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January 12, '01
Project 007:9-962-F01, PE 101

90. 1-73 Location Study
91 Salem District Office
92. P.O. Box 3071
93. Salem, Va. 24153
94.
95 To Whom this Concerns:

97. I have submitted other comments on the proposed the following are additional comments. These comments and the comments from my previous letter are submitted on behalf of myself and Virginia Forest Watch:

- The DEIS glosses over impacts to viewsheds in the project area. In its comment letter to VDOT, NPS expressed concern over impacts to viewsheds, particularly in the Back Creek area. The highway could affect viewsheds from other portions of the Blue Ridge Parkway, from other public lands, other important viewsheds, and from access routes to these key recreational areas. This is significant because the Blue Ridge Parkway is a resource that provides millions of dollars to Virginia's economy (see attachment, by Brothers and Chen). A survey by Conde Naste Travel magazine found that many travelers are unlikely to return to an area where they perceive environmental problems to be occurring.

- Many cities in the region want to project the images of being green, progressive cities. Highly visible road-cut scars will certainly be a turn-off to many people considering relocating their families or businesses to the area.

- The DEIS, and accompanying mapping ignores the proposed greenway system in the Roanoke Valley. Only a few existing greenway trails are shown. There are published maps of the entire greenway system and planning for the entire greenway system has been underway for a number of years. Most of the proposed greenways will be located in clearly defined, narrow corridors along river, streams and the like. The proposed I-73 corridors could potentially interfere with potential greenway locations, greenway trailheads, greenway safety, greenway nature-viewing opportunities, greenway viewsheds, and the streams, forest areas or setting surrounding greenways. The DEIS should examine the impact of proposed 1-73 on the entire greenway system.

Response: *The visual quality (i.e. viewshed) discussion in the draft EIS is based on the Visual Quality Technical Memoranda which provides a much more detailed assessment of visual quality and viewshed impacts. Since the draft EIS was circulated for comment, we have worked closely with the NPS on the crossing of the Blue Ridge Parkway by Interstate 73. As discussed in the final EIS, the preferred alternative crosses the Blue Ridge Parkway in the same location as the existing crossing of Route 220 with the Parkway where viewsheds from the Parkway have been severely compromised by development. This crossing of the Parkway by Interstate 73 is the crossing most preferred by the NPS. As an aside, the concerns of the NPS regarding the impact of residential development on viewsheds along the Blue Ridge Parkway in the Roanoke area are well documented. This development has occurred without I-73 and is an on-going issue for them as it relates to local land use planning.*

The DEIS and the Parklands and Recreational Resources Technical Memorandum identify the location of proposed greenways in the Roanoke Valley as they relate to the proposed I-73 project. This information was derived from the Roanoke Valley Conceptual Greenway Plan (Roanoke Valley Greenway

Commission, 1995) and the Virginia Outdoors Plan (Virginia Department of Conservation and Recreation, 1996). Additional information has been added for the final EIS.

- The Roanoke River system, which includes all of the streams, rivers and tributaries in the project area, is a watershed of tremendous importance. Joseph Bailey in the "Freshwater Fish" section of Threatened and Endangered Plants and Animals of North Carolina, states The Roanoke River watershed has the largest native fish fauna of any river on the east coast of North America. Our records show that about 70 species from the North Carolina portions of the watershed." (p. 276) According to Burkhead and Jenkins, "the fish fauna of the Roanoke River drainage has the highest numbers of endemic species and the most species in total among the Atlantic slope drainages considered herein." (Terwilliger, Virginia's Endangered Species, p. 335) The Roanoke River watershed has 8 species with restricted distribution. These include the Roanoke logperch (F-E), orangefin madtom (F-SOC, S-T), candy darter (F- SOC, S-SOC), Roanoke bass (S-SOC) within or downstream of the project area and perhaps others.

Response: *The above information is noted including the number of fish species located in the North Carolina portion of the Roanoke River watershed.*

- There are a number of important trout streams in the area. According to Virginia Wildlife, 2001 Trout Guide (Larry Mohn), "Smith River is Virginia's most noted trophy trout stream. The historic state record was taken here and numerous trout exceeding 10 pounds have been caught." (p. 23) Virginia Wildlife shows special regulation waters along portions of the Roanoke River and Smith River; and stocked trout waters along portions of the Roanoke River, Tinker Creek, Glade Creek, Maggadee Creek and the Smith River. (p. 26) The State Water Control Board regulations (9 VAC 25-260-5) classify Smith River (p. 102), Beaver Cr., Little Beaver Cr., Jones Cr. and tributaries; Marrowbone Cr. and tributaries; Leatherwood Cr. and tributaries (p. 106), Roanoke River (p. 108), and Falling Cr. Reservoir and Beaverdam Reservoir (p. 09), Glade Cr. (P. 110) as natural trout waters. The State Water Control Board regulations (9VAC 25-260-5) classify Tinker Cr. (p. 110), Roanoke River (p. 111, 112), Goose Cr. to its headwaters (p. 1 11).

- VDOT must ensure that it complies with anti-degradation provisions under state, federal, and local laws and regulations.

- One or more proposed alternatives cross watercourses mentioned in the two paragraphs above. VWT must ensure that proposed projects, frontage roads, cut and fill work and secondary development surrounding the project do not degrade water quality in any streams or harm trout or rare aquatic species in the project area.

- VDOT must ensure that trout streams remain pristine for the trout fishermen/women who have fished in areas streams for years.

Response: *Natural and stockable trout waters within the study area were listed in Table 3.7-2 of the DEIS. Potential crossings of stream segments classified to contain trout waters were listed in section 4.7.2.2 of the DEIS. Mitigation measures that would be implemented to avoid or minimize impacts to trout waters were discussed in section 4.7.2.3 of the DEIS. The alternative selected by the CTB will not interfere with any recreational opportunities associated with trout fishing. Specifically, the approved location corridor will not cross any stretches of streams or rivers classified as class ii natural trout waters, class iii natural trout waters, unclassified stockable trout waters, or class iv stockable trout waters.*

- There are documented occurrence records for dozens of unique and rare species in the area. These include species found in multiple watershed units in the study area including Upper Roanoke River (L-03), Tinker Cr./Carvin Cr./Glade Cr. (L45), Back Cr. (L-06), Roanoke R./Smith Mtn. L., Beaverdam Cr. (L-

07), Upper Blackwater (L-08), Maggodee Cr.(L-09), Lower Blackwater/Smith Mtn. L. (L-10), Gills Cr. (L-11), Upper Pigg R. (L 14), Big Chestnut Little Chestnut (L t 1 16), Middle Pigg R. (L-16),Turkey.cock/Snow Cr. (L-17), Upper Goose Cr. (L-20), Middle Goose/Bore Auger Cr/Wolf Cr. (L-21), Upper Smith R. (L-50), Matrimony Cr. (L-49), Smith R./Town Cr./Blackberry Cr. (L-52), Lower Smith R. (L 54), Marrowbone Cr. (L-56). These species include Roanoke logperch (FE), smooth coneflower(FE), bald eagle (FT, SE) Bewicks wren (FSOC,SE), orangefin madtom (FSOC, ST), bog turtle (FT?), loggerhead shrike (migratory) (FSOC,ST), northern goshawk (FSOC), cerulean warbler (FSOC), piratebush (SE), loggerhead shrike (ST), Roanoke bass(SSoC), rustyside sucker (SSoC), brown creeper (SSOC), red crossbill (SSOC), dickcissel (SSOC), great egret(SSOC), purple finch (SSOC), alder flycatcher (SSOC), northern harrier (SSOC), golden-crowned kinglet (SSOC),common moorhen (SSOC), yellow crowned night-heron (SSOC), red-breasted nuthatch (SSOC),barn owl (SSOC),hermit thrush (SSOC), golden winged warbler (SSOC), winter wren (SSOC), mirror shiner (SSOC), long-eared owl (SSOC), Torrey's mountain-mint, Menges foamflower, a rare submesotrophic woodland (Gills Cr. W/S), bigeyed jumprock, Keevers bristlecone, riverweed darter, Roanoke hogsucker, Poa saltuensis, northern dropseed, Minuartia patula, an oligotrophic semi-flooded scrub ecosystem (upper Goose Cr.), Addisons leatherflower, a submesotrophic woodland and herbaceous vegetation ecosystem (upper Blackwater R.), stiff goldenrod, Va. Whitehaired leatherflower,and lance-leaved buckthorn.(VGIF/VDNH) occurrence records for the above watersheds). Other species including Atlantic pigtoe mussels (FSOC,ST), elktoe mussels (FSOC, SSOC), eastern hellbenders(FSOC,SSOC),Indiana bat (FE), small footed myotis (FSOC),Diana fritillary (FSOC),grizzled skipper (FSOC), regal fritillary butterfly (FSOC), peregrine falcon (SE), spirit supercoil (SSOC), star-nosed mole (SSOC), glossy ibis, speckled killifish (SSOC), Laurel Cr. xystodesmid millipede, and Swainsons warbler(SSOC)could possibly be found in the area. There are documented occurrences of ginseng (ST), piratebush(SE) in some counties in the study area (VGIF rare plants status; Atlas of Virginia Rora, Harvill, et. al.) Three rare plants, nestronia (SE), Berlandiers anemone, and small anthered bittercress (FE) are found in counties adjacent to the study area (Harvill et al., Terwilliger) and so might be found in the study area. Regal fritillary (G3/SH) occurs in one of the counties of the study area (Terwilliger-244) Bank swallow occurs in Roanoke Co. (G5/S3S4) (Terwilliger). River otter (G5/S4) has been documented in one county (Terwilliger-555). Least weasel is found in one county (G5/S1) (Terwilliger-598-99) The eastern cougar (FE) may be present in western Va. Eastern cougar sitings are still reported. Two alleged eastern cougar sitings have occurred in Roanoke Co., and seventeen alleged sitings have occurred in Bedford Co., more than any other county in Va.(Terwilliger-600) And many of the watershed units have not had detailed surveys so other rare species and communities may be identified.

- There is no evidence that VDOT or FHWA have considered the rare species or rare communities found in or downstream from any of the corridors prior to publication of the DEIS. A brief, inadequate list of a few species is provided in the DEIS and NR-TM, but the agencies do not appeared to have done anything with these lists for the vast number of species listed. They are just window-dressing.

- The agencies have not conducted the necessary surveys or site-specific analysis prior to publication of the DEIS.

- The selection of an alternative by the agencies will be a blind decision as far as state listed and other rare species are concerned. And these species are likely to suffer as a result.

Response: *The draft EIS addresses issues (in this case, individual wildlife species) that were identified during the scoping process and through coordination with a variety of Federal and state agencies as being potentially significant issues. As a result of that effort and coordination, the Roanoke logeperch, James spiny mussel and smooth coneflower were identified as the species requiring additional attention and analysis in the form of surveys. Neither the Fish and Wildlife Service, the Virginia Department of Game and Inland Fisheries nor the Virginia Division of Natural Heritage requested surveys for any other plant or animal species (documentation of coordination with these agencies can be found in Appendix C of the DEIS beginning on page C-7). The reason these three plant and animal species were identified as requiring additional attention is because they are protected by federal law and the*

protection afforded them would likely affect project decision-making. In addition, impacts to migrating bird, in general, was identified as a critical issue requiring further attention and is addressed in the final EIS. In contrast, species designated as species of concern are not protected under federal law and impacts to them are not likely to affect project decision-making. Notwithstanding, species like the Orangefin madtom and Piratebush, which have been listed as threatened and endangered respectively under the Virginia Endangered Species Act, were addressed in the draft EIS by identifying their approximate location and potential impacts to them based upon information provided by the Virginia Department of Game and Inland Fisheries and the Virginia Division of Natural Heritage. In addition, known populations of these species were avoided by eliminating from consideration those segments that would have impacted them or by shifting the corridors under consideration to avoid any impacts. Even then, the Virginia ESA only requires the Virginia Department of Transportation to cooperate with the Virginia Department of Game and Inland Fisheries and Virginia Division of Natural Heritage regarding endangered species; the act places no restrictions on VDOT in carrying out construction activities. Further, the final EIS addresses biodiversity units and rankings established by the Virginia Division of Natural Heritage.

There is no limit to the issues that can be raised on a project. Someone can always name another species and make a claim that the EIS did not consider impacts to that species or that the EIS did not take a hard look at it. Consequently, a line has to be drawn in terms of what will be addressed in the EIS. FHWA has drawn that line in its Guidance for Preparing and Processing Environmental and Section 4(F) Documents (FHWA Technical Advisory T6640.8A). This guidance specifies that only federal listed and proposed threatened or endangered species and federal listed and proposed critical habitat are to be addressed. Federal listed threatened and endangered species reported by USFWS to occur within the project study area (but not necessarily within proposed highway corridors) are discussed in section 3.7.6.1 and section 4.7.5.1 of the DEIS. Databases maintained by the U.S. Fish and Wildlife Service, the Virginia Department of Game and Inland Fisheries, and the Virginia Division of Natural Heritage indicate that no confirmed records of the "eastern cougar" or mountain lion (Felis concolor couguar) exist within the study area. Recent confirmed sightings of the bald eagle in portions of Roanoke County and Franklin County contained within the study area post-date the DEIS. The Virginia Department of Game and Inland Fisheries has since confirmed that, although sightings of foraging eagles have been documented within portions of the study area, no nesting sites are present within a three-mile radius of any alternatives under consideration. Databases maintained by the Virginia Department of Game and Inland Fisheries and the Virginia Division of Natural Heritage indicate that no confirmed records of the "Indiana bat"or "social miotis" (Myotis sodalis) exist within the study area. Population distribution maps maintained by the Virginia Department of Game and Inland Fisheries (as updated through 4 December 2001) confirm that the nearest county within which the species has been confirmed is Montgomery County. No major caves or mine tunnels, which could serve as suitable habitat, have been identified within the 600-foot study corridor of any of the alternatives under consideration.

CEQs regulations implementing NEPA state that EISs are to be concise, clear and to the point. An EIS is to be analytical rather than encyclopedic; it is not to be an exercise in gathering data. Impacts are to be discussed in proportion to their significance. The scoping process is critical to identifying the scope of the issues that will be addressed in a draft EIS and the significance of them, which was the process followed in developing the Interstate 73 draft EIS. Your comment citing shortcomings in the draft EIS are general in nature; since the comment does not provide any specific evidence demonstrating why those potential impacts may be significant and worthy of further consideration or demonstrate how we have failed to comply with any federal laws, the comment has not received any further consideration than what was indicated above.

- The DEIS contains absolutely no site-specific analysis of forest ecosystems, old growth forests, degree of forest cover, presence of native forests vs. plantations, forest interior habitat, forest fragmentation, presence of rare or underrepresented forest types, black bear, turkey, foxes, bobcats and other wildlife populations, neotropical songbirds, diurnal raptors and owls, snakes, turtles, woodpeckers, bats, frogs,

toads, snakes, salamanders, waterfowl, beavers, herbaceous understory plants, native biodiversity (on all four levels), or the like. And we are dealing with a project that could lead to serious disruption of forest ecosystems - and could lead to increased road kills for many of the hapless animals mentioned above. The public deserves numbers and site-specific analysis for all of these issues. The public should not have to put up with having a highway rammed down its throat - no questions asked.

- If VDOT is unclear about issues related to forest ecosystems, forest interior habitat and forest fragmentation, I recommend that the agency read R.F. Noss and A. Cooperider, Saving Nature s Legacy: Protecting and Preserving Biodiversity (1994), Island Press. I recommend that the ideas in this volume be incorporated into the analysis. And I recommend that VDOT take all possible steps to conserve the biodiversity of this bioregion in its final decision.

Response: *FHWA's Guidance for Preparing and Processing Environmental and Section 4(F) Documents (FHWA Technical Advisory T6640.8A) sets forth a general requirement that impacts to fish and wildlife resulting from the loss, degradation, or modification of aquatic or terrestrial habitat be discussed. The types of forest communities occurring within the study area were discussed in section 3.7.2.1 of the DEIS. The distribution of these forest types within each segment comprising the various alternatives under consideration were shown in figures 3.7-1 through 3.7-5 of the DEIS. Potential impacts to forest communities and associated wildlife habitat were discussed in section 4.7.1 of the DEIS. A comparative analysis of forest community types affected under the various alternatives was presented in Table 4.7-1*

The bisection of existing wildlife corridors and incidental increases in wildlife-vehicle collisions was acknowledged in section 4.7.1.2 of the DEIS. 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 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. Where feasible, passageways for terrestrial wildlife will be maintained beneath proposed bridges to help minimize effects of wildlife corridor bisection. To further address this issue, the FEIS will include a discussion of practicable mitigation measures intended to minimize the probability of wildlife-vehicle collisions (such as fencing, planting of vegetation with minimal wildlife attraction characteristics, etc.).

Your comment citing shortcomings in the draft EIS are general in nature; since the comment does not provide any specific evidence demonstrating why direct impacts to 0.2 to 0.4 percent of the forested habitat in the study area may be significant and worthy of further consideration or demonstrate how we have failed to comply with any federal laws, the comment has not received any further consideration other than what was indicated above.

- All cumulative impacts resulting from this project, including the impacts of secondary development around the highway by private developers, corporations and other non-governmental entities should be taken into consideration in the final analysis with respect to T& E and rare species, forest fragmentation, dean air, and all other issues raised by commenters. There is a precedent for such a thorough analysis. It is found in the Feb. 93 TVA Final Environmental Impact Statement on Chip Mill Terminals on the Tennessee River (TVA/RG/EQS:93/92).

Response: *Based on coordination with the Fish and Wildlife Service, surveys were conducted along the preferred alternative for the James River spinymussel, the smooth coneflower, and the Roanoke logperch. Except for a single population of the Roanoke logperch in the Pigg River, the surveys found no evidence of the federally protected James spinymussel, almost no potential habitat for the smooth*

coneflower, and no additional populations of the Roanoke logperch. Consultation with the Fish and Wildlife Service regarding potential impacts to the Pigg River population of the Roanoke logperch has been ongoing and has resulted in a draft biological assessment which documents potential secondary and cumulative impacts to the Pigg River population. Once final design is permitted to commence, then the design information needed by the Fish and Wildlife Service to issue a biological opinion will be used to enter into formal consultation with them in accordance with the Endangered Species Act.

Sincerely yours,
Sherman Bamford

January 11, 2001
1828 Brandon Ave. SW
Roanoke, VA 24015

Mr. Earl T. Robb
State Environmental Administrator
Virginia Department of Transportation
120l East Broad Street
Richmond, Virginia 23219

Dear Mr. Robb:

RE: Comments on I-73 (Roanoke to NC border) project DEIS

I am submitting comments on behalf of the Blue Ridge Environmental Defense League (BREDL) and Virginians for Appropriate Roads (VAR). The Blue Ridge Environmental Defense League is a regional, community-based, non-profit environmental organization. Our founding principles are earth stewardship, environmental democracy, social justice, and community empowerment. BREDL has chapters throughout the Southeast. BREDL chapters and members have been involved in the I-73 process since the early 1990's. Virginians for Appropriate Roads, a BREDL chapter, will be submitting additional comments. All comments that are submitted should be considered.

Availability of the DEIS

BREDL and VAR were disappointed that VDOT charged citizens for copies of the DEIS. As pointed out in the Federal Highway Administration regulations 25 CFR 771.123 *Draft environmental impact statements* (f) "...Normally, copies will be furnished free of charge..." For other highway projects, such as the Corridor H project in West Virginia, DEIS documents have been free to the public. Why did VDOT charge the public?

Response: *Yes, the regulations at 23 CFR 771.123 do 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 DEIS were $61, the exact cost for reproduction. In addition, a CD containing the entire DEIS was available for $15.50. The document was also made available for review at many public locations including libraries and VDOT District and Residency Offices.*

At the very least, VDOT should have made the DEIS available to the public via the I-73 website. VDOT cited the length of the DEIS as the reason for not putting the document on the web. Government documents which are much larger in pages and megabytes are posted all over the web. Plus, the DEIS length didn't prevent the Roanoke Times from posting it on the Roanoke Times' website. It's a sad commentary on VDOT when a media outlet has to initiate this public availability.

Response: *The public availability of the draft EIS was initiated by VDOT, not the Roanoke Times. We agree that the Internet can be a valuable tool in public involvement efforts in this day and age. Notwithstanding, the draft EIS was made available to the public in accordance with CEQ's and FHWA's regulations implementing NEPA.*

Comment Period

BREDL and VAR are concerned that the comment process did not give the public an adequate chance to study and comment on the DEIS. VDOT announced the release of the DEIS at a media event in Salem on November 1, 2000. However, no copies of the DEIS were available at this event because the DEIS was still at the printers. Only the Executive Summary was available. It was two weeks later when the DEIS was finally made available to the public just in time for the busy holiday season. In mid-November 2000, we sent a letter to VDOT requesting a 90 day extension on the I-73 DEIS commenting period. We have yet to receive a reply to this request.

Since our letter, VDOT has extended the deadline from January 5, 2001 to January 12, 2001. This one week extension was probably to offset the non-availability of the DEIS on its release date of November 1, 2000. Once again, we express our concern that releasing the DEIS during the busy holiday season has not provided ample time for citizens to thoroughly read and analyze this important 550 page document

On December 27, 2000, we sent another letter requesting a 90 day extension on the I-73 DEIS commenting deadline. We are awaiting a reply to our request.

Response: *Documents were available for review 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.*

Purpose and Need

VDOT is misleading the public by insisting that I-73 needs to be an interstate to fulfill the purpose and need of this project. I-73 never has been intended to be a full blown interstate and that is still the case today. On page 39 VDOT states: "In designating I-73 as a high priority corridor in ISTEA, the Congressional intent of the route as an interstate facility was clear. With additional legislation and amendment..." VDOT's own statements show that it was not Congressional intent in ISTEA. More important, the additional legislation and amendments by Congress show that it is not the Congressional intent. In the Intermodal Surface Transportation Efficiency Act of 1991, it was not the intent to build I-73 to interstate standards. In the National Highway System Designation Act of 1995 it was not the intent to build I-73 to interstate standards. Currently, it is not the intent with the Transportation Equity Act for the 21st Century of 1998. In fact, Congress has made it clear for nearly a decade and with 3 pieces of legislation that I-73 does not have to be built to interstate standards.

The only "real" requirement of I-73 is that it be a part of the National Highway System. It "may", and we emphasize the word may, be designated as an interstate highway system, but that is not a requirement. TEA-21 states,

> "SEC. 1106. FEDERAL-AID SYSTEMS.
> "(4)INTERSTATE SYSTEM DESIGNATIONS.-
> "(A) ADDITIONS.-If the Secretary determines that a highway on the National Highway System meets all standards of a highway on the Interstate System and that the highway is a logical addition or connection to the Interstate System, the Secretary may, upon the affirmative recommendation of the State or States in which the highway is located, designate the highway as a route on the Interstate System."

It is also clear, from the other states that I-73 will traverse, that I-73 is one huge misnomer. I-73 will not be an interstate from Detroit, MI to Charleston, SC. Since the legislation, even the termini have changed to Sault Ste. Marie, MI and Myrtle Beach, SC. I-73 won't even be an interstate in the routes designated as Corridor 5 in Section 332 of the NHS Designation Act of 1995. The Corridor 5 ("I-73/74 North-South Corridor") segments extend from Charleston, South Carolina, following two alignments, to Portsmouth, Ohio. No other state is considering an interstate standard highway throughout its length.

West Virginia has decided against an interstate. From page 40 of the DEIS, "West Virginia has completed a Final Environmental Impact Statement (FEIS) to upgrade existing U.S. Route 52 as their I-73 project. Due to the extreme terrain and capital costs, West Virginia has elected not to build to interstate standards. This condition is true for much of the interstate system in West Virginia where design exceptions occur to accommodate mountainous conditions." North Carolina has completed work on U.S. 220 (I-73) south of Martinsville. It was built for limited access, but is not a full blown interstate highway. From page 40 of the DEIS, "In Ohio, the construction of an I-73 is currently not being pursued due to limited resources. Building I-73 as a toll facility may be considered but will require changes to Ohio legislation." Why is Virginia going against the grain? Once again, it is very clear that I-73 in Virginia and along the I-73 corridor does not have to be built as an interstate. In fact, I-73 will be a hodgepodge of road-types.

It is ironic that our neighbors in West Virginia who "created" I-73 to fill an interstate gap in West Virginia is not even building to interstate standards. Nelson R. Walker, Executive I Director of the I-73/74 Corridor Association remarks before the Congressional Surface Transportation subcommittee hearing of March 15, 1994:

"The concept of this highway was created by a group of people in Bluefield, WV. In 1989, knowing 4 new system of proposed highways might occur in upcoming federal legislation, and with a deep concern of the conditions of U.S. Route 52 in Southern West Virginia, we embarked upon a plan to encourage the construction of a highway that would not only serve the needs of people and industry in the Southwestern part of West Virginia, but also the eastern region of the United States. In doing so we attempted, by design, to use existing federal routes that could possibly be brought up to the standards of a Highway of National Significance and fill a gap in-between existing Interstates. For lack of a better designation, we named the highway Interstate 73."

Response: *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 "I-73" 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, even though the Interstate System has been essentially completed. 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 because of its functional classification. 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.*

From page 39 of the DEIS, the "NEED FOR ACTION" section doesn't clearly demonstrate that a "need" exists. VDOT mentions, "The need for improved transportation facilities for goods movement which link the port of Charleston, South Carolina with Detroit, Michigan and Sault Ste. Marie, Michigan" Why? What is this burning desire to link SC to MI? How are goods currently being transported, exported? This has never been an issue or a problem. Why not connect Milwaukee, WI to SC? With the flick of a pork-barrel pen, Congress can just arbitrarily pick any two cities. In fact, as mentioned earlier, the Charleston, SC terminal has been moved to Myrtle Beach, SC.

VDOT also says, "The need for an effective and efficient roadway which facilitates interstate travel between Michigan, Ohio, West Virginia, Virginia and North and South Carolina" Why is this a need? We (and VDOT) have already proved that "interstate travel" just isn't going to happen for this entire route. Thus, this is not a need.

VDOT throws out another meaningless statement by saying, "The need for an interstate transportation facility to foster planned economic development between southwestern Virginia and the Piedmont Triad regions and between Virginia communities from the City of Roanoke to the North Carolina state line." What "planned" economic development? Details, please!

As far as the cry for economic development. We have heard this tune before. Everytime there is a road issue. And each and every time, there are never any details provided. Just pie-in-the-sky claims. U.S. 58 was to be the end all of all ends for economic development. It has been called the savior. And now there is a new savior in town, I-73. What will be the imagined savior in years to come?

Response: *The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA), the National Highway System Designation Act of 1995 (NHS), and the Transportation Equity Act for the 21st Century (TEA-21) has designated 44 "High Priority Corridors linking many other cities in addition to the ones that Interstate 73 would link. In identifying these corridors, Congress found that the existing Interstate system connected the major population centers of the Nation and greatly enhanced economic development. Congress also found that many regions of the country are not adequately served by the Interstate system or comparable facilities and require further highway development in order to serve the travel and economic development needs of those regions. Therefore, these high priority corridors were designated to provide access to major ports, airports, rail stations, and public transit facilities. Therefore, the proposed I-73 corridor was designed to connect manufacturers and shippers located in the southeastern portion of the country with those located in the mid-west; thereby providing efficient, safe, and reliable transportation that will support our national economy and enhance our competitiveness in the marketplace.*

Economic Development

Interstates don't necessarily bring economic growth. A cost-benefit analysis has never been done, so VDOT's analysis of the benefits of building I-73 are not supported. On page 37 of the DEIS, VDOT says

"A benefit-cost analysis was not conducted for this project, as it is not a requirement under FHWA's NEPA guidelines as set forth under FHWA's Technical Advisory T 6640.8. Such an analysis is complicated by extensive financial assumptions and economic behavioral conditions implicit in the identification of costs and benefits. While the direct capital costs of constructing each alternative have been estimated and are documented in the DEIS as well as indirect costs such as lost tax revenue resulting from business displacements, other indirect and cumulative benefits and costs are difficult to quantify and subject to academic and economic interpretation."

Yet, throughout the DEIS, VDOT asserts, without solid proof, the economic benefits of a new-terrain I-73. A Supplemental DEIS should be completed. The SDEIS should include a cost-benefit analysis for each alternative.

Future trends in economics were not discussed in the DEIS. Technology based economies which are not dependent on highways would boost economic development.

On page 43 of the DEIS, VDOT states, "Economic growth in the cities, towns and counties along U.S. Route 220 has and continues to be constrained by the limited transportation access to major markets and suppliers Due to safety concerns and limited capacity, U.S. Route 220 currently cannot serve the corridor's transportation needs to achieve these economic objectives." U.S. 220 is not the constraint. It is the lack of diversity from the area's textile jobs that has hurt the area's economy. U.S. 220 has plenty of capacity and provides access to major markets, if marketable goods are produced. Plus, the rail system can and should be utilized.

Response: *There is no easy answer for dramatic job losses in a community. The type of jobs lost and global economic competitiveness explain much of the high unemployment in the cities, towns and counties along U.S. Route 220. Lack of diversity is part of the problem. In Henry County, the manufacturing sub sectors of furniture and textiles have been hit hard by lower labor production costs in South American and Pacific Rim countries. Much of the textile manufacturing relocation has been to facilities in Central and South America where the labor costs are substantially lower. Given the great disparity between wages south and north of the American border, it is unlikely that transportation variables would have had a significant influence on the relocation decisions of the textile industry. A few apparel/textile assembly facilities have recently located in the Martinsville /Henry County area and have hired back a small percentage (10%) of the textile workers who have lost their jobs in the past three years. The factors driving these decisions have more to do with the availability of textile labor and the niche market occupied by those firms that located in the area. For example, Nautica, the high-end retail clothier, located an assembly facility in Martinsville recently. The agricultural sector previously dominated by the tobacco growers has been in decline for over twenty years. Decreased domestic tobacco demand, cheaper tobacco leaf prices in Brazil and fewer growers have had more influence over agricultural employment in the area than variables such as transportation, education, climate and quality of life.*

The big regional picture for this area, particularly Henry County, Martinsville, Pittsylvania County and Danville is a concentrated effort by local governments, economic development authorities and the Commonwealth of Virginia to help the area re-invent itself and redefine its employment base away from textile and tobacco and towards a high tech manufacturing and service sector base. These initiatives take time and take visibility. The economic development potential of the area is enhanced when the marketing effort can claim direct access to the Interstate. Without direct Interstate access, most of these communities will be bypassed by major facility planners.

A benefit-cost analysis and economic development are two different issues. Based on public comment, FHWA requested a cost-benefit analysis for the preferred alternative and one has been developed and included in 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 crashed, 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%. However, because this information does not represent a change to the proposed action resulting in significant environmental impacts that were not evaluated in the draft EIS

nor does it represent new information or circumstances relevant to environmental concerns and bearings on the proposed action or its impacts would result in significant environmental impacts not evaluated in the draft EIS (23 CFR 771.130(a)(1)&(2)), a supplemental EIS is not warranted.

We agree that 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 that a locality would 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. In fact, in March of 1994, after VDOT completed a feasibility study to determine the general location of Interstate 73 in the state, 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. However, 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 because they saw its benefit as a tool to facilitate economic development. Ultimately, economic development will depend upon the ability of the region to attract new or expanding businesses to the area. An improved transportation system and its link to retail markets will improve the attractiveness of the area to businesses, but it is just one factor that influences a business's decision to locate to an area. Other factors include the availability of and distance to existing and planned residential development, supporting infrastructure (such water, sewer, and electrical), availability of a skilled labor force, etc.

Bias against the TSM option

In the FHWA guidance document T 6640.8A (Oct. 30, 1987), Section V(E)(2) Transportation System Management (TSM) alternative, it is stated,

> "... the concept of achieving maximum utilization of existing facilities is equally important in rural areas. Before selecting an alternative on new location for major projects in rural areas, it is important to demonstrate that reconstruction and rehabilitation of the existing system will not adequately correct the identified deficiencies and meet the project need."

VDOT has been biased against the TSM alternative from the get-go. From letters to citizens, comments in the press, and information in the DEIS, VDOT has not seriously considered the TSM alterative. In fact, VDOT actions have seriously prejudiced the TSM alternative as the department has tried to discount TSM as a viable alternative.

One has to look no further than the DEIS to see this. It appears from the DEIS, that the decision to build a new terrain interstate has already been made. All of the build alternatives have detailed maps in the DEIS, yet VDOT would not even provide a simple map outlining the 32 TSM projects. During the public hearings, hidden in the Noise Technical Memorandum, a map was located. We have also learned that there is a map of TSM in the Alternatives Identification and Screening technical memorandum. A TSM map should have been included in the DEIS.

At the public hearing, VDOT failed to include huge display maps showing the TSM projects. Also, in the sleek informational packet that was handed to all participants at the public hearing, detailed color maps of all the Build alternatives were included. There were no maps highlighting the 32 TSM projects. There were no maps showing the 37 projects that will be completed regardless of the I-73 outcome. These 69 projects should have been presented to the citizens.

A volunteer of BREDL with above-average computer skills took fully 12 hours to modify the TSM map and make it available via the VAR and BREDL websites. Making this map available to the general public is VDOT's responsibility.

We point out that in the FHWA guidance document T 6640.8A (Oct. 30, 1987), Section V(E)Alternatives, it is stated, "Each alternative should be briefly described using maps or other visual aids"

In addition, NEPA (40 CFR 1502.14(b) requires that the DEIS must “Devote substantial treatment to each alternative considered in detail . . . so that reviewers may evaluate their comparative merits."

VDOT spokespersons' comments in the media have also displayed a bias against the TSM option. For example, from the Roanoke Times, Dec. 15, 2000

> "VDOT spokeswoman Laura Bullock told a reporter that Transportation System Management would do little to solve U.S. 220's many problems. {"It does not provide more space for more traffic. It does not provide a faster road. It doesn't do anything for the amount of existing truck traffic, which is higher than many interstates in Virginia," Bullock said.
>
> Transportation System Management is a low-cost upgrade that would amount to a patchwork of small improvements, including some new turning lanes and some closed median crossovers, Bullock said.
>
> She said VDOT studied Transportation System Management as an option to I-73 because the National Environmental Policy Act required it.”

We can apply that same logic to the entire DEIS, which is required by NEPA. I guess VDOT doesn't want to follow these legal requirements.

Prior to the release of the DEIS, VDOT Commissioner Chip Nottingham, in a letter to a citizen in Franklin County at the request of Senator Roscoe Reynolds, wrote that I-73 will be built as a limited access highway and the lack of space for service roads makes fixing 220 an unviable option.

It appears that VDOT is spending as much of their time to discredit the TSM viable option as they are to promote a build option. And all of this prior to the DEIS commenting period deadline. All of this points to the fact that TSM is a viable alternative and VDOT knows it. VDOT wants to continue plowing through Virginia regardless of their legal requirements and financial constraints.

VDOT needs to focus more attention on the maintenance of existing highways instead of constantly constructing new highways. Only about 38 percent of the current VDOT budget is spent on highway maintenance. The current Virginia Transportation Development Plan allocates approximately $9 billion over the next six years. In the upcoming six years, JLARC staff, in a December 2000 Draft Report, states that VDOT underestimates the cost of projects in the plan by $3.5 billion. The TSM alternative would benefit taxpayers and travelers. The TSM alternative is one-tenth the cost of any of the build alternatives. The TSM alternative is estimated to cost $146 million dollars. The build alternatives will cost an estimated $1.2 to $1.4 billion.

We respectfully request VDOT to fairly and fully present the TSM alternative in a Supplemental DEIS. This should include, but not limited to, TSM maps comparable to the build alternatives, descriptions of how TSM will meet the purpose and need of a National Highway System designation.

Response: *The TSM Alternative was evaluated in the I-73 Draft Environmental Impact Statement using the same range of criteria and level of detail as the full build alternatives. Since the TSM Alternative would consist of low-cost improvements to the existing transportation system and would occur mostly within existing right-of-way, impacts as well as costs and benefits are not as significant with this alternative. Accordingly, in accordance with CEQ’s regulations, impacts (and related issues) have been discussed in the draft EIS in proportion to their significance.*

Because the improvements comprising the TSM alternative are located within the existing right-of-way of Route 220, it was decided that a map was not needed to show the relationship of the TSM improvements to the surrounding environment and that a description of the subject improvements would suffice. In contrast, a description of the build alternatives was not sufficient and a detailed map was provided to show the relationship of those alternatives to the surrounding environment.

The TSM alternative is a viable option in keeping with FHWA guidance (i.e. stand-alone, low cost, maximizes the efficiency of the existing transportation system, etc.). However, comments by VDOT officials regarding the viability of the TSM alternative were likely made in the context of its ability to address the purpose and need of the project.

The NEPA process is a tool for making an informed decision. NEPA does not dictate or force an agency to make a particular decision; it does not require an agency to select the alternative that has the least impact on the environment. An agency may elect to choose an alternative that has far greater impacts and costs than another alternative if their decision is reasoned and thought out. How VDOT prioritizes their needs on a program wide basis (maintenance versus build) is up to them and not an issue to be resolved through the NEPA process.

Conflict-of-Interest in the analysis

The DEIS was prepared by individuals and companies that have supported and stand to gain financially from a build option for I-73. From page 473, list of preparers for the DEIS include Hayes Seay Mattern & Mattern, Inc and John Lambert and Associates both companies were included in an April 1994 article in the publication Agenda "A Publication for members of the Roanoke Regional Chamber of Commerce" Vol 9, No. 21. The article titled "I-73 Moves Closer to Reality" lists people and organizations involved in support of I-73. How come road opponents and other concerned citizens weren't invited as preparers for the DEIS?

Response: *40 CFR Part 1506.5(c) states that "…any EIS prepared pursuant to the requirements of NEPA shall be prepared directly by or by a contractor selected by the lead agency or where appropriate…, a cooperating agency." The process VDOT used to secure a contractor to prepare the EIS was a process open to all interested firms, and the firm selected demonstrated that they were the most qualified to address VDOT's proposal to prepare an EIS. Since VDOT has not requested any proposals for final design or other phases of project development as it relates to Interstate 73, there can be no conflict of interest because the companies responsible for preparing the environmental document have not been guaranteed any subsequent work in the development of the project. Just because a few companies involved in the development of the EIS have expressed support for a build alternative which they may benefit from financially in the distant future should they respond to a VDOT request for proposals and should that proposal be accepted by VDOT does not constitute a conflict of interest. TEA-21 specifically allowed the same company that prepares an environmental document to also do the design work. A conflict of interest would only arise if the company or companies involved in the preparation of the environmental document unduly influenced the outcome of the analysis or the project's decision makers, thereby undermining the objectivity of the process. There is nothing in your comment to demonstrate that this has occurred.*

Notwithstanding, road opponents and other concerned citizens were invited to help "prepare" the DEIS through the scoping process and public participation process by identifying the critical issues that needed to be addressed. VDOT began this public participation program as far back as early 1994 when the VEC and the Virginia Transportation Research Council performed economic screening analyses of proposed I-73 corridors throughout southwest Virginia. Five public information meetings were held in southwestern Virginia in January and February of 1994, attended by a total of 1,200 people.

In 1997, the I-73 Location Study was initiated by VDOT. The public continued to have the opportunity to be heard and to be informed. Citizens were encouraged to identify issues that needed to be addressed

in the draft EIS and to gain an understanding of the planning and project development processes required for the project. The study team incorporated the following methods to maintain effective and constructive communications:

Public Awareness Initiatives and Information Resources
An extensive mailing list was developed from: 1) registration forms completed by citizens who attended public information meetings; 2) comment sheets from stakeholder interviews; 3) requests placed through the I-73 Location Study telephone "hotline"; 4) email requests; and 5) submissions made on the I-73 Location Study website. The mailing list provided the major audience for the I-73 Location Study newsletter. The I-73 Location Study website, email service, and telephone "hotline" all served as public gateways to information about the I-73 project.

Newsletter, Brochures, Fliers
Printed information about the I-73 Location Study was disseminated to the public in the form of brochures, newsletters, and fliers. Circulation of these materials was as follows:

- · *Information Brochures 9,300*
- · *Fliers 1,250*
- · *January 1998 Newsletter 6,690*
- · *May 1998 Newsletter 9,275*
- · *March 1999 Newsletter 6,600*

Website
A website accessible to the general public and devoted to the location study is maintained at www.vdot.state.va.us. It serves as a vehicle for the dissemination of information and for sharing comments and questions. The site recorded approximately 500,000 "hits" as of October 2000.

Email
Comments about the location study and requests for information can be made via email to saleminfo@vdot.state.va.us. Approximately 121 emails were received as of January 2000.

Toll Free Information "Hotline"
Requests for information about the location study can be made toll free at 1-888-I73-PLAN. The service also instructs callers on how to get involved. As of January 2000, the "hotline" received approximately 1,972 calls.

Designated Public Information Meetings
Nine public participation meetings with an aggregate attendance of 3,476 were held since January 1998. The second phase of meetings focused on the proposed I-73 location alternatives. Citizens met at local schools or community conference centers. The meetings were presented in a systematic format with VDOT consultant staff available for question and comment. Attendees were first presented an I-73 Location Study brochure and comment sheet. The comment sheets presented standard questions and allowed room for an open response. Following the brochure and comment sheet was an informative video presentation and an opportunity to examine a standard set of exhibits, including maps, project schedules, and proposed alternatives. After viewing the materials, citizens completed the comment sheets or recorded their oral comments and questions at audio recording stations.

The vehicles to promote the meetings included: 1) press releases to newspaper, radio, and television media; 2) newsletter distribution; 3) advertisements in local newspapers; and 4) 167,000 post card mailings.

January 1998 - 1,233 attendees, 3 meetings

1) *Collinsville, Henry County*

2) *Rocky Mount, Franklin County*
3) *Roanoke, Roanoke Valley*

May and June 1998 - 2,243 attendees, 6 meetings

4) *Collinsville*
5) *Rocky Mount*
6) *Roanoke*
7) *Salem*
8) *Blue Ridge, Botetourt County*
9) *Goodview, Bedford County*

Community Meetings
Approximately sixty-two community meetings with a total attendance of 2,625 addressed issues involving the I-73 Location Study. Meeting organizers could request from the VDOT Salem District, a speaker who presented a standard discussion and a consistent message.

Safety concerns

VDOT lists safety concerns on the current U.S. 220 as a purpose for constructing a new - terrain highway. VDOT spends a lot of space in the DEIS showing how unsafe U.S. 220 has become, yet VDOT offers no solutions to making U.S. 220 safer with any of the build alternatives. The TSM alternative is the only option that will make U.S. 220 safer. In one place, (On page 304 of the DEIS) VDOT finally acknowledges that "The TSM Alternative would improve the safety of all travelers on U.S. Route 220..."

If a build option is chosen, then we will still be left with an antiquated, winding, unsafe U.S. 220 which will still be utilized, especially by local traffic. Does VDOT not care enough about the local citizens to upgrade U.S. 220? If VDOT intends on leaving behind this unsafe highway, while building a new terrain highway, then VDOT should look into ripping up the pavement of U.S. 220 or barricading it from use!

Throughout the DEIS, VDOT mentions that U.S. 220 is unsafe for truck traffic. Yet, VDOT does not provide any data to back these claims. On page 25 of the DEIS, VDOT states, "Another regional priority in southwest Virginia is to address safety concerns along U.S. Route 220 resulting from high percentages of truck traffic, . . ." Then on page 27 "growing truck traffic" and again on pages 39 and 43 "The high percentage of truck traffic on U.S. Route 220" is mentioned.

A look at some VDOT data, shows that percentage-wise, trucks are not contributing to more of the accidents on U.S. 220. From the VDOT document Route 220 Safety Report (Sept. 27, 1994, rev. Nov. 30, 1999), About 18 to 22 percent of the U.S. 220 traffic is truck traffic. About 18 percent of the accidents on U.S. 220 are attributed to trucks, based on the 1991, 1992, and 1993 years. (NOTE: VDOT does not include the amount of accidents attributed to trucks for the years 1994 - 1998 in the revised report.)

On page 43 of the DEIS, VDOT says, "This volume of trucks operating on a rural primary road with steep grades, poor site distances, dangerous crossovers and uncontrolled access, contributes to a safety problem in the corridor and constrains freight dependent economic activity." These safety problems can be alleviated with the TSM alternative. In fact the "critical accident rate locations" along U.S. 220, as listed on page 44 of the DEIS, will be improved under the TSM alternative.

VDOT says in the DEIS, "A limited access facility, as currently proposed under the Build Alternative, would have a lower accident rate as compared to existing U.S. Route 220 and would divert

motorists from U.S. Route 220 to I-73. As a result, reductions in traffic volumes along the existing U.S. Route 220 roadway would result in a reduction in the number of accidents forecast to occur along the roadway." VDOT fails to include projections for accidents on a new I-73 highway. VDOT only looks at the reductions of accidents on U.S. 220. Those I-73 accident projections need to be included in the data. On page 292, the table does not indicate that VDOT used projected accidents on a new terrain I-73 in its figures. This greatly skews the data. The accident rate on interstates from 1995-1997 has averaged a rate of 66. This number needs to be added and forecasts adjusted accordingly. VDOT needs to make it clear how they tabulated this forecast. For instance, a truer forecast of accidents would need to include not only the forecast of accidents on the new terrain I-73, but should include the entire I-81 to NC line Study Area, not just south of Rt. 419 in Roanoke. Truck traffic, other vehicles, congestion, and accidents will increase on I-73 access roads. Projected accidents from access roads to I-73 should be included.

BREDL echoes the statement from a February 1998 Army Corps of Engineers' letter.

"The draft Purpose and Need (P&N) provided in July 1998 (dated February 1998) presents issues and concerns which appear to be almost entirely associated with Route 220. Is there an independent purpose and need for an interstate facility? If so, the P&N should be revised to identify and support it. If the problems being addressed are all entirely related to the existing Route 220, then why is the project I-73? It appears that the study should be a Route 220 study, and that widening and or new alignment of 220 should be the alternatives considered. It is not clear from the discussion of future traffic conditions supports the P&N for the study area.... The draft P&N appears to focus on Route 220 issues, which leaves the reader confused about the P&N for a new interstate highway." - Army Corps of Engineers

The DEIS still leaves these questions unanswered as VDOT focuses much attention on U.S. 220.

Response: *The statements concerning the high percentage of trucks and truck traffic along US 220 refers to the 15% to 24% truck traffic levels currently found along the US 220 roadway. This percentage is considerable, and greater than the percentages found along routes with similar characteristics and proximity such as US 460, 5% to 11 from the Roanoke County Line to Petersburg in Prince George County, US 29, 5% to 19% from Danville to Charlottesville, and US 58, 7% to 19% from Henry County to Mecklenburg County (Average Daily Traffic Volumes with Vehicular Classification Data on Interstate, Arterial and Primary Routes, 1997, Virginia Department of Transportation, Traffic Engineering Division). Thus, statements referring to the high percentage of truck traffic along US 220 within the study area are accurate.*

While truck traffic is a high percentage of the overall traffic, it is correct that the percentage of accidents involving trucks is relative to the percent of vehicles. Accident data indicating which accidents involved a truck was only available for the years 1991 to 1993 as reported in the Route 220 Safety Report. The breakdown of accidents indicated that 7% to 28% of the accidents along US 220 involved a truck. The report had also identified a number of high truck accident locations where upon a detailed review of the accident reports, a large number of accidents at these locations involved a truck. The comments concerning the safety concerns of trucks traveling along the roadway and the effects of the geometric conditions of the roadway related to these identified high accident locations. If the truck volumes along the US 220 roadway were to increase, increases in the number of accidents at these locations involving trucks would likely increase also. The TSM improvements identified for some of these locations are not extensive enough to provide for a complete elimination of many of the safety issues at the high accident locations.

Concerning the accident forecasts, an investigation into the total number of accidents anticipated between US 220 and a Build I-73 alternative was conducted. The analysis was conducted as an overview type analysis and did not account for traffic diverted off secondary and local roadways onto the I-73 facility and traffic which would divert from other interstate roadways to I-73. This diverted traffic would raise the VMT along a new I-73 roadway and increase the number of accidents forecast based on

an identified accident rate for the Build I-73 facility while lowering the VMT and expected number of accidents forecast for the roadways they diverted from. Based on this analysis, forecast overall accident numbers on both the US 220 facility and I-73 would be expected to be similar to those under the no-build condition on US 220 under Option 1 and 4. Under the Build Option 2 and 3, however, forecast overall accident numbers would be reduced by around 10%. This is in light of the fact that the twin facilities are carrying additional amounts of traffic through the corridor as compared to the no-build condition.

One of the goals of the I-73 project is to move vehicles through the study area and corridor in a safer, more efficient manner. This could only be accomplished by a new highway facility designed to today's interstate-type facility standards. Since reconstruction of US 220 to this level would produce extreme impacts to existing communities and resources located along the roadway, a new alignment roadway is the preferable option. This new facility would have an accident rate that is approximately one third of the rate that currently exists along US 220 (Summary of Crash Data, 1995, Virginia Department of Transportation.). From a safety standpoint, while a new facility will not eliminate accidents it will provide a safer alternative for the various types of motorists who desire to travel in and through the study area. This safety improvement would benefit all those who currently use, and will in the future use, the US 220 corridor.

In addition, TSM would not rebuild many miles of US Route 220. The TSM ranges from 10.76% to 13.19% of the cost for the full build options. The TSM improvements affect approximately 86, 600 LF of US Route 220 from Roanoke to the North Carolina line. This represents 30.8% of the 281,000 LF of US Route 220 from Roanoke to the North Carolina state line. The 86,600 LF of TSM improvements to US Route 220 include an array of minor and major improvements ranging from additional left turn lanes, the closing of median crossovers, signal improvements, shoulder widening to major grade and pavement replacement. TSM is a series of spot improvements that address immediate safety needs along 16.4 miles of roadway

The TSM alternative lacks convincing components of the I-73 purpose and need such as:

- *TSM will not enhance the functional classification of US Route 220,*
- *TSM will not increase capacity of the entire US Route 220 corridor, nor will it improve the level of service,*
- *TSM will not improve mobility and access between Virginia and other regions,*
- *TSM will not attract the economic activity of an Interstate facility,*
- *TSM does not address the Congressional mandate in the TEA 21 highway reauthorization act.*

As a $146 million alternative TSM is not a low cost alternative for scattered improvements to 16.4 miles of rural principal arterial highway. TSM is questionable in terms of its operating benefits and characteristics when compared to the more aggressive interstate alternatives.

In regards to the ACOE letter, several of the comments were addressed in the DEIS including additional information regarding the Purpose and Need of I-73 that they requested.

Alternatives not addressed.

Access management, a bigger TSM alternative, a rails alternative and mass transit should have been studied as part of the I-73 project. These are reasonable, viable alternatives and should have been studied per FHWA regulations 23 CFR 771.123(c) which states "...The draft EIS shall evaluate all reasonable alternatives to the action and discuss the reasons why other alternatives, which may have been considered, were eliminated from detailed study. . ." VDOT failed to address alternatives per NEPA 1502.14(a) which states, "Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their

having been eliminated." It was not noted in the I-73 DEIS why these reasonable alternatives were dismissed in the DEIS study.

An alternative focusing on "access management" should have been included and studied, as a viable alterative for the I-73 segment from Roanoke to NC border. Access Management could add to the TSM option. A form of access management would be cost-effective when compared with the price tags of the build alternatives.

None of the alternatives presented address the congestion problem in the Roanoke area of the Study Area. On page 293 of the DEIS, in Roanoke City, Botetourt and Bedford counties, no TSM improvements are proposed. We question why only U.S. 220 was included for TSM improvements. Why were no improvements listed for I-581 and adjacent highways? Such improvements could alleviate the I-581 to downtown traffic volume, which is not addressed by any of the build alternatives. I-581 improvements need to be considered because I-581 is currently and would remain part of the National Highway System designated route if the no-build or TSM alternative is chosen.

Note: On page 291 of the DEIS VDOT mentions "The 34 identified improvements of TSM' Is this a misprint or did VDOT drop 2 improvements from the list?

A rails alternative should have been included and studied as a viable alternative. Moving freight from trucks to trains would reduce the amount of truck traffic, reduce the amount of pollution, reduce the traffic volume, while improving the rail industry. The rail industry was once a viable economic, boom in the Roanoke Valley. That "real" economic development is being lost.

A mass transit alternative should have been addressed in the study. The Study Area's total population more than meets the requirement for studying mass transit.

These viable, reasonable alternatives need to be studied and addressed in a Supplemental DEIS. The public and Commonwealth Transportation Board should have the opportunity to consider all viable options.

Response: *NEPA requires federal agencies take into account a range of reasonable alternatives to address the purpose and need of a project on major actions. These alternatives may very well include other modes of transportation if they meet the purpose and need. Rail has not been shown to be a reasonable alternative in light of the purpose and need. More importantly, at 23 USC 109(h), Congress directs the FHWA to consider the economic, social and environmental effects relating to any proposed project on any Federal-aid system, and to make final project decisions in the best overall public interest. Privately owned railroads are not part of the Federal-aid system, and any improvements to such railroads would, in fact, be outside the jurisdiction of FHWA and at the discretion of the railroad companies. We are not aware of any available federal highway funding categories that can be used to implement privately owned railroad improvements. Notwithstanding, the final EIS documents the results of the Virginia Intermodal Transfer Facility Study that was prepared in 2000 to help determine the possibility of reducing heavy truck traffic on long haul highways in Virginia. Generally, the study found there to be few circumstances that make rail a viable alternative to freight trucking. In addition, given the rural nature of most of the study area, it lacks the density to support mass transit options, including rail. While important to our overall transportation system, non-highway alternatives do not constitute a component of the National Highway System and as such, could not be added to the system as Congress had intended. Finally, a general access management alternative has been addressed in the EIS.*

There are several programmed improvements listed under Table 2.4-1 under the No-Build Alternative that will help address the congestion problem in the Roanoke area, which includes projects on adjacent roadways. These projects are also included as part of the TSM and Build alternatives and would be constructed in conjunction with those alternatives. No additional projects or specific improvements to the I-581 corridor were identified under the TSM alternative that meet the intent of TSM which are low

cost improvements involving minor work within the right-of-way that maximize the efficiency of the facility. Other's submitting comments on the TSM alternative have not identified any TSM-type improvements to I-581 that could be added to expand the scope of that alternative either. The reference to 34 identified TSM improvements is incorrect. The number of TSM improvements identified was 32.

Traffic Data

On page 49, the projected average daily traffic on U.S. 220 south of Boones Mill will only increase by 100 vehicles in the year 2020. The projected ADT on U.S. 220 south of Rocky Mount will only increase by 600 vehicles in the year 2020. These projections indicate that the TSM alternative will more than meet the study area's future traffic needs.

The traffic volume is not on the majority of U.S. 220. Once you get south of the Rte. 419 - intersection, the traffic volume drops considerably. It is the I-581 segment in the city of Roanoke that has and will have the traffic problems. The brunt of the ADT is on I-581 from the I-81 intersection to downtown Roanoke at Elm avenue. None of the alternatives have addressed this high traffic volume. No matter which I-73 build option is utilized, vehicles are destined to downtown Roanoke. These vehicles will continue to use the I-81 to I-581 route to access Roanoke.

The I-581 average daily traffic projections for 2020 include from 84,500 to 108,700 vehicles for the no-build/TSM alternatives, from 92,000 to 105,700 for Option 1, from 99,700 to 126,700 for Option 2; from 99,800 to 126,900 for Option 3; and from 82,900 to 106,700 for Option 4.

The Level of Service analysis shows that the LOS and projected LOS for 2020 for much of U.S. 220 is either rated A or B. The worst LOS and projected LOS for 2020 occurs on the I-581 section. Once again, none of the proposed alternatives will alleviate this problem.

The Roanoke Valley Area Constrained Long Range Plan 1995-2015, according to the DEIS, is the only mention of I-581 improvements. These improvements are part of the no-build alternative. They will happen regardless of the alternative chosen for I-73. Thus, VDOT's LOS analysis on page 278 appears to be incorrect for I-581 which is already constructed to interstate standards. The no-build option is given the rating of "F" along both the U.S. Rt. 11 to U.S. Rt. 460 segment of I-581 and the Rt. 24 to Rt. 11 segment. Whereas, build options 2 and 3, which would divert over 16.56 percent more traffic (based on ADT projections on page 275) onto I-581, are given a rating of "D" for the U.S. Rt. 11 to U.S. Rt. 460 segment and a rating of "E" for the Rt. 24 to Rt. 11 segment.

An I-73 build option is not needed to offset traffic volumes. The LOS for the majority of U.S. 220 is forecast (2020) to have a high rating of "A" for the no-build option.

On page 65, it is unfair to lump the no-build and TSM in the same category. The TSM option will improve travel time along the U.S. 220 corridor. The travel time saved within the Study Area from build alternatives is not significant - about 5 minutes. Plus, there is some fuzzy math in the figures. On page 65, VDOT estimates that on a new terrain I-73 a trip from Roanoke to Greensboro would be reduced by 41 minutes. It also claims that a trip from Martinsville to Greensboro would be reduced by 7 minutes. Then on page 66, VDOT says that a trip from Roanoke to Martinsville will be reduced by 5 minutes. Is there a time zone change in Martinsville that is unknown to all except VDOT. Where did that other 29 minutes come from?

On page 291, all of the Build Alternative options reduce the forecast traffic volumes along existing U.S. Route 220 south of Route 419 as compared to the No-Build and TSM Alternatives. South of Route 419 is not the major traffic problem or volume. It is north of Route 419. The build options will do nothing or very little to reduce those high traffic volumes.

Response: *Projected average daily traffic on U.S. 220 south of Boones Mill and on U.S. 220 south of Rocky Mount are not representative of the entire study area. It would not be reasonable to concluded that the TSM alternative will more than meet the study area's future traffic needs based on this limited information. Under the Build options utilizing I-581, existing I-581 would be widened with an additional lane in each direction and associated interchanges would be reconfigured to accommodate the wider roadway. Under the No-Build and TSM Alternatives, only some improvements would take place on I-581. In heavily developed metropolitan areas, the minimum LOS that must be designed for is LOS D. This may require a design exception. An evaluation (more detailed traffic analysis) was conducted to determine if LOS deficiencies were occurring at just interchanges or along the main line as well and it appears that the required LOS could be achieved with interchange improvements and not require additional main line improvements.*

We agree with the above statements that many of the distances used in the original travel time analysis were incorrect. Travel times were recalculated since the DEIS was published in response to questions raised by various parties, including EPA. The new analysis revealed a savings of 45 minutes using I-73 from Roanoke to Charleston and a savings of 31 minutes using I-73 from Martinsville to Charleston. Additionally, a savings of 63 minutes would be realized using I-73 from Flint to Roanoke. The results of the revised travel time analysis are as follows:

	No Build			Build			Savings	Miles on (No-Build)		Miles on (Build)	
Route	Distance	Time	Route	Distance	Time	Route	(Minutes)	Interstate	US Highway	Interstate	US Highway
Flint to Roanoke	656	11.31	US 23 to I-80 to I-77 to I-81	593	10.25	US 23 to I-73	63	543	112	480	112
Flint to Greensboro	741	12.74	US 23 to I-80 to I-77 to I-40	688	11.85	US 23 to I-73	53	624	117	576	112
Toledo to Roanoke	543	9.06	I-80 to I-77 to I-81	480	8.00	I-73	63	543	0	480	0
Toledo to Greensboro	629	10.49	I-80 to I-77 to I-40	576	9.60	I-73	53	624	4	576	0
Roanoke to Greensboro	97	1.94	US 220	96	1.60	I-73	20	0	97	96	0
Roanoke to Charleston	401	6.68	I-81 to I-77 to I-26	356	5.94	I-73	45	401	0	356	0
Roanoke to Raleigh	184	3.39	US 220 to I-40	183	3.05	I-73 to I-40	20	87	97	183	0
Martinsville to Greensboro	42	0.83	US 220	41	0.68	I-73	9	0	42	41	0
Martinsville to Charleston	321	5.54	US 220 to NC 68 to US 52 to I-85 to I-77 to I-26	301	5.02	I-73	31	261	59	301	0

	Speed
Interstate	60
US Highway	50

The new analysis used average travel speeds of 60 mph for Interstate travel and 50 mph for US Highway travel. These speeds were intended to represent a typical commodity movement speed along these types of facilities. Since posted speeds for Interstates and US Highways would vary from state to state and within states, it was necessary to assume average travel speeds for the entire corridor in order to complete a reasonable analysis. Even if the entire length of I-73 through West Virginia were posted at 55 mph, posted speeds on interstates in other states would range between 65 and 70 mph, making the 60 mph assumption for the entire corridor both reasonable and conservative.

We agree that an I-73 build alternative is not needed to address the traffic conditions at select points or at certain locations in the study area. However, there are multiple components to the purpose and need of the project, and one should not isolate a single component to make a case for need. This segment of I-73, while it has independent utility and has been developed to address the purpose and need that has

been identified, must also be viewed in the context that it is just one segment of the high priority corridor identified by Congress running from Michigan to South Carolina.

Land use

The increasing loss of our agricultural and forest land in Virginia and the U.S. needs to be addressed. In Virginia, 45,000 acres a year of farmlands and forests are lost to development. The state lost nearly 450,000 acres of prime farmland from 1987 to 1997, and an average of 26,000 acres of forest land annually between 1977 and 1992. The cumulative and secondary impacts from the loss of farmlands and forests for each I-73 alternative needs to address Virginia's and the U.S.'s continuing loss of these important, vital lands.

We will point out that TSM is the only construction option that meets the statement on page 150 of the DEIS, "The transportation goals and objectives generally outline the same issues. These jurisdiction want to ensure safe and efficient modes of transportation, preserve - their natural and cultural resources, preserve their rural character, and maintain consistency with other jurisdictions goals."

On page 129 of the DEIS, "A common theme to these (local comprehensive) plans emphasizes each jurisdiction's desire for rural areas to maintain their rural qualities and for urban areas to remain urban." A TSM or no-build alternative should be utilized to preserve this valuable, life-sustaining land.

Response: *Compatibility with area's adopted or pending comprehensive plan goals, policies and objectives were evaluated for each alternative. Compatibility of a No-Build, TSM, or Build Alternative option with the comprehensive plans of all jurisdictions is unlikely. It is also difficult to generalize the compatibility of a proposed alignment of a Build Alternative across the length of an entire county, as the alignment crosses several land use designations. A review of compatibility of each alternative with each jurisdiction's comprehensive plan was provided in the DEIS. Both Franklin County and Henry County, the two most rural jurisdictions, have specific language in their comprehensive plans or adopted resolutions in support of a build alternative, despite language in their comprehensive plans regarding the conservation of rural areas.*

On page 35 of the DEIS, VDOT states, "The Build Alternative would result in a loss of approximately 0.4 percent of the total forest lands currently existing in the five-county area, the conversion of forest lands would not be a severe impact from a regional perspective." This figure is inconsistent with data presented elsewhere in the DEIS.

Response: *Using county forest resource assessments published by the Virginia Department of Forestry, the total forest resources for the region (i.e., Roanoke, Botetourt, Bedford, Franklin, and Henry counties) is estimated at 1,090,900 acres (441,473 hectares) (Virginia Department of Forestry, 1999). Forest communities lost through conversion to highway right-of-way represent 0.4 percent of the regional total under Option 1 and 0.2 percent of the regional total under Option 3c. Both figures represent a relatively small proportion of potentially marketable timber resources within the region - an effect that will be offset by other benefits to the regional economy following interstate construction. Forest communities of the type affected are widespread throughout the region, which establishes the context for the impact.*

On page 125 of the DEIS, VDOT states that the project area consists of 310,951 acres of forestland. Then on page 298, Table 4.2-1, VDOT outlines the acreage impacts to the forests. The Roanoke area and I-73 Study Area stand to lose a significant amount of tree canopy from each of the build alternatives. The table below reflects loss of forestland from the highway itself. It does not include the resulting sprawl.

Percentage of loss of forestland for each alternative

TSM	1	1A	2	2A	2B	2C	3	3A	3B	3C	4	NO BUILD
NA	1.41	1.39	1.09	1.03	1.02	1.04	0.66	0.72	0.69	0.65	1.10	0

The average tree canopy in the Roanoke area has declined from 40 to 35 percent during the past 24 years, according to a report by the non-profit group American Forests. The secondary and cumulative impacts from sprawl and the declining tree canopy in the Roanoke area from a build alternative will have a greater impact than VDOT states. Whereas, the no-build or TSM - options would have minimal impacts.

In the DEIS, VDOT only looks at a one-mile area around proposed interchanges. VDOT needs to complete a Supplemental DEIS to fully study the cumulative and secondary impacts to land use for each alternative.

Response: *Section 4.12 documents possible agricultural and forested impacts resulting from secondary development and associated cumulative impacts around interchanges. Accurately predicting where secondary development is going to occur because of the project is not easy, so FHWA and VDOT met with EPA to discuss how best to address the issue of secondary and cumulative impacts. Based on that coordination with EPA, they recommended that we assume that secondary development would occur around the interchanges and that the development, if it were to occur, would likely occur up to a mile away from the interchange over the 20 year design life of the project. The impacts to existing land use around proposed locations of interchanges resulting from these assumptions is the information that is included in Section 4.12. Therefore, based on this approach, the documented impacts to forested and agricultural land around interchanges would be in addition to the direct impacts documented elsewhere in chapter 4. Given this approach, it is acknowledged that this approach is speculative and essentially results in a worst-case scenario even though CEQ no longer requires such an analysis. Finally, additional information has been added to the EIS regarding cumulative impacts.*

Environmental Justice

Executive Order 12898 requires Federal agencies to identify and address "disproportionately high, and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations."

A December 2, 1998 Federal Highway Administration Order established policies and procedures for the FHWA to use in complying with Executive Order 12898,Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (EO 4 12898), dated February 11, 1994. In this FHWA order,

"(f) Adverse Effects means the totality of significant individual or cumulative human health or environmental effects, including interrelated social and economic effects, which may include, but are not limited to: bodily impairment, infirmity, illness or death; air, noise, and water pollution and soil contamination, destruction or disruption of man-made or natural resources; destruction or diminution of aesthetic values; destruction or disruption of community cohesion or a community's economic vitality, destruction or disruption of the availability of public and private facilities and services; vibration; adverse employment effects; displacement of persons, businesses, farms, or nonprofit organizations; increased traffic congestion, isolation, exclusion or separation of minority or low-income individuals within a given community or from the broader community; and the denial of, reduction in, or significant delay in the receipt of, benefits of FHWA programs, policies, or activities."

(g) Disproportionately High and Adverse Effect on Minority and Low-Income Populations means an adverse effect that:

(1) is predominately borne by a minority population and/or a low-income population; or
(2) will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the nonminority population and/or nonlow-income population.

VDOT did not address the secondary and cumulative impacts to minority and low-income residents and their communities as outlined in the December 2, 1998 Federal Highway Administration Order (Section (f) adverse effects). VDOT analysis only addresses the direct impacts to displaced minority and low-income residents and businesses.

VDOT analysis did not include the impacted populations in close proximity to the alternative. On page 146 VDOT states, "Historically, the development of I-581 and US Route 220 has incurred minor impacts to low income and minority populations in the Lincoln Terrace housing development." The Lincoln Terrace housing development represents just a small portion of minority and/or low-income populations in the Roanoke area. Secondary and cumulative impacts have impacted these residents, their neighbors, and their community.

Breathing the polluted air, hearing the constant noise, feeling trapped by a huge freeway in your backyard are not "minor impacts". Impacts from storm-water runoff, exposures to an increase in air pollution (both locally and regionally) from Criteria Pollutants and HAPs, pedestrian safety, noise, increased ill health, and community destruction by massive highways need to be addressed.

Build alternatives 2 and 3 would increase traffic, noise and air pollution causing significant impacts to Roanoke City's minority population which predominantly make up the residents along the I-581 corridor. We point out that while the I-73 Study area 16.8 percent) is below the state average, (24.0 percent) for minority populations, build options 2 and 3 would significantly impact Roanoke city's (25.7 percent) minority population which is above the state average.

1990 Census data shows that 25.4 percent of Roanoke City's population is minority; whereas, only 3.5 percent of Roanoke County, 5 percent of Botetourt County, and 5.4 percent of Salem City population is minority. Build options 2 and 3, segment 374, would traverse Roanoke City.

On page 148 of the DEIS, VDOT states, "ground verification was used to determine the number of minorities throughout the study area. However, no contact was made with any of the residents included in 600' corridor. Information was obtained by windshield surveys from agents in the field. Also, through visual observation and comments from the planning districts, no significant concentrations of minorities are located within the study area but are scattered throughout the corridor. What? VDOT hurriedly drives through neighborhoods and bases critical decisions on employees who were too afraid to leave their vehicles.

On page 148 of the DEIS, VDOT says, "Historically, the development of I-581 and US Route 220 has incurred impacts to low-income, non-minority populations in the Southeast section of the City of Roanoke."

Page 150, again with the windshield surveys as VDOT dodges the low-income populations of Roanoke. Once again, Build options 2 and 3 would significantly impact the low-income populations of Roanoke. While the I-73 Study area (10.3 percent) is in tune with the state average (10.2 percent), Roanoke city (16.1 percent) includes a much higher percentage compared to Build options 1 and 4 (4.1 to 4.3 percent).

Using the table on page 304, all variations of alternatives 2 and 3, except 3A, would displace a higher percentage of minority and low-income residential units. A1ternative 2, 2A, 2B and 2C: range from 18.38 percent to 21.38 percent displacement of minority residential units. Alternatives 3, 3B and

3C displacement of minority residential units range from 13.85 percent to 15.28 percent. Alternative 3A displacement would be 11.17 percent which is closer to Alternatives 1, 1A and 4 which range from 9.38 percent to 11.76 percent.

The results are similar for the displacement of low-income residential units. However, the percentages are closer. Alternatives 2, 2A, 2B and 2C range from 7.03 percent to 8.86 percent displacement. Alternatives 3, 3B and 3C range from 6.55 percent to 6.65 percent, displacement. Alternative 3A displacement would be 5.09 percent which is closer to Alternatives 1,1A and 4 which range from 5.00 percent to 5.87 percent.

Both Alternatives 2 and 3 (and variations of Alternatives 2 and 3 would adversely affect the Rescue Mission Thrift Store. The displacement of this community asset will impact the low-income residents who may have trouble accessing the store at a different location.

Options 2, 2a, and 2c would displace the Super Save Fresh Foods grocery store. This discount grocer is a valuable resource in the Southeast community.

Options 1, Ia, 2, 2a, 2c would severely impact a community of German Baptists in Franklin County near the Route 116 corridor. This community of families is renowned for their traditional faith-based values. Their religious beliefs prevent them from speaking out on issues such as the I-73 project.

The noise impacts from alternatives which impact the minority and low-income populations are significantly higher than other alternatives. VDOT needs to fully study and address the cumulative and secondary impacts to minority and low-income populations in a Supplemental DEIS.

Response: *Table 4.2-5 in the DEIS provided a comparison between the percent minority population by each build option, which may be effected, with the defined study area. The minority representation for the entire study area is 16.8 percent. Option 4 has the greatest "adverse" variance from the study area minority representation at 6.3 percent (23.1 percent versus 16.8 percent). The greatest "adverse" variance in the percent minority between a jurisdiction and any given option is 6.6% (Options 2, 2a, 2b, 2c at 30.5 percent versus 23.9 percent in Henry County). Based on this information, it does not appear that any of the Build options would have an adverse effect that is predominately borne by a minority population or the suffering by this population group would be appreciably more severe or of a greater magnitude than non-minorities. While variances exist, both positive and negative, the magnitude identified from this data is marginal. Table 4.2-6 provides a comparison between the percent of persons below the poverty level by each Build option, which may be effected, with the defined study area. The low-income representation for the entire study area is 10.3 percent. Option 2a has the greatest "adverse" variance from the study area low-income representation at 1.4 percent (11.7 percent versus 10.3 percent). The greatest "adverse" variance in the percent low-income between a jurisdiction and any given option is 3.6% (Options 4 at 7.7 percent versus 4.1 percent in Roanoke County). Based on this information, it does not appear that any of the Build options would have an adverse effect that is predominately borne by low-income populations or the suffering by this population group would be appreciably more severe or greater magnitude than non-low-income. While variances exist, both positive and negative, the magnitude identified from this data is marginal. The determination on whether any of the Build options would have an adverse effect that is predominately borne by a minority or low-income populations or the suffering by this population group would be appreciably more severe or greater magnitude than non-minorities or non-low-income populations applies to direct impacts such as noise, air quality, runoff, and relocations. Specifically, the noise analysis demonstrated that noise levels along I-581 would increase 1-5 dB(A) above existing noise conditions (measured as Leq) depending upon the location. It appears that most of the receptors along I-581 identified as impacted would be eligible for noise barriers. This project is the only vehicle that would allow the residents located along I-581 to be considered for noise mitigation; the TSM alternative, because it does not include the addition of through-lanes on I-581, is not considered a Type I improvement eligible for noise abatement. No impacts to the air quality standards established by EPA under the Clean Air Act have been identified for*

any of the alternatives under consideration. Finally, information on relocations included in the EIS demonstrates that neither minority nor low income populations will bear a disproportionate share of the relocation impacts. Additional information has been added to the EIS regarding secondary and cumulative impacts.

Regarding the City of Roanoke and the minority population located there, the percent of minority populations is 25.7% of the total population based on 1990 Census data. The percent of minorities in the City of Roanoke that may be effected by Interstate 73 for the different alternatives ranges from 27% to 28.9% (Table 4.2-5). The adverse variance range for the different alternatives, then, is 1.3% to 3.2%. Therefore, the percent of minorities that may be effected by the construction of Interstate 73 is comparable to the percent of minorities comprising the population in the City of Roanoke. This variance is not a disproportionate impact let alone a significant impact.

Regarding the windshield surveys, windshield surveys in conjunction with socioeconomic data maintained by the local jurisdictions are an adequate tool for compiling general information about the study area and the potential project impacts and comparing alternatives. Windshield surveys build upon socioeconomic data to further identify the potential location of minority and low-income populations. Experience on other projects has shown that going door to door in an effort to determine income or ethnicity is not well received. After the selection of the ALC by the CTB, VDOT met with local officials in June 2002 and November 2004 to further discuss low income and minority populations.

The German Baptist community in Franklin County is not a minority or low-income population protected under Environmental Justice. Notwithstanding, VDOT has engaged in extensive discussions with representatives of the German Baptist community while following up on claims made by VAR regarding the historical significance of their culture and the community.

Noise

Options 2 and 3, which would impact a significantly higher number of minorities and low-income residents, have the highest number of properties with severe noise impacts. On page 321 of the DEIS, "Based on the evaluation of alternatives, Table 4.4-2 shows that Options 1,1a and 4 would have the least number of impacts (approximately 400 to 600) on category "B" sites. Options 2, 2a, 2b, and 2c would have impacts in the range of approximately 1,300 to 2,100 properties. Options 3, 3a, 3b, and 3c would experience the highest number of properties with impacts ranging from 2,800 to 3,300 properties."

On page 326, VDOT mentions that "another important abatement consideration is the third part funding provision. This provision of the policy states that, when a noise barrier is determined to exceed the $30,000 per protected residential property cost criteria, the affected property owners have the opportunity to contribute the amount above the ceiling. Sound barriers to protect public-use, nonprofit facilities do not fall into the $30,000 per protected property cost criteria and are considered by the department on a case by case basis." The low-income residents and communities would be at a great disadvantage under this provision. Are grants and other assistance available for low-income families?

Response: *Generally speaking, those options, which pass through the City of Roanoke, a highly urbanized area, have greater noise impacts because of the density of the population. Table 4.1-1 in the DEIS showed the differences in noise between existing and future build conditions. In this table, sites R3-R8, R11-R13, and R15-R18 represents noise sensitive receptors located in the City of Roanoke within 1,000 feet of the corridor. Based on the modeling results, every one of these sites is currently experiencing noise impacts that exceed FHWA's Noise Abatement Criteria. What that means is that none of the impacted sites in the City of Roanoke, and by default, minority populations, will experience a substantial noise increase (i.e. a 10 dB(A) increase or more above existing levels which equates to at least a doubling of perceived noise). In contrast, if the project is not constructed, noise levels will stay the same or increase between 1 and 2 dB(A) over existing noise levels over the next 20 years. If the project is constructed, these same sites will experience between a 1 and 5 dB(A) increase over existing*

noise levels. As documented in FHWA's Noise Policy and Guidance, a 3dB(A) increase is barely perceptible under normal environmental conditions. Based on the noise barriers considered to date, most of the receptors located along I-581 would be eligible for a noise barrier (i.e. it appears that a reasonable and feasible noise barrier can be constructed to protect impacted residences).

Third party funding is a mechanism offered by VDOT whereby noise barriers that were determined not to be cost-effective could still be constructed if a non-state and non-federal source of funding is committed to the project to pay the share of the cost of the barrier that exceeds $30,000 per resident. This money can either be paid by the residents themselves or a locality. Third party funding is not required by federal regulation, and few states take advantage of it. Third party funding is an option that allows states like Virginia to provide an additional opportunity to impacted property owners to receive a noise barrier even though the barrier under consideration has been found to not be reasonable in accordance with Virginia's Noise Abatement Policy. Recognize that the barriers identified in the EIS are preliminary in nature and based upon limited design information. When final design commences, traffic data will be updated and the noise barriers revisited to reevaluate their cost-effectiveness. As a policy, third party funding is offered to all impacted residents, whether they are minority/low income or not

The majority of barriers are planned outside the minority and low-income communities.

Response: *Of the 14 barriers under consideration for the ALC, 10 are planned for impacted receptors located along Segments 374 and 375, which are located in the City of Roanoke. Noise Barriers were considered at all locations where future traffic noise levels would substantially increase over existing noise levels or approach or exceed the VDOT Noise Abatement Criterion level for Category B sites of 67 dBA Leq (1 hour). Barriers that appear to be cost-effective in accordance with the State Noise Abatement Policy will receive further consideration during final design and impacted areas that would not receive a barrier based upon existing information will be reevaluated as traffic data is updated. All impacted receptors, regardless of their socioeconomic makeup, have been considered for noise abatement using the same criteria.*

Air Quality

Please see accompanying report for Blue Ridge Environmental Defense League and Virginians for Appropriate Roads' comments on air quality.

Response: *Please see our responses to those comments.*

Visual Quality

VDOT's assessment of visual quality is full of misconceptions. While VDOT should and needs to assess viewsheds of and from the project, these views are far from being equal. On Page 351 of the DEIS, Option 1, VDOT claims, "Due to the views around Lynville Mountain, the visual impact would be high for the residences within the viewshed. This is balanced by the high visual quality of views that would be experienced by travelers of the road. As Option 1 enters the south end of the Blue Ridge Mountain landscape region, there would be a high visual impact where the highway would divide the farms. The traveler would benefit from exposure to this rarely noticed landscape. "That's akin to saying "let's dissect that person because we haven't seen his insides - the person would die, but we would have accessed a rarely noticed landscape" Contrary to VDOT thinking, dividing farms cannot be balanced by travelers views. Farms are life-sustaining fabrics of our society which greatly enhance our quality of life. Traveler's temporary views just don't rate that high.

On page 353, Option 2A, VDOT claims "The highway would become a dominant visual element in the landscape adjacent to the community of Mount Pleasant, visible from the BRP and Roanoke Mountain. Due to the views around Lynville Mountain, the visual impact would be high for the residences within the viewshed. These impacts would be balanced by high quality views of Lynville

Mountain in the foreground and background views of Roanoke Mountain in the distant west." VDOT is just not getting it. You can't balance the ugliness of a smelly, noisy, huge slab of concrete and asphalt. Plus, the traveler's temporary views cannot offset the permanent views of local residents. Residents who have to live with this view day after day.

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 not the intent of the analysis to equate the "view of the road" with the "view from the road" so the use of the word "balance" has been removed. The visual impact and visual quality scores were not combined, so it is up to the reviewer of the document to judge which factor is more important or if they should be considered equal in importance.*

On Page 362, regarding Blue Ridge Parkway crossing, "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." The artist conception of I-73 and the Blue Ridge Parkway, which was displayed at the public hearings, looked really noticeable. This facility would not only stick out, but would leave a memorable impression.

The Blue Ridge Parkway's vitality is scenic views. These views must be protected to ensure the Parkway will remain a national treasure. Alternatives that avoid impacts to the Parkway should be utilized

Response: *VDOT and the Commonwealth Transportation Board have reviewed comments from the National Park Service regarding the various proposed crossings of the Blue Ridge Parkway and noted their concerns. In the time since the Department of the Interior submitted their comments on the draft EIS, FHWA and VDOT have coordinated extensively with the NPS on the crossing of the Blue Ridge Parkway by Interstate 73. FHWA and VDOT are committed to continue to work closely with the NPS to design a crossing that is acceptable to them and minimizes the visual impact from the Blue Ridge Parkway. The alternative identified as the preferred alternative in the final EIS is the alternative identified by the NPS as their preferred crossing of the Blue Ridge Parkway. The crossing of the Blue Ridge Parkway by the preferred alternative occurs in an area where ongoing development pressures have already compromised the views from the Blue Ridge Parkway.*

Water Quality

On page 370 of the DEIS, there are huge increases in stormwater runoff - 28.6 percent with Option l, 12.1 percent with Option 2, 14.7 percent with Option 3, and 37.2 percent with Option 4. These huge increases could significantly add zinc, iron, copper, cadmium, chromium, nickel, manganese, cyanide, sodium, calcium, chloride, sulphates, and hydrocarbons to the nearby soil and water. Impacts from these chemicals need to be addressed for groundwater, streams, wetlands, and watersheds. Impacts on the human environment and aquatic life need to be fully addressed.

Response: *There is no "page 370" in the DEIS. It is assumed that this comment refers to stormwater runoff values provided in Table 4.6-1 on page 4.6-2 of the DEIS. The presence of heavy metals, inorganic salts, aromatic hydrocarbons, suspended solids, and constituents derived from deicing operations in highway runoff is acknowledged in section 4.6 and Table 4.6-1 of the DEIS. Potential impacts to surface waters resulting from unmitigated highway runoff is well documented in previous studies conducted by such institutions as the FHWA, the University of Washington, the Washington Department of Transportation, the Texas Department of Transportation, and U.S. EPA. These studies are referenced in the DEIS. Recommended procedures for determining the level of*

potential impacts and appropriate mitigation measures are specified in FHWA Guidance for Preparing and Processing Environmental and Section 4(F) Documents (FHWA Technical Advisory T6640.8A). These procedures were used to derive the loading ranges for constituents in highway runoff set forth in Table 4.6-1 of the DEIS. However, stormwater runoff would be addressed through a variety of mitigation measures during construction and after the project is open to traffic through the use of erosion and sediment control measures and a variety of stormwater management BMPs. These measures would be designed to address the hydraulic loading and could include additional features based on the surrounding resources.

Impacts from all alternatives to the broader watershed areas need to be addressed.

Response: *In accordance with Section V.G.10 (Water Quality Impacts) of FHWA Guidance for Preparing and Processing Environmental and Section 4(F) Documents (FHWA Technical Advisory T6640.8A), the DEIS assesses "locations" where roadway runoff may have an adverse impact on sensitive water resources such as water supply reservoirs, groundwater recharge areas, and high quality streams. The DEIS utilizes one-quarter mile search radii to identify locations where proposed roadway construction along the various alternatives could potentially affect sensitive water resources.*

In addition, watershed impacts from the location alternative selected by the CTB have been addressed in detail where the impact was identified as a potentially significant issue. Namely, in preparing the draft biological opinion, impacts to the Pigg River watershed have been addressed because of the potential impacts to the Roanoke logperch.

Erosion and sediment control strategies which will be implemented during construction, operation, and maintenance of the various alternatives need to be discussed.

Response: *Erosion and sediment control measures that will be implemented during construction are discussed in sections 4.6.1.3, 4.6.2.3, and 4.14.7 of the DEIS. Specific performance standards that will be applied to the project are set forth in the Virginia Erosion and Sediment Control Handbook, which is referenced in these sections of the DEIS. Project-specific sediment and erosion control measures are developed as part of erosion and sediment control plans, which comprise a mandatory component of all VDOT roadway construction documents. Erosion and sediment control measures to be implemented during operation and maintenance of the selected alternative will be covered under VDOT's annual projects maintenance program for each of the counties affected. A discussion of potential erosion and sediment control measures to be implemented during operation and maintenance has been included in the FEIS.*

In July 1999, the non-profit group American Forests completed an Urban Ecosystem Analysis for the Roanoke area. They found that from 1973 to 1997, the Roanoke area tree loss resulted in a 17 percent increase in stormwater runoff (5 15 million cubic feet) at a cost of $419 4 million. VDOT needs to assess these impacts from the I-73 project. I We are concerned about impacts to Blackwater River, which has been nominated as a State Scenic River, because of its wild, scenic, and biologically significant characteristics. We are concerned about additional impacts to the Roanoke River, Pigg River, Smith River, and Back Creek. We are concerned about the impacts to the aquatic habitats for native trout, Roanoke logperch, Orangefin madtom. Secondary and cumulative impacts were not addressed in the DEIS. The direct, secondary, and cumulative impacts need to be fully addressed.

Response: *It is acknowledged that any unavoidable loss of forest lands (Table 4.7-1 of the DEIS) and the replacement of a certain portion of this acreage with impervious road surface could result in a net increase in stormwater runoff in the absence of appropriate stormwater management practices. Stormwater management facilities (such as those discussed in section 4.6.1.3 of the DEIS) will be constructed as part any selected build alternative to prevent significantly adverse changes to water quantity and water quality that would otherwise result from road construction. The placement of fill material for certain stream crossings is an unavoidable impact to aquatic habitat for which appropriate*

mitigation will be provided (as discussed in section 4.7.2.3 of the DEIS). 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. Stormwater management for any development outside highway rights-of-way will remain the responsibility of local governments under the Virginia Stormwater Management Law (Title 10.1, Chapter 6, Article 1.1 of the Code of Virginia) and that locality's stormwater management ordinance. Impacts to the Pigg River and Roanoke logperch have been addressed in the biological assessment.

Wildlife impacts

Wildlife mortality from roadkill incidents need to be addressed.

Response: *The bisection of existing wildlife corridors and incidental increases in wildlife-vehicle collisions is acknowledged in section 4.7.1.2 of the DEIS.*

On page 456 of the DEIS, VDOT states, "On a long-term basis, these vegetated right-of-way areas would provide a limited amount of wildlife habitat values (particularly for bird species). All practicable measures to enhance wildlife habitat values of the right-of-way would be provided during development of the landscape management plan." VDOT should not destroy wildlife habitat, then create habitat along the highway which will inevitably lure animals to their vehicle encountered death.

Response: *There is no "page 456" in the DEIS. It is assumed that this comment refers to language contained within section 4.7.1.3 on page 4.7-3 of the DEIS. The reference to wildlife habitat values in section 4.7.1.3 is not intended to imply that wildlife enhancement would be a targeted goal during development of right-of-way landscaping plans. Instead, this statement was intended to acknowledge that, even under best efforts, the edge habitat and seed/fruit stock of vegetation occurring within the right-of-way (both planted and opportunistic species) will result in the unavoidable usage of the right-of-way by certain wildlife species that cannot be restricted from the right-of-way using practicable mitigation measures (such as fencing). The FEIS will include a discussion of practicable mitigation measures intended to minimize the probability of wildlife-vehicle collisions (such as fencing, planting of vegetation with minimal wildlife attraction characteristics, etc.).*

On Page 374 of the DEIS, VDOT states, " studies have demonstrated that the impact of deicing on the surrounding soil is limited to a distance of approximately 50 feet (15 meters) from the edge of pavement..." This does not take into account impacts to wildlife that are adversely affected by the chemicals from the roadway runoff. Birds and other animals can become seriously ill and disoriented from highway/vehicle runoff pollution. These ill effects can increase wildlife mortality from roadkill incidents.

Response: *There is no "page 374" in the DEIS. It is assumed that this comment refers to language contained within section 4.6.2 on page 4.6-6 of the DEIS. Conclusions set forth in the DEIS are based on findings of published scientific investigations. FHWA is not aware of any published scientific investigations documenting an association between deicing compounds in highway runoff and frequency of wildlife-vehicle collisions.*

In addition, cumulative impacts to wildlife genetics and loss of habitat needs to be addressed. On page 377 of the DEIS, VDOT says, "Forest communities of the type affected are widespread throughout the region, thus, mobile wildlife species inhabiting affected areas are expected to be absorbed into adjoining forest communities with no long-term adverse effects." Wildlife species will not simply absorb into other areas as VDOT claims. VDOT does not address the affects on all species from crowding and territorial instincts. Highways, especially freeways, create barriers to the necessary movement of native wildlife and plants. This decrease in habitat limits the gene pool.

Response: *There is no "page 377" in the DEIS. It is assumed that this comment refers to language contained within section 4.7.1.2 on page 4.7-2 of the DEIS. 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. 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 and, as discussed below, practicable mitigation measures are discussed in the FEIS.*

Wildlife tunnels/corridors need to be incorporated into all the alternatives. On page 377 of the DEIS, VDOT says, "A number of existing wildlife corridors will be unavoidably bisected following construction of a new interstate a new interstate will serve as a physical barrier to wildlife species that are most mobile. It can be expected that the frequency of wildlife-vehicle collisions will increase as additional roadway is added to the regional transportation network and land is converted as a result of secondary development." VDOT acknowledges that wildlife corridors will be impacted, but fails to address mitigating measures.

Response: *There is no "page 377" in the DEIS. It is assumed that this comment refers to language contained within section 4.7.1.2 on page 4.7-2 of the DEIS. On page 4-23 of the November 1999 Natural Resources Technical Memorandum, it is stated that "Where feasible, passageways for terrestrial wildlife will be maintained beneath proposed bridges to help minimize effects of wildlife corridor bisection." In addition, 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 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.*

T&E species

The significant impacts to the areas Threatened and Endangered species need to be fully disclosed. Mitigation is not an acceptable answer. Populations need to be fully avoided, so that these species can recover to viable populations. There were no mention of Eastern cougar, Bald eagle, Indiana bat as being impacted by this project.

Response: *Databases maintained by the U.S. Fish and Wildlife Service, the Virginia Department of Game and Inland Fisheries, and the Virginia Division of Natural Heritage indicate that no confirmed records of the "eastern cougar" or mountain lion (Felis concolor couguar) exist within the study area. Recent confirmed sightings of the bald eagle in portions of Roanoke County and Franklin County contained within the study area post-date the DEIS. The Virginia Department of Game and Inland Fisheries has since confirmed that, although sightings of foraging eagles have been documented within portions of the study area, no nesting sites are present within a three-mile radius of any alternatives under consideration. Databases maintained by the Virginia Department of Game and Inland Fisheries and the Virginia Division of Natural Heritage indicate that no confirmed records of the "Indiana bat" or "social miotis" (Myotis sodalis) exist within the study area. Population distribution maps maintained by the Virginia Department of Game and Inland Fisheries (as updated through 4 December 2001) confirm that the nearest county within which the species has been confirmed is Montgomery County. No major caves or mine tunnels, which could serve as suitable habitat, have been identified within the 600-foot study corridor of any of the alternatives under consideration. Known populations of the smooth coneflower have been avoided as documented in the draft EIS. Surveys conducted for the James*

spinymussel have mot located any populations of the specie in the rivers or streams crossed by the approved location corridor.

We are most concerned about the impacts to the Roanoke logperch. This fish is endemic to the Roanoke and Chowan River drainages. The populations are small. All Build Options will impact the Roanoke logperch. Options 2 and 3 will have 3 incidences of direct impact. These impacts will leave the Roanoke logperch extremely vulnerable to highway construction, highway accident spills, and highway and stormwater runoff. Any one of these could wipe out or seriously impact a population of Roanoke logperch.

Response: *As shown in figures 3.7-36 through 3.7-40 of the DEIS, Segment 371 of Build Alternative Option 4 and Segment 382 of Build Alternative 3 (a segment which only corresponds to a portion of the TSM Alternative) were the only segments where proposed construction would occur over a segment of a watercourse within a mile of a documented population of the Roanoke logperch (in this case, the Roanoke River and Pigg River, respectively). Neither of these segments were incorporated into the location corridor approved by the CTB. No direct encroachment (within a mile) into other locations supporting documented Roanoke logperch populations would occur for the remaining segments comprising the location corridor approved by the CTB. Because of the presence of suitable habitat in the vicinity of certain stream crossings associated with the location corridor selected by the CTB, the Fish and Wildlife Service was coordinated with to determine the need for additional investigations and surveys. Based on this coordination, surveys were conducted at several locations resulting in the discovery of a single population of the Roanoke logperch near the Pigg River crossing of segment 153. FHWA has coordinated with the Fish and Wildlife Service to address impacts to this population in accordance with the Endangered Species Act and prepared a biological opinion. Under the Endangered Species Act, the Fish and Wildlife Service is required to render a biological opinion with a prescribed amount of time once formal consultation is initiated. If the Fish and Wildlife Service anticipates issuing a 'jeopardy opinion' (i.e. an opinion that says the proposed project is likely to jeopardize the continued existence of the Roanoke logperch), then they must identify measures that would reverse that opinion, if any exist. If the Fish and Wildlife Service were to render a 'no jeopardy opinion', then they would recommend conservation measures that the agency can implement to enhance the existence of the species.*

According to Amanda Rosenberger, the major concern for the well-being of the Roanoke logperch in the Pigg River system is siltation, and she identified agricultural sources and specifically, cattle farms, as the primary source of that siltation. Rosenberger also stated that the uncontrolled runoff and nonpoint pollution of water bodies and waterways resulting from the conversion of forests and other natural plant communities to agricultural land uses is the single-most adverse effect on water quality and aquatic habitat within the Pigg River watershed. In addition to sediment loading from agricultural practices, rapid bioassessment of benthic invertebrate communities conducted in the Pigg River watershed as part of the I-73 Location Study indicates that livestock incursions and runoff from pasturelands are also contributing to nutrient loading and high fecal coliform counts which, in turn, are contributing to water quality and aquatic habitat degradation. The extensive siltation of stream habitats is likely hindering the recovery of the Roanoke logperch in the study areas. Paved roads only account for 0.08% of the total land surface in the Pigg River watershed; in contrast, agricultural lands occupy 37% of the total land surface in the Pigg River watershed.

This threat to the Roanoke logperch is serious enough that the Fish and Wildlife Service has speculated that it could threaten the continued existence of the Roanoke logperch in the Pigg River watershed even if Interstate 73 was not implemented.

VDOT needs to further study direct, cumulative and secondary impacts to all T&E species. Recovery plans, if available, should be consulted. We concur with Virginians for Appropriate Roads' additional comments on threatened and endangered species.

Response: *In coordination with the Fish and Wildlife Service, cumulative and secondary impacts to the Roanoke logperch population in the Pigg River watershed have been addressed in a draft biological opinion. In preparing the biological opinion, the recovery plan for the species was reviewed. No other populations of threatened and endangered species have been identified in those areas that would likely experience secondary development because of the project.*

Historic Resources

A more thorough check should be completed for each alternative. Alternatives that avoid historic resources should be utilized. We concur with Virginians for Appropriate Roads' additional comments on historic resources.

Response: *A thorough check was completed for each alternative being considered in the I-73 DEIS. To identify resources in the study area that are eligible or potentially eligible for the National Historic Preservation Act of 1966 (NHPA), three general methods were used: 1) Background research was conducted to document previously identified resources in the study area. Architectural site files were examined at DHR, and additional research was conducted at the Virginia Historical Society and the Library of Virginia in Richmond, the Roanoke Regional Preservation Office, the Blue Ridge Institute and Museum at Ferrum College, the Museum of the Roanoke Valley Historical Society, and the Virginia Museum of Transportation. 2) An architectural identification survey was conducted for the TSM and Build Alternatives. 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. In that segment, the intention would be to widen the existing roadway, so only the area of direct impact was surveyed. Resources adjacent to or visible from the corridors also were included. All buildings and structures constructed prior to 1950 were photographed and recorded. The purpose of the study was to provide specific information concerning the location, nature, history, and significance of buildings in the APE that are 50 years old or older and to identify buildings that are potentially eligible for the NRHP. 3) Following the identification survey and based on guidance from DHR, Phase II architectural evaluations were conducted to evaluate the eligibility of eight properties.*

As currently proposed, the approved location corridor would only adversely effect a single historic resource, the Blue Ridge Parkway, and this effect is being addressed through a Memorandum of Agreement. Because of its linear nature, the Blue Ridge Parkway cannot be avoided.

VAR's claims regarding the Southeast Roanoke Neighborhood Historic District, Coopers Cove Community Historic District, and the Oak Hill Old German Baptist Brethren Community Rural Historic Landscape and Traditional Cultural Property have been coordinated with the Virginia SHPO, Advisory Council on Historic Preservation, and in some instances, the Keeper of the National Register of Historic Places. It is noted that based on the outcome of the eligibility of the Southeast Roanoke Neighborhood Historic District, the CTB changes its decision on the approved location corridor I in order to avoid this resource. These issues and others raised by VAR with respect to historic resources have been addressed, and we direct you to those responses to see how they were addressed.

Energy

On page 426 of the DEIS, table 4.11-1, why did TSM estimate double to $284 million?

Response: *The construction cost estimates used for the construction energy consumption was based on the 1999 Capital Cost Report. The table below has revised figures based on the 2000 Capital Cost Report. Updated cost estimates will be included in final EIS.*

TABLE 4.11-1
CONSTRUCTION ENERGY CONSUMPTION

Year	Alternative / Option	Preliminary Construction Cost Estimate [1] (in $ millions)	Total Construction Energy Consumption BTUs (Trillions)	Total Construction Energy Consumption Joules (Trillions)
2020	*No-Build*	*$0*	*0*	*0*
	TSM	*$146*	*1.37*	*1,442*
Build Alternative				
	Option 1	*$1,263*	*11.81*	*12,470*
	Option 1a	*$1,346*	*12.59*	*13,290*
	Option 2	*$1,320*	*12.35*	*13,033*
	Option 2a	*$1,295*	*12.11*	*12,786*
	Option 2b	*$1,357*	*12.69*	*13,398*
	Option 2c	*$1,285*	*12.02*	*12,687*
	Option 3	*$1,243*	*11.63*	*12,273*
	Option 3a	*$1,279*	*11.96*	*12,628*
	Option 3b	*$1,247*	*11.66*	*12,312*
	Option 3c	*$1,242*	*11.62*	*12,263*
	Option 4	*$1,107*	*10.35*	*10,930*

Note: 1. Capital Cost Report, October 2000.

On page 426 of the DEIS, table 4.11-2, shows build options will consume a lot more fuel which will create more pollution.

Response: *Table 4.11-2 provides a general comparison of direct interstate operating energy consumption between existing U.S. 220 (No-Build and TSM) and the various build alternatives. Direct interstate operating energy consumption does not consider the reduction of fuel consumption from the diversion of vehicles away from other regions to and through the Roanoke – Rocky Mount – Martinsville corridor. It also does not consider the reduction of fuel consumption from the diversion of vehicles from other parts of the study area to the interstate. In other words, the energy analysis is intended to be a comparison among alternatives in a vacuum. To get a more accurate picture of the impact on energy from the implementation of the project, a much larger analysis that takes into account regional issues and the regional network would need to be conducted. However, such an analysis has not been conducted since energy consumption is not an issue that effects decision making. The only time that energy consumption may effect decision making is when build alternatives with substantially different components (e.g. highway versus transit) are being considered.*

Increased consumption also does not necessarily mean increased pollution. Under normal conditions and all things being equal, a gallon of fuel will burn more efficiently and produce fewer emissions on an interstate system than on roadways that require frequent changes in travel speeds and stop and go conditions.

The dwindling oil supply and increasing oil costs need to be addressed.

Response: *A review of Internet literature regarding oil supplies reveals a wide range of opinions regarding future oil supplies. Recent scientific evidence (within the last five years) referenced on the Internet is optimistic about the world's oil reserves bringing into question earlier doomsday predictions.*

For example, for at least a century, the U.S. Geological Survey has consistently reported that America had only about 10 years worth of oil left. Not all known oil reserves can be extracted economically but economists recognize that if oil prices do increase, those higher prices can then make it profitable to expand production into areas where it is not currently cost-effective to tap known reserves. Although we have experienced record levels in gas prices recently, history has shown that these price spikes are cyclical and demand driven. Therefore, the supply of oil issue and oil costs is not considered a significant issue that needs further attention. The only time where it might be a factor in decision making is when you have options between different mode choices and one alternative requires a substantially higher energy input.

Secondary and Cumulative impacts

VDOT needs to address secondary and cumulative impacts to reflect the "new emphasis" of the Federal Highway Administration and to meet NEPA requirements. In an April 1992 FHWA Position Paper titled "Secondary and Cumulative Impact Assessment in the Highway Project Development Process", the lead highway agency acknowledges that past actions "have not addressed secondary and cumulative impacts." In the paper the FHWA goes on to say,

> "Regardless of this history, secondary and cumulative impacts will become important issues which will temper decisions made by FHWA and the State Highway Agencies (SHAS) on project scope, location, and mitigation. To fulfill the general NEPA mandate of environmentally sensitive decision-making the FHWA and the States must develop and use techniques to incorporate secondary and cumulative impact issues in the highway project development process. The techniques must ensure that social, economic and environmental impacts are analyzed in both the present and future context. The SHAs and PHWA must establish a way to make one public interest decision with the assurance that all relevant impact issues were studied. We cannot assume necessarily that impacts which are difficult to recognize and evaluate have no bearing on our decisions. Since we are making decisions that shape the future, we must consider the ramifications of those determinations beyond their immediate effects on the existing environment."

In the I-73 DEIS, VDOT has failed to address these secondary and cumulative impacts to air, water, forests, farms, health, land use, and the quality of life for area residents.

As pointed out by an Aug. 3, 1998 EPA letter to VDOT, "For projects like I-73, the cumulative and secondary impacts may be larger than the direct impact of the highway itself." In this letter, EPA volunteered to help VDOT outline these secondary effects. Apparently, VDOT didn't take them up on their offer.

VDOT suppresses discussion on secondary and cumulative impacts on page 430 by declaring, "Since growth in development is already planned in these areas, with or without an interstate facility, the secondary impacts from any of the proposed build options would be minimal." That concluded VDOT's meager attempt at addressing secondary and cumulative impacts. Once again, proving the old adage that it's hard to teach an old dog new tricks.

It is clear that VDOT only wants to address the impacts on the "economic vitality" aspect. On page 431, VDOT goes into its rhetoric about economic development. Even, so boldly, stating "A component of the purpose and need for this project is to foster economic development. Whether or not this development will occur is not the question." VDOT spends 2 and a half pages on this economic development issue even after acknowledging that a cost-benefit analysis was never completed. Then, on page 434, VDOT picks up the economic development issue once again for another page and a half. The problem is VDOT diverts attention away from the secondary and cumulative impacts of the human environment.

VDOT needs to go back to the drawing board and fully address the social, economic, and, environmental secondary and cumulative impacts to fulfill its legal obligations under NEPA. A comprehensive secondary and cumulative impact assessment in accordance with CEQ Regulations 40 CFR 1502.16(b) and following the guidance of the FHWA 1992 position paper. "Secondary and Cumulative Impact Assessment in the Highway Development Process" needs to be completed and included in either a new DEIS or a Supplemental DEIS.

Response: *FHWA and VDOT did meet with EPA in October of 1998 and addressed secondary and cumulative impacts using the methodology they had recommended. This methodology is documented in section 4.12.1 of the draft EIS and is the methodology that you criticized elsewhere in your comments. As evidenced by Table 4.12-1, the secondary and cumulative impacts using EPA's methodology do have the potential to impact more acres of forested and agricultural land uses than those directly impacted by the project just as EPA predicted. Additional information on cumulative impacts has been added to the final EIS.*

Geology

There is no mention in the DEIS of the Fries high-strain zone and Rockfish Valley high-strain zone fault areas that various I-73 alternatives will traverse. The DEIS does mention "the Bowens Creek fault area, but fails to address any impacts. The potential impacts to and from these fault areas need to be addressed.

Response: *The "Rockfish Valley fault" is a name applied to a portion of the Fries fault (Henika, 1997) and, as such, both terms represent the same feature. The Fries fault zone is an inactive relict geologic feature, which has no effect on project selection. The DEIS mentions the Bowens Creek fault zone only because it is associated with a zone of rock types which produce relatively higher groundwater yields. Any geotechnical issues relating to rock types or characteristics of earth materials in the vicinity of fault zones are addressed as part of detailed geotechnical investigations conducted during later stages of project design.*

Right to Hunt and Fish

I-73 build alternatives conflict with the Virginia Constitution as amended. The I-73 DEIS does not address the impacts to Virginians new constitutional right to hunt and fish. Build alternatives will impact both fishing waters and hunting lands. The DEIS should include direct, cumulative and secondary impacts to these recreational, constitutional activities.

For instance on page 381 of the DEIS, the bridge crossings mentions the trout classifications of the Smith River, Glade Creek, Maggadee Creek and Roanoke River. VDOT fails to mention or address the impacts to the Smith River which is "Virginia's most noted trophy trout stream" according to Virginia Wildlife. VDOT fails to mention or address the impacts to the newly designated "delayed harvest" section at Green Hill Park which is in close proximity and immediately downstream of Option 4. Both of these rivers have special regulation waters. VDOT also fails to mention the rarity and importance of these resources.

Response: *Regardless of the results of this study, the people of Virginia will have the right to hunt, fish, and harvest game, subject to such regulations and restrictions as the General Assembly may prescribe by general law. Acquiring land for a transportation project may limit where one may hunt or fish, but it does not restrict one's right to hunt or fish.*

The resources are noted. The location alternative selected by the CTB will avoid Green Hill Park. The alternative selected by the CTB will not interfere with any recreational opportunities associated with trout fishing. Specifically, the approved location corridor will not cross any stretches of streams or rivers

classified as class ii natural trout waters, class iii natural trout waters, unclassified stockable trout waters, or class iv stockable trout waters.

Agency comments

The DEIS has not addressed comments and issues from agencies such as the U.S. Army Corps of Engineers and Environmental Protection Agency.

Response: *All substantive comments received from cooperating agencies have either been addressed in the DEIS or FEIS.*

Public comments

As of January 9, 2001, our records indicate that from the BREDL website over 200 public emails have been sent to VDOT as part of the public commenting process on the I-73 DEIS. These comments and any additional comments sent by Midnight on January 12, 2001 should be included in the official record for the I-73 DEIS. Copies of these emails have been kept for BREDL records as well. We point out that it was late in the I-73 DEIS commenting period before VDOT made an email response form available on its website.

Response: *All substantive public comments received by VDOT have been addressed in the FEIS. Public comments received by other organizations have not been address unless they were forwarded to VDOT during the public comment period.*

Other comments

Considering the enormous dogleg of I-73 through Roanoke, the linkage ideology is unjust.

Impacts to travel from foggy and icy conditions, especially for Option 4, need to be addressed.

The use of I-73 as a transportation route for hazardous wastes should be addressed. Safety costs and impacts from hazmat transportation need to be addressed.

Response: *The I-73 DEIS evaluated potential impacts to existing hazardous materials sites from construction activities in the study area. The transport of hazardous materials has been addressed to a limited extent in the FEIS.*

As stated previously, the "dogleg" is a result of local input. In March of 1994, after VDOT completed a feasibility study to determine the general location of Interstate 73 in the state, 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. However, 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 because they saw its benefit as a tool to facilitate economic development.

Summary

The I-73 DEIS fails to address major issues, reasonable alternatives, secondary and cumulative impacts of each alternative, and is written to bias against the TSM alternative. These issues need to be addressed prior to the selection of a preferred alternative by the Federal Highway Administration, Virginia Department of Transportation, and/or the Commonwealth Transportation Board. Therefore, we

strongly request that either a new DEIS be prepared to address these concerns or a Supplemental DEIS should be completed and made available for public review and comments.

Until all reasonable alternatives are presented, we are in favor of the TSM option.

We are opposed to all new-terrain options for I-73. These include:
Option 1 & Ia: Eastern Corridor
Option 2, 2a, 2b & 2c: I-581 to Windy Gap Mountain
Option 3, 3a, 3b & 3c: Make I-581 and U.S. 220 an interstate
Option 4: Western Corridor

Sincerely,

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cc:
Peter Stokely, EPA/EPIC
Mr. Bruce Blanchard, Director, U.S. Dept. of Interior]
Ann Rogers, VAR
Lou and Janet Zeller, BREDL 1

1-73 DEIS fails to address Roanoke's Air Quality

Report compiled for Virginians for Appropriate Roads,
A chapter of the Blue Ridge Environmental Defense League

This report is comprised of BREDL and VAR's comments
On the Air Quality issue for the I-73 DEIS submitted by: Mark E. Barker
BREDL Virginia Vice-President

January 11, 2001

CONTENTS

I-73 DEIS fails to address Roanoke's Air Quality Introduction

Despite overwhelming evidence, VDOT fails to acknowledge in the Draft Environmental Impact Statement for I-73 that the Roanoke area (I-73 Study Area) has an air quality problem, especially ground-level ozone. Instead, VDOT chooses to hide behind a“timing" issue.

As VDOT hurriedly pushes through the NEPA process, the department's I-73 timeline has the Commonwealth Transportation Board selecting an alternative either prior or close to the time when EPA will be allowed to finalize the 8-hour ozone nonattainment designations. In the DEIS (page 3.3-3), VDOT says, "If the Roanoke area is designated (ozone) nonattainment prior to the completion of the I-73 Location Study, then the issue will be addressed in the final EIS." That is an issue that should have been addressed in the DEIS.

An alternative for I-73 should not be selected until EPA finalizes the designations for ozone nonattainment areas and conformity requirements are outlined. This issue is so important and the DEIS is so inadequate that either a new DEIS or a Supplemental DEIS is requested for Air Quality. A Supplemental DEIS should include the NOx, VOC, ozone, and particulate matter emissions for each alternative and potential primary, secondary, and cumulative environmental, health and economic impacts to the Roanoke region.

The DEIS is both inadequate and misleading on mesoscale and microscale air quality issues. National Ambient Air Quality Standards criteria pollutants such as NOx, CO, Ozone and particulate matter will increase with the construction of a new interstate in the Roanoke Valley. The health impacts from Hazardous Air Pollutants/Mobile Source Air Toxics such as benzene, formaldehyde, and 1,3-butadiene and other pollutants need to be fully addressed.

VDOT needs to address these impacts to reflect the "new emphasis" of the Federal Highway Administration and to meet NEPA requirements. In an April 1992 FHWA Position Paper titled "Secondary and Cumulative Impact Assessment in the Highway Project Development Process", the lead highway agency acknowledges that past actions "have not addressed secondary and cumulative impacts." In the paper the FHWA goes on to say,

> "Regardless of this history, secondary and cumulative impacts will become important issues which will temper decisions made by FHWA and the State Highway Agencies (SHAS) on project scope, location, and mitigation. To fulfill the general NEPA mandate of environmentally sensitive decision making the FHWA and the States must develop and use techniques to incorporate secondary and cumulative impact issues in the highway project development process. The techniques must ensure that social, economic and environmental impacts are analyzed in both the present and future context. The SHAs and FHWA must establish a way to make one public interest decision with the assurance that all relevant impact issues were studied. We cannot assume necessarily that impacts which are difficult to recognize and evaluate have no bearing on our decisions.Since we are making decisions that shape the future, we

must consider the ramifications of those determinations beyond their immediate effects on the existing environment."

Smog/Ground-Level Ozone

According to the Environmental Protection Agency, highway vehicles contribute approximately one third of the oxides of nitrogen (NOx) emissions released to the. . atmosphere in the United States annually. Nitrogen oxides and volatile organic compounds hydrocarbons - combine in the presence of sunlight to form ground-level ozone, or smog, which irritates the eyes, damages the lungs, and aggravates respiratory problems.

Virginia 1996 emissions (tons)

Source	CO	NOx	VOC
Mobile	1,763,985	297,185	192,629
Area	356,523	63,456	229,334
Point	43,351	192,238	74,041
Total	2,163,859	552,879	496,004

sources: Environmental Defense/EPA

On the I-73 project, VDOT and the Commonwealth of Virginia are trying to skirt around the requirements of the Clean Air Act and TEA 21. The DEIS has not properly studied the bad air quality of the Roanoke area, especially in relation to meeting the attainment requirements for ozone under the Clean Air Act. The DEIS (p. S-10) states, "The study is located in an area designated as attainment for carbon monoxide and ozone; therefore it is not subject to the conformity requirements of the Clean Air Act."

VDOT then acknowledges (DEIS p. 3.3-3) that "Based on existing monitoring data, it appears that the City of Roanoke and a portion of the surrounding area exceed the new standard and will be designated nonattainment."

VDOT also mentions (DEIS p. 3.3-3), in reference to the EPA new 8-hour standard for ozone, "...the timely implementation of the new standard has been tied up by legal challenge." VDOT further explains that "if the Roanoke area is designated nonattainment
prior to the completion of the I-73 Location Study, then the issue will be addressed in the final EIS." VDOT also says this designation may not happen until mid-2001. Although the courts had allowed EPA to continue with their designations, Congress attached a rider to the 2001 Appropriations Bill which directed EPA to hold off finalizing nonattainment areas until either the U.S. Supreme Court issues a decision or June 15, 2001. As VDOT rushes to have the Commonwealth Transportation Board issue an alternative decision by the Summer of 2001, one has to wonder if the "timely" tie-up on the 8-hour standard has been calculated into VDOT's study process.

In a June 29, 2000 letter (Appendix 1) to EPA Region III Administrator Bradley M. Campbell, Virginia, Secretary of Natural Resources John Paul Woodley, Jr. reluctantly submitted Virginia's recommendations for designations of nonattainment ozone areas under

the current EPA 8-hour standard. This standard is currently being challenged in the U.S. Supreme Court. The Roanoke area if included, under the current 8-hour standard, as a nonattainment area. The Roanoke nonattainment area consists of Botetourt County, Roanoke County? City of Roanoke, City of Salem, and Town of Vinton. All areas will be affected by a new terrain interstate, I-73 build options.

Secretary Woodley wrote, "When the TEA 21 bill was passed requiring EPA to make designations by July of 2000, no one anticipated the lengthy litigation over the new 8-hour standard. "Making such designations now...just adds to the confusion," he commented.
The EPA was encouraged to hold any action on the nonattainment areas by Secretary Woodley who said "holding all actions involving the 8-hour standard in abeyance until that ruling is made is the prudent thing to do."

The lawsuit now before the U.S. Supreme Court is challenging procedural matters and is not challenging technical merits. The technical information is sound. In fact, the state of North Carolina has adopted identical 8-hour standards into their state plan. Pending the Court's decision, EPA may not be able to finalize the Roanoke ozone nonattainment designation until the Spring or Summer of 2001. Once this EPA designation has been made, Virginia will have to address the Roanoke ozone nonattainment issue.

We respectfully request VDOT to postpone choosing an alternative for I-73 until EPA makes its final designations for ozone nonattainment areas. It's the prudent thing to do. VDOT should not circumvent their legal requirements by rushing to make a decision. The Virginia Secretary of Natural Resources in his June 29, 2000 letter to EPA asked EPA to postpone its final designations for ozone nonattainment areas until after the Supreme Court ruling on the 8-hour standard. The Secretary didn't want to add "confusion" to the process. Adding "confusion" to the process is exactly what VDOT is doing by not waiting for the Supreme Court ruling and EPA final designations.

In the DEIS, there are only five sites listed for DEQ monitoring in the Roanoke Valley. Of these five sites, data is only listed for one or two sites for each Criteria Pollutant. The data that is presented represents the current levels. Except for the CO estimates (DEIS 4.3-1), there is no estimate of anticipated levels of air pollutants from the various I-73 alternatives. It is also noteworthy that the 8-hour ozone standard was left out of the air quality grid and out of the DEIS Air Quality sections (DEIS 3.3 and 4.3).

The current EPA 8-hour standard is 85 parts per billion (ppb). Pending final designation' from the EPA, Roanoke has been recommended as an ozone nonattainment area based on this official data. During the Summer of 2000, despite a wetter, cooler summer, Roanoke still experienced two days when the 8 Hour peak exceeded the 85 ppb standard. (Appendices 2a&2b).

Roanoke highest 8-hour ozone average (1997 - Oct. 31, 1999)

Year	**8-Hr.Ozone**
1997	84 ppb
1998	99 ppb
1999	89 ppb
3 year ave.	90 ppb

source Virginia DEQ

In the DEIS VDOT states (DEIS 2.1, p. 56), "The new interstate in the study area would ultimately connect with other segments of I-73 alignments in West Virginia and North Carolina." Also in the DEIS (DEIS 1.1,p.40) VDOT says, "West Virginia has completed a Final Environmental Impact Statement (FEIS) to upgrade existing U.S. Route 52 as their I-73 project. Due to the extreme terrain and capital costs, West Virginia has elected not to build to Interstate standards. This condition is true for much of the interstate system in West Virginia where design exceptions occur to accommodate mountainous conditions."

VDOT needs to examine the cumulative impacts from the congestion that will happen at the Virginia-West Virginia border and points west. If huge volumes of traffic are funneled onto the two-lane system thorough West Virginia, this could actually compound the air pollution which will descend on the Roanoke Valley.

Encouraging more traffic into Roanoke is not the sensible thing to do. VDOT has discussed this issue with the Roanoke Valley-Alleghany Regional Commission (RVARC)(DEIS 3.3-3), but no additional information was provided in the DEIS. A RVARC Roanoke report on air quality states: "Another primary factor is the actual level of ozone in the Roanoke Valley region. The monitor that records ozone levels for this region has shown readings in excess of the new eight-hour standard for the past three years. According to the Department of Environmental Quality, much of this ozone can be attributed to local sources such as vehicle travel and industry."

The report mentions that "when the EPA designations are final, . .localities in the designated regions will be required to analyze road-building projects to ensure that they conform with ozone reduction requirements, and facilities that are new sources of air emissions will have to obtain emission "offsets" so that overall emissions in the area do not increase."

Conformity Requirements

The conformity requirements should have been openly presented and discussed in the DEIS.

We argue that the Roanoke area is, in essence, a de facto ozone nonattainment area. As we await the Supreme Court ruling or the June 15, 2001 EPA deadline established by Congress, the Roanoke area is in a virtual conformity lapse without a proper local Transportation Improvement Program or State Implementation Plan. Both the Roanoke Valley Area TIP

and the SIP will need to be updated to reflect the newly designated Roanoke MSA ozone I nonattainment area.

The I-73 project will either contribute to a new violation, if the current 8-hour ozone designations become finalized, or will likely cause a new violation of the current 1-hour ozone standard or new 8-hour ozone standard that is reached. The definition of "Cause or contribute to a new violation" from 40 CFR Part93-93.101 states: "Cause or contribute to a new violation for a project means:(1) To cause or contribute to a new violation of a standard in the area substantially affected by the project or over a region which would otherwise not be in violation of the standard during the future period in question, if the project were not implemented; or (2) To contribute to a new violation in a manner that would increase the frequency or severity of a new violation of a standard in such area."

An excerpt from "Linking Transportation and Air Quality Planning", a Harvard University March 1999 report to EPA and FHWA. (Chapter 2, p. 14 & 17)(Publication Number:EPA420-R-99-011) says:

First and foremost, the conformity process is intended to ensure that a nonattainment or maintenance) area will keep transportation-related emissions within the bounds needed to bring the state into compliance with (or maintain) the national ambient air quality standards - and thus to advance the public health goals of the Clean Air Act. Conformity requires forecasting regional and (for certain pollutants) localized emissions from transportation. These projections, in turn, are used to determine whether expected future pollution levels jeopardize the timely achievement of the federal standards.

Thus,(according to the Clean Air Act, as amended) a conforming transportation project, program, or plan is one that:

- does not cause or contribute to any new air quality violation,
- does not increase the frequency or severity of any existing air quality violation,and
- does not delay timely attainment of air quality standards or interim emission reduction milestones.

We applaud VDOT for initiating discussion with the Roanoke Valley-Alleghany Regional Commission on the conformity requirements. However, we are disappointed that VDOT failed to openly discuss these requirements in the I-73 DEIS.

Eventually, VDOT will be forced to address the conformity issue. According to a June 18, 1999 FHWA memorandum "Additional Supplemental Guidance for the implementation of the Circuit Court Decision Affecting Transportation Conformity", "...projects that had previously been found to conform and had completed the . . . (NEPA) process (grandfathered} projects) may not be advanced (that is, such projects should not be approved) in nonattainment and maintenance areas which do not have a currently conforming plan and transportation improvement program (TIP). Thus, in such areas, you should not make any approvals or grants for further development of projects (i.e., completion of NEPA process, final design, right-of-way acquisition, or construction)."

Therefore, we believe that the FHWA should not complete the NEPA process until EPA is allowed to finalize its ozone nonattainment areas for the 8-hour standard, Virginia updates its SIP, and the Roanoke MPO updates its TIP to reflect conformity requirements for the I-73 project. We argue that conformity must be determined: 1) Prior to approval of new transportation plans/TIPs or plan/TIP amendments, and 2) Prior to Federal approval or funding of projects.

In a FHWA 1992 position paper the agency says, "Under the CEQ regulations, the FHWA must consider the possibility of secondary and cumulative impacts on all agency actions. Secondary and cumulative impact analyses should be based on the possibility of indirect effects combined with various site specific conditions which will shape the scope and intensity of the studies necessary to provide adequate information to the project decision makers."

The FHWA adds by saying, "...in situations where the potential for indirect impacts exists, the likely consequences beyond direct project impacts should be determined with the greatest amount of confidence possible. "

Therefore, under NEPA and the Clean Air Act as amended and the conformity rule VDOT needs to complete a regional emission analysis for ozone, NOx, VOC and particulate matter to assess the adverse environmental and public health impacts from all the proposed alternatives. This analysis and a mention of the possible conformity requirements should be made available to the public in a SDEIS. The decision-makers and the public should have this information available to make intelligent, informed decisions on the I-73 alternatives.

We further request that the EPA require the FHWA to submit a regional emission analysis for ozone, NOx, VOC and particulate matter to address conformity requirements for the entire FHWA I-73/74 project from Charleston, South Carolina to Sault Ste. Marie, Michigan. Special emphasis should be placed on nonattainment areas throughout this region of the United States. The cumulative impacts from the entire I-73/74 project needs to be addressed.

Vehicle emissions of CO, NOx, and Particulate Matter

VDOT also misleads the public in their claim that "The Build Alternative would generally enhance air quality by reducing contaminant levels in the region by diverting traffic from other study area roadways and by increasing the average travel speed" (DEIS page 4.3-3).In this assertion, VDOT appears to be addressing the Carbon Monoxide pollutant exclusively. VDOT's claim that redirecting traffic from existing roads onto I-73 will enhance air quality is unsupported. Studies and air pollution mitigating plans show that increasing travel speeds above certain limits also increases certain contaminants.

Constructing a new terrain interstate highway will induce more traffic and additional congestion into the Roanoke area. It's like flies, throw a dead carcass on the ground and eventually it will be covered with flies. Any of the proposed build options for I-73 in the vicinity of Roanoke will worsen Roanoke's air quality by funneling more vehicular emitted

pollutants into the region. It is ridiculous to claim that building a new highway would generally improve air quality in the region.

On pages 51,66,and 257 of the DEIS, VDOT lists the Daily Vehicle Miles Traveled (VMT) projections for 2020 for the I-73 study area. The build alternatives will increase the VMT by 28.51 percent - 57.92 percent, whereas under the no-build and TSM options the VMT will only increase by 15.16 percent. This tremendous increase in daily VMT for the build options will drastically increase toxic emissions for the I-73 Study area.

DAILY VMT (millions) PERCENTAGE INCREASE BY OPTION FOR YEAR 2020

Current	**No-Build/TSM**		**Option 1**	**Option2**	**Option 3**	**Option 4**
VMT -	4.42	5.09	6.56	5.68	5.84	6.98
Increase - -	15.16%		48.42%	28.51%	32.13%	57.92%

As for VDOT's claims that air quality will improve because of the increased travel speed, a study titled "Analysis of the Effects of Eliminating the National Speed Limit on NOx Emissions" (E.H. Pechan and Associates) shows that increases in traffic speed above 48 mph are associated with increases in emissions of CO, NOx, and possibly particulate matter. This study uses the same model base that VDOT used for their CO emission calculations.

The EPA-commissioned study addresses the impacts of increased speeds on air pollution. (on the internet at: http://www.epa.gov/omswww/reports/env-spds.htm) The analysis was performed using the MOBILE5a model source emission factor model. The Report said:

> "Motor vehicle NOx emissions result from combustion processes and tend to increase with increasing speeds above 48 miles per hour (mph) (Pechan,1992)."
>
> "Both CO and NOx emissions result from combustion processes. At lower speeds, around 15 mph, motor vehicle emissions of CO and NOx decrease with increases in vehicle speed as a result of more efficient combustion. However, after 48 mph, increases in vehicular speeds are accompanied by increases in emissions of both CO and NOx (Pechan, 1992)." Using the same reasoning, particulate matter (PM) emissions may also increase, according to the report.

The above findings for CO emissions should have been utilized in the DEIS on page 4.3-3 in the third paragraph, which describes CO emissions.

More evidence that increased speeds decreases the air quality can be found in Texas. One of the steps that the Texas Natural Resource Conservation Commission (TNRCC) has approved to enhance air quality around Dallas/Fort Worth includes reducing the speed limit. On April 19, 2000, the TNRCC approved plans designed to bring the four-county Dallas/Fort Worth ozone nonattainment area into compliance with the federal ozone standard. Among

several steps, the Commission approved the following measure: "Speed limit reductions in the nine counties, from 70 to 65 mph and 65 to 60 mph beginning in September 2001".
(Appendix 3)

According to a 1996 study by the Natural Resources Defense Council (NRDC), the Roanoke Valley ranks first in Virginia for the amount of annual PM10(particulate airborne matter) concentrations, and ranked 25 out of 239 areas nationally for PM10. The NRDC study ranked Roanoke as 16th among the top 25 metropolitan statistical areas in the U.S. for deaths per 100,000 population attributable to poor air quality. Particulate matter analysis needs to be completed for all I-73 alternatives.

Incomplete data in the I-73 DEIS: There are inadequacies in the Criteria Pollutant analysis because of lack of data from the DEQ monitoring sites in the Roanoke area. Table 3.3-2 is - full of "Not Monitored" as the recorded levels. The analysis site corridor chosen for the CO Microscale modeling appears to favor certain alternatives. The Western Build Corridor was lacking in test sites.

HAPs/MSATs

Motor vehicles emit several pollutants that are known or probable human carcinogens. Benzene is a known human carcinogen. According to the EPA, formaldehyde, acetaldehyde, 1,3-butadiene and diesel particulate matter are probable human carcinogens. Based on modeling, EPA estimates that mobile (car, truck, and bus) sources of air toxics account for as much as half of all cancers attributed to outdoor sources of air toxics. This modeling estimates the maximum number of cancers that could be expected from current levels of exposure to mobile source emissions.

The EPA says "Hazardous air pollutants can cause many ill health effects. Many of these substances are known or suspected to be human carcinogens. Some of these chemicals are known to have negative effects on people's respiratory, neurological, immune, or reproductive systems. Some chemicals pose particular hazards to people with preexisting illnesses, or those of a certain age or stage in life, such as children or the elderly."

The EPA has compiled a list of Hazardous Air Pollutants which make up the Mobile Source Air Toxics. These toxics include Acetaldehyde, Diesel Exhaust, MTBE, Acrolein, Ethylbenzene, Naphthalene, Arsenic compounds, Formaldehyde, Nickel compounds,
Benzene, n-Hexane, POM (Sum of 7 PAHs), 1,3-Butadiene, Lead compounds, Styrene, Chromiurn compounds, Manganese compounds Toluene, Dioxin/Furans, Mercury compounds, and Xylene.

The EPA is proposing fuel-based controls to reduce on-highway MSAT inventories. In proposed rule 40 CER Parts 80 and 86 (August 4, 2000) the EPA states, "Between 1990 and 2020, these programs are expected to reduce on-highway emissions of benzene by 75 percent, formaldehyde by 87 percent, 1,3- butadiene by 75 percent, and acetaldehyde by 82 percent. In addition, we expect to see on-highway diesel PM emission reductions of 94 percent Although we anticipate substantial reductions in emissions of key toxic pollutants

by 2020, the serious health effects associated with many of these compounds lead us to evaluate whether additional controls -are appropriate at this time."

The DEIS does acknowledge that benzene, formaldehyde, and 1,3-butadiene exceed the EPA health benchmark in the project area according to the EPA Cumulative Exposure Project. Inducing more vehicle emissions into the Roanoke Valley by constructing a new interstate I-73 will not lessen the amounts of these toxins.

In 1999, the Roanoke Times did a computer analysis using federal data which showed that " thousands of people in the Roanoke and New River valleys are at risk of getting cancer from breathing these chemicals."

In an August 15, 1999 Roanoke Times article the paper said, "The analysis, based on the Environmental Protection Agency's computer modeling data of hazardous air pollutants, shows that 13 toxic chemicals in the air above Roanoke exceed the health benchmark for cancer."

The report also said,

> The concentrations are highest in the northeast and southeast parts of Roanoke, Vinton and west Salem and west and southwest Roanoke County. These areas have heavy traffic, gas stations, body shops and other industries that contribute to air pollution. In the New River, concentrations were highest around Blacksburg. Though these neighborhoods have the highest concentrations of the three toxins, every part of the Roanoke and the New River Valleys exceeded the cancer benchmark.
>
> In some places, the concentration of chemicals was more than 10 times higher than the health benchmark.
>
> In Roanoke, the air with the highest chemical concentrations was in the U. S. 460 eastern corridor, with three chemicals more than 10 times higher than the health benchmark. The leading chemical was 1,3-butadiene, which was more than 19 times higher than the health benchmark. In Roanoke County, nine areas had chemical concentrations that were more than 10 times higher than the health benchmark. The concentration for 1,3-butadiene was more than 60 times higher in one area.
>
> Along U.S. 460 in the southern part of Blacksburg, concentrations of benzene were 31 times the health benchmark. 1,3- butadiene was more than 100 times higher. The risks are highest in urban areas and decline with distance from those areas.

Response: See section 4.3.3 of the final EIS, which addresses the issues raised here.

Forests/Crops

The secondary impacts from ozone damage to crops, forests, and agricultural lands should be considered. As reported in the 1996 Southern Appalachian Assessment (online at:

http://sunsite.utk.edu/samab/saa/saa_reports.html.), "Ozone is potentially the most significant pollutant affecting forests in North America." Key findings from the SAA indicate that l)"current ozone exposures are causing visible symptoms on the foliage of sensitive species" in numerous locations throughout the Southern Appalachians and 2) "ozone exposures, when soil moisture is adequate, may be sufficient to cause growth losses
to the most sensitive species in the Southern Appalachians."...4) "between 1983 - 1990, conditions in the northern and southern portions of the Southern Appalachians were most conducive to growth reductions from ozone exposures." The Virginia I-73 Study corridor falls within the northern portion of the SAA.

The SAA used the W126 statistic, a mathematical index, to calculate data from EPA's Aerometric Information Retrieval System (AIRS) database and from the National Dry Deposition Network programs. Each hourly average ozone concentration is recorded, then all of the W126 values are added together during the growing season.

The I-73 Study corridor through Virginia falls within the highest estimated W126 index areas. In the SAA results using 1988 data, the W126 index for the I-73 study area estimates ozone levels to be greater than 66.5 parts per million hours. The ranges consisted of: no estimate, < 5.9 ppm hours, 5.9 - 23.7 ppm hours, 23.8 - 66.5 ppm hours, and > 66.5 ppm hours.

The 1988 data results after combining the W126 and number of hours with ozone concentrations greater than or equal to 0.10 ppm placed the I-73 Study corridor area in Level 2 for ozone exposure levels associated with forest tree response. Levels included Minimal, Level 1, Level 2 and Level 3,with Level 3 having the most severe impact on trees.

The VDOT air quality analysis failed to address the loss of trees and that loss's impact on air pollution, citizens' health, and local climate. These impacts need to be studied.

Response: *In establishing the National Ambient Air Quality Standards, EPA established a primary and secondary standard for many of the pollutants. The primary standard is designed to protect public health while the secondary standard is designed to protect the nations welfare and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the general welfare. In most cases, the secondary standard is the same as the primary standard (which is the case for the 1 and 8-hour ozone standard, nitrogen dioxide, particulate matter (PM10 and 2.5) and lead). Therefore, if an area has not been designated nonattainment by EPA for a particular pollutant, then it can be assumed that the area is in attainment for both the primary and secondary standard. If EPA has not seen fit to designate an area nonattainment, then it can be assumed that the existing air in the region does not adversely impact the public health or general welfare above levels that are a concern to EPA.*

In a 1992 FHWA position paper the FHWA says, "An important consideration is an estimate of the potential for development in the area of a proposed project within a reasonable period of time. The estimate should recognize the potential both with and without the project . . . in areas of moderate to rapid development, the contributions of a highway improvement can be a measurable element of the aggregated change leading to long-term impacts."

On page 125 of the DEIS, VDOT states that the project area consists of 310,951 acres of forestland. Then on page 298, Table 4.2-1, VDOT outlines the acreage impacts to the forests. The Roanoke area stands to lose a significant amount of tree canopy from each of the build alternatives. The table below reflects loss of forestland from the highway itself. It does not include the resulting sprawl.

Response: *The majority of lost forestland would occur in rural areas. Those alternatives that utilize the existing I-581 and the Route 220 corridors (such as the preferred alternative selected by the CTB) would have less of an impact on forestland than those alternatives that do not utilize these corridors through Roanoke.*

Percentage of loss of forestland for each alternative

TSM	1	1A	2	2A	2B	2C	3	3a	3B	3C	4	No-Build
NA	1.41	1.39,	1.09	1.03	1.02	1.04	0.66	0.72	0.69	0.65	1.10	0

On page 144 of the DEIS, VDOT lists timber prices as the only possible economic impact from loss of forestland. An economic analysis based on citizen's health and air/water pollution-fighting capabilities of forestlands needs to be assessed.

In July 1999, the non-profit group American Forests completed an Urban Ecosystem Analysis for the Roanoke area. (online at: http://www.americanforests.org1garden/trees cities_sprawl/urban_analysis/roanoke.html) This included Roanoke County and portions of Bedford, Botetourt, Craig, Franklin and Montgomery counties. Using GIS mapping, satellite images from 1973 - 1997, and local on-site visits, an analysis on loss of tree canopy and associated values of that loss was completed.

Major findings from the study:

- Average tree cover declined from 40% to 35% in the Roanoke area.

- Natural tree cover (areas with at least 50% tree cover) declined from 41% to 32% of the total area.

- Heavily developed areas (with less than 20% tree cover) increased from 53% to 64% of the total area.

- Tree loss resulted in a 17% increase in stormwater runoff (515 million cubic feet) at cost of $419 million.

- Total stormwater retention capacity of the urban forest in 1997 was worth $2 billion.

- The lost trees each year would have removed 2.93 million pounds of air pollution at a value of $8.2 million.

In 1997, the existing tree canopy removed 14.5 million pounds of pollutants, valued at $40.5, million. In 1973, the canopy removed 17.4 million pounds of pollutants, valued at $48.7 million. The report states, "When urban trees are large and healthy, the ecological system that supports them is also healthy. Healthy trees require healthy soils, adequate water, and clean air."

Recommendations from the American Forests study include:

- Consider the financial value of natural resources in the decision-making process

- Increase and conserve the tree canopy cover. Roanoke should strive to reach 40 percent cover

- conduct analyses every five years to track future trends in forest canopy and associated benefits

In addition, according to the EPA, Virginia's farmers lost between $12 million and $20 million in 1997 from reduced crop yields due to ozone damage.

Geography/Meteorology

VDOT failed to address the geography/topography/meteorology factor. The Roanoke Valley, home to Roanoke City and surrounding suburbs, forms a bowl, which tends to trap air pollution. The topography of the Roanoke area and its relation with air quality needs to be addressed in the DEIS, especially with regards to temperature inversions and air stagnation.

According to the Southern Appalachian Mountains Initiative (SAMI), "the southeastern United States has more frequent episodes of air stagnation than most other areas of the country. During these periods, pollutants can remain over the mountains for several days at time. The naturally high humidity of the area magnifies the haze generated by airborne particles."

A 1999 National Oceanic and Atmospheric Administration report (online at: http://www.arl.noaa.gov/pubs/online/index.html) titled Air Stagnation Climatology for the United States (1948-1998! states, "It has been observed that major air pollution episodes are usually related to the presence of stagnating anticyclones. Such anticyclones may linger over an area for a protracted period (4 days or more). During this period, surface wind speeds can fall to very low values. The near surface circulation is therefore insufficient to disperse accumulated pollutants, thereby causing distressful and possible hazardous conditions for the inhabitants of the area."

In an annual mean sense, air stagnation events are most prevalent in the southern states. The trend in air stagnation days shows the Roanoke area is one of the SE regions which shows a positive trend or increase in stagnation days. From 1989 - 1998 (May-Oct.), in the Roanoke area, there were 23 cases of air stagnation days.

ROANOKE AIR STAGNATION DAYS

***air stagnation case of 4 or more days occurred**

Year	**May**	**June**	**July**	**August**	**Sept.** **Oct**
1998				*	*
1997		*			* *
1996				*	
1995		*		*	*
1994				*	
1993		*	*	*	
1992	*			*	*
1991	*	*		*	*
1990		*		*	
1989					*

- source: NOAA

A "bowl effect" in the Roanoke area will worsen the impacts of a new terrain I-73, a new source of air pollution. Specifically, the NOx, CO, and other HAPs emissions for the entire Roanoke area will increase. All of the Build options traverse the proposed Roanoke ozone nonattainment area.

Health Impacts

VDOT glossed over the health impacts for the alternatives. VDOT briefly mentions the EPA Cumulative Exposure Project(DEIS 3.3-4),but fails to address the issue. Direct impacts to residents with respiratory problems should be addressed. Many of the pollutants from automobile emissions can aggravate existing conditions. At the very least, a simple coordinated effort with Roanoke area health officials could pinpoint areas within the I-73 Study area where there are high occurrences of respiratory illnesses.

In an American Lung Association report titled "State of the Air 2000", the Roanoke County area was given a grade of "F" for its poor air quality and impacts on residents. The grade was based on the frequency of exceedences in the EPA Air Quality Index. "This report, and the analysis that underlies it, confirms what most citizens already know: air pollution remains a major threat to Americans, contributing substantially to the nation's ill health burden.", the report stated.

AT-RISK Groups impacted by Air Quality

County	Total Population	Pediatric Under 14	Adult Over 65	Chronic Asthma	Asthma	Bronchitis	Emphysema
Henry	56,078	10,399	7,846	789	2,260	3,033	458
Roanoke	81,480	14,568	11,210	1,120	3,310	4,398	659

- source: American Lung Association

A recently released University of Southern California Study (Appendix 4) shows that air pollution from the burning of fossil fuels slows lung function growth as children grow up. An excerpt from the study group's press release says:

> Common air pollutants slow children's lung development over time, according to results from the University of Southern California-led Children's Health Study. The 10-year-long study is considered one of the nation's most comprehensive studies to date of the long-term effects of smog on children.
>
> "This is the best evidence yet of a chronic effect of air pollution in children," says John Peters, M.D., D.Sc., USC professor of preventive medicine and one of the study authors. "Long -term exposure to air pollution has long-term effects on children's lungs, and the effects are more pronounced in areas of higher air pollution."

> "... the offenders were nitrogen dioxide, microscopic particles known as particulate matter, and ,acid vapors. All come directly or indirectly from the burning of fossil fuels (the exhaust from a car or truck, for example), as well as from emissions from industrial plants and other sources...Although polluted air has long been known to cause immediate uncomfortable symptoms such as eye irritation, coughing and chest tightness, long-term or chronic effects have been less clear. In the current research, though, scientists have begun to demonstrate effects over time."

VDOT should also acknowledge the possibility that cancer rates could increase in the I-73 Study area alternatives.

In a Saturday, March 4, 2000 ENN story (Appendix 5) titled "Mean streets: heavy traffic, leukemia linked", ENN's Lucy Chubb reports on a study that was published in the February 2000 issue of the Air and Waste Management Association journal.

> Children who live near heavily traveled roads and highways are at greater risk of developing cancer, including leukemia, according to a study conducted in Denver, Colorado.
> "What we are seeing is that children who live near high-traffic streets have an increased risk for childhood cancer," said co-author Robert Pearson, an adjunct professor of urban planning at the University of Colorado.
>
> The researchers conclude that children living near transportation corridors carrying 20,000 or more vehicles per day are about six times as likely to contract cancer, including leukemia. The children are exposed to emissions through breathing and exposure to soil containing emissions.
>
> The idea that vehicle emissions are to blame has "biological plausibility," Pearson said.

Response: *See the previous response to the MSAT issue.*

Visibility

VDOT failed to address the potential reductions in visibility in the Roanoke area because of increased air pollution from a new terrain interstate highway.

Class I federal areas

Any of the build alternatives would potentially impact the visibility of the James River Face Wilderness Class 1 area, a federally protected area. This Class I area is located approximately 25 miles from the nearest I-73 build option and approximately 48 miles from the furthest option. VOC, ozone2 NOx, and particulate matter emissions for each alternative should be calculated and included in a Supplemental DEIS. This procedure was done for the Appalachian Corridor H ASDEIS. The area was in "attainment". Agencies expressed special

concerns for the air quality of the Shenandoah National Park, the other Class 1 area in Virginia.

The Clean Air Act Amendments of 1977 declared as a national goal the prevention of any future, and the remedying of any existing, impairment of visibility in mandatory Class I areas where impairment results from manmade air pollution." According to the 1996 Southern Appalachia Assessment (online at: http://sunsite.utk.edu/samab/saalsaa_reports.html), there are only seven Class 1 areas in the Southern Appalachians. This includes 5 Wilderness areas, Shenandoah National Park, and Great Smoky Mountains National Park. Of the five Class 1 Wildernesses listed in the SAA, the James River Face has the poorest visibility. For the combined years from 1987 - 1993, James River Face had a median camera-based standard visual range (SVR) of only 15 miles during the Summer season and 66 miles during the Winter season. That compares with 19 miles SVR in the Summer and 138 miles SVR in the Winter for the Shining Rock, NC Wilderness area, which had the best SVR that was listed in the SAA.

According to the Southern Appalachian Assessment Atmospheric Technical Report, organic particles, volatile organic compounds, elemental carbon and nitrous oxides from diesel-fueled mobile sources and gasoline vehicles contribute to visibility problems in the eastern United States. These pollutants lead to regional haze which could impair visibility a great distance from the source area.

Percentage contribution by diesel and gasoline-fueled mobile sources to pollutants which affect visibility in the eastern U.S.

Pollutants	**Diesel-fueled**	**Gasoline-fueled**
Organic Particles		34%
VOC		31%
Elemental Carbon	47%	29%
NOx	16%	26%

A regional emissions analysis for VOC, NOx, and ozone should also address impacts to the Shenandoah National Park, which has been rated as having the second worst air quality for National Parks.

Response: *Due to prevailing weather patterns, air quality impacts to Shenandoah National Park have come primarily from the west from coal-fired power plants in West Virginia and from the northwest from power plants in Ohio. Because Shenandoah National Park is located approximately 80 miles northeast of the northern terminus of I-73 and approximately 150 miles northeast of the southern terminus of I-73, it is not anticipated that I-73 would have an adverse impact on visibility within the park since prevailing weather patterns in the region are from west to east and not south to north. Likewise, the James River Face Wilderness Area is located approximately 41 miles northeast of the northern terminus of I-73 and approximately 110 miles northeast of the southern terminus of I-73.*

In 1999, the U.S. Environmental Protection Agency announced a major effort to improve air quality in national parks and wilderness areas by issuing the Regional Haze Rule. This rule calls for states and federal agencies to work together to improve visibility in 156 national parks and wilderness areas such as the Shenandoah National Park and James River Face Wilderness area. The rule requires the states, in coordination with the Environmental Protection Agency, the National Park Service, U.S. Fish and Wildlife Service, the U.S. Forest Service, and other interested parties, to develop and implement air quality protection plans to reduce the pollution that causes visibility impairment. According to their web site, EPA has encouraged the States and Tribes across the U.S. to address visibility impairment from a regional perspective, not a project-specific basis. In this regard, EPA currently provides funding to five regional planning organizations to address regional haze and related issues. These organizations are evaluating technical information to better understand how their States and Tribes impact national park and wilderness areas (Class I areas) across the country, and these regional planning organizations will then pursue the development of regional, not project-specific, strategies to reduce emissions of particulate matter and other pollutants leading to regional haze. Virginia is a member of the Visibility Improvement State and Tribal Association of the Southeast, which is a collaborative effort of state governments, tribal governments, and various federal agencies established to initiate and coordinate

activities associated with the management of regional haze, visibility and other air quality issues in the Southeastern United States. Therefore, regional haze is being addressed on a multi-state, regional basis and not on a project-specific basis. According to EPA's website, areas classified as attainment or unclassifiable have until early-2006 to submit their haze plans which will establish progress goals and control strategies for addressing regional haze.

Further, according to EPA's Fact Sheet on the Regional Haze Final Rule, regional haze is closely linked with fine particulate matter less than 2.5 microns in diameter (PM2.5), which is why they proposed the regional haze regulations in conjunction with new national ambient air quality standards for fine particulate matter. None of the localities comprising the study area have been designated nonattainment by EPA for PM2.5; therefore, it is not anticipated that transport of fine particulate matter from the study area will be an issue making the request for a regional haze analysis unjustified.

Finally, like other regional pollutants such as ozone, EPA acknowledges that regional pollutants must be analyzed on a system-wide basis and be controlled through regional strategies in order to be effective. Consequently, sources that may contribute to regional emissions such as mobile sources are analyzed in the aggregate, rather than individually where assessment of regional impacts cannot be measured with any degree of accuracy. Notwithstanding, EPA has not even established standards for regional haze. Therefore an analysis of project-specific PM2.5 will not allow anyone to determine if a project will adversely effect visibility in the Shenandoah National Park located, at a minimum, 80 miles from the northern terminus of the project or the James River Face Wilderness area located, at a minimum, over 41 miles from the northern terminus of the project.

Finally, as further evidence of EPA's effort to address regional haze on a regional or source basis instead of a project-specific basis, the EPA signed the Clean Air Interstate Rule (CAIR) on March 10, 2005. According to the press release, CAIR will ensure that Americans continue to breath cleaner air by dramatically reducing air pollution that moves across state boundaries in 28 eastern states. CAIR will result in the largest pollution reductions and health benefits of any air rule in more than a decade by controlling downwind emissions at their source. CAIR will permanently cap emissions of sulfur dioxide and nitrogen dioxide and reduce them by more than 70 and 60 percent, respectively, resulting in more than $100 billion in health and visibility benefits per year by 2015.

Acid Deposition

The acidic deposition effects on streams, soils, and vegetation from increased NOx pollution from vehicular emissions needs to be addressed. Potential environmental and financial impacts from tree damage, especially the Elm Trees in the downtown Roanoke area, crop damage, buildings and other structural damage needs to be assessed.

In a 1995 EPA Report titled "Acid Deposition Standard Feasibility Study, Report to Congress", the EPA found that the eastern portion of the U.S. is most at risk from continued acid deposition. The targeted areas were the lakes and streams of the Appalachian Mountains.

The Virginia Trout Stream Sensitivity Study, which was released in October 2000,conducted by Trout Unlimited and analyzed by University of Virginia scientists shows that many of Virginia' s streams continue to suffer from acid rain. It showed that the number of "chronically acid" streams increased and will continue to increase. The number of dead streams is expected to more than double in the next 40 years.

Response: *According to the Press Release for this study, "Acid deposition, which is often called "acid rain," is the deposit of airborne acidic material from sources such as coal-burning power plants into streams, rivers and lakes as wet precipitation (rain, snow, fog, cloud) and dry precipitation (dust and gases). Acid deposition is responsible for the documented loss of hundreds of fish populations in Europe and North America.*

The burning of fossil fuels release into the atmosphere sulfur and nitrogen oxides, which are converted to sulfuric and nitric acids. Coal-burning power plants in the Ohio River Valley are a major source of this pollution, which is carried east on prevailing winds." Therefore, the source of acid deposition is pollution produced in other parts of the country and not pollution produced in the Roanoke region.

Further, on March 10, 2005, the EPA signed the Clean Air Interstate Rule (CAIR). According to the press release, CAIR will ensure that Americans continue to breath cleaner air by dramatically reducing air pollution that moves across state boundaries in 28 eastern states. CAIR will result in the largest pollution reductions and health benefits of any air rule in more than a decade by controlling downwind emissions at their source. CAIR will permanently cap emissions of sulfur dioxide and nitrogen dioxide, constituents of acid rain, and reduce them by more than 70 and 60 percent, respectively, resulting in more than $100 billion in health and visibility benefits per year by 2015. In addition, the rule will substantially reduce premature mortality in the eastern United States.

Tourism/Economic Impacts

VDOT failed to mention the negative economic impacts to the Roanoke Valley area in relation to poor air quality/visibility. Economic impacts based on diminished visibility the area's two main attractions, the Star on Mill Mountain and the Blue Ridge Parkway need to be addressed. Without clean, clear air, visitors will have no incentive to visit these treasures.

The additional marring of the regional landscape from a new terrain interstate highway build alternative could have negative economic impacts from decreased tourism.

Additional pollution could potentially have negative economic impacts on healthcare and personal car maintenance. Roanoke area residents could suffer economically if health problems increase and/or vehicle emission control programs have to be instigated to offset ground-level ozone.

A Cost-Benefit analysis should be completed to study the economic impacts from all angles, not just interchange gas station/restaurant employment.

TSM/No-Build Alternatives

A primary goal of the Clean Air Act as amended in 1990 is to encourage or otherwise promote reasonable Federal, State, and local governmental actions, consistent with the provisions of this Act, for pollution prevention. Title 1,Part A, Section 101(c)[42 U.S.C. 7401] The TSM and no-build alternatives would meet the Clean Air Act and TEA-21 goals of not increasing emissions in nonattainment areas.

The TSM alternative and the no-build alternatives are the only two options that would not introduce more emissions from a new interstate source into the greater Roanoke area. These 2 options would not have adverse environmental impacts. The TSM and no-build alternatives are the only sensible

alternatives to avoid future health and financial hardships on area residents as they struggle to rein in attainment for the Roanoke area. To choose a build-alternative would certainly alter our quality of life for the worse.

Summary

From a 1992 FHWA position paper, the FHWA says, "The new emphasis on environmental issues must include techniques that produce the best possible public interest decisions on project features such as, location, design and mitigation. These decisions will represent a balance between environmental, socioeconomic, and engineering issues. Therefore, we must

assure full consideration of environmental concerns from the early stages of planning and throughout project development.

VDOT knows that Roanoke has air quality issues that need to be addressed. The evidence is overwhelming. However, VDOT failed to address significant adverse impacts to the human environment in the I-73 DEIS. VDOT needs to acknowledge the primary, secondary and cumulative air impacts of all the proposed I-73 alternatives. Environmental, health and economic impacts related to the Roanoke area's air quality needs to be properly studied for all alternatives. Once a complete, legitimate evaluation has been done, a proper assessment of the preferred alternative and conforming, mitigating measures can be performed.

We respectfully request VDOT to:

1)complete a mesoscale analysis, as was done for the Corridor-H project in West Virginia, for the Criteria Pollutants of ozone, nitrogen oxides(NOx)and volatile organic compounds (VOC). Particulate matter should be studied as well. This analysis should address the impacts to the Roanoke MSA and the Class 1 protected areas James River Face Wilderness and Shenandoah National Park. This analysis should be completed for all I-73 alternatives.

Response: *We disagree with the statement from above that the conformity requirements should have been openly presented and discussed in the DEIS. When the DEIS was issued, the 8-hour conformity requirements had not been established by EPA and as such, could not be discussed. We also disagree with the unsupported statement that "the I-73 project will either contribute to a new violation, if the current 8-hour ozone designations become finalized, or will likely cause a new violation of the current 1-hour ozone standard or new 8-hour ozone standard that is reached." Experience in demonstrating conformity in Virginia's nonattainment areas since 1990 has shown that when considering the regional network, the consideration of individual projects to improve the transportation system has little impact on regional emissions. In Hampton Roads when the area was facing the prospect of a conformity lapse, an analysis was conducted to determine what impact removing seven of the largest regional projects from the areas long-range plan would have on regional emissions. The result was that removing those projects would have a negligible impact. It is also important to point out that in the absence of Interstate 73, the area has recorded violations of the 8-hour standard for ozone. Accordingly, there is no basis for the statement that an increase in ozone resulting from this facility could bring the region into violation of current and pending clean air standards.*

The NEPA requires federal agencies to determine the impacts of their decisions and actions on the environment. It is a procedural law that establishes a process for making an informed decision. The NEPA process acts like an umbrella to ensure that a variety of resource-specific environmental laws are addressed before a decision is addressed. The underlying basis for addressing air quality issues during the NEPA process is the Clean Air Act. Through the Clean Air Act, EPA establishes air quality standards for a variety of pollutants and identifies the areas of the country that fail to meet those standards. Those areas that fail to meet those standards have additional requirements imposed upon them to meet the standards. As already documented in Section 3.3 of the DEIS, all of the counties and localities in the study area are currently designated by EPA as being in attainment for the 1-hour standard for ozone, nitrogen dioxides, and particulate matter (PM10). In June of 2005, the one-hour ozone standard will be fazed out when the 8-hour ozone standard becomes effective. Recently, the EPA determined that the Roanoke area consisting of the City of Roanoke, City of Salem, Roanoke County and Botetourt County exceeded the 8-hour standard for ozone based on current monitoring data. However, instead of designating the area nonattainment under the 8-hour standard, EPA deferred the nonattainment designation because the area is proactively working to clean up the air through implementation of an Early Action Compact (EAC). If the area meets the required milestones prescribed for EAC areas and can submit three consecutive years of clean monitoring data, then the region will be reclassified as an attainment area in 2007. Interstate 73 would have no bearing on this effort since it

would not be constructed or under construction by 2007. Notwithstanding, EPA's preamble to the 8-hour final rule states that conformity (in this case, we are speaking specifically of the preparation of a meso-scale analysis) is not a control measure to be used like the voluntary measures that are included in the EAC. 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 EAC protocol developed by EPA does not require the EAC area to meet the transportation conformity requirements since the conformity requirements only kick in one year after an area is designated nonattainment for the 8-hour standard. Consistent with 40 CFR 93.102(d) and section 176(c)(6) of the Clean Air Act, conformity for the 8-hour standard (i.e. meso-scale analysis) does not apply in early compact areas provided the area meets all of the terms and milestones of its EAC. Failure to meet these terms or milestones will invoke the nonattainment designation requiring conformity for the 8-hour standard within one year of that designation. Therefore, VDOT has not circumvented their legal requirements by failing to subject the Roanoke MSA to the 8-hour ozone conformity requirements.

Further, as referenced above, the Clean Air Act Amendments of 1990 established a conformity process in nonattainment areas that recognizes that transportation-related air quality issues must be analyzed on a system-wide basis and be controlled through regional strategies in order to be effective. Consequently, projects in transportation plans and improvement programs are analyzed in the aggregate, rather than individually where assessment of regional impacts cannot be measured with any degree of accuracy. As such, analysis of the regional network through the conformity process establishes the context of the impact on regional emissions attributed to network improvements. For this reason, transportation conformity is performed on programs of projects, instead of individual projects, and the results compared to the State Implementation Plan (where one has been developed) or to a no-build analysis where the impact from the program of projects can be determined relative to regional emissions. Accordingly, determining the emissions burden attributed to I-73 would not be practical or productive. First, In accordance with CEQ's regulations implementing NEPA, the significance of an impact cannot be determined apart from context. Conducting a meso-scale analysis as part of this study would be meaningless because it would have no context. Many of the pollutants mentioned are regional pollutants. For this reason, EPA's conformity regulations are based upon the transportation planning processes that are in place in urbanized areas; that process provides the best mechanism for addressing the issue. Because many pollutants are regional in nature, EPA doesn't require that they be addressed on individual projects. Instead, EPA rightfully expects the issue to be addressed on the entire urbanized area roadway network through the metropolitan planning process. Addressing ozone on a single project may account for the impact from increases in traffic on that particular project, but it doesn't account for offsetting decreases in traffic elsewhere on the network. Hence the regional network approach. In addition, a mesoscale no-build/build analysis of the project may be able to determine the emissions burden attributable to the project, but it doesn't necessarily follow that an increase is an adverse impact unless it is viewed in the context of the overall network. Therefore, determining the emissions burden attributed to I-73 is meaningless unless an analysis was conducted through the conformity process of all of the projects programmed for improving the regional network establishing the context of the results. Second, MPOs are responsible for performing meso-scale analyses to address the conformity requirements, and the Roanoke Area MPO is not currently set-up to perform such an analysis because the Roanoke MSA has not been designated nonattainment by EPA. Third, DEQ has not developed a State Implementation Plan (SIP) for the region because it has not been designated nonattainment by EPA, therefore, conformity cannot be demonstrated against budgets established in the SIP to determine if there would be a violation.

The James River Face Wilderness Area is approximately 41 miles northeast of the northern terminus of I-73 and approximately 110 miles northeast of the southern terminus of I-73. The Shenandoah National Park is approximately 80 miles northeast of the northern terminus of I-73 and approximately 120 miles northeast of the southern terminus of I-73. The likelihood of I-73 generating visibility impacts upon these resources is remote, especially since prevailing weather patterns are from west to east or southeast to northeast. See response above under Visibility for additional discussion.

2) submit a regional emissions analysis for ozone, NOx, VOC and particulate matter to address conformity requirements for the entire FHWA I-73/74 project from Charleston, l South Carolina to Sault Ste. Marie, Michigan. Special emphasis should be placed on nonattainment areas throughout this region of the United States. The cumulative impacts from the entire I-73/74 project needs to be addressed by the FHWA.

Response: *EPA has not instructed FHWA to prepare a regional emissions analysis and cumulative impact analysis for the entire I-73 high priority corridor from Michigan to South Carolina. Again, conformity only applies in areas designated nonattainment or reclassified to maintenance by EPA. Despite its relationship to the overall limits of the I-73 high priority corridor designated by Congress, the termini of I-73 covered by the DEIS (I-81 near Roanoke to the Virginia/North Carolina State line) have been found to be logical by FHWA. In addition, FHWA has found the project covered by the DEIS to have independent utility and serves as a stand alone project with a sufficient scope to allow for the meaningful consideration of environmental impacts. The study area for the project, the area over which the project impacts will be felt, is depicted in the DEIS. It is beyond the scope of this study to conduct the analysis requested and neither FHWA nor EPA have the legal authority to require a conformity analysis of the entire I-73 high priority corridor, especially since much of the corridor lies outside nonattainment areas.*

3) acknowledge that VDOT's modeling and claims that increased traffic speeds will decrease air pollution, thus enhancing air quality in the I-73 Study Area contradicts other research using the same EPA MOBILE 5A modeling base.

Response: *The statement that "The Build Alternative would generally enhance air quality by reducing contaminant levels in the region by diverting traffic from other study area roadways and by increasing the average travel speed" (DEIS page 4.3-3) is not misleading or unsupported. First, this is a general statement, and it is not intended to be indicative of every circumstance encountered. Second, the statement is based on the speed-emission curves used by EPA for the Mobile models. Generally, as speeds increase, emissions decrease until they bottom out and then begin increasing again. For example, a graph of the calculated CO emissions from MOBILE6 shows that higher emissions are calculated at lower speeds than at mid range speeds and the top range speed (60.7 mph for a freeway). At the top range speed the CO emissions are higher than the mid range speeds but at the same time, they do not exceed the lower range speed. Based on the graphical representation of the CO emissions, the highest emission factors would occur at the lower speed range of 2.5 to 30 mph. Graphs for volatile organic compounds, the precursors of ozone, are similar. Emissions decrease from 2.5 mph to about 55 mph before they bottom out and begin to increase. Emissions at 65 mph are still less than emissions at 35 mph and similar to emissions at 45 mph. Finally, air toxic emissions show a similar relationship with some differences. Emission-speed graphs developed from EPA's Mobile6.2 model show air toxic emissions dropping off significantly between 2.5 and 20 mph before assuming a more gradual decline from 20 mph to 62.5 mph and beyond. When it comes to air quality issues, the area that we would are most concerned about is the Roanoke MSA and when it comes to speed, we are concerned about the average speed on individual roadway links. Therefore, it is important to realize that vehicles traveling on I-581 will not be traveling at the posted speed but at a speed dictated by the level of service that the design will allow. Based on FHWA standards, urban Interstate facilities must minimally operate at level of service D and in some cases, additional analysis has been conducted to insure that this level of service can be achieved on I-581. Therefore, the statement made in the DEIS about increased travel speeds and decreased air pollution was intended to reflect these types of relationships and circumstances.*

A trend and sensitivity analysis conducted by FHWA and EPA of the Mobile 6.2 model found that "Based on testing results, it is clear that emissions factors for acrolein, acetaldehyde, benzene, 1,3 butadiene, formaldehyde, methyl tertiary butyl ether are inversely proportional to both freeway and arterial vehicle speeds. This analysis follows the trend of total organic gas emission factors. Effects from roadway facility differences indicated that the higher the vehicle miles traveled on a freeway, the lower the air toxic

emission factors on a per vehicle mile basis. When VMT is compared between a local road and an arterial facility, air toxic emission factors from local roads are significantly higher than those from the arterial facility. This facility difference is apparently directly related to the vehicle speed rather than the more complicated facility driving cycle differences." Elsewhere, "vehicles traveling a freeway produce lower air toxic emission factors than vehicles traveling an arterial facility on a per mile traveled basis."

Likewise, experience in complying with the Clean Air Act in nonattainment areas like Richmond, Hampton Roads and Washington D.C. demonstrates that despite forecasted increases in VMT and the number of vehicles on a regional transportation network, these areas are able to demonstrate conformity because the transportation improvements improve average travel speed and reduce congestion. In addition, advances in vehicle technology and the inclusion of emission controls on vehicles also play an important role in an areas ability to demonstrate conformity.

4) complete a cost-benefit analysis which studies I-73's environmental impacts and costs.

Response: *In response to public comment, FHWA requested a benefit-cost analysis for the preferred alternative and one has been prepared and included in the appendices of the final EIS. This analysis was prepared using the methodology prescribed by AASHTO's "Manual on User Benefit Analysis of Highway and Bus-Transit Improvements." 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 crashed, 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%.*

5) postpone choosing an alternative for I-73 until EPA makes its final designations for ozone nonattainment area$. It's the prudent thing to do. VDOT should not circumvent their legal requirements by rushing to make a decision. The Virginia Secretary of Natural Resources in his June 29, 2000 letter to EPA asked EPA to postpone its final designations for ozone nonattainment areas until after the Supreme Court ruling on the 8-hour standard. The Secretary didn't want to add "confusion" to the process. Adding "confusion" to the process is exactly what VDOT is doing by not waiting for the Supreme Court ruling and EPA final designations.

Response: *FHWA has not yet made a decision on I-73. Notwithstanding, EPA has made its designations for the 8-hour ozone nonattainment areas as well as the particulate matter (PM2.5) nonattainment areas.*

6) postpone choosing a preferred I-73 alternative until either a new DEIS or a supplemental DEIS has been completed. This SDEIS should properly analyze the primary, secondary and cumulative air impacts of all the proposed I-73 alternatives including environmental, health and economic impacts. It needs to include analysis of the 8-hour ozone standard and how the I-73 alternatives will impact the Valley residents' way of life. Conformity requirements need to be addressed. Analysis needs to address new violations of the current ozone standard.

Response: *See previous comments.*

APPENDIX 1

COMMONWEALTH of VIRGINIA
Office of the Governor

June 29, 2000

Mr. Bradley M. Campbell
Regional Administrator
EPA Region III
1650 Arch Stet
Philadelphia, Pennsylvania 19103-2029

Dear Mr. Campbell:

Last July we wrote to then Regional Administrator Michael McCabe and suggested that making nonattainment area designations for the 8 hour ozone standard was inappropriate until all of the litigation over the standard has been resolved. We continue to adhere to that view. Making such designations DOW, with all of the uncertainty surrounding the 8-hour standard, just adds to the confusion. The Supreme Court may not render its decision until mid-2001, so holding all actions involving the 8-hour standard in abeyance until that ruling is made is the prudent thing to do.

When the TEA 21 bill was passed requiring EPA to make designations by July of 2000, no one anticipated the lengthy litigation over the new 8-hour standard Another alternative for EPA would be to designate every current location as 'unclassifiable' until the litigation is resolved and we know whether the 8-hour standard remains viable.

We understand that EPA has determined to proceed with designations under the 8-hour standard, notwithstanding these considerations. While we continue to urge EPA to pursue a more prudent course of action in this matter, we do not wish to exclude ourselves from an opportunity to provide you with the benefit of our views on designations of nonattainment areas in Virginia. Our recommendations are enclosed

Also enclosed are a series of maps showing the recommended nonattainment (unclassifiable) area boundaries under the proposed 8-hour standard, and the latest air quality data for the ozone monitoring sites throughout Virginia. Please note that a detailed technical analysis document that supports these recommendations will be forwarded to you under separate cover by the Department of Environmental Quality.

P.O. Box 1475 Richmond, Nirginia 23218 (804} 786-0044 TDD (804)786-7765

The recommendations have been developed after extensive discussions with and input from local elected officials and other interested parties. We urge you to recommend to the EPA Administrator that any such designations be deferred until the Supreme Court has acted on the litigation. Unless that is done, we may well have to revisit this action and make new designations based on whatever new standard may finally be implemented.

Very truly yours,

John Paul Woodley, Jr.
Secretary of Natural Resources

JPW/j
Enclosures

Appendix 2

Roanoke Air Quality data for the Summer 2000 season

NOTE: Data for 2000 has not been through the validation process by environmental Agencies. Based on daily readings as reported via EPA and VA DEQ websites.Data was reviewed by VA DEQ.

From May 8, 2000- Sept. 8, 2000 (124 days)
1 Hour Peak ranges (standard 124 parts per billion (ppb)

0 -60 ppb - 63 days
61-79 ppb - 49 days l
80 - 99 ppb - 10 days g
111-124ppb- 1 day (June 10,2000)
125+ppb- 0 days
NA - 1 day (June23, 2000)

In 2000, Roanoke had 0 occasions when the 1 Hour peak exceeded the 124 ppb standard.

**June 8, 2000 was not a valid sampling day, since there were less than 75% of the hours from 9am to 9pm EST available for the day. The 1-hour peak for that day was 0.075 ppm (75 ppb)

8 Hour Peak ranges (standard 85 ppb)

(GREEN) GOOD - 94 days
(YELLOW) MODERATE - 27 days 2
(ORANGE) Unhealthy for Sensitive people - 2 days (June 9,10, 2000)
(RED) Unhealthy- 0 days
(PURPLE) Very Unhealthy - O days
NA- 1

8 Hour Air Quality Index / Ozone Concentration (parts per million -ppm) conversion

GREEN= AQI of 1 - S0 = Ozone Con. 0.001 - 0.064 ppm
YELLOW= AQI of 51 - 100 = Ozone Con. 0.065 - 0.084 ppm
ORANGE = AQI of 101 - 150 = Ozone Con. 0.085 - 0.104 ppm
RED = AQI of 151 - 200 = Ozone Con. 0.105 - 0.124 ppm
PURPLE = of AQI - 201 + = Ozone Con. 0.125 +

In 2000, Roanoke had 2 days when the 8 Hour peak exceeded the 85 ppb standard.

**June 8,2000 was not a valid sampling day due to missing hours,the max.8-hour average for the day was .070 ppm.

NATIONAL WEATHER SERVICE ORICE BLACKSBURG, VA
MONTEY CLIMATE SUMMARY
500 AM EDT THU JUN 1 2000

...MONTHLY CLIMATE SUMMARY FOR MAY 2000...

Overall for the month of May...temperatures were above normal on an average and the precipitation fell below normal for the monthly average. Looking back. . .the month of May displayed a stormy and unsettled nature, providing southwest and south central Virginia with some much needed precipitation. - A very typical springtime scenario. Warm record breaking temperatures occurred the first couple of weeks over much of the area providing the utility companies with a boost in revenues as air conditioners were a constant.

By mid month, a strong cold front swept through the region producing severe weather. There were reports of trees down in Campbell and Buckingham counties. In addition to high wind-damage, hail occurred over Surry, Patrick, and Wilkes counties with the sizes ranging from 1 to 1 3/4 inches in diameter. By the next day, after frontal passage occurred, high temperatures were 15-20 degrees cooler over the region . . . Much more comfortable for most of us.

In Roanoke . . .

MONTHLY MAXIMUN TEMPERATURE: 92...on the 13TH.
MONTHLY MINIMUM TEMPERATURE: 40...on the 16TH.
MONIHLY MEAN TEMPERATURE: 67.6...which was 3.5 DEGREES above normal.
TOTAL MONTHIY PRECIPITATION: 2.67 INCHES...which was 1.31 INCHES below normal.

MONTHLY CLIMATE SUMMARY
NATIONAL WEATHER SERVICE BLACKSBURG VA
100 PM EDT THU JUL 06 2000

...MONTHLY CLIMATE SUMMARY FOR JUNE 2000.. .

The Stormy weather that began in mid May, continued for most of the month of June, with Virginia enjoying cooling summer rains. Starting June 2, a powerful cold front swept through the area delivering the usual wind damage, hail up to baseball size near South Boston, in Halifax County, then moved back as a warm front on the 5th and 6th with flooding. With the atmosphere stabilized during the second week of the month, hot and hazy weather returned with near record temperatures. On the 13th, a very slow moving cold front, taking nearly a week to pass through, brought more hail, wind damage, and flooding each afternoon and evening. With cool air in place after the cold front, the 3rd week of June was just the opposite of the 2nd, with very nice, less humid days. On the 25th, yet another cold front returned, lasting through the 27th. With the ground saturated from nearly a month of rain, mostly flash flooding occurred. Precipitation for the month was above normal. The largest amount recorded was at Yancyville, NC with 9.67 inches. Temperatures were near normal, even with the fluctuations of warm and cool days through the month.

IN ROANOKE
MONTHLY MAX TEMPERATURE: 92 on the 25TH.

MONTHLY MIN TEMPERATURE: 52 on the 7 TH and 8TH.
MONTHLY MEAN TEMPERATURE: 74...which is normal for the month.
TOTAL MONTHLY PRECIPITATION: 4.71 INCHES...which is 1.52 SCHES above normal.

MONTHLY CLIMATE SUMMARY
NATIONAL WEATHER SERVICE BLACKSBURG VA
733 AM EDT TUE AUG 01 2000

...MONTHLY CLIMATE SUMMARY FOR JULY 2000...

In Roanoke ...Rain fell on 15 days. Heaviest amount was on the 24th ... when 1.83 inches fell. Second heaviest amount was 1.59 inches on the 31st ...with 1.24 inches falling on the 29th. Overall a wet month but not quite enough to make the Top 10 list.

Although rainfall was above the monthly average ...the rain was sporadic. Some places experienced flash flooding because of the heavy showers . . . and other places received slight amounts of rain during the same time. Because of the clouds and rain . . . temperatures averaged below normal for the month.

IN ROANOKE...
MONTHLY MAX TEMPERATURES: 91 on the 9TH and 10TH.
MONTHLY M1N TEMPERATURE: 57 on the 2ND and 4TH.
MONTHLY MEAN TEMPERATURE: 73...which is 3 DEGREES below normal for the month.
TOTAL MONTHLY PRECIPITATION: 7.16 INCHES...which is 3.25 INCHES above normal.

NATIONAL WEATHER SERVICE OHICE BLACKSBURG, VA
MONTHLY CLIMATE SUMMARY
400 AM EDT FRI SEP 1 2000

.. MONTHLY CLIMATE SUMMARY FOR AUGUST 2000..

The month of August was generally wetter and cooler than normal. There were a couple of outbreaks of severe weather during the month...notably on the 9th and on the 27th...when an extensive complex of thunderstorms moved southward through West Virginia and southwestern Virginia. On both days the storms were accompanied by frequent lightning and heavy rain but not by particularly strong winds. Peak winds on the 9th at both Roanoke and Lynchburg were only around 25 mph and on the 27th only around 20 mph. In Roanoke . . .the month was cooler than normal...but rainfall was almost an inch below normal.

MONTHLY MAXIMUM TEMPERATURE: 91 on the 7TH. .
MONTHLY MINUMUM TEMPERATURE: 56 on the 21st and 22nd.
MONTHLY MEAN TEMPERATURE: 72.9...which was 1.8 DEGREES below normal.
TOTAL MONTHLY PRECIPATION: 3.16 SCHES which was 0.991NCHES below normal.

Appendix 3

FOR IMMEDIATE RELEASE WEDNESDAY, APRIL 19, 2000

TNRCC OK's S\YEEPAG AIR QUALITY PLANS FOR DFW, BEAUMONT

Unprecedented Controls Designed to Lower Ozone Levels

Contact:
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The three-member Texas Natural Resource Conservation Commission (TNRCC) today approved a comprehensive package of aggressive plans for metropolitan areas, widespread regional industrial controls and statewide rules designed to improve Texas air quality.

Commissioners approved plans designed to bring the four-county Dallas-Fort Worth ozone nonattainment area, and the three-county Beaumont-Port Arthur ozone nonattainment area, into compliance with the federal ozone standard. Those plans are expected to be a blueprint of the strategy due later this year for the eight-county Houston-Galveston nonattainment area, and also are expected to improve overall air quality in Texas' most populous counties.

The Commission will now submit the plans to the EPA for approval.

"This is one of the largest efforts ever undertaken in the United States to reduce nitrogen oxide (NOx) emissions, one of the two building blocks of ground-level ozone," said TNRCC Chairman Robert J.Huston. "This effort is going to be successful. We are going to improve the air quality for all Texans."

"These plans will get Dallas-Fort Worth and Beaumont-Port Arthur in compliance with the federal ozone standard by 2007," said TNRCC Commissioner Ralph Marquez. "We have a successful plan because of the cooperation of local communities, public officials, citizens, and those affected who answered our call for better ideas to clean up the air."

For the Dallas-Fort Worth ozone nonattainment area, the Commission OK'd:

An expanded and more effective vehicle emissions testing program in Dallas, Tarrant, Denton, Collin, Parker, Rockwall, Ellis, Johnson and Kaufman counties. The program will begin in 2002;

Speed limit reductions in the nine counties, from 70 to 65 mph and 65 to 60 mph beginning in September 2001;

Cleaner diesel fuel in the nine counties, beginning in 2002;

An 88 percent reduction in nitrogen oxide (NOx)emissions from power plants in Dallas, Tarrant, Denton and Collin counties. The program will begin in 2003,

Reductions in emissions from electrification of ground-support equipment at DFW International Airport, Love Field, Meacham Field, and Alliance Airport, beginning in 2003, or alternative equivalent emission reductions;

Energy conservation and transportation control measures in nine counties, with various implementation dates;

An ozone season ban on early-morning operation of heavy duty equipment, which begins in 2005, and a requirement that cleaner equipment be purchased in Dallas, Tarrant, Denton and Collin counties, which begins in 2004. Contractors can demonstrate equivalent emission reductions in lieu of the ban and accelerated purchase requirement.

The Beaumont-Port Arthur plan was revised to include NOx emission reductions, primarily from new controls on major industrial sources. The reductions will begin in 2003.

The Commission also adopted a new statewide standard for cleaner burning natural gas water heaters, which will be phased in beginning in 2002, but delayed action until its May 17 meeting on adoption of a new statewide standard for new cars and trucks.

Rules to establish pollution controls in major sources of NOx emissions, including cement kilns and power plants, outside nonattainment areas also received final approval. Power plants with current state permits are expected to reduce NOx emissions by about 50 percent; cement kilns are expected to reduce NOx emissions by about 30 percent. This program will be phased in beginning in 2003.

The Commission also approved reductions in NOx emissions from two of the largest sources of "grandfathered" air emissions in Texas, Alcoa in Rockdale and Texas Eastman in Longview. Alcoa will be required to reduce grandfathered NOx emissions by 30 percent beginning in Dec. 31, 2000. The Texas Eastman reductions, also of 30 percent of its grandfathered NOx emissions, are required beginning in 2002.

All TNRCC news releases are available at

APPENDIX 4

Contact. Jon Weiner
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USC Study Shows Air Pollution Slows Lung Function Growth as children Grow Up

LOS ANGELES, October 19, 2090-Common air pollutants slow children's lung development over time, according to results from the University of Southern California-led Children's Health Study. The 10-year-long study is considered one of the nation's most comprehensive studies to date of the long-term effects of smog on children The study was initiated with support from the California Air Resources Board. Additional funding has been provided by the National Institute of Environmental Health Sciences, the Environmental Protection Agency and the Hastings Foundation.

"This is the best evidence yet of a chronic effect of air pollution in children," says John Peters,M.D., D.Sc., USC professor of preventive medicine and one of the study authors. "Long-term exposure to air pollution has long-term effects on children's lungs, and the effects are more pronounced in areas of higher air pollution"

Researchers with the Children's Health Study have monitored levels of major pollutants in a dozen Southern California communities since 1993, while carefully following the respiratory health of more than 3,000 students. The report, released in the October issue of the American Journal of Respiratory and Critical Care Medicine, covers smog's health effects on children over the first four years of the study.

Each year, USC scientists tested lung function by having each child take a deep breathe then measuring how much and how fast kids could blow out the air. Researchers showed that as children grow up, those who breathe smoggier air tend to lag in lung function growth behind children who breathe cleaner air. Children with decreased lung function may be more susceptible to respiratory disease and may be more likely to have chronic respiratory problems as adults.

The air pollution effects were most evident in fourth graders, followed from age 10 to 14 On average, over the four years, the lung function growth rate of children in the most polluted community was about 10 percent lower compared to children in the least polluted community. Similar effects on lung function were observed in boys and girls, and in asthmatic and healthy children.

"The association we see with air pollution also is stronger in children who spend more time outdoors," says W. James Gauderman, PhD, USC assistant professor of preventive medicine and the study's lead author. "That is consistent with what we would expect from a detrimental effect of outdoor air pollution "

One surprising finding of the study, Gauderman notes, is that ozone did not appear to play a major role in the pollution's effects on children's lungs. Instead, the offenders were nitrogen dioxide, microscopic particles known as particulate matter, and acid vapors. All come directly or indirectly from the burning of fossil fuels (the exhaust from a car or truck, for example), as well as from emissions from industrial plants and other sources.

Millions of Southern Californians breathe polluted air every day, especially on days when levels of pollutants exceed state and federal standards for air quality. The area's layout as a basin as well as the typical sunny weather and omnipresent vehicle traffic, combine to keep high levels of pollutants in the air. Although polluted air has long been known to cause immediate uncomfortable symptoms such as eye irritation, coughing and chest tightness, long-term or chronic effects have been less clear. In the current research, though scientists have begun to demonstrate effects over time.

The researchers recruited 150 fourth graders, 75 seventh graders and 75 tenth graders in 1993 from each of the 12 communities. For this study, the California Air Resources Board routinely tests air in the 12 communities, from Atascadero in the north to Alpine in the south Locations in the

Inland Empire were chosen because they were known to have relatively high levels of pollutants, while northern communities were chosen because they have lower pollution levels.

Researchers found that on average, lung function growth tended to be higher in cleaner communities and lower in areas with more air pollution.

Normally, children's lung function grows steadily as they grow up. Females reach their greatest potential lung function when they are in their late teens, while males reach their maximum lung function when they are in their early 20s. After that, lung function stays level for awhile before slowly declining as a person ages.

The USC team had previously released preliminary results of the Children's Health Study in 1999, which provided an initial hint that lung function is lower in children who breathe the most polluted air.

The researches will continue monitoring students into their teens and possibly into adulthood. They also are following students who have moved away to lower pollution areas to see if their lung function rebounds.

In general, air quality in Southern California has improved over the last two decades. Says Gauderman "Our results indicate that continued reduction of air pollution, through the efforts of both regulators and the public, will lead to improved health in our children."

For more information about the Children's Health Study, please visit the researchers' website at www.usc.edu/medicine/scehsc

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W. James Gaudermar Rob McConnell, Frank Gilliland, Stephanie London, Duncan Thomas, Edward Avol, Hita Vora, Kiros Berhane, Edward B. Rappaport, Fred Lurmann, Helene G. Margolis and John Peters, Association between Air Pollution and Lung Function Growth in Southern California Children. American Journal of Respiratory and Critical Care Medicine, Vol 162, No. 4, October 2000, pp. 1-8.

Acknowledgement: This research was supported by the California Air Resources Board (under the auspices of the Long-Term Exposure Health Effects Research Program), the National Institute of Environmental Health Sciences (which funds the Southern California Environmental Health Sciences Center), the Environmental Protection Agency, and the Hastings Foundation.

professor at the University of Colorado at Boulder who was involved in both studies. However, EMFs are believed to advance cancer because of their ability to alter DNA.

"It's possible that benzene and other organic compounds from vehicle exhaust may initiate cancer in children while EMFs may act to promote such cancers," said Wachtel.

Pearson, Wachtel and their colleagues found that children living near high-traffic corridors and high-capacity power lines showed a greater risk of cancer than children living only in high-traffic areas.

The researchers studied data from the same 579 homes used in the 1988 study. They compared traffic density statistics from 1979 and 1990 supplied by the Colorado Transportation Department. They then - measured cancer rates according to the proximity of homes to busy roadways.

There are several other possibilities that may contribute to the high rates of cancer in these homes, said Pearson. These include stress brought on by sound and light pollution, socio-economic status, lifestyle and diet.

However, the idea that vehicle emissions are to blame has "biological plausibility," he said.

"We need to design some well thought-out follow-up studies, since there is still a lot we don't understand about the associations involving cancer, high-density traffic and EMFs," Wachtel said.

The study was published in the February 2000 issue of the Air and Waste . .Management-Association journal. Kristie Ebi of the- Electric Power Research Institute in Palo Alto, California, also participated in the research, which was funded by EPRI.

Mean streets: heavy traffic, leukemia linked

By Lucy Chubb
Saturday, March 4, 2000

Children who live near heavily traveled roads and highways are at greater risk of developing cancer, including leukemia, according to a study conducted in Denver, Colorado.

"What we are seeing is that children who live near high-traffic streets have an increased risk for childhood cancer, said co-author Robert Pearson, an adjunct professor of urban planning at the University of Colorado. He also works for Radian International, a Denver-based engineering firm.

The researchers conclude that children living near transportation corridors carrying 20,000 or more vehicles per day are about six times as likely to contract cancer, including leukemia. The children are exposed to emissions through breathing and exposure to soil containing emissions.

The report is a corollary to a study in 1988 that attempted to link cancer in Denver children to high-capacity power lines.

The researchers involved in the 1988 study discovered an unexpected paradox that prevented them from making a clear connection between power lines and cancer. They took two different measurements of magnetic fields: a direct measurement using magnetometers and an X 1 indirect measurement using an apparatus known as a wire code.

They anticipated that both measurements would indicate a similar increased risk of cancer. The indirect confirmed their expectations but the direct method did not.

This inconsistency, dubbed the “wire code paradox," led Pearson and his team to look for other cancer causes in children. "We started looking for something else that might explain the data," he said.

Pearson and his colleagues discovered that areas with high-capacity power lines often coincided with areas of high traffic density.

Motor vehicles are a significant source of polluting emissions, including benzene and other organic compounds, said Pearson. Exposure to high concentrations of benzene is a known cause of leukemia in adults.

Scientific analysis has never shown electromagnetic fields, or EMFs, to be initiators of cancer, said Howard Wachtel, an electrical engineering

1-73 Location Study
Additional Comments

1. I have been a resident, taxpayer, and voter in this area for most all of my 47 years.
2. I have downloaded the Draft Environmental Impact Statement (DEIS) from the Roanoke Times Website and reviewed it in much detail. As a taxpayer, I was disappointed that this official report was not available thru the Commonwealth of Virginia's Website. If a regional newspaper can make this report available on their servers to the public at no charge, the Commonwealth of Virginia should also be able to do this.

Response: *The Virginia Attorney General's Office has raised some legal concerns about posting the document that VDOT is working to overcome.*

3. U.S. 220 carries much more truck traffic than it was ever designed to accommodate and more truck traffic than some interstates. When considering the deaths and injuries that have occurred on this road, and the economic viability of this region; it is quite obvious that a "No Build" Alternative" is quite frankly - no option at all. Some solution to this existing situation must be devised and implemented.

Response: *The Council on Environmental Quality's regulations implementing the National Environmental Policy Act requires the consideration of a no-action or no-build alternative. The no-build alternative is based on the premise that all of the other transportation improvements developed and programmed for the area through the metropolitan planning process and VDOT's Six-Year Program will be implemented except the one being studied. By considering a no-build alternative, we are able to establish an environmental base-line and use it to determine the impacts that can be attributed to the other alternatives under consideration, namely, the TSM and Build alternatives.*

4. Having reviewed the TSM Alternative, there are several deficiencies to this plan:
   a. This proposal contains plans to spend a minimum of $160 million for a band-aid solution that will be inadequate for the future - before the projects can be completed.
   b. Table 2.5-2 shows projects that will involve rebuilding a minimum of 62,800 feet of roadway to correct existing alignment and grade design deficiencies. Many people in this region are probably not aware of how the required 'cuts and fills' will affect existing road frontage properties.
   c. In light of the fact that this Alternative's proposed improvements would de staged over a period of years; the only guarantee contained in this proposal is that what overcrowded transportation infrastructure we have will be a constant state of construction zones and detours for years to come. For the safety and well being of the motoring public, in my opinion this is unacceptable. A solution should incorporate a new route.
   d. If the volume of "through and truck traffic" can be diverted to another route, major projects along 220 can probably be avoided.

Response: *The TSM alternative is intended to be a low-cost alternative that maximizes the efficiency of the existing transportation system within the existing right-of-way. Because of these parameters, TSM is not very effective in addressing the purpose and need of the project*

5. Having reviewed the 4 construction alternatives for 1-73, in my opinion there are several issues with the various segments.
   a. The “Eastern Route" around Roanoke does not appear to fulfill the requirement to “consider proximity to logical termini” as stated in the DEIS. Much traffic will “short cut" this portion and continue to use existing 1-581/US220. As noted in the DEIS, this routing provides the least amount of traffic improvement to existing traffic flows.
   b. I-581 should remain what it was originally designed to be - a Spur Route connecting an urban area to an Interstate Route,I-73 should not go through “Downtown Roanoke".
   c. With the number of “Hazardous Material Sites” located along Segments 374, 375, and 376, construction costs would be significantly higher and final design options limited if a new route has to be “fitted" to avoid these

Response: *Your comment about traffic “short cutting” an eastern alignment is supported by the traffic data, which shows noticeably reduced levels of traffic using the eastern alignment through Botetourt County compared to the centrally located alternatives. Initially, VDOT did not include an eastern alignment in their range of reasonable alternatives but added one later in response to public comment at the Citizen Information Meetings. While each alternative has its advantages and disadvantages, some more prominent than others, the National Environmental Policy Act requires that federal agencies consider a range of reasonable alternatives to address the need that has been identified. This information is presented to the decision makers so that they can then make an informed decision while considering a broad range of factors and issues.*

   sites. In my opinion, **limited transportation resources** should not be diverted to subsidize the mitigation of Hazardous Material Sites.
   d. Routing 1-73 to the EAST of US-220 in Franklin and Henry Counties appears to compliment existing rural development patterns in these areas. Specifically in Henry County, an eastern route allows existing US 220, 220 Bypass, US-58, 58 Bypass, VA-57, and other secondary routes to serve as “Feeder” Routes to a new 1-73.
   e. It appears that a “Cross Over Link" between Segments 380 and 153, near Wirtz should have been available to provide the option of routing n 1-73 around the “Western" side of Roanoke and the “Eastern" side of US-220 in Franklin and Henry Counties.
   f. Routing 1-73 on the existing US-220 is more costly and only ensures that future generations will have to deal with a system of costly and inefficient “Frontage Roads". 1-73 needs to be developed in a new corridor.
6. In consideration of the above comments, I feel that overall the most improvement / benefit to traffic / safety issues and economic development potential would be obtained if 1-73 was built and routed along the following segments: Segments 371, 378, 380, new Cross-over from 380 to 153 near Wirtz, 153, 326B to 326, 387, 329, 373, to 333.
7. Whatever optimal solution is devised, the Commonwealth Transportation Board needs to do something and do it now!

Response: *Your comments regarding the construction of I-73 on new location and the benefits and negative aspects of the various segments has been noted. When hazardous material sites are encountered on a project, every effort is made to establish responsibility and pursue clean-up through the responsible party or parties before the property is acquired. This way, using limited transportation funding on hazardous material sites is avoided where possible even though the clean up of these sites is of benefit to the general public. There are times, however, where establishing responsibility isn’t possible or the party*

in question cannot be located. In other instances, pursuing responsible parties can involve a long drawn out legal process that may interfere with project schedules and delay the project for an unreasonable period of time. In these cases, it is usually more cost-effective to use transportation dollars to clean up the sites.

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