Segment 105 is located between the existing underpass crossings of VA Route 615 and the Norfolk Southern Railroad and VA Route 613. This series of underpass structures are a primary character-defining element of this 4.7-mile section of Parkway. While construction of a new corridor with side-hill cuts to accommodate a four-lane interstate would dramatically change the landscape, the crossing of another road corridor would be more consistent with the existing visitor's experience of encountering a series of roads over passed by the Parkway motor road. Existing land uses and site conditions made visible by this underpass crossing would be more consistent with the current experience here than at the other three locations which are characterized by forest covered slopes or rolling rural residential and farmlands.

From a natural resources perspective, this is a less preferred option than Segments 118C and 376 because crossing here would result in extensive forest fragmentation and loss of canopy vegetation. In our review of the visual simulation for this crossing the extent of forest cover being removed is very obvious. If this option were selected, planting cut slopes would be an important and necessary mitigation to be applied here.

Least Preferred Crossings - Two of the remaining three segments--Segment 371, Milepost 126.5, and Segment 372, Milepost 103.6 included in Build Alternative Options 4; and 1 and 1a, respectively are grouped together as the Service's least preferred of the proposed crossings. The construction of an interstate highway in both of these Parkway landscape settings would dramatically change the existing view area scenic quality, and land uses, all of which are absent of major roads seen from or crossing the Parkway. Increases in highway noise generated by interstate highway traffic volumes and vehicle speed would radically alter existing site noise conditions.

Segment 371, Milepost 126.5 is the southernmost proposed segment, characterized by forest cover and is just south of Masons Knob Parking Overlook, a paved parking area for 28 cars. Both the existing land use and the proximity of Segment 371 to a formal overlook parking area are of great concern to the NPS. Noise increases, land use changes and view area scenic quality impacts form the basis for this being a least preferred crossing option. This build option would result in moderate impacts to natural resources, but the site is already somewhat impacted, so while it is not preferred this would be an acceptable option.

Segment 372, Milepost 103.6 is the northernmost proposed crossing of the Parkway. Between Parkway Milepost 90 and 104 the Parkway traverses primarily National Forest land and the visitor experience is dominated by a forested road corridor with vistas of undeveloped forestlands. From Milepost 104 to 105.8 land use is rural residential with U.S. 460 crossing the Parkway at Milepost 105.8. The introduction of another four-lane highway, especially one meeting interstate standards, into this forest dominated setting greatly alters the existing visitor experience. Again increased noise, changes in land use and view area scenic quality impacts form the basis for this being a least preferred crossing option. From a natural resources perspective this is one of the least preferred options because there would be extensive forest fragmentation.

Again, we want to emphasize the importance of a separate memorandum of agreement (MOA) and our commitment to working with the Federal Highway Administration and VDOT if a build alternative is selected. Our goal is to minimize the degradation and long-term impairment of Parkway resources and to maintain a quality visitor experience for Parkway travelers. The identification of design standards, final alignment location, mitigating measures and management of Parkway closures would be principle topics for inclusion in the MOA.

We understand that for you and us this is a long and tedious undertaking. Both FHWA and VDOT continue to meet our requests for information and discussion on this project and it is very much appreciated. If this project comes to fruition, it will take cooperation by all parties involved to meet the numerous goals and needs that we each have. Mr. Gary Johnson will continue to coordinate this project for the Parkway and he can be reached by telephone at 828/271-4744 ext. 210 to discuss this letter as needed.

Sincerely,

Daniel W. Brown
Superintendent

Enclosure

cc:
Plateau District Ranger w/enclosure
Plateau District Facility Manager w/enclosure

Mr. Willie R. Taylor w/enclosure
Director, Office of Environmental Policy and Compliance
United States Department of the Interior
Office of the Secretary
Washington, D.C. 20240

Ms. Pam Underhill
Park Manager
Appalachian National Scenic Trail
Harpers Ferry Center
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Mr. C. F. Boles, III w/enclosure
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Mr. Earl T. Robb w/enclosure
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Virginia Department of Transportation
P.O. Box 3071
Salem, Virginia 24153

Gjohnson:bk:4/12/01:271-4779x210

Response: *The comments from the NPS have been noted. Beginning in the spring of 2001 and per the request of the NPS, VDOT has met with the NPS and coordinated closely with them on the I-73 crossing of the Blue Ridge Parkway. VDOT also initiated a design MOA to address design, engineering and aesthetic issues associated with the crossing of the Parkway that had been approved by the Commonwealth Transportation Board in 2001. After several iterations, the MOA was eventually scrapped when the Commonwealth Transportation Board rescinded their approval of the location of I-73 in 2004 and approved a different location that crossed the Blue Ridge Parkway at the existing Route 220 crossing, the NPS' preferred crossing. Instead of a separate design MOA, design, engineering, and aesthetic issues have been addressed in the Section 106 MOA which the NPS is a signatory to.*

United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, D.C. 20240

ER-00/849

FEB 06 2001

Mr. Roberto Fonseca-Martinez
Division Administrator
Federal Highway Administration
Post Office Box 10249
400 North 8th Street, Room 750
Richmond, Virginia 23240

Dear Mr. Fonseca-Martinez:

Thank you for the opportunity to review and comment on the I-73 Location Study Between Roanoke and the North Carolina State Line Commonwealth of Virginia Draft Environmental Impact Statement (DEIS) and Draft Section 4(f) Evaluation--FHWA-VA-EIS-NH-962-2 (004), State Project: 0073-962-F01, PE101.

We cannot at this time concur that there are no feasible and prudent alternatives to this project or that all possible planning has been done to mitigate harm to Department of the Interior (DOI) resources. Our concerns and comments are detailed below.

PARK AND RECREATION RESOURCES

The National Park Service (NPS) has a number of concerns with the document as currently presented and our primary concern at this point is with the failure of the Virginia Department of Transportation (VDOT) officials to consult with The Appalachian National Scenic Trail and the Blue Ridge Parkway (BRP) during the last 12 months of this process. (Communications prior to that 12 month period were generally excellent, and we believe that a similar level of coordination during the last 12 months would have corrected many of the flaws in both the preliminary draft and the subject DEIS.) Accordingly, we would like to reiterate our request for consultation by the Federal Highway Administration (FHWA) and the VDOT with the Appalachian National Scenic Trail and the BRP at every juncture throughout the National Environmental Policy Act process and Section 4(f) consultation process.

We have the following comments to offer on the DEIS. Comments for the Appalachian National Scenic Trail and the BRP are presented under separate sections of this correspondence.

APPALACHIAN NATIONAL SCENIC TRAIL COMMENTS

Description of the Appalachian National Scenic Trail and its significance:

The description of the Appalachian National Scenic Trail on page 3.5-13 should be changed to reflect recent history. The Trail is no longer located on private land. A more accurate first paragraph under Section 3.5.3.1 would be:

Portions of the Appalachian National Scenic Trail are located within the viewshed of the I-73 Location Study. The Trail is a unit of our National Park System, and our nation's premier national long-distance hiking trail - a continuous, marked, 75-year-old, 2,167-mile footpath that traverses the Appalachian Mountain chain through 14 states from central Maine to northern Georgia. The Trail is located almost entirely on public lands administered by the NPS and the U.S. Forest Service. The 15-mile section of the Trail potentially affected by the proposed project begins on Tinker Mountain west of I-81, continues under I-81 north of Exit 150, ascends Fulhardt's Knob, and continues in a northeasterly direction along the ridgeline north of the Blue Ridge Parkway. This section of the Appalachian Trail (from Tinker Mountain to Blackhorse Gap) is one of the more popular day-hike sections of the Trail in Virginia. This section of the Trail, which is located on both NPS and U.S. Forest Service lands, also is noted for its frequent and often dramatic vistas that overlook the rural countryside north and east of Roanoke.

Response: *This information has been added to the FEIS.*

Impacts to Scenic Values along the Appalachian National Scenic Trail: i

As we indicated in our comments on the DEIS, the most serious omission with the document is that it contains little actual analysis of the potential impacts to the scenic values that are present along this section of the Appalachian National Scenic Trail. Furthermore, the methodology used for analysis of impacts to scenic values appears to be fundamentally flawed, since it does not appear to accurately reflect the impacts of the proposed project on important national recreation resources like the Appalachian National Scenic Trail. We believe that the visual analysis should rely on a well-established, scientifically based methodology, such as the U.S. Forest Service's Scenery Management System.

For example, the information contained in Tables 4.5-2 and 4.5-3 (on pages 4 5-2 and 4.5-3, respectively) appears to indicate that the visual impacts of constructing Segment 372 would be "low," with a average score of "-3.32." This conclusion appears to be based on criteria that are in direct conflict with the narrative discussion of impacts to the BRP and Appalachian National Scenic Trail. These two resources *are nationally significant units of the National Park System managed primarily for their scenic values*, yet the visual analysis concludes that the potential visual impacts of Options 1 and 1a on Segment 372 (which would require a significant road cut at the crossing of the BRP *and* be visible from 55 to 60 percent of the Appalachian Trail of the three-mile hike between Fulhardt's Knob and Route 11 *and* be visible from a number of scenic vistas along the Trail north of Fulhardt's Knob) are "low." We question how this outcome is possible.

Response: *Segment 372 is approximately 22 miles in length with 19 visual units used for this analysis. Several of the visual units in proximity to the AT (but not necessarily viewable from the AT) had scores of -9 and -10. A score of -10 was the most substantial adverse score possible. One visual unit in the AT viewshed at the I-81 interchange had a score of zero (0). Other units along Segment 372, beyond the viewshed of the AT, had less substantial adverse scores or had zero (0) or beneficial visual impacts. The -3.32 results shown on Tables 4.5-2 and 4.5-3 were intended for the visual analysis of the entire segment and not specifically for the AT. Much of the AT in this area is obscured from viewing the I-73 facility by existing topography and tree canopy.*

Furthermore, as noted in our comments on the *Preliminary Draft*, the visual resource analysis as currently displayed has the effect of canceling the adverse impacts on remote and highly scenic areas by citing a corresponding positive impact for future motorists on the highway. If the approach used in the preliminary document were taken to what seems to be its logical extreme, the cumulative visual impacts of putting a highway through a wilderness area would correlate roughly with the cumulative visual impacts of putting a highway through an urban setting: the existing wilderness setting would become an urban one for wilderness users, but motorists on the new road would enjoy the view!

Response: *The federal guidelines specifically state the affected environmental discussion should provide information that identifies the different viewer groups in the study area. The highway viewers are identified under two classes: (1) Those with a view of the road and (2) Those with a view from the road. As long as the methodology is used consistently throughout all build options, the results should allow for a comparative analysis of which options has a greater visual impact than others and which provide the greatest visual quality. It is intended that the reviewer of the document judge which factor is more important or if the factors should be considered equal in importance. Language used in the DEIS suggesting that the visual quality and visual impact of some options would balance out has been removed.*

In short, we believe that the visual analysis does not meet the minimum threshold for an adequate analysis. It should be reworked using a well-established, scientifically based methodology, such as the U.S. Forest Service's Scenery Management System.

Despite repeated requests in previous correspondence, coordination meetings and field reviews, we still have not been provided with copies of visual simulations as promised by VDOT representatives. As noted in our comments on the DEIS, these simulations, plus a narrative description of the visual impacts depicted in the simulations, are essential components of the analysis of impacts to scenic resources. We would appreciate being provided with copies of these simulations, as well as the written narrative prepared by the consultant responsible for the visual analysis as soon as possible.

Response: *A visual simulation of one crossing of the Blue Ridge Parkway from an aerial view was developed and displayed during the various public hearings held in December 2000. Attempts were made to develop additional visual simulations from the ground level, however, due to the terrain and amount of canopy, it was determined that no reasonable visual simulations could be produced. These concerns were discussed during a meeting with the NPS on April 5th, 2001. NPS concurred that developing visual simulations to accurately depict visual impacts of the various crossings of the Blue Ridge Parkway would be difficult. During the development of a "design" MOA for the I-73 crossing of the Blue Ridge Parkway, additional simulations were developed for the alternative adopted by the Commonwealth Transportation Board.*

Noise Impacts to the Appalachian National Scenic Trail:

The analysis currently states that "noise from I-73 would dissipate to ambient or existing levels and not impact the Appalachian Trail." We believe that this is inaccurate. NPS employees have recently hiked this section of the Appalachian Trail, and found that traffic on existing highways and county roads, construction noise, and other sounds from the valley north of Roanoke can be heard clearly along the Appalachian Trail at Fulhardts Knob and other locations. The dominant sounds that would be associated with the proposed northern route of I-73 through this landscape - particularly the sounds of the truck traffic - will be far more apparent. Again, as noted in our previous comments, the NPS has conducted extensive studies of the effects of noise on visitor enjoyment in parks. "Natural quiet" is an important component of many park experiences, and particularly important to backcountry recreational experiences like those found along the Appalachian Trail. This concept needs to be addressed in the noise analysis.

Moreover, the analysis of auditory impacts as currently presented in the preliminary draft seems to be based on what people in a residential or work environment are accustomed to. In remote recreational areas, such as those found along the Appalachian Trail, manmade sounds are far more intrusive at low levels. In other words, although the incremental difference in sounds associated with the project may be as little as 20 percent above background noise, if the sound can be heard and recognized, it can change a remote backcountry experience to a developed recreational experience. To base analysis of the auditory impacts to a backcountry resource such as the Appalachian Trail on noise levels found in residential and work environments is inappropriate.

Response: *The analysis of noise impacts to the AT was carried out in accordance with FHWA's noise regulations. The Appalachian Trail was evaluated as an Activity Category A for noise impacts at three different locations. Activity Category A represents lands on which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purposes. The FHWA Noise Abatement Criteria (NAC) applicable to Activity Category "A" sites is 57 dBA Leq (1 hour). There is no other external activity category with a lower dB(A) threshold available to FHWA in regulation. To establish a new one for this project or for the Appalachian Trail would be arbitrary and capricious. Existing ambient noise levels were recorded along the trail at the three sites as being 45, 47 and 46 decibels. The noise impact analysis using STAMINA 2.0 determined that the noise levels at these three sites under the worst-case, future no-build condition would be 49, 47, and 46 decibels, respectively. Under the future worst-case build condition, the future noise build levels will be 51, 47, and 47 decibels, respectively. The maximum difference between future build and future no-build levels would be 2 dB(A); under normal environmental conditions, a 3 decibel increase is barely perceptible to the human ear. NPS notes that, "traffic on existing highways and county roads, construction noise, and other sounds from the valley north of Roanoke can be heard clearly along the Appalachian Trail at Fulhardt's Knob and other locations". This statement suggests that the urban setting of the Roanoke Valley has already compromised the AT in terms of noise and possibly visually as well. It does not seem reasonable to describe this section of the AT as part of a "remote backcountry" considering its close proximity to an already urban setting. Although agreed that "natural quiet" is an important component of many park experiences, NPS has noted that this section of the AT currently does not have these qualities or that those qualities have been diminished.*

The noise impact analysis determined that the change in noise levels would only increase by zero (0) to four (4) percent between a future no-build versus build scenario. The analysis concludes that, "noise from I-73 would dissipate to ambient or existing levels and not impact the Appalachian Trail. Instead, noise levels at the Trail will continue to be dominated by existing traffic from I-81".

Impacts to the Recreational Experience Provided by the Appalachian National Scenic Trail:

Ultimately, changes in the visual and auditory environment of the Appalachian Trail have the potential to change the visitors' experiences while on the Trail. If these visual and auditory impacts are frequent, egregious, or inconsistent with visitors' expectations, they can change a remote recreational experience to one that is more likely to occur in a developed setting. None of these potential impacts is discussed in the current draft.

Response: *As stated in the previous response, it is difficult to agree that this section of the AT is considered "remote". The NPS has suggested that the urban setting of the Roanoke Valley has already compromised this section of the AT. Notwithstanding, Project Team members took photos along the portion of the Appalachian Trail from Fulhardt's Knob to U.S. Route 220 during summer when foliage was heavy and during winter when foliage was non-existent. Segment 372 would be potentially visible to trail hikers for the three-mile (five-kilometer) hike from Fullhardt's Knob Shelter to U.S. Route 11. Toward the top of Tinker Mountain, another two miles (three kilometers) would be exposed to background views and displace farmland scenes, which are the primary subject of view from this part of the Appalachian Trail. These views are often currently impeded however, by trees and foliage that line the trail.*

Section 4(f) and Future Coordination and Consultation:

Lastly, we believe that the Appalachian National Scenic Trail should be considered as a Section 4(f) resource in the document, based on the concept of constructive use. The proposed northern route of I-73 has clear, measurable impacts that affect the Appalachian Trail - impacts that have not been fully or accurately quantified in the DEIS. Perhaps the most appropriate forum for discussing this issue would be in a meeting attended by representatives from the BRP, the Appalachian National Scenic Trail, the

Appalachian Trail Conference, the Roanoke Appalachian Trail Club, and the Jefferson and George Washington National Forests.

Response: FHWA does not agree. First, the Appalachian Trail, by its very nature, is considered a Section 4(f) resource. The question is whether or not there will be a use of the resource. Obviously, there will be no direct use of the Appalachian Trail by the project leaving only the consideration of a constructive use. FHWA's regulations define when a constructive use could occur. For example, there is a constructive use when there is no taking of property but there is a degradation in the resource as a result of the proximity of the proposed project to the resource that could be interpreted as a use. 23 CFR § 771.135(p)(4)(ii) indicates a constructive use occurs when "the proximity of the proposed project substantially impairs aesthetic features or attributes of a resource protected by Section 4(f), where such features or attributes of are considered important contributing elements of the value of the resource. Examples of such impairment to visual or aesthetic qualities would be the location of a proposed transportation facility in such proximity that it obstructs or eliminates the primary views of an architecturally significant historical building, or substantially detracts from the setting of a park or historic site which derives its value in substantial part due to its setting." Additional guidance can be obtained from the preamble to the Final Rule on "Environmental Impact and Related Procedures; Constructive Use" found in the April 1, 1991, issue of the Federal Register (pages 13269-13280). In the preamble, "Substantial impairment on the basis of visual impact is a more subjective determination than is the case in the assessment of noise. In order for constructive use on the basis of visual impact to occur, the resource must possess significant aesthetic or visual qualities." The FHWA has taken the position that diminishment cannot be equated with substantial impairment. As noted in the preamble to the proposed rule, "a constructive use does not arise merely because a transportation improvement can be seen from the protected resource. The visual impact must be more substantial, such when a proposed facility would dominate the immediate surroundings, interfering with primary views of or from the resource." In this case, I-73 would be located more than 3,000 feet from the Appalachian Trail at its closest point. Further, the DEIS noted that Segment 372 would enter the visual experience of the southbound Appalachian Trail hiker at the Fullhardt Knob Shelter, in the middleground distance, as the segment moves east of Coyner Mountain and aligns to cross the BRP in the Mountain Pass Road area. Project Team members took photos along the portion of the Appalachian Trail from Fullhardt's Knob to U.S. Route 220 during summer when foliage was heavy and during winter when foliage was non-existent. Segment 372 would be potentially visible to trail hikers for the three-mile (five-kilometer) hike from Fullhardt's Knob Shelter to U.S. Route 11. Toward the top of Tinker Mountain, another two miles (three kilometers) would be exposed to background views and displace farmland scenes, which are the primary subject of view from this part of the Appalachian Trail. These views are often currently impeded however, by trees and foliage that line the trail.

As for noise and constructive use, the Appalachian Trail was evaluated as an Activity Category A for noise impacts at three different locations. Activity Category A represents lands on which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purposes. The FHWA Noise Abatement Criteria (NAC) applicable to Activity Category "A" sites is 57 dBA Leq (1 hour). There is no other external activity category with a lower dB(A) threshold available to FHWA in regulation. Existing ambient noise levels were recorded along the trail at the three sites as being 45, 47 and 46 decibels. The noise impact analysis using STAMINA 2.0 determined that the noise levels at these three sites under the future, worst-case no-build condition would be 49, 47, and 46 decibels, respectively. Under the future, worst-case build condition, the future noise build levels will be 51, 47, and 47 decibels, respectively. The maximum difference between future build and future no-build levels would be 2 dB(A); under normal environmental conditions, a 3 decibel increase is barely perceptible to the human ear. Therefore, in accordance with 23 CFR § 771.135(p)(5)(ii) and (iii), there is no constructive use to the Appalachian Trail due to noise because 1) noise along the trail would not exceed the NAC; and 2) the difference between future build and future no-build levels is 3 dB(A) or less. In conclusion, there does not appear to be a constructive use of the AT as defined in FHWA regulations.

BLUE RIDGE PARKWAY COMMENTS

This section presents comments specific to the five locations that build alternative options are being considered for crossing of BRP land (see the following table).

OPTIONS	CROSSING TYPE	BLUE RIDGE PARKWAY CROSSING LOCATIONS		
1 and 1a	Underpass	Segment 372	Milepost 103.6	Blue Ridge Community
2, 2a and 2c	Overpass	Segment 376	Milepost 116.9	Mt Pleasant Community
2b, 3, 3b, 3c	Underpass	Segment 118C	Milepost 121.4	Existing US 220 Corridor
3a	Underpass	Segment 105	Milepost 124.1	Back Creek Area
4	Underpass	Segment 371	Milepost 126.5	Mason's Knob Overlook

Comments are based upon the review and evaluation of data relevant to the five-Parkway crossings discussed in CHAPTER 3.0 AFFECTED ENVIRONMENT and CHAPTER 4.0 ENVIRONMENTAL CONSEQUENCES. While this DEIS is more complete than the earlier Preliminary DEIS, agency reviewers still found that not all of the available data related to the Parkway were included in the DEIS. Data that the Service believes to be relevant to the evaluation of proposed Parkway crossing segments are also included as comments and in support of conclusions reached by the NPS.

Preliminary Preferred Parkway Crossing Conclusions:

The DEIS and supplemental data were used by the NPS to evaluate the five alternative build option segments and prioritize them in rank order from most preferred to least preferred. The following is a preliminary ranking of NPS preferences pending the outcome of a future on-site meeting in Roanoke, Virginia, being requested via this comment transmittal. Based upon the results of that meeting, the NPS will provide its final preference conclusions within thirty days of the on-site meeting.

Based upon current data, the NPS's most preferred crossing of the BRP is segment 118C, Milepost 121.4 included in Build Alternative Options 2b, 3, 3b, and 3c. This is the existing four-lane corridor of U.S. Route 220, a major transportation corridor that has been a part of the Parkway visitor driving experience since the Parkway was constructed through the Roanoke Valley during the late 1950's and early 1960's. Widening of the U.S. 220 corridor to accommodate I-73 will further impact this area of the Parkway but the landscape changes would be more consistent with existing land use than they would be in the other four proposed Parkway crossing locations.

Segment 105, Milepost 124.1 included in Build Alternative Option 3a is the next most preferred crossing location. Between Parkway Milepost 121.4 at U.S. Route 220 and Milepost 126.1 there are four Virginia Secondary Route underpass crossings of the Parkway. Proposed Segment 105 is located within an existing underpass crossing of VA Route 615 and the Norfolk Southern Railroad. This is the next most preferred crossing by the NPS because this series of underpass structures is a primary character-defining element of this 4.7-mile section of Parkway. While widening the existing corridor with side-hill cuts to accommodate a four-lane interstate would dramatically change the landscape, those changes would be more consistent with existing land uses and site conditions than the other three locations which are characterized by forest covered slopes or rolling rural residential and farmlands. However, from a natural resources perspective, this is a less preferred option because crossing here would result in extensive forest fragmentation and loss of canopy vegetation.

The remaining three segments Segment 371, Milepost 126.5; Segment 372, Milepost 103.6 and Segment 376, Milepost 116.9 included in Build Alternative Options 4; 1 and 1a; and 2, 2a and 2c, respectively are all less preferred options, in our opinion. The construction of an interstate highway in any of these three Parkway landscape settings would dramatically change the existing view area's scenic quality, and land uses, all of which are absent of major roads seen from or crossing the Parkway. Increases in highway noise generated by interstate highway traffic volumes and vehicle speed would radically alter existing site noise conditions.

Segment 371, Milepost 126.5 is the southern most proposed segment, characterized by forest cover and is just south of Masons Knob Parking Overlook, a paved parking area for 28 cars. Both the existing land use and the proximity of Segment 371 to a formal overlook parking area are of great concern to the NPS. Noise increases, land use changes and view area scenic quality impacts form the basis for this being a least preferred crossing option.

Segment 372, Milepost 103.6 is the northern-most proposed crossing of the Parkway. Between Parkway Milepost 90 and 104 the Parkway traverses primarily national forest land and the visitor experience is dominated by a forested road corridor with vistas of undeveloped forest lands. From Milepost 104 to 105.8 land use is rural residential with U.S. 460 crossing the Parkway at Milepost 105.8. The introduction of another four-lane highway, especially one meeting interstate standards into this forest dominated setting, greatly alters the existing visitor experience. Again, increased noise, changes in land use and view area scenic quality impacts form the basis for this being a least preferred crossing option.

Segment 376, Milepost 116.9 is in a section of Parkway dominated by rural farm and residential use. This portion of Parkway lies midway between U.S. Route 24 and U.S. Route 220. Views of roads in this area and within Parkway view areas are inconsequential. The narrow secondary routes that cross the Parkway do so under or over the Parkway on picturesque stone arch bridges. These structures are so well placed and their scale is such that they enhance the overall driving experience and do not dominate it. An interstate highway constructed through this area would overpower the current landscape setting with its scale, mass and engineered character. Again noise, land use changes and view area scenic quality impacts are of great concern in this location and make it a least preferred crossing option.

The foregoing is a summary of NPS conclusions based upon the following in-depth review and evaluation of DEIS data

General Blue Ridge Parkway Review Comments:

While the NPS has reached preliminary conclusions on the order of preference for the five proposed Parkway crossings, there are additional data not included in the DEIS that Parkway Resource Planning staff would like to review. Therefore, the NPS requests that the VDOT schedule an on-site meeting in Roanoke, Virginia with Blue Ridge Parkway Resource Planning staff, the FHWA and appropriate DEIS consulting staff to review affected visual environment and environmental consequences data specific to the five segments crossing the Parkway and their associated landscape units. This meeting should be scheduled as soon as possible so that the NPS's preference for crossings can be finalized and transmitted to VDOT prior to finalization of the EIS.

The meeting is being requested because there is little definitive descriptive inventory and assessment data included in the DEIS supporting conclusions and findings presented in the EXECUTIVE SUMMARY. CHAPTER 3.0 AFFECTED ENVIRONMENT OR CHAPTER 4.0 ENVIRONMENTAL CONSEQUENCES sections related to the BRP. Agency reviewers found it difficult to evaluate build alternative options affecting the BRP given the absence of affected environment and impact assessment data supporting the DEIS.

Response: *The above comments have been noted.*

Specific Blue Ridge Parkway Review Comments:

The following comments are organized under chapter and section headings used in the DEIS.

CHAPTER 3.0 AFFECTED ENVIRONMENT

3.5 VISUAL SETTING

3.5.1 AFFECTED ENVIRONMENT

3.5.1.1 Definition of Existing Visual Environment

Under this section there is a discussion of the landscape classification system, definitions and a general description of landscape regions and districts. The next-to-the-last paragraph on page 3.5-1 in this section states that *"Each landscape district was further divided into landscape units." In the last paragraph the classification of landscape units is said to have "...considered topography, vegetation, proximity to proposed alignments, close and distant views, cultural landscape and land use, landmarks, historic structures, views, and the public's perception of visual importance. Special features and issues of each unit were described from a context of cultural, existing development, local perceptions, and community concerns. The variations of environment along the potential corridor-urbanization, farmlands, suburban development, parkland, etc.-were also recognized through the landscape unit definitions."*

Study process and types of data studied are presented, yet there is no presentation of inventory or assessment data that was gathered for any of the landscape units. There is no written or graphic description of the affected visual environment or landscape units beyond the methods used to identify, inventory and assess them and maps showing their names and geographic locations. These data that were not presented are in fact the information that would define for the reader/reviewer the visual environment affected by the various I-73 build alternative options.

3.5.1.2 Assessment of Existing Visual Quality of Landscape Units

Again this section discusses visual quality definitions, evaluation criteria and visual quality rating of landscape units, but includes no discussion of what this process yielded in terms of visual character or scenic quality data for each option and/or segment landscape units. Even some general description here would better meet the intent of the affected environment chapter to provide the reader/reviewer with an understanding of what the visual setting is and how it varies by option, segment location and landscape unit. This information is necessary to provide the basis for understanding the segment impact ratings in CHAPTER 4.0 and to provide the context for the next phases of "context sensitive design "

Response: *This information is included in the Visual Quality Technical Memorandum, which has been provided to the NPS-BRP.*

3.5.1.3 Assessment of Views from the Blue Ridge Parkway

There is no description of the BRP's visual setting context or specific scenic attributes that articulate its scenic character or importance within the Roanoke Valley between milepost 103 and 127. This 24 mile-long section of Parkway establishes the resource context within which to evaluate proposed crossings and their relative visual impacts. There is no description of view areas or individual landscape unit assessment results presented in the DEIS.

The BRP planning staff made viewshed sensitivity mapping, view area maps and scenic quality assessment ratings for each view area for this Parkway section available to the DEIS project consultants to assist the DEIS team in their describing the Parkway's affected visual environment. Data provided by Parkway staff should have enabled the Parkway to be treated at two levels of detail - a general description of the Parkway's visual character, visual sensitivity and view areas' scenic quality between milepost 103 and 127; and specific treatment of these elements for each of the five proposed segment crossings.

The lack of information in this section does not create for the reader/reviewer an adequate mental and visual image of what the Parkway looks like or its scenic importance. Thus later in the impact analysis there is no visual data foundation for evaluating the relative impacts of the various options.

Response: *These specific comments were addressed by the various technical reports . These concerns were also discussed and addressed during a meeting with the NPS on April 5th, 2001, and in subsequent coordination. NPS – BRP concurred that the technical reports provided adequate information to address these issues.*

3.5.2 ENVIRONMENTAL CONSEQUENCES

The second paragraph states, "*The impact analysis did not only consider direct impacts, but also secondary and cumulative impacts on the visual quality.*" These data were not presented in the Affected Environment or the Environmental Consequences Chapters.

Response: *Secondary and cumulative impacts was not addressed in the visual quality section. This analysis was provided under a separate section of the DEIS called "Secondary and Cumulative Impacts". This separate section however does not specifically address visual quality and has been modified to address visual quality in the FEIS.*

CHAPTER 4.0 ENVIRONMENTAL CONSEQUENCES

4.5 VISUAL QUALITY

4.5.4 Build Alternatives

4.5.4.2 Build Option 1 and 4.5.4.3 Build Option 1a

Segment 372 is the portion of Build Option 1 and 1a that crosses the BRP at Milepost 103.6. In Tables 4.5-2 OPTION 1 and 4.5-3 OPTION 1a VISUAL IMPACT RATING Segment 372 is comprised of 19 landscape units. When combined, those units have a "low" Visual Impact Rating. Segment 372 is one of the NPS's least preferred crossing options because the landscape unit that encompasses this geographic area is comprised of foreground and adjacent rural land uses that are currently unaffected by major transportation corridors in the immediate area of the proposed crossing. The introduction of an interstate highway in this highly visibly sensitive area would cause a substantial adverse change and therefore should be rated as having substantial adverse impact within this landscape unit. It is the NPS's conclusion that this crossing would have high visual impacts directly on Parkway land resources and secondarily on view area scenic quality rather than a low visual impact rating. This alternative would also affect the Appalachian National Scenic Trail's viewshed. Additional discussion of NPS conclusions follow below under Segment 372 BRP Evaluation comments.

4.5.4.4 Build Option 2, 4.5.4.5 Build Option 2a, and 4.5.4.7 Build Option 2c

Segment 376 is the portion of Build Option 2, 2a, and 2c that crosses the BRP at Milepost 116.9. In Tables 4.5-4 OPTION 2, 4.5-5 OPTION 2a and 4.5-7 OPTION 2c VISUAL IMPACT RATING Segment 376 is comprised of 5 landscape units. When combined, those units have a "medium" Visual Impact Rating. The particular landscape unit that encompasses this geographic area is comprised of rural farm and residential land uses that are currently unaffected by major transportation corridors. The NPS reviewers concur with the statements on pages 4.5-4 and 4.5-5 essentially stating that this crossing would become a dominant visual element in the landscape and have high visual impacts directly on Parkway land resources and secondarily on view area scenic quality. Segment 376 is the second of three of the NPS's least preferred crossing options presented in the DEIS. It is the NPS's conclusion that this crossing would have high visual impacts directly on Parkway land resources and secondarily on view area scenic

quality rather than the medium rating in Tables 4.5-4, 4.5-5, and 4.5-7. Additional discussion of NPS conclusions follow below under Segment 376 BRP Evaluation comments.

4.5.4.6 Build Option 2b, 4.5.4.8 Build Option 3, 4.5.4.10 Build Option 3b and 4.5.4.11 Build Option 3c

Segment 118C is the portion of Build Options 2b, 3, 3b, and 3c that crosses the BRP at Milepost 121.4. In Tables 4.5-6 OPTION 2b, 4.5-8 OPTION 3, 4.5-10 OPTION 3b and 4.5-11 OPTION 3c VISUAL IMPACT RATING Segment 118C is comprised of 4 landscape units. When combined those units have a "low" Visual Impact Rating. The particular landscape unit that encompasses this geographic area is comprised of rural residences, agricultural lease lands, a major quarry operation and the four-lane highway corridor of U.S. Route 220. The NPS reviewers concur with the statements on pages 4.5-6, 8, and 10, that this Segment 118C crossing would have a moderate to high visual impact primarily for surrounding homes. However, visual impacts to the Parkway visitor experience in this landscape unit are seen as being relatively low because this location is already dominated by highly impacting land uses including a quarry and a four-lane highway. The existing U.S. Route 220 corridor is a dominant visual element in the landscape and has directly affected the visitor's experience of the Parkway since the early 1960's. Additional and larger cut slopes and highway structures will impact the current landscape setting, but less so here than the other proposed crossing locations. The Segment 118C, by following the U.S. Route 220 corridor, would introduce less change in visual quality by comparison to current land uses in this location than at any of the other four proposed crossings. Additional discussion of NPS conclusions follow below under Segment 118C BRP Evaluation comments.

4.5.4.9 Build Option 3a

Segment 105 is the portion of Build Option 3a that crosses the BRP at Milepost 124.1. In Table 4.5-9 OPTION 3a VISUAL IMPACT RATING Segment 105 is comprised of 4 landscape units. When combined, those units have a "low" Visual Impact Rating. The landscape unit that encompasses this geographic area is comprised of forested slopes, a state secondary roadway, a railroad right-of-way and rural residences. Within this landscape unit there are four Virginia Secondary Route underpass crossings of the Parkway between Parkway Milepost 121.4 at U.S. Route 220 and Milepost 126.1. Proposed Segment 105 is located within one of the existing underpass crossings of VA Route 615 and the Norfolk Southern Railroad. This is the second most preferred crossing by the NPS because this series of underpass structures is a primary character-defining element of this 4.7 mile section of the Parkway. While widening the existing corridor with side-hill cuts to accommodate a four-lane interstate would dramatically change the landscape, those changes would be more consistent with existing land uses and site conditions than three of the other crossing segments-371, 372 and 376. Additional discussion of NPS conclusions follow below under Segment 105 BRP Evaluation comments.

4.5.4.12 Build Option 4

Segment 371 is the portion of Build Option 4 that crosses the BRP at Milepost 126.5. In Tables 4.5-12 OPTION 4 VISUAL IMPACT RATING Segment 371 is comprised of 18 landscape units. When combined, those units have a "medium" Visual Impact Rating. This geographic area and its defining landscape unit is comprised of rural farm and forested land uses that are currently unaffected by major transportation corridors. There are no definitive statements about the visual quality or impact ratings for Segment 371 crossing the BRP. However, NPS reviewers believe that this crossing would become a dominant visual element in the landscape and have high visual impacts directly on Parkway land resources and secondarily on view area scenic quality. Segment 371 is the third of three of the NPS's least preferred crossing options presented in the DEIS. It is the NPS's conclusion that this crossing would have high visual impacts directly on Parkway land resources and secondarily on view area scenic quality rather than the medium impact rating shown in Table 4.5-12. Additional discussion of NPS conclusions follow below under Segment 371 BRP Evaluation comments.

Response: *Comments noted. Sections 4.5.1 through 4.5.4 provide information on entire segments and options and were not intended to be for the specific evaluation of the Blue Ridge Parkway or the Appalachian Trail. These features were addressed under section 4.5.5 Special Visual Concern Areas.*

4.5.5 Special Visual Concern Areas

4.5.5.2 Blue Ridge Parkway

General Notes

Under the "Qualitative Analysis" portion of the following five Segment Evaluation sections the cell data could not be related to the legend for visibility data displayed on Figure 4.5-1 VISIBILITY OF ALTERNATIVE CROSSINGS FROM THE BLUE RIDGE PARKWAY. The contrast of the black to gray scale of the legend did not reproduce with enough clarity to distinguish the varying visibility of the different crossings. Reviewers require additional explanation of these data and a better quality graphic.

Comments have been combined for the Segment and Option Evaluation sections as a matter of efficiency since these sections seem to be somewhat repetitive.

Segment 105 and Option 1a BRP Evaluation

Qualitative Analysis:

The NPS reviewers agree with the DEIS conclusions that this crossing would have moderate foreground and high middle ground impacts. The DEIS described impacts to the "cinematic experience" are described as being relatively low. This is a correct conclusion in the NPS's opinion but because there is a series of underpass structures through this 4.7-mile section of the Parkway, they become a primary character-defining element of the visitors' cinematic experience. The sequential experience is a series of transitions going from forested slopes to bridge underpass structures. The Segment 105 crossing would be wider than it currently is and more noticeable than the other underpass crossings in this specific area but it would not alter the current pattern of visual experience.

Segment 118C and Options 2b, 3, 3b and 3c BRP Evaluation

Qualitative Analysis:

The NPS reviewers agree with the DEIS conclusions that this crossing would have low foreground and middle ground impacts and that the impact on the cinematic experience would be moderate. Reviewers are not sure how to interpret the meaning of the DEIS statement, "The corridor would have its own presence as an event in the choreographed sequence, rather than just an edge between forest and grassland field." If this means that it will be more visible, and therefore must be well designed and sited as it crosses the existing Parkway landscape, then this would be agreed with.

Segment 371 and Option 4 BRP Evaluation

Qualitative Analysis:

The analysis and conclusions of these sections are well stated and express the NPS's conclusions that this crossing would greatly affect the existing Parkway landscape setting and would cause maximum potential negative visual effects.

Segment 372 and Options 1 and 1a BRP Evaluation

Qualitative Analysis:

The NPS reviewers agree with the DEIS conclusions that this crossing would also have a relatively high impact on the foreground and cinematic experience of the Parkway.

Segment 376 and Options 2, 2a and 2c BRP Evaluation

Qualitative Analysis:

The NPS reviewers disagree with the visual impact analysis findings included in the DEIS for the Parkway foreground, middle ground and cinematic experience for this crossing segment. This crossing would be very obvious in the Parkway's foreground and middle ground views. This is especially the situation because this segment is proposed to cross over the Parkway motor road, not under it as proposed for the other four crossings. This view area is incredibly visible for southbound Parkway traffic because of the current broad unobstructed vista off to the right or southwest. A major bridge structure carrying four lanes of traffic over the Parkway would introduce a massive obstruction into what is now a very open view area. This segment crossing lies within Parkway Scenic Resource View Area RO-15 that was determined by Parkway planning staff to have a scenic quality rating of 11, or moderate scenic quality. It is relatively intact as a rural residential and farm land scene and is one of the longer duration views in the Roanoke Valley. Construction of I-73 as described in the DEIS would degrade the intactness and visual integrity of this view area that it most certainly would become one of the least scenic views in the Roanoke Valley. The NPS characterize this view area as having more importance than does the DEIS data.

Because of the differences between the NPS and the DEIS consultant staff conclusions, and this crossing over the Parkway, this segment needs to be discussed in much more detail at the requested on-site meeting. Visual simulation of this crossing would be most useful in evaluating potential visual impacts. Please consider preparing this for NPS reviewers to evaluate.

Response: *Comments noted. The NPS-BRP concerns regarding Segment 376 were discussed in meetings and subsequent coordination with them. At one point, a "design" MOA was being developed between FHWA, VDOT, and the NPS – BRP, which was intended to address the design, aesthetic and engineering issues associated with Segment 376 when that segment was still part of the location corridor approved by the Commonwealth Transportation Board. That MOA was later shelved when the Commonwealth Transportation Board rescinded its approval of Segment 376 and selected the existing U.S. Route 220 crossing of the Blue Ridge Parkway for the I-73 crossing. The "design" MOA has been replaced by the Section 106 MOA which stipulates that future coordination will take place between VDOT and the NPS-BRP regarding design and aesthetic issues associated with the crossing of the Blue Ridge Parkway.*

4.5.6 Mitigating Measures

This section does not present any specific mitigating measures but there are statements about VDOT's commitment to working with the NPS to minimize impacts to the BRP once an alternative is selected. The NPS is also committed to that phase of the planning and design process of the I-73 project. Mitigating measures are going to play a significant role in maintaining the historical significance of the Parkway's designed landscape and scenic view areas.

Response: *The NPS-BRP is a signatory to the Section 106 which includes stipulations for minimizing and mitigating impacts to the Blue Ridge Parkway.*

4.7 NATURAL RESOURCES

The following comments are not organized under a specific section but are presented by build alternative options and segments.

Option 1 & 1a, Segment 372, Milepost 103.6

This site is located north of Route 460 in the Ridge District and is the most northern crossing and is a heavily forested site. It would require extensive cut slopes and excavation. Much of the canopy vegetation would be lost. Very little is known by Parkway biologists about the ecology of this site.

Additional field review is needed by Parkway Natural Resource Management staff and VDOT for this option.

This is one of the least preferred options since extensive forest fragmentation would occur if crossings were constructed at this site. Secondary impacts from adjacent development is likely to occur, further impacting Parkway resources.

Response: *Comments noted.*

Option 2, 2a, & 2c, Segment 376, Milepost 116.9

This segment would cross through 4 agricultural leases (parcels 1M-132, 1M-134, 1M-135 & 1M-136). There is a small spring/seep wetland located in lease 1M-132. In addition, there is rich cove forest, just north of MP 117. A small stream (which originates from the spring/seep), flows through the forested area. There are numerous large diameter at breast height (dbh) oaks and maples within the wooded area. All of the agricultural leases at this location are highly visible from the Parkway.

This option is not preferred from a natural resources perspective but would be acceptable. This alternative would result in moderate impacts to natural resources, but these sites are already somewhat fragmented. If this is selected as the preferred alternative, a more comprehensive biological survey would be required.

Response: *Comments noted.*

Option 2b, 3, 3b, & 3c, Segment 118C, Milepost 121.4

This alternative uses the existing Route 220 corridor and interchange. There is one agricultural lease (parcel 1M-147) located on the north side of Route 220. This I-73 segment will take the largest amount of BRP lands (approx. 8-acres). The existing access from Route 220 to the Parkway would be eliminated under this alternative. Approximately 1/3 of the agricultural lease will be lost under this alternative.

Under this alternative, new interchanges with the Parkway are proposed using existing state roads, but the DEIS does not really go into much detail about these interchanges or how much land they would impact.

Despite the fact that this alternative takes the most amount of land from the Parkway, this is the preferred alternative from a natural resource perspective because it uses an already heavily disturbed area - the existing U.S. Route 220 corridor.

The DEIS should be revised to include maps and additional information on the alternatives for the new interchange with the parkway. It is difficult to judge the total impact to the Parkway at this site without this additional information.

Mitigating measures should insure that vegetation which currently screens the Rocky Dale Quarry from the Parkway is left intact.

Response: *Figure 4.10-2 on page 4.10-3 of the DEIS provided a sketch drawing of modifications of proposed U.S. Route 220/Blue Ridge Parkway Access. Additional configurations regarding the Route 220 access have been developed and coordinated with the NPS-BRP. The NPS-BRP is a signatory to the Section 106 which includes stipulations for minimizing and mitigating impacts to the Blue Ridge Parkway.*

Option 3a, Segment 105, Milepost 124.1

This proposed crossing is located at the bridge over the Norfolk Southern Railroad and Route 615. I-73 would cross under the Parkway here.

This area consists of a moderately steep ridgeline containing a xeric (dry) pine-oak forest. Dominant tree species include red oak, white oak, Virginia pine, eastern hemlock, mountain laurel and blueberry. Hurricane Hugo and recent ice storms have heavily impacted this area. More than 70 percent of the canopy trees have some ice damage to them. Botanically, this is a unique area because it is recovering from several "natural" disturbances. The University of Tennessee has looked at this area as part of a study involving patterns of vegetation disturbance and recovery in the southern Appalachians.

Part of the I-73 corridor would run through the 28-acre "Lipscomb" Tract which was acquired by the Parkway during Summer 2000. The DEIS does not show the new BRP boundary. We suspect that more acreage would actually be taken from the Parkway than the 3.37 acres listed in the DEIS.

This is one of the least preferred options from a natural resource point of view because crossings would result in extensive forest fragmentation and loss of canopy vegetation. Secondary impacts resulting from adjacent development along the new interstate would result in still further impacts to parkway resources.

From a natural resource perspective, this option could heavily impact the Parkway. The forested area is still relatively intact; a unique situation since much of the Parkway in the Roanoke Valley has been heavily fragmented by development and roads. Extensive excavation would be required that would greatly alter a unique biological community. If this area becomes the preferred alternative, a more comprehensive biological survey of this area will be needed.

The DEIS should be revised to reflect the additional acreage of NPS lands recently acquired (Lipscomb Tract) that would be lost to I-73 if this option is selected. Also, the Parkway may want to seek additional compensation (purchase of additional land somewhere else, etc.) for early use of the Lipscomb Tract, since the NPS has already invested considerable time and money in the acquisition of this tract.

Response: *Comments noted. The map information used for the DEIS were based on Parkway Land Use Maps (PLUM) maps that were provided by NPS - BRP. Updated PLUM mapping was obtained for the FEIS.*

Option 4, Segment 371, Milepost 126.5

This crossing is located 1/3 mile south of Mason's Knob Overlook. Agricultural lease 1N-104, a small pasture lease, is located just to the north of the proposed crossing. This site is a mix of forest and small open farmland. Extensive removal of canopy vegetation would likely be required. Several small streams may also be eliminated by this crossing. No biological inventories have been conducted at this site. This site is slightly more fragmented than the previous site, primarily due to housing developments being constructed nearby. Natural resource information is generally lacking for this site. We strongly recommend that a biological survey of this area be conducted prior to further consideration of this site as a possible crossing.

This option is not preferred but would be acceptable. This alternative would result in moderate impacts to natural resources, but this site is already somewhat impacted.

Response: *Comments noted.*

4.9 HISTORIC AND ARCHEOLOGICAL RESOURCES

4.9.1 Architectural Resources

NPS reviewers agree with the Virginia Department of Historic Resources determination that all build alternative options involving the BRP will use land from the Parkway, diminishing several aspects of its integrity and that all options are expected to have an adverse effect on the Parkway.

Response: *Based on additional coordination carried out in preparation of the FEIS, it has been determined that VDOT owns sufficient Right-of-way along the Route 220 alignment to accommodate the I-73 crossing of the Blue Ridge Parkway without acquiring land from the Parkway. Notwithstanding, FHWA, in consultation with the SHPO, has determined that I-73 will have an adverse impact on the Blue Ridge Parkway, and an MOA has been developed to document how that effect will be taken into account. The NPS-BRP is a signatory to the MOA.*

4.10 PARKLAND CONSEQUENCES

4.10.2 Environmental Consequences

Agency reviewers note that until this point in the DEIS there has been no discussion, or at least no direct description of how each segment of the build options would cross the Parkway as under or overpasses. As described Options 2, 2a and 2c (Segment 376) would cross over the Parkway. This option has serious visual impact implications for the Parkway foreground, middle ground and cinematic experience in this view area. Certainly, this proposed overpass is problematic with respect to effective mitigating measures. The U.S. Route 460 bridge overpass utilized as a mitigation measure stone masonry walls and arches to carry out the architectural theme of stone masonry bridges utilized throughout the Roanoke Valley. The discussion of proximity of interchanges is not coupled with statements about NPS concerns related to additional secondary impacts caused by visible interchanges. Potential impacts include night light intrusion from lighted interchanges, scale and mass of sound barriers, addition of lighted signage in advance of interchanges, and potential to cause land use changes adjacent to the interchanges and beyond. All of these secondary effects will need to be considered further prior to VDOT selecting the preferred option to be implemented. These are points of discussion to be addressed during the requested on-site meeting.

Response: *Comments noted. The FEIS focuses on the preferred alternative for I-73, which is also the NPS-BRP's preferred crossing of the Parkway.*

4.12 SECONDARY AND CUMULATIVE IMPACTS

General Comment:

Text description and tables in this section do not present, evaluate or compare secondary impacts of I-73 project option segments or landscape units in terms of their potential effect on the Blue Ridge Parkway's scenic view areas. It describes land use change generally but not specifically related to Parkway view areas or the implications for crossings to lower Parkway view area scenic quality. The I-73 project is not discussed cumulatively and in relation to existing major crossings and other major highway projects being proposed to cross the Parkway in Virginia.

Response: *The review of the Virginia Transportation Development Plan did not identify any other major highway projects being proposed to cross the Parkway in Virginia, beyond those previously identified in the DEIS on page 4.12-7.*

However, the DEIS implies that change is inevitable so that a decline in the visual and scenic quality of the BRP is inevitable.

In spite of this apparent assumption, there are no maps included to show where the 28 percent of the land that is already planned for conversion from undeveloped to developed is located. This data presented on a landscape unit scale would certainly affect the NPS's evaluation and preference towards crossing options. Again the NPS requests that this data be presented at the requested on-site meeting with the VDOT and others.

Response: *This information has been prepared and presented to the NPS-BRP at the meeting with the NPS on April 5th, 2001.*

4.13 SECTION 4(f)

4.13.1.2 Description of Section 4(f) Property

Table 4.13-4 lists overlooks that may be affected, but it does not list or discuss non-overlook view area vistas that have been identified throughout the entire project area by the NPS. These locations and the scenic quality rating for these view areas should have been an integral part of the Section 4(f) Parkway discussion. View and vistas are a maintained design element of the Parkway just as are the overlooks. The inventory and assessment of potential impacts affecting view areas is important because not all of the affected view areas are of the same scenic quality, thus this becomes a way for differentiating impacts caused by the various options.

Response: *Prevailing land uses at the five proposed crossing of the Parkway have been characterized in the Visual Quality Technical Memorandum and are described herein to give the Park Service a better sense for the type of views that could be experienced at each crossing.*

Segment 105 BRP Evaluation

Quantitative Analysis: The quantitative analysis of the potential visual impact of segment 105 of Option 3a on the BRP found the following:

Number of places along the segment that would be seen from the BRP: 329
Minimum view cells: 0
Maximum view cells: 112
Mean view cell: 18.88
Sum of view cells: 6,213
Variety of view cells: 72

Qualitative Analysis: Segment 105 would cross the BRP in the Back Creek area at milepost 124 in a relatively sharp curve to the right. Approaching from the north the BRP traverses the south slope of Buck Mountain heading down to the creek with an axial vista focused on Mason's Knob. The sharp curve to the right would indicate the completion of the downward drive and the viewer's focus would begin to turn toward the farmlands and the former Beasley's orchards region. From the south, Beasley field would be followed by woods, the experience of crossing Back Creek and a secondary road, then curving abruptly to the left. Then the ascent of the wooded Buck Mountain would begin. From each approach, effects would include removal of vegetation and landform, exposing more of the Norfolk Southern railroad tracks, Route 615 and the railway signal line under the BRP. The elevation of the BRP above these existing features would result in a lesser impact on the vista than would ordinarily be expected.

The potential foreground impacts associated with segment 105 would be moderate. The presence of interstate pavement, barriers, guardrails, and grading in the foreground would be noticed by the travel experience for BRP visitors. Effects to the middleground would be high, especially to the north of the BRP. Currently screened by Park woods, industrial areas would become visible as the section of the interstate carries the open vista west. Impacts to the middleground include the cut and fill slopes,

bridge abutments, pavement, and guardrails, as well as the soundwalls that may be required in this area due to rapid suburban development out in this area of Roanoke County.

Segment 105 effects on the cinematic experience would be relatively low due to the location of the crossing. The travel sequence along the BRP would stay generally uninterrupted throughout the transition from woods to interstate back to woods.

Segment 118C BRP Evaluation

Quantitative Analysis: The quantitative analysis of the potential visual impact of segment 118C of Options 2b, 3, 3b, and 3c on the BRP found the following:

Number of places along the segment that would be seen from the BRP: 284
Minimum view cells: 0
Maximum view cells: 76
Mean view cell: 14.02
Sum of view cells: 3,982
Variety of view cells: 56

Qualitative Analysis: Segment 118C would cross the BRP in an already highly affected area south of milepost 121 through the U.S. Route 220 corridor in the Clearbrook area of Roanoke County. Impacts to the foreground would be low, and would include the widening of the U.S. Route 220 corridor. Impacts to the middleground also would be low and similar to those in the foreground. The middleground view would be most pronounced from the bridge looking south on U.S. Route 220. The Clearbrook area vista extends to the end of the middleground, in contrast to a north view of only the foreground. Most of the north view would be relatively protected due to two-thirds BRP ownership and viewshed boundary at the top of the hill just 1,000 feet (300 meters) away.

The impact on the cinematic experience would be moderate. The current location of the BRP on a bridge over U.S. Route 220 provides only a brief view of the corridor at a 90-degree angle, both east and west of the Park. The approach from the BRP north would be more visible than the approach from the BRP south. The approach from the north would be through a large and gradual S-curve in open pasture. The highway width would provide a much more visible section in the landscape setting, framed by background pine trees. The approach from the BRP south would reveal a sudden approach to the interstate because a pine forest has been carefully managed to create the surprise view of the field beyond. Currently this works exceedingly well because the pasture that is visible just beyond U.S. Route 220 serves as a highlighted forest boundary. The corridor would have its own presence as an event in the choreographed sequence, rather than just an edge between forest and grassland field.

Segment 371 BRP Evaluation

Quantitative Analysis: The quantitative analysis of the potential visual impact of segment 371 of Option 4 on the BRP found the following:

Number of places along the segment that would be seen from the BRP: 394
Minimum view cells: 0
Maximum view cells: 251
Mean view cell: 66.97
Sum of view cells: 26,387
Variety of view cells: 155

The two segments that would have the maximum potential visual effects on the BRP are segments 371 and 372, the two segments at the extreme outside edges of the study area. They vary in the type of exposure to the BRP, however. In the south end of the study area, segment 371 would cross the BRP near Mason's Knob Overlook. To the south of the BRP, the segment would be relatively well hidden in a valley as it approaches. After crossing the BRP, however, the segment would move north-northwest into

high-visibility areas. These areas, shown in the darkest colors of Figure 4.4-1, show that they would be highly visible from many places along the BRP, including some of the overlooks moving up the Metts Run to Adney Gap section.

Qualitative Analysis: Segment 371 would cross the BRP at milepost 126.5. The foreground views from the BRP would experience relatively high impacts, and would be more dramatically affected by this crossing because the land use on the south side of the BRP is currently very well blended with the invisible BRP boundary. As the interstate moves toward the Parkland, a more definite boundary would be discernible and the interstate would provide a southern boundary for the BRP.

Beyond the BRP boundary, the middleground impacts would be high. In particular the northern middleground may be affected because large cuts and fills would be placed into the northern ridges visible from many of the overlooks between Mason's Knob overlook and Adney Gap. Unmitigated middleground views could also be distracting to the south as the interstate cuts between Masons Knob overlook and Masons Knob, providing an interruption in this rural scenery from pasture to interstate highway to the featured covered mountain of the overlook scene.

Segment 371, through its secondary impacts, would also have a high impact on the BRP traveler's cinematic experience by extending the suburban reach of Roanoke County and its views another five miles (eight kilometers) past where it currently is perceived by the viewer. Approaching from BRP south, the secondary impact of expanded commercial and suburban development would be viewed early along the sequence of vistas and overlooks coming from Adney Gap down into the Back Creek drainage basin.

Segment 372 BRP Evaluation

Quantitative Analysis: The quantitative analysis of the potential visual impact of segment 372 Options 1 and 1a on the BRP found the following:

- Number of places along the segment that would be seen from the BRP: 940
- Minimum view cells: 0
- Maximum view cells: 86
- Mean view cell: 13.84
- Sum of view cells: 13,005
- Variety of view cells: 81

Qualitative Analysis: Segment 372 in the north end of the study area would have the highest effects of the five segments that would cross the BRP from a quantitative perspective. Although it would not share the high visibility of segment 371, it would be seen from across a broader land area, indicating that it would be seen in more places from the BRP. It would not be the subject of a focused view, but a more extended occasional view over and over again along the BRP experience.

Segment 372 would cross the BRP at milepost 103.6. This most northern of BRP crossings would have a relatively high impact on the foreground of the Park. If unmitigated, it would remove canopy vegetation in a forested segment of the BRP. In the foreground scene, cut slopes would occupy the majority of the view. In the foreground scene, cut slopes would occupy the majority of the view. The middleground views would be moderately affected, and would be exposed outside of BRP limits and in the presence of the interstate with open views to suburban areas on the east side of the BRP and rural residential areas on the west side. The same impacts of the visible roadway corridor section would apply to the middleground landscape. The interstate would open up scenes of currently hidden suburban development.

Segment 372 would also have a relatively high impact on the cinematic experience of the BRP albeit a brief impact relative to the overall length of the BRP. Approaching from BRP north, the visitor has been in a forested environment since the James River Basin, approximately 53.6 miles (86.3 kilometers).

Although open fields currently occur for the BRP visitor in another 1.5 miles (2.4 kilometers), the movement of open space onto the steeper slopes of the choreographed roadway gently descending into the Roanoke Valley would be a discordant placement with regard to the BRP traveler's experience. The movement of the open spaces off the valley floor would be a significant impact on this choreographed sequence. A secondary impact from this would include the addition of off-site development moving out of the Roanoke Valley another two miles (three kilometers) to the north. From the perception of the BRP visitor, the experience would be much more sudden than the currently gradually revealed city at a distance with housing in the middleground.

Segment 376 BRP Evaluation

Quantitative Analysis: The quantitative analysis of the potential visual impact of segment 376 Options 2, 2a, and 2c on the BRP found the following:

*Number of places along the segment that would be seen from the BRP: 260
Minimum view cells: 0
Maximum view cells: 135
Mean view cell: 6.72
Sum of view cells: 1,749
Variety of view cells: 39*

Segment 376 would result in the lowest visual impact on the BRP of any of the proposed crossings. This segment would be concealed along drainageways both south and north of the BRP.

Qualitative Analysis: Segment 376 would cross the BRP at milepost 116.9. The foreground impacts would be moderate. This crossing would affect the foreground views of the BRP with pavement, guardrail, concrete structures, and cuts and fills.

Middleground impacts would also be moderate. The middleground views would be opened both north and south by the interstate crossing. This would create more vistas into residential areas, which have previously been screened by topography. To the north a vista of the Roanoke Valley extending to Mill Mountain and to downtown has a potential to change the rural atmosphere in this segment of the BRP, although views of distant downtown are available further north.

The impact on the cinematic experience would be relatively low. Approaching this from the north the visitor would have already experienced the residential development and would have seen downtown Roanoke in the distance. The view to the north toward downtown Roanoke would come as no surprise. Views to the south would be opened up more, in concert with the views between U.S. Route 460 and U.S. Route 220. Approaching from BRP south, the existing stone arch bridge carrying Route 617 would provide a visual barrier for BRP visitors. After crossing through the stone arch, the interstate would be suddenly revealed and then would disappear quickly.

For all crossings of I-73, from the perspective of the driving Parkway visitor, the views opened to the driver and passengers would be very brief. At 35 miles per hour along the Parkway, the total visitor experience would last approximately 5.84 seconds. At 45 miles per hour along the Parkway, the total visitor experience would last approximately 4.55 seconds.

4.13.1.5 Measures to Minimize Harm

The NPS wants to emphasize the importance of the separate memorandum of agreement and the commitment to working with the VDOT if a build alternative is selected to minimize degradation of resources and to maintain a quality visitor experience of the Parkway. The identification of design standards, final alignment location, mitigating measures and management of Parkway closures would be principle topic areas for inclusion in the Memorandum of Agreement (MOA).

Response: FHWA and VDOT recognize the importance of cooperating with the NPS. As stated above, at one point, a “design” MOA was being developed between FHWA, VDOT, and the NPS – BRP, which was intended to address the design, aesthetic and engineering issues associated with Segment 376 when that segment was still part of the location corridor approved by the Commonwealth Transportation Board. That MOA was later shelved when the Commonwealth Transportation Board rescinded its approval of Segment 376 and selected the existing U.S. Route 220 crossing of the Blue Ridge Parkway for the I-73 crossing. The “design” MOA has been replaced by the Section 106 MOA which stipulates that future coordination will take place between VDOT and the NPS-BRP regarding design and aesthetic issues associated with the crossing of the Blue Ridge Parkway.

4.14 TEMPORARY EFFECTS DURING CONSTRUCTION ACTIVITIES

General Comment

Given the nature of the build option crossings of the Parkway with the construction of major bridge structures either over or carrying the Parkway, it would appear that the Parkway motor road would need to be completely closed to traffic for some length of time. Details related to closing the Parkway and potential inconveniences for Parkway visitors is a major concern of the NPS. The details of roadway closure and detours are a key area to be worked out between the VDOT and the NPS.

Response: The comment is noted, and this concern was generally acknowledged and discussed in section 4.14.2 on page 4.14-1. Until the crossing is actually designed and the type of bridge to be constructed known, it is not possible to determine whether the Blue Ridge Parkway would need to be completely closed during construction, whether a single lane could be maintained on the Parkway during construction, or whether a detour could be established and maintained during construction. All of these details would be worked out with the NPS-BRP at the appropriate time.

4.15 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

4.15.6 Aesthetics

The conclusion that construction of I-73 would not have a long-term visual impact on the BRP because of mitigating measures and on-going sub-urbanization seems to be missing the point. If constructed, I-73 would result in the introduction of a major visual intrusion into Parkway view areas. These view areas' foreground are now characterized by forested, rural or suburban land uses. A four-lane highway being constructed within any view area will irretrievably affect its scenic quality negatively and diminish the visitor experience through that section of the Parkway. The tone of this DEIS section minimizes the cumulative impacts to Parkway resources arising from the proposal and other changes. An MOA and a cooperative effort in implementing mitigation measures are critical to the overall success of this project. Success for the NPS is based upon providing visitors a scenic experience of viewing undeveloped forest lands and rural landscapes.

Response: Comments noted. An MOA has been developed in consultation with NPS-BRP, which is a signatory to the MOA.

SUMMARY of NPS CONCERNS

Before the VDOT selects a preferred corridor and prepares the final EIS, the NPS has two concerns to discuss with VDOT. The first concern is that this document minimizes the level of detail in the affected environment chapter and talks more about process than description of the affected environment, the issue being the absence of substantive data to compare the merits of the five option segments crossing the BRP or impacting the Appalachian National Scenic Trail's scenic viewshed. Secondly, inventory and impact analysis data are generalized into segment or option level of detail. However, for both the

Appalachian National Scenic Trail and the BRP, specific landscape unit data are needed to effectively evaluate build alternative options and provide more meaningful comments to VDOT.

In summation, the NPS reviewers have a number of concerns that are not adequately addressed in the draft. Before the NPS will finalize its position, the NPS requests that the VDOT schedule an on-site meeting in Roanoke, Virginia with Appalachian National Scenic Trail and BRP planning staff and representatives of other land-managing agencies charged with stewardship of our Nation's parks and forests, the FHWA and appropriate DEIS consultant staff. The meeting purpose would be to review affected visual environment and environmental consequences data specific to the five segments and their associated landscape units crossing the Parkway and visible from the Appalachian National Scenic Trail. This meeting should be scheduled as soon as possible so that the concerns identified above can be addressed in the final EIS.

Prior to attending the meeting Appalachian National Scenic Trail and BRP staff would like to receive copies of the Visual Quality and Parklands Technical Memoranda prepared for this project by members of the DEIS consultant team. Also copies of proposed crossing visual simulations or other graphic materials that further illustrate build alternatives are also requested. The DEIS referenced a FHWA publication Visual Impact Assessment for Highway Projects, 1981, and both the Appalachian Trail and Parkway staff request that they be provided a copy each of that manual for their use in reviewing the DEIS. These technical documents would assist NPS staff in further evaluating potential impacts and making recommendations for preferences of the five build crossings potentially affecting visual resources.

Please schedule meetings with, and transmit requested written and graphic materials to Don Owen of the Appalachian National Scenic Trail, at (304) 535-4003, and Gary Johnson of the BRP, at (828) 271-4744; extension 210. Thank you for your assistance in this matter and we look forward to an early and productive meeting.

Response: *As requested, the requested documentation has been submitted to the NPS. In addition, FHWA and VDOT have met with the NPS on a couple of occasions where several key issues were discussed and resolved. FHWA and VDOT have worked and coordinated closely with the NPS in developing the FEIS.*

FISH AND WILDLIFE SERVICE (FWS) RESOURCES

Endangered Species Act Comments

The federally endangered Roanoke logperch (*Percina rex*) is found throughout the Roanoke River drainage basin in the project study area. The federally endangered smooth coneflower (*Echinacea laevigata*) is documented in the project study area. The federally endangered northeastern bulrush (*Scirpus ancistrochaetus*) and Indiana bat (*Myotis sodalis*) may also occur in the project study area.

A species of freshwater mussel was recently documented in the Dan River drainage in Stokes County, North Carolina. At this time, the taxonomic status of this mussel is undetermined and DNA analysis is ongoing. It is possible that this mussel is a federally listed species. Therefore, the FWS will recommend that the Federal Highway Administration and the VDOT conduct surveys for this mussel for various project alternatives within the Dan River drainage.

The FWS recommends further coordination with FHWA and VDOT to determine the extent of all endangered species occurrences within the project study area and specifically, along the corridor of each project alternative. As the FWS stated in its letter to FHWA dated September 12, 2000, the FWS recommends a meeting with all interested parties to discuss these listed species and the need for surveys within the study area. This meeting should include species experts, for the species listed above, to discuss survey needs and likely species occurrences within the study area.

The FWS notes that a Biological Assessment (BA) has not yet been prepared for this project. The BA should be included in the final EIS. Guidelines for preparation of a BA were provided by the FWS to the FHWA in its letter dated September 12, 2000.

The FWS recommends that all survey results be included in the BA that will be included in the final EIS in order to prevent any unnecessary project delays, the FWS recommends that all endangered species coordination be completed as soon as possible. If the BA does not thoroughly address the impacts of the various alternatives on all federally listed species, the FWS may seek referral of this project to the Council on Environmental Quality pursuant to 40 CFR 1504.

Response: *The FHWA and VDOT have reviewed the preferred alternative in the field with the USFWS, USCOE, USEPA, and VDEQ to discuss wetland, water quality, and endangered specie issues. Based on this field review and ongoing coordination, the species to be surveyed for and the location of those surveys were established. Specifically, threatened and endangered specie surveys were conducted on the preferred alternative for the Roanoke logperch (a federally listed endangered fish), the smooth coneflower (a federally listed endangered plant) and the James spiny mussel (a federally listed endangered mussel). The results of the surveys were presented to the USFWS in the summer of 2002. Specifically, no populations of the smooth coneflower or James spiny mussel were found; a single population of the Roanoke logperch was located in proximity to the Pigg River crossing of the preferred alternative. By letter dated November 25, 2002, the USFWS concurred that sufficient surveys for federally listed species had been performed. They further found that the construction of Interstate 73 would likely affect the Roanoke logperch and that formal consultation would be required. Finally, the USFWS recommended that a request for formal consultation not be made until the final EIS was completed and final design initiated. Notwithstanding, we have completed a biological assessment for the Roanoke logperch, which has been included in the FEIS.*

Fish and Wildlife Coordination Act Comments

The FWS is concerned about the large scale impacts to forested habitat and farmland that are likely to occur if this project is constructed. All candidate build alternatives would adversely impact thousands of acres of natural habitat and farmland. Such federally-funded habitat destruction would have substantial negative impacts on the fish and wildlife resources in the construction area and wildlife-related recreation. FWS notes that in 1996 for example, 77 million U.S. residents of age 16 and older expended over 100 billion dollars on fishing, hunting, and other fish and wildlife related recreation (DOI - 1996). The FWS does not support the expenditure of Federal funds that results in unmitigated destruction of fish and wildlife habitat.

The FWS recommends habitat restoration/enhancement, offsetting negative impacts to fish and wildlife, as well as wildlife-related recreation. Habitat/riparian/floodplain restoration/reforestation or establishment of vegetated buffers along field edges are some of the many options that should be considered.

Response: *The Natural Resources Tech memo and the DEIS acknowledge the unavoidable loss of forest land and agricultural land which serve as wildlife habitat. None of the habitat affected supports federally threatened or endangered species. The acreage of forest and agricultural takings as a percentage of the study area is provided in the table below.*

Agricultural and Forest Takings in the I-73 Study Area

<i>Build Option</i>	<i>Agricultural Lands, Acres*</i>	<i>% Of Study Area</i>	<i>Forest Lands, Acres</i>	<i>% Of Study Area</i>
<i>1</i>	<i>2,177</i>	<i>2.27</i>	<i>4,391</i>	<i>1.41</i>
<i>1a</i>	<i>2,118</i>	<i>2.21</i>	<i>4,326</i>	<i>1.39</i>
<i>2</i>	<i>2,161</i>	<i>2.25</i>	<i>3,401</i>	<i>1.09</i>

2a	2,241	2.34	3,209	1.03
2b	2,071	2.16	3,176	1.02
2c	2,106	2.20	3,228	1.04
3	1,203	1.25	2,063	0.66
3a	1,203	1.25	2,242	0.72
3b	1,203	1.25	2,159	0.69
3c	1,247	1.30	2,014	0.65
4	1,520	1.58	3,413	1.10

Source: I-73 DEIS, Land Use, Socioeconomic & Farmland Technical Memorandum, Oct, 2000 p. 3-3, Table 3-1 and p. 4-39, Table 4.6-1

* Agricultural Lands include agriculture, pasture and open space.

FHWA and VDOT have coordinated with the USFWS to identify potential mitigation measures. Some of the mitigation measures that FHWA and VDOT have committed to or are committed to discussing further with the USFWS include riparian restoration, removing or breaching the abandoned hydroelectric dam on the main stem of the Pigg River, funding efforts with the FWS to reintroduce the Roanoke logperch into streams and rivers within the study area, enhanced stormwater management, preservation of forest land, etc. ;

Literature Cited

The DOI, Fish and Wildlife Service and U.S. Department of Commerce, Bureau of the Census. 1996 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation.

GEOLOGICAL/BIOLOGICAL RESOURCES:

Page 3.7-9, Chapter 3.0 AFFECTED ENVIRONMENT, Section 3.7 Natural Resources, Subsection 3.7.2.1 Forest Lands, Paragraph 3.7.2.1.5 Wildlife Species Associated with Forest Habitat:

The report mentions white-tailed deer (*Odocoileus virginianus*) as occurring in the proposed project location. And, while some mitigation for wildlife was suggested (page 4.7-3, Chapter 4.0 ENVIRONMENTAL CONSEQUENCES, Section 4.7 NATURAL RESOURCES, Paragraph 4.7.3 Mitigation), nothing was said about preventing white-tailed deer/vehicle collisions.

To address this issue, the U.S. Geological Survey (USGS) recommends consideration of two current research projects. Although the second project focuses on mule deer (*O. hemionus*), the highway behavior patterns of the two deer species are similar: Effectiveness of big game highway crossing structures, and hierarchical approach for studying mule deer behavior and habitat relationships.

Descriptions of these projects can be accessed from the USGS URL <http://biology.usgs.gov>, under Current Projects, mule deer, or under Coop Units, Utah Cooperative Fish and Wildlife Research Unit, Research Projects, Mule deer.

Response: *Fencing will be provided along the interstate right-of-way to prevent deer/vehicular collisions. Further, the Virginia Department of Conservation and Recreation is working on the Virginia Conservation Lands Needs Assessment Project where they are prioritizing ecologically important habitats and wildlife corridors in Virginia. VDOT is committed to coordinating with the VDCR to identify the ecologically important corridors that would be impacted by I-73 and considering design measures that will sustain and minimize impacts to such corridors.*

We appreciate the opportunity to offer comments on this project. For additional information regarding park and recreation resources please contact Don Owen of the Appalachian National Scenic Trail at this number: (304) 535-4003, and Gary Johnson of the BRP, at (828) 271-4744; extension 210. For information regarding fish and wildlife resources please contact Mr. William Hester of the Virginia Field Office, FWS at (804) 693-6694; extension 134. For information on geological/biological resources, please contact Ms. Michalann Harthill (703) 648-4077, of the U.S. Geological Survey.

Sincerely,

Willie R. Taylor
Director, Office of Environmental
Policy and Compliance

DEPARTMENT OF CONSERVATION AND RECREATION
203 Governor Street, Suite 302
Richmond, Virginia 23219-2010

January 11, 2001

Mr. J. Mark Wittkofski
Virginia Department of Transportation
1401 East Broad Street
Richmond, Virginia 23219-2000

Re: I-73 Location Study Between Roanoke and the North Carolina State Line: Draft Environmental Impact Statement & Draft Section 4 (f) Evaluation, Project Numbers: FHWA-VA-EIS-NH-962-2 (004); 0073-962-F01, PE101

Dear Mr. Wittkofski:

The Virginia Department of Conservation and Recreation (DCR) has reviewed the submitted I-73 Location Study Draft Environmental Impact Statement (DEIS) and offers the following comments. The DEIS has correctly identified the scenic river resources in the corridor. These include the Roanoke, Pigg, Blackwater, and Smith Rivers. It has also correctly identified the potential State Scenic Rivers in the corridor. Major recreational sites falling within the corridor boundaries have been referenced as well as the Blue Ridge Parkway. The DEIS presents several options within the corridor for locating I-73, however it does not designate or clearly indicate which option presented is the preferred option and why it is the preferred option. Therefore, as the plans for I-73 evolve, it is recommended that the Virginia Department of Transportation (VDOT) receive confirmation from DCR on the status of rivers, natural heritage resources and determination of any needed 6 (f) conversion requirements.

Virginia is a major tourist destination and has a goal of becoming one of the top 5 travel destinations in the Country. One reason people come to the Commonwealth is because of the high visual quality of the landscape, and the variety and diversity of its recreation, natural heritage and open space resources. The criteria, which are used to address the maintenance of these characters of the corridor, should be an important factor in the selection of the preferred corridor option. This would include the minimization of direct and visual impacts to the agricultural and forest resources in the corridor. One of the world class resources is the Blue Ridge Parkway. Several options call for an under crossing of the parkway. Minimal physical and visual impact to the parkway and its viewshed should be prominent consideration in the determination of the appropriate corridor development option. The options, which utilize existing transportation corridors, would appear to protect important landscape features by eliminating intrusions outside of existing transportation corridors.

A search of DCR's Biological and Conservation Data System (BCD) has identified many natural heritage resources within the boundaries of the corridor as outlined on the maps submitted in the DEIS. Natural heritage resources are defined as the habitat of rare, threatened or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

Presented by section, for your convenience, the following natural heritage resources have been identified:

Segments-105, 116B, 118, 118B, 118C, 144, 287A, 294, 321, 329, 349, 372, 373, 374, 376, 369, 373, 377, 377B, 378, 379, 380, 382, 386, 387, 390, 392, 393, 387, 392, 393, 394, 397, 398, 399, 400 No Comment

No Build Sites -1, 2, 3, 4, 5, 6, 7, 8, 9, 11,13, 14,15,16, 17, 19, 20, 21, 22,23, 26, 29, 30, 33, 35, 37 No Comment

#18 and #28 (No Build)

According to information currently in our files the Roanoke logperch (*Percina rex*, G2/S1S2/LE/LE) has been documented in Tinker Creek. The Roanoke logperch is endemic to the Roanoke and Chowan river drainages in Virginia (Burkhead and Jenkins, 1991). This species inhabits medium and large, warm and usually clear rivers with sandy to boulder spotted bottoms (TNC et. al., 1991). The Roanoke logperch is threatened by channelization, siltation, impoundment, pollution, and de-watering activities (Burkhead & Jenkins, 1991). Please note that the Roanoke logperch is currently classified as endangered by the United States Fish and Wildlife Service (USFWS) and the Virginia Department of Game and Inland Fisheries (VDGIF). Due to the status of the logperch, DCR recommends coordination with the United States Fish and Wildlife Service (USFWS) and the Virginia Department of Game and Inland Fisheries (VDGIF) to ensure compliance with protected species legislation.

#31 (No Build)

According to the information currently in our files, the Appalachian grizzled skipper (*Pyrgus wyandot* G2/S2) and the Regal fritillary (*Speyeria idalia* G3/S1) have historically been documented north of the intersection of Route 311 and Route 631. However, this record has not been verified since 1938. Any absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources.

#34 (No Build)

According to the information currently in our files, a significant ultramafic barren community has been documented in the project vicinity and may occur at this location. For DCR purposes, significant communities are defined to include both outstanding examples of common community types and all examples of rare community types. Rare community types include both small remnants of types which formerly occupied a much larger land area and those restricted to habitats which have always been widely scattered on the landscape. As functional landscape units, natural communities are important for several reasons. They support a myriad of life forms too cryptic or poorly known to be catalogued and prioritized individually and provide the nurturing environment for both rare and common species. They also contribute to the maintenance of larger ecosystems and possess unique intrinsic scientific, educational, and aesthetic values. It is therefore important to locate, classify, and evaluate these features as part of any comprehensive inventory of natural heritage resources.

This community supports the rare plant the Northern dropseed (*Sporobolus heterolepis* G5/S1/NF/NS). This is the only known site for Northern dropseed in the state of Virginia. Due to the rare and unique community and associated plant species, DCR recommends avoiding this community during road improvements.

Segment-333 (Options 1, 1a)

According to the information currently in our files, the Downy phlox (*Phlox pilosa* G5T5/S2) has historically been documented along Route 87. However, this record has not been verified since 1969. No other natural heritage resources have been documented from the study area. Any absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources.

Segment 152 (Option 1)

According to information currently in our files, the bigeye jumprock (*Scartomyzon ariommus*, G2/S2/NF/NS) has been documented in the Pigg River upstream of the project vicinity. The bigeye jumprock, a globally rare fish species, is endemic to the upper and middle Roanoke drainage in Virginia and North Carolina (Jenkins & Burkhead, 1993) and typically occurs in warm montane and upper Piedmont streams (Jenkins & Burkhead, 1993).

Segment 385 (Options 1, 2, 2a, 2b)

According to the information currently in our files, the orangefin madtom (*Noturus gilberti*, G2/S1/SOC/LT) has been documented in Big Chestnut Creek, a tributary to the Pigg River. The orangefin madtom, native to the upper Roanoke drainage in Virginia and North Carolina, inhabits moderate to strong riffles and runs having little or no silt in moderate gradient, intermontane and upper Piedmont streams (Jenkins and Burkhead, 1993). This species is an intersticine dweller, found in or near cavities formed by rubble and boulders (Jenkins and Burkhead, 1993). Please note that the orangefin madtom is currently classified as threatened by the Virginia Department of Game and Inland Fisheries). The orangefin madtom is also currently tracked as a species of concern by the United States Fish and Wildlife Service (USFWS); however this designation has no official legal status.

Segment 381 (Option 1a)

According to information currently in our files, the bigeye jumprock (*Scartomyzon ariommus*, G2/S2/NF/NS) has been documented in Blackwater Creek. The bigeye jumprock, a globally rare fish species, is endemic to the upper and middle Roanoke drainage in Virginia and North Carolina (Jenkins & Burkhead, 1993) and typically occurs in warm montane and upper Piedmont streams (Jenkins & Burkhead, 1993).

Segment 375 (Options 2b, 3, 3a, 3b, 3c), Segment 376 (Options 2, 2a, 2c), Segment 371 (Option 4), and No Build #4

According to information currently in our files, the bigeye jumprock (*Scartomyzon ariommus*, G2/S2/NF/NS) the Roanoke Logperch and the orangefin madtom (*Noturus gilberti*, G2/S1/SOC/LT) have been documented in the Roanoke River. The bigeye jumprock, a globally rare fish species, is endemic to the upper and middle Roanoke drainage in Virginia and North Carolina (Jenkins & Burkhead, 1993) and typically occurs in warm montane and upper Piedmont streams (Jenkins & Burkhead, 1993).

The Roanoke logperch (*Percina rex*, G2/S1S2/LE/LE) is endemic to the Roanoke and Chowan river drainages in Virginia (Burkhead and Jenkins, 1991). This species inhabits medium and large warm and usually clear rivers with sandy to boulder spotted bottoms (TNC et. al., 1991). The Roanoke logperch is threatened by channelization, siltation, impoundment, pollution, and de-watering activities (Burkhead & Jenkins, 1991). Please note that the Roanoke logperch is currently classified as endangered by the United States Fish and Wildlife Service (USFWS) and the Virginia Department of Game and Inland Fisheries (VDGIF). Due to the status of the logperch, DCR recommends coordination with the United States Fish and Wildlife Service (USFWS) and the Virginia Department of Game and Inland Fisheries (VDGIF) to ensure compliance with protected species legislation.

The orangefin madtom, native to the upper Roanoke drainage in Virginia and North Carolina, inhabits moderate to strong riffles and runs having little or no silt in moderate-gradient, intermontane and upper Piedmont streams (Jenkins and Burkhead, 1993). This species is an intersticine dweller, found in or near cavities formed by rubble and boulders (Jenkins and Burkhead, 1993). Please note that the orangefin madtom is currently classified as threatened by the Virginia Department of Game and Inland Fisheries. The orangefin madtom is also currently tracked as a species of concern by the United States Fish and Wildlife Service (USFWS); however this designation has no official legal status.

Segment 152 (Option 1), Segment 153 (Options 2, 2a, 2b, 2c), Segment 382 (Options 3, 3a, (Options 1a, 4), No-Build #32 and TSM

According to information currently in our files, the bigeye jumprock (*Scartomyzon ariommus*, G2/S2/NF/NS), the Roanoke logperch and the orangefin madtom (*Noturus gilberti*, G2/S1/SOC/LT) have been documented in the Pigg River. The bigeye jumprock, a globally rare fish species is endemic to the upper and middle Roanoke drainage in Virginia and North Carolina (Jenkins & Burkhead, 1993) and typically occurs in warm montane and upper Piedmont streams (Jenkins & Burkhead, 1993).

The Roanoke logperch (*Percina rex*, G2/S1S2/LE/LE) is endemic to the Roanoke and Chowan river drainages in Virginia (Burkhead and Jenkins, 1991). This species inhabits medium and large warm and usually clear rivers with sandy to boulder spotted bottoms (TNC et. al., 1995). The Roanoke logperch is threatened by channelization, siltation, impoundment, pollution, and de-watering activities (Burkhead & Jenkins, 1991). Please note that the Roanoke logperch is currently classified as endangered by the United States Fish and Wildlife Service (USFWS) and the Virginia Department of Game and Inland Fisheries (VDGIF). Due to the status of the logperch, DCR recommends coordination with the United States Fish and Wildlife Service (USFWS) and the Virginia Department of Game and Inland Fisheries (VDGIF) to ensure compliance with protected species legislation.

The orangefin madtom, native to the upper Roanoke drainage in Virginia and North Carolina, inhabits moderate to strong riffles and runs having little or no silt in moderate-gradient, intermontane and upper Piedmont streams (Jenkins and Burkhead, 1993). This species is an intersticine dweller found in or near cavities formed by rubble and boulders (Jenkins and Burkhead, 1993). Please note that the orangefin madtom is currently classified as threatened by the Virginia Department of Game and Inland Fisheries. The orangefin madtom is also currently tracked as a species of concern by the United States Fish and Wildlife Service (USFWS); however, this designation has no official legal status.

Segment 202A (Options 2, 2a, 2b) and Segment 385 (Options 1, 2, 2a, 2b)

According to the information currently in our files, the orangefin madtom (*Noturus gilberti*, G2/S1/SOC/LT) has been documented in Big Chestnut Creek a tributary to the Pigg River. The orangefin madtom, native to the upper Roanoke drainage in Virginia and North Carolina, inhabits moderate to strong riffles and runs having little or no silt in moderate-gradient, intermontane and upper Piedmont streams (Jenkins and Burkhead, 1993). This species is an intersticine dweller, found in or near cavities formed by rubble and boulders (Jenkins and Burkhead, 1993). Please note that the orangefin madtom is currently classified as threatened by the Virginia Department of Game and Inland Fisheries (VDGIF). The orangefin madtom is also currently tracked as a species of concern by the United States Fish and Wildlife Service (USFWS); however this designation has no official legal status.

Segment 333 (TSM, Options 1 and 1a), Segment 388 (Options 3, 3a, 3b, 3c), Segment 391 (Options 2, 2a, 2b, 2c) and No Build # 36

According to information currently in our files, the Roanoke Logperch (*Percina rex*, G2/S1S2/LE/LE) has been documented in the Smith River. The Roanoke logperch is endemic to the Roanoke and Chowan river drainages in Virginia (Burkhead and Jenkins, 1991). This species inhabits medium and large, warm and usually clear rivers with sandy to boulder spotted bottoms (TNC et. al., 1991). The Roanoke logperch is threatened by channelization, siltation, impoundment, pollution, and de-watering activities (Burkhead & Jenkins, 1991). Please note that the Roanoke logperch is currently classified as endangered by the United States Fish and Wildlife Service (USFWS) and the Virginia Department of Game and Inland Fisheries (VDGIF). Due to the status of the logperch, DCR recommends coordination with the United States Fish and Wildlife Service (USFWS) and the Virginia Department of Game and Inland Fisheries (VDGIF) to ensure compliance with protected species legislation.

Segment 371 (Option 4)

According to information currently in our files piratebush (*Buckleya distichophylla* G3/S2/SOC/LE) has been documented in the Poor Mountain Natural Area Preserve. Piratebush (*Buckleya distichophylla*, G3/S2/SOC/LE) is a shrub species that inhabits shaly, often very steep, xeric slopes with a southerly or westerly exposure. This species is a root parasite, meaning it taps into the root systems of neighboring plants for nutritional purposes. Found at only a few locations in Virginia, Tennessee and North Carolina, Piratebush is considered one of the rarest shrubs in eastern North America. Threats to this species include fire suppression, habitat destruction, over collecting, and browsing, presumably by deer (Musselman, 1991). Please note that this species is currently classified as endangered by the Virginia Department of Agriculture and Consumer Services (VDACS). It is also tracked as a species of concern by the USFWS; however this designation has no official legal status.

Due to the potential for this site to support additional populations of natural heritage resources, DCR recommends an inventory of suitable habitat in the study area. With the survey results we can more accurately evaluate potential impacts to natural heritage resources and offer specific protection recommendations for minimizing impacts to the documented resources. DCR also recommends coordination with the United States Fish and Wildlife Service (USFWS), the Virginia Department of Game and Inland Fisheries (VDGIF), and the Virginia Department of Agriculture and Consumer Services (VDACS) to ensure compliance with protected species legislation.

Response: *There has been extensive coordination with the USFWS, VDGIF, and VDACS on this project regarding threatened and endangered species. Based on this coordination, it was determined that surveys would be conducted on the preferred alternative for the Roanoke logperch (a federally listed endangered fish), the smooth coneflower (a federally listed endangered plant) and the James spinymussel (a federally listed endangered mussel). The location of these surveys was also established through this coordination. The results of the surveys were presented to the USFWS in the summer of 2002. Specifically, no populations of the smooth coneflower or James spinymussel were found; a single population of the Roanoke logperch was located in proximity to the Pigg River crossing of the preferred alternative. By letter dated November 25, 2002, the USFWS concurred that sufficient surveys for federally listed species had been performed. They further found that the construction of Interstate 73 would likely affect the Roanoke logperch and that formal consultation would be required. Finally, the USFWS recommended that a request for formal consultation not be made until the final EIS was completed and final design initiated.*

The Virginia Department of Agriculture and Consumer Services, which has regulatory authority to conserve rare and endangered plants and insect species through the Virginia Endangered Plant and Insect Species Act, has established a Memorandum of Agreement with the Virginia Department of Conservation and Recreation, Division of Natural Heritage (DCR-DNH). Under this Agreement DCR-DNH, in consultation with VDACS, represents VDACS in its comments and recommendations regarding

the potential impact of reviewed projects or activities on state- and federal-listed plant and insect species. Please coordinate your survey results with DCR-DNH so that we may determine if further mitigation measures should be included to minimize impacts to piratebush.

DCR-Division of Natural Heritage biologists are qualified and available to conduct inventories for rare, threatened, and endangered species. Please contact J. Christopher Ludwig, Natural Heritage Inventory Manager, at (804) 371-6206 to discuss arrangements for field work. A list of other individuals who are qualified to conduct inventories may be obtained from the USFWS.

Segment 371 (Option 4) and No Build # 12

In addition to plant and animal heritage resources, a significant limestone/dolomite barren community with the following associated rare plants; Addison's leatherflower (*Clematis addisonii*, G2/S2/NF/NS), Plains muhly (*Muhlenbergia cuspidata* G4/S2/NF/NS) and Chestnut lipfern (*Cheilanthes eatonii* G5/S2/NF/NS) has been documented in the project vicinity and may occur at this location. For DCR purposes, significant communities are defined to include both outstanding examples of common community types and all examples of rare community types. Rare community types include both small remnants of types which formerly occupied a much larger land area and those restricted to habitats which have always been widely scattered on the landscape. As functional landscape units, natural communities are important for several reasons. They support a myriad of life forms too cryptic or poorly known to be catalogued and prioritized individually and provide the nurturing environment for both rare and common species. They also contribute to the maintenance of larger ecosystems and possess unique intrinsic scientific, educational, and aesthetic values. It is therefore important to locate, classify, and evaluate these features as part of any comprehensive inventory of natural heritage resources.

Limestone/dolomite barrens occur in the Ridge and Valley physiographic province of Virginia. They are associated with calcareous soils derived from limestone and dolomite on south-facing slopes. They are maintained by droughty conditions perhaps in conjunction with fire or subtler ecological factors. Their vegetation is dominated by warm-season grasses with scattered red cedar and other woody plants. This community is highly threatened by habitat destruction. Due to the rare and unique quality of this community, DCR recommends avoiding this area with the proposed road alignment.

Also, three significant caves have been documented in the project vicinity and the following natural heritage resources in the project area:

Trichopetalum packardi	A millipede	G3Q/S2/NF/NS
Sinella hoffmani	Hoffman's springtail	G4/S2S3/NF/NS
Pseudanophthalmus pusio	A Cave Beetle	G3/S1/NF/NS
Atheta annexa	A Rove Beetle	G2G4/S2/NF/NS

To minimize potential impacts to these caves and natural heritage resources due to the proposed activity, DCR recommends coordination with Terri Brown, DCR's Karst Protection Specialist at 540-332-9991, Mr. Phil Lucas, President of the Virginia Speleological Society at 540-396-3584, and Mr. Bill Keith, Chairman of the Virginia Cave Board at 540-889-1150.

Due to the potential for several natural heritage resources to be impacted by the proposed project, DCR-NH recommends the no build alternative or Transportation System Management (TSM) over the build alternatives. However, if a build alternative is selected, DCR-NH recommends Alternative # 3, which follows Route 581 and Route 220. The majority of the alignment traverses previously impacted and urbanized areas therefore decreasing overall adverse impacts to natural heritage resources. DCR also recommends, to minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, the implementation of and strict adherence to erosion and sediment control measures during all land disturbing activities.

Any absence of data may indicate that the project area has not been surveyed, rather than confirm that the area lacks natural heritage resources. New and updated information is continually added to BCD. Please contact DCR for an update on this natural heritage information if a significant amount of time passes before it is utilized.

Soil and water conservation is required for any development activity associated with I-73, be aware that all Virginia Department of Transportation (VDOT) projects that involve a land-disturbing activity of over 10,000 square feet must comply with the (1) the VDOT annual specifications for erosion and sediment control (ESC) reviewed and approved by the Department of Soil and Water Conservation (DCR-DSWC), Central Office for the time period in which the project will be conducted and (2) the project-specific ESC plan. Please note that VDOT is required to prepare an individual project-specific plan for all projects involving a regulated land-disturbance, however, these plans need not be submitted to DCR-DSWC for approval. All specifications and plans must be prepared in accordance with the most current version of the Virginia Erosion & Sediment Control Handbook, Virginia Erosion & Sediment Control Law (VESCL) and Regulations (VESCR).

Similarly, all VDOT projects that involve a land use conversion activity of over 1 acre must comply with the (1) VDOT annual specifications for stormwater management (SWM) approved by DCR-DSWC Central Office for the time period in which the project will be conducted and (2) the project-specific SWM plan. As with ESC, VDOT is required to prepare a project-specific SWM plan for all projects involving a regulated activity. It is recommended that this project be considered with any other existing or proposed land use conversion or expansion plans for the property in order to adequately address the cumulative impacts on the receiving drainage or environmental systems, as well as, to identify the most appropriate strategy for reducing nonpoint source pollution from the developed and developing areas of the property. All specifications and plans must be prepared in accordance with the current version of the Virginia Stormwater Management Law (VSWML) and Regulations (VSWMR).

For use in directing project-specific technical and regulatory inquiries to the appropriate DCR Watershed Office, a copy of the guidance document titled, DCR Urban Programs contact Information, is available at <http://www.dcr.state.va.us/sw/e&s.htm>.

Coordination with Elizabeth Belcher of the Roanoke Valley Greenways Commission, P.O. Box 29800 Roanoke, Virginia 24018, telephone number 540-776-7159, along with the park and recreation departments of each locality to determine the completeness of the inventory of local park and open space areas.

The Department of Conservation and Recreation appreciates the opportunity to provide comments on the Draft Environmental Impact Statement.

Sincerely,

Derral Jones
Planning Bureau Manager
/saw

Cc: Kim Marbain, USFWS
Ray Fernald, VDGIF
Keith Tignor, VDACS
Terri Brown, DCR
Phil Lucas, VSS
Bill Keith, VCB

Literature Cited

Jenkins, R. E., and N. M. Burkhead. 1993. Freshwater fishes of Virginia. American Fisheries Society, Bethesda, Maryland.

Burkhead, N.M. and R.E. Jenkins. 1991. Roanoke logperch. In Virginia's Endangered Species: Proceedings of a Symposium. K. Terwilliger ed. The McDonald and Woodward Publishing Company, Blacksburg, Virginia. p. 395-397.

Musselman, Lytton J. 1991. Piratebush. In Virginia's Endangered Species: Proceedings of a Symposium. K. Terwilliger ed. The McDonald and Woodward Publishing Company, Blacksburg, Virginia.

The Nature Conservancy and The Network of Natural Heritage Programs and Conservation Data Centers. 1999. Natural Heritage Conservation Databases. Accessed through the Biosource web site project. The Nature Conservancy, Arlington, VA. (7/14/99).

Page-Specific Comments of the Virginia Department of Conservation and Recreation
Draft Environmental Impact Statement - I-73

1. The DEIS presents several options within the corridor for locating I-73, however it does not designate or clearly indicate which option presented is the preferred option and why it is the preferred option. Therefore, as the plans for I-73 evolve, it is recommended that the Virginia Department of Transportation (VDOT) receive confirmation from DCR on the status of rivers, natural heritage resources and determination of any needed 6 (f) conversion requirements.

Response: *The DEIS did not identify a preferred alternative because one had not yet been identified at the time the DEIS was circulated for comment. Following the Location Public Hearings and the consideration of comments by the VDOT, this information was presented to the Commonwealth Transportation Board, which approved a location for I-73. The alternative approved by the Commonwealth Transportation Board for I-73 has been carried forward in the FEIS as the preferred alternative. Confirmation from DCR on the status of rivers, natural heritage resources and determination of any needed 6(f) conversion requirements will be sought as plans develop. At this time, no impacts to public parks have been identified, including those funded by Section 6(f) of the Land and Water Conservation Fund.*

2. Several options call for an under crossing of the parkway. Minimal physical and visual impact to the parkway and its viewshed should be prominent consideration in the determination of the appropriate corridor development option. The options, which utilize existing transportation corridors, would appear to protect important landscape features by eliminating intrusions outside of existing transportation corridors.

Response: *The alternative that has been advanced as the preferred alternative in the FEIS uses the existing U.S. Route 220 crossing of the Blue Ridge Parkway and will not require the acquisition of any property from the Blue Ridge Parkway. The Route 220 crossing is also the preferred crossing of the Parkway by the National Park Service. Following the selection of an alignment by the Commonwealth Transportation Board after the DEIS was circulated for comment, FHWA and VDOT have worked closely with the National Park Service to address design and aesthetic issues related the crossing of the Parkway by I-73 and to address their concerns. VDOT has considered the NPS' preferences for a crossing of the Blue Ridge Parkway when selecting a preferred alternative.*

3. A search of DCR's Biological and Conservation Data System (BCD) has identified many natural heritage resources within the boundaries of the corridor as outlined on the maps submitted in the DEIS.

Response: *The presence of natural heritage resources within the study area as documented in the comments above is noted. Databases and occurrence maps provided by DCR were used to arrive at findings set forth in the DEIS. Further, the FEIS includes additional discussion on biodiversity ranked conservation sites and biodiversity ranked stream units.*

4. Due to the potential for several natural heritage resources to be impacted by the proposed project, DCR-NH recommends the no build alternative or Transportation System Management (TSM) over the build alternatives. However, if a build alternative is selected, DCR-NH recommends Alternative # 3, which follows Route 581 and Route 220. The majority of the alignment traverses previously impacted and urbanized areas therefore decreasing overall adverse impacts to natural heritage resources.

Response: *Comment noted.*

5. DCR also recommends, to minimize adverse impacts to the aquatic ecosystem as a result of the proposed activities, the implementation of and strict adherence to erosion and sediment control measures during all land disturbing activities.

Response: *Measures to avoid or minimize erosion and sedimentation during construction and operation of a highway facility were set forth in Sections 4.6.1.3, 4.7.2.3, and 4.14.7 of the DEIS. VDOT will implement and strictly adhere to erosion and sediment control measures during all land disturbing activities.*

6. Similarly, all VDOT projects that involve a land use conversion activity of over 1 acre must comply with the (1) VDOT annual specifications for stormwater management (SWM) approved by DCR-DSWC Central Office for the time period in which the project will be conducted and (2) the project-specific SWM plan. As with ESC, VDOT is required to prepare a project-specific SWM plan for all projects involving a regulated activity.

Response: *Measures to avoid or minimize water quality impacts associated with stormwater runoff during construction and operation of a highway facility were set forth in Sections 4.6.1.3, 4.7.2.3, and 4.14.7 of the DEIS. VDOT will comply with the annual specifications for stormwater management (SWM) approved by DCR-DSWC Central Office for the time period in which the project will be conducted and develop and implement a project-specific SWM plan for all components of I-73 involving a regulated activity.*

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

Street address: 629 East Main Street, Richmond, Virginia 23219
Mailing address: P.O. Box 10009, Richmond, Virginia 23240
(804) 698-4000, Fax (804) 698-4500, TDD (804) 698-4021
<http://www.deq.state.va.us>

January 5, 2001

Mr. J. Mark Wittkofski
Virginia Department of Transportation
1401 East Broad Street
Richmond, VA 23219-2000

RE: Interstate 73 Location Study, Draft Environmental Impact Statement

Dear Mr. Wittkofski:

Thank you for giving VDEQ's Office of Air Program Coordination the opportunity to review the I-73 Location Study. The counties of Bedford, Botetourt, Franklin, Henry, and Roanoke, and the cities of Martinsville and Roanoke are currently in attainment with the National Ambient Air Quality Standards. However, the Roanoke MSA is currently in violation of EPA's proposed 8-hour ozone standard, and transportation conformity requirements may apply in the future. As such, fugitive emissions of volatile organic compounds (VOCs) and oxides of nitrogen (NOx) generated from construction activities should be minimized. The State air pollution regulations applicable to the I-73 Location Study are listed below.

- Fugitive Dust and Emission Control (9 VAC 5-50-60 et seq.)
- Open Burning Restrictions (9 VAC 5-40-5600 et seq.)

Please feel free to contact me at (804) 698-4405 with any further questions.

Sincerely,

Jarnes Ponticello
Office of Data Analysis

Response:

The comment on the State air pollution regulations applicable to the I-73 Study are noted and have been acknowledged in the FEIS.

Further, as you are aware, there have been many developments regarding air quality in the last couple of years. In 1997, EPA developed the 8-hour standard for ozone, which was intended to be more sensitive to the public health effects of ozone over a greater period of time than the 1-hour standard. In April of 2004, EPA found that monitoring data representative of the Cities of Roanoke and Salem and the Counties of Roanoke and Botetourt exceeded the 8-hour standard. Instead of designating these localities as nonattainment, EPA deferred the designation because the area has developed and is in the

process of implementing an early action compact. The compact is an agreement among the localities to implement voluntary control measures to reduce ozone. If the localities continue to implement the control measures and meet required milestones and the area has three years of clean monitoring data leading up to the December 31, 2007, attainment demonstration, then EPA will designate the area attainment for the 8-hour ozone standard. EPA's preamble to the 8-hour final rule states that conformity is not a control measure to be used like the voluntary measures that are included in early action compacts. Rather, conformity establishes a process in nonattainment areas for state and local governments to consider the broader emission impacts of their transportation decisions. In addition, the early action compact protocol developed by EPA specifically excuses early action compact areas from meeting the transportation conformity requirements since the conformity requirements only kick in one year after areas are designated nonattainment. Consistent with 40 CFR 93.102(d) and section 176(c)(6) of the Clean Air Act, conformity for the 8-hour standard, including a regional ozone analysis, does not apply in early compact areas provided the area meets all of the terms and milestones of its early action compact. Failure to meet these terms or milestones will invoke the nonattainment designation requiring conformity for the 8-hour standard within one year of the nonattainment designation by EPA.

COMMONWEALTH of VIRGINIA

Department of Health
PO BOX 2448
Richmond, VA 23218
TDD 1-800-828-1120

E. ANNE PETERSON, M.D., M.P.H.
STATE HEALTH COMMISSIONER

January 10, 2001

Mr. J. Mark Wittkofski
Environmental Specialist II
Virginia Department of Transportation
1401 East Broad Street
Richmond, VA 23219

Dear Mr. Wittkofski:

The VDH-Office of Water Programs has reviewed the Draft EIS and Section 4(f) Evaluation for I-73, dated October 2000. At this time we have no comments due to the uncertainty of the actual alignment of I-73. Once an alternative has been selected, we will look at the possible impact on public water supplies. We anticipate that any impacts can be minimized by the use of Best Management Practices.

Sincerely,

Alan D. Weber, P.E.
Field Services Engineer
Office of Water Programs

Response: *Comment noted. The Virginia Department of Health will be provided with a copy of the FEIS.*

William & Mary
VIMS
Virginia Institute of Marine Science
School of Marine Science

WETLANDS PROGRAM

December 6, 2000

Mr. J. Mark Wittkofski
Environmental Specialist II
Virginia Department of Transportation
1401 East Broad Street
Richmond, VA 23219-2000

RE: I-73 Location Study, Draft EIS

Dear Mr. Wittkofski,

I have preliminarily reviewed the Draft Environmental Impact Statement for the I-73 Location Study and have determined that, given the location of the proposed interstate and its distance from the coastal plain, the Virginia Institute of Marine Science will not be commenting. To my knowledge, we have not commented previously or had any part in the preparation of the document for the same reasons stated above.

If I may answer any questions with regard to the above comments, please do not hesitate to contact me.

Sincerely,

Thomas A. Barnard, Jr.
Marine Scientist

xc:
R.B. Stevens
1317-1 Giles Road
Blacksburg, VA 24060

Response: *Comment noted.*

PUBLIC COMMENTS and RESPONSES

Sherman Bamford
P.O. Box 3102
Roanoke, Va. 24015-1102

January 12,'01
Project 0073-962-F01, PE 101

1-73 Location Study
Salem District Office
P.O. Box 3071
Salem, Va. 24153

To Whom this Concerns:

13. I am a citizen of Virginia living in or near one of the project segments (segment 375) of proposed 1-73, a segment that is part of several "alternatives" and/or "options" it for the new-build and TSM alternatives. I have a longstanding interest in transportation policies; parklands, open space and forests; remote areas; trails, greenways, bike routes, and canoe routes; biodiversity; rare species; keystone species such as bears or trout; old growth forests; natural heritage resources; plants; wildlife; watercourses; aquatic species; caves; geological resources and other natural assets of our commonwealth and our bioregion. I was involved in the campaign to stop the construction of a four-lane highway (Rt. 58) through the Mt. Rogers National Recreation Area. I have been extensively involved in efforts to stop numerous harmful logging and roadbuilding projects in National Forests and National Parks in Virginia, North Carolina and other states. The proposed new-build alternatives for I-73 have the potential to damage the land and forests of this bioregion with an intensity that few other individual projects can match. The secondary impacts resulting from this project (haphazard development, etc.) are dearly foreseeable and are likely to damage portions of the land and forests of this bioregion, reaching far beyond the highway's footprint. So I have many reasons to be concerned about proposed I-73. I am a member of Heartwood, the Sierra Club - Roanoke River Group, the Southern Appalachian Biodiversity Project (SABP), Shenandoah Ecosystems Defense Group (SEDG), and Plowshare Peace and Justice Center.

15. The following are my comments on the proposed 1-73 project:

16. - I request that the comment period for this DEIS be extended by another 45 days. The proposed highway will have a significant, long-term, irreversible impact on the southern Appalachian and Piedmont bioregions. The issue is complex and a great number of people are understandably concerned about its impacts. Unfortunately, VDOT has not made an good faith effort to make the DEIS and related documents available to the public. The DEIS was released late. VDOT charged an unreasonable high amount for copies of the DEIS and falsely told citizens over the phone that the document would cost even more (hundreds of dollars). VDOT did everything possible to dissuade citizens from reviewing the DEIS and related documents in a timely fashion. NEPA regulations state that EISs will be normally be made free to those requesting them. VDOT has not stated why the I-73 Project constitutes an "abnormal situation or why the state agency is able to ignore NEPA in this circumstance. VDOT sent the DEIS to only a handful of libraries in the commonwealth, and the accompanying technical reports were not sent to any libraries. And the public comment period and public meetings were scheduled during the busy holiday season, leaving the public with barely a week and a half after the holidays to review the documents and make public comments if able to locate all the relevant documents - a difficult task. After much effort I received a copy of one of the technical reports only one day ago. Many others with less patience or more extensive time constraints than myself undoubtedly were frustrated. The public deserves an adequate amount of time to review the documents and to make comments on this project.

Response: Documents were available for review beginning on November 9, 2000. The comment period was open until January 12, 2001, giving interested parties over 60 days to review and comment

on the document. FHWA's NEPA regulations at 23 CFR 771.123(f) state that normally, copies will be furnished free of charge. However, with Administration concurrence, the party requesting the draft EIS may be charged a fee which is not more than the actual cost of reproducing the copy or may be directed to the nearest location where the statement may be reviewed. To offset the expense, copies of the draft EIS were \$61, the exact cost for reproduction. In addition, a CD containing the entire draft EIS was available for \$15.50. The document was made available for review at many public locations including libraries and VDOT District and Residency Offices

17. The DEIS should be substantially revised to provide adequate information on the full impacts of this project, including impacts to geology, rare species, keystone species, important biological communities, hydrology, water quality, aquatic species, viewsheds, recreation, parklands, open space, forests, farmlands, trails, canoe routes, economics of recreation, private property, neighborhood cohesiveness, or private property values. The DEIS provides no conclusive information on the ACTUAL impacts of this highway on these resources and values. The DEIS does not even meet the bare minimum standards for environmental disclosure.

Response: *Issues related to natural resources and land uses are adequately addressed in the draft EIS and Technical Memoranda pursuant to the guidance of FHWA's Technical Advisory T 6640.8A. The scope of issues that were addressed and the degree to which they were addressed were identified during the scoping process leading up to the draft EIS by way of several public meetings and through coordination with numerous state and federal agencies. Based on feedback through the scoping process, the issues that warranted the most attention were identified.*

18. VDOT misleads the public when it states that "interstate design criteria" is necessarily for this facility and that Congress explicitly intended for I-73 to be a full "interstate" highway. (DEIS-39) This is a misreading of the clear language in the legislation. See comments submitted on behalf of VAR on this issue. Moreover, VDOT misled the public in its '98 public meetings; from the beginning it insisted the issue was not whether or not to build an Interstate highway, but where the interstate highway would be located. VDOT needs to rewrite the purpose and need statement (DEIS-39) and substantially revise the DEIS so that it better reflects the choices Virginians must make in transportation policy, instead of the current misreading of legislative language.

Response: *The draft EIS does not state that the interstate design criteria is "necessary" for this facility or that congress "explicitly intended" for I-73 to be a full interstate facility. Rather, the draft EIS speaks to Congressional intent and acknowledges the flexibility provided by Congress by stating, "...[Congress] has not ruled out other design standards such as that for other principle arterials...(draft EIS 2-6)." The context in which this verse appears in the draft EIS is in a context which states that FHWA believes that the designation by Congress of the Interstate 73 high priority corridor indicates the congressional intent that this route would be an Interstate highway. Further reinforcing this intent, Congress has amended existing legislation and passed additional legislation designating the section of I-73 from Charleston, South Carolina to Portsmouth, Ohio as a future part of the Interstate system subject to the conditions that the section to be added meets Interstate design criteria and connects to an existing Interstate segment. Although this does not rule out other design standards which some states are pursuing, those decisions are left to the individual states. Therefore, even though Congress has provided the states with flexibility, they have expressed their intent through legislation as referenced above and have provided states with the legal mechanism to designate the route as part of the Interstate system should they meet the conditions noted. Accordingly, the draft EIS identifies the Interstate design standard as the "preferred design alternative" for I-73 in Virginia in keeping with the documented purpose and need which includes congressional intent. Notwithstanding, the draft EIS further clarifies that the Interstate design is being used to assess impacts and compare alternatives for purposes of selecting a location, a worst-case scenario if you will; the actual design and design related features won't be approved until after final design which cannot be initiated under FHWA regulations until after a Record of Decision is issued. Finally, the draft EIS clearly documents that I-73 would need to be constructed to principle arterial design standards. The EIS went on to explain that principle arterial*

design standards are composed of "freeway" design standards under which an Interstate facility would fall and "other principle arterial" design standards under which non-Interstate or non-freeway facilities would fall. The EIS further documents that there is no difference between horizontal design dimensions (shoulder width, lane width, and median) of a freeway design and the other principle arterial design. In other words, the impacts from the footprint created by either a freeway (i.e. Interstate) design and an "other principle arterial design" are not appreciably different.

19. - I am opposed to all new-terrain Build options for I-73. These include Options 1 & 1 a (Eastern Corridor), Options 2, 2a, 2b, & 2c (1-581 to Windy Gap Mtn.), Options 3, 3a, 3b, & 3c (Central Corridor) and Option 4 (Western Corridor).

Response: *Comment noted.*

20. - I am opposed to all of the 11 Build corridors studied for new-terrain highway because of their significant impact on the environment and their tremendous cost to the taxpayers.

Response: *Comment noted.*

21. - I am in favor of the Transportation Systems Management Option, which would provide essential upgrades to U.S. 220 for millions of dollars rather than billions of dollars of wasteful, porkbarrel spending for a new terrain interstate highway. This would result in a safer road in a fraction of the time.

Response: *Comment noted.*

22. - The public opposes New-Build Alternatives. The majority of respondents to a Roanoke Times poll favors the TSM/Fix 220 Option.

23. - Botetourt, Bedford and Salem governments oppose New-Build options.

Response: *Section 3.2.8 and 4.2.6 (Adopted Goals and Policies) state that the Botetourt County Planning Staff and the Botetourt County Board of Supervisors have gone on record opposing any alternative through the county, not build options. The City of Salem has also gone on record opposing the construction of I-73. However, to date, there is no record of Bedford County opposing the I-73 project.*

In addition, it should be noted, that the following entities support the construction of I-73: Franklin County, Halifax County, Henry County, Patrick County, Pittsylvania County, City of Martinsville, City of Roanoke, Roanoke MPO, Patrick Henry Development Council, Board of Downtown Roanoke Incorporated, and the Roanoke Chamber of Commerce.

24. - Roanoke Times letters to the editor overwhelmingly oppose the New-Build options.

Response: *Comment noted.*

25. - People in Michigan, South Carolina, North Carolina, Ohio and West Virginia have decided not to build I-73 to interstate standards. You mislead the people of Virginia and this bioregion when you state that I-73 must be built to interstate standards. Do not build the highway to interstate standards here.

Response: *The draft EIS does not state that I-73 must be built to Interstate standards (see response above). In addition, the draft EIS documents the status of I-73 in other states where I-73 has advanced to varying degrees. While Congress recognized and designated the I-73 corridor as a national high priority corridor, they designated only a limited amount of funding for the planning, design and construction of the facility. Consequently, some states have made more progress with I-73 than others due primarily to funding availability.*

In Michigan, the Michigan DOT completed a preliminary corridor feasibility study in June 2001. The study concluded that there is sufficient traffic to warrant a freeway/Interstate investment. Three feasible location alternatives were advanced in the feasibility study. Each of the three alternatives have been screened for environmental flaws and has the potential for further investigation. NEPA is the next step and the DOT will program that for later. For Michigan much of the corridor (approximately 80%) designated by Congress for I-73 is already freeway standard with limited access, grade separated interchanges and appropriate median widths for both urban and rural conditions. The existing freeway section of the corridor consists of I-75 and US Route 27. There is funding allocated for improvements to interchanges and the median along the existing I-75/US 27 corridor. The most difficult part to completing I-73 in Michigan is in the southeast part of the state where I-73 ties into Ohio.

In Ohio an I-73 toll feasibility study for the Turnpike Commission in Ohio has been completed. The results were not sufficiently strong enough to influence the Turnpike Commission to advance I-73 as a toll road at this time. The Ohio DOT has provided some I-73 components along the US Route 23 alignment, which is the I-73 corridor in Ohio. From Columbus to Michigan few improvements are planned or underway. North of Columbus a few grade separated interchanges are in the program. A limited access bypass was proposed for an area just north of Columbus but has not advanced. From Columbus south to Portsmouth, spot improvements, intersection improvements and safety items are advancing. In Portsmouth, Ohio a bypass along the west and north side is currently undergoing NEPA evaluation. This section ties into the I-73 corridor in West Virginia. Funding for the Portsmouth bypass was secured from the Appalachian Corridor Development Fund, the same source that has provided much of the funding for West Virginia's I-73.

In West Virginia, I-73, also known as King Coal Highway, generally follows existing US Route 52 from Williamson to Bluefield. Most of this corridor has been through NEPA. Most of this corridor has been designed and segments are currently under construction. I-73 in West Virginia is being developed to Appalachian Development Highway Standards, a provision that was advanced by West Va. Senator Byrd. This standard has been applied for much of the Interstate system in West Virginia. The intent is to gradually improve I-73 in West Virginia to near Interstate standards as traffic operations and linkage to neighboring states become more critical.

In North Carolina approximately 60% of the I-73 corridor is Interstate or near Interstate standards. The current issue is funding. NCDOT has identified and programmed all of the I-73 segments within the state with the exception of a portion in Rockingham County. In areas where I-73 bypasses towns or cities and on large areas in Richmond, Montgomery, and Guilford, I-73 will occur on new location and be built to Interstate standards. The area of US 220 near the Virginia state line will remain as is until travel demand increases or Virginia's I-73 is completed. The intent along this section is to improve US Route 220 to near Interstate standards as demand and need warrant the improvement. VDOT's progress on I-73 to the Virginia North Carolina state line would heavily influence NCDOT's program for US Route 220 from NC Route 704 to the state line. The Interstate shield is in place on I-73 in North Carolina.

In South Carolina, a feasibility study has been completed and a broad corridor has been identified. Charleston has been replaced with Myrtle Beach as the preferred eastern terminus of I-73. A price tag of \$5.0 billion has been estimated in the feasibility study. Under H.R. 3550, "The Transportation Equity Act: A Legacy for Users", approved by the House Transportation Committee on March 24, 2004, South Carolina would receive \$10 million for the development of I-73. An effort is underway to designate I-73 as a project of regional and national significance so that it can be put among the top priorities to receive further funding. State officials believe that I-73 will boost tourism as well as economic development that will diversify the economy and create jobs. In January of 2005, the Carolinas came to an agreement on where I-73 would enter South Carolina, and South Carolina is moving ahead with the NEPA process.

26. - The cumulative impacts of proposed I-73 routes are not adequately addressed in the DEIS. The DEIS does not address the cumulative impacts of sprawl and secondary development. The DEIS does

not provide estimates or analysis of the amount of sprawl and secondary development that will occur around any New Build locations, interstate upgrades or interchanges. Associated impacts to forests, ecosystems native biodiversity, unique biological communities, rare species, farmland, recreational resources, downstream water resources, air quality, geology, caves and underground resources, viewsheds, rural or neighborhood way of life (quality of life), degree of attachment to landscape or region, or any other assets and values are not analyzed anywhere in the DEIS. The DEIS does not analyze how land-ownership patterns around the proposed options might affect secondary development and sprawl - or how sprawl and secondary development might in turn affect plant and wildlife habitat, plant and wildlife population, or plant and wildlife dispersal corridors.

Response: *Section 4.12 of the draft EIS addresses land use related secondary impacts for each alternative using an approach recommended by the Environmental Protection Agency. This approach specifically considered secondary impacts to residential, parkland/public property, agricultural/forest, prime agricultural, and wetland land uses around proposed interchanges should secondary development come in. This analysis is speculative and based on what could happen in terms of secondary development. All local governments located within the project study area are responsible for planning and zoning within their respective jurisdiction and ultimately control the impacts that could occur around interchanges. VDOT has coordinated with FHWA to address issues related to secondary and cumulative impacts resulting in additional information being included in the final EIS. In addition, the draft biological assessment that was prepared and included in the appendices of the F EIS addresses the secondary and cumulative impact to the Roanoke logperch.*

27. - The DEIS does not analyze cumulative impacts north of the Roanoke area or south of the Va./NC line. The DEIS does not analyze what resources might be impacted, or how changes in traffic patterns might spill over into other areas, lead to unsafe conditions on other roads, or ultimately lead to the construction of new-build highways in fragile terrain in other portions of the Appalachians or the Piedmont.

Response: *The issue is one of independent utility and whether the construction of Interstate 73 will trigger the need to improve roads that would connect to Interstate 73, resulting in additional environmental impacts. The traffic analysis that was performed in support of the draft EIS and which will be updated when final design commences, dictates the design of the facility (i.e. number of lanes, type and location of interchanges, improvements to connecting roadways, etc.). At the Virginia/North Carolina border, Interstate 73 would be a four-lane facility and tie into an existing four-lane facility in North Carolina. Based on the traffic analysis that was performed, a four-lane facility is adequate to handle the traffic and will not trigger the need for additional improvements on roads in North Carolina or adjoining roads. At the northern end of the project, improvements that have been planned for Interstate 81 and others that are being studied would adequately handle the traffic from Interstate 73 also. Therefore, additional improvements will not be triggered there either. Based on the limited design work that has been prepared to support the development of the draft EIS, it is not anticipated that Interstate 73 will trigger the need for the construction of new-build highways. The assessment of environmental impacts in the draft EIS is based on preliminary engineering that provides an area of transition from the Interstate facility to cross roads. Once final design activity is initiated and traffic is updated, there will be more definitive information to determine what specific needs exist on cross roads to accommodate traffic. If this effort results in changes to impacts, they will be accounted for through the NEPA reevaluation process. VDOT continues to coordinate with FHWA to address issues related to secondary and cumulative impacts. During this process information has been added to the FEIS as requested by FHWA. The analysis of secondary and cumulative impacts is limited to the study area for this project, which is the area over which the effects of the project are likely to be felt.*

28. - The DEIS does not analyze the role of this highway in relationship to the North American Free Trade Agreement (NAFTA), the Free Trade Agreement of the Americas (FTAA), and other instruments of economic globalization that facilitate exploitation by transnational corporations at the expense of building stronger, local, sustainable economies. To what degree is this project a subsidy by the federal

government to transnational corporations? What additional subsidies will state and local governments provide to transnational corporations (tax breaks, special deals, infrastructure and access provided at below-cost) along the I-73 corridor? Is I-73 designed to ship goods to or from any countries (e.g. Canada, overseas, Atlantic ports) with lower labor, environmental or consumer standards? Will I-73 lead to erosion of local or US wages as a result of easier sourcing from low wage countries or countries with lower environmental, labor or consumer standards? Will I-73 lead to erosion of local or US wages as a result of government-subsidized, easier sourcing from other regions and countries where workers do not have adequate rights to organize, form unions or express themselves politically? Will I-73 facilitate the exploitation of native people (first nations) in Canada, the US, or other parts of the world? Will I-73 facilitate the looting of forests and lands in Canada, the US, or other parts of the world?

Response: *Your comment consists of many hypothetical questions that cannot be answered or deal with issues beyond the scope of the study (e.g. economic globalization) or beyond the area over which the effects of the project will be felt between now and the design year. The draft EIS addresses those issues that were identified as critical issues during the scoping process based on public comment and coordination with state and federal regulatory and resource agencies. Further, the comment does not make a case for the significance of these issue such that it warrants further consideration nor does it make a case that a relationship exists. In designation I-73 as a high priority corridor from Michigan to South Carolina in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), Congress found that many regions of the country are not now adequately served by the Interstate system or comparable highways in order to serve the travel and economic development needs of these regions. Therefore, the intent of Congress in designation I-73 as a high priority corridor was based on concerns for improved goods movement between the nation's regions, state priorities for improved access and a need for economic development. Indeed, many cite the lack of an Interstate facility as the reason this region of Virginia has not remained competitive, jobs have been outsourced to other countries, and the region has not been able to attract the type of development that produces well-paying jobs.*

29. - I am concerned that many of the family-owned and locally-owned businesses along the U.S. 220 corridor, in downtowns, and other bypassed areas will have to close or scale back operations if one of the new-terrain highway options is selected. We have seen the same thing happen along US 11 and along other bypassed highway segments. Many of these businesses have a history in the region and have been open for many years. I am concerned that well-funded real estate speculators, chain businesses, and other large corporations (many from outside the region) will profit from the new terrain highway - effectively cornering the real estate market and access to loans along the new interchanges, etc., while family-owned and locally owned businesses suffer.

Response: *Comment noted. A straw man comment often received on projects that bypass towns or business districts is that the project will destroy the economic base of the downtown area or business district by diverting through-traffic away from those areas. In anticipation of this comment, a NCHRP study was cited in the EIS to illustrate the amount of scientific research that has been done in this area and the potential positive economic impacts associated with the construction of a highway in a rural environment. While the study focused on population centers smaller than those found in the I-73 corridor, the results found that the construction of these highways did not, generally speaking, have a negative impact on the economy of those areas bypassed or had a very limited impact. The study "summarized" economic survey results from 47 state DOT's and six Canadian DOT's as well as the published results of 190 research articles in arriving at its conclusion.*

30. - Almost all the routes (except TSM) are located in rural areas, areas with light development, or areas with a great deal of forest landscape or open space landscape. VDOT undoubtedly believes it will encounter less opposition (or less well organized opposition) in these areas, since there are fewer people in these areas. And the wild creatures that live in forested areas and streams cannot write comments or speak at public meetings. This must not be allowed to happen. VDOT must not ram this highway into undeveloped areas and rural areas in this manner.

Response: The Study Team received more than 750 Build Alternative suggestions from the public. Screening of the initial options was based on a set of evaluation criteria developed by the Study Team, emphasizing those obvious issues that could eliminate an option without further research. The more than 750 suggestions were organized into geographic segments to which the screening criteria were applied. Fatal flaw criteria included:

- Avoid crossing Smith Mountain Lake;
- Avoid crossing Philpott Reservoir;
- Avoid impacts to Fairy Stone State Park;
- Consider proximity to logical termini; and
- Avoid excessive cost (i.e. tunneling, extensive bridging, massive cut and fill).

Selection of the detailed alternatives for the analysis was based on a more detailed set of screening criteria that included known resources, which did not require substantial research. A two-level screening process was used at this stage of alternative development. Level 1 screening criteria included such items as known archaeological and historic resources, wetlands, threatened and endangered species, prime farmlands, initial identification of land uses, areas of development, and topographic features. Level 2 screening criteria were similar to Level 1 criteria but required some additional research and information to determine more fully the impacts of a particular segment. Level 2 criteria also considered impacts to the Blue Ridge Parkway and potential positive impacts of the proposed roadway, such as enhancing industrial and tourist access and the ability to enhance existing economic development plans and access to designated growth areas. The Alternatives Identification and Screening Technical Memorandum, details this two-level-screening process.

Acreage impacts to forested resources from the build options represent less than 0.5% of the regional acreage of forested resources (draft EIS 4.7-2)

Finally, most of the study area located south of Roanoke to the Virginia/North Carolina state line can be characterized as rural; therefore, it cannot be avoided. We assume that the TSM is being considered a non-rural alternative because it is located along the corridor of an existing facility. If that is the standard being used to distinguish between rural and non-rural alternatives, then options 3, 3a, 3b, and 3c should be considered non-rural alternatives because they generally follow the Route 220 corridor also. Noting the concern that has been expressed in other comments about impacts to businesses and communities, those alternatives located in rural areas will have less impacts to those resources.

31 - VDOT must comply with all laws, regulations, treaties, executive orders and agreements relating to "environmental justice."

Response: Discussion of environmental justice consequences is provided in section 4.2.3 of the DEIS in accordance with Executive Order 12898.

32. - VDOT must not select any route simply because many of the people are minorities, relatively poor, rural residents or disadvantaged in any way. VDOT must not select any route simply because it crosses more open space or forested land, etc. than other routes.

Response: Please see previous responses regarding the selection process for alternative analysis and discussion of environmental justice consequences. VDOT does not select routes "simply because the people are minorities, relatively poor, rural residents, or disadvantaged." Besides, environmental justice only affords special consideration to minorities and low-income populations.

33. - VDOT should consider whether the people living in and around such areas desire the radical changes in the landscape that this project (and all accompanying secondary development) entail.

Response: *The public has had numerous opportunities to make their desires known through a variety of public involvement opportunities. Likewise, VDOT has considered the views of the public that they have received.*

34. - Accident rates on I-581 are higher than accident rates for U.S. 220. Yet you say that development of an interstate highway will automatically lead to a safer highway. How is this so?

Response: *A detailed investigation of accident rates was conducted as part of the preparation of the DEIS and in subsequent analysis and investigations for both US 220 and I-581. Across the State, accident rates for four-lane divided roadways without access control, such as US 220, have accident rates that are generally twice the amount as compared to four and six-lane controlled access facilities, such as the proposed I-73.*

A detailed comparison of accidents and accident rates was conducted in response to the question for I-581 and US 220 for the year 1995. Using DEIS referenced VDOT information for the referenced year, 253 accidents and five (5) fatalities occurred along US 220 from the Roanoke county line south to the North Carolina State Line. Interstate 581 experienced 95 accidents and no fatalities during the same period. Accident rates based on these numbers and daily traffic volumes are around 65 accidents per million vehicle miles (Acc/MVM) along US 220 and 51 Acc/MVM northbound and 77 Acc/MVM southbound along I-581. While the overall accident rates are similar, the difference in the number of fatal accidents is substantial, with the interstate highway being safer. In addition, as detailed in the purpose and need section of the DEIS, some sections of US 220 experience considerably higher accident rates than this average. This would also indicate that an interstate type facility would be safer to travel on as compared to sections of US 220. The comment on the interstate highway being safer was made in regards to these issues and with regard to the overall State highway statistics. Therefore, safety is measured as a rate - the number of accidents per vehicle miles traveled - and not simply as a measurement of the number of accidents. This allows for an apples to apples comparison.

35. - Traffic levels increase where I-77 and I-81 coincide and where I-64 and I-81 coincide (and where I-40 and I-85 coincide, etc.). The dogleg around Roanoke and up Christiansburg Mtn. will be a similar situation with I-73 and I-81. This will result in higher levels of traffic on steep, curvy, often-fogbound Christiansburg Mtn and more safety problems on I-81.

Response: *The section of Interstate 73 that would run along Interstate 81(as described in the TEA-21 legislation) is not part of this study and would be considered in a future study when funding allows. Notwithstanding, the entire Interstate 81 corridor is currently being studied for improvement. As for fog and related safety issues, all roadway design procedures will be conducted in accordance with the American Association of State Highway and Transportation Officials (AASHTO) guidelines for interstate design. These guidelines incorporate methods to design for safety in mountainous terrain and areas with low visibility. If an alternative is selected that passes through a mountainous area with frequent fog, VDOT will evaluate measures to improve safety in these locations. Safety measures can include improved lighting, fog detection systems used in conjunction with variable message signs, reflectors, and rumble strips. Finally, Back in the early 90s, when it became apparent that the Congressional routing of Interstate 73 included in the Intermodal Surface Transportation Efficiency Act would likely impact Virginia, VDOT initiated a feasibility study to define the general location of I-73 in Virginia instead of having it dictated to them by Congress. In conducting the feasibility study, they looked at a number of broad corridors or study areas throughout southwestern Virginia for I-73 (see Figure 2.2-1 of the draft EIS) The feasibility study evaluated the different corridors using five criteria: environmental impacts, economic impacts, traffic service, capital support, and public support. In March of 1994, based on the results of this study, the Commonwealth Transportation Board selected a proposed location for the I-73 corridor that entered Virginia from West Virginia on Route 460 west of Narrows, and which generally followed Routes 460 and 220 to the North Carolina State line (i.e. no "dogleg"). In late 1994, the cities of Roanoke and Salem and the County of Roanoke expressed a desire that the location of I-73 be improved by routing it along I-581 and I-81. In December of 1994, VDOT prepared a supplemental report for I-73*

that determined it feasible to refine the location of I-73 using I-581 and I-81. The CTB approved the revised location and with the passage of the NHS Designation Act of 1995, Congress included the CTB-approved corridor for Interstate 73 in legislation which was the impetus for the draft EIS and the location of the corridor that is being studied..

36. - You state that trucks already comprise a high portion of U.S. 220 traffic (DEIS-48), and that 'truck traffic [on the route] is comparable to that experienced on Virginia interstate highways' (DEIS-43). Your statement that these conditions constrain "freight dependent economic activity (DEIS-43) implies that one of VDOT's goals is to increase truck traffic beyond these high levels. I am concerned that increasing truck traffic in the corridor will lead to safety problems.

Response: *Trucks comprise a high portion of U.S. 220 traffic because both through truck traffic and local truck traffic are using the same facility. An interstate facility would help separate the through traffic from the local traffic, which would improve safety. Even with an increase in total truck volumes that may occur due to economic growth, the percentage of truck traffic would likely be reduced for most of the major roadway facilities as traffic is diverted.*

37. - Alternatives, such as increasing passenger rail and freight rail, need to be considered.

Response: *NEPA requires the consideration of a range of reasonable alternatives. While important to our overall transportation system, non-highway alternatives would not satisfy the Congressional intent that I-73 be included in the National Highway System and would also not provide safety improvements for vehicular traffic traveling in this portion of the U.S. Route 220 corridor. Non-highway alternatives were not found to be reasonable alternatives to meet the purpose and need of this study and were not studied further. Notwithstanding, this comment has been addressed further in the final EIS in the Alternatives section with the addition of a discussion on freight and transit alternatives.*

38. - If accidents are occurring on U.S. 220, TSM safety improvements to U.S. 220 need to be implemented now. By delaying safety improvements on U.S. 220 in order to win funding for an unpopular billion dollar highway, you are playing politics with peoples lives. That is not right.

Response: *VDOT is certainly concerned about the safety of all travelers using the Commonwealth's transportation system. Although it is acknowledged that the TSM Alternative would improve the safety of all travelers on U.S. Route 220, it does not match the level of safety features that would be included in any of the Build Alternatives. The analysis shows that most Build Alternative options would result in fewer accidents to the traveling public in 2020 than what was recorded in 1997 on U.S. 220. The Build Alternative would additionally improve the safety of U. S. Route 220 by reducing the traffic traveling on the roadway and therefore, reduce the overall number of accidents in the corridor. Notwithstanding, VDOT is taking steps to implement some of the TSM improvements apart from this project, as funding allows.*

39. - The purpose and need statement (DEIS-39) implies that "economic development in this region is "planned." To my knowledge, there is very little zoning, very little planning, and very few actual "smart growth" regulations related to new developments in this region. The mountaintop construction south of Roanoke and sprawl surrounding Roanoke, Rocky Mount Boones Mill, and Martinsville is one example of the lack of "planning" in this region. The purpose and need statement is untrue. No highway should be built ANYWHERE if we don't have the foresight to enact strict zoning requirements and anti-sprawl measures beforehand. Haven't we learned anything?

Response: *The EIS addresses planned growth areas to the extent that they have been identified by the localities. In addition, access to planned growth areas was one of the criteria used to narrow down the number of alternatives considered in the draft EIS. An interstate facility is no guarantee of economic development; instead, it creates the potential. As stated in the draft EIS, an interstate facility is a tool for*

a locality could use to attract development, and the localities and business community in the study area have generally supported an interstate facility because of the potential associated with it. As mentioned above, in late 1994, the cities of Roanoke and Salem and the County of Roanoke expressed a desire that the planned location of I-73 be improved by routing it along I-581 and I-81 because they saw its benefit as a tool to facilitate economic development. However, an improved transportation system is just one of many factors that must be considered before a business relocates to an area.

All local governments located within the project study area are responsible for planning and zoning within their respective jurisdiction. Local governments in Virginia derive their authority to plan from Section 15.1-446.1 of the Code of Virginia, which outlines the State's directives for local comprehensive planning. Comprehensive plans include existing and future zoning, infrastructure improvements, economic and community development, and environmental constraints for both public and private lands located within the boundaries of the governing body. Therefore, economic development has been planned for this region and is reflected in each municipalities respective comprehensive plan. Notwithstanding, Interstate 73 could be a catalyst for additional economic development as envisioned by Congress in designating Interstate 73 as a high priority corridor. If this occurs, then the localities will have to react to it accordingly in maintaining and updating their comprehensive plans relying upon the values that they have adopted for their area. The term "sprawl" is a loaded term; it is recognized that what some see as sprawl, others see as economic development.

40. - The DEIS states that all structures older than 50 years old visible from any of the proposed corridors would be surveyed and that a determination would be made relating to their historical significance. This simply has not been done. I find nothing in the DEIS that indicates that the houses on my street, including the house where I live, (Winthrop Ave., SW, Roanoke City) have been surveyed. Several houses date to the 1920s and many are visible from segment 375. How can you determine the historical values of a structure if you don't consider it. There are other older communities elsewhere on both sides of segment 375. And I suspect there are countless other beautiful older structures along the I-73 corridors that you have ignored.

Response: *The Area of Potential Effect (APE) for the architectural survey was considered to be the entire length of all of the corridors, and to include a 1000-foot wide band along each corridor except along the existing route of I-581, primarily Segment 374 but also includes portions of segment 375. Along these segments, the intention would be to widen the existing roadway, so only the area of direct impact was surveyed. The VDHR has agreed with this approach.*

41. - Maps for the baseline conditions under the No-Build Alternative (and all other alternatives) are erroneous and misleading. The maps appear to show new road construction over a wide area between Wonju St. and Main St. (Wasena) in Roanoke City. The transportation improvement program maps (dated Fall '98, through Fall '99, through current map) of the area by the Fifth Planning District Commission show the route closer to the intersection of Brandon and Windsor Ave. I first saw these maps in Fall '00. There have been no changes to the proposal over the last three years. (pers. con. Fifth Planning District Commission, Jan. '01)

Response: *The maps for the baseline conditions under the No-Build Alternative was reviewed. A slight adjustment was made for the project in question. The map is intended for general reference only. A list of programmed projects under the No-Build Alternative has been provided for clarification.*

42. - Robert Bengston, traffic engineer for the City of Roanoke states that there is a proposal to extend Wonju St. to Brandon Ave. He states that the alternatives range from an alternative that intersects with Blandon Ave. close to Windsor Ave. and alternatives that intersect with Brandon Ave. 4-5 houses west of 23rd St. Prior to selecting an alternative, the city will mail notices to landowners in the vicinity of the project and will provide comment periods and public meeting opportunities in order to engage the public more than the city has done in the past. Environmental concerns, geological concerns and the

location of proposed greenway trails will be considered before an alternative is chosen. (pers. con., Nov. 24, '99)

Response: *Comment noted.*

43. - Jeff Echols with VDOT states that there is no immediate funding and no immediate plans for any new projects in the vicinity of the U.S. 220 between Elm Ave. and Rt. 419, except for the widening of U.S. 220 to six lanes in this section, which has already been completed, but was unfunded until recently (pers. con. June, '00)

Response: *Comment noted.*

44. - If the maps and assumptions under the No-Build Alternative (and other alternatives) are incorrect this could affect road construction and secondary development around the proposed interchange at Wonju St. VDOT should not arbitrarily change state, city and planners' proposals for the Wonju St. extension in this document. If VDOT is proposing road construction in this document or any other document, VDOT should disclose the cumulative impacts of proposed road construction on neighborhoods, businesses, recreation and the environment. If this road construction project is associated with I-73, or if the construction or designation of I-73 in any way necessitates the construction of a four-lane, three-lane or two-lane Wonju St. extension, VDOT should disclose the cumulative impacts of this project. The DEIS should be revised. The public should be properly and fully informed of any proposals to extend Wonju St. in this document or in any other VDOT document and should be given additional time to make comments. The public should be allowed to make further comments if any new information surfaces regarding this issue.

Response: *VDOT has not arbitrarily changed the Wonju Street proposal. As indicated above, corrections have been made to the document. The Wonju Street improvements are not part of the I-73 project and have only been included for informational purposes in an effort to identify those improvements on the MPO's long range transportation plan that would continue to be developed regardless of the fate of I-73. Therefore, the EIS for I-73 is not being used to satisfy any environmental requirements that the Wonju Street improvements may be subject to. In fact, if there is no intent to use federal funds on the Wonju Street improvements, the Wonju Street improvements would not even be subject to NEPA. In summary, the improvements identified under the No-Build Alternative are improvements with needs separate from I-73. These improvements would continue to be developed regardless of whether or not I-73 is constructed.*

45. - If the DEIS contains any similar erroneous or misleading information about any other projects in or along the I-73 corridors, or the resources affected, then VDOT should take the steps as those mentioned in the preceding paragraph.

Response: *Comment noted.*

46. - The DEIS fails to provide adequate information on the location or impacts to all "prime farmland soils" or "other unique or limited soil types" impacted by the proposed corridor, or downstream (DEIS-253). The location of all such soils, regardless of current use, should be disclosed. The location of and impacts to such soils now being used (or formerly used, or now capable of being used) as subsistence farms, small farms family gardens, community gardens, other gardens, orchards, etc. should be disclosed. The maps and DEIS show only a limited number of "agricultural lands" (NR-TM-3-50 etc.) The DEIS does not disclose the acreage of (or site-specific impacts to) "prime farmland soils" or "other unique or limited soil types" that will be impacted by the proposed highways or related secondary development. For example, there is no information on potential impacts to such soils in my neighborhood (Winthrop Ave. area, city of Roanoke), even though there are several extensive gardens there. Many citizens of this region are economically dependent, to some extent, on local gardens. The corridor proposals and related secondary development could negatively impact land use, soils, water

quality, air quality, suitability of area for garden, and quality of life related to gardens, small farms and subsistence farms. Wiping out such gardens and farms could significantly affect persons who provide produce for the Roanoke City Farmers Market, other local markets and businesses. Quality of life in various communities could also negatively be affected as a result of this loss.

Response: *Prime agricultural farmlands were addressed in the DEIS in Section 3.2 (location) and Section 4.2 (impacts including farmland production lost). In addition, impacts to land zoned agricultural from secondary development around interchanges was calculated in Section 4.12 of the EIS. Finally, because of the development that has occurred in the City of Roanoke, there is very little acreage of prime farmland identified.*

47. - The DEIS fails to provide adequate information on the size of cut and fill earthmoving associated with the project, associated frontage roads and associated secondary development - or impacts to geology, rare species, keystone species, important biological communities, hydrology, water quality, aquatic species, viewsheds, recreation, parklands, open space, forests, farmlands, trails, canoe routes, economics of recreation, private property, neighborhood cohesiveness, or private property values. The terrain through which several New Build Options pass is quite precipitous. Similarly, recent highway construction on Rt. 100, I-26 through NC and TN, etc. has scarred the land with massive cuts through mountains and over great divides. The DEIS fails to inform the public about the nature of this project and is seriously deficient in this regard.

Response: *Earthwork quantities were calculated for each Build alternative using a digital terrain model developed from digital orthophotos (aerial photography) and are discussed in greater detail in the Capital Cost Technical Memorandum. This information was developed solely for purposes of estimating capital costs and its accuracy is limited by the lack of final design information. Notwithstanding, as acknowledged in the draft EIS, impacts to many resources were considered on a corridor wide basis. What this means is that a corridor much wider than the actual construction limits was used for each alternative to calculate the impacts to resources. This corridor was of sufficient width to account for direct impacts associated with the roadway profile as well as the impacts associated with potential cut and fill slopes. This corridor width is also of sufficient width to allow the roadway alignment within the corridor to be shifted to avoid or minimize impacts to resources that might be encountered. While this corridor approach allows us to account for all potential direct impacts located within the limits of construction, the impacts are often overstated because the construction limits will be appreciably less than the corridor width used to assess impacts.*

48. - The project area has already lost a significant amount of its tree cover. A recent report by American Forests states that "by 1973, the Roanoke Valley [a study area including Roanoke City, Salem, Vinton, Roanoke County and portions of Bedford, Botetourt, Craig, and Franklin Cos.] had already experienced significant development and loss of tree cover." Areas with 50% or greater tree cover comprised only 41 % of the geographical area and areas with less than 20% tree cover stood at 53% of the land. "By 1997, areas with less than 20% tree cover became even more dominant" (p 2) with heavily forested areas declining by 24% (to 32% of the geographical area). Heavily developed areas suddenly rose from 53% of the study area to 64%. The report is mailed to you as an attachment and is available at "www.americanforests.org/trees_cities_sprawl/urban_analysis/roanoke.html."

Response: *The cumulative impact to forested resources from residential and commercial development is noted.*

49. - The report finds that "development that removes a high percentage of tree cover has large negative environmental and economic consequences" (p. 2) and recommends increasing average tree cover in the geographical area by 5%

Response: *Comment noted. It is also noted that historically, agricultural practices have removed large amounts of tree cover.*

50. - There are economic costs associated with the removal of tree cover associated with I-73, surrounding secondary development, and similar projects. The report calculates that economic costs of past tree cover reductions in terms of costs of decreased stormwater retention, pollution removal. The report also mentions the benefits of other air and water quality improvement, enhanced wildlife habitat, energy conservation, greenhouse gas sequestration, and improved quality of life. (p. 2) These costs should be calculated for the project and factored into the cost-benefit analysis.

51. - I am concerned about the adverse economic effects of VDOT and FHWA roadbuilding, and the agencies' failure to quantify such effects for this project or for other roadbuilding projects elsewhere in this bioregion. Roadbuilding increases costs of water purification and filtration, air and water pollution related medical costs, and other external costs of pollution; it decreases the value of private timberlands, increases repair and maintenance costs for new roads without addressing such costs for existing highways and public roads, and decreases the number of jobs in recreation, tourism, fisheries and alternative forest products. In addition, the ecosystem service values of standing otherwise intact forests ecosystems, especially native forests, including their value in providing clean water, mitigating floods, supporting recreation, hunting, fishing and wildlife viewing, enhancing long-term forest productivity, supplying alternative forest products, mitigating global warming controlling agricultural pests and providing amenity values are systematically undervalued or not valued at all. In short, the agencies have not determined whether they are maximizing net public benefits in undertaking this action.

Response: *FHWA requested a benefit-cost analysis for the alternative approved by the CTB in response to public comment. This information is included in the appendices to the final EIS. Basically, the results of this analysis demonstrate that the benefit-cost of the facility in rural areas will be much lower than the benefit-cost of the facility in developed areas. This follows logically because traffic is greater in developed areas and it has the supporting infrastructure and population to more readily accommodate economic development than rural areas do. Therefore, the benefits are greater. Specifically, the benefit-cost analysis evaluated the direct user and non-user benefits and compared these benefits to the capital and operating costs of I-73 over 30 years. Direct user and non-user benefits include travel time savings, reductions in crashes, decline in vehicle operating costs, agency cost reductions and a diminishing of pollution costs. Capital costs include engineering, construction, environmental mitigation, and right-of-way elements. Operating costs include the cost of maintenance and minor repairs to the facility over time. The benefit-cost analysis indicates that the alternative selected by the CTB exhibits a positive net present value with benefits that exceed cost for all discount rates less than 6.6%. The 30-year Treasury bond yield on bonds sold in November 2004 by comparison was 4.84%.*

52. - I urge VDOT to use similar modeling and analysis for this project.

Response: *See response to previous comment.*

53. - GIS images in the report (p. 3-6) show existing areas with higher amounts of forest cover over the I-73 study area. (see also NR-TM 3-43-47). If you compare the alternative maps with these figures you get a clear picture of what will happen if I-73 is constructed along any of the new terrain alternatives: existing areas with forest cover are targeted, forests become more fragmented and new housing, retail and industrial development begins to fill in more of the gaps between the expanding cities and the outskirts of town. Location of new highways drives this development. And the new terrain alternatives seem designed to carve up forested areas to the east, south, west of Roanoke; east and west of U.S. 220 corridor in Roanoke, Franklin and Henry Co. and east of Martinsville, depending on the unfortunate alternative selected.

Response: *The DEIS states that implementation of a build alternative will directly impact 0.2 to 0.4 percent of the regional total for forested habitat. As discussed in section 1.2 (Methods and Assumptions) of the November 1999 Natural Resources Technical Memorandum, these values are*

based on the 600-foot study corridor that was used as part of the overall environmental assessment. Because no build alternative will occupy the entire 600-foot study corridor, actual impacts are expected to be less than those cited in the DEIS. The DEIS acknowledges that habitat fragmentation comprises a significantly greater concern to wildlife as compared to direct displacement of habitat by paved surfaces and maintained rights-of-way. Practicable mitigation measures to minimize effects of habitat fragmentation are discussed in the FEIS. Where feasible, passageways for terrestrial wildlife will be maintained beneath proposed bridges to help minimize effects of wildlife corridor bisection. Secondary and cumulative impacts resulting from land use changes associated with implementation of a build alternative are discussed in section 4.12 of the DEIS. Regulation of development outside highway rights-of-way will remain the responsibility of local governments under their respective planning ordinances.

54. - Even if increased development does not occur around some highway corridors, the highway corridors themselves will fragment forests. Highways will block or eliminate wildlife corridors, and will isolate wildlife, plants and biological communities. The highways, frontage roads and secondary development will provide increased access to habitat. Declines in genetic diversity may occur due to smaller habitat block size, species' inability or limited ability to cross roads and other barriers, and decreased sense of security and remoteness. And wildlife or plant species may experience increased crowding in the smaller blocks of habitat.

Response: *See previous response.*

55. - Black bears exist in the project area. See map (attachment) from Dennis Martin, "Virginia Status Report" Western Workshop of Black Bear Res. and Manage. See also VGIF black bear occurrence records which include portions of Franklin Co., Bedford Co. and Roanoke Co. In addition a Nov. 1994 Virginia Wildlife article by Pat Keyser shows black bear populations moving westward from the northeastern Piedmont area of North Carolina to Charlotte and Halifax Cos. (p. 7) According to Michael Pelton, four common ingredients characterize black bear habitats and black bear needs: "a relatively thick impenetrable understory, limited permanent access roads, - abundant berry and nut crops and relatively large areas over which to roam with limited disturbance." Regarding black bear populations on private lands, Pelton says, "There are few areas of occupied habitat on private lands in the Southeast, and unless such areas are adjacent to public lands by a relatively secure or permanent dispersal corridor, resident populations will likely become extirpated from them in the next 25 to 50 years." ("Habitat Needs of Black Bears in the East," in Wilderness and Natural Areas in the Eastern United States: A Management Challenge, D.L. Kulhavy and R.N. Conner, eds. pp. 49-S3) Proposed I-73 will pose a serious threat to existing populations of black bears and recovery prospects in the study area. Public lands at Bottom Creek Gorge, Poor Mtn., the Blue Ridge Parkway, other city parks, Jefferson National Forest, Falling Creek Reservoir Beaverdam Reservoir to the north and the handful of state and national parks, WMAs and preserves to the south provide only a tenuous foothold for the black bear. Proposed I-73 could open the study area to development in unprotected portions of Poor Mtn., Cahas Mtn., Lynville Mtn., the Bore Augur Creek area, Fork Mtn., Grassy Hill, lands around the Leatherwood Cr. reservoirs and other remote ridges and valleys. In the DEIS, issues of negative impacts to black bears due to increased habitat loss, disturbance, stress, vulnerability, and deaths which the project could foreseeably facilitate have not received a hard look.

Response: *The existence of black bear in portions of the study area is acknowledged. Practicable mitigation measures to minimize effects of habitat fragmentation are addressed in the FEIS. Where feasible, passageways for terrestrial wildlife will be maintained beneath proposed bridges to help minimize effects of wildlife corridor bisection. Consultation with the Virginia Department of Game and Inland Fisheries will occur as part of the Virginia Joint Permit Application process prior to construction of a selected alternative.*

Sincerely yours

Sherman Bamford